

## Commands and tools



To display help for a command while working in Visio, highlight the command, and then press the F1 key. You can also choose the Help button in most dialog boxes.

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Submenu topics

## Drawing Page submenu

### **Edit menu, drawing window**

Includes commands that set up [pages](#) in the diagram:

[Properties](#)

[Size & Scale](#)

[Delete](#)

[Reorder](#)

## Go To submenu

### **Edit menu, drawing and print preview windows**

Includes commands for viewing other pages or [backgrounds](#) or a background's foreground:

Foreground

Background

[1, 2, 3... Pages and Backgrounds](#)

Page



## Grouping submenu

### Shape menu, drawing window

Includes commands for [grouping](#) shapes:

Group

Ungroup

[Add To Group](#)

[Remove From Group](#)

Convert To Group

## Operations submenu

### Shape menu, drawing window

Includes commands for combining two or more shapes to create one shape:

Union

Combine

Fragment

Intersect

Subtract

## Run Add-on submenu

### **Tools menu**

Displays a submenu from which you can run [Wizards](#) and special programs called add-ons. Add-ons perform tasks and other operations in Visio. Some add-ons perform tasks immediately. Others run behind the scenes, giving you more options with Visio. For details about running a specific add-on, see the online Help topic for the add-on.

## Zoom submenu

### **View menu, drawing window**

Includes commands for changing the magnification of the view. To choose a different [zoom](#) percentage, choose the [Custom](#) command.

## 1, 2, 3, 4 Files

### **File menu**

Opens one of the last four files you closed. Choose the number that corresponds to the file you want to open. Choosing a numbered file from the File menu is a convenient alternative to the Open command, because Visio opens the file without displaying the Open box.

### **See also**

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[Opening a stencil](#)

[Opening a template to modify or copy it](#)

[Opening an existing drawing file](#)

## 1, 2, 3... More Windows

### **Window menu**

Opens the drawing, stencil (if it's open as a copy or original), or ShapeSheet window that corresponds to a number and brings it to the front. More Windows displays a list from which you can select a window. The More Windows command appears on the menu only if there are more than nine windows open.

### **See also**

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[Arranging Visio windows](#)

## 1, 2, 3... Pages and Backgrounds

### **Edit menu, Go To submenu, drawing and print preview windows**

Displays the selected [page](#) or [background](#) in the drawing window.

### **See also**

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[Creating a background page](#)

[Creating a new page](#)

[Displaying pages](#)

[Rearranging foreground pages](#)

## Action

### Edit menu, ShapeSheet window

Assigns an action to the shape that appears on the shape's shortcut (right-click) menu.

#### DIALOG BOX OPTIONS

**Properties.** Specifies the menu command name, status bar prompt, and online Help topic for the shortcut menu command.

**Menu.** Specifies the menu command to add to the shape's shortcut menu.

**Prompt.** Adds a status bar prompt for the shortcut menu command.

**Help.** When the user selects this menu command on the shortcut menu, then presses F1, the help topic for the command appears. The syntax is:

FILENAME.HLP!keyword **or** FILENAME.HLP!#Number

where **filename** is the Windows help file, **keyword** is the index term associated with the help topic, and **number** is a numeric ID which is referenced in the MAP section of the help project file (HPJ). For information on developing Microsoft Windows online Help, see the Microsoft Software Development Kit (SDK) documentation.

**Action.** Specifies the action performed by the shortcut menu command.

**Edit Shape's Text.** Opens the shape's [text block](#).

**Open Group In New Window.** Opens a [group](#) in the group window.

**Show ShapeSheet.** Opens the [ShapeSheet](#) window.

**Custom.** Performs custom action. You enter the formula for this action directly in the [Action](#) section of the ShapeSheet.

**OLE Verb.** Activates [OLE](#) options, such as Edit, when an OLE object is double-clicked.

**Run Add-on.** Activates the add-on selected in the add-on list.

**Display Help.** Opens an online Help topic. Uses the same syntax as described in the [Special](#) box.

**Go To Page.** Displays a particular drawing page.

**Open In New Window.** Displays a particular drawing page in a new window.

#### See also

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[Displaying a ShapeSheet](#)  
[Special](#)



## Actions

### Shape menu, drawing window

Displays a submenu containing actions you can perform with the shape. This menu changes depending on the shape you select; some shapes have no actions. For example, this menu might include a command to change an S-connector to an L-connector, or vice versa.

The commands listed under Action are also available on a shape's shortcut right-click menu.

### See also

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[Adding and deleting sections](#)

[Getting quick access to common commands](#)

## Activate

### Right-click a **docked** stencil's title bar

Switches to the [stencil](#), displaying the stencil's masters.

### See also

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[Arranging master shapes in a stencil](#)

[Arranging stencils](#)

[Arranging Visio windows](#)

## Actual Size (100%) (Ctrl+I)

### **View menu, drawing and print preview windows**

Displays the page at approximately its actual printed size. If a shape is selected in the drawing window, the view is centered on the shape. If nothing is selected, the view is centered on whatever was in the center of the previous view.

You can also choose 100% from the Zoom box on the toolbar. Use [ToolTips](#) to identify the button.

### **See also**

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[Zoom command](#)

[Zooming in and out of a drawing](#)

## About Visio

### Help menu

Identifies the version of Visio you are using and displays copyright information.

## Add To Group

### Shape menu, Grouping submenu, drawing window

Adds the selected shape(s) to the selected [group](#) without affecting the group in other ways. The added shape remains in its current location, and Visio repositions the group's selection rectangle to encompass it. The shape keeps its own [ShapeSheets](#), and Visio updates the group's ShapeSheet to reflect the added shape.

Select the group to which you want to add the shape(s) and the shape(s) you want to add. You can add a group to another group.

### Bitmaps

A metafile can contain a [bitmap](#) or consist solely of a bitmap. Visio cannot convert bitmaps into shapes. However, a metafile that consists of a single bitmap sometimes stores the bitmap in separate segments. In that case, the Add To Group command converts each segment of the metafile into an individual bitmap object.

### Linked objects

If an object from another program is [linked](#), adding the object to a group breaks the object's link to its original file, so edits you make to the object in the original program will no longer be reflected in the copy in Visio.

### See also

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[Adding and removing shapes in groups](#)

[Convert To Group](#)

[Converting an object to Visio shapes](#)

[Editing and formatting a group](#)

[Group](#)

[Grouping and ungrouping shapes](#)

[Remove From Group](#)

[Ungroup](#)

[Updating a group's selection rectangle](#)

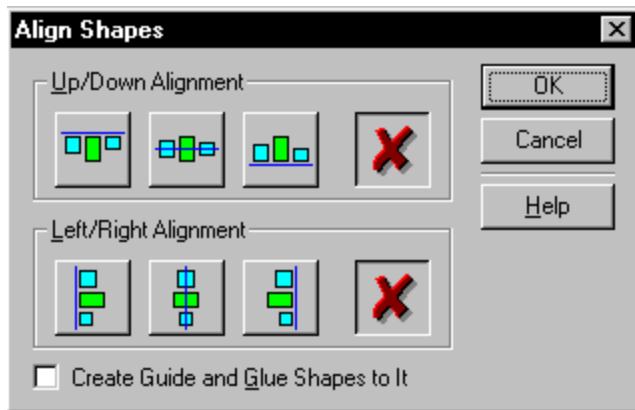
## Align Shapes (F8)

### Tools menu, drawing window

Aligns selected shapes with the first shape you select (if you dragged to select shapes, shapes are aligned with the shape at the front of the [stacking order](#)).

You can also use the Align Shapes button to display alignment options. Use [ToolTips](#) to identify the button.

**Click to display information about the dialog box.**



### See also

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[Aligning shapes to guides](#)  
[Aligning shapes to other shapes](#)  
[Distributing shapes](#)

Determines vertical alignment.

Aligns the tops of shapes.



Aligns shapes along their vertical centers.

Aligns the bottoms of shapes.

No vertical alignment (default).

Determines horizontal alignment.

Aligns the left sides of shapes.

Aligns shapes along their horizontal centers.

Aligns the right sides of shapes.

No horizontal alignment (default).



If checked, creates a guide and glues selected shapes to the guide to retain the alignment. When you move the guide, the shapes move with it.



## Arc tool (Ctrl+4)

### Drawing tool menu

Use the arc tool to draw elliptical quarter-arc segments. A single arc is a 1-D shape when you first draw it. Adding other arc and line segments creates a 2-D shape.

The way you drag the mouse determines whether the arc has a horizontal axis (the ending point is right or left of the beginning point) or vertical axis (the ending point is above or below the beginning point). If the ending point is exactly horizontal or vertical to the beginning point, the arc becomes a straight line.

You can use the arc tool, [line tool](#), [pencil tool](#), or [freeform tool](#) to draw shapes of contiguous segments.

**Tip:** To constrain the shape of the arc when using the pencil tool, hold down the Shift key as you draw arcs.

### See also

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[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing shapes with several segments](#)

## Arrange Icons

### Window menu, stencil window

**Note:** This command is available only when you have an original stencil open.

Arranges [master shape](#) icons in the stencil window into rows. The stencil window must be active.

### See also

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[Auto Arrange](#)

[Creating a master shape from a shape in a drawing](#)

[Creating a master shape from scratch](#)

[Displaying and arranging master shape icons](#)

[New Master](#)

## Auto Arrange

### View menu, stencil window

**Note:** This command is available only when you have an original stencil open.

When Auto Arrange is checked, master shape icons are automatically rearranged in the stencil window after the window is resized or when icons are added to or deleted from a stencil. The stencil window must be active.

### See also

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[Arrange Icons](#)

[Creating a master shape from scratch](#)

[Creating a master shape icon](#)

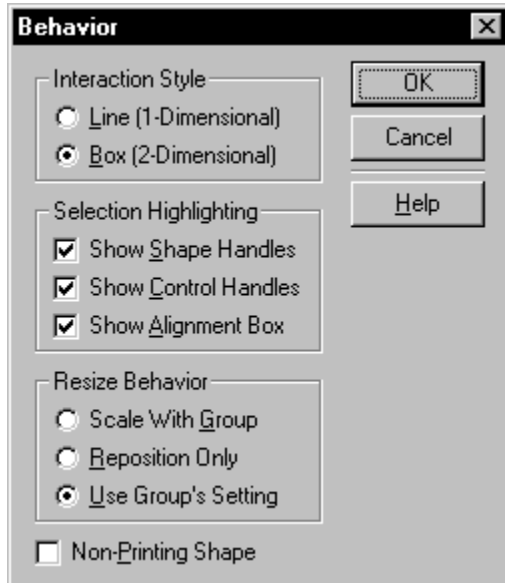
[Deleting a master shape from a stencil](#)

## Behavior

### Format menu, drawing and ShapeSheet windows

Opens a dialog box where you can specify options for shape behavior. You can set options for whether a shape behaves as a 1-D or a 2-D shape, the way a shape is displayed, and how a shape or other object resizes in a group.

Click to display information about the dialog box.



### See also

[Changing 1-D and 2-D behavior](#)

[Custom Properties](#)

[Setting a group's sizing behavior](#)

Makes the selected shape a 1-D shape. 1-D shapes behave like a line. 1-D shapes have endpoints and are often used to connect two or more 2-D shapes.

Makes the selected shape a 2-D shape. 2-D shapes behave like a box. 2-D shapes have eight selection handles; you can drag a corner selection handle to size the shape proportionally.

The selected shape sizes with the group it belongs to. This is typical behavior for shapes in a group.



The selected shape inherits the setting specified for the group.

The selected shape keeps its original size as you size a group that includes the shape. For example, if you select a group and specify Reposition Only, the shapes that use the group's setting will only reposition when you size the group.

Identifies whether a shape acts like a 1-D or a 2-D shape. By default the interaction style for a single line or arc is Line (1-D); any other shape's interaction style is Box (2-D). Changing a shape's interaction style changes its behavior, not the shape itself.

Controls whether the shape shows selection handles, control handles, or a selection rectangle. **Important:** If you uncheck all of these options, you won't be able to tell when the shape is selected.

Controls how a shape in a group resizes when the group is resized.

Controls whether the selected shape prints.

## Bring Forward

### Shape menu, drawing window

Moves selected shapes forward one position in the stacking order. If multiple shapes are selected, they all move closer to the front and keep their original stacking order in relation to each other.

### See also

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[Bring To Front](#)

[Changing the stacking order of shapes](#)

[Layer](#)

[Layer Properties](#)

[Send Backward](#)

[Send To Back](#)

## Bring To Front (Ctrl+F)

### Shape menu, drawing window

Moves selected shapes to the front of the stacking order for shapes on a page. If multiple shapes are selected, they all move to the front and keep their original stacking order in relation to each other.

### See also

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[Bring Forward](#)

[Changing the stacking order of shapes](#)

[Layer](#)

[Layer Properties](#)

[Send Backward](#)

[Send To Back](#)



## Cascade (Alt+F7)

### Window menu

Arranges open windows so the title bar of each window is visible. Stencil windows (that are open as copies or originals or that are [floating](#)) stack on the left; drawing and [ShapeSheet](#) windows stack on the right. To activate a window and bring it to the front, click its title bar.

### See also

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[1, 2, 3, 4 More Windows](#)

[Arranging Visio windows](#)

[Tile](#)

## Center Drawing

### **Tools menu, drawing window**

Centers the entire drawing on the page, regardless of whether shapes are selected.

### **See also**

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[Centering a drawing on the page](#)

[Setting margins](#)

## Change Row Type

### Edit menu, ShapeSheet window

Opens a dialog box where you can change the type of a selected row in a Geometry section of a ShapeSheet. Changing the row type changes the type of the segment the row refers to.

If you select a Controls cell, this command toggles between displaying and hiding the control handle ToolTips.

#### DIALOG BOX OPTIONS

**Row Type.** Displays the current type for the selected row. Choose a different option to change the row type.

**LineTo.** Changes the segment into a line. The endpoints are defined by the X and Y cells in the Geometry section row.

**ArcTo.** Changes the segment into a circular arc. The endpoints are defined by the X and Y cells, and the bow is defined by the A cell in the Geometry section row.

**EllipticalArcTo.** Changes the segment into an elliptical arc. The endpoints are defined by the X and Y cells, the A and B cells indicate the coordinates of the segment's control point, the C cell specifies an angle between 0 and 180 degrees for orientation, and the D cell specifies the ratio of the major to minor axis, which is usually one or greater (must be greater than zero).

**SplineStart.** Changes the segment into a spline start. The X and Y cells define the spline's second control point. (The spline's first control point is defined by the X and Y cells in the row preceding the SplineStart row). The A, B, and C cells indicate the spline's first, second, and last knot, respectively. The D cell indicates the degree of the spline, which controls the curvature of the spline with respect to its control polygon.

**SplineKnot.** Changes the segment into a spline knot. The X and Y cells define the control point for the row. The A cell indicates a spline knot.

### See also

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[Adding and deleting sections](#)

[Row](#)

[Row After](#)

## Change Source dialog box

### Links dialog box

Choose this option in the Links dialog box to change the reference for a [linked](#) file. For example, you can update a link if the filename or path has changed.

#### DIALOG BOX OPTIONS

**Source.** Determines the file to which you want to link the object. You can choose an item in the Files Of Type and Folder lists to locate the file. You can change a linked object's file reference to any other file of the same format.

**Directories.** Displays the current folder.

**List Files Of Type.** Displays files of the same file format as the original linked file.

**Drives.** Displays the current drive.

#### See also

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[Linking or embedding an object into a Visio drawing](#)

[Viewing and updating links](#)

## Clear (Del key)

### **Edit menu (not in print preview window)**

Deletes selected shapes or text. To restore a deleted item, use the Undo command. You cannot use the Paste command to restore a shape that has been deleted using the Clear command.

### **See also**

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[Cut](#)

[Deleting text](#)

[Paste](#)

## Close

### **File menu and Windows system menu**

Closes the file in the active window. If you changed a Visio file but did not save it before choosing the Close command on the File menu, Visio asks if you want to save the changes. Choose Yes to save the changes, No to close the file without saving changes, or Cancel to keep the file open and cancel the Close command. If you choose Yes and have not saved the file, Visio opens the Save As dialog box so you can save the file.

You can also click the Close button on the Print Preview [toolbar](#).

### **See also**

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[Exit](#)

[Quitting Visio](#)

## Close (stencil)

### Right-click a **docked** stencil's title bar

Closes the stencil. If the stencil is [floating](#), you can click  to close it.

### See also

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[Arranging master shapes in a stencil](#)

[Arranging stencils](#)

[Arranging Visio windows](#)

## Color Palette

### Tools menu, drawing window

Opens a dialog box that displays the current color palette. You can customize the color palette for the active drawing file or choose a different color palette to use for the file.

Visio uses solid colors for lines. For fills that don't have a pattern (item 0 or 1 in the pattern lists in the Fill dialog box), Visio uses the dithered version of the foreground color you specify. For patterned fills (patterns 2 through 24), Visio uses the solid color for the foreground and background colors you specify.

You can edit the colors in a color palette. If shapes in the file use a color that you edit, the shapes change to the new color. The colors you define appear in the color lists in the Fill, Font, and Line dialog boxes.

### DIALOG BOX OPTIONS

**Color Solid.** Displays the 24 colors in the drawing file's color palette. The left side of each color bar shows the color when dithered; the right side shows the closest solid color. (If you are running in 16 colors, you will see dithered color. If you're running in 256 colors or higher, you may not see any dithered colors.)

**Copy Colors From.** Displays a list of open template and drawing files and predefined color palettes. By choosing from the list, you can copy a new color palette to the active drawing file.

**Edit.** Choose this button to edit the color selected in the Color Palette. Visio opens the Edit Color dialog box so you can edit the color.

**Apply.** Choose this button to apply color changes without closing the dialog box. Visio applies the new colors.

### See also

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Choosing a color palette



## Combine

### Shape menu, Operations submenu, drawing window

Creates a new shape from selected shapes. If the selected shapes overlap, Visio cuts out, or discards, the area where they overlap, which creates holes in the new shape. Use this command to create picture frames, windows, and other shapes that you want to see through.

The combined shape inherits the formatting and text of the first shape you select when you combine the shapes. The combined shape also has a single ShapeSheet, which contains the Geometry rows from each component shape's ShapeSheet.

### See also

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[Combining shapes](#)

[Fragment](#)

[Group](#)

[Intersect](#)

[Subtract](#)

[Union](#)

## Connect Shapes (Ctrl+K)

### Tools menu, drawing window

Connects selected 2-D shapes (or other objects) in the order you select them. The shapes are connected with an instance of the connector master shape selected in the stencil. If no master shape is selected, Visio creates an instance of the Universal connector to connect the shapes.

You can also use the Connect Shapes button. Use ToolTips to identify the button.

### See also

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[Connecting a series of shapes automatically](#)

[Connection Points](#)

[Snap & Glue](#)



## Connection point tool (Ctrl+8)

### Connection tool menu

Use the connection point tool to add, move, or delete [connection points](#).

To add a new connection point, select the shape, hold down the Ctrl key (the pointer should display an X above it), and click the shape where you want to add the connection point.

To select a connection point, position the mouse pointer over the connection point (the pointer is a four-headed arrow), and then click. The connection point turns magenta when it is selected.

To delete a connection point, select it, then press the Delete key.

To move a connection point, select the connection point, and then drag it to a new location. The connection point turns magenta when it is selected.

### Display options

Connection points appear as blue Xs on shapes. To display connection points, make sure [Connection Points](#) is checked on the View menu.

### See also

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[Creating and deleting connection points](#)

[Displaying connection points](#)

[Using the connector tool to connect two shapes](#)

## Connection Points

### View menu, drawing window

Toggles the display of connection points on and off. When this command is checked, Visio displays connection points as small blue Xs. When you select a connection point, it turns magenta.

Display connection points to verify their locations and to see where you can glue shapes together.

### See also

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[Creating and deleting connection points](#)

[Displaying connection points](#)

[Snap & Glue](#)



## Connector tool

### Connector tool menu

Use the connector tool to automatically connect two shapes. To connect shapes, select the connector tool, and then drag 2-D shapes from the stencil to the drawing page. The shapes are connected with a [Universal connector](#).

To connect shapes manually, drag the shapes you want to connect to the drawing page, select the connector tool, point to one of the shape's connection points, and then drag to one of the other shape's connection points.

When you've successfully connected two shapes, the [endpoints](#) of the [connector](#) turn red when the connection is selected.

### See also

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[Creating and deleting connection points](#)

[Displaying connection points](#)

[Using the connector tool to connect two shapes](#)

## Convert To Group

### Shape menu, Grouping submenu, drawing window

Changes a selected Windows metafile (.WMF) or an object from another program into a [group](#) so you can edit it. If you want to separate the group into individual shapes, use the [Ungroup](#) command on the Shape menu.

### Bitmaps

A metafile can either contain a [bitmap](#) or consist solely of a bitmap. Visio cannot convert bitmaps into shapes. However, a metafile that consists of a single bitmap sometimes stores the bitmap in separate segments. In that case, the Convert To Group command converts each segment of the metafile into an individual bitmap object.

### Linked objects

If an object from another program is [linked](#), converting the object to a group breaks the object's link to its original file so you can no longer edit the object in its original program.

### See also

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[Add To Group](#)

[Converting an object to Visio shapes](#)

[Group](#)

[Remove From Group](#)

## Convert <OLE object>, <OLE object> Convert

### **Edit menu, Object submenu, drawing window**

Converts an [OLE object](#) to another format. Use this command to display the OLE object as an icon in a drawing. The command appears on a submenu when you choose the [Object](#) command from the Edit menu.

#### DIALOG BOX OPTIONS

**Current Type.** Specifies the current type of embedded object.

**Convert To.** Displays the Object Type list.

**Activate As.** Displays the Treat As list.

**Result.** Displays a message that describes the results of converting the object.

**Display As Icon.** Displays the OLE object as an icon in a drawing.

**Change Icon.** Opens a dialog box where you can specify a custom icon and change the icon label. (This option is available only when Display As Icon is checked.)

#### **See also**

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[Converting an object to Visio shapes](#)

[Edit <OLE Object>](#)

[Linking or embedding an object into a Visio drawing](#)

## Copy, Copy Drawing (Ctrl+C)

### **Edit menu (not in print preview window)**

Places a copy of selected shapes or text onto the [Clipboard](#). When the drawing window is active and nothing in it is selected, the Copy command changes to Copy Drawing. Copy Drawing places a copy of the entire drawing on the Clipboard.

The information remains on the Clipboard until you use the Copy or [Cut](#) command again. Use the [Paste](#) command to [paste](#) as many copies as you want from the Clipboard. If both programs support [OLE](#), pasting an [object](#) from another program embeds it.

You can also use the Copy button. (If you are using an alternate toolbar, you may not have this button. Use [ToolTips](#) to identify the button.)

### **See also**

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[Copying shapes in the current drawing](#)

[Duplicate](#)



## Corners

### Format menu, drawing and ShapeSheet windows

Applies formats to corners. You can choose from options for rounded corners or enter a value for a custom corner.

You can also use the Corner Roundings button. Use [ToolTips](#) to identify the button.

**Note:** If you use the [Union](#), [Combine](#), [Fragment](#), [Intersect](#), or [Subtract](#) command, round corners are replaced by arcs.

#### DIALOG BOX OPTIONS

**Round Corners.** Displays icons from which you can choose a corner roundness.

**Rounding.** Displays a numeric value for each corner option. You can also enter a value.

**Apply.** Applies formatting without closing the Corners dialog box.

#### See also

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[Applying styles from the Style dialog box](#)

[Changing the line color, weight, and pattern](#)

[Line](#)



## Crop tool

### Rotation and crop tool menu

Use the crop tool to size the border that encloses an object from another program or to move the object within the border. The object itself is not sized, but the amount of the object that is visible is reduced or enlarged. Drag the object's selection handles to crop, or drag inside the border to pan the object.

### See also

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[Editing an object from another program](#)

[Scaling, cropping, or panning an object](#)

## Custom Properties

### Shape menu, drawing and ShapeSheet windows

Opens a box in which you can edit a shape's [ShapeSheet custom properties](#). The contents of this box change depending on the shape you select and the custom properties set for that shape in its ShapeSheet.

This command is available only when a shape's ShapeSheet contains custom properties.

### See also

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[Adding and deleting sections](#)

[Associating data with shapes](#)

[Displaying a ShapeSheet](#)

[Performing calculations on shape properties](#)

## Cut (Ctrl+X)

### **Edit menu (not in print preview window)**

Deletes selected shapes or text and places them on the [Clipboard](#). The items remain on the Clipboard until you use the Cut or [Copy](#) command again.

You can also use the Cut button. (If you are using an alternate toolbar, you may not have this button. Use [ToolTips](#) to identify the button.)

### **See also**

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[Clear](#)

[Deleting shapes](#)

## Define Styles

### Format menu, drawing window

Opens a dialog box where you can create, edit, rename, and delete styles. Before using the Define Styles command, you can select one or more shapes and apply the newly created or edited style to the shapes.

Click to display information about the dialog box.



**Tip:** If you apply local formatting to selected characters in a shape's [text block](#) after applying a style to the shape, the [link](#) between the shape's text and the style is broken. The shape will still respond to changes in the style's definition of line and fill [attributes](#).

### See also

[Creating a style](#)

[Editing a style](#)

[Fill](#)

[Font](#)

[Line](#)

Displays a list of existing styles, as well as New style. If a shape is selected, the style for that shape is highlighted in the list.

Displays the style that the style displayed in the Style box is based on.

Indicates whether the style includes attributes for lines, fills, or text.



Includes buttons that open the Font, Line, and Fill dialog boxes in which you define attributes for the style. If a style is selected in the Style box, the dialog boxes display the current style's attributes; if no style is selected, they display default attributes or attributes for the style in the Based On box. Choosing OK in the Line, Fill, or Text dialog box returns you to the Define Styles dialog box.

If checked, prevents the style's attributes from replacing formatting you applied directly to the shape. Uncheck Preserve Local Formatting On Apply if you want the style to replace all previous formatting.

Applies the style to selected shapes and closes the dialog box. To apply changes without closing the dialog box, use the Change button.

Discards only those changes specified the last time you chose the Apply, Add, Change, or Delete button.

When you finish defining a new style or revising a style, Visio adds a new style to the style lists or changes a style without closing the dialog box so you can continue creating and editing styles. The style is not applied to the selected shape until you use the Apply button.

Deletes the style selected in the Style list. A shape previously formatted with the deleted style becomes linked to and formatted with the Based On style, and may change in appearance as a result. Any local formatting that had been applied to the shape is preserved.

Opens the Rename dialog box, which displays the name of the style selected in the Style list. If you previously applied the style to shapes, Visio updates the link to the renamed style.

## Delete

### **Edit menu, Drawing Page submenu, drawing window**

Lists the pages in a drawing file so you can choose the pages to delete. You can restore a page you delete by using the Undo command.

#### DIALOG BOX OPTIONS

**Select Pages.** Lists the pages in the drawing file.

**Update Page Names.** Check this option to renumber the remaining pages. This option applies only to pages that use default names.

#### **See also**

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[Deleting a page](#)

[Layer Properties](#)

[Page](#)

[Ruler & Grid](#)



## Delete Row

### **Edit menu, ShapeSheet window**

Deletes the selected [ShapeSheet](#) row. You can restore a row you've deleted by using the [Undo](#) command. Deleting a row in a ShapeSheet may change the shape's behavior.

### **See also**

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[Adding and deleting rows](#)

[Row](#)

[Row After](#)

## Delete Section

### **Edit menu, ShapeSheet window**

Deletes the selected ShapeSheet section. You can restore a section you delete by using the Undo command. Deleting a section can change a shape's behavior.

### **See also**

---

Adding and deleting sections  
Section

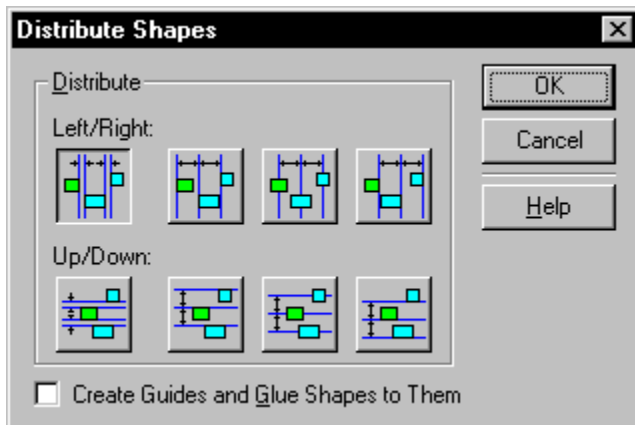
## Distribute Shapes

### Tools menu, drawing window

Places three or more selected shapes at regular intervals on the drawing page. Choose from horizontal and vertical distribution options. The order in which you select shapes is not relevant when distributing shapes.

You can also use the Distribute Shapes button to display distribution options. Use [ToolTips](#) to identify the button.

**Click to display information about the dialog box.**



### See also

[Aligning shapes to rulers](#)

[Distributing shapes](#)

[Selecting shapes](#)

Displays options for distributing shapes horizontally.

Distributes shapes horizontally so there is a uniform space between shapes.

Distributes shapes so their left edges are uniformly spaced.

Distributes shapes horizontally so their centers are uniformly spaced.

Displays options for distributing shapes vertically.



Distributes shapes so their right edges are uniformly spaced.

Distributes shapes vertically so there is a uniform space between shapes.

Distributes shapes so their top edges are uniformly spaced.

Distributes shapes vertically so their centers are uniformly spaced.

Distributes shapes so their bottom edges are uniformly spaced.

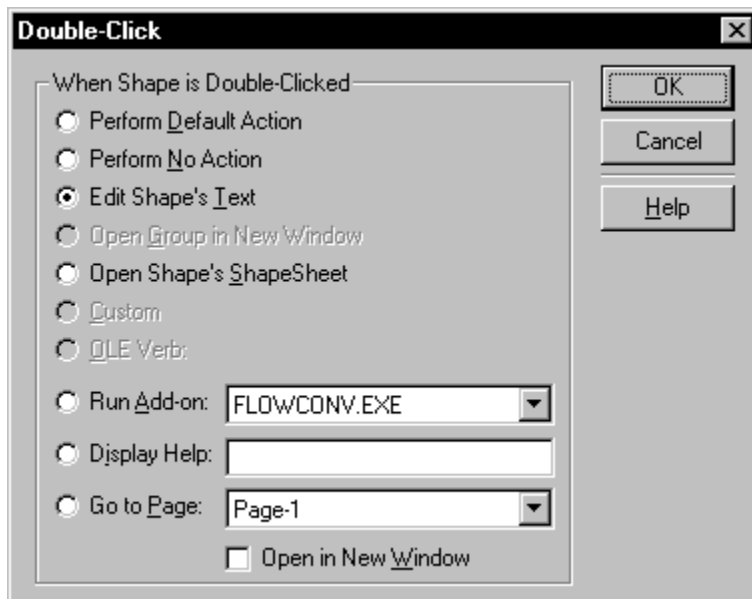
If checked, creates guides to retain the distribution of the shapes. Select and move the outermost guides to move the shapes without changing their distribution.

## Double-Click

### Format menu, drawing and ShapeSheet windows

Opens a dialog box where you can assign an action to be performed when a shape is double-clicked.

Click to display information about the dialog box.



### See also

[Displaying a ShapeSheet](#)

[Special](#)

[Specifying a shape's double-click behavior](#)

Activates the default action for the shape.



Takes no action.

Opens the shape's text block.

Opens a group in the group window.

Opens the ShapeSheet window.

Activates OLE options, such as Edit, when an OLE object is double-clicked.

Activates the add-on selected in the add-on list.

Opens an online Help topic. Uses the same syntax as described in the Special dialog box.

Displays a particular drawing page.



Displays the drawing page in a new window.

Performs custom double-click behavior.

## Duplicate (Ctrl+D)

### Edit menu, drawing and stencil windows

Places a copy of selected shapes offset to the lower right of the original shapes.

**Tip:** To duplicate the shape at a specific distance from the original, select the shape, hold down the Ctrl key, and drag to the location where you want the new shape. To make copies quickly, duplicate one shape, and then press F4 to duplicate others.

**Note:** To view this command for a stencil, you must have an original stencil open.

### See also

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[Copy](#)

[Copying shapes in the current drawing](#)

[Paste](#)

## Background

### **Edit menu, Go To submenu, drawing and print preview windows**

Displays the [background page](#) assigned to the page displayed in the drawing window. This command is available only when the displayed page has a background assigned to it. Choose [Foreground](#) to return to the [foreground page](#) of a drawing.

### **See also**

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[Assigning and canceling a background page](#)

[Creating a background page](#)

[Layer](#)

[Layer Properties](#)

[Next Page](#)

[Previous Page](#)

[Switching to a background page](#)

## Edit Color dialog box

### Tools menu, Color Palette dialog box

Opens a dialog box where you can edit the basic color palette and create up to 16 custom colors.

#### DIALOG BOX OPTIONS

**Basic Colors.** Displays the Microsoft Windows basic color palette. Select any of the colors and use the Color Selector Palette to change the default color.

**Custom Colors.** Specifies up to 16 custom colors.

**Define Custom Colors.** This button is dimmed because the Edit Color dialog box is already in custom color mode.

**Add To Custom Colors.** Use the Color Selector Palette to create a custom color by adjusting the hue, saturation, and luminosity of the color. Alternatively, specify its red, green, and blue values. Once you're satisfied with the color displayed in the Color/Solid box, choose the Add To Custom Colors option.

#### See also

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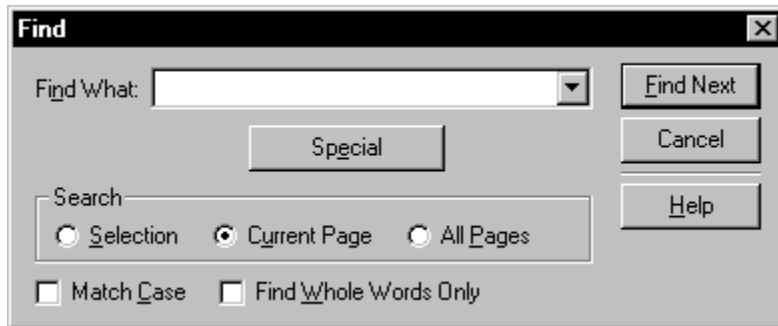
[Choosing a color palette](#)

## Find

### Edit menu, drawing window

Searches for specified text in [shapes](#), [stencils](#), the [Properties](#) dialog box, and data [fields](#) in the active drawing file.

**Click to display information about the dialog box.**



### See also

[Inserting fields into text](#)

[Searching and replacing text](#)

---

Specifies the text you want to find. You can type or paste text into this field. To search using text you previously searched for, click the down arrow, then choose the text from the list.

Displays a list of special characters on which you can search: Tab Character, Manual Return, Optional Hyphen, Caret Character, or Any Character.



Specifies the range of the search.

Specifies to search only the current selection.

Specifies to search only the current page.

Specifies to search all pages in the open diagram.

Finds only those occurrences with the exact combination of uppercase and lowercase letters specified in the Find What box. Visio uses the case of letters as they were originally typed, regardless of whether the text has been formatted using Small Caps or All Caps formatting.

Finds occurrences that are words and not parts of larger words. For example, if you type for" in the Find What box, Visio finds all instances of for" but ignores foreign."

Finds and selects the next occurrence of the text in the Find What box.

## Foreground

### **Edit menu, Go To submenu, drawing and print preview windows**

Displays the [foreground page](#) for a drawing. Available only when a [background page](#) is displayed.

To cycle through the background pages in a drawing, from the Edit menu, choose Go To, then choose [Background](#).

**Tip:** Although you can see shapes on a background page when a foreground page is displayed, you can't edit the shapes on the background unless you display the background page.

### **See also**

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[Assigning and canceling a background page](#)

[Next Page](#)

[Previous Page](#)

[Switching to a background page](#)



## Edit Icon

### Master menu, stencil window

Opens the edit icon window, where you can edit the icon for the [master shape](#) selected in the stencil window. The window, whose title bar identifies the stencil and master shape, displays the icon as a bitmap, which you can edit pixel by pixel.

**Tip:** Before choosing Edit Icon, use the Properties command (on the Master menu) to specify the size of the icon. The icon's size determines the size of the area available for editing the icon. You should also choose Manual as the Update option in the Properties or New Master dialog box, so you don't accidentally overwrite the customized icon each time you change the master shape.

### See also

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[Creating a master shape icon](#)

[Editing parts of a master shape icon](#)

## Edit Master

### Master menu, stencil window

Displays a selected master shape in the master shape drawing window, so you can edit the master shape. You can choose to have changes you make to the master shape be applied to future instances. The Edit Master command is available only when you open an original stencil.

You can also open the master shape drawing window by double-clicking a master shape icon when an original stencil is opened.

To close the master shape drawing window, click the X box in the upper-right corner of the window.

### See also

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[Creating a master shape from a shape in a drawing](#)

[Creating a master shape from scratch](#)

[Edit Icon](#)

[Editing a master shape in a stand-alone stencil](#)

[Opening a stencil](#)

[Properties](#)

## Edit Text (F2)

### Shape menu, drawing window

Controls the text block for the selected shape. If a shape is selected with a tool other than the text tool, choosing Edit Text opens the shape's text block so you can edit text. If a shape is selected with the text tool, choosing Edit Text selects the shape's text block so you can move, rotate, or size the text block independently of the shape.

### See also

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[Changing font attributes](#)

[Selecting text](#)

[Text block tool](#)

[Text tool](#)

## Edit <OLE object>, <OLE object> Edit

### **Edit menu, drawing window**

Opens an [OLE](#) object in its original program so you can edit it. Appears on a submenu when you choose the [Object](#) command from the Edit menu. For example, if you select a Windows Paintbrush [object](#), the command changes to Paintbrush Object. If a [group](#) is selected, the command in this position is [Open Group](#). If nothing is selected, the command in this position is [Object](#).

You can modify a [linked](#) or embedded object in its original program without leaving Visio. Changes you save in the original program appear immediately in the Visio drawing.

### **See also**

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[Converting an object to Visio shapes](#)

[Linking or embedding an object into a Visio drawing](#)



## Ellipse tool (Ctrl+6)

### Drawing tool menu

Use the ellipse tool to draw ellipses and circles. Drag diagonally to draw an ellipse. As you drag, hold down the Shift key to draw a circle. Both ellipses and circles are closed shapes, consisting of two arc segments. To size an ellipse or circle, drag a selection handle. Drag a corner handle to preserve the shape's original proportions.

To manipulate the arc segments of the ellipse, select the ellipse with the pencil tool to display vertexes and control points that you can drag.

To apply a fill style or fill format to an ellipse, use the Fill command.

### See also

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[Drawing ellipses and circles](#)

[Drawing freeform shapes](#)

[Drawing rectangles and squares](#)

## Exit

### **File menu**

Closes Visio windows and exits Visio. If you have changed a Visio file but did not save it before choosing the Exit command, a message asks if you want to save the changes before closing.

### **See also**

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[Close](#)

[Quitting Visio](#)

## Fill (F3)

### Format menu, drawing and ShapeSheet windows

Opens a dialog box where you apply fills and shadows to selected shapes. Closed shapes can have fills and shadows. Open shapes can have shadows but no fill.

You can also use fill formatting buttons on the toolbar. Use [ToolTips](#) to identify the button.

The numbers preceding the patterns and colors in the Pattern, Foreground, and Background lists act as labels. As you work with the [ShapeSheet](#), these numbers provide a shorthand for identifying patterns and colors.

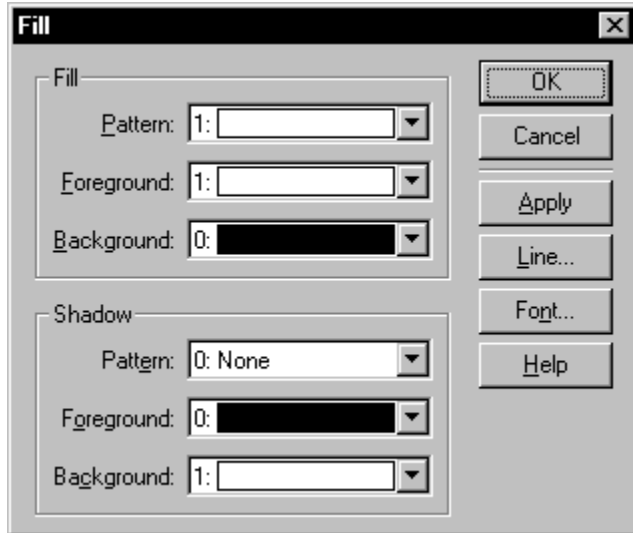
### Patterns

For both Fill and Shadow, you can specify a pattern that is blank (transparent), solid, or a bitmap pattern. Each bitmap pattern has two components: a foreground color applied to the dots and lines making up the pattern, and a background color. You can specify different colors in the Foreground and Background lists, and Visio changes the display of the Pattern list according to your color choices.

### Colors

Some colors in the Foreground and Background lists are quite dark. For those colors, the left half of the color sample shows how the color will look as a solid (pattern 1). The right side shows how the color will appear in any [bitmap](#) pattern.

### Click to display information about the dialog box.



### See also

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[Creating patterned fills and shadows](#)  
[Formatting fills and shadows](#)

Displays the current pattern, foreground color, and background color for the selected shape's fill.



Choose a pattern, which can be blank or transparent (None or pattern 0), solid (pattern 1), or a bitmap pattern (patterns 2 through 24). Choosing None in the Pattern list creates a transparent shape. Visio ignores the foreground and background colors.

Choose a color that is applied to the dots and lines making the pattern.

Choose a color that is behind the dots and lines making the pattern.

Displays the current pattern, foreground color, and background color for the selected shape's shadow.

Choose a pattern, which can be blank or transparent (None or pattern 0), solid (pattern 1), or a bitmap pattern (patterns 2 through 24). Choosing None in the Pattern list deletes an existing shadow, and Visio ignores the foreground and background colors.

Applies formats without closing the dialog box.

Applies changes, closes the Fill dialog box, and displays the Line dialog box.

Applies changes, closes the Fill dialog box, and displays the Font dialog box.



## File Paths dialog box

### Tools menu, Options dialog box

Determines the default file paths for Visio's files. This dialog box is displayed by choosing the File Paths button in the Options dialog box. To change the default path, select the option you want to change and type a new path.

#### DIALOG BOX OPTIONS

**Drawings.** Displays the default drawings folder: drawings.

**Templates.** Displays the default [templates](#) folder.

**Stencils.** Displays the default stencil folder.

**Help.** Displays the default help files folder: help;template.

**Add-ons.** Displays the default add-ons folder: add-ons.

**StartUp.** Displays the folder for add-ons opened when you start Visio: add-ons\startup.

**Filters.** Displays the default filters folder: filters.

**Tip:** You can specify multiple paths by separating them with semicolons. For example, in the Add-ons option you can type:

add-ons;c:\templates

so Visio will look in both folders for add-ons.

### See also

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[Creating a template](#)

[Opening a template to modify or copy it](#)

[Saving a new drawing file](#)

[Special command](#)

## First Tile

### **Print preview toolbar**

Displays the first printed page or [tile](#) in the drawing.

### **See also**

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[Previewing a drawing before you print](#)

[Print preview window](#)

[Showing page breaks](#)

[Tiling a large drawing onto multiple sheets of paper](#)

## Flip Horizontal (Ctrl+H)

### Shape menu, drawing window

Transposes the left and right sides of selected shapes.

You can also use the Flip Horizontal button. (If you are using an alternate toolbar, the Flip Horizontal button may look slightly different or may not be available. Use [ToolTips](#) to identify the button.)

### See also

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[Flip Vertical](#)

[Flipping and reversing shapes](#)

[Reverse Ends](#)

[Rotate Left](#)

[Rotate Right](#)

[Size & Position](#)

## Flip Vertical (Ctrl+J)

### Shape menu, drawing window

Transposes the top and bottom sides of selected shapes.

You can also use the Flip Vertical button. (If you are using an alternate toolbar, the Flip Vertical button may look slightly different or may not be available. Use [ToolTips](#) to identify the button.)

### See also

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[Flip Horizontal](#)

[Flipping and reversing shapes](#)

[Reverse Ends](#)

[Rotate Left](#)

[Rotate Right](#)

[Size & Position](#)

## Float

### **Right-click a docked stencil's title bar**

Makes the stencil [float](#). By default, stencils are [docked](#).

### **See also**

---

[Arranging master shapes in a stencil](#)

[Arranging stencils](#)

[Arranging Visio windows](#)

## Font (F11)

### Format menu, drawing and ShapeSheet windows

Applies formatting to selected text or to all text in the text blocks of selected shapes.

To format selected text, use the text tool to open the text block and then select the text you want to format. To apply formatting to all text in a shape's text block, select the shape.

**Tip:** If the selected text contains more than one setting for any format (for example, more than one font), the Font dialog box displays the formatting of the first character in the selection.

Within the Font dialog box, you can open other dialog boxes for formatting text and shapes.

You can also use the Increase Font Size and Decrease Font Size buttons. Use ToolTips to identify the button.

Alternatively, use the Font box and the Font Size box on the toolbar.

### DIALOG BOX OPTIONS

**Font.** Displays a list of all the enabled fonts installed in Microsoft Windows. To change the font, choose from the list, which includes all fonts installed and enabled on your computer.

The symbol TT precedes TrueType fonts. A printer icon precedes printer fonts that are not TrueType fonts. Fonts with neither icon are Windows fonts but not TrueType, so they may not size or print as well as TrueType or printer fonts.

**Size.** Determines the point size of selected text.

**Case.** Determines whether text appears in uppercase or lowercase as you type text, or as all uppercase or initial capitals regardless of how you typed the text.

**Color.** Determines the text color.

**Position.** Determines whether text is displayed in normal, superscript, or subscript position.

**Language.** When you choose a language (such as French) from this box, when you use Spelling, Visio uses the appropriate dictionary (such as the French dictionary) to check the spelling of the formatted text.

**Style.** Determines whether text is displayed in bold, italic, underline, or small caps style.

**Paragraph.** Applies formatting, closes the Font dialog box, and displays the Paragraph dialog box.

**Tabs.** Applies formatting, closes the Font dialog box, and displays the Tabs dialog box.

**Block.** Applies formatting, closes the Font dialog box, and displays the Text Block dialog box.

**Apply.** Applies formatting without closing the Font dialog box.

**Fill.** Applies formatting, closes the Font dialog box, and displays the Fill dialog box.

**Line.** Applies formatting, closes the Font dialog box, and displays the Line dialog box.

### See also

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[Changing font attributes](#)

[Checking the spelling of text](#)

[Creating a style](#)

[Setting text block margins](#)

Displays all characters as uppercase, regardless of whether you typed lowercase or uppercase letters. (For small caps, choose that option in the Style section.)

Displays the font as you first typed it—uppercase, lowercase, or a mixture of characters.



Displays the first character of every word as an uppercase letter, with all other characters lowercase, regardless of whether you typed lowercase or uppercase letters.

Aligns text horizontally on the baseline.

Raises text slightly above the baseline and reduces the point size.

Drops text slightly below the baseline and reduces the point size.

Makes the font heavier.

Makes the font slanted.

Draws a line under the text.

Displays all lowercase characters as small capital letters (smaller than the specified point size), leaving uppercase characters full-size.



## Format painter tool

If you're pleased with the formatting of a particular [shape](#), you can quickly transfer the formatting (such as line, fill, and text styles) to another shape instead of starting from scratch.

**Note:** This button is available only on the Microsoft Office toolbar.

### See also

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[Copying and applying shape formatting](#)

[Copying shapes in the current drawing](#)

## Fragment

### **Shape menu, Operations submenu, drawing window**

Breaks selected shapes into smaller shapes. For example, you can draw lines through a 2-D shape where you want to break the shape, select the 2-D shape and the lines, and then choose Fragment to break the shape where the lines intersect it.

When you fragment shapes, Visio creates a new ShapeSheet for each of the new shapes.

When you fragment overlapping 2-D shapes, new shapes are formed from both the areas where the original shapes overlap and the areas where they do not overlap.

When you fragment three or more intersecting lines, the enclosed spaces become new shapes.

### **See also**

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[Combine](#)

[Fragmenting shapes](#)

[Intersect](#)

[Subtract](#)

[Union](#)



## Freeform tool

### Drawing tool menu

Draws smooth curves (also called splines). For example, you can draw a flower bed with an irregular border that is smooth, not jagged.

### See also

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[Adding segments to shapes](#)

[Changing shape angles by dragging a vertex](#)

[Deleting segments from shapes](#)

[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing shapes with several segments](#)

## Formulas

### **View menu, ShapeSheet window, formula bar**

Displays cell formulas in the [ShapeSheet](#). To display values instead of formulas, use the [Values](#) command.

### **See also**

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[Displaying values and formulas in cells](#)  
[Formulas overview](#)

## Function

### **Insert menu, ShapeSheet window**

Opens a dialog box where you select a function to paste into a formula for a [ShapeSheet](#) cell. Visio pastes the function at the insertion point in the formula bar. (The command is dimmed until you click in the formula bar to place an insertion point.)

#### DIALOG BOX OPTIONS

**Select Function.** Lists functions you can paste into a formula. When you select a function, the function and its arguments appear below the Select Function list.

**Paste Arguments.** Check this box if you want to paste placeholders for a function's arguments. Uncheck this box to paste only the function.

#### **See also**

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[Building a formula by pasting](#)

[Creating formulas](#)

## Grid

### View menu, drawing window

When checked, displays the grid. The grid helps you position shapes visually. You can also snap shapes to the grid.

The intervals of the grid correspond to the unit of measure you set in the Options dialog box. You control the size of the intervals in the Ruler & Grid dialog box.

### See also

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[Properties](#)

[Setting page display options](#)

[Snap & Glue](#)

[Snapping shapes into place](#)

## Page (F5)

### **Edit menu, Go To submenu, drawing and print preview windows**

Opens a dialog box where you can choose a page to display in the drawing window.

#### DIALOG BOX OPTIONS

**Select Page.** Displays a list of background and foreground pages in the drawing file. Foreground pages are listed in bold type; background pages are listed in normal type. The current page is dimmed.

**New.** Displays the Page dialog box so that you can create and go to a new page.

**Open Page In New Window.** Displays the selected page in a new window.

#### **See also**

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[Deleting a page](#)

[Displaying pages](#)

[Rearranging foreground pages](#)

## Group (Ctrl+G)

### Shape menu, Grouping submenu, drawing window

Creates a group from the shapes and objects from other programs selected on the drawing page. Group members keep their original spatial relationships to each other and also retain their original ShapeSheets. Visio also creates a new ShapeSheet for the group.

### See also

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[Add To Group](#)

[Adding and removing shapes in groups](#)

[Convert To Group](#)

[Converting an object to Visio shapes](#)

[Editing and formatting a group](#)

[Grouping and ungrouping shapes](#)

[Remove From Group](#)

[Ungroup](#)

[Updating a group's selection rectangle](#)



## Guides

### **View menu, drawing window**

When checked, displays guides and guide points. Rulers must be visible if you want to create guides and guide points.

### **See also**

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[Align shapes](#)

[Aligning shapes to guides](#)

[Creating guide points](#)

[Creating guides](#)

[Distributing shapes](#)

[Gluing shapes to guides](#)

[Grid](#)

[Rulers](#)

[Setting page display options](#)

[Snap & Glue](#)



## Icon pencil tool

### **Edit icon toolbar, edit icon window**

Use the icon pencil tool to change the color of a pixel in a bitmap. Assign the color you want to the left or right mouse button by clicking in the color palette, and then with the same mouse button, click the pixel you want to change.

### **See also**

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[Changing the colors for a master shape icon](#)

[Editing parts of a master shape icon](#)

## Icons And Names

### View menu, stencil window

**Note:** This command is available only when you have an original stencil open. When checked, displays [master shape](#) icons and their names in the [stencil window](#). You can also use the Icons And Names button. Use [ToolTips](#) to identify the button.

### See also

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[Arrange Icons](#)

[Arranging master shapes in a stencil](#)

[Creating a master shape icon](#)

[Icons Only](#)

[Names Only](#)

## Icons Only

### View menu, stencil window

**Note:** This command is available only when you have an original stencil open.

When checked, displays [master shape](#) icons without their names in the [stencil window](#).

You can also use the Icons Only button. Use [ToolTips](#) to identify the button.

**Tip:** Even though the names aren't visible when Icons Only is checked, you can display the master shape's name by placing the pointer over a master shape icon. A [ToolTip](#) containing the master shape's name appears. (If you've turned off toolbar ToolTips with the toolbar shortcut menu, these ToolTips are also turned off.)

### See also

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[Arrange Icons](#)

[Arranging master shapes in a stencil](#)

[Creating a master shape icon](#)

[Icons And Names](#)

[Names Only](#)

## Intersect

### Shape menu, Operations submenu, drawing window

Creates one closed [shape](#) from the area in which two shapes overlap or intersect. The new shape inherits the text and formatting of the first shape you select.

When you intersect two or more shapes, the [ShapeSheet](#) for the shapes you intersected are deleted, and Visio creates a ShapeSheet for the new shape.

### See also

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[Combine](#)

[Group](#)

[Intersecting shapes](#)

[Union](#)

## Picture

### Insert menu, drawing window

Displays a list of files saved in graphic formats that you can import into a Visio drawing. Visio creates a placeholder in the drawing to hold the graphic.

Visio can import files from these formats: Adobe Illustrator File Format (.AI), Computer Graphics Metafile (.CGM), CorelDraw Drawing File Format, version 3.0, 4.0, and 5.0 (.CDR), Encapsulated PostScript (.EPS), Initial Graphics Exchange Specification (.IGS), Macintosh Picture File Format (.PCT), Micrografx Designer Version 3.1 File Format (.DRW), Tag Image File Format (.TIF), Windows Bitmap (.BMP, .DIB), Windows Metafile (.WMF), and ZSoft PC PaintBrush Bitmap (.PCX).

The imported file is [linked](#) to the original file unless it is a .BMP, .DIB, or .WMF file. For those three formats, Visio [pastes](#) the contents of the file into the drawing and centers the imported file in the current view.

**Tip:** You can import and convert ABC FlowCharter and CorelFlow files to Visio using the [Open](#) command on the File menu. If you have Visio Technical, you can also convert AutoCAD files into Visio format.

#### DIALOG BOX OPTIONS

**Look In.** Displays the current folder.

**Up One Level.** Moves the Look In folder up one level in the hierarchy.

**Create New Folder.** Creates a new folder in the current level in the hierarchy.

**List.** Displays the list as an icon and a label.

**Details.** Displays the list as the name, size, type, and modified date.

**File Name.** List files that are in the format selected in the File Type list.

**Files Of Type.** Lists the file formats you can import in the folder you chose.

**Open.** Opens the selected file.

When you choose a filter to convert a file you're importing, Visio may respond with a dialog box that contains options for setting Color Translation. If you import .CGM, .EPS, or .PCT files, the dialog box also has options for Retain Background, Emulate Line Styles, and Color Translation.

**Retain Background.** When checked, preserves the background color of the original image. To do this, Visio draws a background rectangle in that color.

**Emulate Line Styles.** When checked, draws thick or patterned lines as polygons rather than as lines to ensure they match the lines of the original file.

**Color Translation.** Lists five options for displaying color: [normal](#), [inverse](#), [inverse grays](#), [only](#), [gray scale](#), and [inverse gray scale](#).

#### See also

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[Convert To Group](#)

[Creating objects in another program from within Visio](#)

[Editing an object from another program](#)

[Importing a file into a Visio drawing](#)

[Linking or embedding an object into a Visio drawing](#)

[Ungroup](#)



Matches the color of the original image.



Inverts the colors (for example, what was black becomes white).

Inverts only the black, white, and gray shades, matching all other colors to the original file.

Converts all colors to gray shades (useful if you plan to print on a monochrome printer).

Converts all colors to grays and inverts them.

## Object

### Insert menu, drawing window

Inserts [objects](#) from other programs into a Visio drawing. You can either open another program from within Visio and create a new object or insert an existing file into Visio.

#### DIALOG BOX OPTIONS

**Object Type.** Lists the types of objects that you can [link](#) or embed from an [OLE](#)-compatible program. The items in the list depend on which OLE-compatible programs are installed on your computer. Some programs installed on your system appear as commands on the Page menu. Choose the program's command to insert an object created in that program.

**Create New.** Opens the corresponding program and creates the object you want to insert.

**Create From File.** Inserts an existing file. To link the object to Visio, choose Link.

**Display As Icon.** Displays the program's icon in Visio.

**Change Icon.** Displays the Change Icon option. When Display As Icon is checked, you can choose between the current icon, a default icon, or an icon from a [bitmap](#) file. You can also change the icon Label.

**Result.** Displays a message detailing what happens when you click OK.

#### See also

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[Converting an object to Visio shapes](#)

[Creating objects in another program from within Visio](#)

[Exporting a drawing into another file format](#)



## Lasso tool

### **Edit icon toolbar, edit icon window**

Use the lasso tool to select a non-rectangular area of a [master shape](#) icon. The area can be any size or contour. Drag the lasso tool to select the area you want. You can then drag the selected area to move it or use commands on the Edit menu to change the selected area.

### **See also**

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[Editing parts of a master shape icon](#)

## Last Tile

### Print preview toolbar

Displays the last printed page or [tile](#) in the drawing.

### See also

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[Previewing a drawing before you print](#)

[Print preview window](#)

[Showing page breaks](#)

[Tiling a large drawing onto multiple sheets of paper](#)

## Last Zoom

### **View menu, drawing window**

Toggles between the current view and the most recent view.

You can also choose Last from the Zoom box on the toolbar. Use [ToolTips](#) to identify the button.

### **See also**

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[Zooming in and out of a drawing](#)



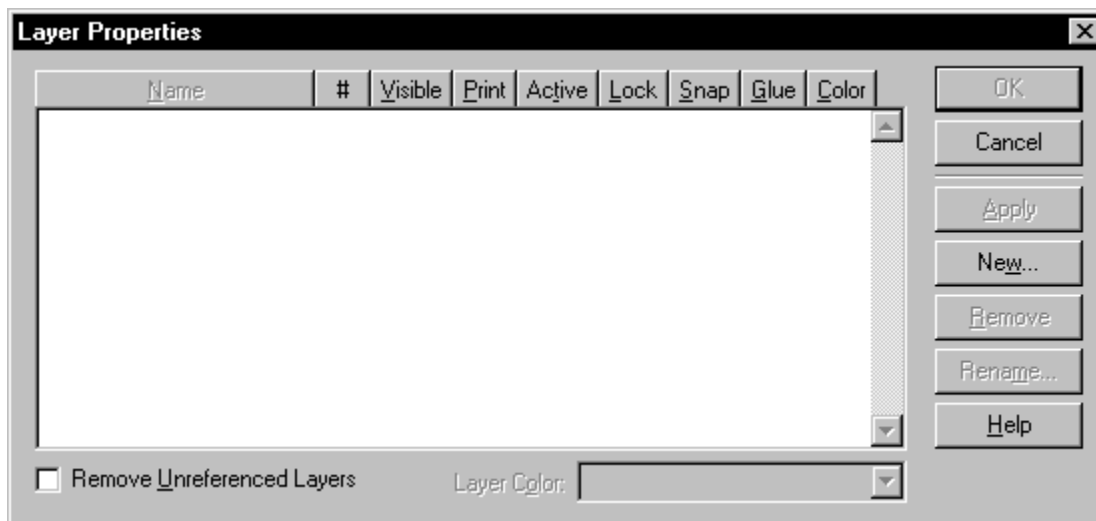
## Layer Properties

### View menu, drawing and print preview windows

Creates and modifies [layers](#) in a diagram. By assigning shapes to different layers, you can selectively view, print, and lock layers, as well as control whether shapes on a layer can be snapped to or glued to.

**Note:** Some [templates](#), such as the Office Layout template, contain shapes that are already assigned to pre-existing layers.

**Click to display information about the dialog box.**



### See also

[Adding layers](#)

[Assigning a shape to a layer](#)

[Deleting layers](#)

[Setting shapes on a layer to appear in a color](#)

[Viewing layers](#)

Specifies the name of the layers in the diagram. Clicking this button opens the Rename Layer box, in which you can change the name of the selected layer.

Displays the number of shapes assigned to each layer.

Specifies whether the shapes on a layer are visible or hidden. Check to show the layer and uncheck to hide the layer.

Specifies whether to print the shapes on a layer. Check to have the layer print; uncheck this option so that the layer does not print.

Specifies the active layer to which shapes without a pre-assigned layer are automatically assigned. Check to make the layer active or uncheck to deactivate the layer.

Prevents shapes on a layer from being selected or altered. Check to lock the layer or uncheck to unlock the layer. If a layer is locked, its Visible, Print, Active, Snap, Glue, or Color properties cannot be changed.

Specifies whether other shapes can snap to shapes assigned to the layer. A shape on a layer that has Snap unchecked can still snap to other shapes, but other shapes cannot snap to it.



Specifies whether other shapes can glue to shapes assigned to the layer. A shape on a layer that has Glue unchecked can still glue to other shapes, but other shapes cannot glue to it.

Specifies that all shapes assigned to the layer appear in the specified color; this option does not permanently change the shape colors. Check to override each shape's original color in favor of the layer color. Uncheck to return shapes to their original colors.

Applies the current settings of the box to the drawing page without closing the box.

Adds a new layer and opens the New Layer dialog box, in which you can type a name for a new layer.

Deletes the selected layer. All shapes that are assigned to only the selected layer are deleted.

Opens the Rename Layer dialog box, in which you can rename the selected layer.

Removes all layers that do not have shapes on them.

Adds color to a layer so that all objects assigned to the selected layer appear in the layer color.



## Layer

### Format menu, drawing and ShapeSheet windows

Assigns the selected shape to one or more [layers](#), or removes a shape's layer assignment.

#### DIALOG BOX OPTIONS

**Member Of Layer(s).** Assigns the selected shape to one or more layers. You can assign a shape to multiple layers.

**Preserve Group Member Layers.** Specifies that individual shapes in a group retain their current layer assignments. For example, you might assign a desk to the furniture layer and a computer to the electronics layer, then group them. If you then assign the group to the den layer, the desk and computer retain their previous layer assignments as well. When this option is unchecked, when you assign a [group](#) to a layer, all of the group members become members of the new layer. Their previous layer assignment is canceled.

**All.** Assigns the selected shape to all layers.

**None.** Assigns the selected shape to no layers.

**New.** Opens the New Layer box, in which you can type a name to create a new layer.

#### See also

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[Adding layers](#)

[Assigning a shape to a layer](#)

[Setting options for layers](#)

Left:



**Left Color box**

### **Edit icon toolbar, edit icon window**

Displays the color assigned to the left mouse button in the edit icon window. Choose the icon pencil or paint bucket tool and click with the left mouse button to change the pixels in the icon to this color. To change the assigned color, click with the left mouse button in the color palette.

### **See also**

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[Editing parts of a master shape icon](#)

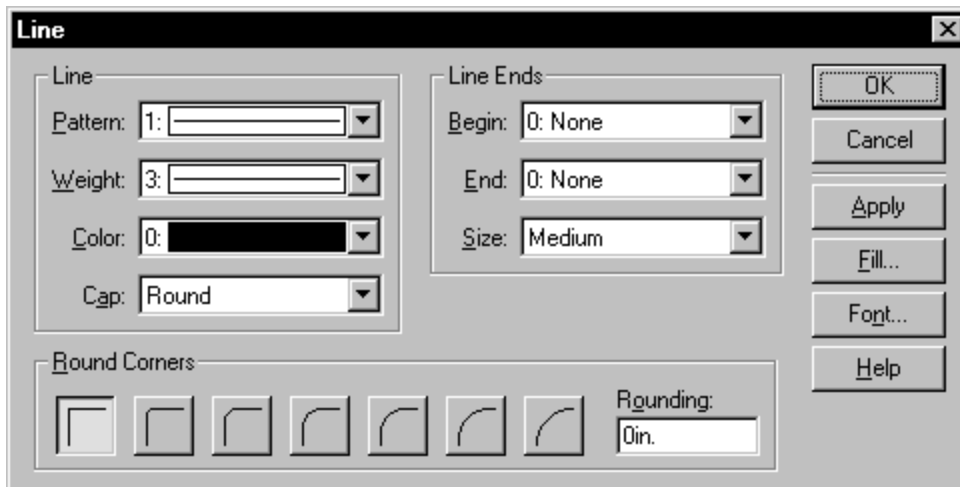
## Line (Shift+F3)

### Format menu, drawing and ShapeSheet windows

Applies formatting such as line pattern, line weight, line ends, and corner rounding to lines and arcs in the selected shape.

You can also use line formatting buttons or the Line style box. Use [ToolTips](#) to identify the button.

**Click to display information about the dialog box.**



### See also

[Changing line color, weight, and pattern](#)

[Color Palette](#)

[Define Styles](#)

[Fill](#)

[Font](#)

[Style](#)

Displays line end options for the shape's beginning point.

Displays line end options for the shape's ending point.

Displays options for the size of line ends.

Displays options to change the shape's formatting.

Choose among none, solid, or dashed lines.



Choose among various line thicknesses.

Choose among colors that are set in the Color Palette dialog box.

Choose between round and square line caps.

Displays options for line ends such as arrowheads for the endpoints of an open shape.

Choose among various corner formats.

Displays the numeric equivalent for the roundness of the corner—the higher the number, the rounder the corners.

Applies formats without closing the dialog box.

Applies changes, closes the Line dialog box, and displays the Fill dialog box.



Applies changes, closes the Line dialog box, and displays the Font dialog box.



## Line tool (Ctrl+3)

### Drawing tool menu

Use the line tool to draw straight line segments in any direction. As you drag, hold down the Shift key to constrain the line to angles at 45-degree intervals. A single line is a 1-D shape when you first draw it. Adding other line or arc segments creates a 2-D shape.

### Endpoints

Any selected 1-D shape displays two square endpoints: the beginning point contains an X, and the ending point contains a plus sign (+). To move a 1-D line or arc segment, drag a portion of the line other than an endpoint with the pointer tool. To size a 1-D line or arc segment, drag an endpoint with the pointer tool.

### Arc/line segment

To change a line to an arc or to edit a line segment in a 2-D shape, use the pencil tool. You can switch between the arc tool, line tool, pencil tool, and freeform tool to draw shapes consisting of contiguous segments.

### See also

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[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing shapes with several segments](#)

## Links

### **Edit menu, drawing window**

Opens a dialog box where you can manage links between objects from other programs in Visio drawings and their original files. You can view the links and choose whether to update the object manually or automatically as you use the original program to edit the linked file. You can also open a dialog box where you can change the file reference for the linked object.

#### DIALOG BOX OPTIONS

**Links.** Lists the object's folder path, the original OLE program used to create the linked object, and the update option you specified: Automatic or Manual. To change information for a linked file, choose it from the list. You can then change its update option or use the Change Source button to change the file reference.

**Source.** Lists the folder path.

**Type.** Lists the original OLE program used to create the linked object.

**Update.** Specifies when Visio updates the linked object. Choose Automatic or Manual.

**Update Now.** Checks the file reference. If changes have been made since you last updated, Visio applies those changes to the object.

**Open Source.** Opens the OLE program used to create the linked object.

**Change Source.** Opens the Change Source dialog box, where you can change the file reference to the correct file.

**Break Link.** Breaks the link between the object and the original file. Future changes to the original file will not affect the object on the drawing page, which Visio changes to a Windows metafile. As a result, you don't have to provide any additional files when giving someone a Visio drawing on disk.

#### **See also**

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[Viewing and updating links](#)

Updates the object when you open the drawing it is linked to.

Updates the object in the drawing when you choose the Update Now button.

## Lotus Notes Field

### File menu

Opens a dialog box where you can create and display Lotus Notes Field for the active drawing.

If you create a [field](#) in Lotus Notes, you need to create a corresponding field in the Lotus Notes Field dialog box in order for Visio to read the field. Once you create a field in Visio, you can embed a Visio object into a Lotus Notes document.

Fields created using the Lotus Notes Field command are also displayed in the [Field](#) dialog box.

### DIALOG BOX OPTIONS

**Field Name And Direction.** Displays the field name. Indicates whether the field is read from Lotus Notes or written to Lotus Notes.

If Read From Notes is checked, choose from Text, Time, and Number.

If Write To Notes is checked, choose from:

**Text.** Choose from Text, Name, Data 1, Data 2, Data 3 and Help.

**Time.** Enter a custom formula that returns a time or date.

**Number.** Enter a custom formula.

**Data Type.** Lists three data types for the field: Text, Time, Number. Also lists available shape fields.

**Custom Formula.** Use this section to enter a custom formula for a field.

### See also

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[Creating formulas](#)

[Inserting fields into text](#)

[Reading information from Lotus Notes and displaying it in Visio](#)

## Lotus SmartSuite

### Toolbar shortcut menu

Displays a Visio toolbar that is similar to the Lotus SmartSuite toolbar. The toolbar provides buttons you can use as shortcuts for choosing menu commands. To switch the toolbar, right-click the toolbar, then choose Lotus SmartSuite from the shortcut menu.

**Note:** Your toolbar may vary depending on the display resolution of your monitor, the size of your window, and which window is active.

### See also

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[Getting quick access to common commands](#)

[Switching toolbar sets](#)

## Microsoft Office

### Toolbar shortcut menu

Displays a Visio toolbar that is similar to the Microsoft Office toolbar. This is the default Visio toolbar. The toolbar provides buttons you can use as shortcuts for choosing menu commands. To switch the toolbar, right-click the toolbar, then choose Microsoft Office from the shortcut menu.

**Note:** Your toolbar may vary depending on the display resolution of your monitor, the size of your window, and which window is active.

### See also

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[Getting quick access to common commands](#)

[Switching toolbar sets](#)



## Name

### Insert menu, ShapeSheet window

Opens a dialog box where you select a cell name to paste into a formula for a [ShapeSheet](#) cell. Visio pastes the cell name at the insertion point in the formula bar. (The command remains dimmed until you place an insertion point by clicking in the formula bar.)

#### DIALOG BOX OPTIONS

**Select Name.** Lists the names of cells in the open ShapeSheet.

**Insert.** Pastes the selected cell name into the formula. You can paste one cell name after another at the insertion point.

**Close.** Cancels all changes made since you opened the dialog box.

#### See also

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[Alphabetical list of ShapeSheet cells](#)

[Building a formula by pasting](#)

[Cell reference syntax](#)

[Creating formulas](#)

[Function](#)

## Names Only

### View menu, stencil window

**Note:** This command is available only when you have an original stencil open. When checked, displays the names of [master shapes](#) in the [stencil window](#). You can also use the Names Only button. Use [ToolTips](#) to identify the button.

### See also

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[Arrange Icons](#)

[Arranging master shapes in a stencil](#)

[Creating a master shape icon](#)

[Icons And Names](#)

[Icons Only](#)

## New (Ctrl+N)

### File menu

Creates a new drawing or stencil file, or starts one of Visio's Wizards. You can:

- base a new drawing on a [template](#) or start it from scratch.
- base a new stencil on an existing stencil or start it from scratch.
- start a Visio Wizard to automate a task.

To open additional stencils while you are working on a drawing, use the [Stencils](#) command on the File menu.

You can also use the New button. Use [ToolTips](#) to identify the button.

### DIALOG BOX OPTIONS

**Based On.** Lists [templates](#), stencils, and Wizards, depending on the option chosen in the New section. Templates are marked with blue icons and names, and stencils with green icons and names. Choose No Template to open a blank, untitled drawing window. Choose No Stencil to open a blank stencil window.

**New.** Determines whether templates or stencils appear in the Based On list. Drawing (the default) lists all template files in the default templates folder, as well as available Wizards. Stencil lists all stencil files in the default stencils folder. You can specify the paths for both options in the [File Paths dialog box](#).

**Description.** Displays information about the selected template, stencil, or Wizard.

**Filename.** Displays the path and filename for the selected template, stencil, or Wizard.

**Open.** Displays the [Open](#) box so you can open an existing file.

### See also

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[Opening a stencil](#)

[Starting a new drawing with a template](#)

[Starting a new drawing without a template](#)

## Next Page

### **Edit menu, Go To submenu, print preview window**

Displays the next [page](#) in the current [drawing file](#).

You can also use the Next Page button. Use [ToolTips](#) to identify the button.

### **See also**

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[Getting quick access to common commands](#)

[Switching toolbar sets](#)

## Page

### Insert menu, drawing window

Creates a new page and opens a dialog box where you can change page settings. To create a new page or a background with the same settings as the page currently displayed, leave the settings as shown, and then click OK in the Page dialog box.

The Page command displays a dialog box similar to that displayed by the Properties command. Use the Page command to create and set options for a new page. Use Page Setup to change the settings for the displayed page.

Visio stores the new page directly after the page that was displayed when you created it. You can change the page order by using the Reorder command on the Page menu.

### DIALOG BOX OPTIONS

**Page Properties.** Specifies the page type, name, any background assigned to it, and measurement of the rulers.

**Shape Shadow Offset.** Specifies the position of shadows in relation to shapes. All shapes on a page that are formatted with shadows have the same shadow offset. By default, shadows appear 0.125 inches down and to the right of the shape. Type new distances after Right and Down to change the shadow offset. To position shadows above or to the left of a shape, type negative numbers.

**Drawing Size/Scale.** Identifies the page size and scale. To change either, choose the Size/Scale button.

**Size/Scale.** Displays the Size & Scale.

**Save Preview Picture.** Saves a picture of the file, so that when you open a file or view it with Quick View, you can see a picture of the first page in the drawing.

### See also

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[Changing the shadow offset](#)

[Creating a background page](#)

[Creating a new page](#)

[Setting a drawing scale](#)

[Setting page display options](#)

Lists properties for either the drawing page or the background page.

Displays the name of the drawing page. Page names can contain up to 31 characters.

Lists the name of the background page in the drawing.



Displays the unit of measure Visio's rulers should display on the page. Unless you specify different units here, the ruler units will be those specified for the drawing scale.

Specifies the current page size.

Specifies the ratio of the printed drawing to the drawing page.

Choose Fine, Normal, or Coarse.

Choose Fine, Normal, or Coarse.

## New Master

### Master menu, stencil window

Creates and displays a blank [master shape](#) icon for a new master shape. Use the command to specify the new master shape's name, icon size, icon update method, and master shape prompt. When you double-click the blank icon, Visio opens the master shape drawing window, where you can draw the new master shape.

#### DIALOG BOX OPTIONS

**Master Name.** Displays the name that appears under the master icon in the stencil window. Master shape names can contain up to 31 characters. To specify how the name is aligned below the icon, choose Left, Center, or Right.

**Icon.** Specifies the icon size and when Visio should update the icon.

**Size.** Choose Normal, Tall, Wide, or Double. The default icon size is Normal. Tall is the same width, but twice the height; Wide is the same height, but twice the width. Double is twice as wide and twice as tall as Normal. Choose the [Edit Icon](#) command on the Master menu to adjust the icon to fit a larger size.

**Update.** Updates the master shape icon automatically each time you edit the drawing of the master shape. Manually updates a master shape icon when you choose [Update Icon](#) from the Master menu.

**Prompt.** Displays the text that appears when you point to the master icon in the stencil window. To change the text, type new text in the Prompt box.

**Match Master By Name On Drop.** If you've created a stencil, preserves the formatting you've applied to the stencil's master shapes. For example, you've modified the shapes in the Office Layout stencil, created a stencil called My Office, then you drop a shape from the Office Layout stencil into the drawing.

If Match Master By Name On Drop is checked for the shapes on the My Office stencil, when you drop a shape into the drawing, Visio checks to see if the shape you're dropping matches any of the master shapes in the My Office stencil. If it finds a match, Visio formats the shape with the changes you made to the My Office master shape.

If Match Master By Name On Drop is unchecked for the shapes on the My Office stencil, when you drop a shape from the Office Layout stencil, the shape is added to the drawing file with the default Office Layout formatting.

### See also

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[Creating a master shape from a shape in a drawing](#)

[Creating a master shape icon](#)

[Opening a stencil](#)

[Update Icon](#)

## New Window

### Window menu

Opens a copy of the active window (stencil, drawing, or [ShapeSheet](#)) in a new window.

### See also

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[Arranging Visio windows](#)

[Zooming in and out of a drawing](#)

## Next Tile

### **View menu, print preview window**

Displays the next printed page or [tile](#) in the drawing.

You can use the [Previous Tile](#) command on the View menu to display the previous tile.

You can also use the Next Tile button. Use [ToolTips](#) to identify the button.

### **See also**

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[Previewing a drawing before you print](#)

[Print preview window](#)

[Showing page breaks](#)

[Tiling a large drawing onto multiple sheets of paper](#)



## Novell PerfectOffice

### Toolbar shortcut menu

Displays a Visio [toolbar](#) that is similar to the Novell PerfectOffice toolbar. The toolbar provides buttons you can use as shortcuts for choosing menu commands. To switch the toolbar, right-click the toolbar, then choose Novell PerfectOffice from the shortcut menu.

**Note:** Your toolbar may vary depending on the display resolution of your monitor, the size of your window, and which window is active.

### See also

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[Getting quick access to common commands](#)

[Switching toolbar sets](#)

## Object

### **Edit menu, drawing window**

Displays the submenu of commands that you use to work with [objects](#) from another program. Usually the submenu contains the <OLE object> Edit and the <OLE object> Convert commands. In some cases, the submenu may contain the Open command.

**Tip:** This command is available only when an [OLE](#) object is selected.

If you select an object from another program, the command's name reflects the type of object. For example, if you select a Windows Paintbrush object, the command's name appears as Paintbrush Object.

### **See also**

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[Converting an object to Visio shapes](#)

[Creating objects in another program from within Visio](#)

[Linking or embedding an object into a Visio drawing](#)

## Open (Ctrl+O)

### File menu

Displays a dialog box where you can open an existing [drawing file](#), [stencil](#), [template](#), or [workspace](#).

You can also use the Open button. Use [ToolTips](#) to identify the button.

### DIALOG BOX OPTIONS

**Look In.** Displays the current folder. In the list, double-click the folder you want to open.

**Up One Level.** Moves the Look In folder up one level in the hierarchy.

**Create New Folder.** Creates a new folder in the current level in the hierarchy.

**List.** Displays the list as an icon and a label.

**Details.** Displays the list as the name, size, type, and modified date.

**File Name.** Lists files of the type specified in the List Files Of Type box. To open a file, choose from the list, or type a path and filename in the box.

**Files Of Type.** Lists the file types you can open, identified by their filename extension: All Files (.vs\*), Drawings (.vsd), Stencils (.vss), Templates (.vst), Workspaces (.vsw), ABC FlowCharter (\*.af3, \*.af2), CorelFlow (\*.cfl). To change the type, choose from the list.

**Description.** Displays information about the selected file. This information comes from the Description box in the [Properties](#) dialog box.

**Open button.** Opens the selected file.

**Open.** Determines whether the file is opened as an [original](#), a [copy](#), or a [read-only](#) version of the file.

**Preview.** Displays a preview of the selected file if a preview has been saved for the file in the [Properties](#) dialog box.

**File Preview.** Turns file preview on or off.

### See also

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[Editing a template file](#)

[Opening a stencil](#)

[Opening a template to modify or copy it](#)

[Opening an existing drawing file](#)

Opens the original file so you can edit it. If this option is dimmed when opening a stencil file, it means the original stencil is already open.

Opens an untitled copy of the selected file. You can edit the file, and then use the Save As command on the File menu to name and save it. You cannot save it with its original name (default for a template).

Opens a read-only file. Read-only templates or drawing files are identified in the title bar with brackets. Use this option to open a stencil that you don't expect to modify.

## Open Group, Open <group name>

### **Edit menu, drawing window**

Opens the selected group and displays its component shapes in the group window. (If you have named the group by using the Special command, the group name follows the command Open; otherwise, the command reads Open Group.)

Whether or not the group is rotated on the drawing page, it appears unrotated in the group window. Shapes appear as if they were independent, not grouped. The group window displays a page just large enough to hold the shapes. You can edit the shapes in the same way as you edit shapes in the drawing window. Changes you make in the group window are reflected in the drawing window.

**Tip:** After editing the shapes in a group in the group window, you might need to readjust the width and height of the group so its selection rectangle contains all the group's shapes. To do this, select the group, and choose Update Alignment Box from the Tools menu.

### **See also**

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Editing the shapes in a group

## Open In Visio

### **View menu, in-place window only**

Opens Visio in its own window when working with Visio in place in an [OLE container](#) program. When Visio is open in its own window, you can open original stencil files so you can add or delete shapes from a [stencil](#).

**Note:** When Visio is open in its own window, the File and Window menus are updated to include additional commands.

### **See also**

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[Editing an embedded object in place](#)



## Organization Chart Wizard

### **Tools menu, Run Add-on submenu, drawing window**

Automates creating an organization chart. You can create one from scratch or base it on an existing Microsoft Excel worksheet or a text file.

By default, Visio looks for these column headings:

Name	Position	Reports To	Department	Telephone	Master Shape
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If they're in a different order, you can rearrange them in the Wizard.

### **See also**

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[Starting a new drawing with a template](#)

## Stencils

### File menu

Opens a [stencil](#) in the [stencil window](#). Generally you start a new drawing with a [template](#) that opens at least one stencil for you. Use the Stencils command to open additional stencils or to open an original stencil file so you can add or modify [master shapes](#).

You can also use the Stencils button. Use [ToolTips](#) to identify the button.

### DIALOG BOX OPTIONS

**Select Stencil.** Lists stencils (.vss extension) next to green file icons. Select which stencil you want to open and click OK.

**Browse.** Displays the [Open](#) dialog box, where you can search folders to find a stencil file.

**Open.** Determines whether the file opens as an [original](#) or a [read-only](#) version.

**Description.** Displays information about the selected file. This information comes from the Description box in the [Properties](#) dialog box.

**Filename.** Displays the Windows path for the filename.

### See also

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[Creating a new stencil](#)

[Opening a stencil](#)

[Opening an original stencil](#)

## Options

### Tools menu

Opens a dialog box where you can set the units of measure, the file format for saving files, and other options.

#### DIALOG BOX OPTIONS

**Default Units Of Measure.** Specifies the units of measure for page dimensions, text, and angles.

**General.** Specifies to prompt for document information automatically when saving a file, and specifies the user name.

**Freeform Drawing.** For a shape drawn with the freeform tool, the Precision bar controls how many points there are in the shape, and Smoothing controls how precisely Visio smoothes the mouse movements.

**File Paths.** Opens the [File Paths dialog box](#).

**Spelling.** Opens the [Spelling Options dialog box](#) in which you can set where Visio searches (selection, current page, or all pages) and the dictionary Visio uses.

### See also

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[Properties](#)

[Saving a new drawing file](#)

[Saving changes to an open file](#)

[Snapping shapes into place](#)

[Units of measure](#)

Specifies the units of measure for a page's dimensions, margins, drawing size, scale, and other features.

Specifies the units of measure for indents, line spacing, and other text measurements. The default unit for type size is points (1 point =  $\frac{1}{72}$  in.). You can enter type size in another unit of measure (for example, 1 ft. or 12 in.), but you can't change the default unit for type size.

Specifies the units for the angle of rotation.

## Page Breaks

### **View menu, drawing window**

Displays page breaks for a drawing. Page breaks are displayed where the document [tiles](#) when printed. Page breaks are determined by settings in the [Page Setup](#) dialog box.

### **See also**

---

[Previewing a drawing before you print](#)

[Showing page breaks](#)

## Page Layout Wizard

**Tools menu, Run Add-on submenu, drawing window**

Automates setting up the page and adding title or border details.

### **See also**

---

[Starting a new drawing with a template](#)



## Previous Page

### **Edit menu, Go To submenu, print preview window**

Displays the previous [page](#) in the current [drawing file](#).

You can also use the Previous Page button. Use [ToolTips](#) to identify the button.

### **See also**

---

[Getting quick access to common commands](#)

[Switching toolbar sets](#)

## Properties (Shift+F5)

### **Edit menu, Drawing Page submenu, drawing and print preview windows**

Opens a dialog box where you can change the size, [scale](#), and other settings for a drawing page.

#### DIALOG BOX OPTIONS

**Page Properties.** Specifies the page type and name, whether a background is assigned to it, and the unit of measurement of the rulers.

**Shape Shadow Offset.** Specifies the position of shadows in relation to shapes. All shapes on a page that are formatted with shadows have the same shadow offset. By default, shadows appear 0.125 inches down and to the right of the shape. Type new distances after Right and Down to change the shadow offset. To position shadows above or to the left of a shape, type negative numbers.

**Drawing Size/Scale.** Displays the page size and scale. To change either, choose the Size/Scale button.

**Size/Scale.** Opens the Size & Scale where you set options for the drawing page size and the drawing scale.

#### **See also**

---

[Changing the size of the drawing page](#)

[Formatting fills and shadows](#)

[Layer Properties](#)

[Ruler & Grid](#)

[Setting display options](#)

[Setting page display options](#)

To change the name of the drawing page, type a name containing up to 31 characters.

Lists the name of the background page in the drawing.

Choose the unit of measure Visio's rulers should display on the page. Unless you specify different units here, the ruler units will be those specified in the drawing scale.

Specifies the current page size.

Specifies the ratio of the printed drawing to the drawing page.

## Page Width

### **View menu, drawing window**

Displays the entire width of the page in the drawing window.

You can also adjust width view by using the Actual Size command.

You can also choose Width from the Zoom box on the toolbar. Use [ToolTips](#) to identify the button.

### **See also**

---

[Zooming in and out of a drawing](#)





## Paint bucket tool

### **Edit icon toolbar, edit icon window**

Use the paint bucket tool to change the color of an area of a master shape icon (a bitmap). Assign the color you want to the left or right mouse button by clicking in the color palette. Then click a pixel in the area you want to change with the same mouse button. The new color is applied to all contiguous pixels of the same color in the area you clicked.

### **See also**

---

[Editing parts of a master shape icon](#)

## Paragraph (Shift+F11)

### Format menu, drawing and ShapeSheet windows

Specifies alignment, indentation, and spacing for selected paragraphs or the selected shape's entire [text block](#).

#### DIALOG BOX OPTIONS

**Horizontal Alignment.** Displays the current horizontal alignment of the text in relation to the text block margin. Choose [Left](#), [Right](#), [Center](#), [Justify](#), or [Force Justify](#).

**Indents.** Displays the current indentation from the text block margins.

**Spacing.** Displays the current paragraph and line spacing. Type values for [Before](#), [After](#), and [Line](#).

**Apply.** Applies formatting without closing the dialog box.

**Font.** Applies formatting, closes the Paragraph dialog box, and displays the [Font](#) dialog box.

#### See also

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[Aligning and indenting paragraphs](#)

[Define Styles](#)

[Setting line spacing](#)

[Zooming in and out of a drawing](#)

Starts each line of text at the left margin. The right side of the text is ragged.

Centers each line of text between the left and right margins.

Positions the last character in each line at the right margin. The left side of the text is ragged.

Adjusts the spacing between words and characters so each line of text (except the last line of the paragraph) fills the space between the left and right margins.

Adjusts the spacing between words and characters so each line of text (including the last line of the paragraph) fills the space between the left and right margins.

Specifies the space Visio inserts before a paragraph (except for the first paragraph in the text block). Traditionally, vertical spacing is measured in points. One point (abbreviated as pt.) equals  $1/72$  inch. You can type new values using any unit of measure.



Specifies the space Visio inserts after a paragraph (except for the last paragraph in the text block). If you specified a value for Before, the amount of space between paragraphs will equal the sum of the Before and After values. Traditionally, vertical spacing is measured in points. One point (abbreviated as pt.) equals  $1/72$  inch. You can type new values using any unit of measure.

Specifies the space Visio inserts between lines in a paragraph. You can specify a percentage of the type size; the default setting of 120 percent ensures that characters do not touch the line below. Otherwise, you can type an absolute size (for example, for 12-point type with two extra points inserted between lines, set line spacing to 14 points).

## Paste (Ctrl+V)

### **Edit menu (not in print preview window)**

Pastes the shape, [object](#), or text stored on the [Clipboard](#) into the center of the active drawing window. If a [text block](#) is open, text is [pasted](#) at the [insertion point](#). The pasted item remains on the Clipboard until you use the [Copy](#) or [Cut](#) command again.

If both programs support [OLE](#), pasting embeds the object. Many Windows programs put objects on the Clipboard in several formats. The Paste command automatically chooses a preferred format. To select a particular format, choose the [Paste Special](#) command from the Edit menu.

You can also use the Paste button. (If you are using an alternate toolbar, you may not have this button. Use [ToolTips](#) to identify the button.)

### **See also**

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[Adding and replacing text](#)

[Copying shapes in the current drawing](#)

[Duplicate](#)

[Linking or embedding an object into a Visio drawing](#)

## Paste Special

### Edit menu, drawing window

Pastes an [object](#) on the [Clipboard](#) into a Visio drawing in the format you choose.

Many Windows programs put information on the Clipboard in several formats. With this command, you can choose which format you want. For example, Visio automatically embeds objects from [OLE](#)-compatible programs, but you can use the Paste Special command to paste the object as a non-editable bitmap.

#### DIALOG BOX OPTIONS

**Source.** Identifies the program used to create information on the Clipboard. If the program is unknown, displays Unknown.

**As.** Lists the default format and other formats that Visio can use. Usually these include Bitmap, Picture (a Windows metafile), and Text. Choose the format you want from this list.

**Paste.** Pastes the Clipboard contents onto the page in the specified format. Depending on the program that created the object, pasting may embed the object in Visio.

**Paste Link.** Pastes the Clipboard contents onto the page in the specified format and establishes a link to the original file.

**Result.** Displays a message of what happens when you click OK.

**Display As Icon.** Displays the OLE object as an icon in a drawing.

**Tip:** You can convert a Visio shape into a Windows metafile with the Paste Special command. Select the shape, copy it to the Clipboard with the [Cut](#) command, and then use the Paste Special command to paste the shape as a metafile.

#### See also

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[Creating objects in another program from within Visio](#)

[Linking or embedding an object into a Visio drawing](#)

[Pasting information in a particular format](#)



## Pencil tool (Ctrl+2)

### Drawing tool menu

Use the pencil tool to draw both line and arc segments. You also use the pencil tool to edit shapes by dragging an endpoint, a control point, or a vertex. Drawing with the pencil tool relies on gesture recognition.

### Line segment

To draw a line segment, drag the pencil tool in a straight line in any direction. The pointer displays a small line. Hold down the Shift key as you drag to draw lines at 45-degree intervals.

### Arc segment

To draw an arc segment, drag the pencil tool along a curve. The pointer displays a small arc.

**Tip:** To constrain the shape of the arc, hold down the Shift key as you draw arcs.

### See also

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[Adding segments to shapes](#)

[Changing shape angles by dragging a vertex](#)

[Deleting segments from shapes](#)

[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing shapes with several segments](#)



## Pointer tool (Ctrl+1)

Use the pointer tool (on the toolbar) to select shapes so you can move, format, and size them. You also use the pointer tool to drag master shapes from stencils and drop them in the drawing. When you move the pointer tool over a shape that you can select, the pointer turns white.

### Selection net

You can select more than one shape by dragging the pointer tool to form a selection net that encloses all the shapes you want to select. The shape that is first in the stacking order becomes the primary selection.

### Selection handles

The number of handles on a selected shape depends on its type and size. A 1-D arc or line segment has handles at each endpoint and one in between. A 2-D shape displays at least four handles and can display eight selection handles at a large enough view.

### See also

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[Changing the size of a 1-D shape](#)

[Changing the size of a 2-D shape](#)

[Closing a shape](#)

[Selecting shapes](#)

## Previous Tile

### **View menu, print preview window**

Displays the previous page or [tile](#) in the drawing.

You can use the [Next Tile](#) command on the View menu to display the next tile.

You can also use the Previous Tile button. Use [ToolTips](#) to identify the button.

### **See also**

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[Previewing a drawing before you print](#)

[Print preview window](#)

[Showing page breaks](#)

[Tiling a large drawing onto multiple sheets of paper](#)

## Project Timeline Wizard

### Tools menu, Run Add-on submenu, drawing window

Automates creating a project timeline in the Gantt chart style. You can create a timeline, then fill in the data after the Wizard is finished, or you can base the timeline on an existing Microsoft Excel worksheet or a text file.

By default, Visio looks for these column headings:

Task #	Task Name	Duration	Start Date	End Date	Dependency	Resource
--------	-----------	----------	------------	----------	------------	----------

If they're in a different order, you can rearrange them in the Wizard.

### See also

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[Starting a new drawing with a template](#)



## Print (Ctrl+P)

### File menu, drawing and print preview windows

Opens a dialog box where you specify which pages to print and other print options. Choosing the OK button sends the drawing file to the selected printer.

You can also use the Print button to print the current page. Use [ToolTips](#) to identify the button.

### DIALOG BOX OPTIONS

**Printer.** Displays the name and port of the current printer. To change the printer, choose [Page Setup](#).

**Properties.** Specifies the resolution the printer should use. Depending on the printer, this list specifies the available resolutions as dots per inch (dpi), or as High, Medium, Low, or Draft. The higher the resolution, the better the print quality. For details, see the documentation for your printer.

**Print To File.** Opens a dialog box in which you name a file where Visio will store all the printer instructions necessary to print the drawing file. Visio saves this file on disk, rather than immediately sending it to the printer. You can use this file to print from any computer connected to the type of printer specified for the drawing file, even if Visio is not installed on the computer.

**Color As Black.** If checked, Visio prints all colors as black to ensure that all shapes are visible in the printed drawing. This is useful if a monochrome printer translates very light colors in a drawing to white rather than a shade of gray.

**Print Range.** Specifies which drawing pages to print. Choose [All Pages](#) or [Current Page](#), or specify a [range of pages](#).

**Copies.** Specifies the number of [copies](#).

### See also

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[Previewing a drawing before you print](#)

[Printing a background page](#)

[Printing a drawing](#)

[Printing a drawing to a file](#)

[Printing a page without its background](#)

[Showing page breaks](#)

Prints every page in the drawing file in the order in which the foreground pages are stored in the file. This is the default setting.

Prints the currently displayed drawing. If the page is a foreground, Visio prints the entire drawing. If the page is a background, Visio prints the background and the backgrounds on lower layers in the drawing, but does not print the foreground and backgrounds on higher layers in the drawing.

Prints only the specific range of pages identified by the values you type in the From and To boxes.

Tells Visio how many copies to print (default is 1).

## Print Preview

### File menu, drawing and print preview windows

Opens the [print preview window](#) and displays a drawing as it will appear when printed. When you preview a drawing in the print preview window, Visio displays the drawing within the margins and [tiles](#) the drawing if the drawing page is larger than the page size.

**Note:** If the Print Preview command is checked on the menu, choosing this command displays the drawing window.

You can use the [Previous Tile](#) and [Next Tile](#) commands to move from tile to tile or page to page.

To exit the print preview window, click the Close button or press the Esc key.

You can also use the Print Preview button. (If you are using an alternate toolbar, the Print Preview button may look slightly different or may not be available. Use [ToolTips](#) to identify the button.)

### See also

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[Previewing a drawing before you print](#)  
[Showing page breaks](#)

## Page Setup

### File menu, drawing and print preview windows

Opens a dialog box where you specify a printer, change paper size and orientation, and set other print options.

To set up the drawing page, use the [Properties](#) dialog box. To automate setting up the drawing page, use the Page Layout Wizard.

#### DIALOG BOX OPTIONS

**Paper.** Identifies the paper size and source. For details about options, see your printer documentation.

**Orientation.** Specifies the page orientation as either portrait or landscape.

**Margins.** Defines an area that Visio can use to position the drawing on the paper. Enter values for Left, Top, Right, Bottom, and Center.

**Reduce/Enlarge.** Reduces or enlarges drawings for printing only. (The settings affect all drawings you select to be printed.) Choose either Scale or Fit On. This is not the same as scaling the drawing in the Properties Size & Scale dialog box, which affects only the current drawing. If the drawing page is the same size as the paper, typing a 1 in each box ensures that the drawing fits within the margins on the printed page.

**Printer.** Opens a dialog box in which you can choose either the default Printer or any of the printers listed in the specific printers list.

#### See also

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[Choosing a printer](#)

[Print](#)

[Setting margins](#)

Identifies the printer specified in Windows as the default printer.



Lists all printers and output devices for which you have installed a driver. If you don't want to use the default printer, you can choose another from this list to print the current file without changing the default printer.

Specifies that a page be taller than it is wide.

Specifies that a page be wider than it is tall.

Lists the paper sizes available for the specified printer. Changing the paper size also affects the drawing page size if you check Same As Page Setup in the Size & Scale dialog box.

Lists paper trays, cassettes, manual feed, and other paper sources specific to the specified printer.

Specifies the distance from the left edge of the paper to the left margin.

Specifies the distance from the top edge of the paper to the top margin.

Specifies the distance from the right edge of the paper to the right margin.



Specifies the distance from the bottom edge of the paper to the bottom margin.

Centers a printed drawing that is smaller than the paper. Check Left/Right to center the drawing between the left and right margins or edges of the paper, and Up/Down to center the drawing between the top and bottom margins or edges of the paper.

Specifies how much to enlarge or reduce the drawings for printing. For example, type 75 to print drawings at three-quarters of their actual size.

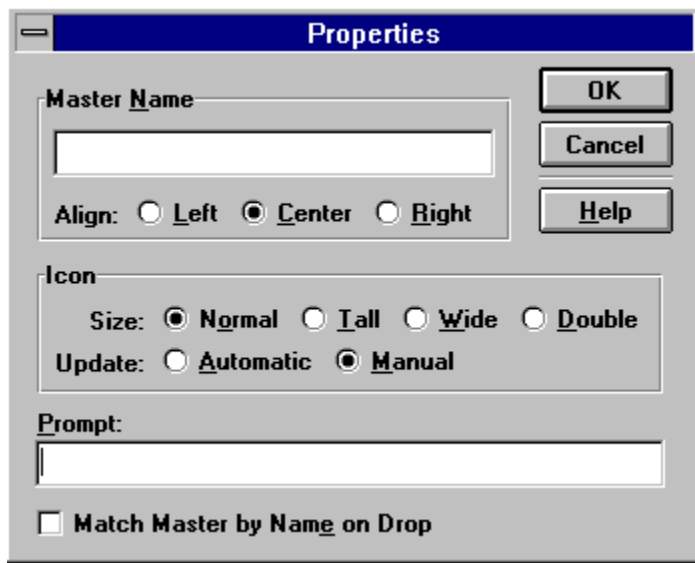
Fits each drawing in the print job on the specified number of sheets across and down. Depending on the number of pages and the margins you specify, Visio enlarges or reduces the drawing. If the pages across and down are not proportional to the drawing's dimensions, Visio uses only those sheets needed to maintain the drawing's proportions.

## Properties

### Master menu, stencil window

Changes the name, icon size, update status, and prompt for the selected [master shape](#). Available only when a stencil is open as an original and the stencil window is active.

Click to display information about the dialog box.



### See also

[Opening a stencil](#)

[Specifying master shape characteristics](#)

---

Displays the name that appears under the master icon in the stencil window. Master shape names can contain up to 31 characters.

Specifies how the name is aligned below the icon.

Specifies the icon size and when Visio should update the icon.



Determines the icon's size. All icons in the stencils shipped with Visio are the default Normal size. Tall is the same width, but twice the height; Wide is the same height, but twice the width. Double is twice as wide and twice as tall as Normal.

Determines when the master shape icon is updated. Automatic updates the master shape icon each time you edit the drawing of the master shape. Manual updates a master shape icon only when you choose Update Icon from the Master menu.

Displays the text that appears when you point to the master shape icon in the stencil window.

If you've created a stencil, preserves the formatting you've applied to the stencil's master shapes. For example, you've modified the shapes in the Office Layout stencil, created a stencil called My Office, then you drop a shape from the Office Layout stencil into the drawing.

If Match Master By Name On Drop is checked for the shapes on the My Office stencil, when you drop a shape into the drawing, Visio checks to see if the shape you're dropping matches any of the master shapes in the My Office stencil. If it finds a match, Visio formats the shape with the changes you made to the My Office master shape.

If Match Master By Name On Drop is unchecked for the shapes on the My Office stencil, when you drop a shape from the Office Layout stencil, the shape is added to the drawing file with the default Office Layout formatting.

## Properties

### File menu

Opens a dialog box where you can type information that describes a file.

The description you type appears in the Open, New, and Stencils dialog boxes when you select a drawing file, template, or stencil to open. Entering a detailed description in the dialog box can help you locate and keep track of files more easily, especially if you work with many files over a network or share them with a work group.

To add information, type it in the appropriate box. To edit information, select and then delete or replace text.

**Note:** To view this command for a stencil, you must have an original stencil open.

### DIALOG BOX OPTIONS

**File Name.** Displays the file's name if the file has been named and saved.

**Folder.** Identifies the path for the folder where the file is stored.

**Based On.** Lists the template on which the file is based.

**Title.** Displays a descriptive title for the file. You can type up to 63 characters.

**Subject.** Describes the contents of the file. You can type up to 63 characters.

**Creator.** Identifies the person who created or last updated the file. You can type up to 63 characters.

**Keywords.** Displays words (up to a total of 63 characters) that identify general topics or other important information about the file, such as project name, client name, or version number.

**Description.** Displays important information (up to 191 characters) about the file, such as its purpose, recent changes, pending changes, and so on.

**Save Preview Picture.** Specifies to save a preview picture of the first page in the file to be used in the Open box and in Quick View.

You can use the Field command to create text fields that display file summary information entered in the dialog box. Any changes you make to information in the dialog box carry over to the fields.

### See also

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[Lotus Notes Field](#)

[Saving a new drawing file](#)

## Properties Reporter Wizard

### **Tools menu, Run Add-on submenu, drawing window**

Calculates values for custom properties that have been assigned in the Custom Properties dialog box.

### **See also**

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[Starting a new drawing with a template](#)

## Protect Document

### Tools menu, drawing window

Protects document features from unauthorized changes. Other users can open the file to look at drawings, but they cannot edit the features you protect. You can protect individual features and also set a password.

**Note:** Use the Protect Document command to apply protection to all shapes in the drawing file. To protect individual shapes, use the Protection command.

### DIALOG BOX OPTIONS

**Password.** Provides a text box where you can type a password. If you do, the Protect Document command changes to Unprotect Document. To turn off protection, choose Unprotect Document from the Tools menu, and enter the password. Be sure to make a note of your password so you don't forget it.

**Protect.** Lists features you can lock. Choose from styles, backgrounds, shapes, and master shapes.

### See also

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Protecting a file

Prevents users from creating and editing styles, although users still can apply styles.



Prevents users from deleting or editing background pages.

Prevents users from deleting or editing shapes if From Selection is also checked in the Protection dialog box.

Prevents users from creating, editing, or deleting master shapes, although they can still create instances of master shapes.

## Protection

### Format menu, drawing and ShapeSheet windows

Opens a dialog box where you choose characteristics of a selected shape you want to lock. For example, if you lock a shape's dimensions, you cannot change the size of the shape.

#### DIALOG BOX OPTIONS

**Protect.** Lists characteristics you can lock on the selected shape. When an item is checked, the characteristic is locked against changes. You can choose as many of the characteristics as you want: Width, Height, Aspect Ratio, X-Position, Y-Position, Rotation, Begin Point, End Point, From Deletion, and From Selection.

**All.** Locks all options in the Protect section. The Protection section in the [ShapeSheet](#) includes protection options not available in the Protection dialog box, such as locking against cropping, editing with any drawing tool, text editing and formatting, group editing, and recalculation of height and width when you size the shape.

**None.** Unlocks all options in the Protect section.

#### See also

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[Custom Properties](#)

[Displaying the ShapeSheet](#)

[Protecting shapes](#)

Locks the shape's width against sizing. To lock a 1-D shape against rotation, you must lock its width.

Locks the shape's height against sizing.

Locks the ratio between a shape's height and width so its proportions won't change when you size it.

Locks the x (horizontal) position.



Locks the y (vertical) position.

Locks a shape against rotation using the rotation tool. A 1-D shape can still be rotated by dragging its endpoints. To lock a 1-D shape against rotation, you must lock its width.

Locks the beginning point of a 1-D shape to a specific location.

Locks the ending point of a 1-D shape to a specific location.

Locks the shape so it cannot be deleted.

Locks the shape so it cannot be selected. For this setting to take effect, you must also check Shapes in the Protect Document dialog box.

## Quick Tour

### **Help menu**

Starts an introductory online tour of Visio.



## Rectangle tool (Ctrl+5)

### Drawing tool menu

Use the rectangle tool to draw rectangles or squares. Drag diagonally to draw a rectangle. Hold down the Shift key as you drag to draw a square. Both rectangles and squares are closed shapes.

### Editing options

To size a rectangle or square, select it with the pointer tool and drag a selection handle. Drag a corner handle to size the shape proportionally.

To edit the component line segments, select the rectangle with the pencil tool and then drag vertexes and control points.

### Fill styles

To apply a fill style or fill format to a rectangle, use the Fill command.

### See also

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[Drawing ellipses and circles](#)

[Drawing freeform shapes](#)

[Drawing rectangles and squares](#)



## Redo (Ctrl+Y)

### Edit menu

Reverses the most recent Undo command. If the action cannot be redone, the command is dimmed, or Visio beeps when you press the button.

**Tip:** You can use the Undo command to reverse the action of the Redo command.

You can also use the Redo button. (If you are using an alternate toolbar, you may not have this button. Use [ToolTips](#) to identify the button.)

### See also

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[Duplicate](#)

[Paste](#)

[Repeat](#)

## Remove From Group

### Shape menu, Grouping submenu, drawing window

Removes the selected shape(s) from the selected [group](#) without affecting the rest of the group in other ways. The removed shape remains in its current location.

First, select the group, and then click to select the shape you want to remove. The group displays green selection [handles](#), but the shape has gray handles. When you choose Remove From Group, the handles of the selected shape turn green, because it is now independent of the group.

**Note:** The group's selection rectangle is automatically updated when you remove a shape from a group.

### See also

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[Add To Group](#)

[Adding and removing shapes in groups](#)

[Convert To Group](#)

[Converting an object to Visio shapes](#)

[Editing and formatting a group](#)

[Group](#)

[Grouping and ungrouping shapes](#)

[Ungroup](#)

[Updating a group's selection rectangle](#)

## Reorder

### **Edit menu, Drawing Page submenu, drawing window**

Opens a dialog box where you can change the sequence of the drawing pages in the drawing file.

#### DIALOG BOX OPTIONS

**Page.** Lists all foreground pages by name in the order stored in the drawing file. Choose the page you want to move.

**Update Page Names.** When checked, renumbers pages that use default names (for example, Page-1, Page-2, and so on). Visio renumbers the pages to match the new order. This option doesn't affect pages you've renamed.

**Move Up.** Moves the page closer to the beginning of the file.

**Move Down.** Moves the page farther from the beginning of the file.

#### **See also**

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[Layer Properties](#)

[Rearranging foreground pages](#)

[Ruler & Grid](#)

## Repeat (F4)

### Edit menu

Repeats the most recent action. If an action cannot be repeated, Visio dims the command and changes it to Can't Repeat.

**Tip:** To create evenly spaced copies of a shape, select the shape, and then press the Ctrl key and drag to create the first copy and place it where you want. To space other copies evenly, press F4 for each additional copy.

### See also

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[Duplicate](#)

[Paste](#)

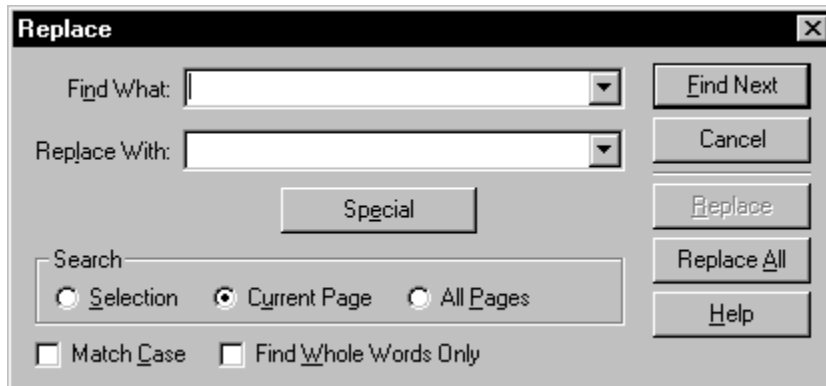
[Redo](#)

## Replace

### Edit menu, drawing window

Searches for and replaces specified text in [shapes](#), [stencils](#), the [Properties](#) dialog box, and data [fields](#) in the active drawing file.

**Click to display information about the dialog box.**



### See also

[Inserting fields into text](#)  
[Searching and replacing text](#)  
[Typing text into shapes](#)

---

Specifies the text you want to find. You can type or paste text into this field. To search using text you previously searched for, click the down arrow, then choose the text from the list.

Specifies the text to use as replacement text. You can type or paste text into this field. To use text you previously used as Replace With text, click the down arrow, then choose the text from the list. To delete the text in the Find What box from the drawing file, leave the Replace With box empty.

Displays a list of special characters on which you can search: Tab Character, Manual Return, Optional Hyphen, Caret Character, or Any Character.



Specifies the range of the search.

Specifies to search only the current selection.

Specifies to search only the current page.

Specifies to search all pages in the open diagram.

Finds only those occurrences with the exact combination of uppercase and lowercase letters specified in the Find What box. Visio uses the case of letters as they were originally typed, regardless of whether the text has been formatted using Small Caps or All Caps formatting.

Finds occurrences that are words and not parts of larger words. For example, if you type for" in the Find What box, Visio finds all instances of for" but ignores foreign."

Finds and selects the next occurrence of the text in the Find What box.

Replaces the Find What text with the Replace With text, and then finds the next occurrence.



Replaces all occurrences of the Find What text with the Replace With text. To undo a Replace All, choose Undo from the Edit menu.

## Reverse Ends

### **Shape menu, drawing window**

Flips selected shapes horizontally and vertically. What was at the top appears at the bottom, and what was on the left appears on the right.

### **See also**

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[Flip Horizontal](#)

[Flip Vertical](#)

[Flipping and reversing shapes](#)

[Rotation tool](#)

[Size & Position](#)

Right:  **Right Color box**

### **Edit icon toolbar, edit icon window**

Displays the color assigned to the right mouse button in the edit icon window. Choose the icon pencil or paint bucket tool and click with the right mouse button to change the pixels in the icon to this color. To change the assigned color, click with the right mouse button in the color palette.

### **See also**

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[Editing parts of a master shape icon](#)

## Rotate Left (Ctrl+L)

### Shape menu, drawing window

Rotates selected shapes (including freestanding text blocks) counterclockwise by 90-degrees. A shape's text usually rotates with the shape. Use the [Rotate Right](#) command to rotate a shape clockwise. You can also use the rotation tool to rotate a shape by any increment.

You can also use the Rotate Left button and the Rotate Right button. Use [ToolTips](#) to identify the button.

### See also

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[Flip Horizontal](#)

[Flip Vertical](#)

[Reverse Ends](#)

[Rotating shapes by 90-degree increments](#)

[Rotating shapes with the rotation tool](#)

[Size & Position](#)

## Rotate Right (Ctrl+R)

### Shape menu, drawing window

Rotates selected shapes (including freestanding [text blocks](#)) clockwise by 90-degrees. A shape's text usually rotates with the shape. Use the [Rotate Left](#) command to rotate a shape counterclockwise. You can also use the [rotation tool](#) to rotate a shape by any increment.

You can also use the Rotate Left button and the Rotate Right button. Use [ToolTips](#) to identify the button.

### See also

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[Flip Horizontal](#)

[Flip Vertical](#)

[Reverse Ends](#)

[Rotating shapes by 90-degree increments](#)

[Rotating shapes with the rotation tool](#)

[Size & Position](#)



## Rotation tool

### Rotation and crop tool menu

Use the rotation tool to rotate a shape by any amount. To rotate a shape, select it with the rotation tool, and then drag a round rotation handle. For finer control, drag the handle farther out from the shape. As you drag, the angle of rotation appears in the status bar at the bottom of the drawing page.

By dragging the center of rotation to a new location, you can rotate the shape around a point other than its center.

To rotate a shape by 90-degree increments, use the Rotate Left and Rotate Right commands.

You can also rotate a 1-D shape by using the pointer tool to drag one of its endpoints.

### See also

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[Flipping and reversing shapes](#)

[Moving a 2-D shape's center of rotation](#)

[Rotating shapes by 90-degree increments](#)

[Rotating shapes with the rotation tool](#)

## Row

### **Insert menu, ShapeSheet window**

Inserts a ShapeSheet row before the selected row. For example, to add a segment to a shape, insert a row in the Geometry section; to define a new [connection point](#), insert a row in the Connection Points section.

To insert a row after the selected row, use the Row After command.

### **See also**

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[Adding and deleting rows](#)

[Delete Row](#)

## Row After

### **Insert menu, ShapeSheet window**

Inserts a ShapeSheet row after the selected row. For example, to add a segment to a shape, insert a row in the Geometry section; to define a new connection point, insert a row in the Connection Points section.

To insert a row before the selected row, use the Row command.

### **See also**

---

Adding and deleting rows

Delete Row



## Ruler & Grid

### Tools menu, drawing window

Specifies the settings for the rulers and the [grid](#) lines. You can have separate settings for the horizontal and vertical rulers and grid lines.

#### DIALOG BOX OPTIONS

**Rulers.** Specifies the ruler settings.

**Subdivisions.** Specifies how many tick marks are on the vertical or horizontal ruler. You can choose Fine, Normal, or Coarse.

**Ruler Zero.** Specifies the location of zero on the horizontal and vertical ruler. By default, the horizontal ruler's zero point is the top-left corner of the page, and the vertical ruler's zero point is the bottom-left corner of the page. For example, if you specify 3 inches for both rulers, the ruler zero is positioned to the right (for the horizontal ruler) and 3 inches toward the top (for the vertical ruler).

**Grid.** Specifies the grid lines settings.

**Grid Spacing.** Specifies how far apart the grid lines are. You can choose Fine, Normal, Coarse, or Fixed. Fine, Normal, and Coarse set the grid to a variable grid: the grid spacing changes as you zoom in and out. Fixed sets the grid to a fixed grid; if you zoom in or out, the spacing between grid lines does not change.

**Minimum Spacing.** For Fine, Normal, or Coarse, specifies the minimum grid lines. For Fixed, specifies how far apart the grid lines are.

**Grid Origin.** Specifies where to place the grid origin. For example, you could move the grid in increments different from the ruler to align the grid with a shape or part of the diagram. By default, the grid origin is in the lower-left corner.

### See also

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[Setting page display options](#)



## Stamp tool

### Connection tool menu

Use the stamp tool to create [instances](#) of the selected [master shape](#) in a [drawing](#).

To [stamp](#) a shape, choose the stamp tool, and then select the master shape in the stencil. Click the drawing page where you want to position the center of the shape.

To create multiple shapes, drag a master shape to the drawing page, select the stamp tool, and then click on the page to make copies of the original shape.

### See also

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[Copying shapes in the current drawing](#)

[Stamping master shapes](#)

## Rulers

### **View menu, drawing and print preview windows**

Hides or displays the rulers. When rulers are displayed, they appear along the top and left sides of the drawing window.

The intervals of the ruler correspond to the unit of measure you set in the Options dialog box. You control the subdivisions for the rulers in the [Ruler & Grid](#) dialog box.

**Tip:** To create guides and guide points, rulers must be visible.

### **See also**

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[Changing the size of the drawing page](#)

[Ruler & Grid](#)

[Snapping shapes into place](#)

## Add-ons

### **Tools menu, Run Add-on submenu**

Runs a Wizard or a special program that performs tasks and other operations in Visio. Some add-ons perform tasks immediately (such as the AutoCAD add-ons), while others run behind the scenes, giving you more options with Visio.

### DIALOG BOX OPTIONS

**Select Add-on.** Lists all add-ons in the Visio add-ons folder. Select the add-on you want to use.

**About.** Displays information about the selected add-on in a separate dialog box.

### **See also**

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[Running add-ons](#)

## Save (Ctrl+S)

### File menu

Saves changes to the file in the active window. If the file is new and you haven't saved and named it yet, Visio displays the Save As dialog box.

You can also use the Save button. (If you are using an alternate toolbar, the Save button may look slightly different. Use [ToolTips](#) to identify the button.)

### See also

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[Opening an existing drawing file](#)

[Saving a new drawing file](#)

[Saving changes to an open file](#)

## Save As (F12)

### File menu

The first time you save a file, this dialog box appears. After you name the file and click Save, the Properties dialog box appears where you add file information and save a preview of the first page in the file (which is used in the Open dialog box and in Quick View).

You can also use this dialog box to:

- Name and save a drawing, stencil, or template file.
- Change the name or format of the open file.
- Save a file to a different disk location.
- Make a copy of a file, naming and saving the copy as a new file while leaving the original version intact.
- Save the workspace within a drawing, stencil, or template file.
- Export a Visio drawing or the selected shapes for use by another program. If you have appropriate export filters installed, Visio uses a matching filter to convert the drawing from its original format (.VSD) to the format you choose. The exported file will not be linked to a Visio file. You can export an entire Visio page or export selected shapes.

After you save the file, it remains open. Use the Close command to close the file or the Exit command to quit Visio. To name and save all open windows, use the Save Workspace command.

### DIALOG BOX OPTIONS

**Save In.** Displays the current folder. To change the folder, choose from the list.

**Up One Level.** Moves the Look In folder up one level in the hierarchy.

**Create New Folder.** Creates a new folder in the current level in the hierarchy.

**List.** Displays the list as an icon and a label.

**Details.** Displays the list as the name, size, type, and modified date.

**File Name.** Names the file. Change the name or create a new name by typing up to eight characters, followed by the filename extension. If you don't type an extension, Visio enters the extension displayed in the File Type box.

**Save As.** Lists formats for these files: Stencil (.VSS), Drawing (.VSD), Template (.VST), Visio 2.0 Stencil (.VSS), Visio 2.0 Drawing (.VSD), and Visio 2.0 Template (.VST).

**Save button.** Saves the file with the selected options.

**Save.** Lists additional options for saving the file. Choose the Workspace and Read Only options.

### See also

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[Exporting a drawing into another file format](#)

[Saving a file with the workspace option](#)

[Saving a new drawing file](#)

Creates a new file that retains the positions of the open windows.

Saves the file so that it opens as read-only or can be opened as a copy. You cannot open the original file. Check this option to protect a file from changes.



## Save Workspace (Alt+F12)

### File menu

Opens a dialog box where you can name and save a workspace file. Workspace files save the arrangement of windows currently open in the Visio window. Save a workspace when you have not finished a drawing file but need to close the file. When you want to resume work, Visio opens the workspace—not just the drawing file—so all windows are open and ready for you to continue where you left off.

**Important:** Before saving a workspace, you must use the Save As or Save command from the File menu to name and save any unnamed open files—including the drawing file you're working on. If unnamed files are open, Visio asks if you want to save the workspace without them.

### DIALOG BOX OPTIONS

**Save In.** Displays the current folder.

**Up One Level.** Moves the Look In folder up one level in the hierarchy.

**Create New Folder.** Creates a new folder in the current level in the hierarchy.

**List.** Displays the list as an icon and a label.

**Details.** Displays the list as the name, size, type, and modified date.

**File Name.** Names the workspace file. Filenames can be up to eight characters; Visio adds the .vsw filename extension to identify the file as a workspace.

**Save As.** Lists the filename extension for a workspace (.vsw).

**Save.** Saves the file with the selected options.

### See also

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[Saving a file with the Workspace option](#)

## Section

### Insert menu, ShapeSheet window

Opens a dialog box where you can choose which type of section to add to a ShapeSheet. Each section controls the behavior and appearance of some aspect of a shape.

By default, each ShapeSheet has at least one section that provides general positioning information. Visio builds in other sections required for a specific shape. Each ShapeSheet can contain only one of each type of section except for Geometry sections.

Each path in a shape is represented by a Geometry section, which Visio numbers sequentially (Geometry 1, Geometry 2, and so on). You can add sections to modify a shape. Which sections are visible or hidden in the ShapeSheet depends on which sections are checked in the Sections dialog box.

#### DIALOG BOX OPTIONS

**Show Sections.** Lists the sections you can add to a ShapeSheet. Sections already included in the ShapeSheet of the selected shape and sections that are not available for the selected shape are dimmed.

**Text Transform.** Used to position text in relation to its shape. Without this section, text can only be positioned within the shape. With the Text Transform section, you can move the text; for example, you can rotate text independently of its shape.

**Geometry.** Lists the vertexes for a path in a shape. Each path requires its own Geometry section. Within each Geometry section, a row describes each line and each arc segment in the path.

**Connection Points.** Specifies the x- and y-coordinates for each connection point on a shape.

**Controls.** Specifies the x- and y-coordinates, behavior, and anchor point for each control handle defined for a shape.

**Scratch.** Contains cells where you can enter and test formulas or calculate intermediate values that can be referred to in other sections.

**Text Fields.** Contains formulas inserted in a shape's text block using the Field command. The formulas appear in this section in the same order as in the text block.

**Actions.** Inserts a section from which you can add an action to a shape or page.

**Layer Membership.** For a shape, inserts a section in which you can change the shape's layer assignment.

**Layers.** For the page, inserts a section in which you can view the page's layer properties.

**User-Defined Cells.** Inserts a section in which you can add user-defined cells for a shape or page.

**Custom Properties.** Inserts a section in which you can add custom properties for a shape or page.

**Ruler & Grid.** Inserts a section in which you can enter values for the page's ruler and grid.

### See also

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[Adding and deleting sections](#)

[Custom Properties section](#)

[Delete Section](#)

[Layer Properties section](#)

[Sections](#)

[Sections overview](#)

[Show ShapeSheet](#)

## Sections

### **View menu, ShapeSheet window**

Opens a dialog box where you choose which ShapeSheet sections are displayed for the selected shape.

#### DIALOG BOX OPTIONS

**Section.** Indicates the sections you want to display. Check to display and uncheck to hide any number of sections. (Sections not available for the selected shape are dimmed.) When you activate the ShapeSheet window, all the checked sections included in the ShapeSheet are visible.

**All.** Displays all sections.

**None.** Displays no sections.

You can also collapse and expand a section by clicking its title. When a section is collapsed, you see only its title; when it is expanded, you see all of its rows.

**Tip:** If you use the Section command to add a section to the ShapeSheet, but you don't see the section in the ShapeSheet window, use the Sections command to make sure the section is set to display.

### **See also**

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[Collapsing and expanding sections](#)

[Showing and hiding sections](#)

## Select All (Ctrl+A)

### **Edit menu; drawing, stencil, and edit icon windows**

Selects all shapes, guides, and objects from other programs on a drawing page. To select all of a particular kind of item, use the Select Special command.

**Note:** To view this command for a stencil, you must have an original stencil open.

### **See also**

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Selecting shapes

## Select Special

### Edit menu, drawing window

Opens a dialog box where you can choose one or more types of items you want to select. When you click OK, Visio selects all items of the specified type(s) on the page.

#### DIALOG BOX OPTIONS

**Select By.** Specifies the type of objects you want to select.

**Shape Type.** Lists the types of items you can select all at once. Select any number of these types: [Shapes](#), [Groups](#), [Guides](#), [OLE Objects](#), [Metafiles](#), [Bitmaps](#).

**Layer.** Lists the available layers from which you can select.

**All.** Click this button to select all types in the Select By list.

**None.** Click this button to uncheck all types in the Select By list.

### See also

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[Select All](#)

[Selecting shapes](#)

Selects all shapes on the page.

Selects all groups on the page.



Selects all the guides and guide points on the page.

Selects all objects from other programs saved in the .WMF (Windows metafile) format or objects inserted into Visio by selecting Windows Metafile Data in Paste Special.

Selects all objects from other programs saved as bitmaps.

Selects all linked or embedded objects to a container.



## Selection net tool

### **Edit icon toolbar, edit icon window**

Use the selection net tool to select a rectangular area of a [master shape](#) icon. Drag a [selection net](#) around the area of the [bitmap](#) you want to select. You can then drag to move the selected area or use the commands on the Edit menu to manipulate the selected area.

### **See also**

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[Editing parts of a master shape icon](#)

[Pointer tool](#)

## Send

### **File menu, drawing and print preview windows**

Sends Visio drawings through electronic mail programs that support Messaging Application Program Interface (MAPI) or Common Messaging Call (CMC).

### **See also**

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[Sending Visio drawings through electronic mail](#)

## Send Backward

### Shape menu, drawing window

Moves selected shapes back one position in the stacking order. If multiple shapes are selected, they all move back one position and keep their original stacking order in relation to each other.

### See also

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[Bring Forward](#)

[Bring To Front](#)

[Changing the stacking order of shapes](#)

[Send To Back](#)

## Send To Back (Ctrl+B)

### Shape menu, drawing window

Moves selected shapes behind other shapes in the stacking order. If multiple shapes are selected, they keep their original stacking order in relation to each other.

### See also

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[Bring Forward](#)

[Bring To Front](#)

[Changing the stacking order of shapes](#)

[Send Backward](#)



## Shadow

### Format menu, drawing and stencil windows

Applies or changes the shadow for selected shapes.

You can also use the Shadow button. Use [ToolTips](#) to identify the button.

#### DIALOG BOX OPTIONS

**Pattern.** Determines the shadow pattern. Choosing None deletes a shadow.

**Foreground.** Determines the shadow foreground color. For example, in a [grid](#) pattern, the grid displays the foreground color.

**Background.** Determines the shadow background color. For example, in a grid pattern, the spaces between the grid show the background color.

**Apply.** Applies a shadow format without closing the dialog box.

To change the distance and angle that a shadow is offset from the shape, use the [Properties](#) command on the Tools menu.

### See also

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[Changing the shadow offset](#)

[Fill](#)

[Formatting fills and shadows](#)

## Shape Help

### Stencil master and shape shortcut menus

Displays online Help for a specific shape in a stencil. This command is available only when a Windows online Help topic is associated with the shape.

You can activate the Shape Help command by entering syntax in the [Special](#) dialog box. For information on developing Microsoft Windows online Help, see the Microsoft Software Development Kit (SDK) documentation.

To associate a help topic to a double-click action, use the [Double-Click](#) command on the Format menu.

### See also

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[Getting quick access to common commands](#)

[Specifying a shape's double-click behavior](#)

## Shape Report

### Tools menu, drawing window

Generates an inventory based on the shapes in a diagram and the fields associated with the shapes.

#### DIALOG BOX OPTIONS

**Destination.** Specifies where you want the inventory to be generated.

**Clipboard.** Copies the inventory to the Windows Clipboard.

**File.** Saves the inventory as a text file that can be exported.

**Browse.** Displays a box in which you can find an existing file.

**Format.** Specifies the Text Delimiter and Field Separator options that the program you're exporting the inventory to can read.

**Text Delimiter.** Specifies to enclose text in double-quotes or single-quotes or to use no delimiter.

**Field Separator.** Specifies to insert a separator (such as a tab) between data.

**Options.** Specifies column heading and inventory total options.

**Display Column Headings.** Displays field names at the top of the report columns.

**Total Identical Items.** When checked, finds the total number of duplicate shapes. When unchecked, lists each shape individually.

**Select.** Displays the Select box in which you can select the fields to include in the inventory.

#### See also

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[Adjusting the data format](#)

[Choosing inventory content](#)

[Generating an inventory](#)

## Show Drawing Page

### Window menu, stencil window

**Note:** This command is available only when you have an original stencil open.

Opens a dialog box that lists current drawing pages. Choose a page to display in the drawing window. Show Drawing Page is available only when a stencil window is active.

#### DIALOG BOX OPTIONS

**Select Page.** Displays a list of background and foreground pages in the drawing file. Foreground pages are listed in bold type; background pages are listed in normal type.

#### See also

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[New Window](#)

[Opening an original stencil](#)

## Show Master Shapes

### Window menu, drawing window

Opens the drawing file stencil for the current drawing file. The drawing file stencil contains a copy of every master shape that appears in the current drawing file. Instances in a drawing file remain linked to their master shapes in the drawing file stencil (unless you ungroup the instance or delete the master).

To use the command, make sure the drawing window is active by clicking the title bar of the drawing window. The drawing file stencil window displays the name of the drawing file, followed by "Stencil."

When you select a master shape in a drawing file stencil, you can use the Edit Master command to edit a master shape. Visio updates all instances of the master in the drawing file.

### See also

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[Editing a master shape in the drawing file stencil](#)

[New Master](#)

## Show ShapeSheet

### Window menu, drawing window

Opens the ShapeSheet for the selected shape or the page.

Every shape you draw with Visio or object you insert from another program has a ShapeSheet. When you group shapes, Visio retains the ShapeSheet for each shape in the group and creates a separate ShapeSheet for the group.

When you open the ShapeSheet window, the menu bar changes and displays menus and commands for working in the ShapeSheet. What you see in a ShapeSheet depends on which shape is selected and how you have set ShapeSheet display options with the Values, Formulas, and Sections commands.

### See also

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Displaying a ShapeSheet  
Sections overview

## Single Tile

### **View menu, print preview window**

Displays a single page or [tile](#) of a drawing as it appears when printed. You can view the entire drawing by choosing [Whole Page](#) from the View menu.

You can also use the Single Tile button. Use [ToolTips](#) to identify the button.

Alternatively, you can use the Zoom In and Zoom Out buttons.

### **See also**

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[Previewing a drawing before you print](#)

[Print preview window](#)

[Showing page breaks](#)

[Tiling a large drawing onto multiple sheets of paper](#)

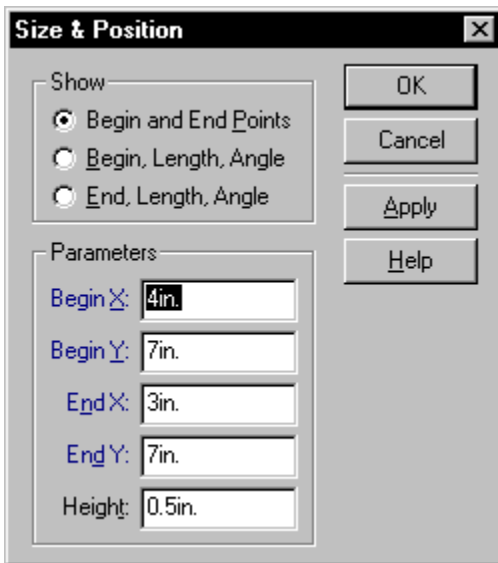
## Size & Position

### Shape menu, drawing and stencil windows

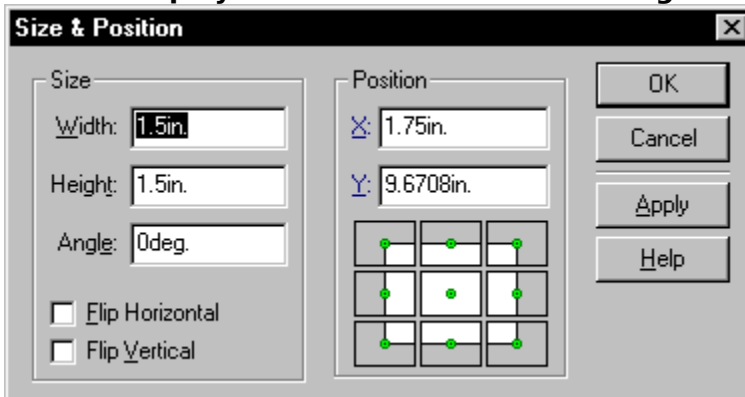
Determines the selected shape's position on the page, its dimensions, and its degree of rotation. The dialog box options vary depending on whether a 1-D or 2-D shape is selected.

For a 1-D shape, the options in the Parameters section vary depending on which option you choose in the Show section. You can change the size and position of a 1-D shape by changing values in the Parameters section of the dialog box.

**Click to display information about the dialog box options for a 1-D shape.**



**Click to display information about the dialog box options for a 2-D shape.**



**Tip:** When a shape's size and position are displayed on the status bar, you can click the status bar to open the Size & Position dialog box.

### See also

[Determining a 1-D shape's size and location](#)

[Determining a 2-D shape's size and location](#)

[Object Transform section](#)



Displays the shape's beginning and ending points and its height in the Parameters section.

Displays the shape's beginning point, angle of rotation, length, and height in the Parameters section. Visio calculates the ending point.

Displays the shape's ending point, angle of rotation, length, and height in the Parameters section. Visio calculates the beginning point.

The x-coordinate of the beginning point of the 1-D shape in relation to the origin of its parent.

The y-coordinate of the beginning point of the 1-D shape in relation to the origin of its parent.

The x-coordinate of the ending point of the 1-D shape in relation to the origin of its parent.

The y-coordinate of the ending point of the 1-D shape in relation to the origin of its parent.

The height of the shape.



The shape's current angle of rotation in relation to its parent.

Applies a setting without closing the dialog box.

Specifies the width, height, and angle of the shape. Enter a new value to resize the shape.

The width of the shape.

When checked, flips the shape horizontally.

When checked, flips the shape vertically.

Specifies the position of the x- and y-coordinates of the shape's local pin (center of rotation) in relation to the page. Enter a new value to change the position of the pin.

Specifies the position of the x-coordinate of the shape's local pin (center of rotation) in relation to the page. Enter a new value to change the position of the pin.



Specifies the position of the y-coordinate of the shape's local pin (center of rotation) in relation to the page. Enter a new value to change the position of the pin.

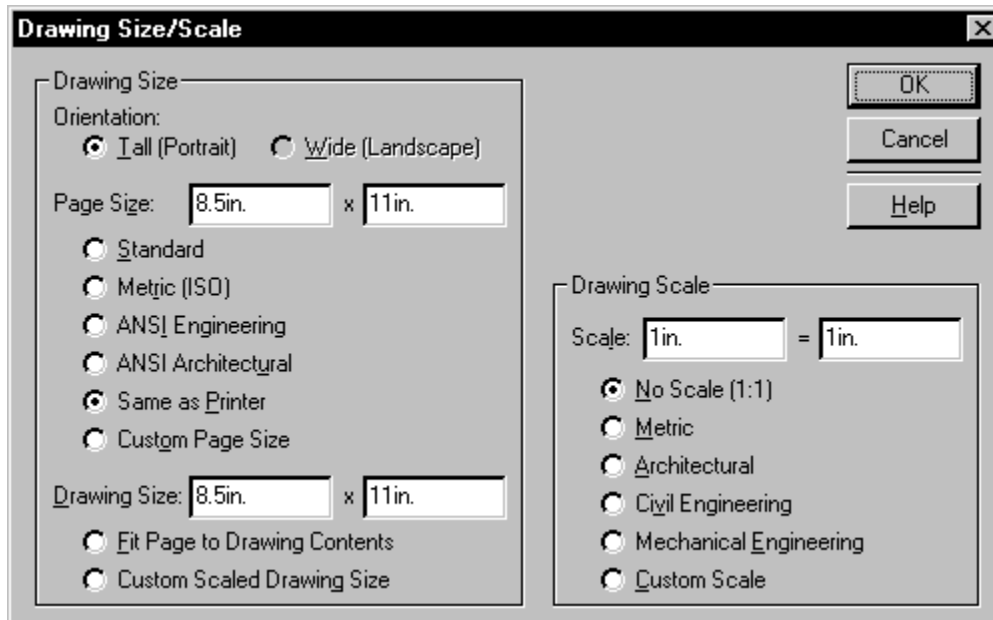
Changes the location of the shape's local pin (center of rotation) in relation to the page.  
Choose a section to change the pin location.

## Size & Scale

### Edit menu, Drawing Page submenu, drawing page

Determines the drawing page size and [scale](#). You can also display this dialog box by choosing the Size/Scale button in the [Properties](#) dialog box.

Click to display information about the dialog box.



**Note:** If you choose No Scale in the Size & Scale dialog box and also choose 100% scale in the Page Setup dialog box, the printed drawing will be the same size as the drawing page. Changing the scale of a drawing page does not change the scale of a background page assigned to it.

**Tip:** If you specify a scale other than No Scale, you can specify the size of the drawing in scaled units (shown in Visio's rulers) by setting dimensions in the Drawing Size option. You can specify the size of the drawing page in units by choosing Custom in the Page Size option. For example, If you want the drawing to be 40 feet by 50 feet in scaled units, specify a scale of 1 inch = 1 foot. Then, you can type either 40 feet by 50 feet in the Dimensions option or 40 inches by 50 inches in the Custom option.

### See also

[Changing the size of the drawing page](#)  
[Setting a drawing scale](#)

Specifies the size of the drawing page. Changing the orientation of the drawing page by changing its size does not change the paper orientation specified with the Page Setup command. Make sure the drawing page size and orientation you choose will fit on the specified paper size and orientation.

Select Tall to make the page taller than it is wide. Or select Wide to make the page wider than it is tall.

Selects a size from a list of standard English and metric page sizes. Options in the list reflect page orientation as well as size. The width is listed first and then the height.

Changes the list in the Page Size box to include English standard paper sizes, such as letter, legal, and so on.

Changes the list in the Page Size box to include Metric standard paper sizes, such as 210mm x 149mm.



Changes the list in the Page Size box to include ANSI Engineering standard paper sizes, such as 8.5in x 11in.

Changes the list in the Page Size box to include ANSI Architectural standard paper sizes, such as 9in x 12in.

Matches the paper size specified in the Page Setup dialog box.

Specifies a custom width and height for the page.

Creates a drawing page just large enough to contain the shapes.

Lets you enter a custom drawing size in the Page Size box.

Specifies the ratio of the printed drawing to the drawing page.

If the drawing should print at its actual size, choose No Scale. If you specify No Scale and chose Same As Printer in the Drawing Size section, the drawing page and printed drawing are the size specified for paper with the Page Setup command on the File menu.



Changes the list in the Scale box to include Metric standard scales, such as 1:100.

Changes the list in the Scale box to include English measurements such as  $\frac{3}{32}'' = 1' 0''$ .

Changes the list in the Scale box to include English measurements such as 1" = 10' 0".

Changes the list in the Scale box to include English measurements such as 1/32:1.

Sets a custom ratio of page size to drawing size. For example, at 1 inch = 25 feet, a shape which measures 1 inch (when printed at 100 percent) measures 25 feet on Visio's rulers.

Changes the page size to match the size of the drawing page specified in the Drawing Page Properties command on the Edit menu.

## SmartShape Wizard

### **Tools menu, Run Add-on submenu, drawing window**

Automates adding smart behavior to shapes you create, including text behavior, control handle connectors, hidden notes, custom properties, and special protection options.

### **See also**

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[Starting a new drawing with a template](#)

## Snap & Glue (Alt+F9)

### Tools menu, drawing window

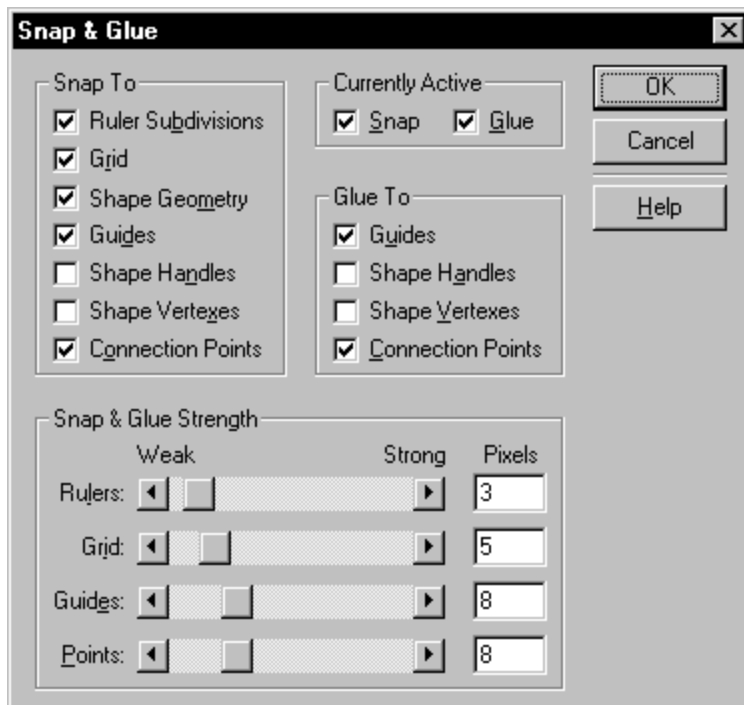
Specifies whether snap and glue are active and what to snap and glue shapes to. You can change these settings at any time without affecting shapes that are already positioned or glued. You can check any number of items to snap and glue to. For aligning shapes, the most useful options are ruler subdivisions, grid, and guides. The other options are most useful when you are gluing shapes.

You can change the snap and glue strength setting in the Options dialog box.

**Tip:** Press F9 to toggle glue on or off, and press Shift+F9 to toggle snap on or off.

You can also use the Snap and Glue buttons to turn snap and glue on or off. Use [ToolTips](#) to identify the button.

**Click to display information about the dialog box.**



### See also

[Setting glue options](#)

[Snapping shapes into place](#)



Activates snapping so shapes snap to items checked in the Snap To section.

Activates glue so shapes glue to items checked in the Glue To section.

When checked, you can snap to these items.

When checked, you can glue to these items.

Specifies the distance in pixels that the grid, guides, rulers, or points (connection points, vertexes, handles) pull when snapping or gluing is on.

## Select dialog box

### Tools menu, Shape Report dialog box

Specifies the fields to include in an inventory.

#### DIALOG BOX OPTIONS

**Available Fields.** Lists the fields you can inventory, including custom property fields you entered in the ShapeSheet. The list includes data you associated with a shape using the Special command on the Format menu.

**Add>>.** Moves selected fields from the Available Fields list to the Inventory Fields list.

**<<Remove.** Removes selected fields from the Inventory Fields list.

**Up.** In the Inventory Fields list, moves a field up in the selected fields order.

**Down.** In the Inventory Fields list, moves a field down in the selected fields order.

**Inventory Fields.** Lists the inventory fields you've chosen to include.

**Field.** Specifies the field used for sorting.

**Name.** Specifies the name of the field used for sorting.

**Sort.** Sorts the inventory by the selected field.

#### See also

---

[Adjusting the data format](#)

[Choosing inventory content](#)

[Generating an inventory](#)

## Spelling (F7)

### Tools menu, drawing window

Checks the spelling of text in [shapes](#), [stencils](#), summary information, and data [fields](#) in the active drawing file.

You can also use the Spelling button or press F7. (If you are using an alternative toolbar, the Spelling button may look slightly different or may not be available. Use [ToolTips](#) to identify the button.)

### DIALOG BOX OPTIONS

**Not In Dictionary.** Displays a word not found in the open dictionaries.

**Change To.** Type or select a word from the Suggestions list to replace the misspelled word.

**Suggestions.** Lists replacement words from the open dictionaries.

**Add Words To.** Select the dictionary to which you want to add the word. For example, a person's name might not be in the dictionary.

**Ignore.** Ignores the word and continues checking.

**Change.** Changes the word to the one in the Change To box.

**Add.** Adds the word to the dictionary selected in the Add Words To box.

**Ignore All.** Ignores all instances of the word and continues checking.

**Change All.** Changes all instances of the word to the one in the Change To box.

**Options.** Displays the [Spelling Options](#) box, in which you can specify default settings for the Spelling command.

**Cancel.** Closes the Spelling box, but does not reverse any changes you have made.

### See also

---

[Checking the spelling of text](#)

[Searching and replacing text](#)

[Typing text into shapes](#)

## Spelling Options dialog box

### Tools menu, Spelling dialog box

Specifies default settings for the [Spelling](#) command.

#### DIALOG BOX OPTIONS

**Search.** Specifies where Visio checks the spelling of text.

**Selection.** Specifies to check the spelling of only the current selection.

**Page.** Specifies to check the spelling of only the current page.

**All Pages.** Specifies to check the spelling of the entire drawing file.

**User Dictionaries.** Specifies the dictionaries Visio uses to check the spelling of text.

**Active.** Specifies the dictionaries Visio is currently using to check the spelling of text.

**Add.** Opens the Add User Dictionary box, in which you can add a new dictionary to the list of active dictionaries.

**Remove.** Removes a dictionary from the list of active dictionaries.

**Use MS Word Dictionaries.** If you have Microsoft Word installed, check this option to use its dictionary.

**Ignore Words With Numbers.** Check this option if you want Visio to ignore words that have numbers in them.

#### See also

---

[Checking the spelling of text](#)

[Searching and replacing text](#)

[Typing text into shapes](#)



## Special

### Format menu, drawing and ShapeSheet windows

Opens a dialog box that identifies the selected shape and provides three text boxes where you can type information about the shape.

#### DIALOG BOX OPTIONS

**ID.** The sequential ID number Visio assigns to the selected shape. The number is based on the order in which shapes are created. The first shape you create in the drawing is 1, the second is 2, and so on.

**Master.** Displays the name of the master shape if the shape is an instance of a master. If a shape is a component shape in a master shape, the section displays the name of the master and the name or number of the component shape.

**Type.** Identifies the type of shape or other object.

**Name.** Identifies the shape by its default Visio name or a name you assign. You can type up to 31 characters for the name. **Note:** You cannot use the open rounded bracket ( { ) as the first character of a shape name.

**Help.** Enables the Shape Help command by associating the selected shape with a help keyword. The syntax is:

FILENAME.HLP!keyword **or** FILENAME.HLP!#Number

where **filename** is the Windows help file, **keyword** is the index term associated with the help topic, and **number** is a numeric ID which is referenced in the MAP section of the help project file (HPJ). For information on developing Microsoft Windows online Help, see the Microsoft Software Development Kit (SDK) documentation.

**Copyright.** Displays copyright information for the selected shape.

**Data 1, Data 2, and Data 3.** Provides room for information you want to supply about the shape. You can type up to 63 characters in each box.

**Note:** The default path for shape and stencil help files is the Visio Help folder, although VISIO.HLP resides in Visio's main folder. You can change the default path in the File Paths dialog box, which remains in effect until you set it again.

To enter descriptive information about the file, use the Properties command.

If you use the Field command to create a text field, one of the category options is Object Info. The Object Info fields (Data 1, Data 2, Data 3, ID, Master, Name, and Type) display the information you enter in the Special dialog box. Any changes you make to information in the Special dialog box are displayed in the fields.

### See also

---

[Custom Properties](#)

[Inserting fields into text](#)

## Status Bar

### **View menu; drawing, stencil, and print preview windows**

Displays or hides the status bar at the bottom of the Visio window. The status bar is displayed when the command is checked.

The status bar provides information related to the task you are doing. For example, when you point to a [master shape](#) on a stencil, the status bar shows a brief description of the master shape. As you drag a shape, the status bar displays the shape's position.

### **See also**

---

[Setting display options](#)

## Stencil Report Wizard

**Tools menu, Run Add-on submenu, drawing window**

Automates creating a report showing all shapes on a stencil, creating a catalog of shapes.

### **See also**

---

[Starting a new drawing with a template](#)

## Style

### Format menu, drawing window

Applies styles to selected shapes. The styles listed in the dialog box are the same as those listed in the style boxes.

#### DIALOG BOX OPTIONS

**Text Style.** Lists styles that contain text formats.

**Line Style.** Lists styles that contain line formats.

**Fill Style.** Lists styles that contain [fill](#) formats.

**Preserve Local Formatting.** When checked, this option prevents attributes defined in a style from overriding formatting applied directly to selected shapes. For example, if a text style specifies italic text, and you've already used the Bold button to make the text bold, Visio leaves the text bold but also makes it italic.

**Apply.** Choose this button to apply styles without closing the dialog box. If necessary, drag the dialog box by its title bar to make selected shapes visible on the page.

### See also

---

[Applying styles from a style list](#)

[Define Styles](#)

## Subtract

### Shape menu, Operations submenu, drawing window

The Subtract command works like a cookie cutter. Overlap two shapes, select the first one, and then the second. Choose Subtract to delete the second shape you selected, leaving its shape cut into the first. (The overlapping segment of the second shape is "subtracted" from the first.)

When you use this command on two or more shapes, Visio creates a [ShapeSheet](#) for the new shape and deletes the ShapeSheets of the original shapes.

### See also

---

[Combine](#)

[Fragment](#)

[Subtracting shapes](#)

## Switch Sides

### Right-click a **docked** stencil's title bar

Docks the stencil on the opposite side of the drawing window.

### See also

---

[Arranging master shapes in a stencil](#)

[Arranging stencils](#)

[Arranging Visio windows](#)

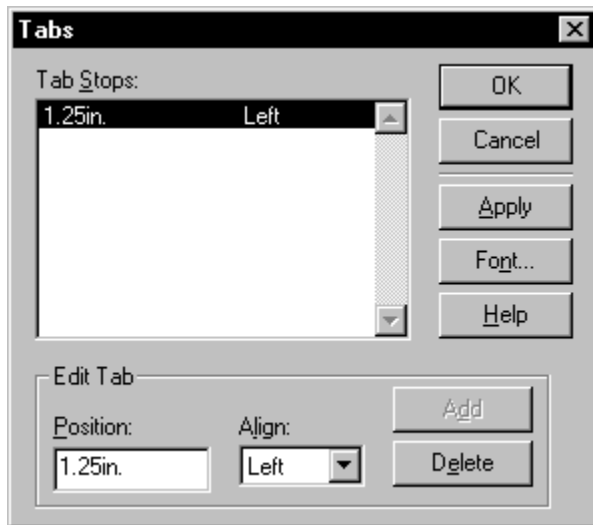
## Tabs (Ctrl+F11)

### Format menu, drawing and ShapeSheet windows

Adds, deletes, and adjusts tab stops for paragraphs or for a selected shape's entire text block.

You can add up to 10 tab stops and delete tabs you no longer want. To move a tab, change the settings in the Edit Tab section. To define a new tab, type the tab's position in the Position box, and then select the alignment from the Alignment list.

**Click to display information about the dialog box.**



### See also

[Adding and deleting tabs](#)

---

Lists the current tab stops. The left side of the box lists tab positions, and tab alignment is listed on the right.



Sets or modifies tab position and alignment. If no tab is selected, the settings are blank.

Shows the distance of the tab stop from the left margin. To move the tab, change the setting.

Shows the alignment of the selected tab. To change the alignment, choose between Left (the left side of the text aligns with the tab stop), Center (centers the text on the tab stop), or Right (the right side of the text aligns).

Adds a tab stop at the specified Position and Align settings. The new tab appears in the Tab Stops list.

Deletes the tab stop selected in the Tab Stops list.

Applies all the tabs in the Tab Stops list to the selected text without closing the dialog box.

Applies changes, closes the Tabs dialog box, and displays the Font dialog box. To apply changes without closing the Tabs dialog box, use the Apply button.

## Text Block (Alt+F11)

### Format menu, drawing and ShapeSheet windows

Sets the vertical alignment, margins, and background color for the selected text block.

You can also use text alignment buttons (available only when text is selected). Use [ToolTips](#) to identify the button.

#### DIALOG BOX OPTIONS

**Vertical Alignment.** Specifies the vertical position of the text in relation to the top and bottom margins of the text block. Choose from Top, Middle, or Bottom.

**Margins.** Specifies the distance between the text and each edge of the text block. To change margins, type a number in the appropriate box: Top, Left, Bottom, or Right.

**Text Background.** Specifies whether the text block is transparent or opaque. For an invisible background that reveals shapes behind the text, choose None (Transparent).

**Apply.** Applies text block formats to the selected shapes without closing the dialog box.

**Font.** Applies formats, closes the Text Block dialog box, and displays the Font dialog box.

#### See also

---

[Aligning text in the text block](#)  
[Text tool](#)



Aligns the top line of text with the top margin.

Centers the text between the top and bottom margins so the distance from the top line to the top margin equals the distance from the bottom line to the bottom margin.

Aligns the bottom line of text with the bottom margin.



## Text block tool

### Text tool menu

Use the [text block](#) tool to select a shape's text block. You can size, move, and rotate the text block independently of its shape.

To rotate a text block, select one of the [rotation handles](#), and then drag. To move a shape, click inside the center of the shape or on the green border, and then drag. To size a shape, click one of the [selection handles](#), and then drag.

### See also

---

[Aligning and indenting paragraphs](#)

[Aligning text in the text block](#)

[Moving a text block](#)

[Rotating a text block](#)

[Setting line spacing](#)

[Setting text block margins](#)

[Setting the text block background color](#)

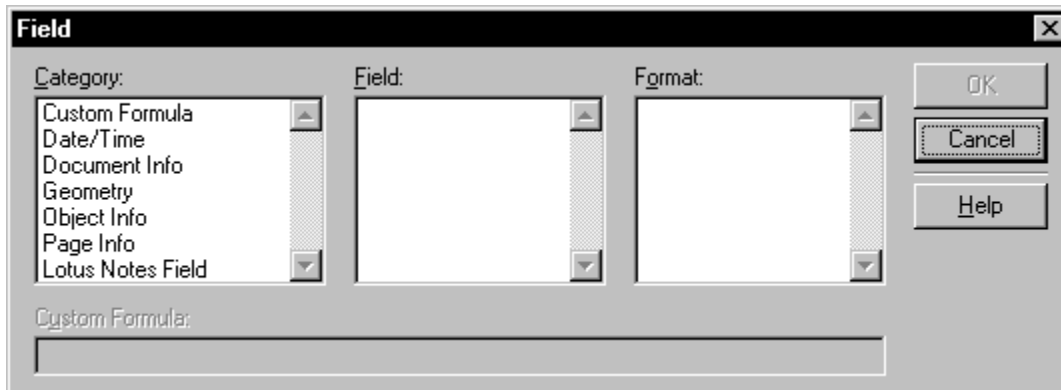
[Sizing a text block](#)

## Field (Ctrl+F9)

### Insert menu, drawing window

Inserts a text field into a text block. Visio inserts a field at the insertion point or, if a shape is selected but its text block is not open, replaces the shape's existing text with the field.

### Click to display information about the dialog box.



**Tip:** Some field categories, such as Date/Time, are useful for providing up-to-the-minute information in final drawings. Other field categories, such as Document Info, help you keep track of information as you work on a drawing.

### See also

[Building a formula by pasting](#)

[Inserting fields into text](#)

[Lotus Notes Field](#)

[Properties](#)

[Special](#)

[Using a custom formula in a field](#)

Lists the field categories. Insert a text field to display information in drawings.

Lists the fields within the selected category. For example, if you choose Geometry, the Field box displays options for Height, Width, and Angle.

Determines the format of the selected field. For example, if you chose Angle in the Field box, you can choose from the General, Radians, and Degrees options.



If you chose Custom Formula as the category, enter the formula in the formula box. To create a formula, use the same functions you use in the ShapeSheet.

Enter ShapeSheet functions to create a formula.

Uses system information to track the Creation Date, Creation Time, Current Date, Current Time, Last Edit Date, Last Edit Time, Print Date, and Print Time.

Uses information entered in the Properties dialog box to track Creator, Description, Folder, Filename, Keywords, Subject, and Title.

Uses the shape's width, height, and angle information. Use the Width field for dimension lines, or the Angle field to show how far a shape is rotated from its original position. Use any Geometry field to automatically update technical specifications in a drawing.

Uses information entered in the Special dialog box to track Data 1, Data 2, Data 3, ID, Master, Name, and Type.

Uses information entered in the Properties or Page dialog box to track Background Name, Number of Pages, and Page Number.

Uses information entered in the Lotus Notes Field dialog box to manage information such as shape details, shape measurements, and date of creation.



## **Text tool**

### **Text tool menu**

Use the text tool to create a freestanding text block (the shape is invisible) or activate an existing text block so you can edit the text. To create new freestanding text, choose the text tool to place an insertion point, and then type.

If you want the text block to have a certain line length, drag to create an area of the width you want, and then type.

**Tip:** To add text to a shape or replace all of a shape's text with new text, select the shape with **any** tool and start typing.

### **See also**

---

[Adding independent text to a drawing](#)

[Changing font attributes](#)

[Pointer tool](#)

[Text block tool](#)

[Typing text into shapes](#)

## Tile

### Window menu

Sizes and arranges open windows side by side so that all windows are visible.

**Shortcut:** Press Shift+F7 to tile horizontally, or press Ctrl+Shift+F7 to tile vertically.

**Tip:** To enlarge the active window so it fills the screen, choose the Maximize button in the upper-right corner of the window. Choose the Restore button to return the window to its previous [tiled](#) size.

### See also

---

[1, 2, 3, 4 More Windows](#)

[Arranging Visio windows](#)

[Cascade](#)

## Toolbars

### **View menu; drawing, stencil, and print preview windows**

Changes the Visio toolbar.

DIALOG BOX OPTIONS:

**Style.** Choose the toolbar style you want displayed by Visio. Options include Microsoft Office, Lotus SmartSuite, and Novell PerfectOffice.

**Display Options.** Choose display options for the toolbar. Options include Color Buttons, Large Buttons, and Show [ToolTips](#).

**Tip:** Right-click anywhere on the toolbar to change display options.

### **See also**

---

[Lotus SmartSuite](#)

[Microsoft Office](#)

[Novell PerfectOffice](#)

[Switching toolbar sets](#)

## Undo (Ctrl+Z)

### **Edit menu**

Reverses the most recent action. You can reverse up to ten actions, one at a time.

You can also use the Undo button. (If you are using an alternate toolbar, you may not have this button. Use [ToolTips](#) to identify the button.)

You can undo most but not all actions. If an action can be undone, the command is Undo, followed by the type of action. When you cannot undo an action, this command changes to Can't Undo. You can reverse an undo action by using the [Redo](#) command from the Edit menu.

### **See also**

---

[Redo](#)

## Ungroup (Ctrl+U)

### Shape menu, Grouping submenu, drawing window

Ungroups the selected group, leaving the individual shapes that belong to the group selected. Also, converts a pasted or imported Windows metafile (.WMF) or an OLE object into individual shapes.

When you ungroup a group, Visio deletes the group's ShapeSheet and leaves the individual shapes' ShapeSheets intact.

**Tip:** If a shape within the group is a group, it remains a group, and you must select and ungroup it to make individual shapes of its components.

### See also

---

[Add To Group](#)

[Convert To Group](#)

[Group](#)

[Grouping and ungrouping shapes](#)

[Remove From Group](#)

## Union

### Shape menu, Operations submenu, drawing window

Creates one closed shape from overlapping shapes, which inherits the text and formatting of the first shape you select. If the shapes do not overlap, Visio creates a single shape that looks the same as the shapes you united, except that it uses the text and formatting of the shape you selected first.

When you unite two or more shapes, the [ShapeSheets](#) for the shapes you unite are deleted, and Visio creates a ShapeSheet for the new shape.

### See also

---

[Combine](#)

[Fragment](#)

[Intersect](#)

[Subtract](#)

[Uniting shapes](#)

## Unprotect Document

### Tools menu, drawing window

Opens a dialog box where you can cancel the protection options set in the Protect Document dialog box. Available only if you used the Protect Document command previously to lock a drawing file from editing.

#### DIALOG BOX OPTIONS

**Password.** Type the password that was entered in the Protect Document dialog box. If you used a password, you must type it to cancel the protection.

#### See also

---

Protecting a file

## Update Alignment Box

### Tools menu, drawing window

Adjusts the selection rectangle of a group to fit its new dimensions. You can use this command after deleting or adding a shape to a group, or changing the size of a shape in the group, in the group window. You can also use this command after editing the vertexes of a shape in the [ShapeSheet](#).

### See also

---

[Adding and removing shapes in groups](#)

[Editing and formatting a group](#)

[Editing the shapes in a group](#)

[Updating a group's selection rectangle](#)



## Update Icon

### Master menu, stencil window

Updates the selected [master shape](#) icon to look like the master shape.

If you specify automatic updating for the icon in the [Properties](#) or [New Master](#) dialog box, Visio automatically changes the master shape icon to look like a miniature of the master shape when you change the master shape.

If you specify manual updating in the Properties or New Master dialog box and create a custom master shape icon, you can use the [Edit Icon](#) command to make the icon look different from the master shape. At any point, you can use the Update Icon command to change a custom icon to a miniature of the master drawing.

### See also

---

[Creating a master shape icon](#)

[Editing a master shape in a stand-alone stencil](#)

[Opening a stencil](#)

## Values

### **View menu, ShapeSheet window**

Displays the values of [ShapeSheet](#) cells instead of formulas. To display formulas instead of values, use the [Formulas](#) command.

### **See also**

---

[Displaying values and formulas in cells](#)

## Whole Page (Ctrl+W)

### **View menu, drawing and print preview windows**

Displays the entire page in the drawing or print preview window.

You can also use the Whole Page button in the print preview window. Use [ToolTips](#) to identify the button.

Or, while working in the drawing window, you can choose Page from the Zoom box on the toolbar.

### **See also**

---

[Zooming in and out of a drawing](#)

## Zoom (Custom) (F6)

### View menu, Zoom submenu, drawing window

Adjusts the view of a page. You can choose from percentage options to display a page in proportion to its actual size (which corresponds to the 100% option) or choose Custom and type a percentage to specify the view. The range of the view depends on the drawing size.

Zoom to the size that best suits your work; for example, viewing a very small drawing probably requires magnification.

You can also use the Zoom box on the toolbar. Use [ToolTips](#) to identify the button.

### DIALOG BOX OPTIONS

**Magnification.** Choose [Whole Page](#) to display the entire page and part of the surrounding [pasteboard](#). Standard percentages from 50 to 400 percent, as well as Whole Page and [Page Width](#), are available with the Zoom command or in the Zoom box; or type a number in the Percent box.

**Options.** Specifies zoom options.

**Zoom When Editing Text.** When this option is checked, Visio zooms in on text automatically (depending on the font size and the current view) when you select a shape and type, double-click instances of certain master shapes, or select a shape with the text tool or text block tool.

**Center Selection In Window.** If any shapes are selected when you adjust the view, Visio zooms in on the center of the selection. If nothing is selected, Visio centers the new view in the center of the previous view.

**Tip:** When you hold down the Ctrl+Shift keys, the pointer turns into a magnifying glass. Clicking the left mouse button enlarges the view; clicking the right mouse button reduces the view. Whether you enlarge or reduce, Visio centers the new view wherever you click.

### See also

---

[Actual Size](#)

[Zooming in and out of a drawing](#)

## Zoom In

### **View menu, print preview window**

Magnifies the page or tile to its actual size in the print preview window. Zoom to the size that best suits your work; for example, viewing a very small drawing probably requires increased magnification.

You can also use the Zoom In button. Use ToolTips to identify the button.

### **See also**

---

Previewing a drawing before you print

[Print preview window](#)

Zooming in and out of a drawing

## Zoom Out

### **View menu, print preview window**

Returns the page or tile to the Whole Page view in the print preview window. Zoom to the size that best suits your work; for example, viewing a very large drawing probably requires decreased magnification.

You can also use the Zoom Out button. Use [ToolTips](#) to identify the button.

### **See also**

---

[Previewing a drawing before you print](#)

[Print preview window](#)

[Zooming in and out of a drawing](#)



## Starting, quitting, and setting up Visio

### ■ Related procedures

#### **Starting Visio**

To open Visio:

- In Windows 95, click Start, choose Programs, then choose Visio.
- In Windows 3.1, double-click the Visio icon in Program Manager.

The New dialog box appears, where you can choose to start with either a template or a Wizard. When you start with a template, Visio opens a stencil and a new drawing file and copies styles and other settings to the file.

To start a new drawing:

- In Windows 95, click Start, choose Programs, choose New Visio Diagram, then choose one of the drawing types in the list.

#### **Quitting Visio**

When you finish working in Visio, quit Visio before you quit Windows. If an unsaved file is open when you quit Visio, Visio prompts you to save the file before quitting.

#### **Changing the Visio setup**

After you install Visio, you might need to change the way Visio is set up on the computer.

You can use the Visio setup to:

- Install Visio files that you have not installed previously.
- Reinstall files that you have deleted.
- Restore template and stencil files that have been changed accidentally.

If you need to make room on your hard disk, you can also remove some Visio files to increase disk space.

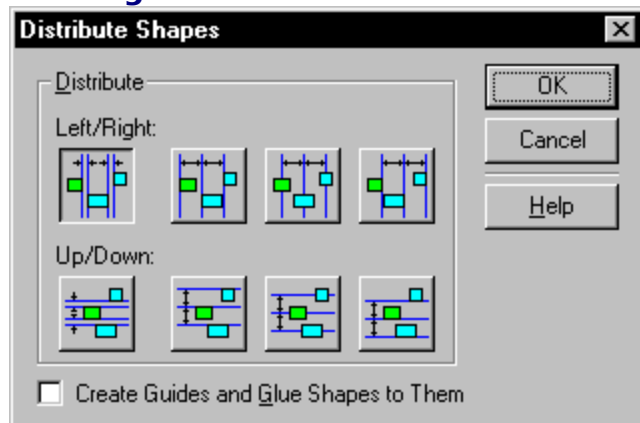


[Adding Visio files after installation](#)  
[Making room on your hard disk](#)  
[Quitting Visio](#)  
[Starting Visio](#)

## Starting Visio

- Contents
- Close
- Copy
- Print

## Starting Visio



### [Overview](#)

#### ► **To start Visio:**

1. Start Windows.
2. In Windows 95, click Start, choose Programs, then choose Visio.  
In Windows 3.1, double-click the Visio icon in Program Manager.
3. In the New dialog box, choose a [template](#) you want to use for a [drawing](#) or choose a Wizard.

If you want to open an existing file, click Start, choose Programs, then choose Visio. In the New dialog box, click the [Open](#) button, locate the file you need, then click OK.

#### **See also**

---

[Opening a stencil](#)

[Opening an existing drawing file](#)

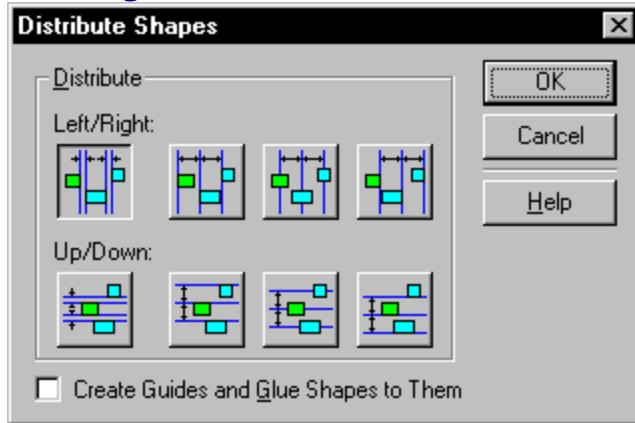
[Starting a new drawing with a template](#)

[Starting a new drawing without a template](#)

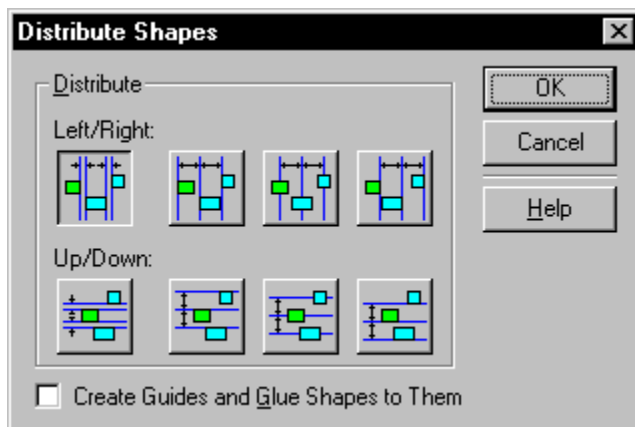
## Quitting Visio

- Contents
- Close
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## Quitting Visio

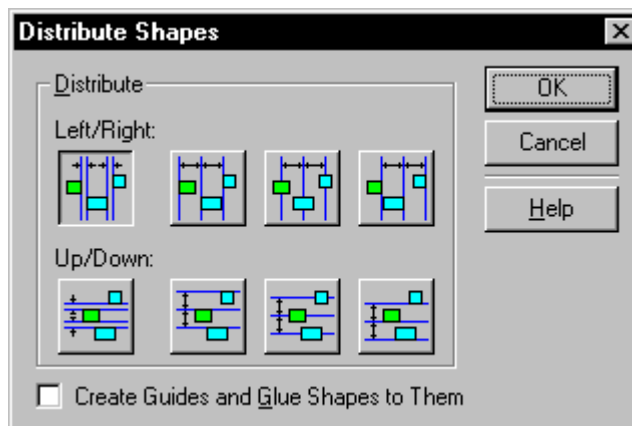


[Overview](#)



**To quit Visio:**

1. From the File menu, choose Exit.



Alternatively, click

to close the main Visio window.

2. If an unsaved file is open when you quit Visio, Visio prompts you to save the file before quitting. Click Yes to save changes, click No to quit Visio without saving changes, or click Cancel to cancel the Exit command and continue working in Visio.

**See also**

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[Closing a file](#)

[Saving a new drawing file](#)

## **Adding Visio files after installation**

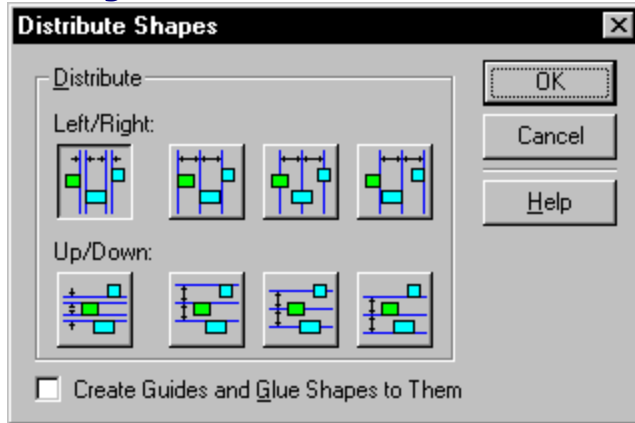
Contents

Close

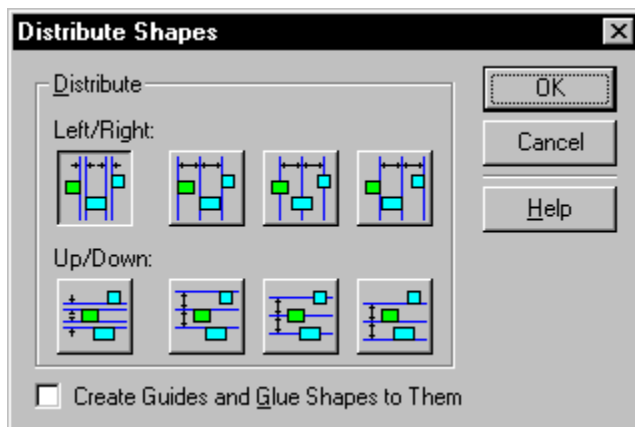
Copy

Print

## Adding Visio files after installation



[Overview](#)



### To add files after installation:

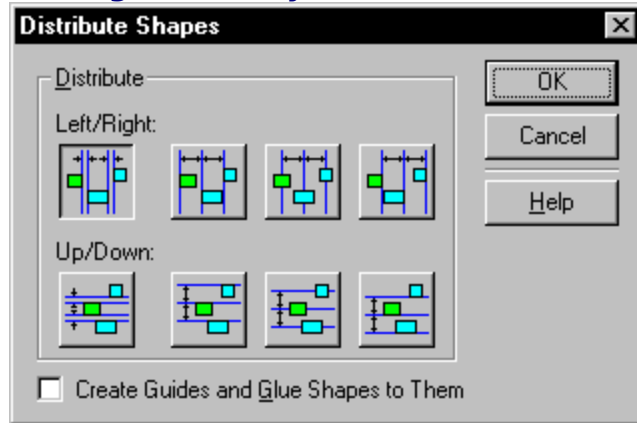
1. Insert Disk 1-Setup into a disk drive.
2. In Windows Explorer, go to your floppy drive, then double-click Setup.
3. In the Visio Setup dialog box, choose Complete/Custom.
4. In the Visio Setup Options dialog box, choose the files you want to add.
5. Choose Continue and follow the instructions on the screen.



## **Making room on your hard disk**

- Contents
- Close
- Copy
- Print

## Making room on your hard disk



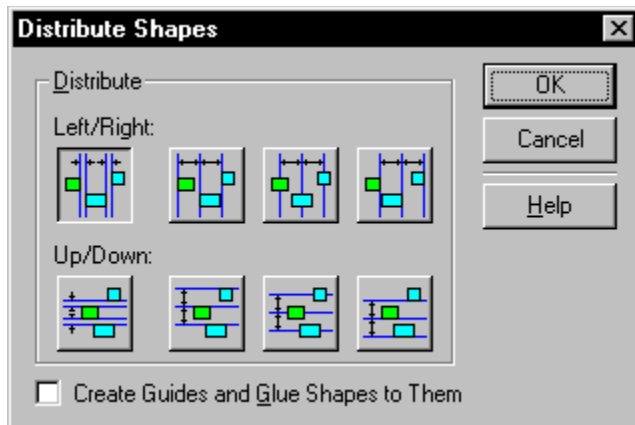
### [Overview](#)

If you need to increase disk space, consider deleting these Visio files:

- VISTUTOR.EXE (located in the Help folder), if you do not want to run the Quick Tour.
- README.TXT and NETWORK.TXT (located in the main Visio folder), after you have read or printed these files.
- Sample [drawing files](#) that you don't need (located in the Samples folder).
- Import and export filters that you don't need (located in the System\Filters folder).
- Registration [Wizard](#), after you've registered Visio (REGWIZRD.EXE and REG\_FAX.VSD located in the System\Filters folder).

**Important:** The files VISIO.EXE and VISIOLIB.DLL are necessary for running Visio. Do not delete these files.

## Starting a drawing in Visio



[Related procedures](#)

Visio comes with [templates](#), [stencils](#), and Wizards that you can use to create [drawings](#) quickly and easily.

### Templates

A template is like a kit for building a particular kind of drawing. For example, to create a flowchart, use the Flowchart template.

The advantages of using a template are:

- It opens one or more stencils containing related [shapes](#).
- It sets up a new drawing page using a uniform [grid](#) and measurement system.
- It copies related [styles](#) to the [drawing file](#).

### Stencils

Each template opens one or more stencils. For example, the Flowchart template opens two stencils that contain shapes that you can [drag and drop](#) to create a flowchart. You can also open stencils independently. You don't need to open a template to open a stencil.

### Wizards

When you start with a Wizard, Visio opens the appropriate template, then prompts you for information about the drawing. For example, if you are creating a timeline, you could automate your work by starting with the Project Timeline Wizard, which opens the Project Timeline template and the Wizard, and then prompts you for project information.

### No template

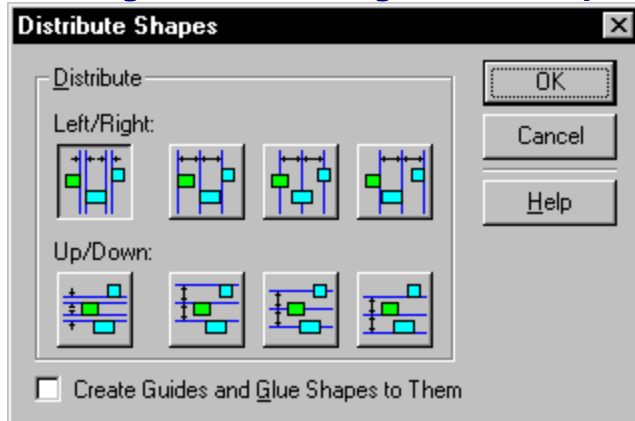
You can also create a drawing in Visio without using a template. When you create a drawing without using a template, Visio opens a blank [foreground](#) page and provides default [styles](#) and page settings.

Starting a new drawing with a template  
Starting a new drawing without a template

## Starting a new drawing with a template

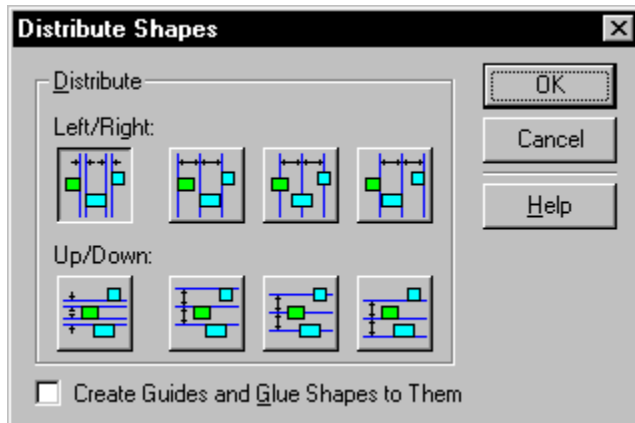
- Contents
- Close
- Copy
- Print

## Starting a new drawing with a template



[Overview](#)

You can start Visio and open a new [drawing file](#) based on a [template](#) provided with Visio. When Visio is running, you can open new drawing files by using the New command on the File menu.



**To open a new drawing file based on a**

### **template:**

1. From the File menu, choose New.  
If Visio isn't already running, in Windows 95, click Start, choose Programs, choose New Visio Diagram, then choose one of the drawing types in the list.
2. In the New section, make sure Drawing is checked.
3. From the Based On list, choose a template or a Wizard.
4. If the template file you need is not listed, choose the Open button and locate the file.
5. Click OK.

### **See also**

[Creating a new page](#)

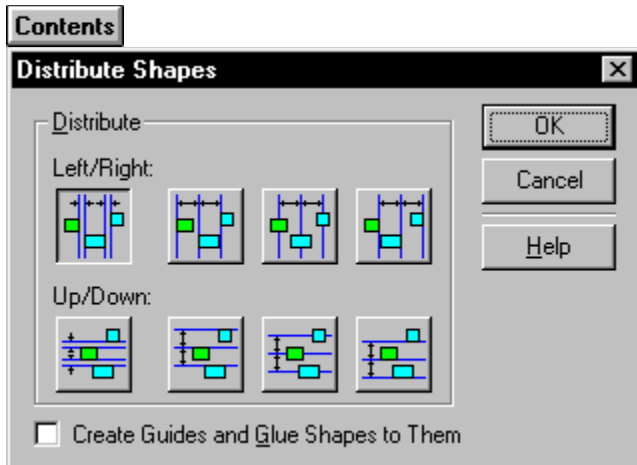
[Creating a new stencil](#)

[Starting a new drawing without a template](#)



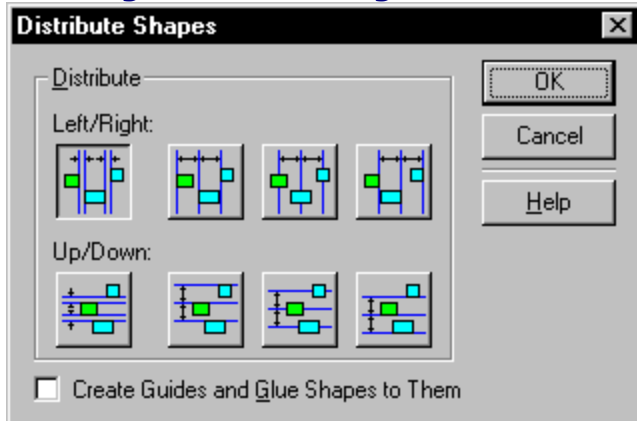
## **Starting a new drawing without a template**



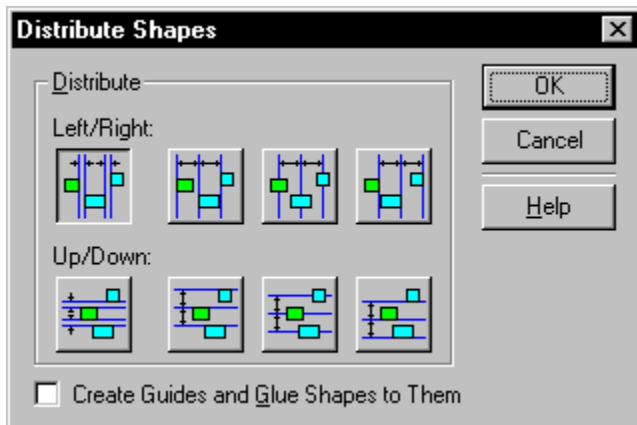


Copy  
Print

## Starting a new drawing without a template



[Overview](#)



**To create a drawing without a**

### template:

1. From the File menu, choose New.  
You can also use the New button.
2. In the New section, make sure Drawing is checked.
3. From the Based On list, choose No Template.

4. Click OK.

**See also**

---

[Changing the drawing size and scale](#)

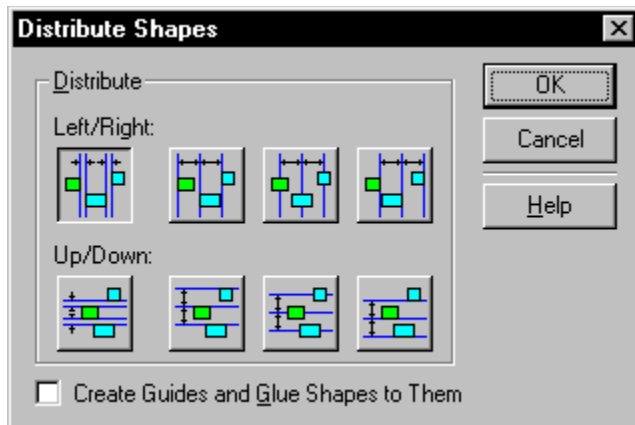
[Creating a new page](#)

[Creating a new stencil](#)

[Opening a stencil](#)

[Starting a new drawing with a template](#)

## Arranging the Visio workplace



[Related procedures](#)

The Visio workplace contains the windows, menus, and tools that you use to create [drawings](#). You can arrange the Visio workplace to fit your needs.

You can change the display and arrangement of:

- The size and position of Visio windows.
- The size and position of Visio stencils.
- How [master shape](#) icons appear in the [stencil](#).
- The [page](#) view.
- Rulers, [grid lines](#), [connection points](#), and [guides](#).
- The [toolbar](#) and status bar.

[Arranging stencils](#)

[Arranging Visio windows](#)

[Displaying and arranging master shape icons](#)

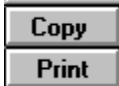
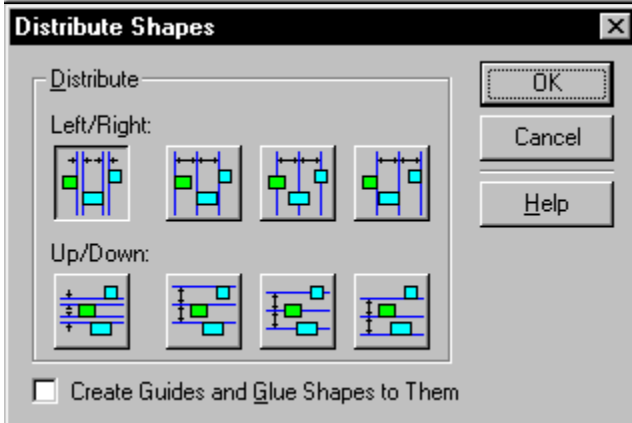
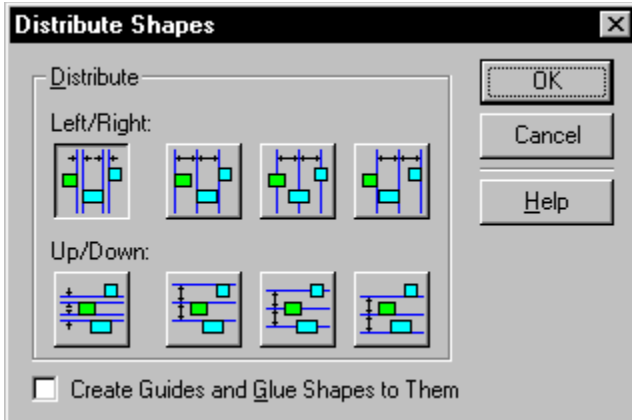
[Getting quick access to common commands](#)

[Setting display options](#)

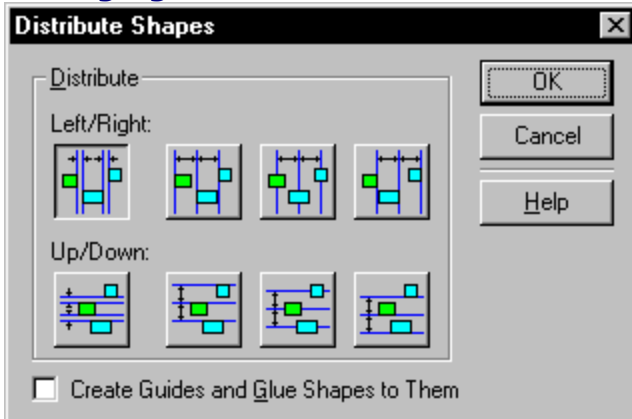
[Switching toolbar sets](#)

[Zooming in and out of a drawing](#)

## Arranging Visio windows



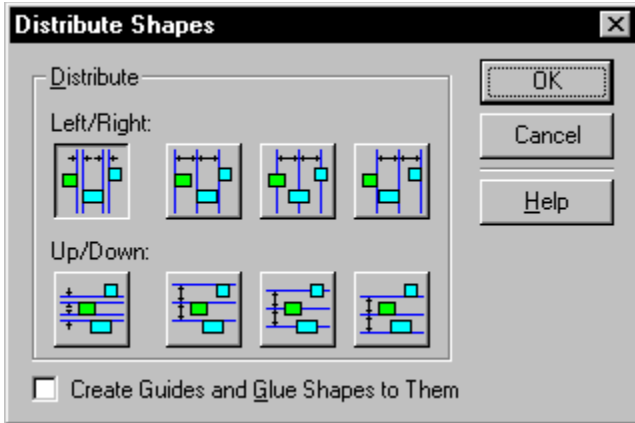
## Arranging Visio windows



### [Overview](#)

By default, the Visio main window usually contains a drawing page and one or more stencils. You can undock stencils to make them float.

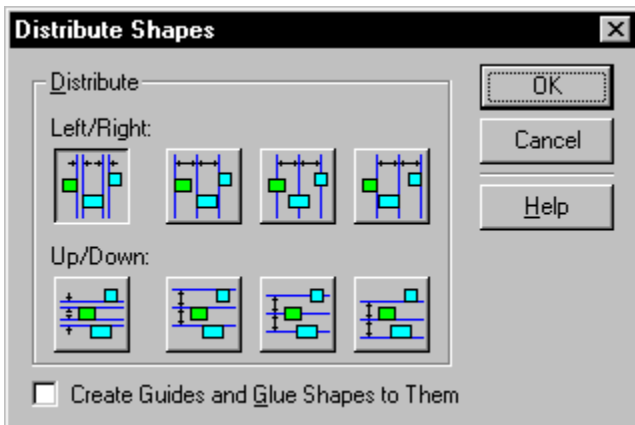
If you have more than one drawing open, you can arrange and resize the windows to see them all.



**To arrange windows so each window**

**is visible:**

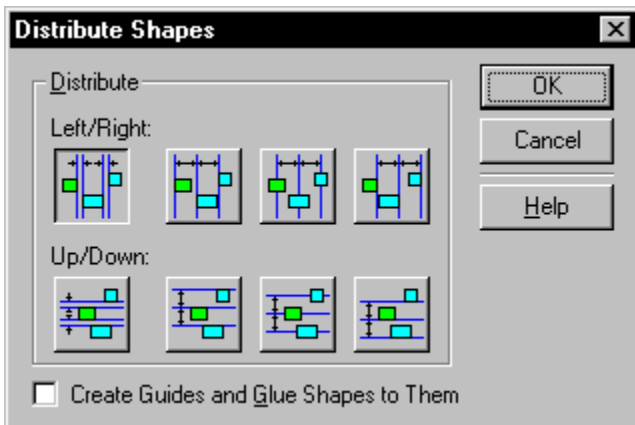
1. From the Window menu, choose Tile.



**To arrange windows to see the title**

**bar of each window:**

1. From the Window menu, choose Cascade.



**To size a window:**

1. Drag a window border.

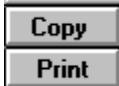
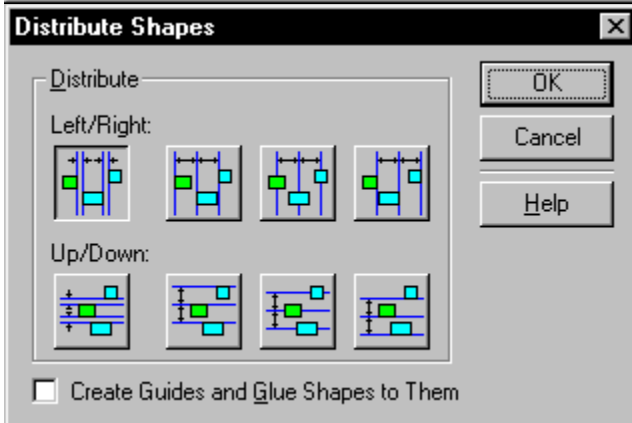
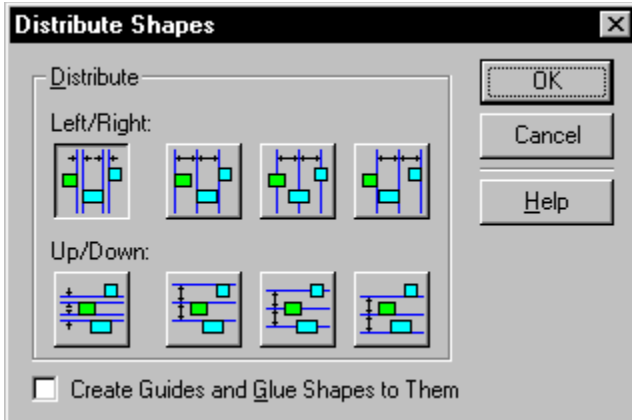
**Tip:** For details about other ways to arrange windows, see your Windows documentation.

**See also**

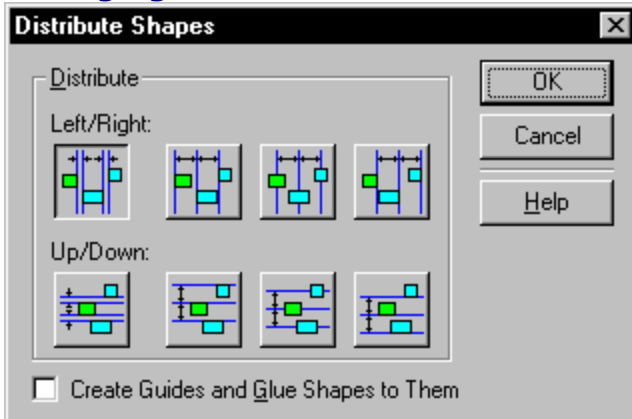
[Arranging stencils](#)

## Arranging stencils



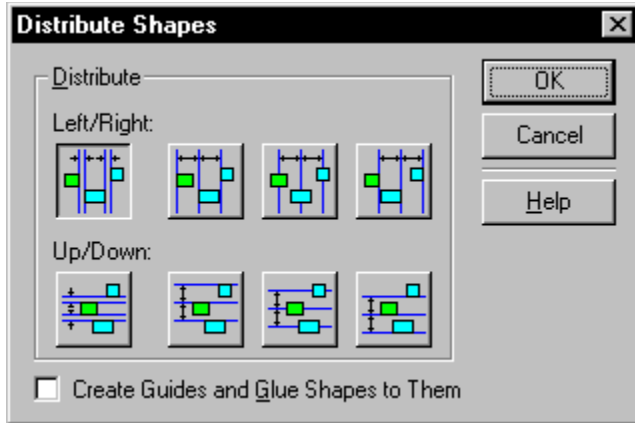


## Arranging stencils



### [Overview](#)

You can view stencils as either [docked](#) or [floating](#). By default, stencils are docked.

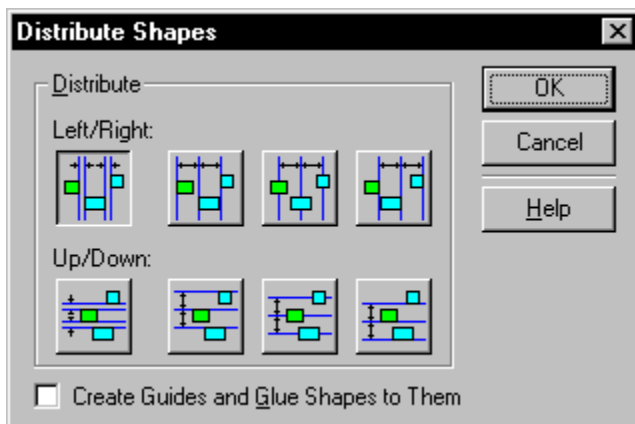


**To make a stencil float:**

1. Click inside the stencil where there are no buttons or icons, then drag it away from its docked position.

Or, right-click the stencil title bar, then choose Float from the menu.

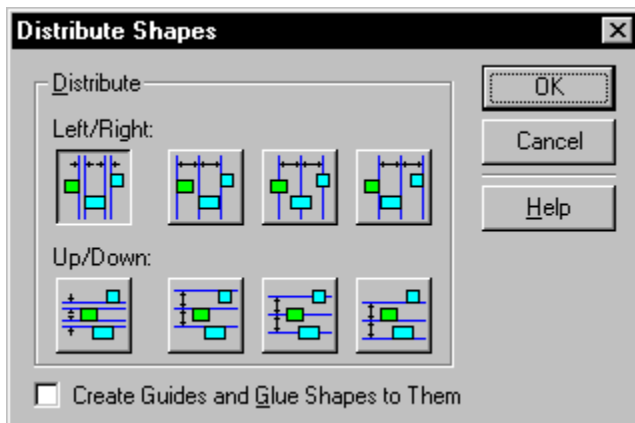
**Tip:** When a stencil is floating, to view just the stencil's title bar, click the minimize button on the stencil title bar. To expand the stencil again, click the maximize button on the stencil's title bar.



**To dock a stencil:**

1. Click inside the stencil where there are no buttons or icons, then drag the stencil to the left or right side of the drawing window.
2. Release the mouse button when an outline of the stencil appears.

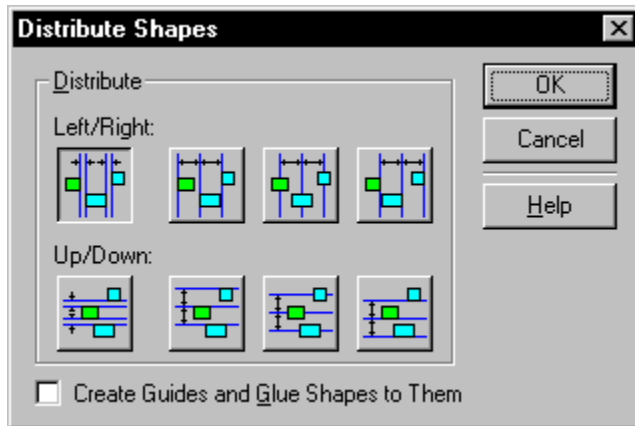
The stencil snaps to its docked position.



**To move a stencil from one side of the**

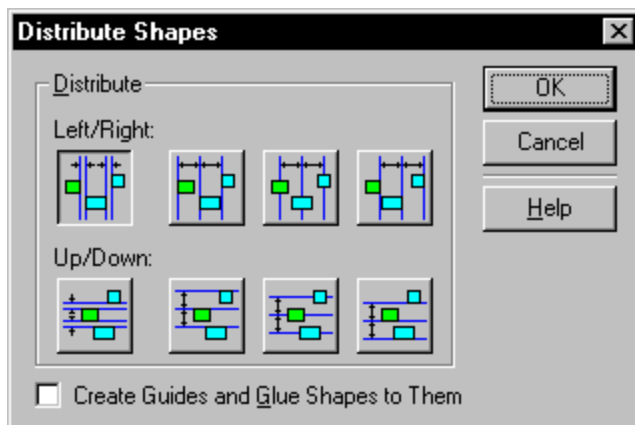
### drawing window to another:

1. Right-click the stencil title bar, then choose Switch Sides from the menu.



### To switch between stencils:

1. When stencils are docked, click the name of the stencil to switch to that stencil.



### To close a stencil:

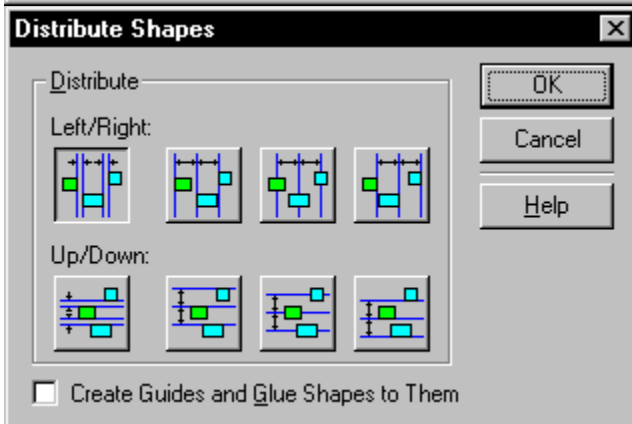
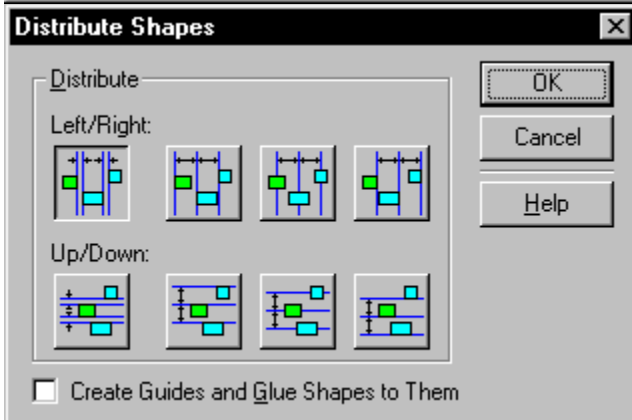
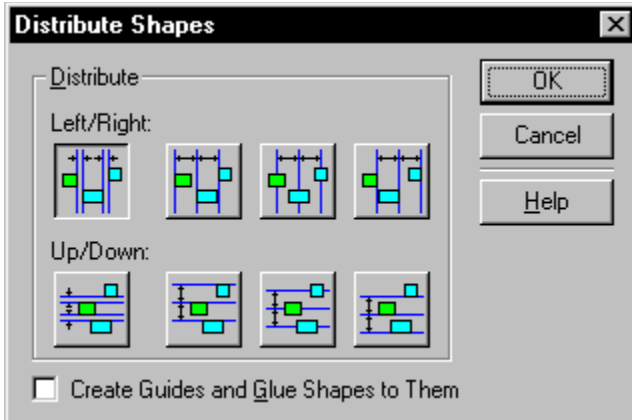
1. Right-click the stencil title bar, then choose Close from the menu.

### See also

[Arranging Visio windows](#)

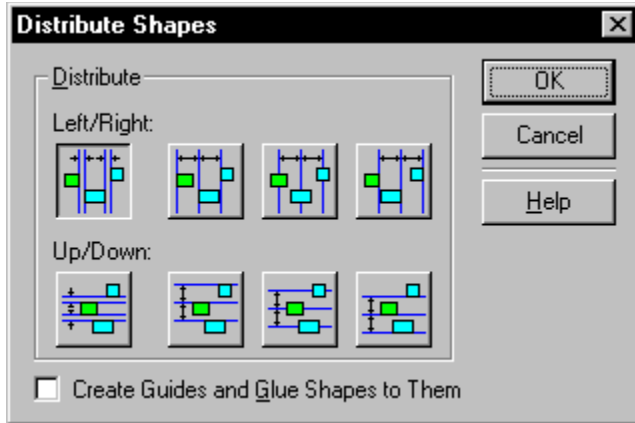
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## **Displaying and arranging master shape icons**



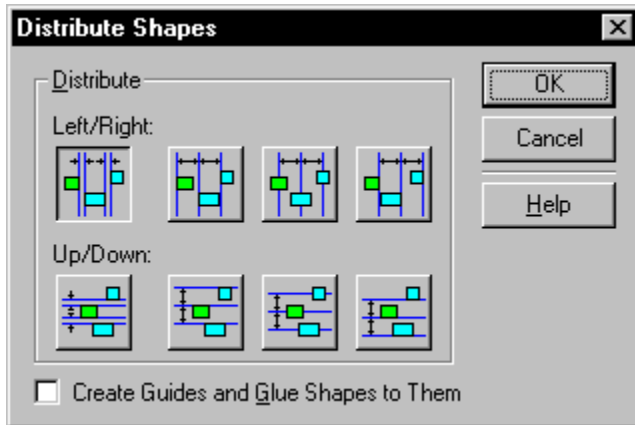
Print

**Displaying and arranging master shape icons**



[Overview](#)

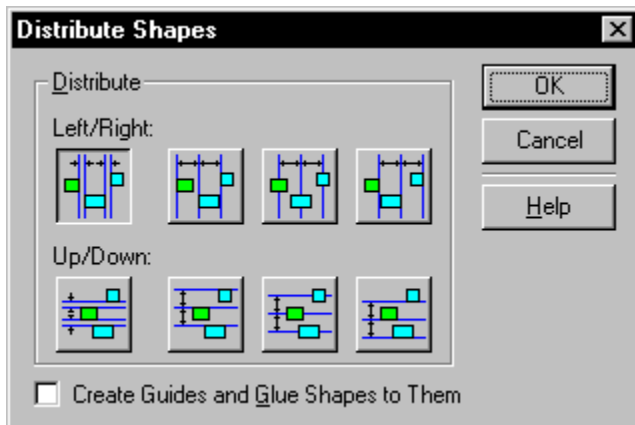
You can change how master shape icons are displayed in the stencil. You can also arrange the icons after you resize the stencil window or add or delete a master shape.



**To change the stencil window display:**

1. Right-click the stencil, then choose one of the following:
  - Icons And Names, to display both master shape icons and names.
  - Icons Only, to display only master shape icons.
  - Names Only, to display only the master shape names.

If you create your own stencil, when you drag and drop shapes onto the stencil, the master shape icons may not be neatly arranged.



**To arrange stencil master shape**

**icons:**

1. Right-click the stencil, then choose [Arrange Icons](#).

When you check [Auto Arrange](#) on the shortcut menu, master shape icons are rearranged automatically when you resize the stencil window or add or delete master shapes.

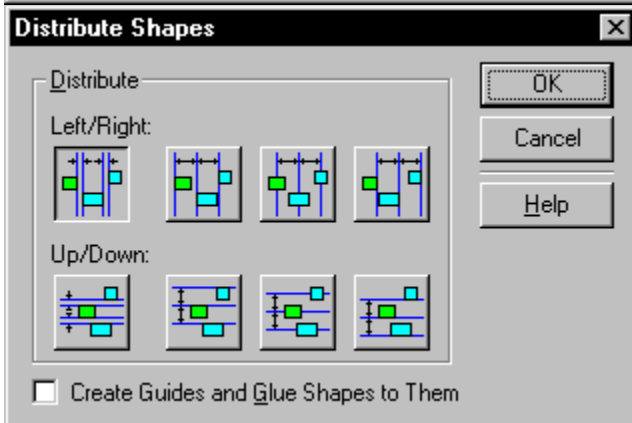
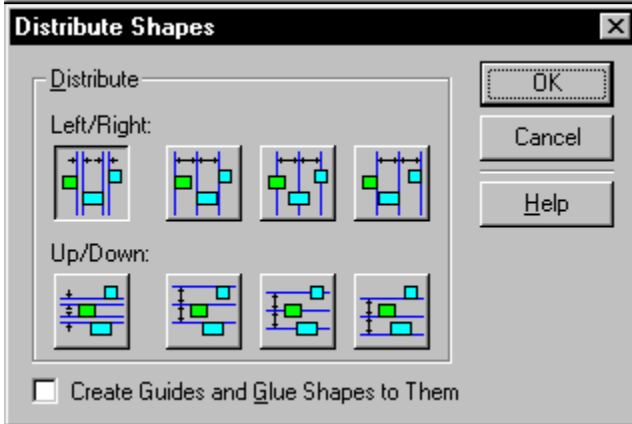
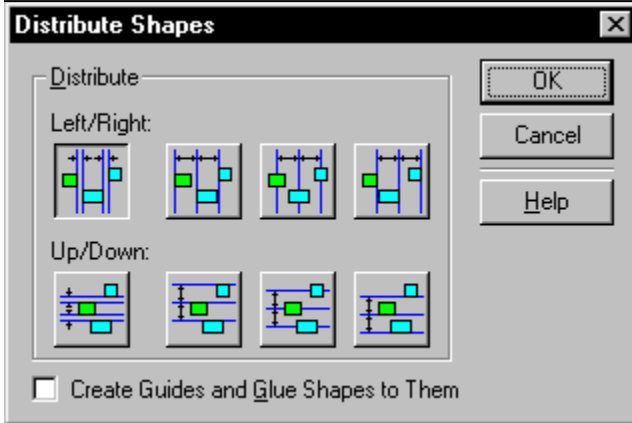
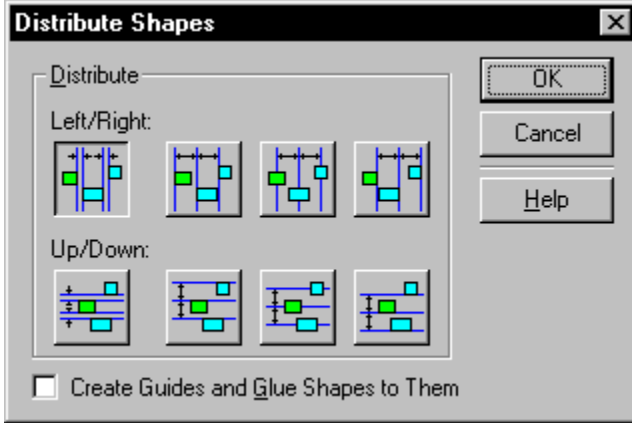
**See also**

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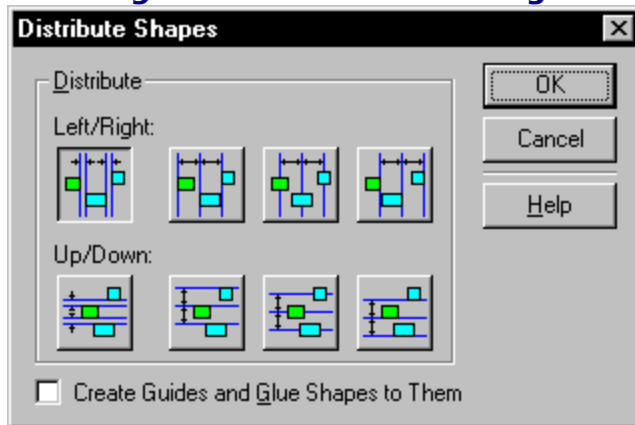
[Zooming in and out of a drawing](#)

## **Zooming in and out of a drawing**



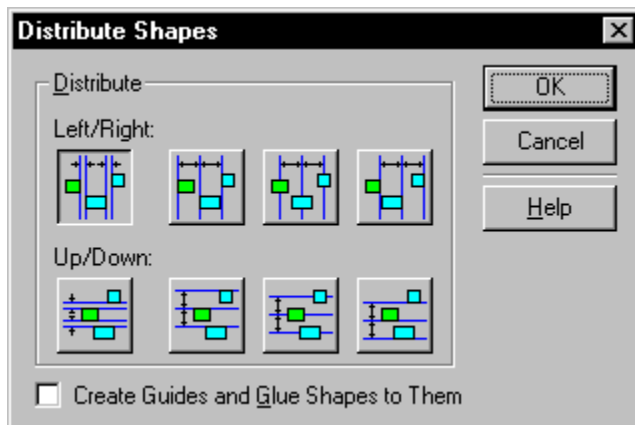


## Zooming in and out of a drawing



[Overview](#)

You can magnify a part of the [drawing](#) to work on details or change the view to see the entire drawing in the [drawing window](#).



**To zoom in and out of a drawing:**

1. If you want to zoom in on a particular area of a drawing, select a shape in that area.
2. Press Ctrl+Shift+left mouse button to zoom in.
3. Press Ctrl+Shift+right mouse button to zoom out.

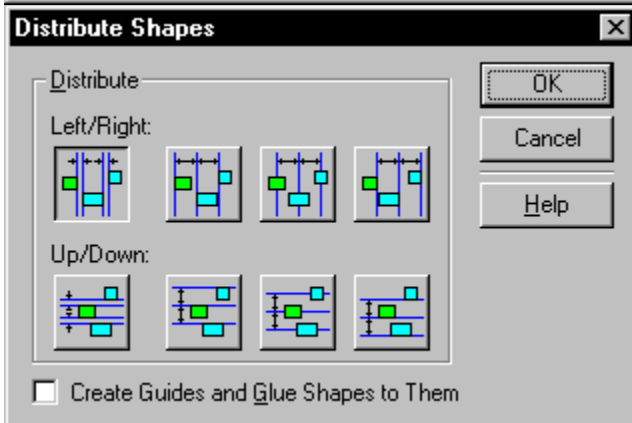
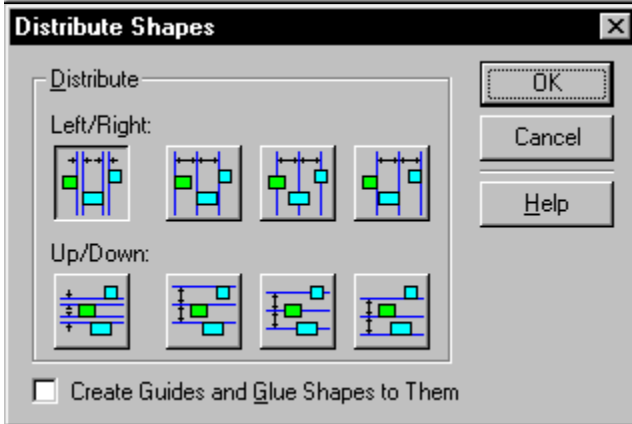
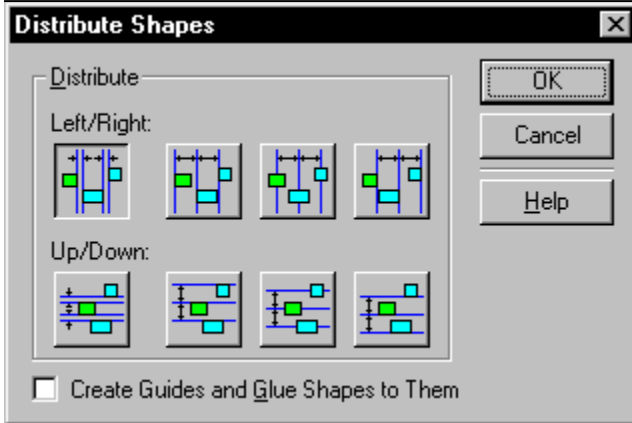
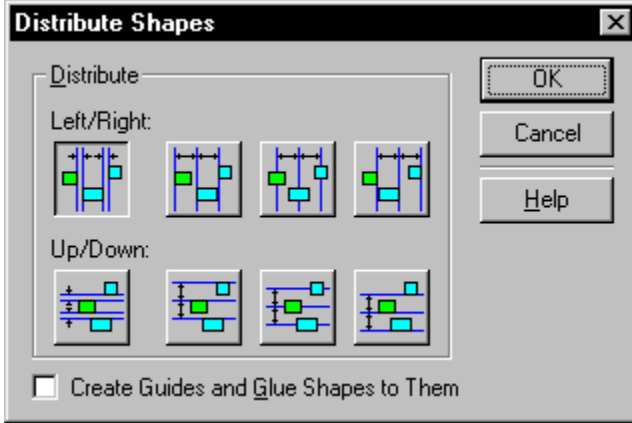
You can also choose [Last Zoom](#), [Actual Size](#), [Page Width](#), or [Whole Page](#) from the View menu. Or, use a magnification percentage in the Zoom box.

### See also

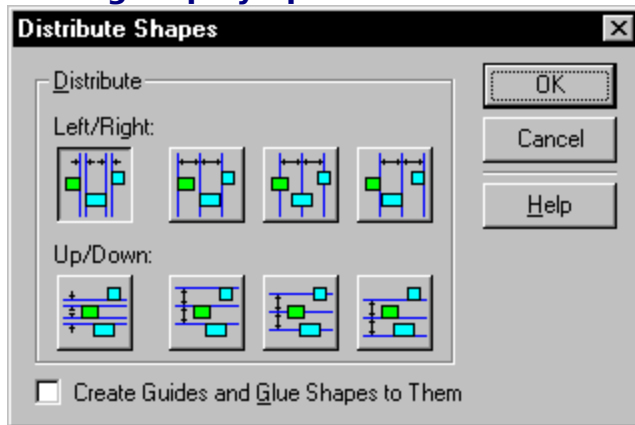
[Arranging Visio windows](#)

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## Setting display options

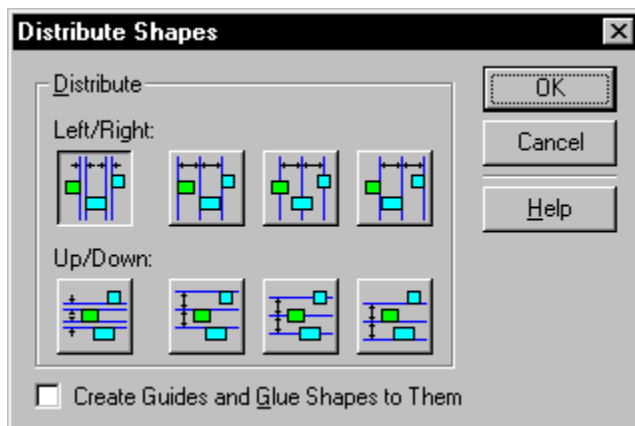


## Setting display options



### [Overview](#)

You can change the display of the drawing page by setting display options. You can set display options to show or hide the status bar, the toolbar, [grid lines](#), [connection points](#), and [guides](#). These settings are saved by Visio and remain in effect until you set them again.



### **To set display options:**

1. From the View menu, choose the command for the display element you want to show or hide:

[Rulers](#)

[Grid](#)

[Guides](#)

[Connection Points](#)

[Page Breaks](#)

[Status Bar](#)

[Toolbars](#)

A check mark beside the command indicates the element is showing.

### **See also**

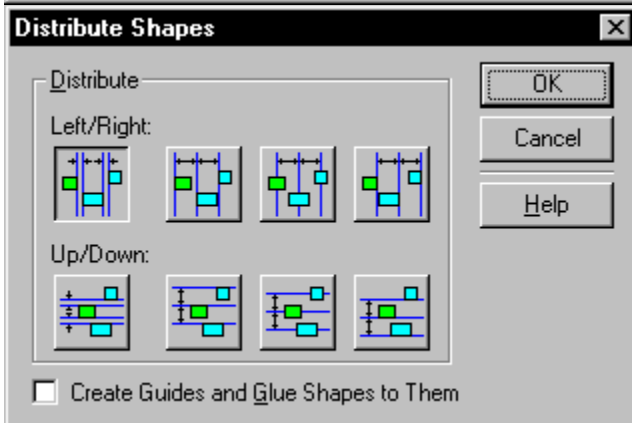
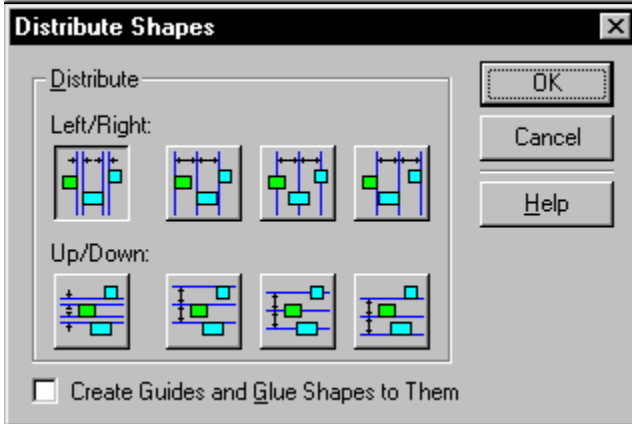
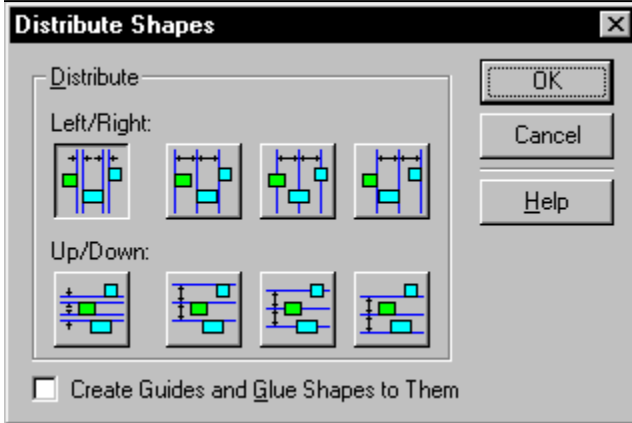
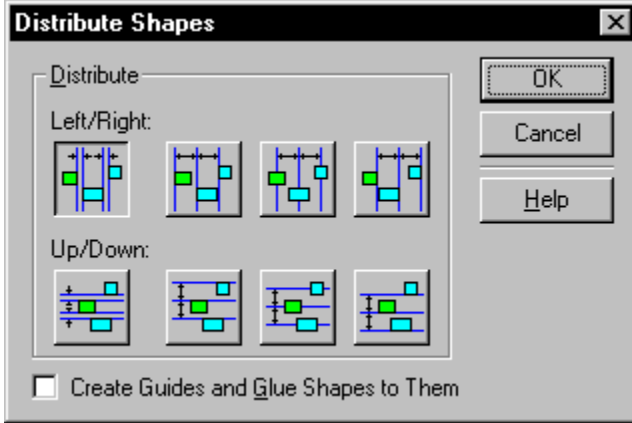
[Setting page display options](#)

[Setting shape display options](#)

[Switching toolbar sets](#)

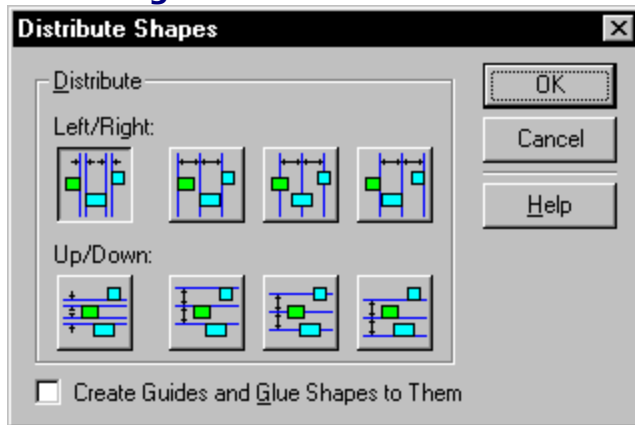


## Switching toolbar sets



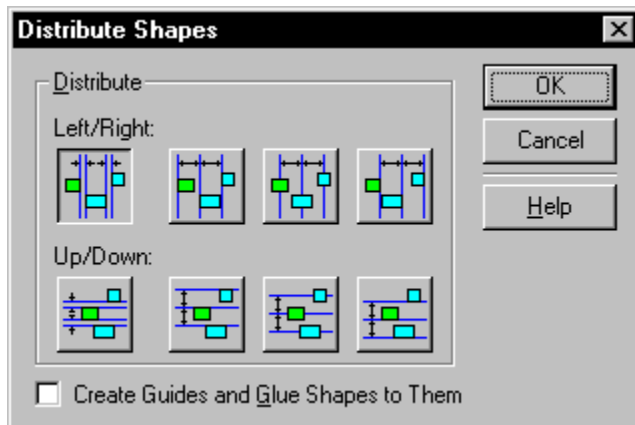


## Switching toolbar sets



[Overview](#)

Visio lets you choose the working environment that's most familiar to you. You can use the Microsoft Office [toolbar](#), or you can use toolbars that resemble the ones in the Lotus SmartSuite or Novell PerfectOffice program.



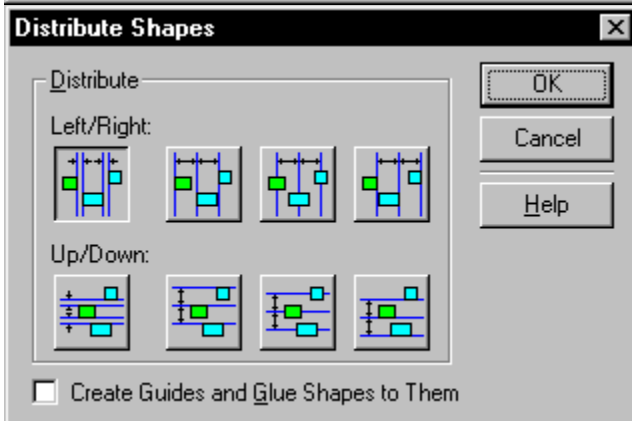
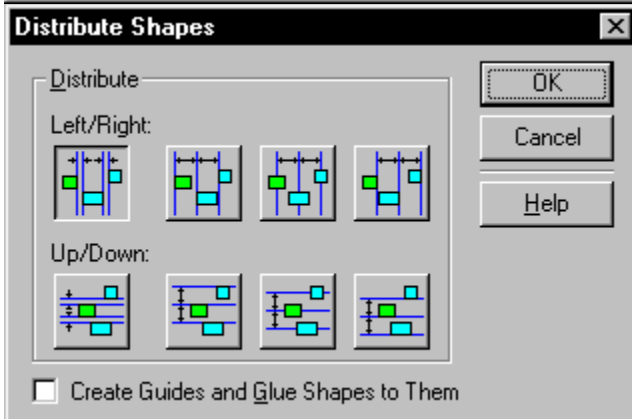
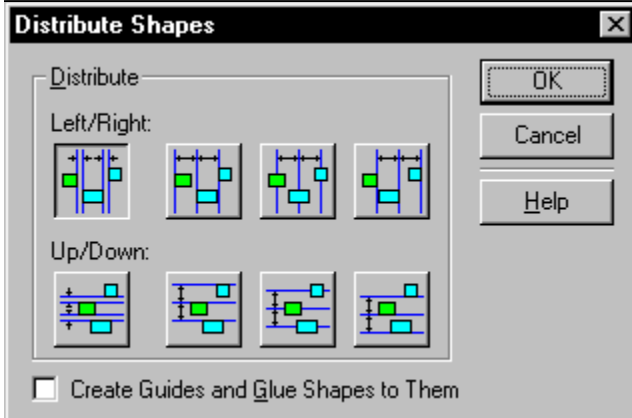
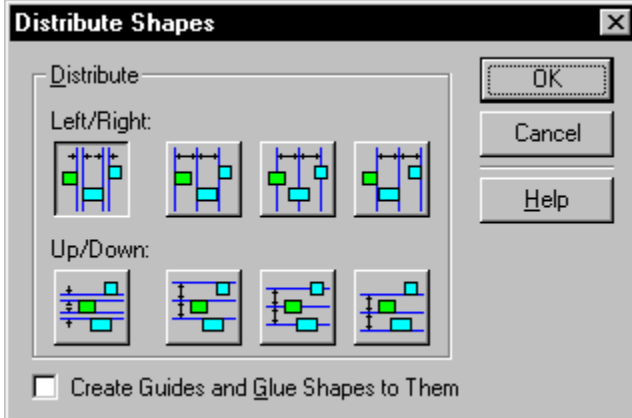
**To switch the toolbar:**

1. From the View menu, choose [Toolbars](#).  
Or, right-click the toolbar, then choose an option from the shortcut menu.
2. In the Style box, choose the toolbar you want.
3. In the Display Options box, choose whether or not you want to display color buttons, large buttons, and ToolTips.
4. Click OK.

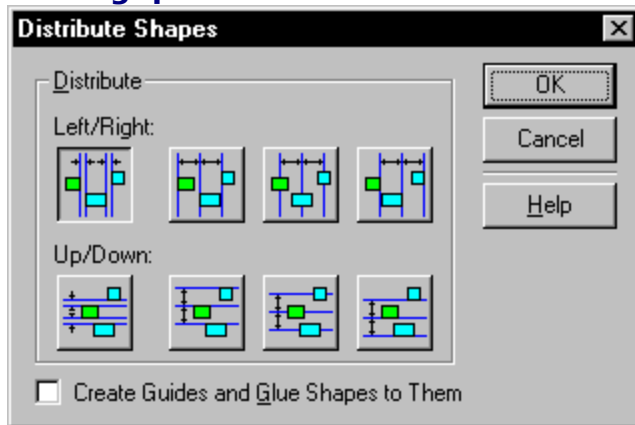
### See also

[Getting quick access to common commands](#)

## Getting quick access to common commands

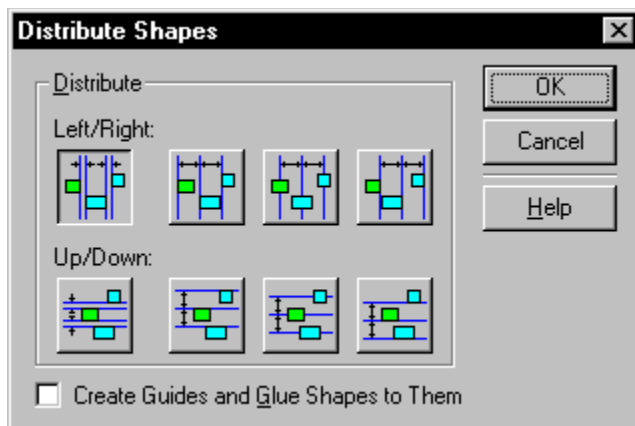


## Getting quick access to common commands



### [Overview](#)

You can quickly display a menu of common commands that relate to tasks you are doing. For example, when a [shape](#) is selected, you can right-click the shape to display a shortcut menu of commands for copying the shape, editing the shape's text, formatting the shape, viewing custom properties, and adjusting the view of the [drawing](#). You can also display a shortcut menu for the stencil window or the drawing page.



### **To display the shortcut menu:**

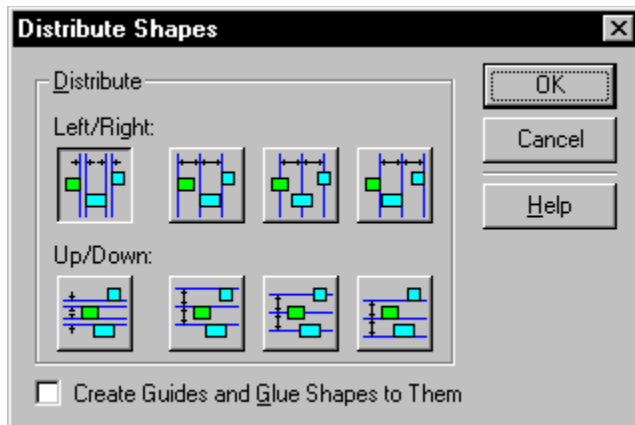
1. Right-click the shape, stencil, or drawing page.
2. From the shortcut menu, choose the command you need.

### **See also**

[Setting display options](#)

[Zooming in and out of a drawing](#)

## Working with Visio files



[Related procedures](#)

### Opening files

When you start a new [drawing](#), you usually open a template file, which opens a stencil and a drawing page for you. Visio uses four types of files: [templates](#), [stencils](#), [drawings](#), and [workspaces](#). You can identify a file's type by its filename extension. Template filenames have a .VST extension, stencil filenames have a .VSS extension, drawing filenames have a .VSD extension, and workspace filenames have a .VSW extension.

When you open a file, you can choose an option for how to open it. The option you choose and which type of file you open depend on the kind of work you want to do.

You can open:

- The original file to edit the file.
- A copy to make changes to a file it without affecting the original.
- A read-only version to look at the file but not change it.

**Note:** When you open a file as read-only, its name appears in brackets in the window title bar.

### Saving files

When you have done substantial work on a drawing, you should save the drawing file. When you change a stencil or template, you should also save these files.

If you need to distribute the file, but you don't want anyone to make changes to it, save it as read-only. Your recipients can only open and read the file; they cannot make changes.

### Save options

By default, Visio saves existing files in the format in which they were created. You can save Visio files in additional formats, including earlier versions of Visio, using the Save As command.

### Saving a workspace

When you save a workspace file, by default you save the arrangement of open files. When you open a workspace, Visio re-creates the arrangement of files and windows.

You can save a workspace either by checking the Workspace option in the [Save As](#) dialog box when working with a drawing, stencil, or template (usually within a drawing file) or by saving a workspace file using the [Save Workspace](#) command, which has a .VSW extension.



Closing a file

Creating a file summary

Displaying a drawing file stencil

Opening a stencil

Opening a template to modify or copy it

Opening an existing drawing file

Protecting a file

Saving a file as read-only

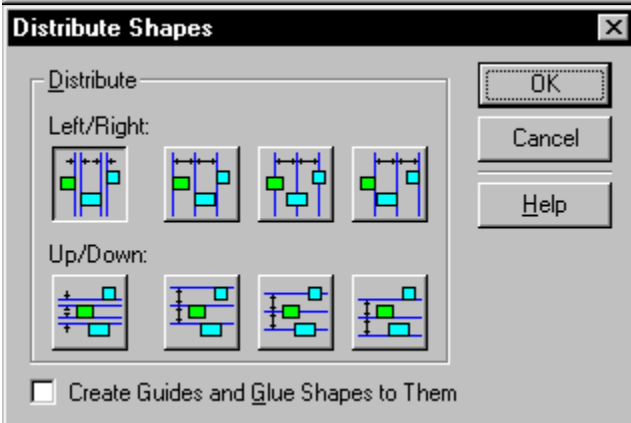
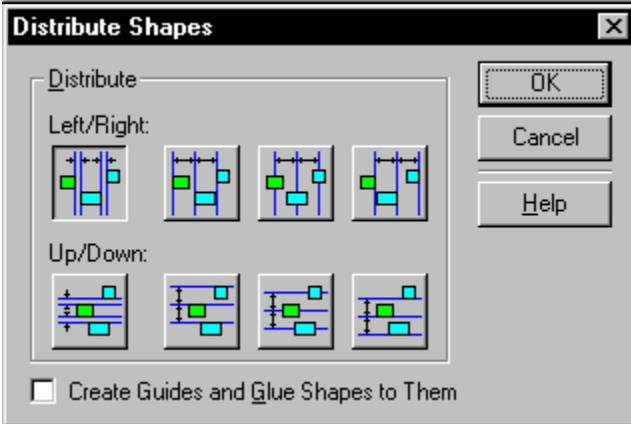
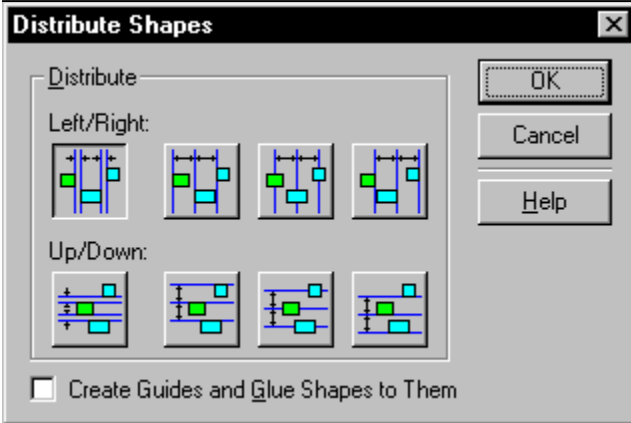
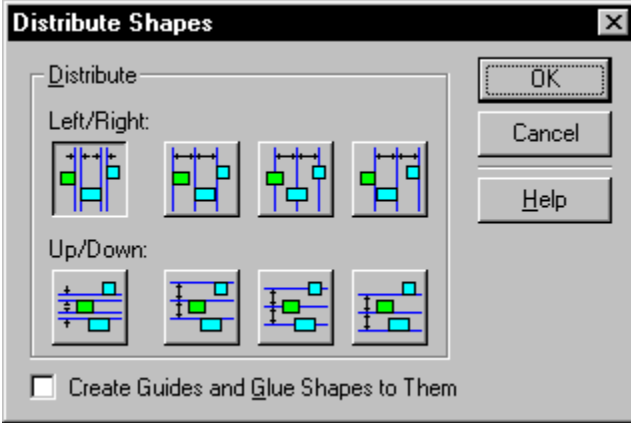
Saving a file with the Workspace option

Saving a new drawing file

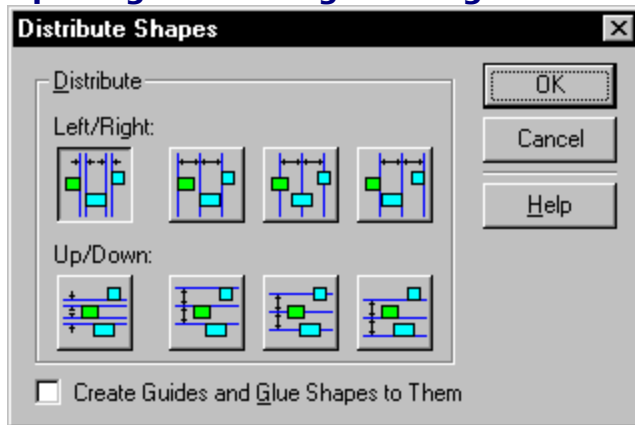
Saving changes to an open file

## **Opening an existing drawing file**



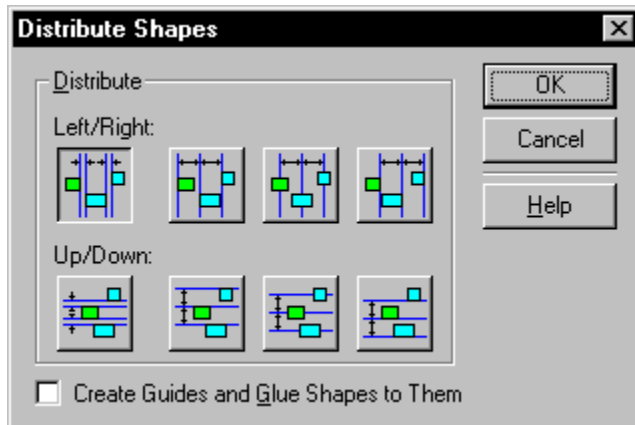


## Opening an existing drawing file



[Overview](#)

You can open an existing [drawing file](#) to update or make changes to a [drawing](#).



**To open an existing file:**

1. From the File menu, choose Open.  
You can also use the Open button.
2. In the File Name box, type or choose the name of the file you want.  
If the file you want to open is not listed, choose a different type of file in the Files Of Type box, or choose a different folder from Look In.
3. In the Open section, check an option to open the original file, a copy of the file, or a read-only version of the file.
4. Click Open.

### See also

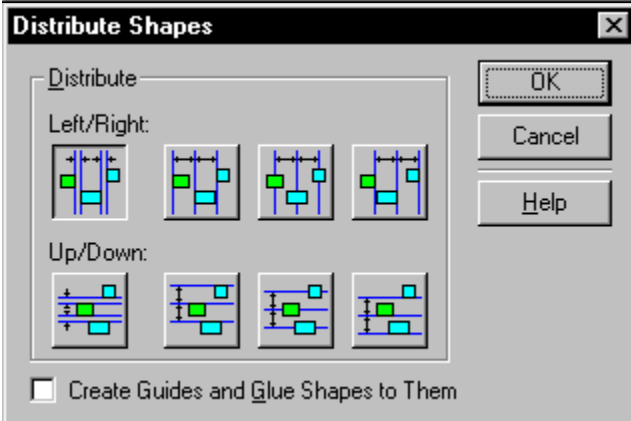
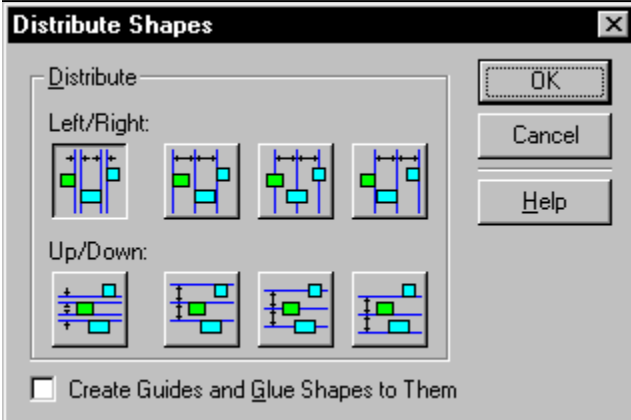
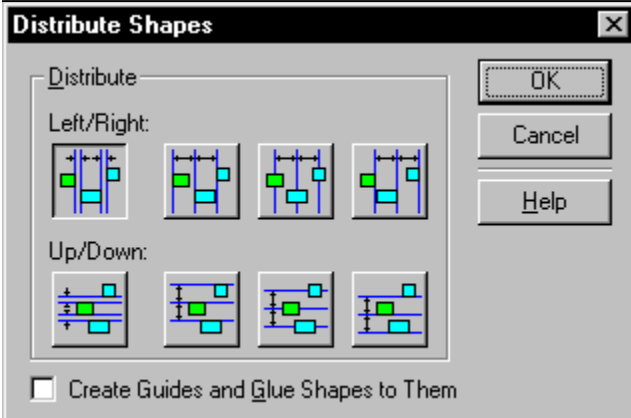
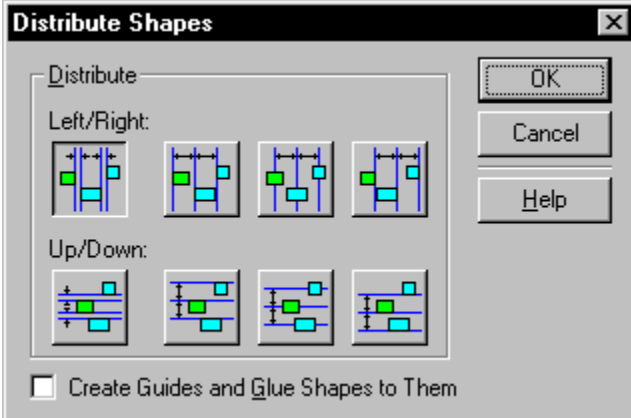
[Opening a stencil](#)

[Opening a template to modify or copy it](#)

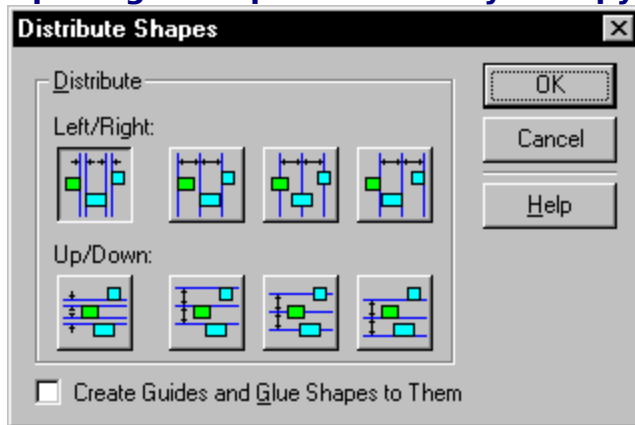
[Saving a file as read-only](#)

[Saving a new drawing file](#)

**Opening a template to modify or copy it**

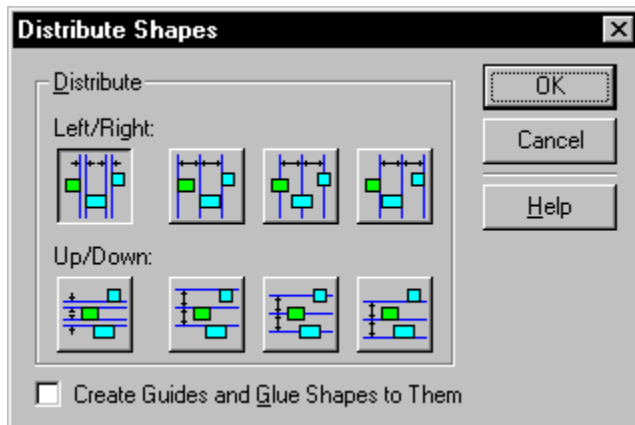


## Opening a template to modify or copy it



[Overview](#)

You usually create a new [drawing](#) by opening a [template](#) from the New dialog box. If you want to modify or copy a template, you can open it from the Open dialog box, just as you would other files.



**To open a template file to modify or**

### **copy it:**

1. From the File menu, choose Open.  
The Open dialog box appears.
2. Under Files Of Type, select Template (\*.VST).
3. If necessary, under Look In, open the Template folder, then open the folder in which the template is located.
4. In the Look In list, choose the name of the template you want.
5. In the Open section, choose an option for how to open the file.  
By default, a template is opened as a copy.
6. Click OK.

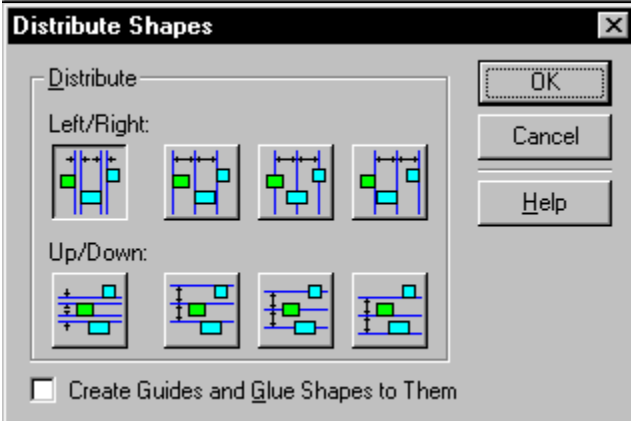
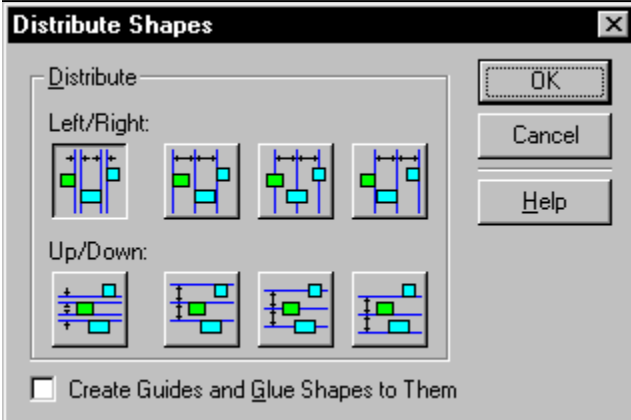
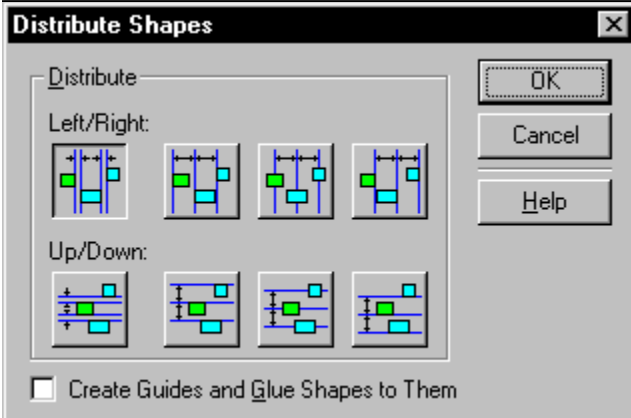
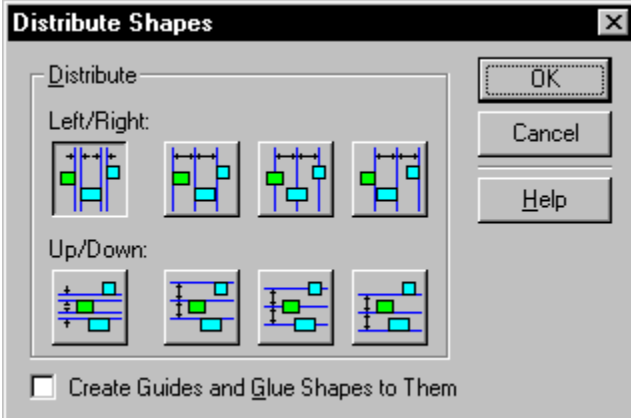
### **See also**

[Creating a template](#)

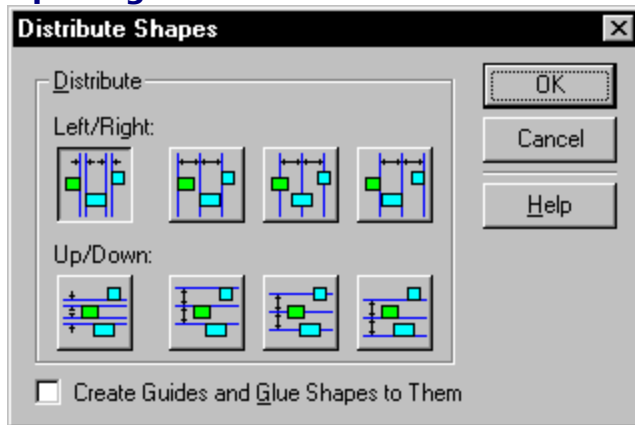
[Opening a stencil](#)

[Opening an existing drawing file](#)

## Opening a stencil

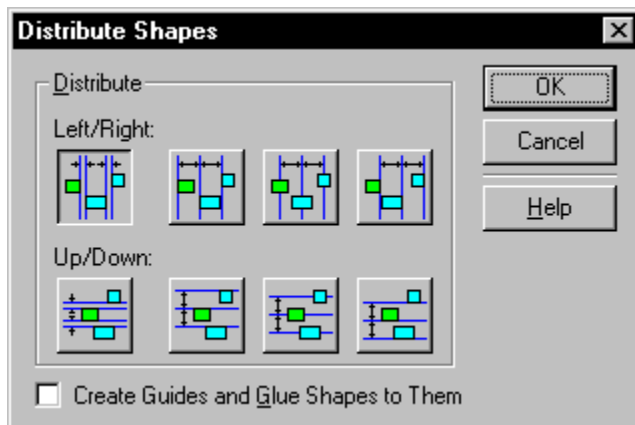


## Opening a stencil



[Overview](#)

If you want to use shapes from several [stencils](#) in a [drawing](#), you can open stencil files without opening a [template](#).



**To open a stencil:**

1. From the File menu, choose [Stencils](#).  
You can also use the Stencils button.
2. From the Select Stencil list, choose the name of the stencil you want to open.  
If you don't see the stencil name, click Browse and locate the stencil file you need.  
(You may need to open one of the stencil folders.)
3. When you've located the file, click OK.

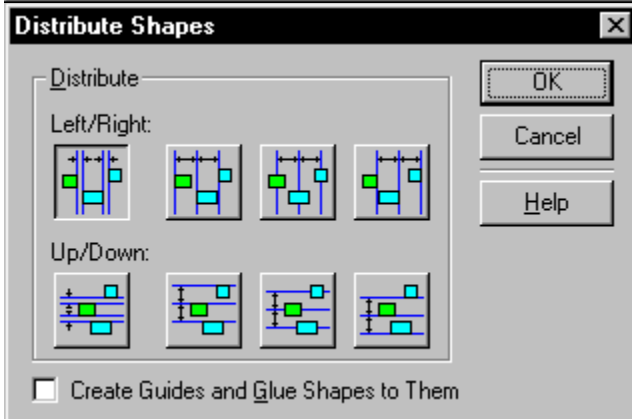
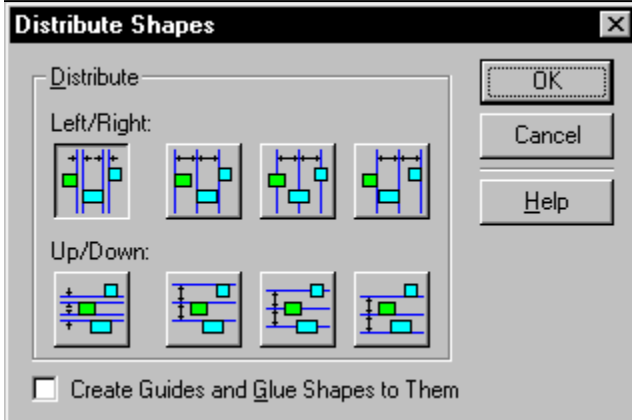
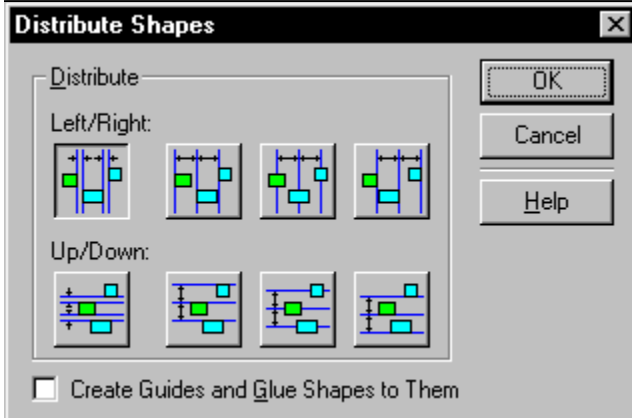
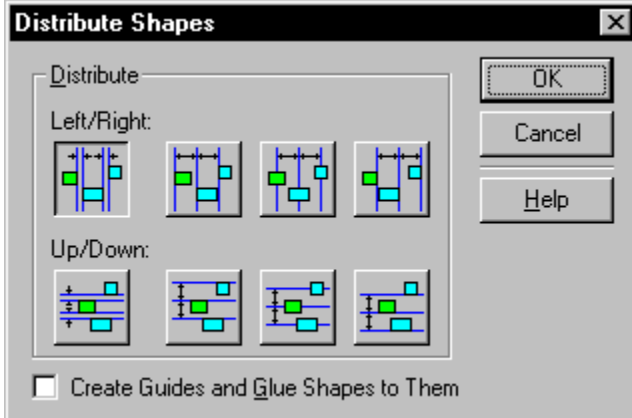
### See also

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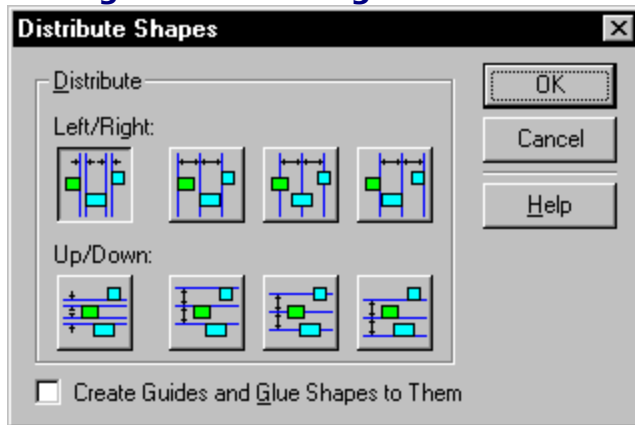
[Creating a new stencil](#)  
[Opening a template to modify or copy it](#)  
[Opening an existing drawing file](#)  
[Opening an original stencil](#)



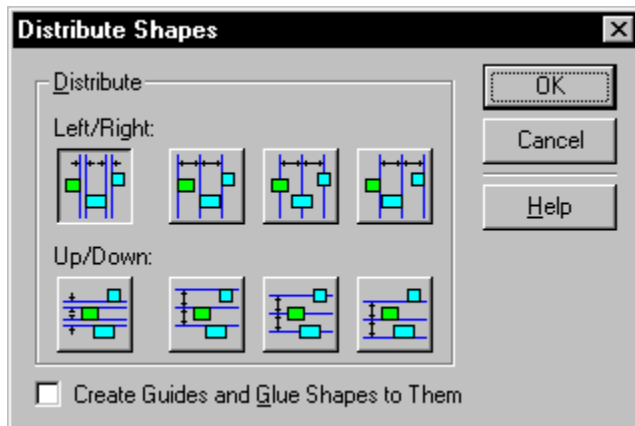
## **Saving a new drawing file**



## Saving a new drawing file



[Overview](#)



**To save a new file:**

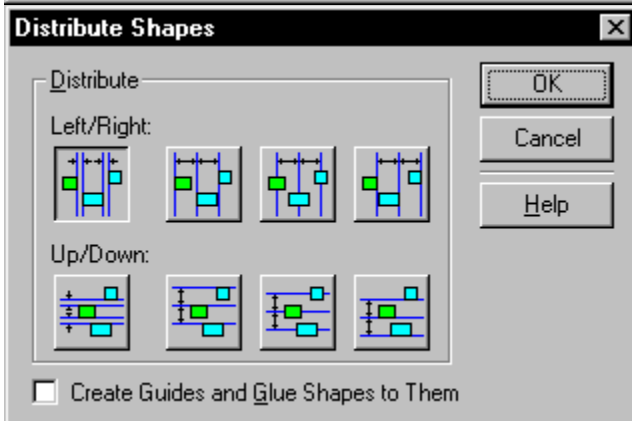
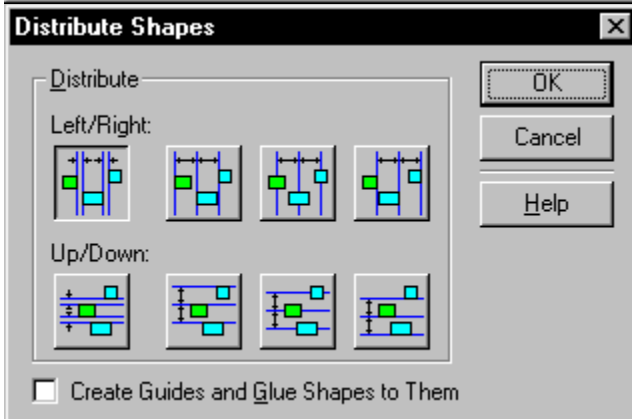
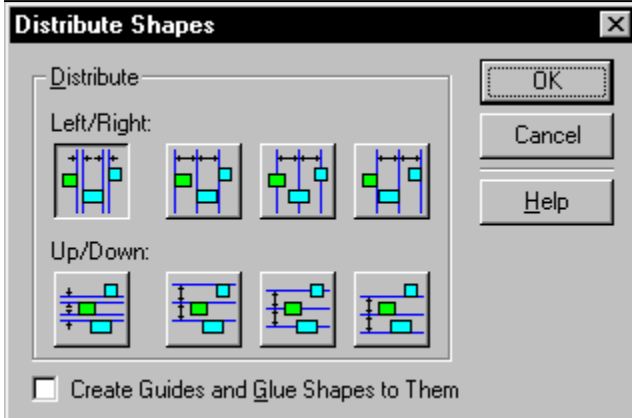
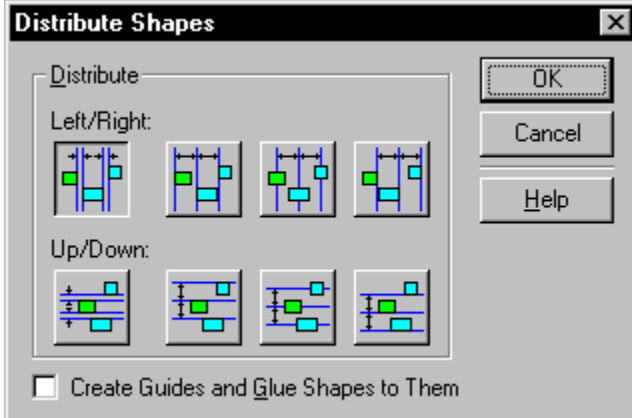
1. From the File menu, choose [Save](#) or [Save As](#).
2. In the File Name box, type a filename for the [drawing file](#).
3. Under Save In, open the folder where you want to save the file.
4. If you want to save a [workspace](#), make sure Workspace is checked in the Save section.
5. If necessary, choose a file format from the Save As list.  
For example, you can save a Visio 4.0 drawing file in Visio 3.0 or 2.0 format by choosing Visio 3 or 2 drawing (\*.VSD) from the list.
6. Click Save.
7. If necessary, enter property information, then click OK to close the [Properties](#) dialog box.

### See also

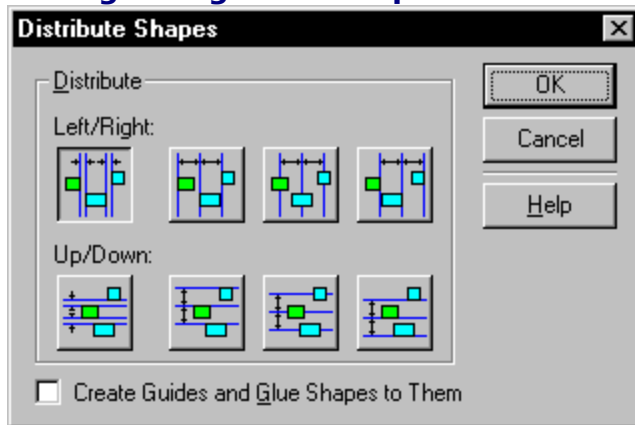
[Saving a file as read-only](#)

[Saving a file with the Workspace option](#)

## **Saving changes to an open file**

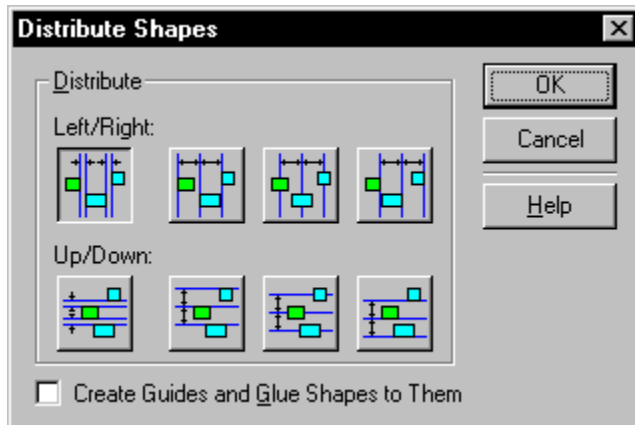


## Saving changes to an open file



[Overview](#)

You can save changes to an open file and continue working in Visio.



**To save changes to an open file:**

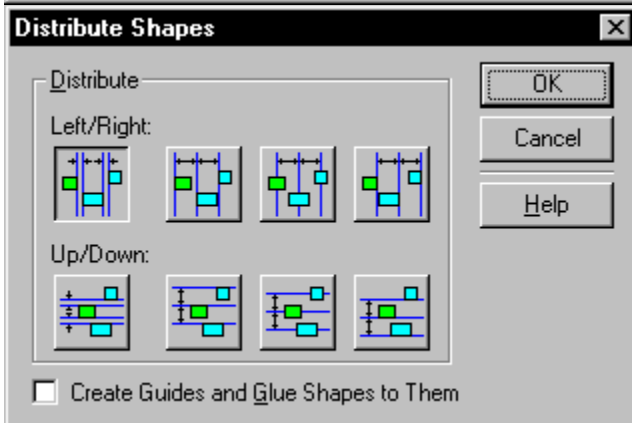
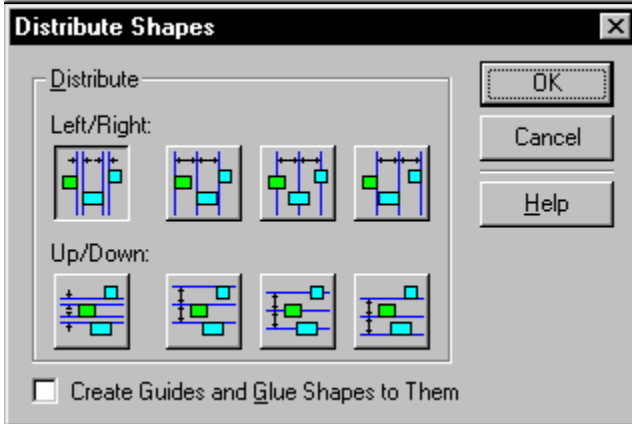
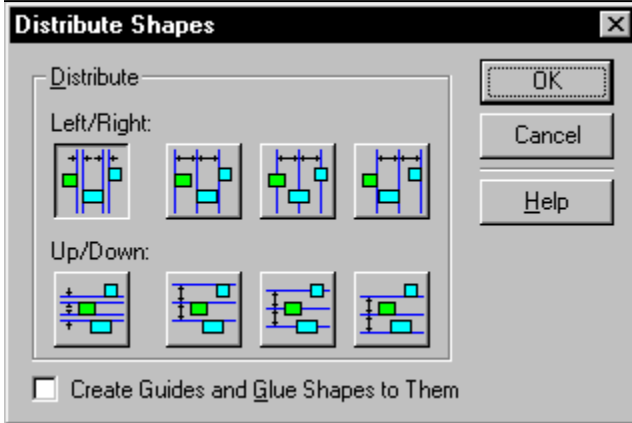
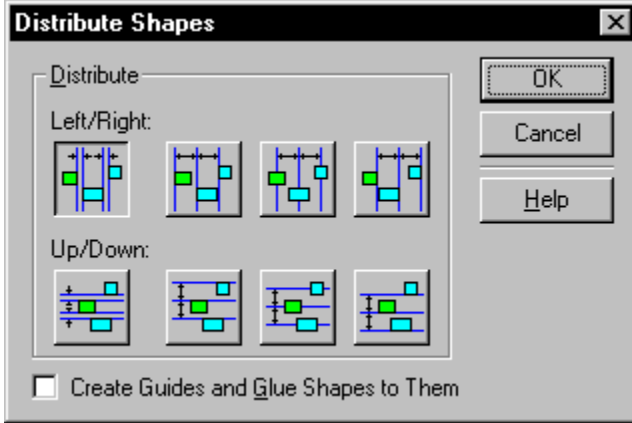
1. From the File menu, choose Save.  
You can also use the Save button.  
By default, Visio saves existing files in the same format.

### See also

[Saving a file as read-only](#)

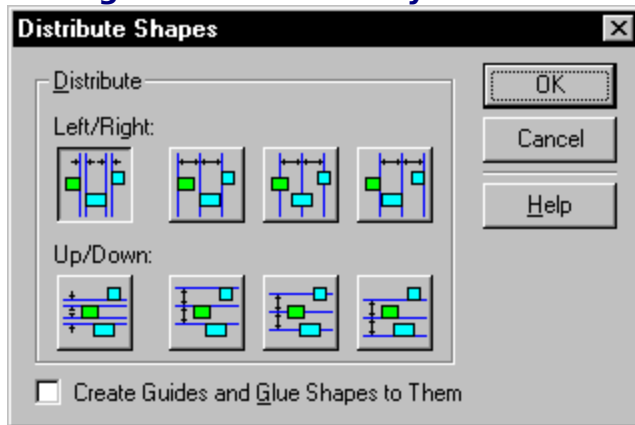
[Saving a file with the Workspace option](#)

## **Saving a file as read-only**





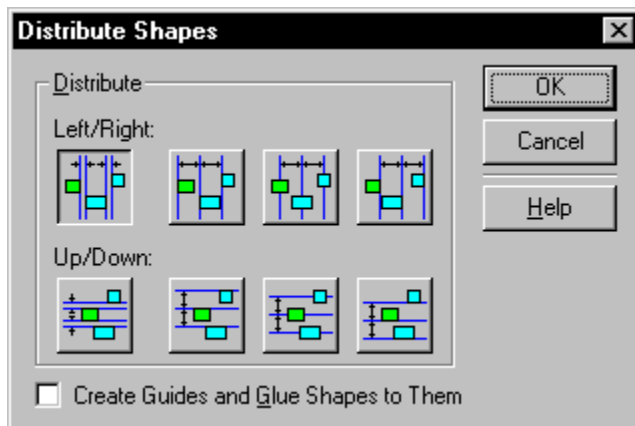
## Saving a file as read-only



### [Overview](#)

You can prevent unauthorized or accidental changes to a file by saving the file as read-only. You can open and edit a copy of a read-only file, but the original file cannot be edited.

**Tip:** After you have saved a file as read-only, to make the file read-write again, use the Save As command to save the file to another name.



### To save a file as read-only:

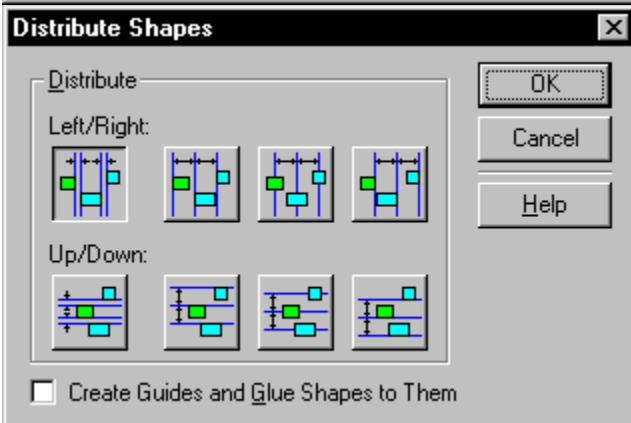
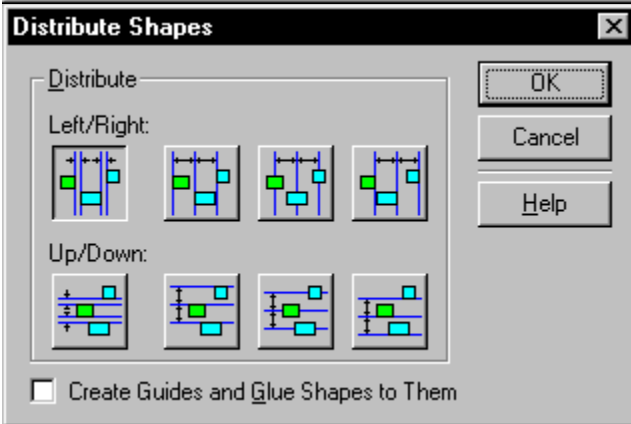
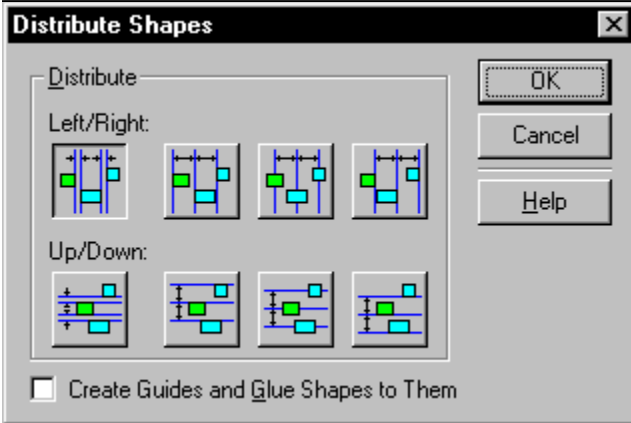
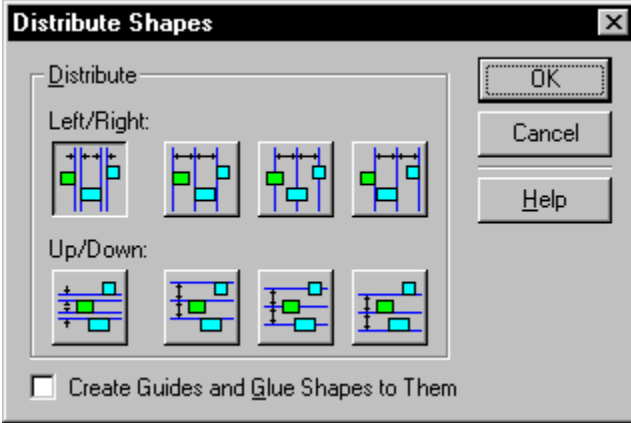
1. From the File menu, choose Save As.
2. In the Save section of the dialog box, check Read Only.
3. In the File Name box, type a filename for the [drawing file](#).
4. In the Save In box, choose the folder where you want to save the file.
5. Click Save.

### See also

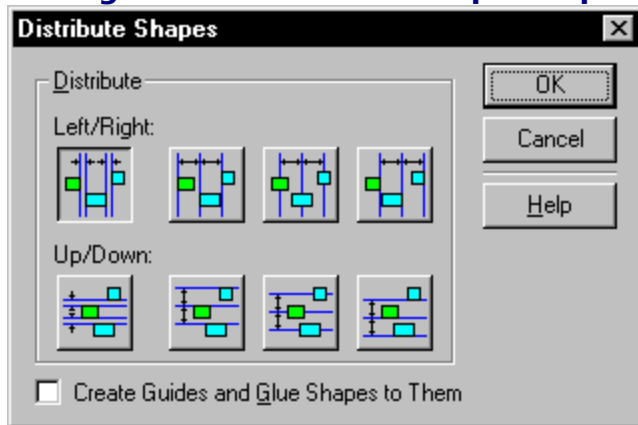
[Protecting a file](#)

[Saving a new drawing file](#)

## **Saving a file with the Workspace option**



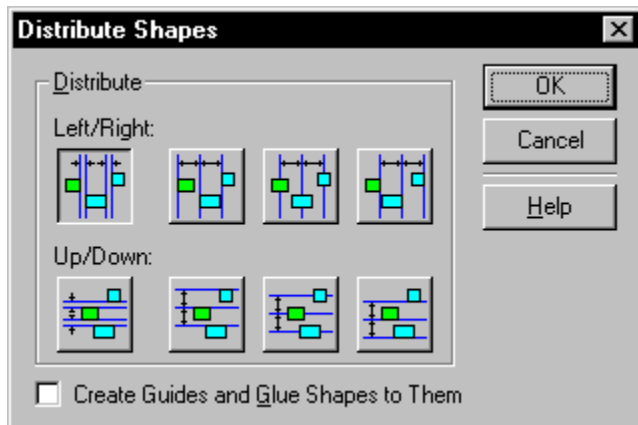
## Saving a file with the Workspace option



[Overview](#)

You can save your own arrangement of stencils in your drawing file.

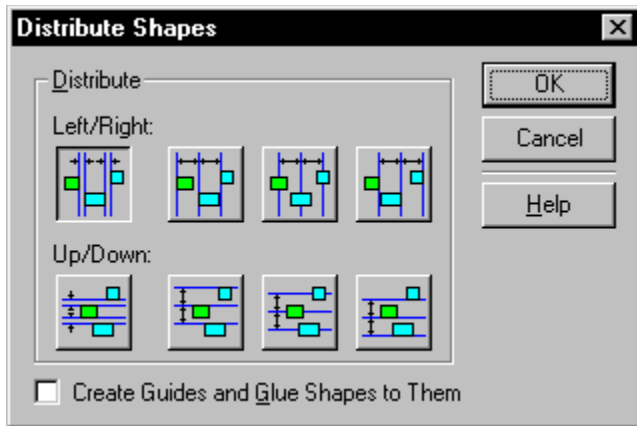
- If you have specific stencils you want to open with a drawing, use the Save As command, then check the Workspace option.
- If you like to have two drawing files open at a time, as well as multiple stencils, use the Save Workspace command on the File menu.



**To save a drawing file with the Save**

### **As Workspace option:**

1. From the File menu, choose Save As.
2. In the Save section, check Workspace.
3. In the File Name box, type a filename for the [drawing file](#).
4. In the Save In box, choose the folder where you want to save the file.
5. Click Save.



**To save a drawing file with the Save**

**Workspace command:**

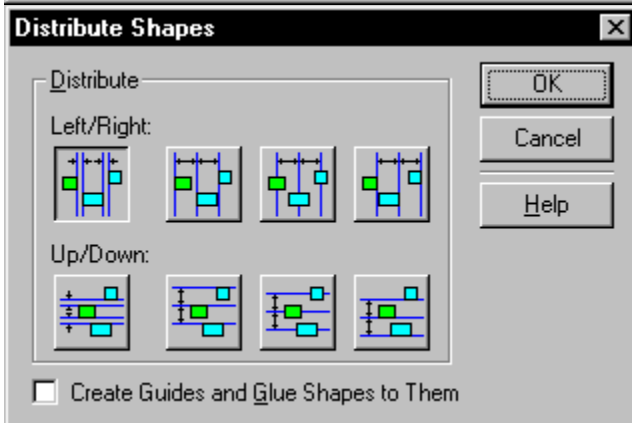
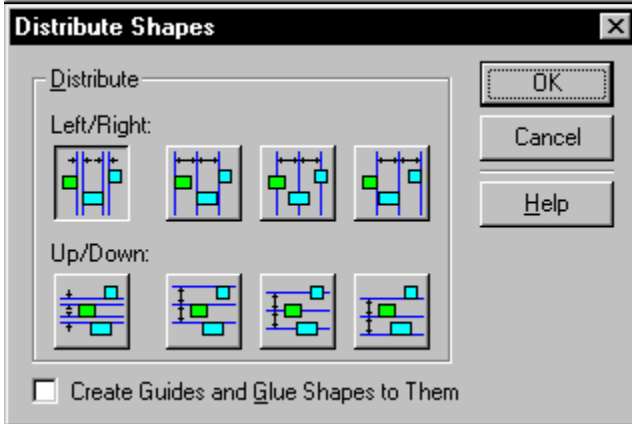
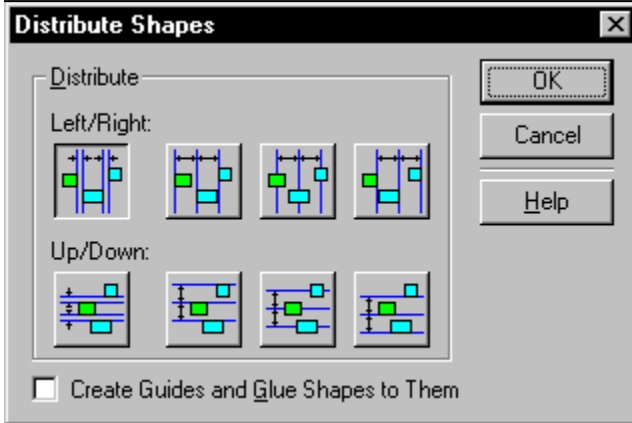
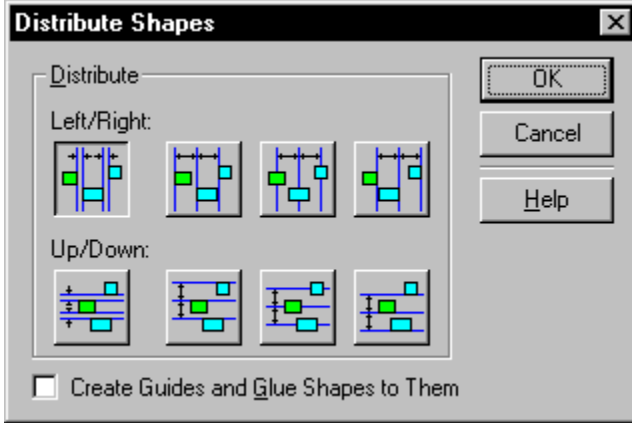
1. Save the files you have edited.
2. From the File menu, choose Save Workspace.
3. In the File Name box, type a filename for the drawing file.
4. In the Save In box, choose the folder where you want to save the file.
5. Click Save.

**See also**

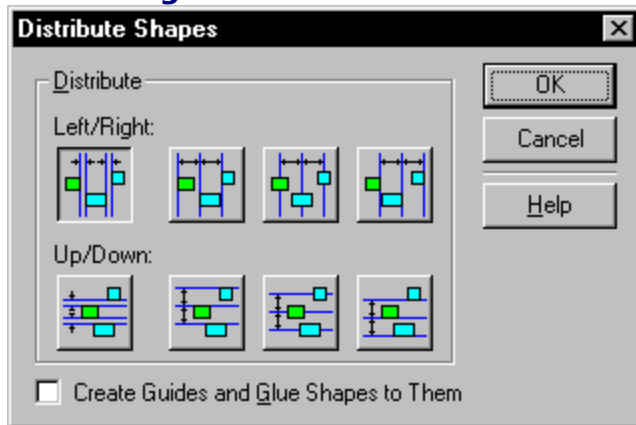
[Saving a new drawing file](#)

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## Protecting a file



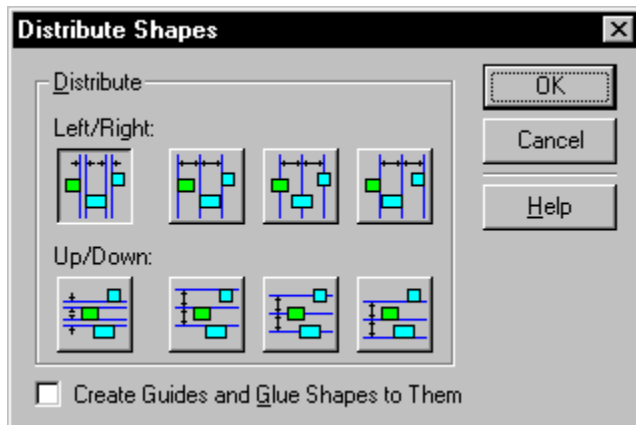
## Protecting a file



[Overview](#)

To protect a file, you can:

- Lock [styles](#), [background](#) pages, shapes (including [objects](#) from other programs), and [master shapes](#) to prevent changes.
- Password to protect a file. For example, if you had sensitive information, such as salaries, in a file, you might want to protect the file.



**To protect a file:**

1. From the Tools menu, choose Protect Document.

2. Do one or more of the following:

In the Protect Document dialog box, type a password.

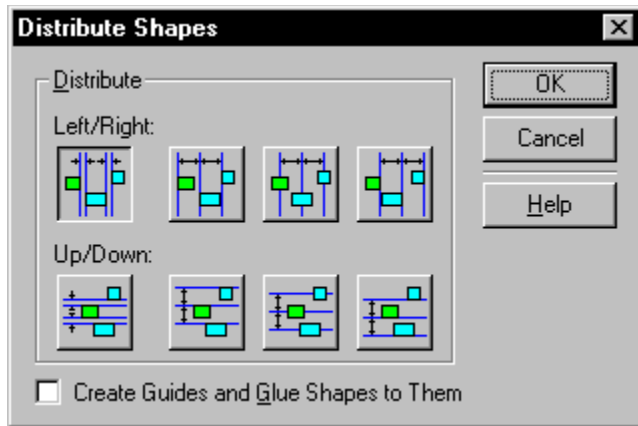
If you use a password to protect a document, remember it or write it down. The password is not visible after you close the dialog box.

Check the items that you want to protect.

3. Click OK.

When you no longer need to protect a file, you can remove the protection.





**To remove protection from a file:**

1. From the Tools menu, choose Unprotect Document.
2. Do one or more of the following:
  - Type the password for the file, if you used one.
  - Uncheck the items you protected.
3. Click OK.

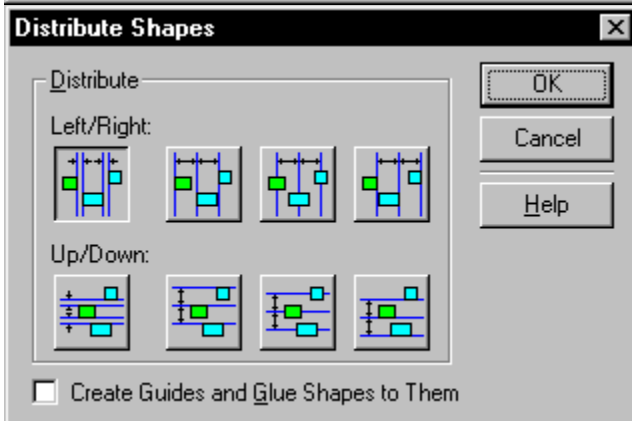
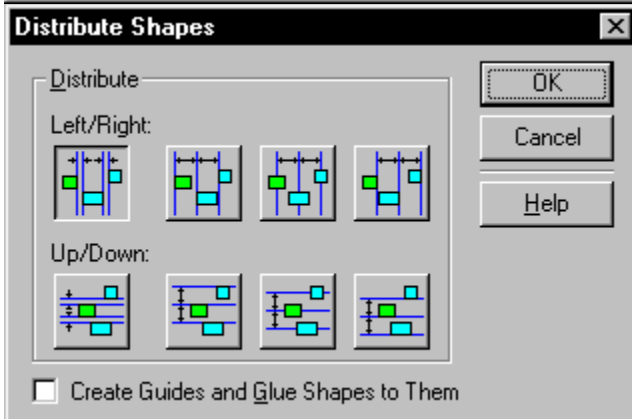
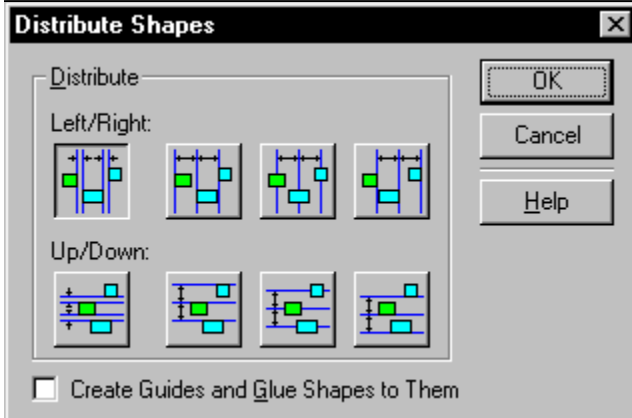
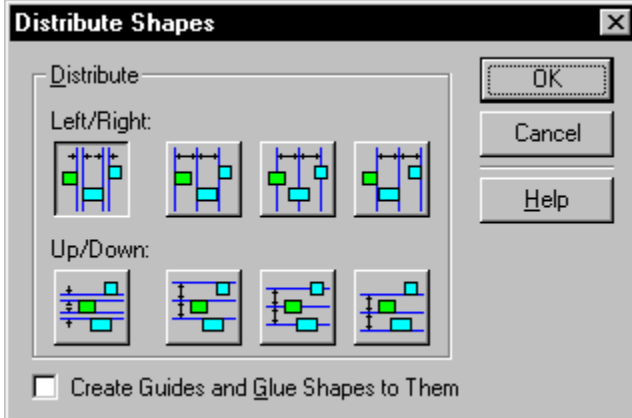
**See also**

Protecting shapes

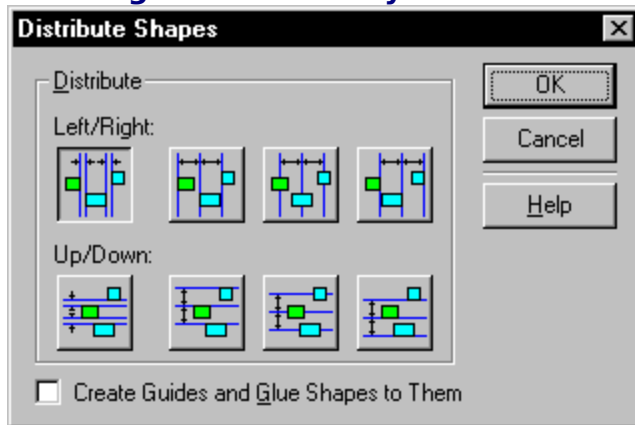
Saving a file as read-only

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## Creating a file summary

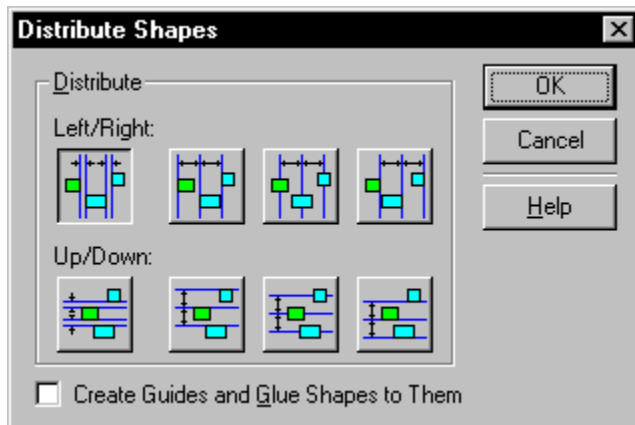


## Creating a file summary



### [Overview](#)

You can create a summary for a Visio file so you and others can identify the file more easily. Information about the file appears in the Description section of the [New](#), [Open](#), or [Stencils](#) dialog box when you choose the file's name.



### **To create or edit file properties:**

1. Make sure the file you want to summarize is open in the active window.
2. From the File menu, choose [Properties](#).
3. In the dialog box, enter the file title, the subject, the creator, keywords, and a description.
4. Check Save Preview Picture to save a picture of the first page in the drawing to be used in the Open dialog boxes Preview section, as well as in Quick View.
5. Click OK.

By default, Visio prompts you for property information when you save a new file. To remove the prompt, choose Options from the Tools menu, then uncheck the Prompt For Document Properties On Save option.

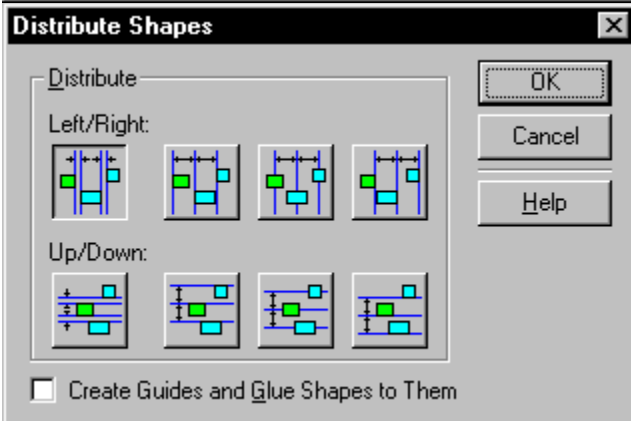
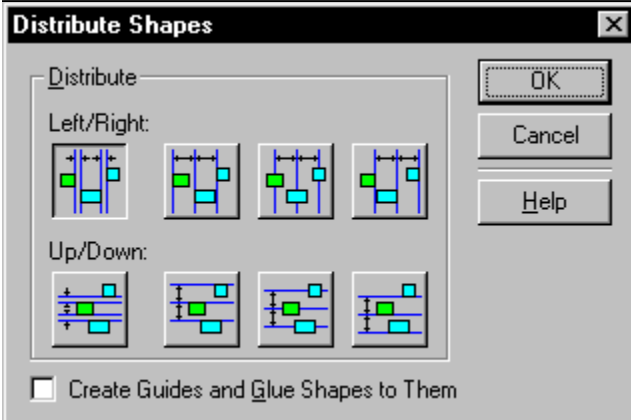
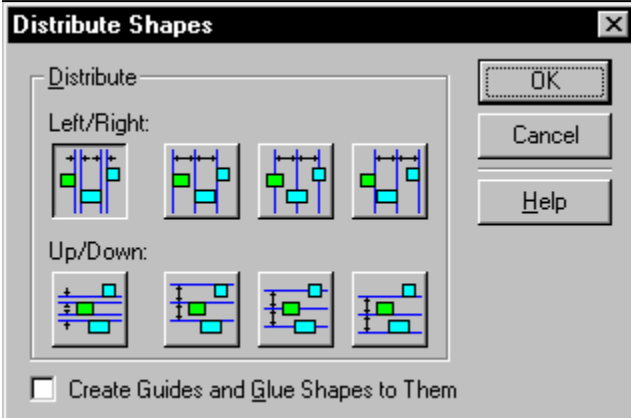
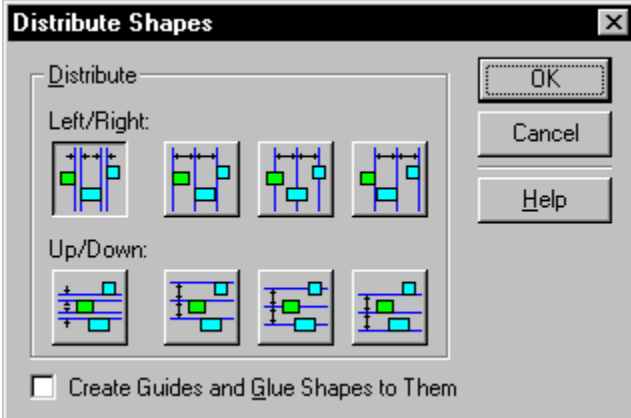
**Tip:** You can include the text entered in the Properties dialog box in the Visio drawing file by inserting it as a Visio [field](#). For details, see [Inserting fields into text](#).

### **See also**

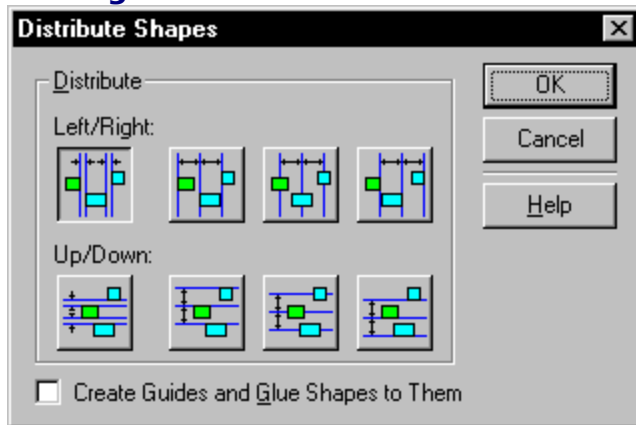
[Inserting fields into text](#)

[Text Field](#)

## Closing a file

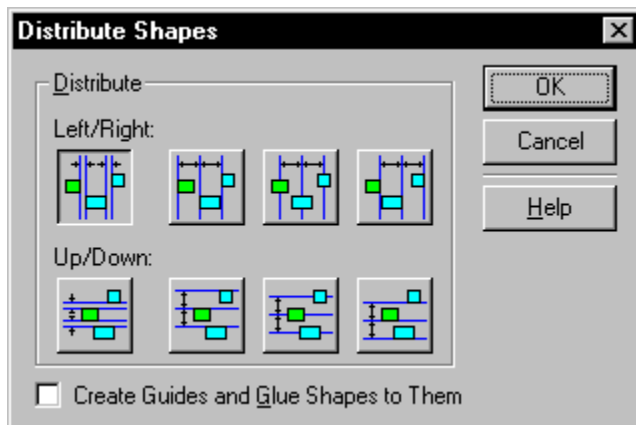


## Closing a file



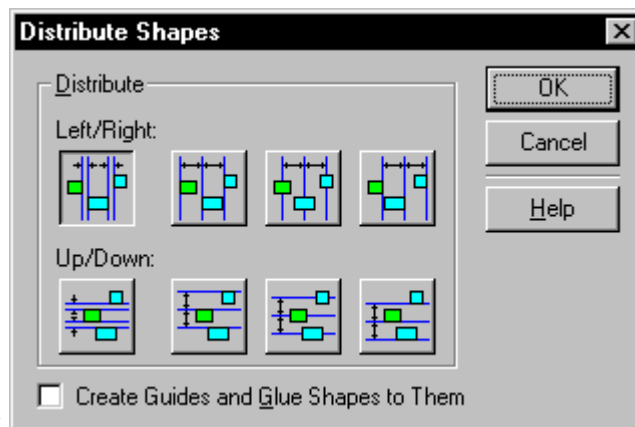
[Overview](#)

When you finish working with a file, you can close the file without quitting Visio. If you have changed the file since you last saved it, Visio prompts you to save the file before closing it.



**To close a file:**

1. From the File menu, choose Close.



Or, click  to close the file.

2. If the file has unsaved changes, Visio prompts you to save the file before closing it. Choose Yes to save changes, choose No to close the file without saving changes, or choose Cancel to cancel the Close command and continue working with the file.

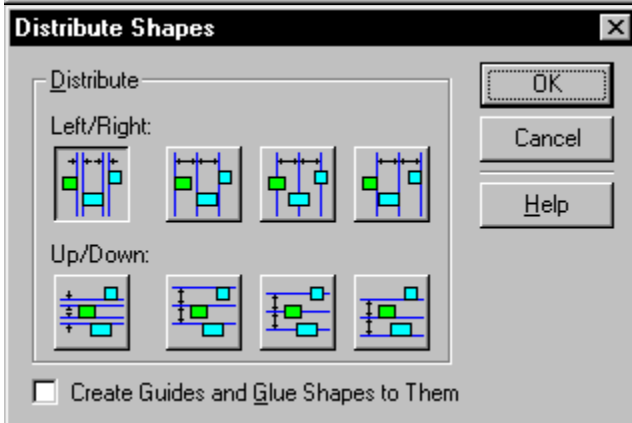
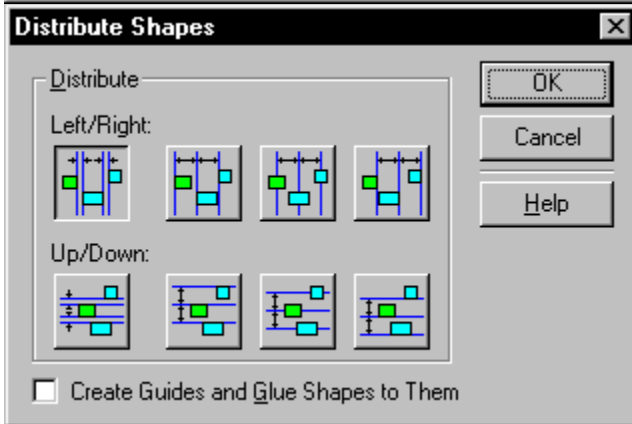
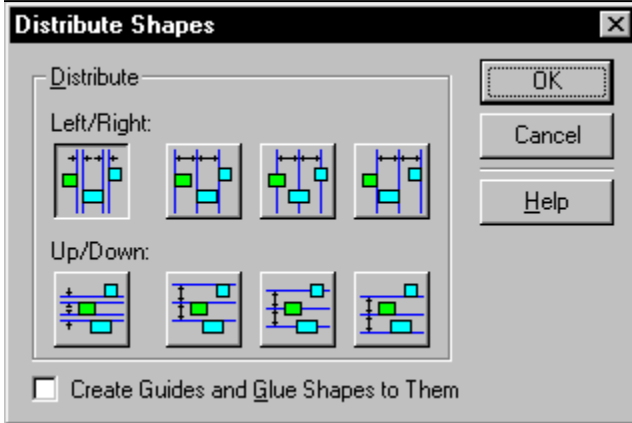
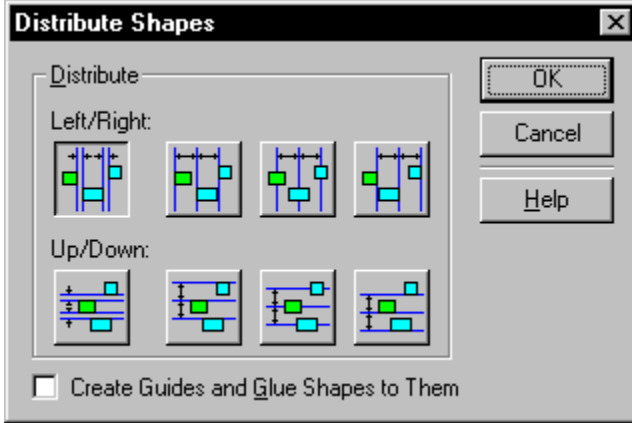
## See also

[Quitting Visio](#)

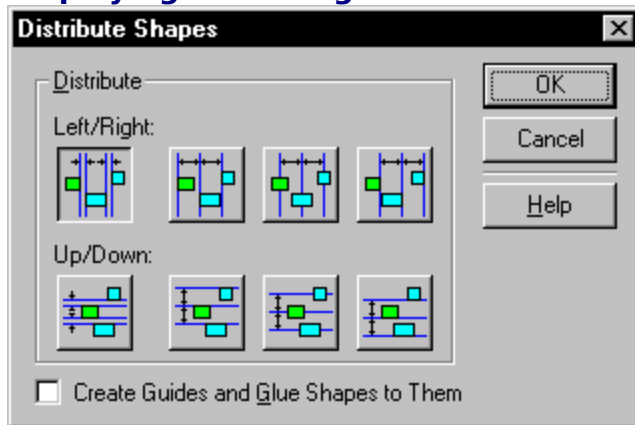
Saving a new drawing file



**Displaying a drawing file stencil**



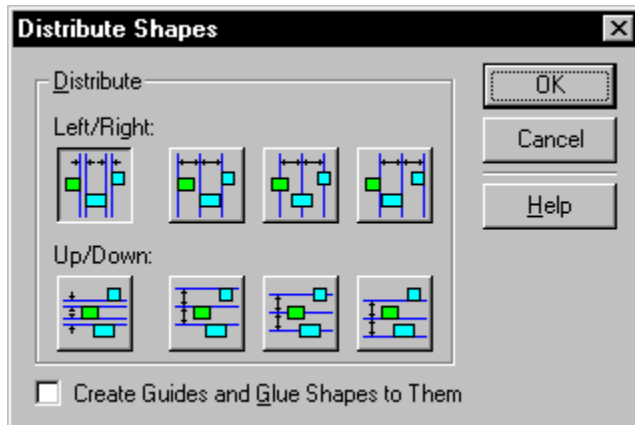
## Displaying a drawing file stencil



### [Overview](#)

The first time you drag or [stamp](#) a [master shape](#) into a [drawing file](#), Visio places a copy of the master in the [drawing file stencil](#).

When you edit a master shape stored in the drawing file stencil, you can update all [instances](#) of the master in that drawing file at the same time. An instance within the drawing file inherits characteristics from the master on the drawing file stencil unless you ungroup the instance or delete the master from the drawing file stencil.

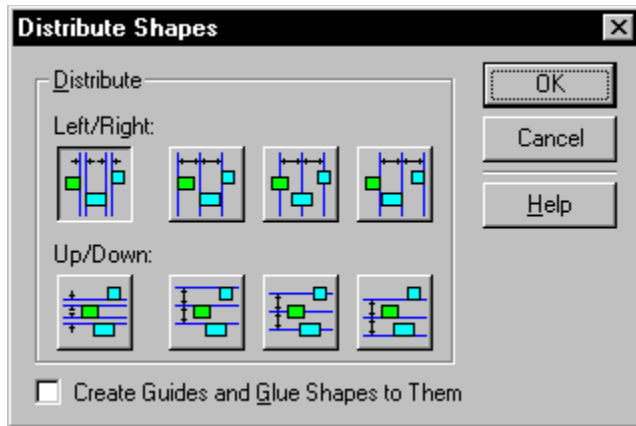


### **To view the drawing file stencil:**

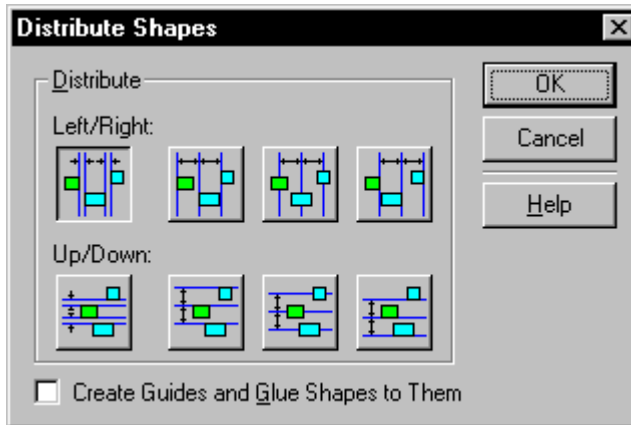
1. From the Window menu, choose [Show Master Shapes](#).

The drawing file stencil appears.

**Tip:** Choose [Tile](#) from the Window menu so that you can see both the drawing page and the drawing file stencil window.



To close a drawing file stencil:

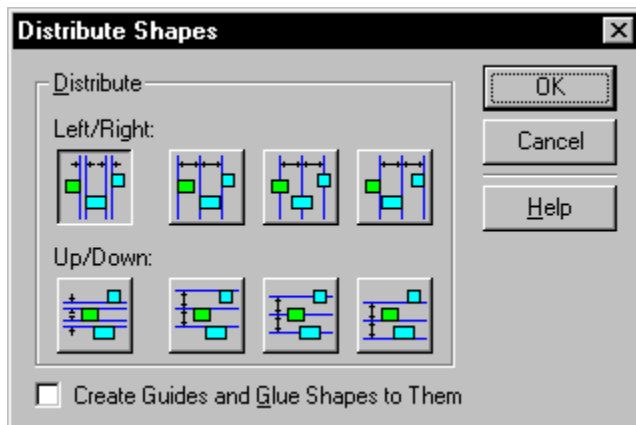


1. Click to close the stencil.

### See also

[Creating a master shape from a shape in a drawing](#)  
[Modifying a master shape in the drawing file stencil](#)

## Understanding ShapeSheets



[Related procedures](#)

A ShapeSheet is a spreadsheet that contains information about a shape. For example, a ShapeSheet displays a shape's dimensions, its angle and center of rotation, and the attributes that determine the shape's appearance. ShapeSheets also contain formulas that define the ways a shape behaves when it is moved or sized.

### How shapes look in the ShapeSheet

When you draw a shape, Visio records the shape as a collection of horizontal and vertical locations. These locations (called vertexes) are stored in the ShapeSheet and are measured from a point of origin on the page and connected with line segments.

Visio records each shape vertex as a set of x- and y-coordinates. When you move the shape or change its size, Visio automatically records changes in the ShapeSheet.

Every page, shape, group, master shape, object from another program, guide, and guide point has a ShapeSheet that you can view. A group and each shape or object in the group has its own ShapeSheet.

### The ShapeSheet window

When the ShapeSheet window is active, the menu bar changes to display menus and commands you use to work in the ShapeSheet. When a ShapeSheet cell is selected, a formula bar appears, which you use to enter and edit ShapeSheet formulas.

### Sections, cells, and formulas

Each ShapeSheet is divided into sections that control a particular aspect of a shape's behavior or appearance—for example, its geometry or its formatting. Each section consists of cells that contain formulas. These can be default formulas created by Visio or formulas you create. A formula might be simple and always evaluate to the same value for the cell, or the formula might be built from functions, operators, and other elements that evaluate to different values depending on the circumstances.

Adding and deleting rows

Adding and deleting sections

Collapsing and expanding sections

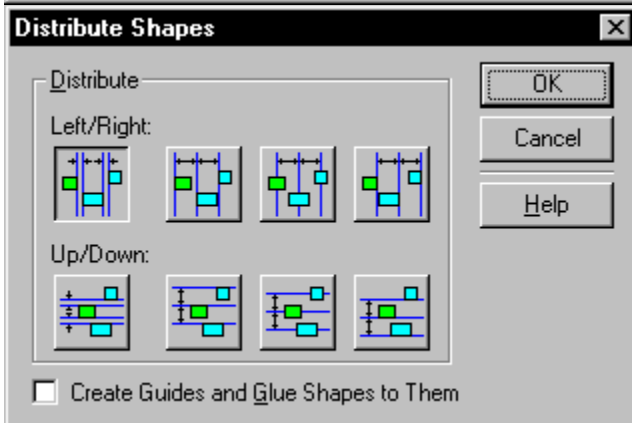
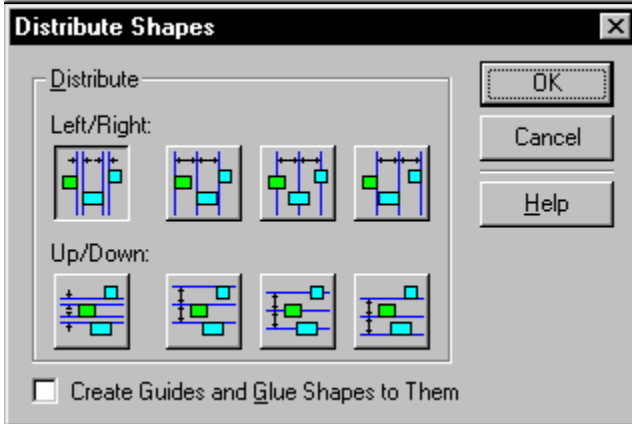
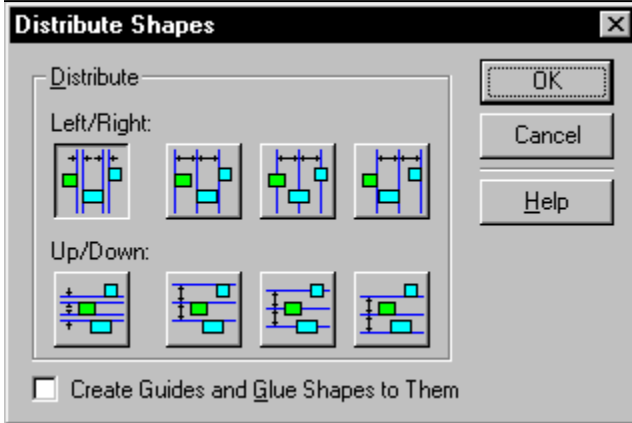
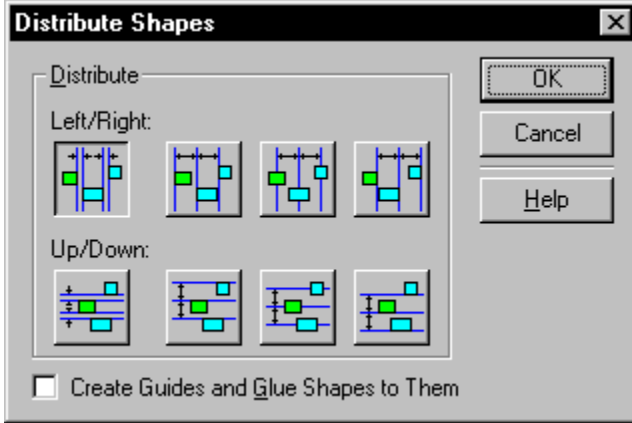
Displaying a ShapeSheet

Displaying values and formulas in cells

Moving around the ShapeSheet

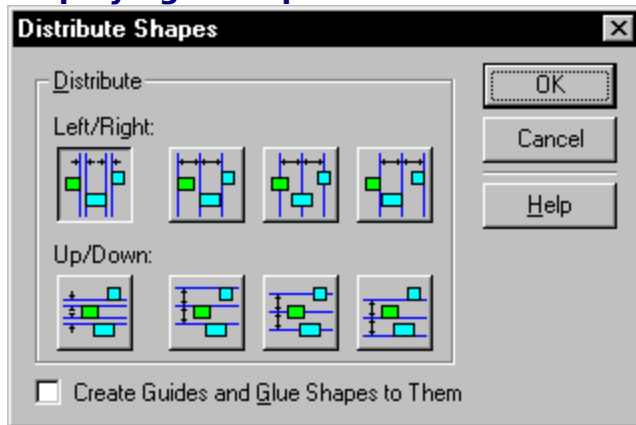
Showing and hiding sections

## Displaying a ShapeSheet



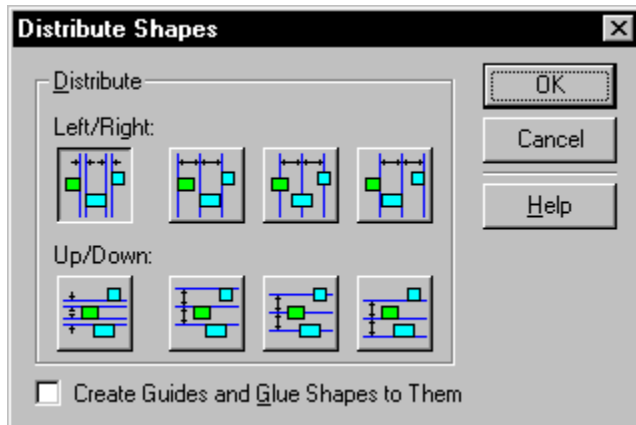


## Displaying a ShapeSheet



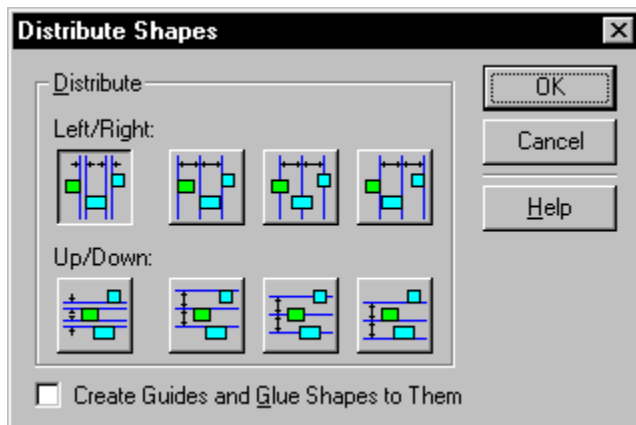
[Overview](#)

ShapeSheets are displayed in the [ShapeSheet window](#) within the drawing page.



**To display a shape's ShapeSheet:**

1. Select the shape or object.  
To select a shape within a group, open the group window and select the shape. To select a master shape, open its original stencil, double-click the master to open the master shape drawing window, and then select the shape.
2. From the Window menu, choose Show ShapeSheet.
3. If you want, choose Tile from the Window menu to see both the drawing page and the ShapeSheet window.

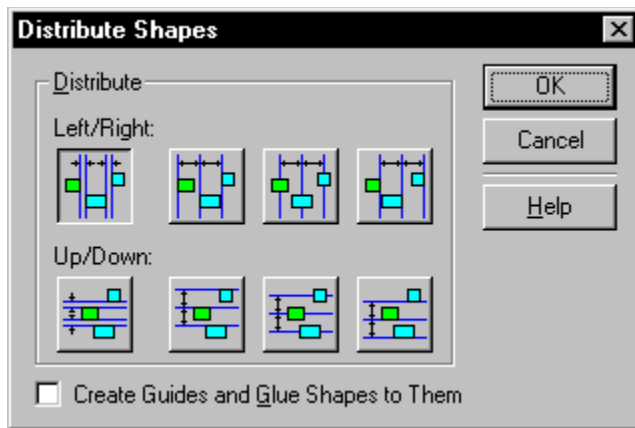


**To display a page's ShapeSheet:**

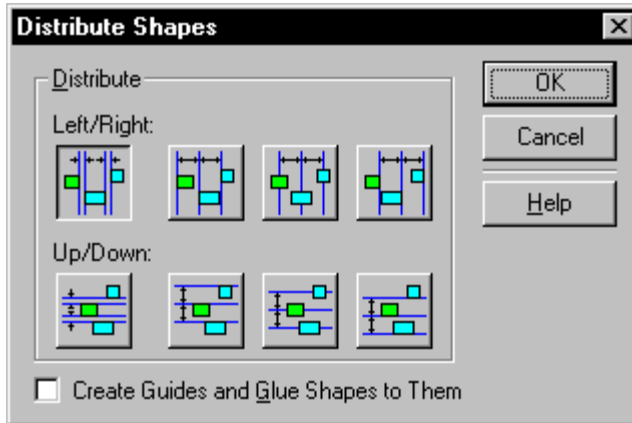
1. Make sure nothing is selected on the page.

2. From the Window menu, choose Show ShapeSheet.

**Tip:** Press the Ctrl key and choose Tile from the Window menu to horizontally tile all open windows.



**To close a ShapeSheet window:**



1. Click to close the ShapeSheet window.

### **See also**

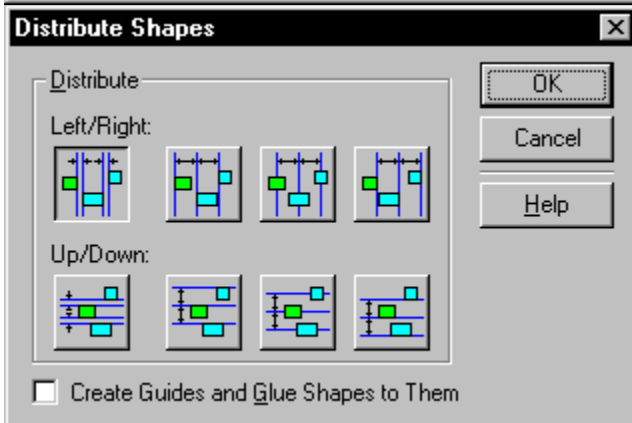
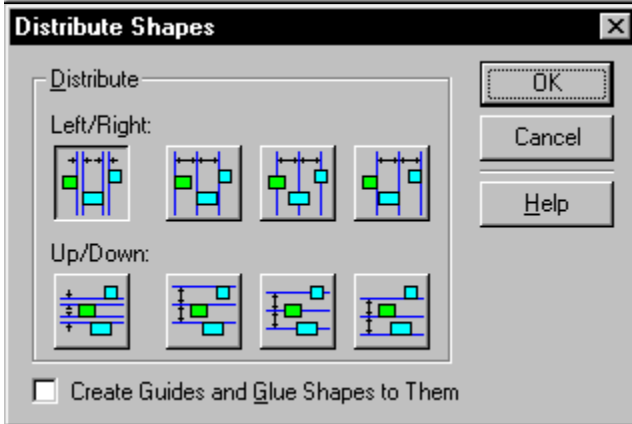
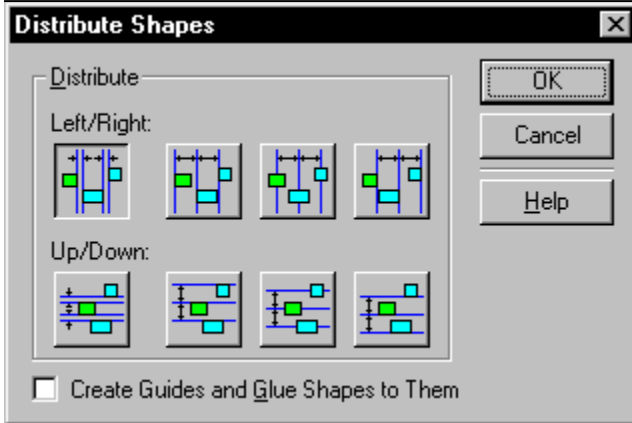
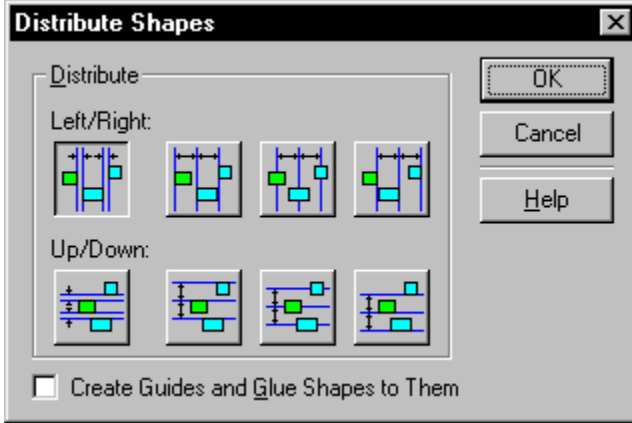
[Displaying values and formulas in cells](#)

[Editing and formatting a group](#)

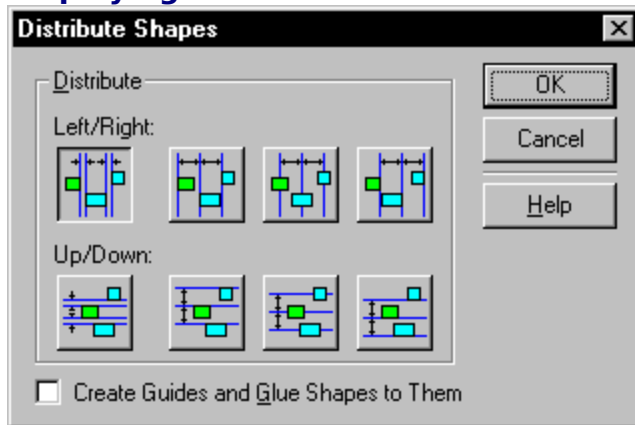
[Opening an original stencil](#)

[Showing and hiding sections](#)

## **Displaying values and formulas in cells**

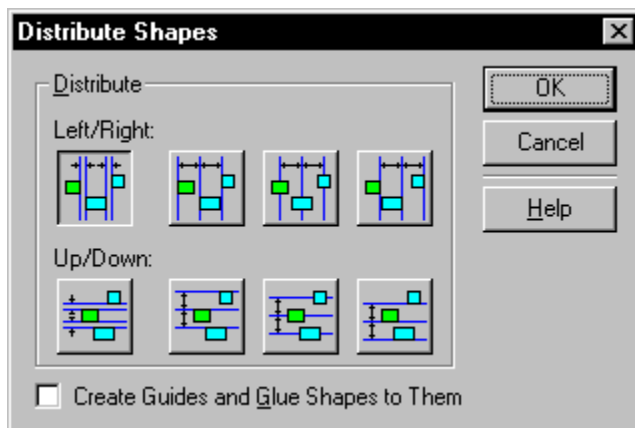


## Displaying values and formulas in cells



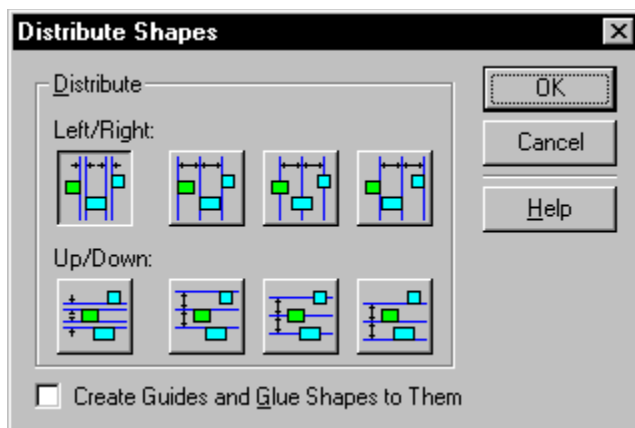
### [Overview](#)

You can display either formulas or values in ShapeSheet cells. Display formulas when you are entering new formulas or editing existing ones or to see how formulas in cells relate to each other. A value is the result you get when Visio evaluates a cell's formula. You can display values in cells to see the result of an evaluation.



### To display formulas in cells:

1. From the View menu, choose Formulas.  
Visio displays formulas in the cells; some long formulas are truncated.



### To display values in cells:

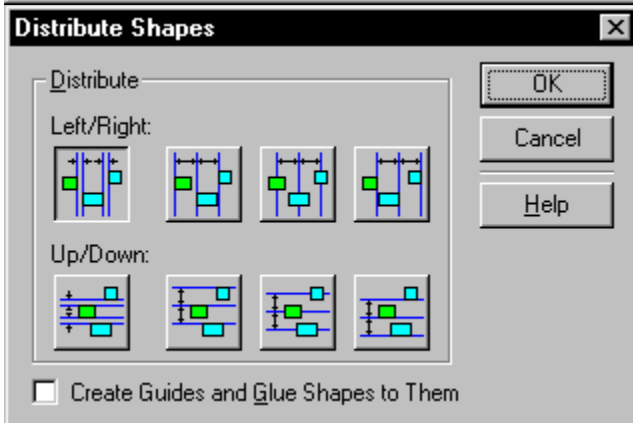
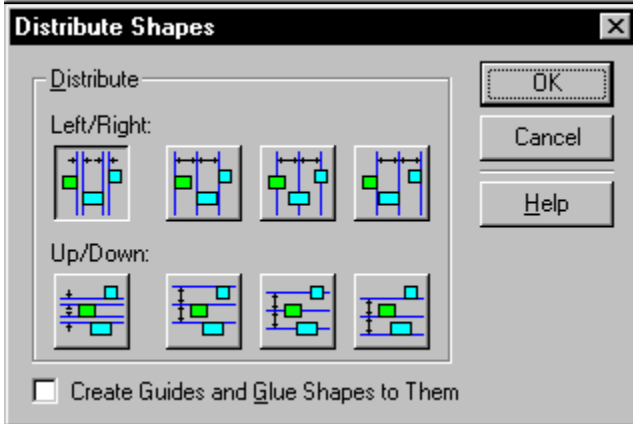
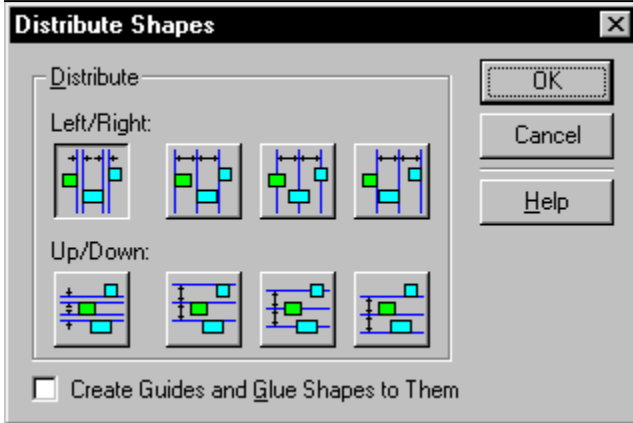
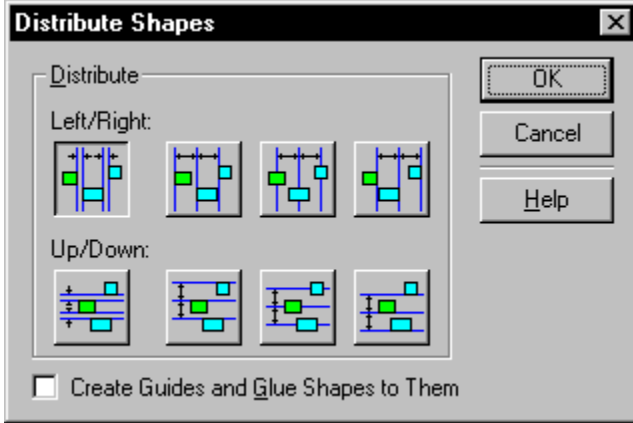
1. From the View menu, choose Values.

### See also

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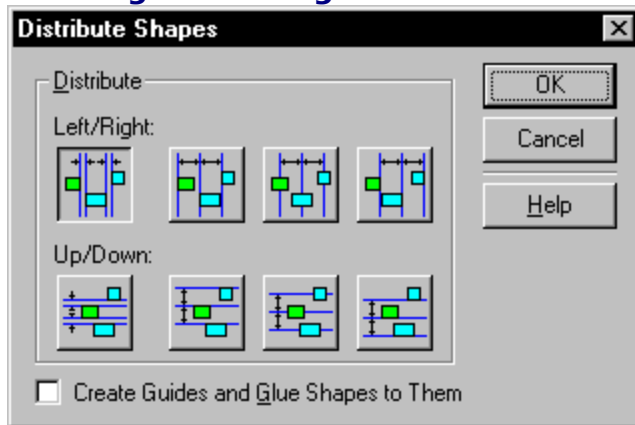
Building a formula by pasting  
Creating formulas  
Editing formulas  
Showing and hiding sections

## Showing and hiding sections



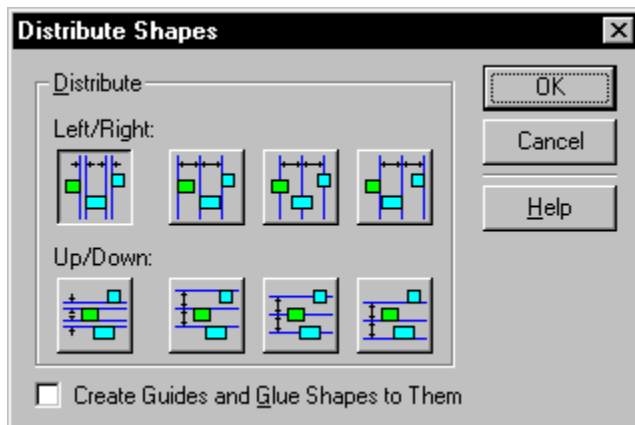


## Showing and hiding sections



[Overview](#)

To display the sections you need in a ShapeSheet, use the Sections command. You can also hide sections you don't need.



### To show or hide sections:

1. From the View menu, choose Sections.
2. Check the sections you want to show, or uncheck the sections you want to hide.

If a section is dimmed in the dialog box, it is not available for the selected shape. For example, the Image Info section is available only for objects from other programs.

You can also choose All to show all the sections, or choose None to hide all the sections.

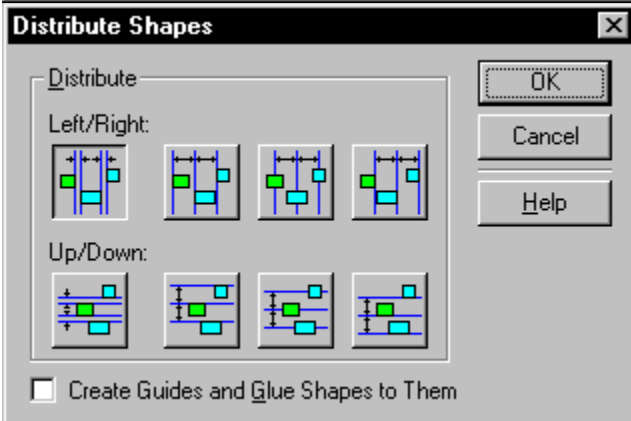
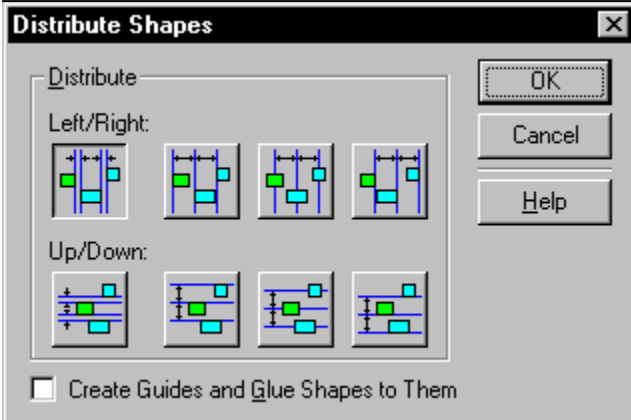
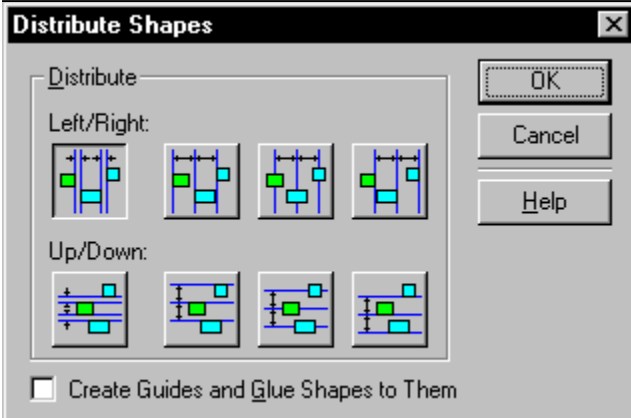
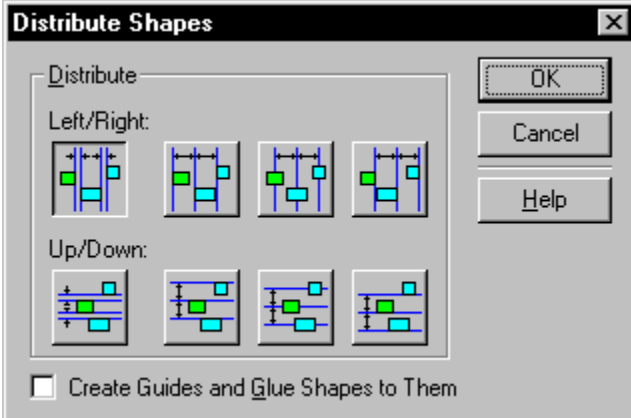
3. Click OK.

### See also

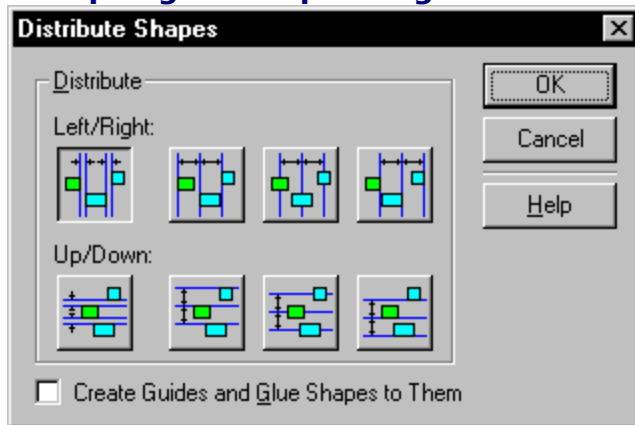
[Adding and deleting sections](#)

[Collapsing and expanding sections](#)

## **Collapsing and expanding sections**

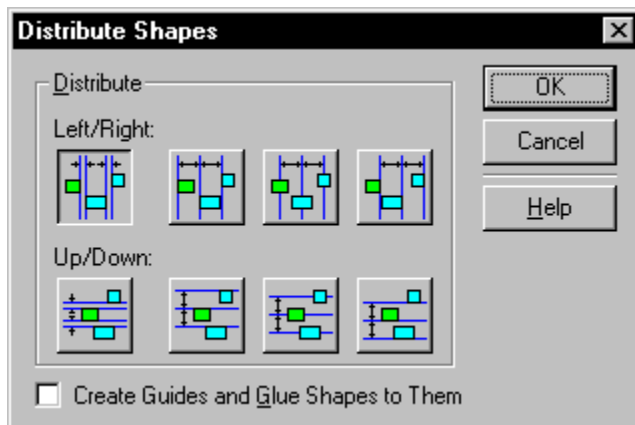


## Collapsing and expanding sections



[Overview](#)

You can change the display of sections in the [ShapeSheet](#). You can hide the cells in a section but leave the section heading visible, and you can expand the section to see its cells again.



**To collapse or expand a section:**

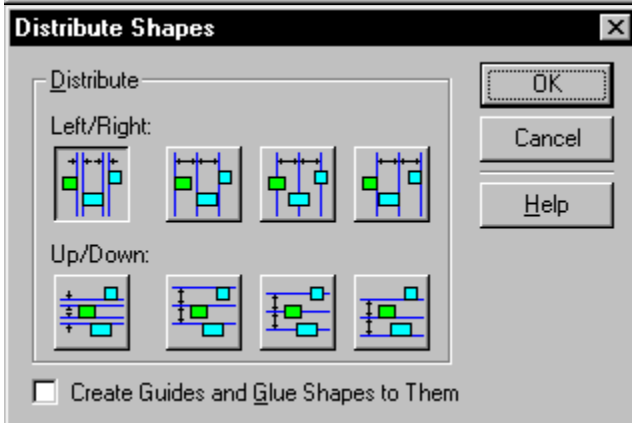
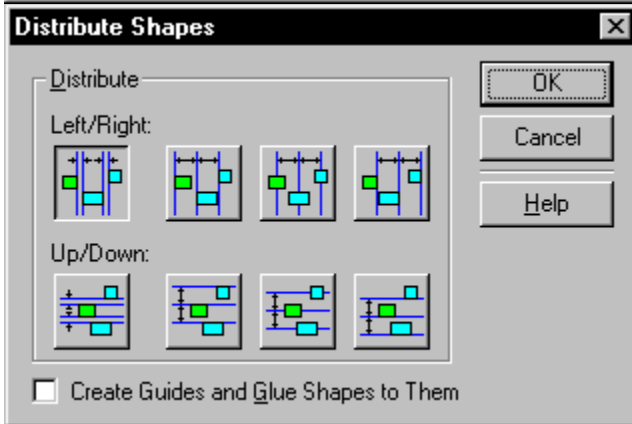
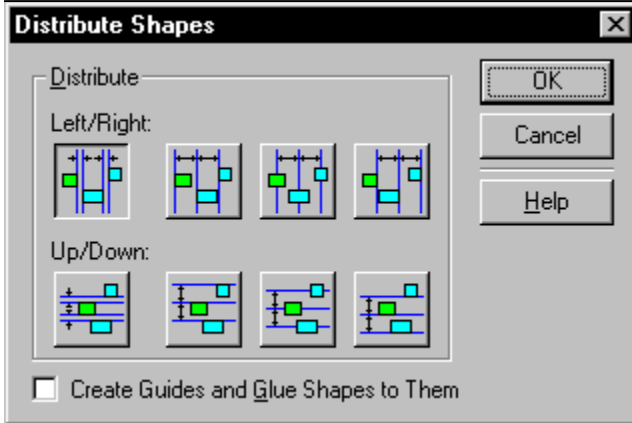
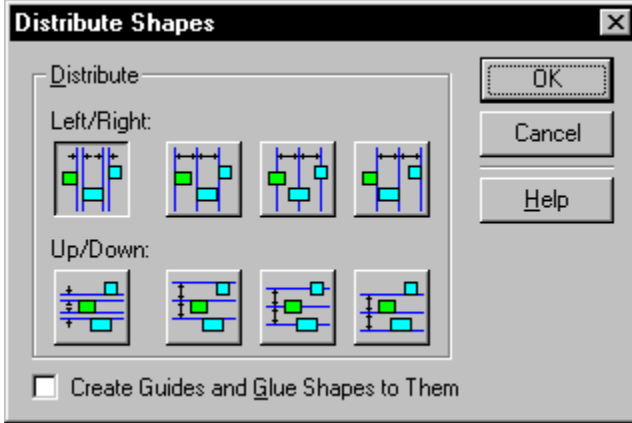
1. Point to the section title.  
If the mouse pointer changes to a minus sign, you can collapse the section.  
If the mouse pointer changes to a plus sign, you can expand the section.
2. Click the section title.  
Visio changes the display to either hide or show the section's cells.

### See also

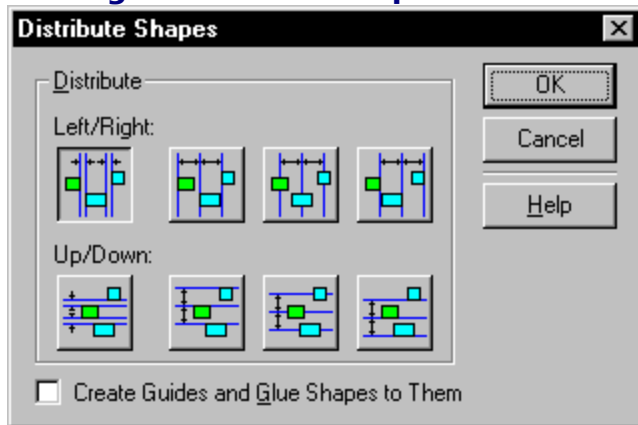
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[Adding and deleting sections](#)  
[Showing and hiding sections](#)

## **Moving around the ShapeSheet**



## Moving around the ShapeSheet



### [Overview](#)

To move from cell to cell in the [ShapeSheet](#), use the arrow and Tab keys. You can also click a cell to activate it or scroll through the ShapeSheet without changing the active cell.

<b>To:</b>	<b>Do this:</b>
Activate a cell	Click the cell with the mouse pointer
Select a numbered row of cells	Click the row number
Move left one cell	Press the Left Arrow key or Shift+Tab
Move right one cell	Press the Right Arrow key or Tab
Move up one cell	Press the Up Arrow key
Move down one cell	Press the Down Arrow key
Move to the last cell in a row	Press the End key
Move to the first cell in a row	Press the Home key
Scroll down one screen	Press the Page Down key
Scroll up one screen	Press the Page Up key
Scroll right one screen	Press Ctrl+Page Down
Scroll left one screen	Press Ctrl+Page Up
Scroll to the ShapeSheet's lower-right corner	Press Ctrl+End
Scroll to the ShapeSheet's upper-right corner	Press Ctrl+Home

### **See also**

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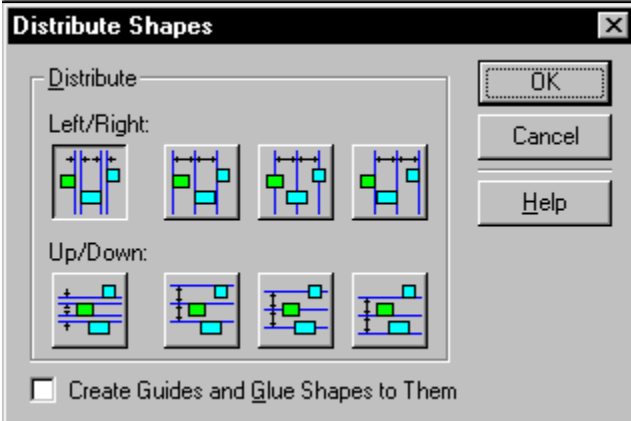
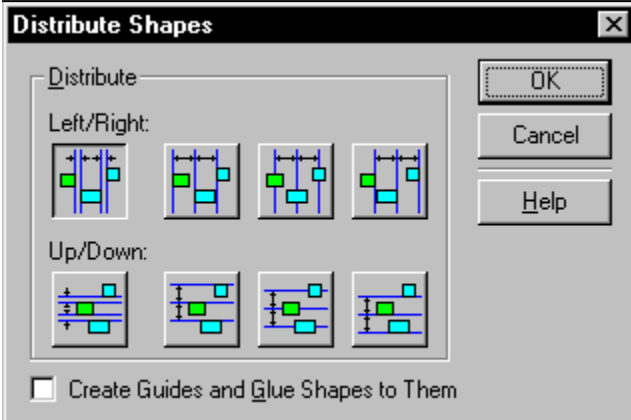
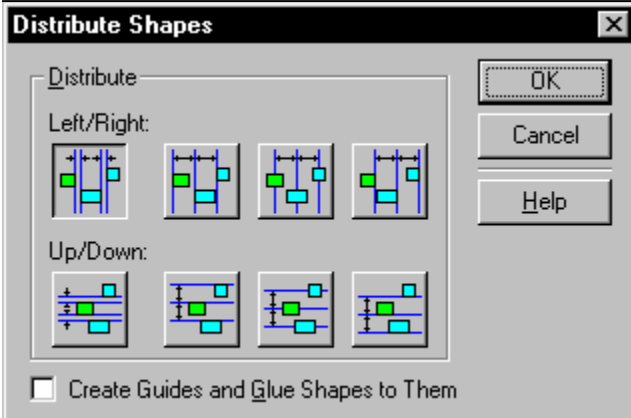
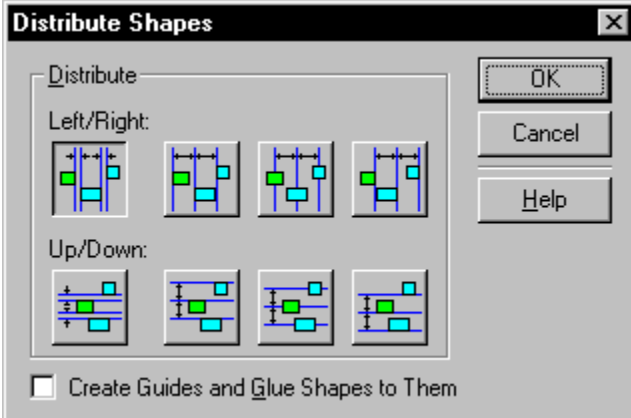
[Copying and pasting formulas between cells](#)

[Creating formulas](#)

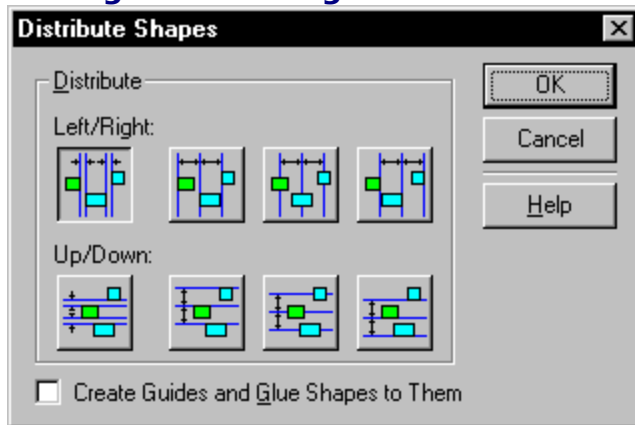
[Editing formulas](#)

## **Adding and deleting sections**



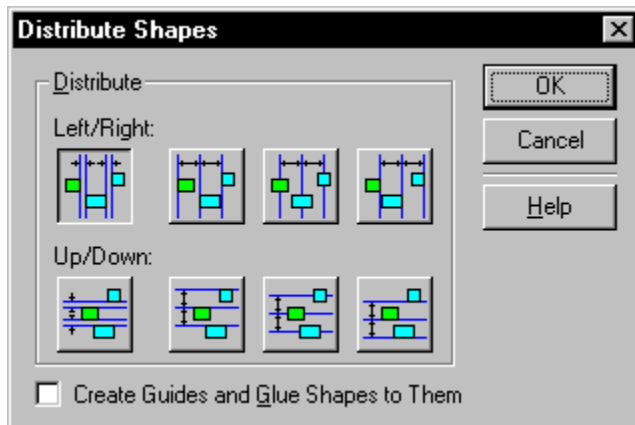


## Adding and deleting sections



### [Overview](#)

By adding new sections to the [ShapeSheet](#), you can add new characteristics to the shape. For example, you can add a Connection Points section to create [connection points](#). When you no longer need a section, you can delete it.



### To add a section:

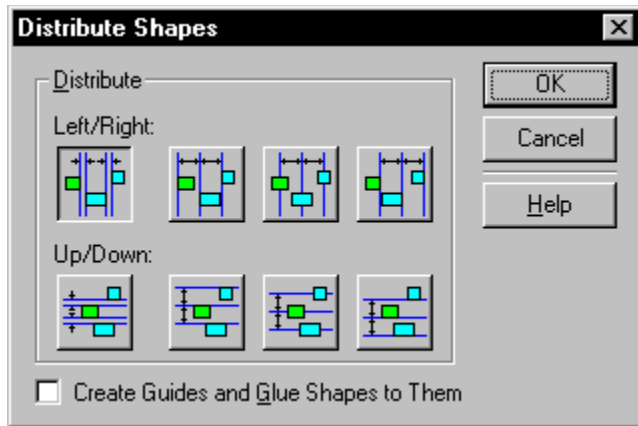
1. From the Insert menu, choose [Section](#).
2. Choose the sections you want to add.

If a section is dimmed in the dialog box, it is already included in the ShapeSheet or is not available for the selected shape. If the shape is a group, you may need to open the group in the group window and subselect the shape whose ShapeSheet you want to change.

3. Click OK.

If you use the Section command to add a section to the ShapeSheet, but you don't see the new section in the [ShapeSheet window](#), use the Sections command to make sure the section is set to display.

You can delete a section from a ShapeSheet by using the Delete Section command. You must select a cell in the section before you can delete it.



**To delete a section:**

1. Select a cell in the section you want to delete.
2. From the Edit menu, choose Delete Section.

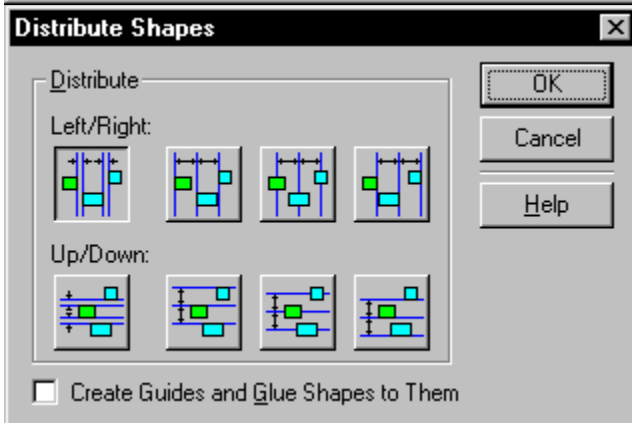
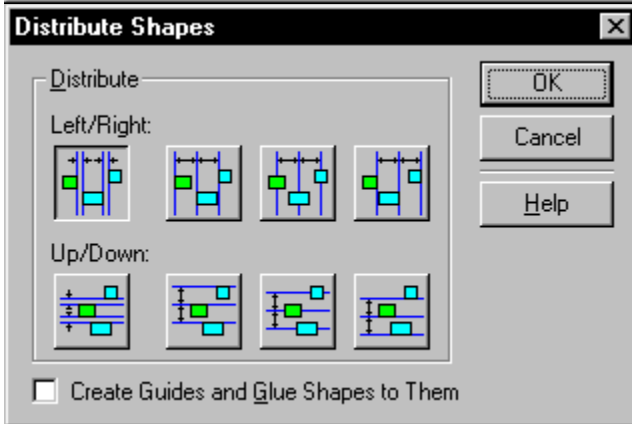
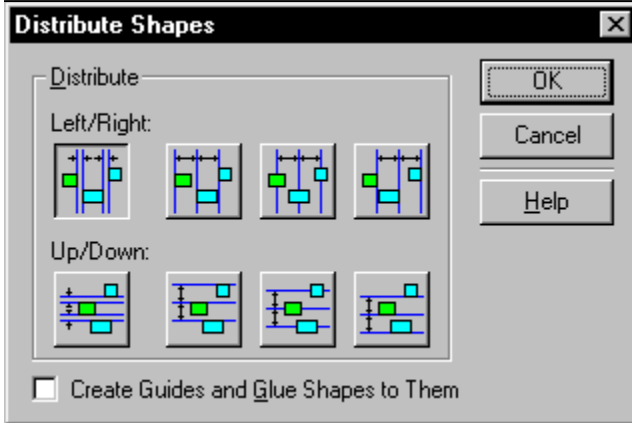
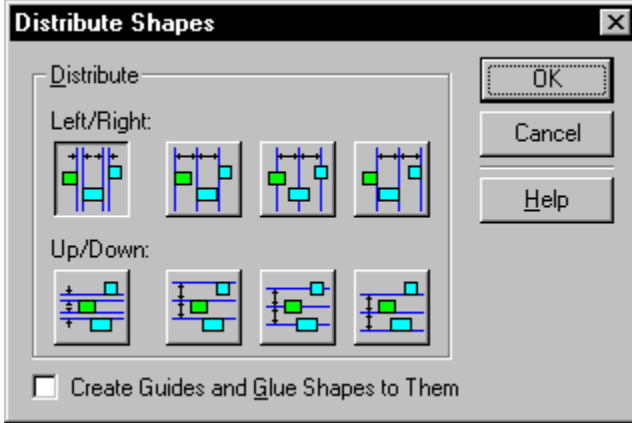
**Important:** There are certain sections that cannot be deleted. For example, you cannot delete the Object Transform section because it specifies a shape's position. If you cannot delete a section, Delete Section is dimmed on the menu.

**See also**

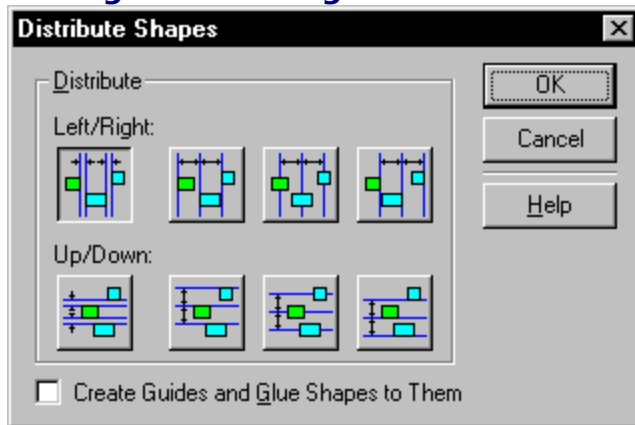
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[Adding and deleting rows](#)  
[Showing and hiding sections](#)

## **Adding and deleting rows**

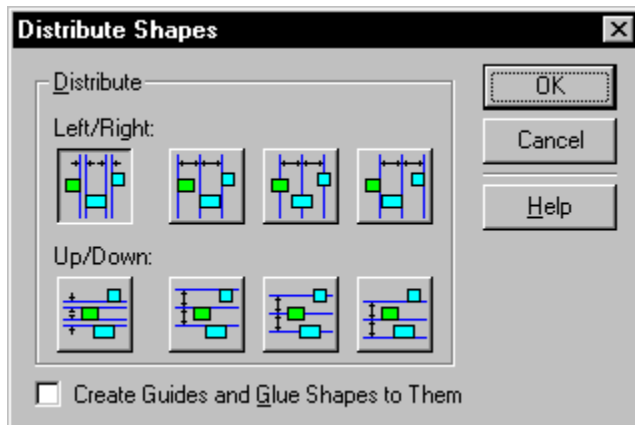


## Adding and deleting rows



### [Overview](#)

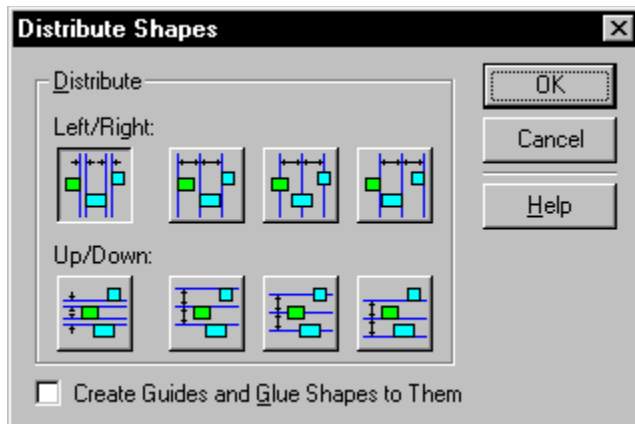
You can add rows to ShapeSheet sections to hold additional formulas or to change a shape's appearance. For example, you can add a row to a Geometry section to add a segment to a shape. Similarly, you can delete rows you no longer need.



### **To add a new row before an existing**

#### **row:**

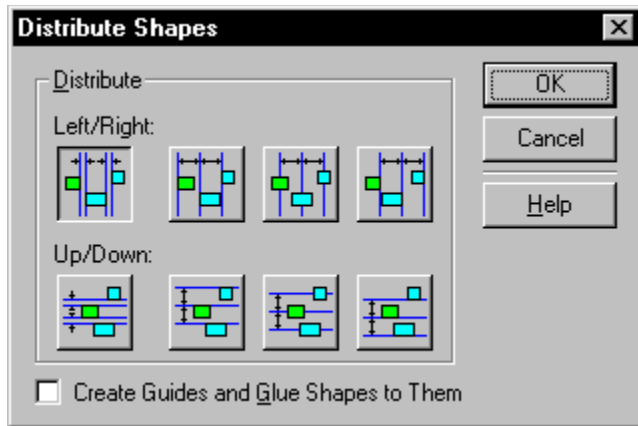
1. Select a cell in the row in the position you want the new row.
2. From the Insert menu, choose Row.



### **To add a new row after an existing**

#### **row:**

1. Select a cell in the row that's one row above the position you want the new row.
2. From the Insert menu, choose Row After.



**To delete a row:**

1. Select a cell in the row you want to delete.
2. From the Edit menu, choose Delete Row.

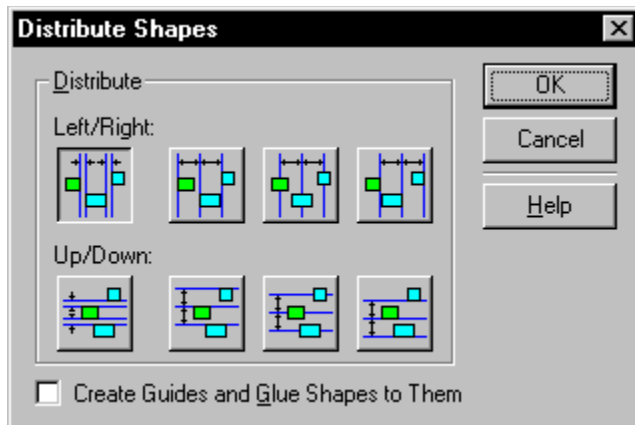
Visio removes the selected row and moves any following rows up one row in the section.

**See also**

[Adding and deleting sections](#)  
[Showing and hiding sections](#)

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## Working with formulas



[Related procedures](#)

Visio formulas are similar to typical spreadsheet formulas in many ways. Like most spreadsheet programs, Visio regards anything in a cell as a formula, even if it's a numeric value or simple cell reference. Every formula begins with an equal sign (=) when it is entered in the formula bar.

Visio supports standard mathematical and comparison operators as well as a full set of mathematical, trigonometric, statistical, and date and time functions and many unique functions. Formulas can contain references to other cells in the [ShapeSheet](#) and to cells in other ShapeSheets.

### Default formulas

When you create a shape, Visio automatically creates default formulas. To see what the default formulas are, draw a simple shape (such as a rectangle, ellipse, or line) and display its ShapeSheet.

### Automatic updates

Visio automatically updates certain cells whenever you change the shape in a drawing. This means that under some circumstances the formulas can be replaced with formulas from Visio. For example, if you drag a corner handle to resize the shape, Visio resets formulas in the [PinX](#), [PinY](#), [Width](#), and [Height](#) cells.

### Inherited formulas

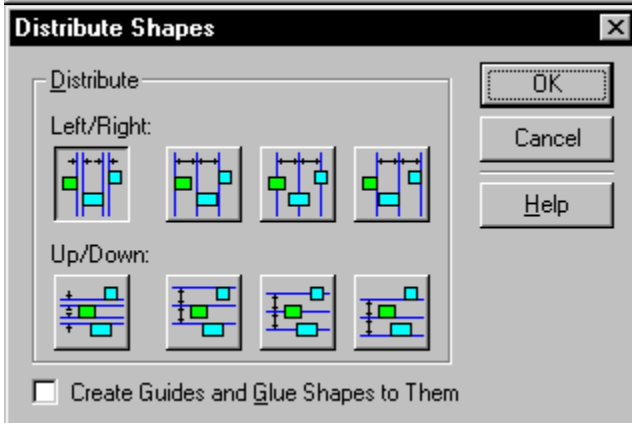
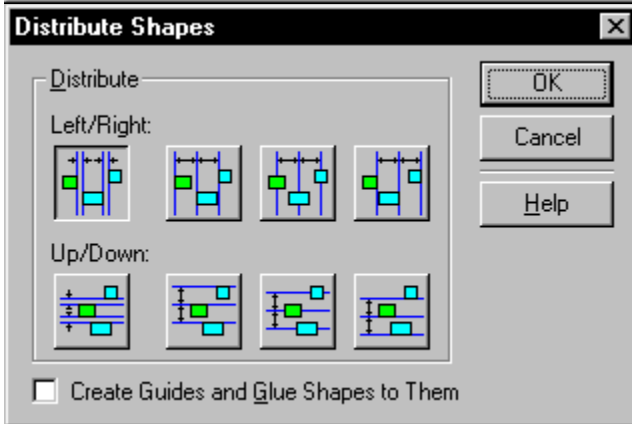
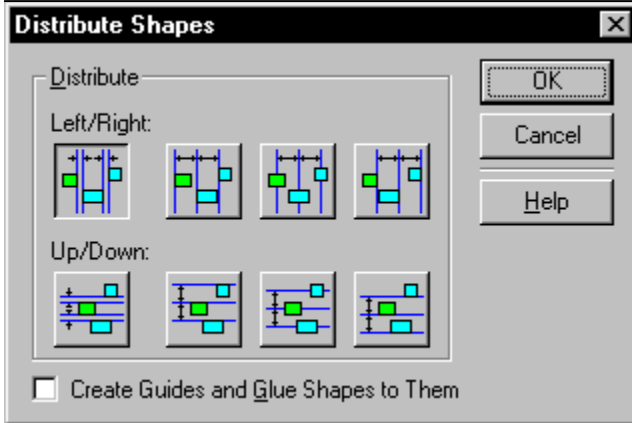
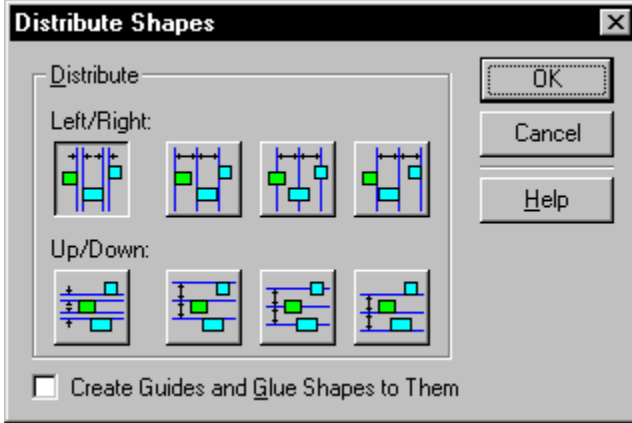
Each cell in a ShapeSheet can be defined with a local formula, or it can inherit its formula from the shape's master or style. Visio uses color in the ShapeSheet to indicate whether a cell's formula is local: local formulas are blue and inherited formulas are black.

Visio uses inherited formulas whenever possible. An instance of a master shape uses the formulas in its master rather than making local copies of them. Using inherited formulas requires less memory and results in uniform behavior. If you add local overrides—for example, if you format an instance of a master shape—you are adding local formulas to the shape. After you add a local override, changing the master no longer changes the local value for the overridden cell—the value comes from the local formula instead.

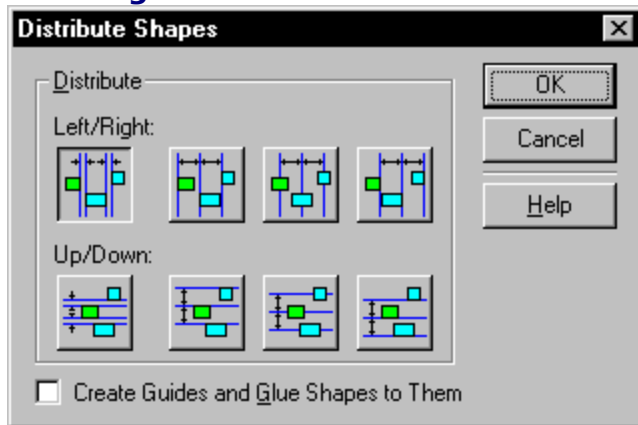


Building a formula by pasting  
Copying and pasting formulas between cells  
Creating formulas  
Editing formulas  
Using inherited formulas

## Creating formulas

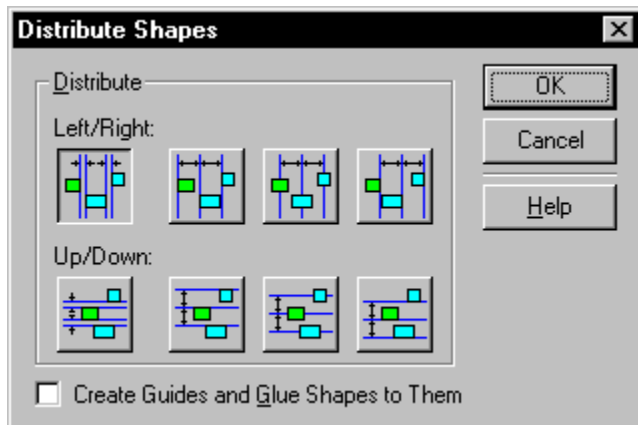


## Creating formulas



### [Overview](#)

You can type formulas in the formula bar, much as you do in a spreadsheet. If you don't want to replace an entire formula, you can select and edit the part you want to change. For details, see [Editing formulas](#).



### **To type a new formula for a cell:**

1. In the [ShapeSheet](#), click the cell to select it.  
The cell's formula appears in the formula bar.
2. Type the formula.  
The formula you type replaces the cell's previous formula.  
If you type a number but don't supply [units of measure](#), Visio uses the units from the cell's previous value if there was one. Otherwise, if the cell requires units, Visio uses the default [units of measure](#) for the cell.
3. To accept the formula, click the Enter box (marked with a check mark) in the formula bar or press the Enter key.  
If the number or formula contains an error, Visio displays a message and then highlights the error in the formula bar. Correct the error and click the Enter box or press the Enter key to accept the correction.  
To cancel the changes, click the Cancel box (marked with an X) in the formula bar, or press the Esc key.

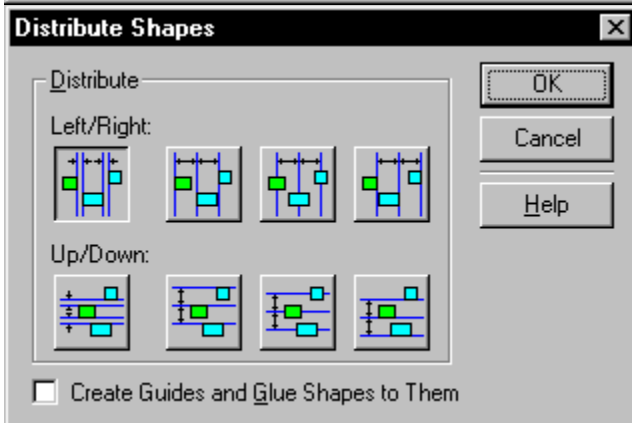
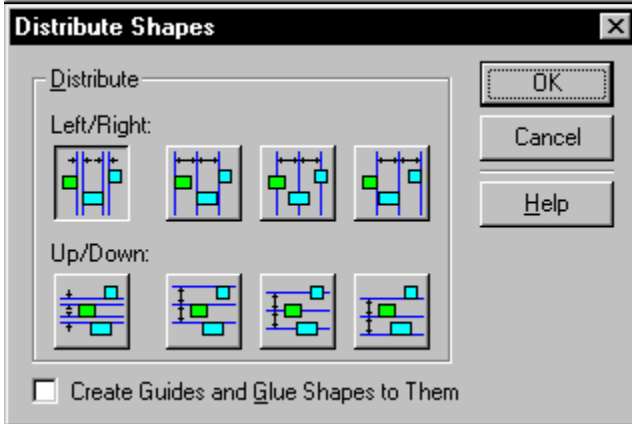
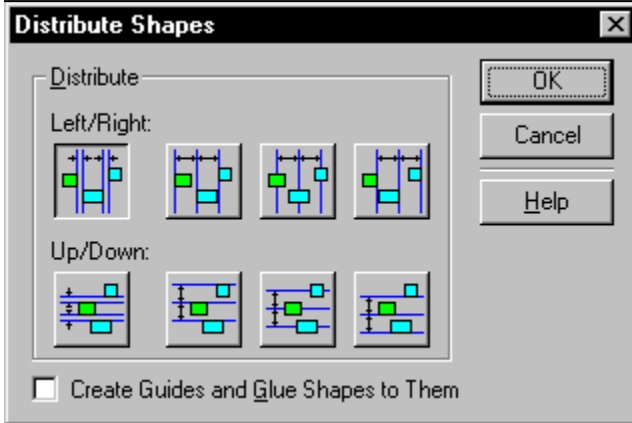
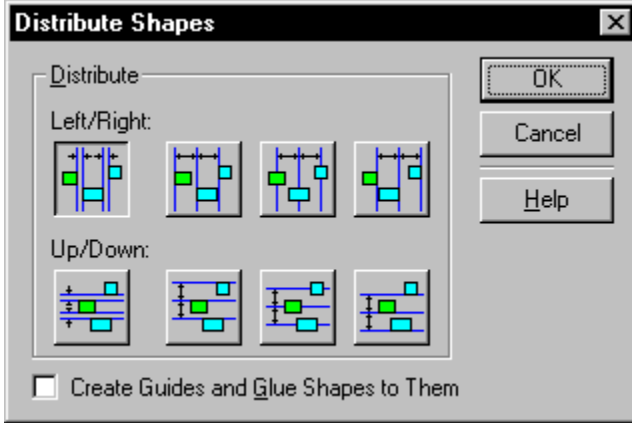
### **See also**

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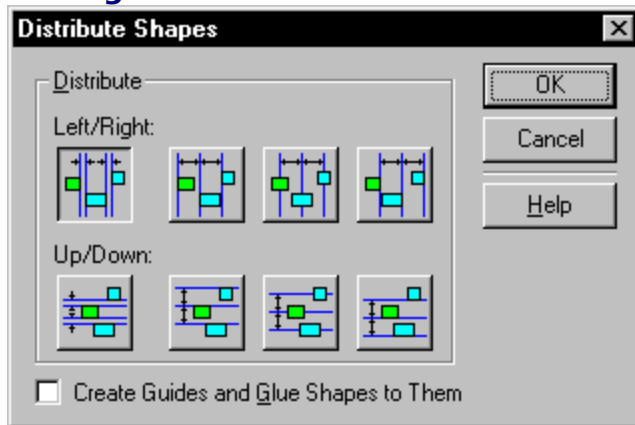
[Building a formula by pasting](#)  
[Copying and pasting formulas between cells](#)



## Editing formulas

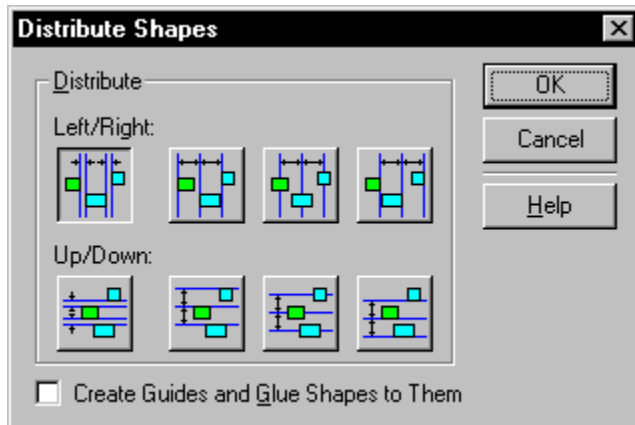


## Editing formulas



[Overview](#)

You can edit formulas in the formula bar, much as you do in a spreadsheet.



**To edit a selected part of a formula:**

1. In the ShapeSheet, select the cell you want.
2. In the formula bar, edit the formula using the following techniques.

<b>To:</b>	<b>Do this:</b>
Place the insertion point	Click where you want the insertion point to appear
Move the insertion point	Press the Left or Right Arrow key
Delete the character to the left	Press the Backspace key
Delete the character to the right	Press the Delete key
Select text	Drag the mouse over the text
Extend the selection to the left	Press Shift+Left Arrow
Extend the selection to the right	Press Shift+Right Arrow
Select a word	Press Ctrl+Shift+Right Arrow or double-click
Select to the end	Press Shift+End
Select to the beginning	Press Shift+Home



Replace selected text	Type the new text
Delete selected text	Press the Delete key or choose <u>C</u> ut or <u>C</u> lear from the Edit menu

**See also**

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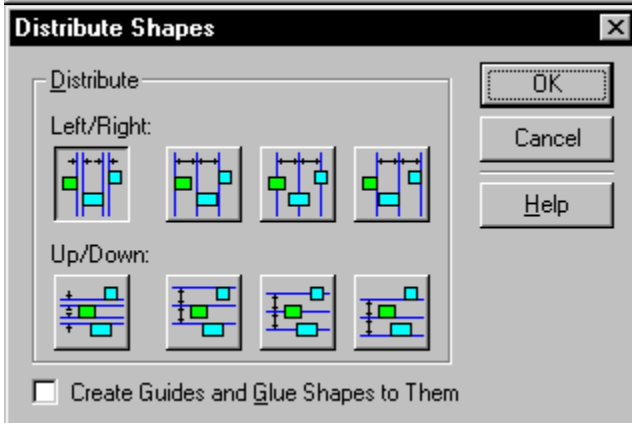
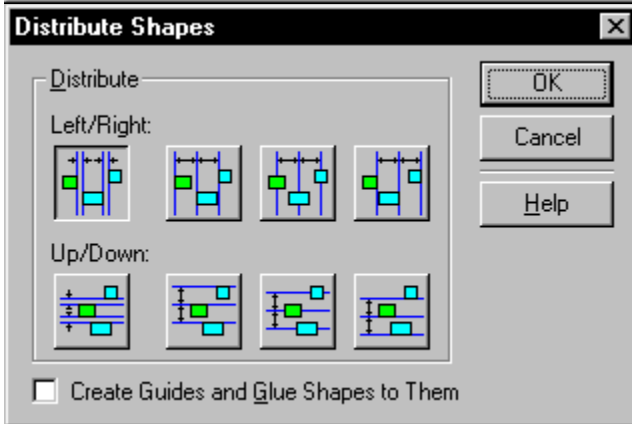
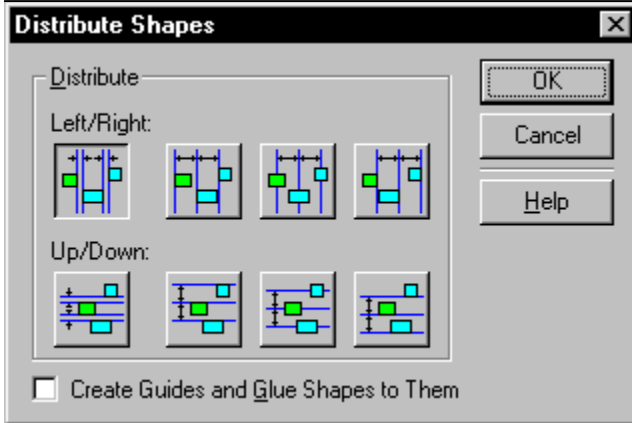
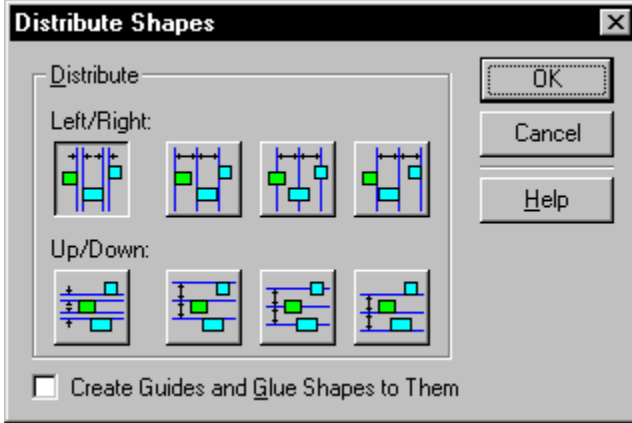
[Building a formula by pasting](#)

[Copying and pasting formulas between cells](#)

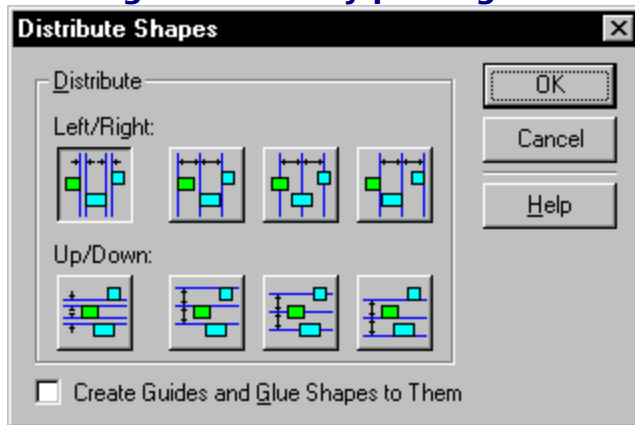
[Displaying values and formulas in cells](#)

[Using inherited formulas](#)

## **Building a formula by pasting**

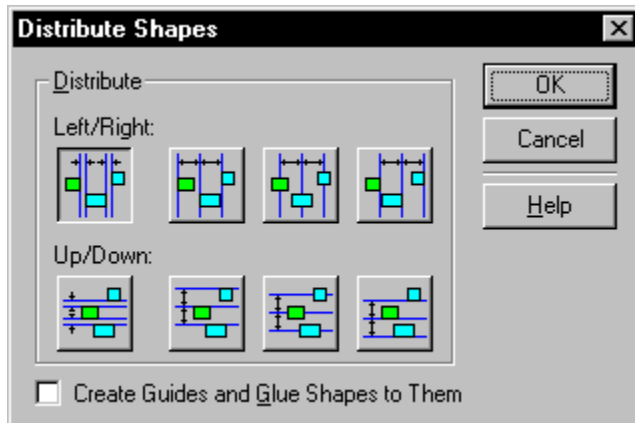


## Building a formula by pasting



### [Overview](#)

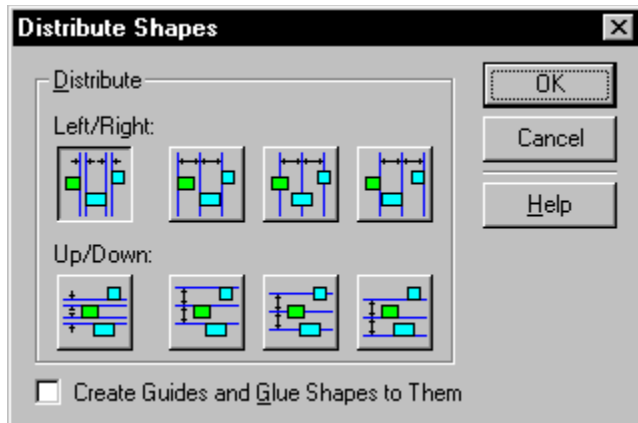
You can enter formulas in the [ShapeSheet](#) by typing, but Visio also has commands for pasting cell names and functions into a formula.



### **To paste a cell name into a formula:**

1. In the formula bar, place the insertion point where you want to paste the name.  
Until you place the insertion point, the Name command is unavailable.
2. From the Insert menu, choose Name.
3. Choose the name you want from the list.
4. When the formula is finished, click the Enter box in the formula bar to accept the formula, or click the Cancel box to cancel the changes.

Alternatively, you can paste the name of a cell into a formula by placing the insertion point in the formula bar, then clicking the cell you want. Visio inserts the name of the cell at the insertion point.



**To paste a function into a formula:**

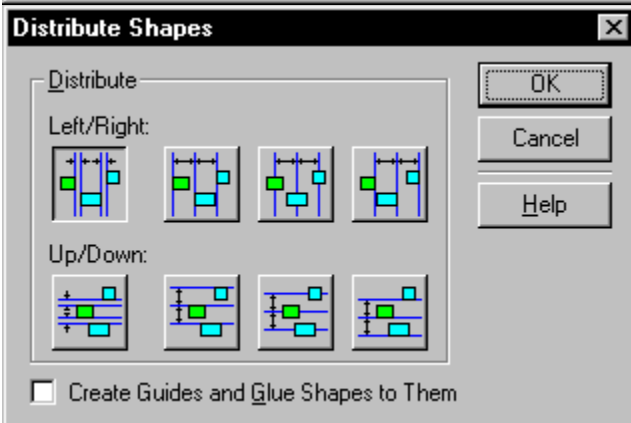
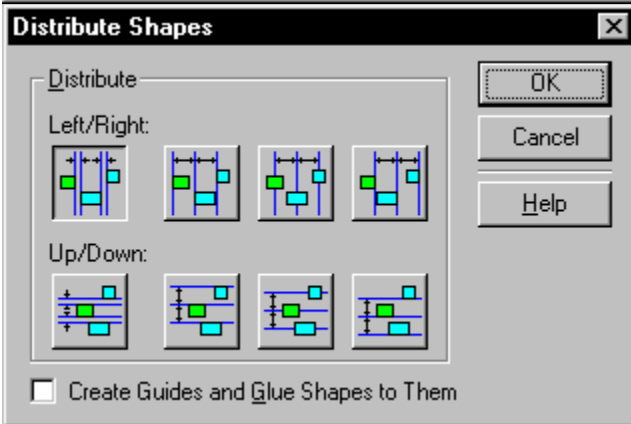
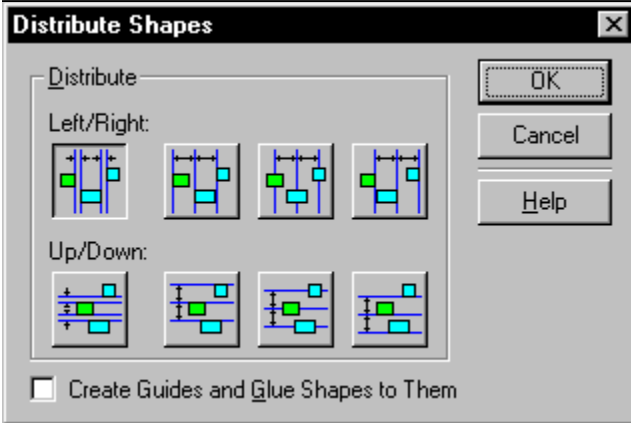
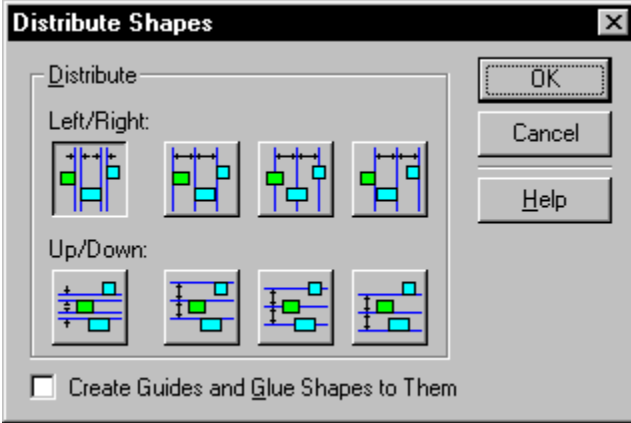
1. In the formula bar, place the insertion point where you want to paste the function. Until you place the insertion point, the Function command is unavailable.
2. From the Insert menu, choose Function.
3. Choose the function you want from the list.
4. If you want Visio to include the syntax for the function's arguments, check Insert Arguments.
5. Click OK.
6. Supply the arguments you want for the function by typing them, by clicking cells in the ShapeSheet, or by using the Name command.
7. When the formula is finished, click the Enter box in the formula bar to accept the formula, or click the Cancel box to cancel the changes.

**See also**

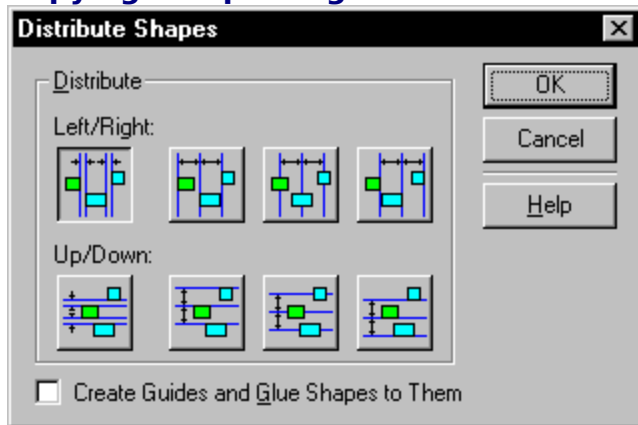
[Editing formulas](#)

[Using inherited formulas](#)

## **Copying and pasting formulas between cells**

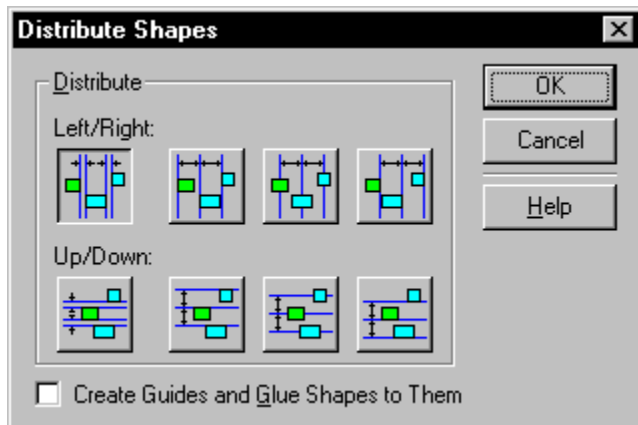


## Copying and pasting formulas between cells



### [Overview](#)

Often the formula you want is similar to a formula in another cell, either in the same [ShapeSheet](#) or in another ShapeSheet. Rather than retype the formula, you can save time by copying and pasting it into a cell and then editing the formula if needed.



### **To copy and paste a formula:**

1. In the ShapeSheet, select the cell you want to copy.
2. In the formula bar, select the formula.
3. From the Edit menu, choose Copy.  
Visio copies the formula to the Clipboard.
4. Cancel the activation of the source cell by clicking the Cancel box or pressing the Esc key.  
If you don't cancel the source cell, the cell reference of the next cell you click will be added to the source cell's formula.
5. Select the cell where you want to paste the formula.
6. In the formula bar, select the formula, or click in the formula bar if it is blank.
7. From the Edit menu, choose Paste.  
Visio pastes the formula into the formula bar.
8. Click the Enter box or press the Enter key to accept the formula.  
To discard the formula, click the Cancel box or press the Esc key.



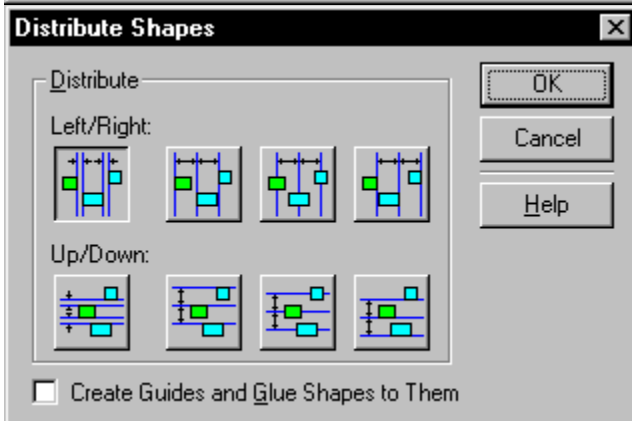
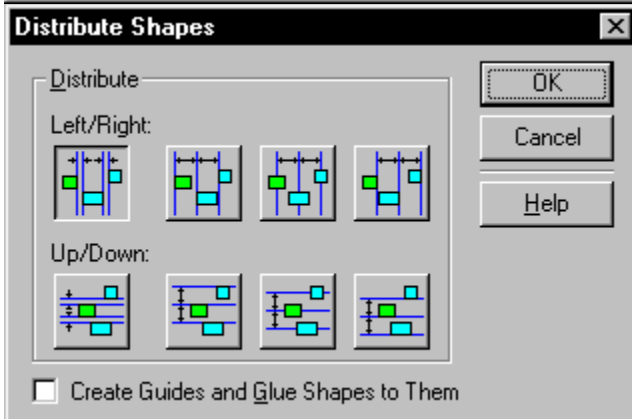
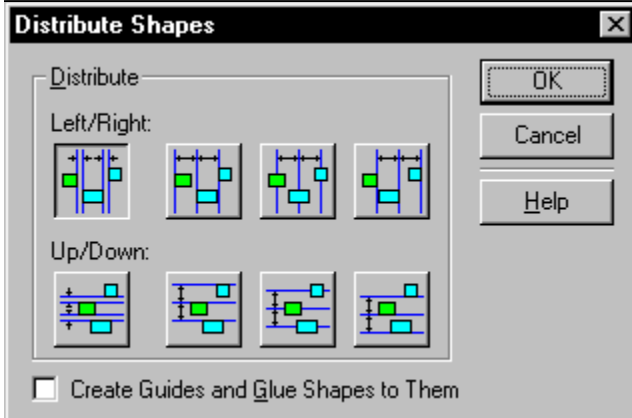
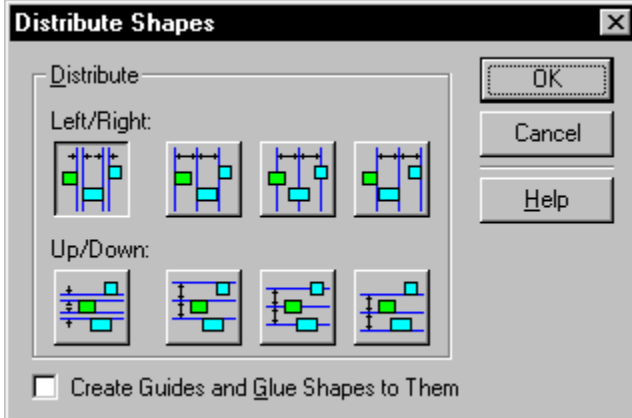
**See also**

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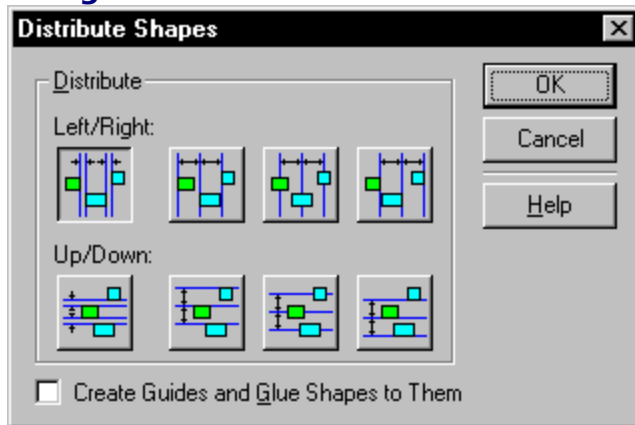
[Building a formula by pasting](#)

[Using inherited formulas](#)

## Using inherited formulas

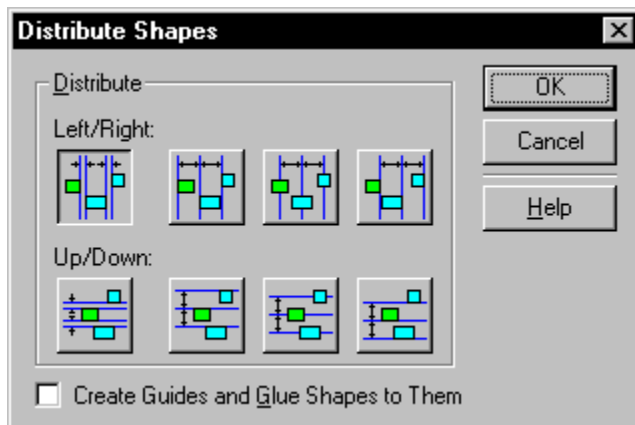


## Using inherited formulas



### [Overview](#)

To use an inherited formula, you can delete the local formula by entering an "empty" one in the cell.



### To enter an empty formula:

1. In the ShapeSheet, select the cell.
2. In the formula bar, delete the formula's text.
3. Press the Enter key.

**Tip:** Try this in a Scratch cell after inserting a local formula. It reverts to No Formula, because there's no formula to inherit from the master. If No Formula is displayed in a cell other than a Scratch cell, you've probably made a mistake—choose Undo from the Edit menu to restore the previous formula.

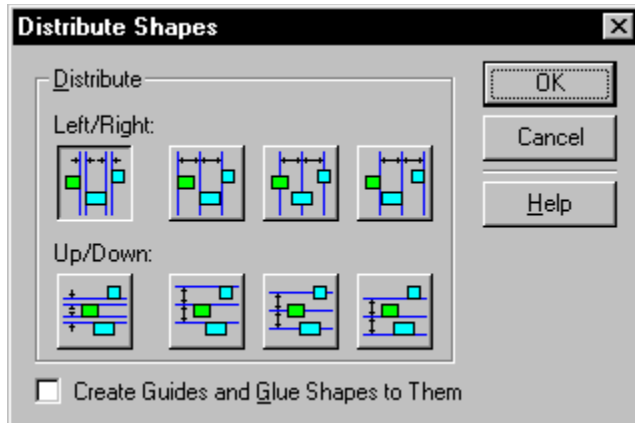
### Deleting all local formulas

An easy way to delete all local formulas in a format section (line, fill, text, character, or paragraph) is to apply an appropriate [style](#) to the shape. Applying a style deletes all local formulas in the related cells unless the Preserve Local Formatting option is checked in the [Style](#) dialog box when the style is applied.

### See also

[Building a formula by pasting](#)

## Creating and editing master shapes



[Related procedures](#)

To create and edit [master shapes](#), you use commands on the appropriate stencil's Master menu. The Master menu is only available when a copy or an original (not read-only) of a stencil is open.

You can use [objects](#) from other programs as master shapes. However, you may not be able to edit an object from another program in all the ways that you can edit a Visio shape. You can also create a master shape from a group.

### Edit originals or copies of stencils

By default, [stencils](#) open read-only to prevent changes.

To edit master shapes or to add new master shapes to a stencil, open an original stencil file. When an original stencil is open, it opens in its own window, and the menus and toolbars change to display the [stencil window](#).

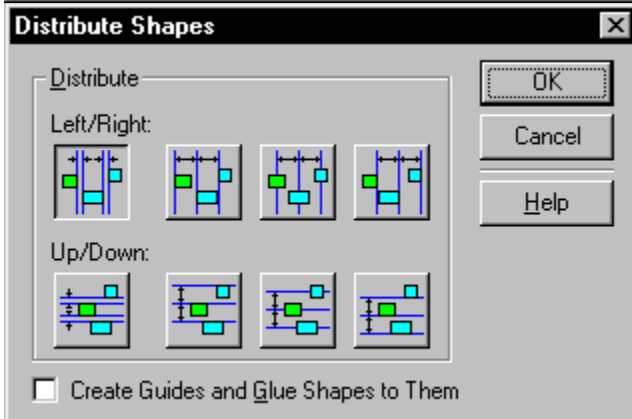
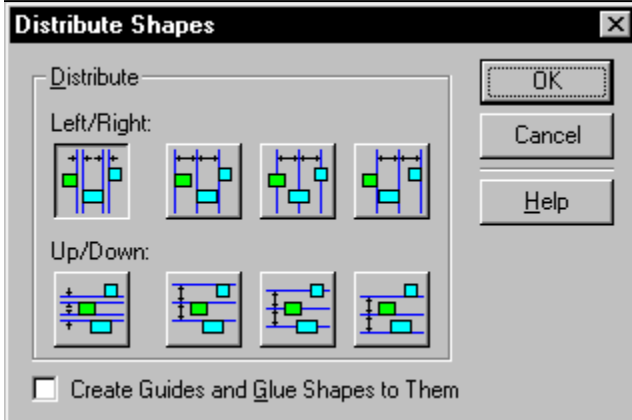
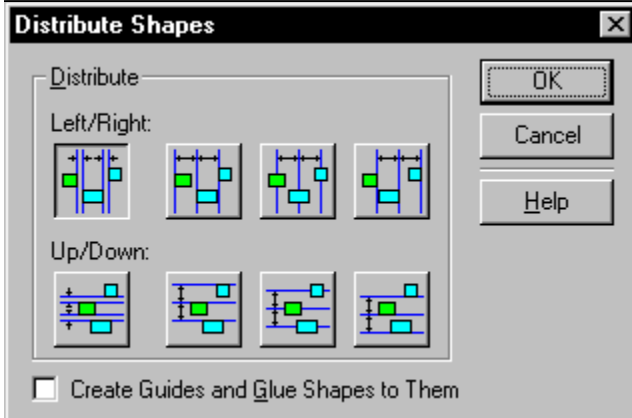
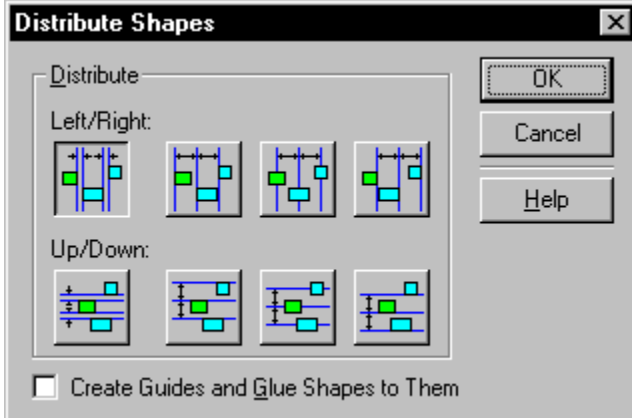
To revise a stencil but maintain the original, open a copy of the stencil.

### Edit in the master shape drawing window

You create and edit master shapes in the master shape drawing window. You use the same tools and techniques that you use to create and edit shapes in a [drawing](#). To edit master shape icons, use the edit icon window.

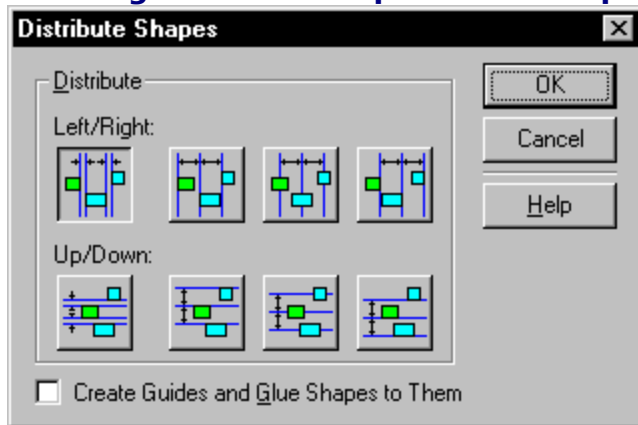
Changing the text attributes of a master shape  
Creating a master shape from a shape in a drawing  
Creating a master shape from scratch  
Editing a master shape in a stand-alone stencil  
Editing a master shape in the drawing file stencil  
Specifying master shape characteristics

**Creating a master shape from a shape in a drawing**





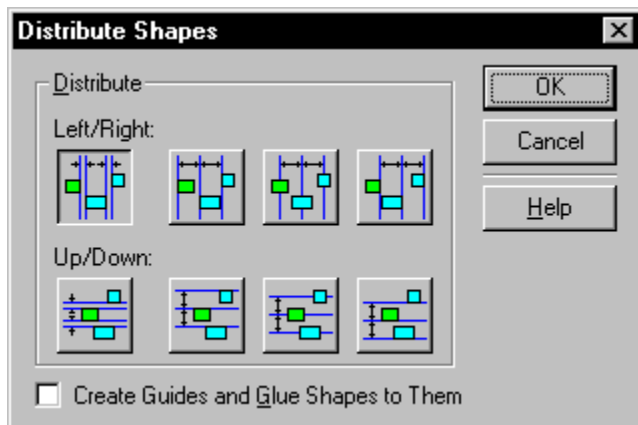
## Creating a master shape from a shape in a drawing



### [Overview](#)

By dragging a shape from a [drawing](#) to a [stencil](#), you can create a [master shape](#). When you drag a shape to a stencil, a master shape icon based on the shape and a default name for the master shape appear in the [stencil window](#).

You can add shapes to a stencil only when the original or a copy of a stencil is open. After creating a master shape, you can name the master shape, align its name, choose options for the icon size, and write a prompt that provides information about how to use the master shape.



### To create a master shape from a

#### shape in a drawing:

1. In the [drawing window](#), display the shape you want to use to create a master shape, or draw the shape you want to use.
2. Open the stencil file in which you want to store the new master shape.  
Make sure to open the original stencil or a copy.
3. With the [pointer tool](#), point to the shape you want to use as a master.
4. Drag the shape from the drawing into the stencil window and release the mouse button.  
You can create a copy of the shape by holding down the Ctrl key while you drag.
5. From the File menu, choose [Save](#) to save the changes to the stencil.  
You can also click the Save button.

**Tip:** To realign icons after adding a master shape, right-click the stencil, then choose

[Arrange Icons](#) from the shortcut menu.

**See also**

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[Creating a master shape from scratch](#)

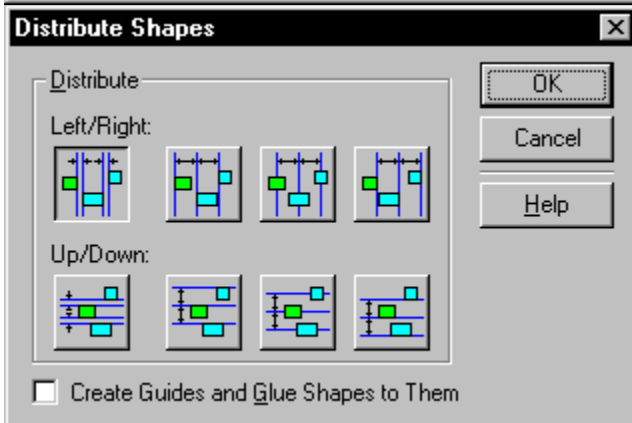
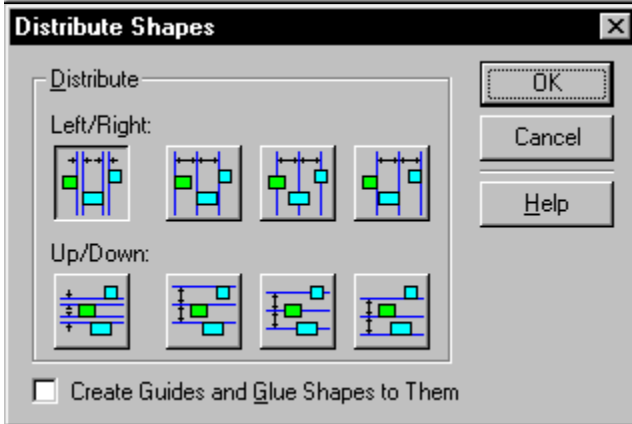
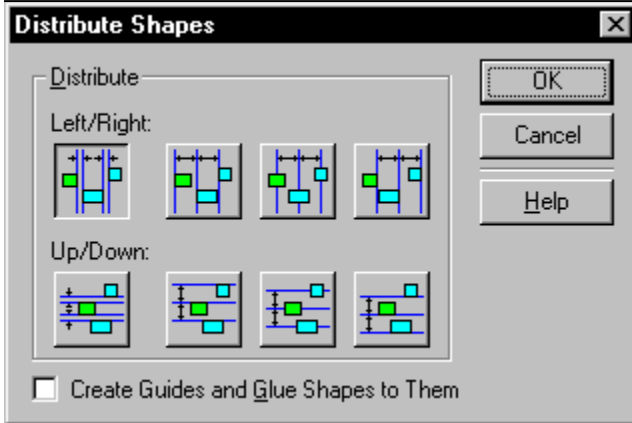
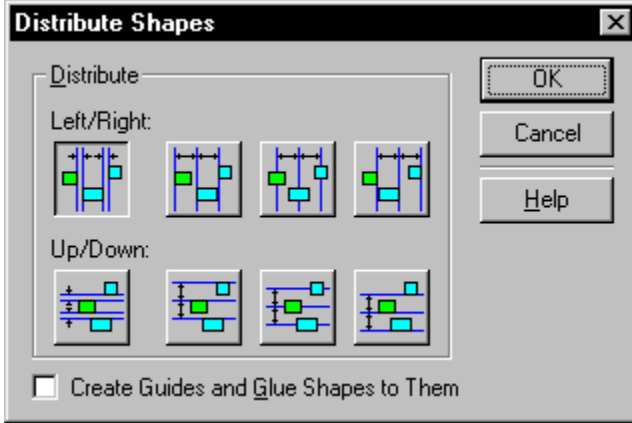
[Creating a new stencil](#)

[Editing a master shape in a stand-alone stencil](#)

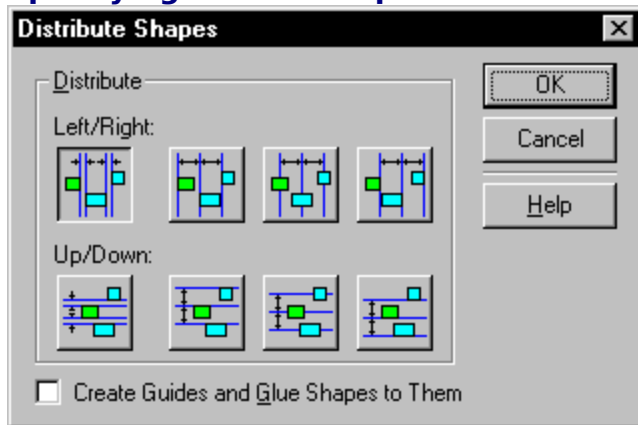
[Opening an original stencil](#)

[Specifying master shape characteristics](#)

## **Specifying master shape characteristics**

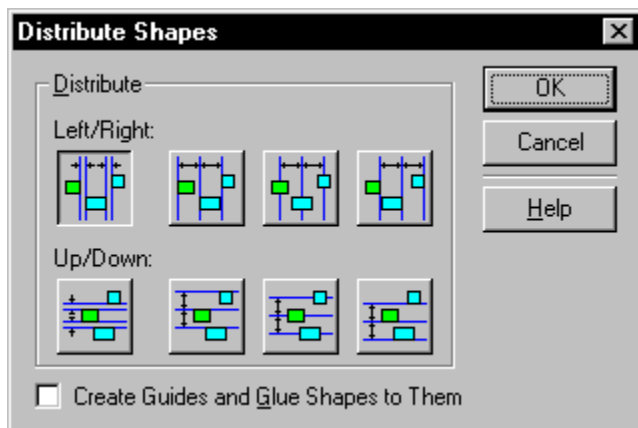


## Specifying master shape characteristics



[Overview](#)

You can change or specify characteristics for the way a [master shape](#) is displayed in a [stencil](#). You can choose options for aligning a master shape's name, the size of its icon, and how the icon is updated. You can also rename the master shape or write or edit the prompt that provides information about the master shape.



**To specify master shape**

### characteristics:

1. Select the master shape icon.  
Make sure to open the original stencil or a copy and to activate the stencil window.
2. From the Master menu, choose [Properties](#).
3. In the Master Name section, type or change the name for the master, and choose an option to align the master shape name.
4. In the Icon section, choose an option for the icon size.  
The default size is Normal. You can also choose Tall, Wide, or Double.
5. In the Icon section, choose an option to update the master shape icon.  
Choose Automatic if you want the icon to automatically reflect changes you make to the master shape it represents. Choose Manual if you want to update the icon manually with the [Update Icon](#) command.  
If you plan to create a custom icon for the master shape, choose Manual, so you won't accidentally replace the custom icon when you edit the master shape.
6. In the Prompt section, type information that will appear when you point to the master shape icon.

7. Check Match Master By Name On Drop to preserve the formatting you've applied to the stencil's master shapes. For details, see [Properties](#).
8. Click OK.
9. From the File menu, choose [Save](#) to save the changes to the stencil.  
You can also click the Save button.

**See also**

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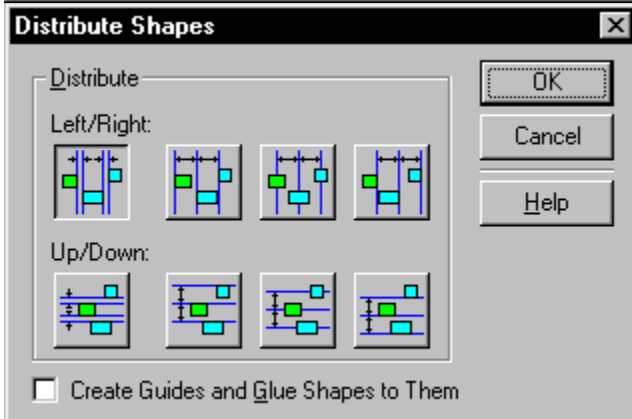
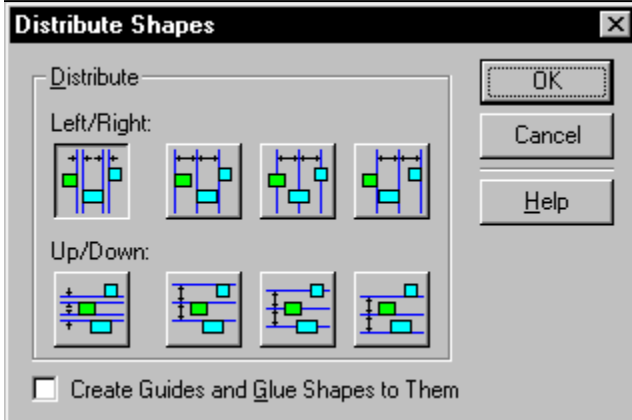
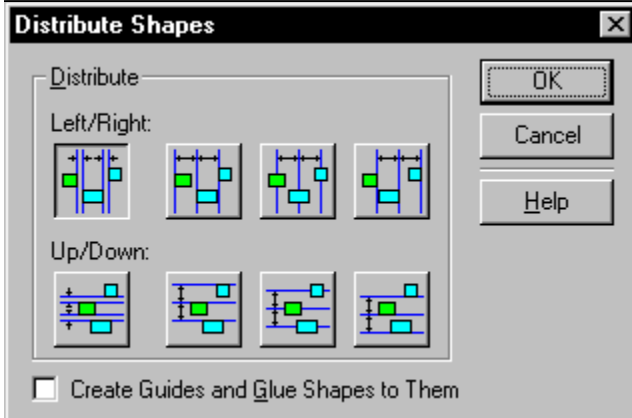
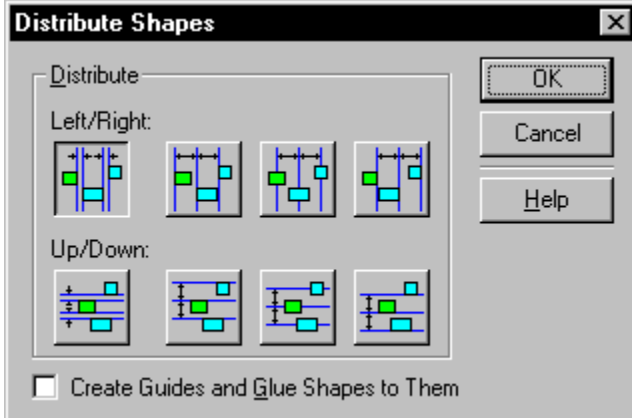
[Creating a master shape from a shape in a drawing](#)

[Editing a master shape in a stand-alone stencil](#)

[Opening an original stencil](#)

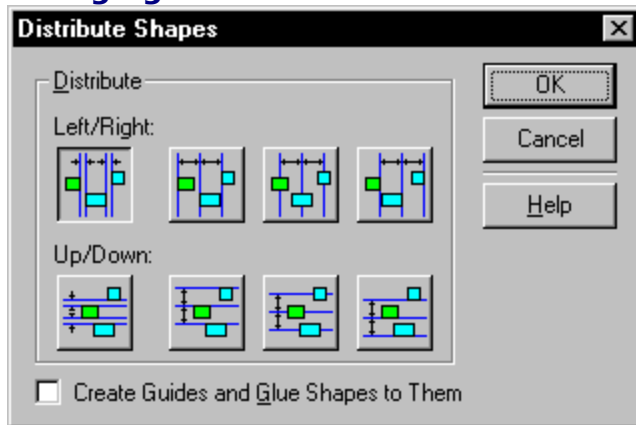
[Updating master shape icons](#)

**Changing the text attributes of a master shape**



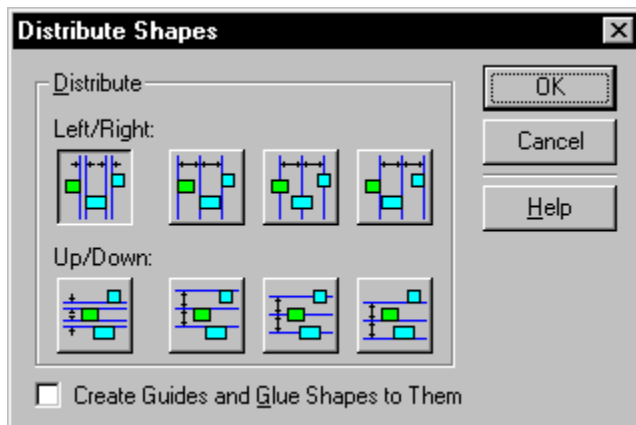


## Changing the text attributes of a master shape



[Overview](#)

To change the [attributes](#) associated with a [master shape's](#) text (for example, its font color or size), you must edit the style the master shape uses.



**To change the text attributes of a**

### **master shape:**

1. Drag a master shape from the [stencil](#) into the [drawing window](#).
2. From the Format menu, choose [Define Styles](#).
3. Under Includes, ensure Text is checked.
4. Click the Text button in the Change section of the dialog box.
5. Choose the text formatting options you want to apply, and then click OK to close the Font dialog box.
6. Click Apply to apply the change to the selected shape and the style and to close the dialog box.

Each current [instance](#) of the master shape and all subsequent instances in that drawing display the new attributes.

**Note:** In many of the Visio [templates](#), the same style controls the look of many of the master shapes in the stencil. If you change the attributes associated with one master shape's style, you will also change the default look of any other master shapes in the drawing that use that style.

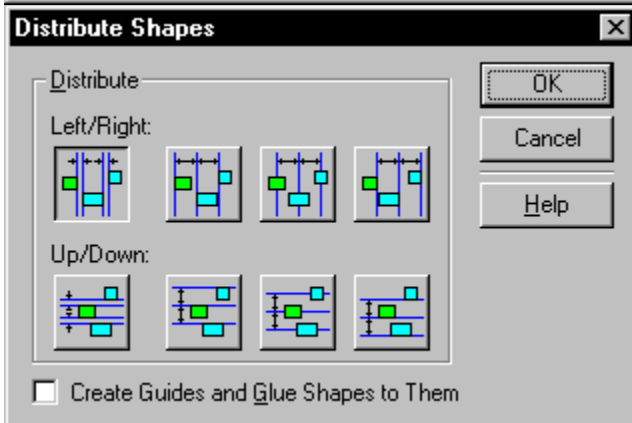
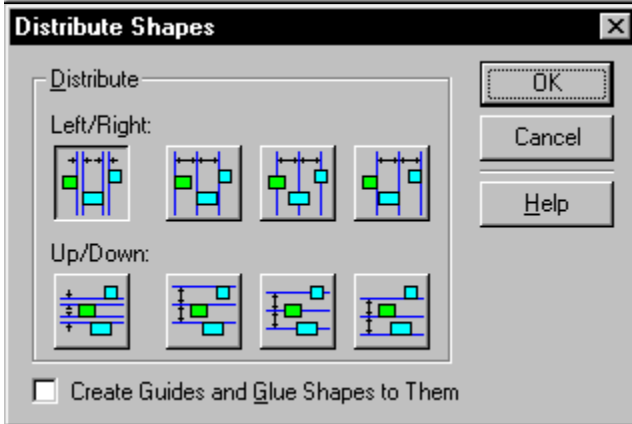
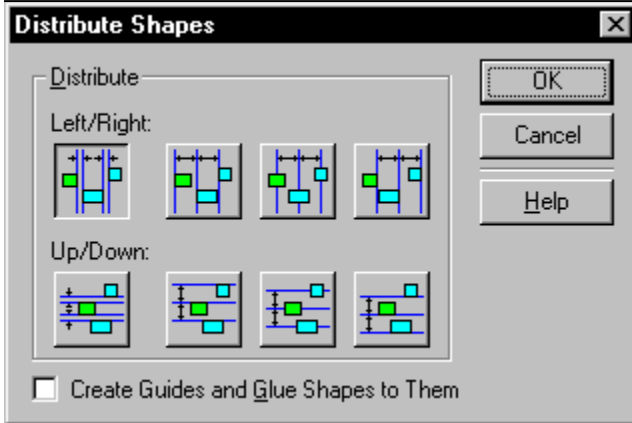
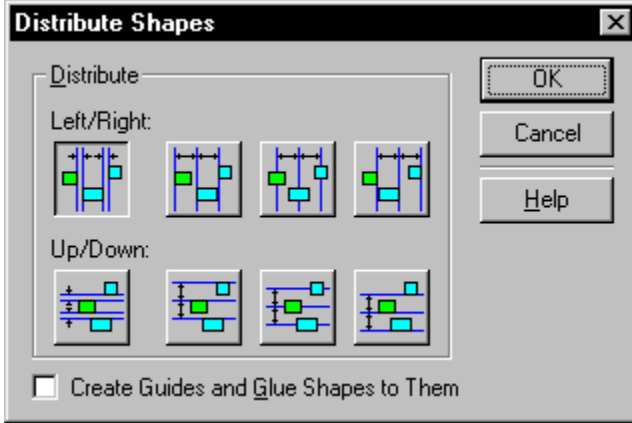
### **See also**

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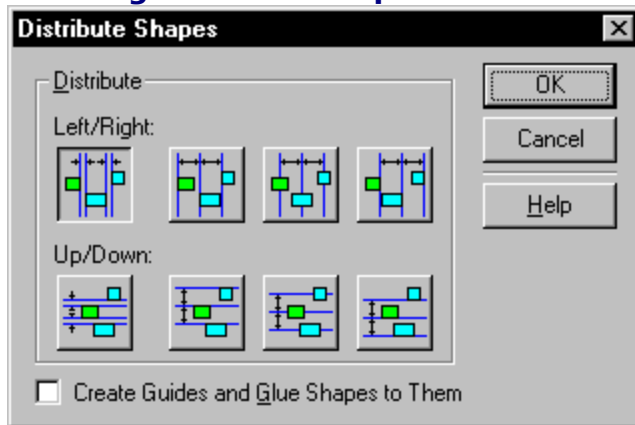
[Creating a master shape from a shape in a drawing](#)

## Specifying master shape characteristics

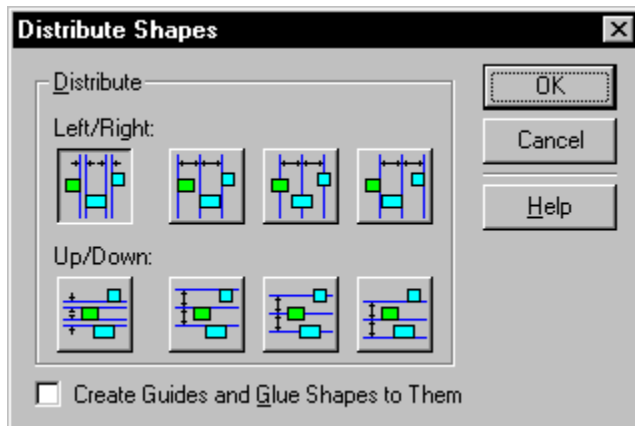
**Creating a master shape from scratch**



## Creating a master shape from scratch



[Overview](#)



**To create a master shape from**

### **scratch:**

1. Open the [stencil](#) file to which you want to add a [master shape](#), or open a blank stencil.

Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).

2. With the stencil selected, choose [New Master](#) from the Master menu.

3. In the New Master dialog box, specify characteristics for the master shape:

In the Master Name section, specify the name of the new master shape and how to align the name.

In the Icon section, choose an option for the size and how to update the master shape icon.

In the Prompt section, type information about the master shape that appears when you point to it.

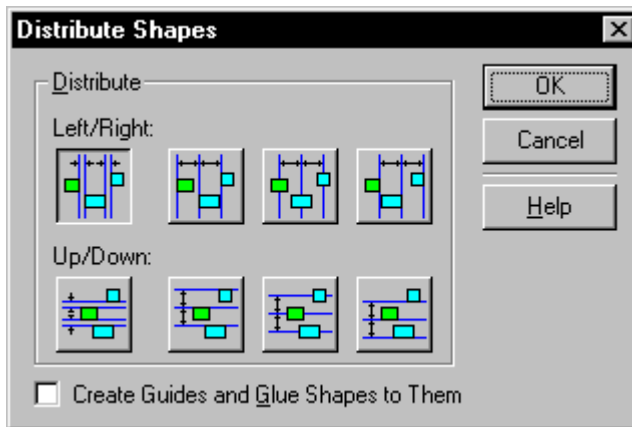
For Match Master By Name On Drop, check to preserve the formatting you've applied to the stencil's master shapes. For details, see [Properties](#).

4. Click OK.

A blank master shape icon appears in the stencil window. (You may need to scroll to see it.)

5. From the Master menu, choose [Edit Master](#), or double-click the master shape to open the master shape drawing window.

6. Draw the master shape.



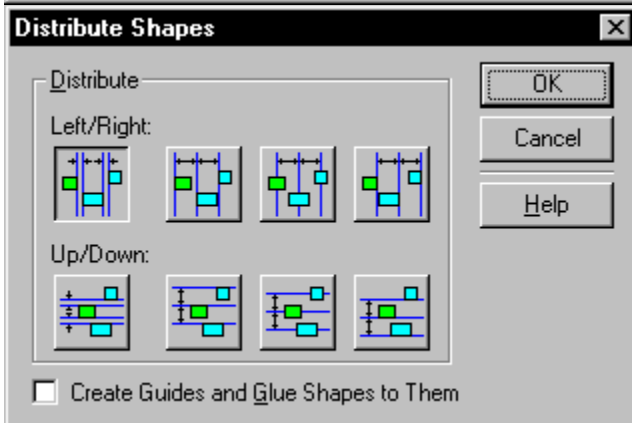
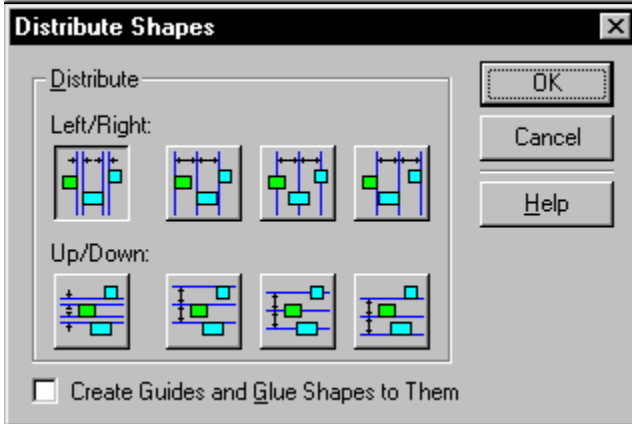
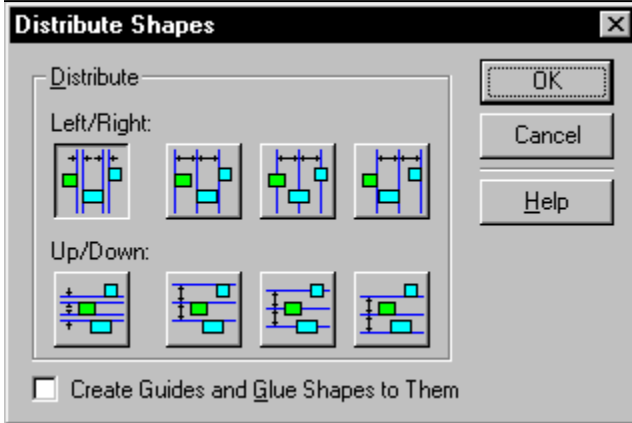
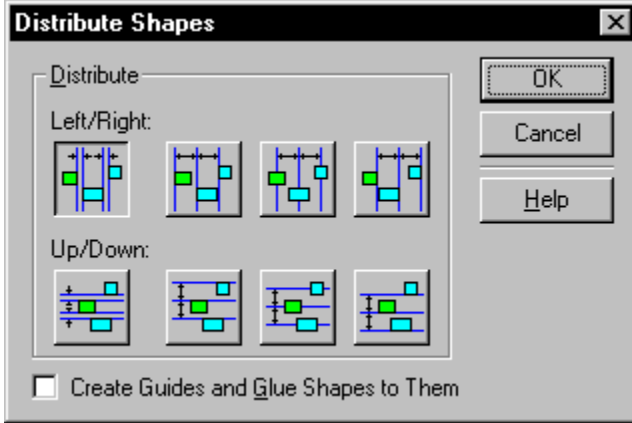
7. Click  to close the master shape drawing window.
8. When prompted to update the master shape, click Yes.
9. From the File menu, choose [Save](#) to save the changes to the drawing file stencil.  
You can also click the Save button.

### **See also**

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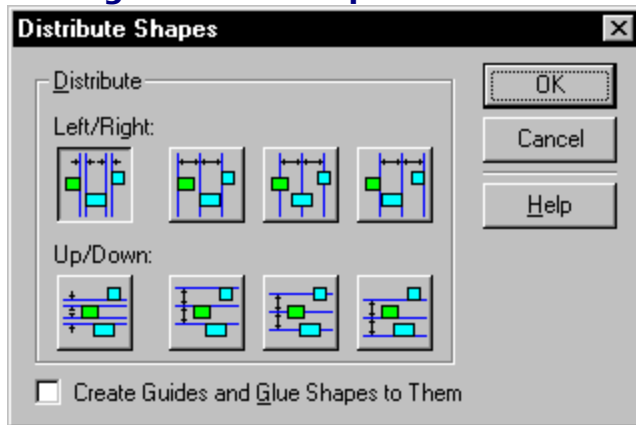
[Creating a master shape from a shape in a drawing](#)  
[Opening an original stencil](#)  
[Specifying master shape characteristics](#)

**Editing a master shape in a stand-alone stencil**

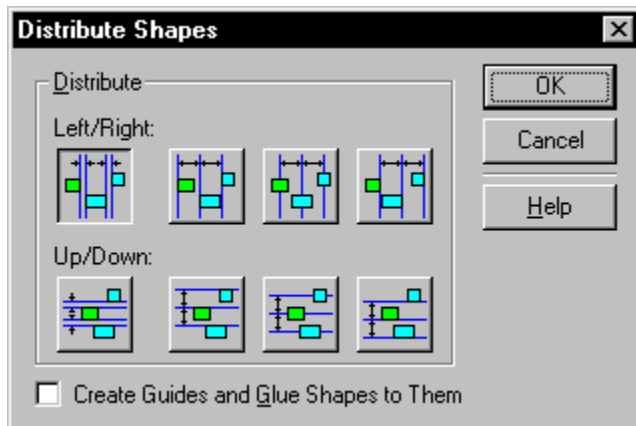




## Editing a master shape in a stand-alone stencil

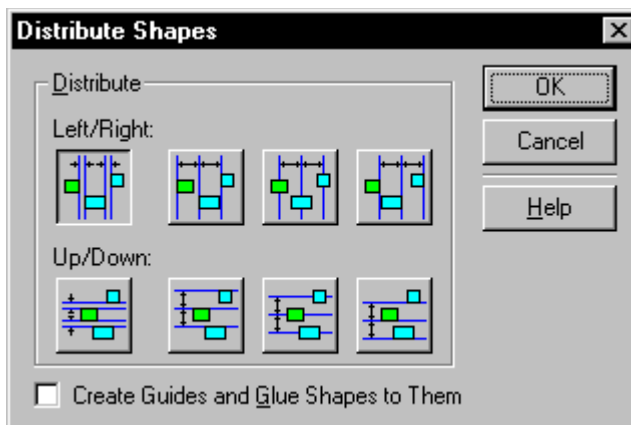


[Overview](#)



### To edit a master shape:

1. Open the [stencil](#) file that contains the [master shape](#) you want to edit.  
Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).
2. In the stencil window, select the master shape.
3. From the Master menu, choose [Edit Master](#), or double-click the master shape you want to edit.  
The master shape drawing window opens.
4. Edit the master shape.



5. Click [OK](#) to close the master shape

drawing window.

6. Visio prompts you to update the master shape. Click Yes to save changes to the master shape, or click No to close the master shape drawing window without saving changes.

7. From the File menu, choose [Save](#) to save changes to the stencil. You can also click the Save button.

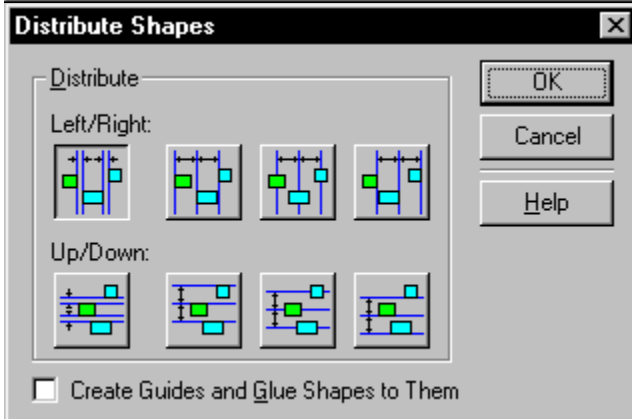
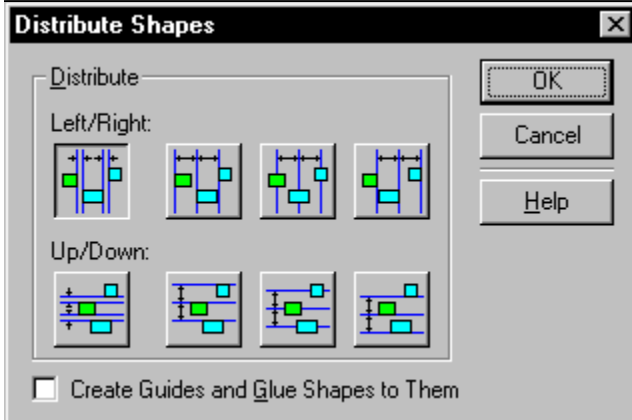
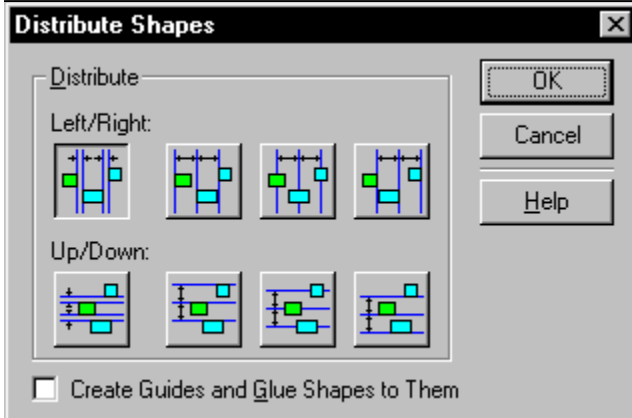
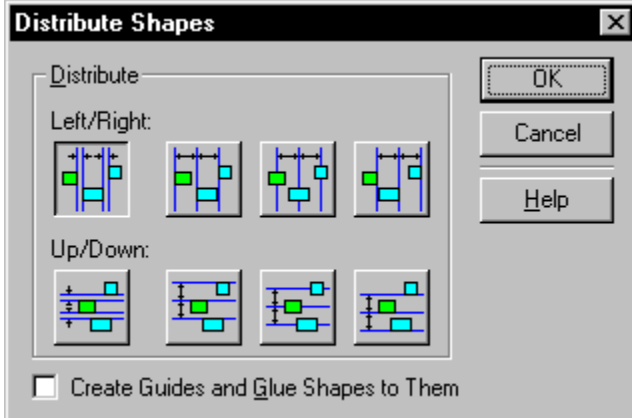
## **See also**

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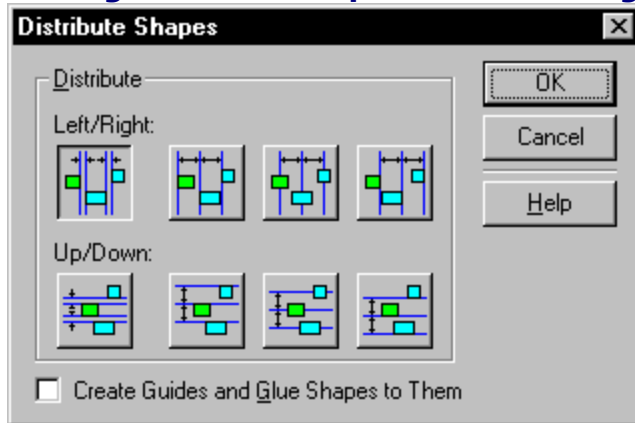
[Opening an original stencil](#)

[Selecting shapes](#)

## **Editing a master shape in the drawing file stencil**

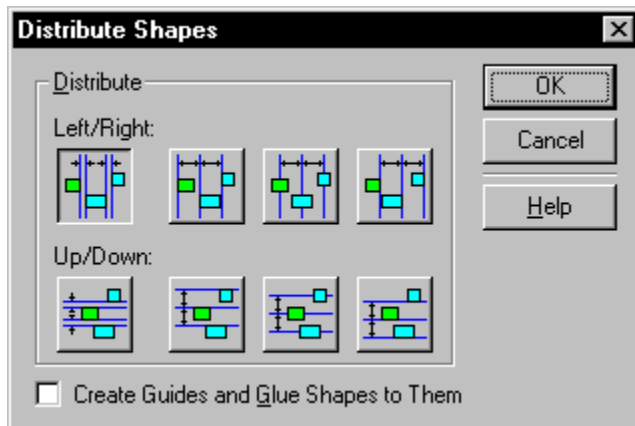


## Editing a master shape in the drawing file stencil



### [Overview](#)

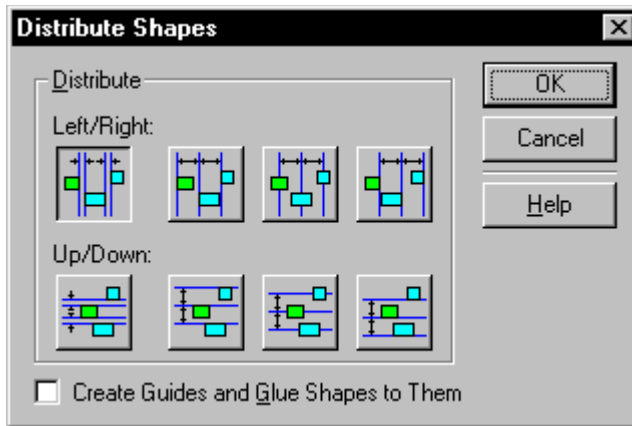
The quickest way to modify every instance of a master shape in a drawing is to edit the master shape stored in the drawing file stencil. When you edit the master shape, you change each instance of the shape in the drawing file. You do not, however, change the master shape in any stand-alone stencil you may have used to create the drawing.




### **To edit a master shape in a drawing**

#### **file stencil:**

1. Make sure the drawing window is active by clicking the title bar.
2. From the Window menu, choose Show Master Shapes to display the drawing file stencil.
3. In the drawing file stencil, double-click the icon for the master shape you want to edit.
4. In the master shape drawing window, edit the master shape.



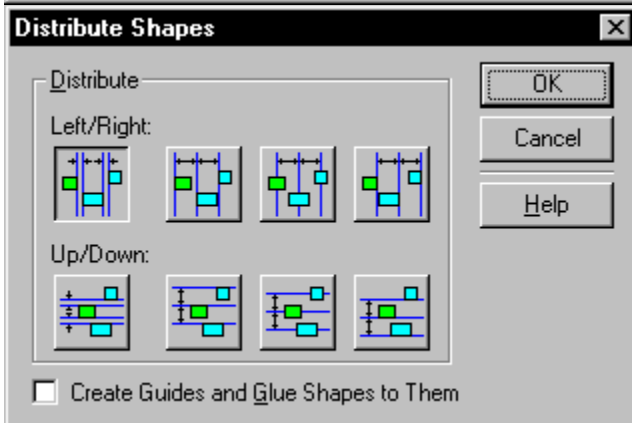
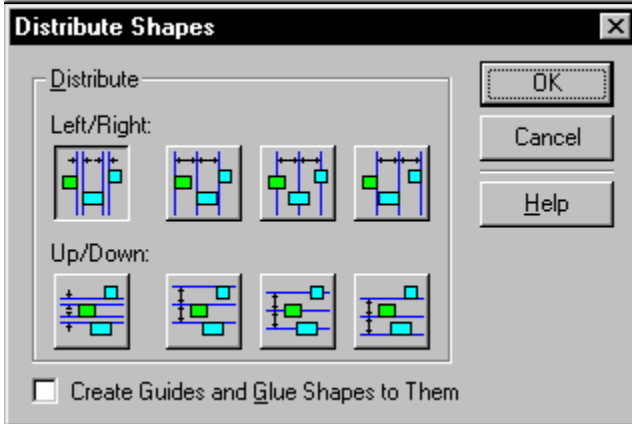
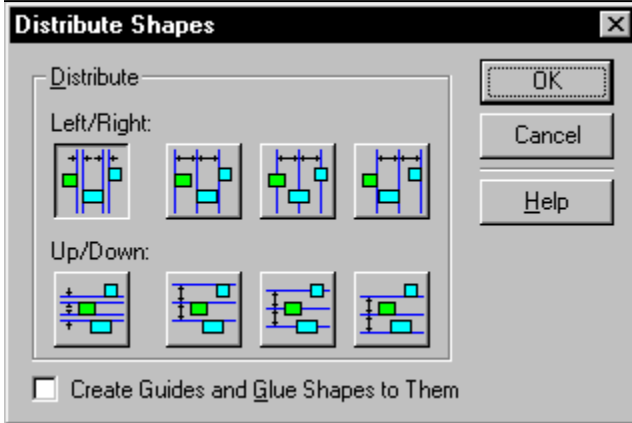
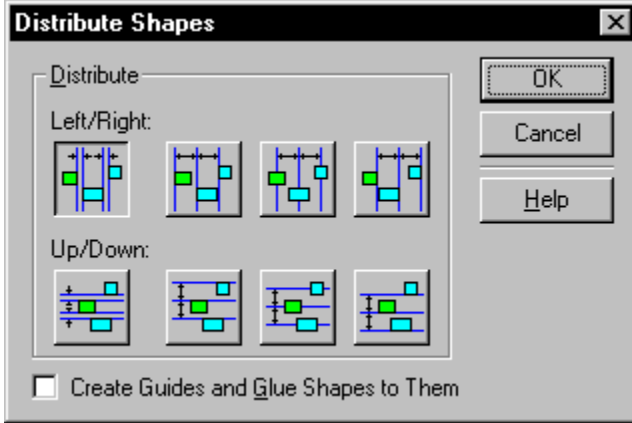
5. Click  to close the master shape drawing window.
6. Visio prompts you to update the master and its instances. Click Yes to make the changes.
7. From the File menu, choose [Save](#) to save changes to the stencil.

### **See also**

[Opening an original stencil](#)

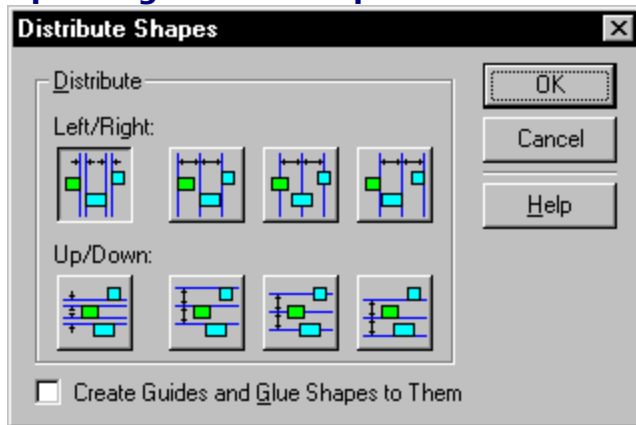
[Saving a drawing file stencil as a stand-alone stencil](#)

## Updating master shape icons



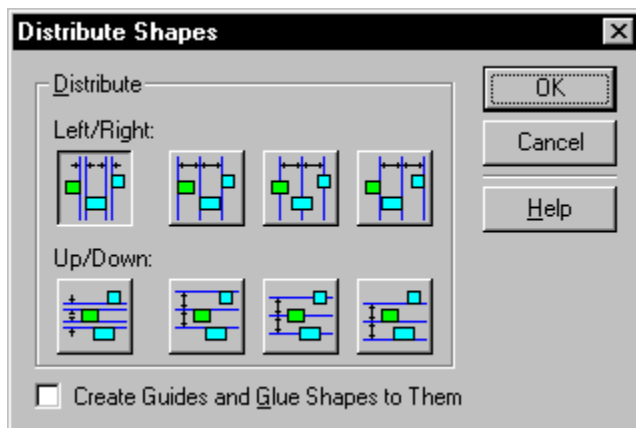


## Updating master shape icons



### [Overview](#)

When you edit a [master shape](#), you can update the icon automatically so it reflects changes to the master shape. You can also control when a master shape icon is updated. For example, if you create a custom icon that does not resemble the master shape, you can make changes to the master shape without updating the master shape icon.

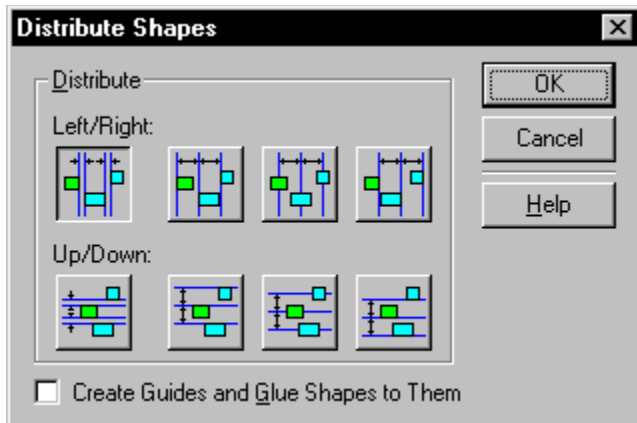


### **To automatically update a master**

#### **shape icon:**

1. Open the [stencil](#) file with the master shape whose icon you want to update.  
Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).
2. Select the master shape icon.
3. From the Master menu, choose [Properties](#).
4. In the Icon Update section, choose Automatic, and then click OK.  
Each time changes are made to the master shape, the master shape icon is updated.

By setting the update option to Manual, you can choose to update the icon at specific times.



**To set a master shape icon to update**

**manually:**

1. Open the stencil file with the master shape whose icon you want to update.  
Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).
2. Select the master shape icon.
3. From the Master menu, choose [Properties](#).
4. In the Icon Update section, choose Manual, and then click OK.
5. To update the master shape icon, choose [Update Icon](#) from the Master menu.  
Visio updates the icon with a miniature version of the master shape.

**See also**

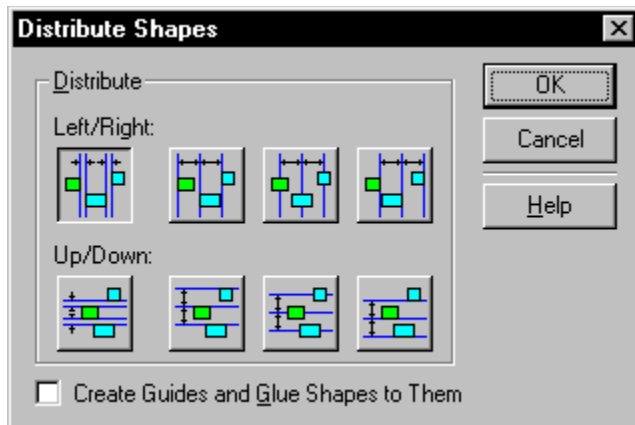
---

[Editing a master shape in a stand-alone stencil](#)

[Opening an original stencil](#)

[Specifying master shape characteristics](#)

## Working with master shape icons



[Related procedures](#)

When you create a master shape, Visio creates an icon that resembles the master shape. You can also create a custom master shape icon.

You can create master shape icons or edit the icon Visio creates in the [edit icon window](#).

### Icon editing

To make changes to a master shape icon, open the original stencil that contains the master shape, select the master shape, and then open the edit icon window.

Use the [icon pencil tool](#) and the [paint bucket tool](#) to change the colors of an icon. When using these tools, you can assign one color to the left mouse button and a second color to the right mouse button. You can use the mouse buttons to apply the color.

To change the size and shape of a master shape icon, or to move, copy, or delete selected areas of the icon, use the [lasso tool](#) and the [selection net tool](#).

You cannot cancel changes you make to an icon after you close the edit icon window. However, you can use the [Undo](#) command to undo changes to the icon while the edit icon window is still open.

### Icon options

Before you create a custom master shape icon, you should choose options for the icon's size and how to update the icon. The size of the icon determines the size of the area that you can use to create the icon in the edit icon window. The update option controls how Visio updates the master shape icon. If you are creating a custom icon, choose Manual as the update option so you don't accidentally replace the custom icon when you edit the master shape.

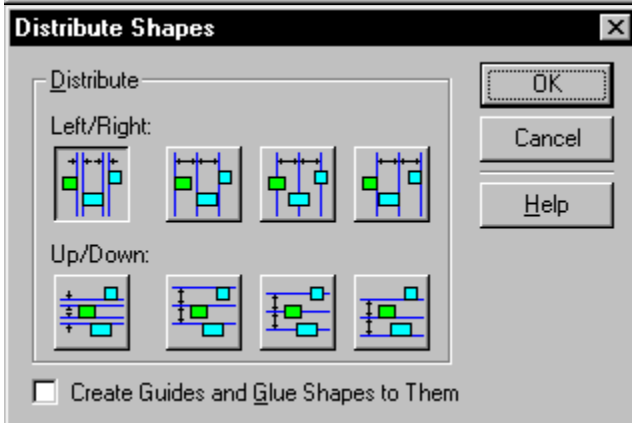
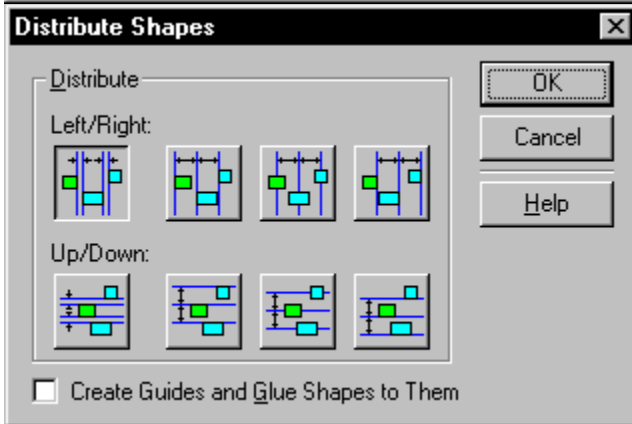
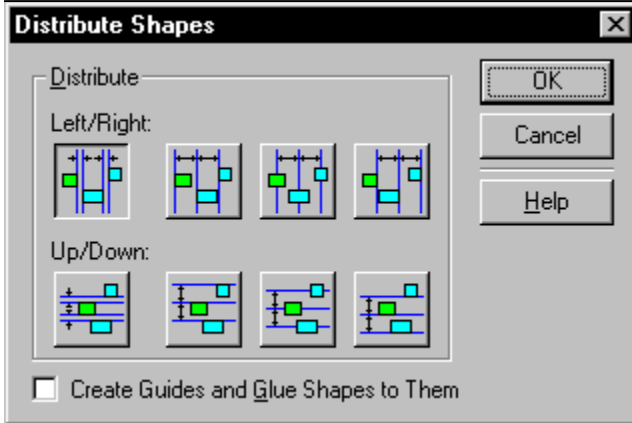
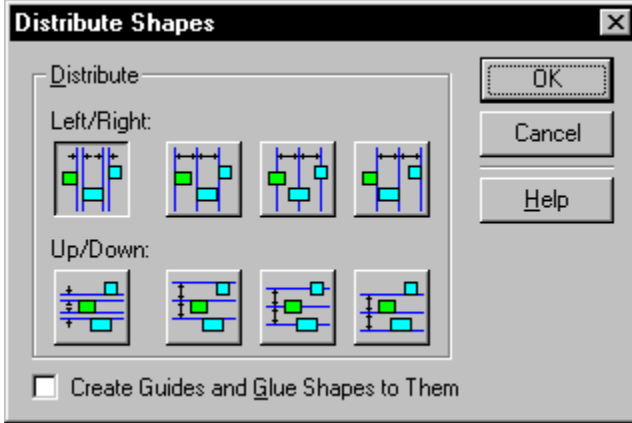
[Changing the colors for a master shape icon](#)

[Creating a master shape icon](#)

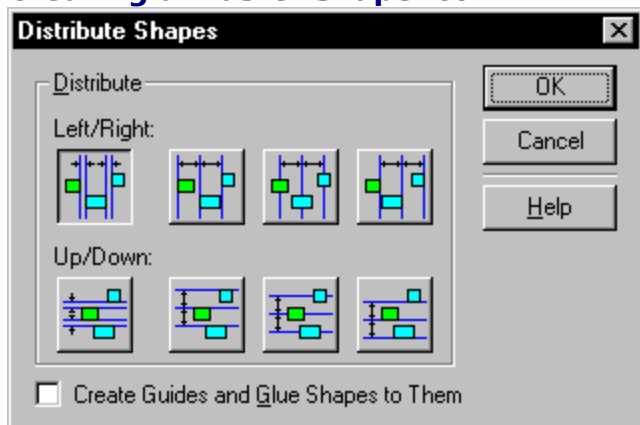
[Editing parts of a master shape icon](#)

[Updating master shape icons](#)

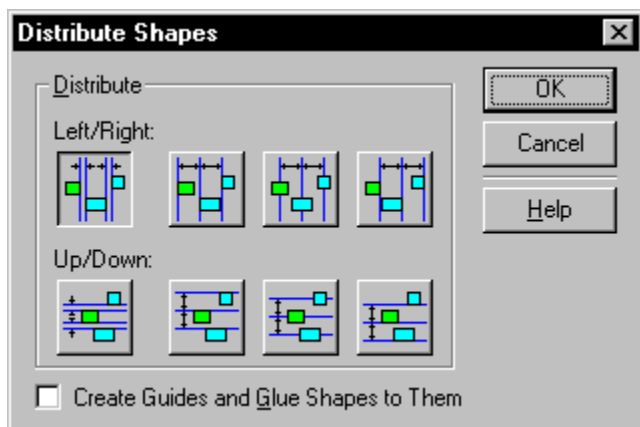
**Creating a master shape icon**



## Creating a master shape icon



[Overview](#)

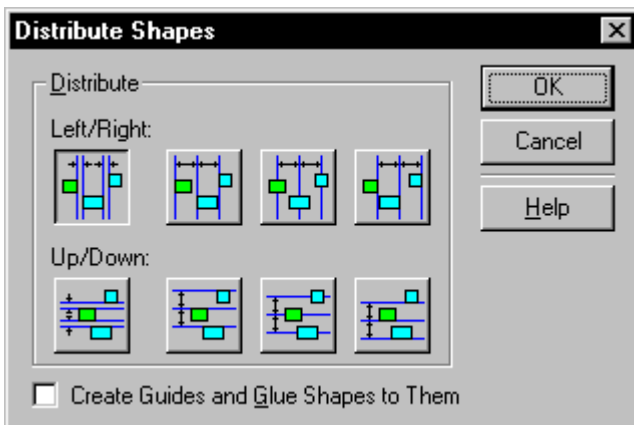


### To create a master shape icon:

1. Make sure an original or copy of the stencil is open and that the [stencil](#) window is active. For details, see [Opening an original stencil](#).
2. Select the master shape whose icon you want to create.
3. From the Master menu, choose [Edit Icon](#).

The edit icon window opens. If an icon exists for the master, the icon appears in the window. The icon editing tools appear on the toolbar.

4. Edit the icon or create a new icon. For details, see [Editing parts of a master shape icon](#).



5. Click [to close the master shape drawing window](#).

6. From the File menu, choose [Save](#).  
You can also click the Save button.

**See also**

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[Changing the colors for a master shape icon](#)

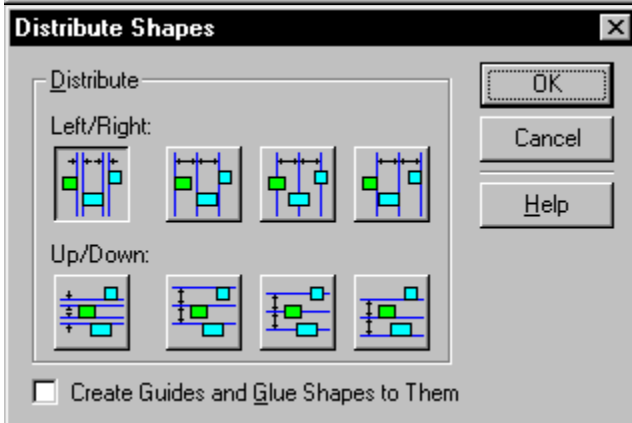
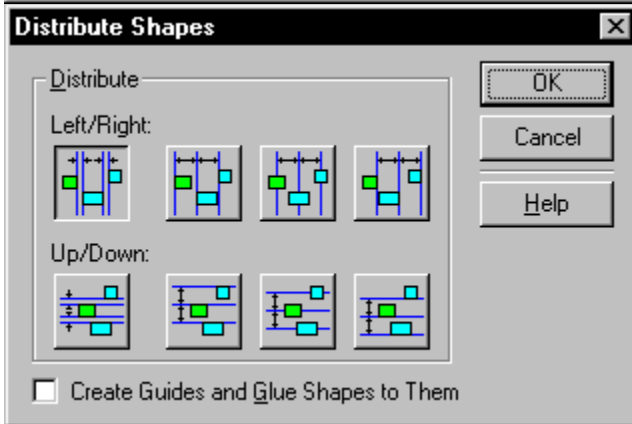
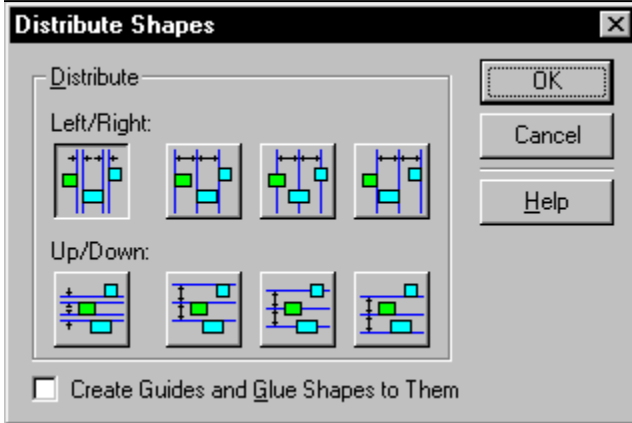
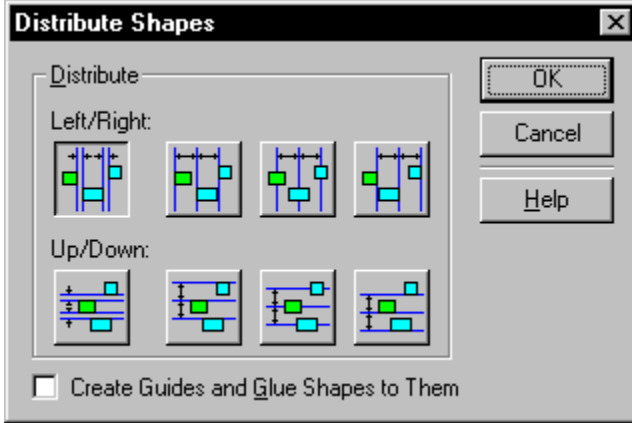
[Editing parts of a master shape icon](#)

[Opening an original stencil](#)

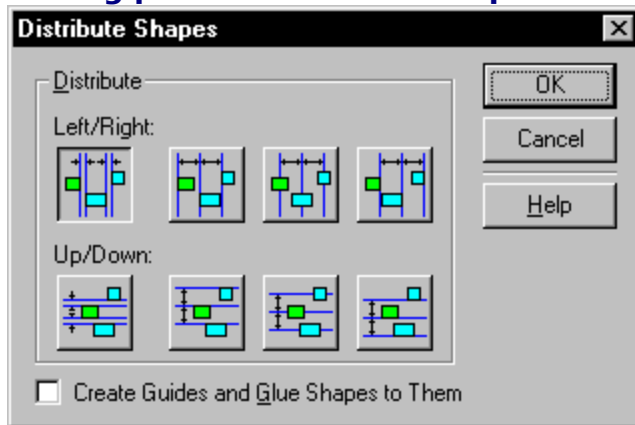
[Updating master shape icons](#)



## **Editing parts of a master shape icon**

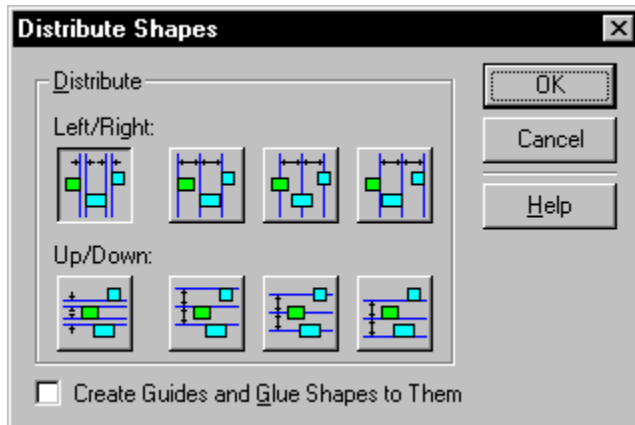


## Editing parts of a master shape icon



### [Overview](#)

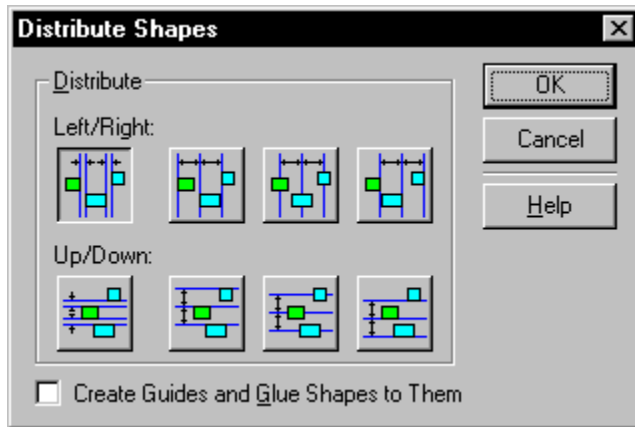
Using tools in the edit icon window, you can edit and move parts of a master shape icon.



### **To open the icon edit window:**

1. Make sure an original or copy of the stencil is open and the [stencil](#) window is active. For details, see [Opening an original stencil](#).
2. Select the master shape whose icon you want to create.
3. From the Master menu, choose [Edit Icon](#).

The edit icon window opens. If an icon exists for the master, the icon appears in the window. The icon editing tools appear on the toolbar.

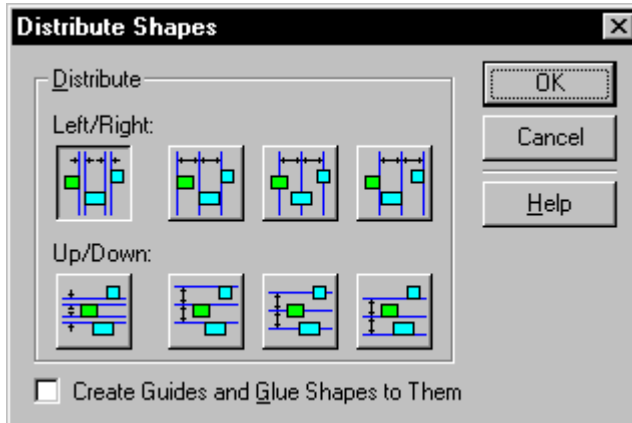


### **To move part of an icon:**

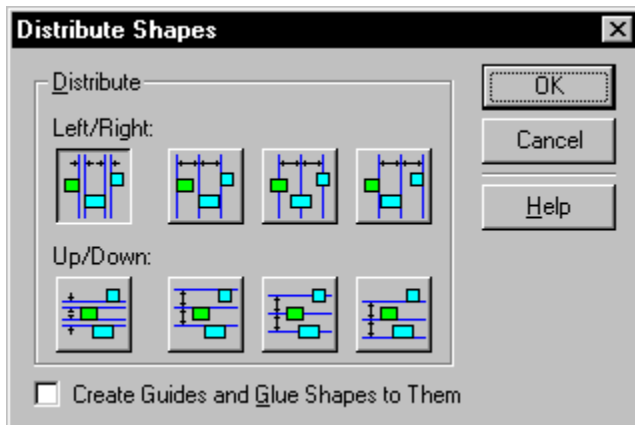
1. In the edit icon window, choose the [lasso tool](#) or [selection net tool](#).

2. Select the area you want to move.
3. Drag the selection to where you want it.

The area from which the icon part was moved is replaced with the stencil background color.



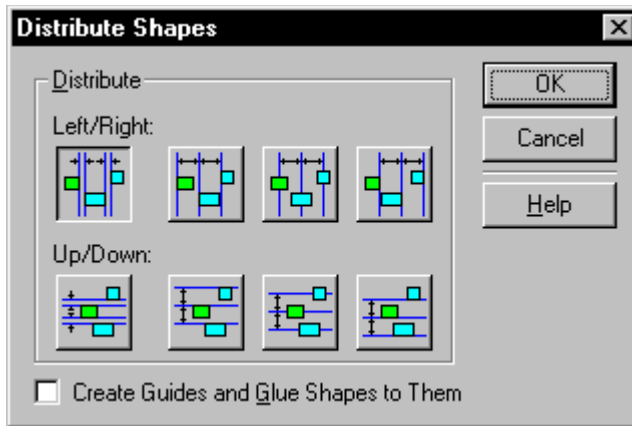
4. Click **OK** to close the master shape drawing window.
5. From the File menu, choose Save.



**To delete part of an icon:**

1. In the edit icon window, choose the lasso tool or selection net tool.
2. Select the area you want to delete.
3. From the Edit menu, choose Cut.

The deleted area is replaced with the stencil background color.

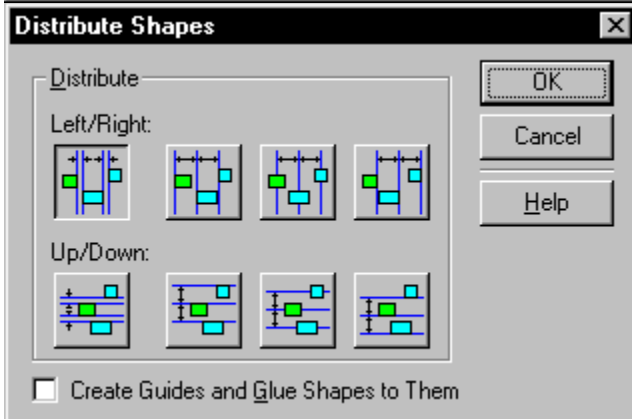
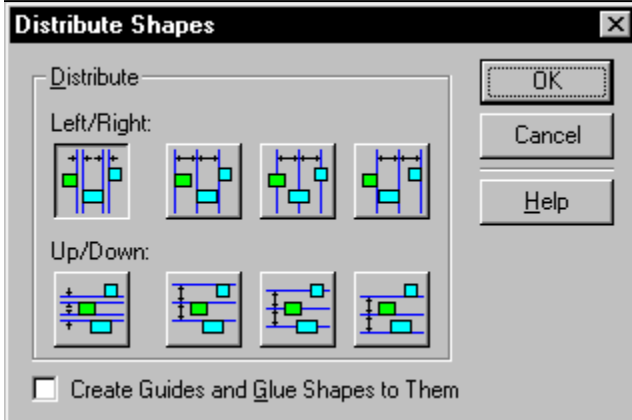
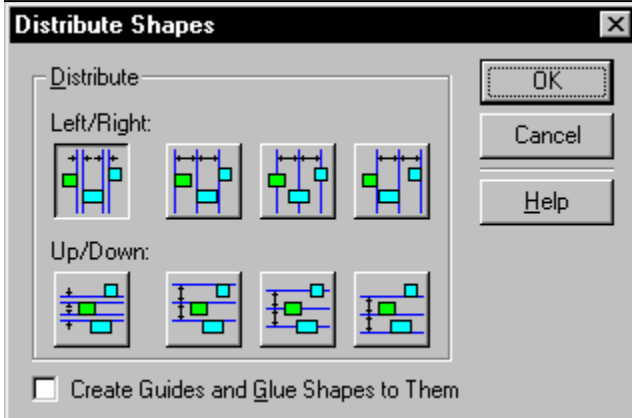
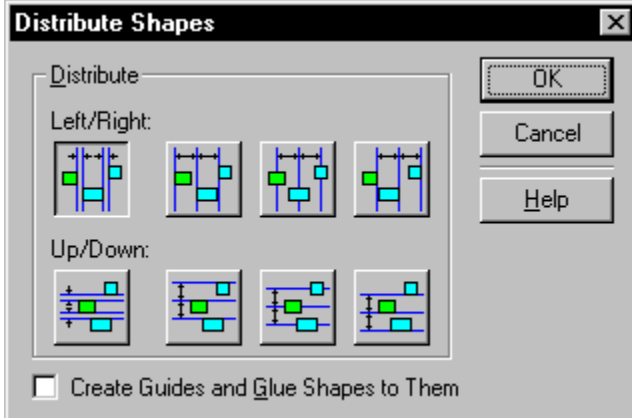


4. Click [OK](#) to close the master shape drawing window.
5. From the File menu, choose Save.

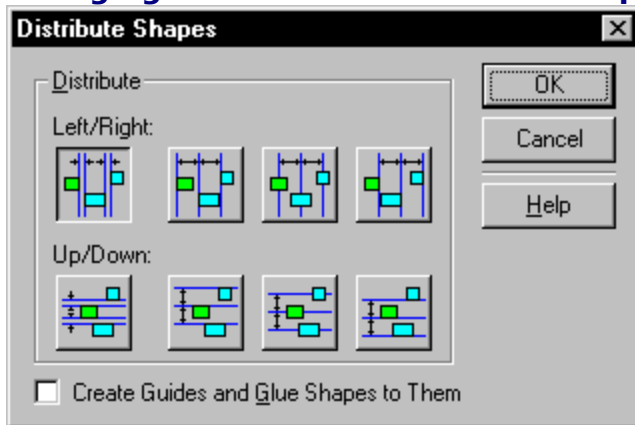
### **See also**

- 
- [Changing the colors for a master shape icon](#)
  - [Creating a master shape from a shape in a drawing](#)
  - [Editing a master shape in a stand-alone stencil](#)
  - [Opening an original stencil](#)
  - [Updating master shape icons](#)

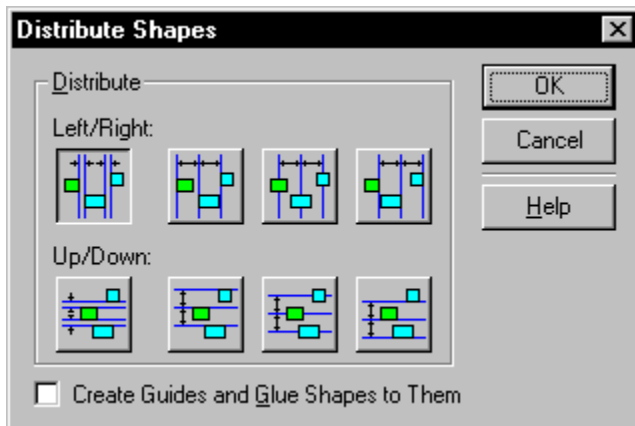
## **Changing the colors for a master shape icon**



## Changing the colors for a master shape icon



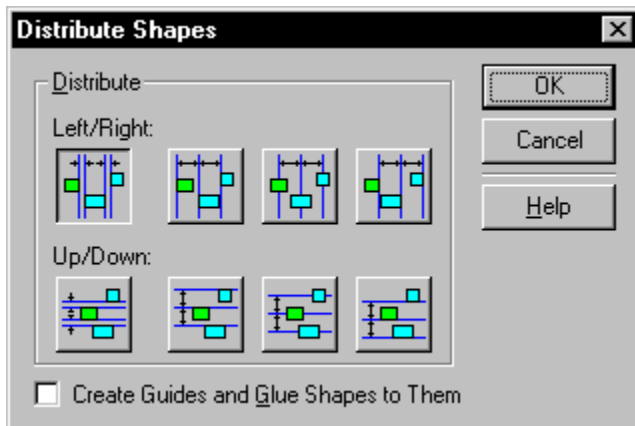
[Overview](#)



### To open the icon edit window:

1. Make sure an original or copy of the stencil is open and that the [stencil](#) window is active. For details, see [Opening an original stencil](#).
2. Select the master shape whose icon you want to create.
3. From the Master menu, choose [Edit Icon](#).

The edit icon window opens. If an icon exists for the master, the icon appears in the window. The icon editing tools appear on the toolbar.



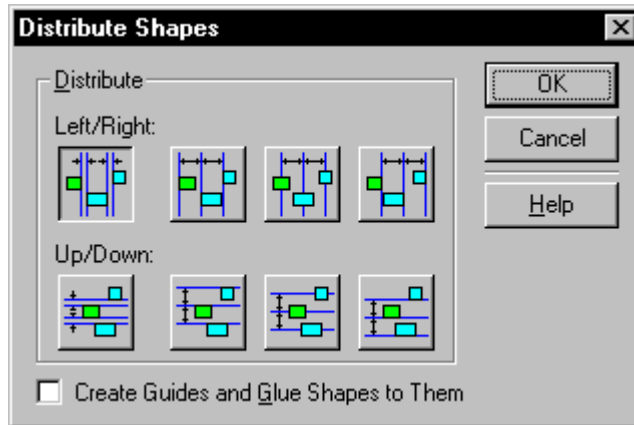
### To change the color one pixel at a


#### time:

1. In the edit icon window, choose the [icon pencil tool](#).
2. In the color palette, point to the color you want to use.

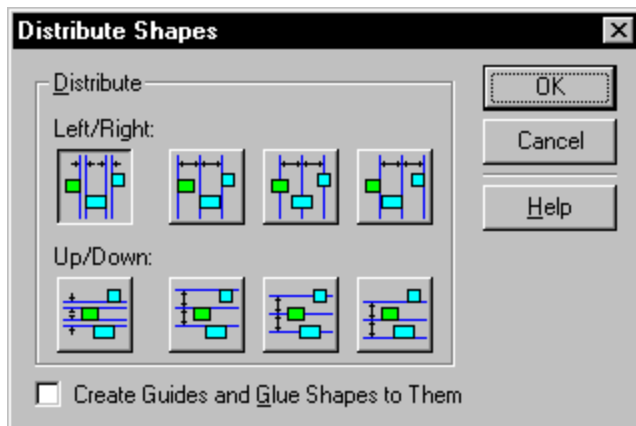


- Click the color with the left or right mouse button.  
The color appears in the Left Color box or the Right Color box on the toolbar.
- Point to the pixel you want to change.
- Click the pixel with the mouse button that is assigned the color you want.



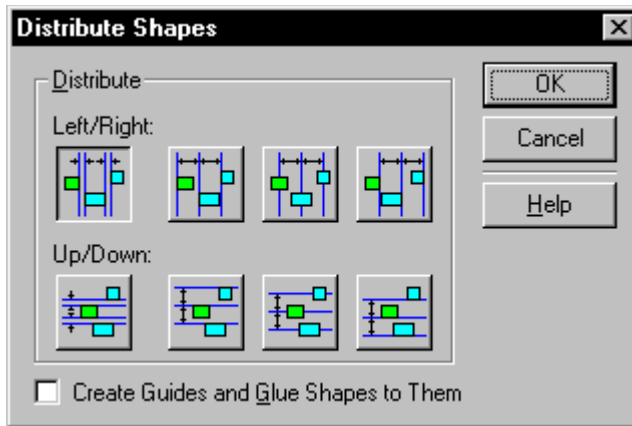
- Click  to close the master shape drawing window.
- From the File menu, choose Save.


**Tip:** If you want to create icons that appear to have holes cut in them, use the stencil background color.



**To change an area of color:**

- In the edit icon window, choose the paint bucket tool.
- In the color palette, point to the color you want to use.
- Click the color with the left or right mouse button.  
The color appears in the Left Color or Right Color box on the toolbar.
- Click a pixel in the area you want to change with the mouse button that is assigned the color you want.  
Visio colors the pixel you clicked and all pixels of the same color within the contiguous area.



5. Click  to close the master shape drawing window.
6. From the File menu, choose Save.

### **See also**

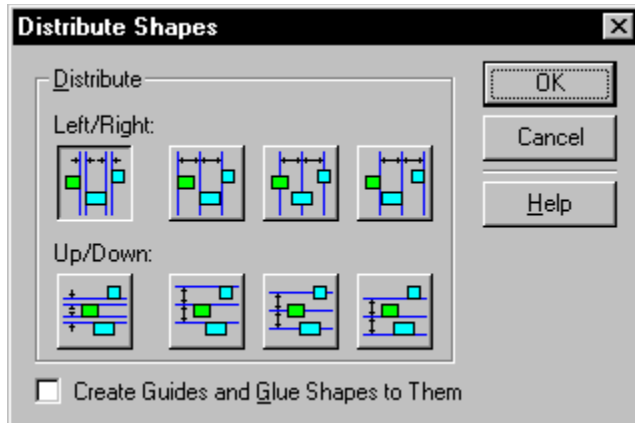
[Creating a master shape from a shape in a drawing](#)

[Editing a master shape in a stand-alone stencil](#)

[Editing parts of a master shape icon](#)

[Opening an original stencil](#)

## Creating your own templates



[Related procedures](#)

You can create your own templates or revise the templates that come with Visio.

Templates can include:

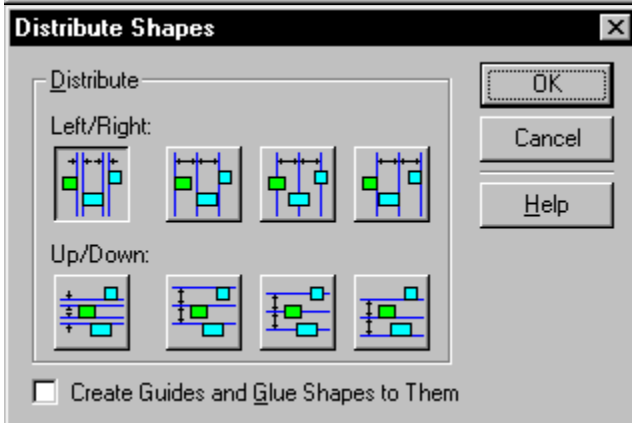
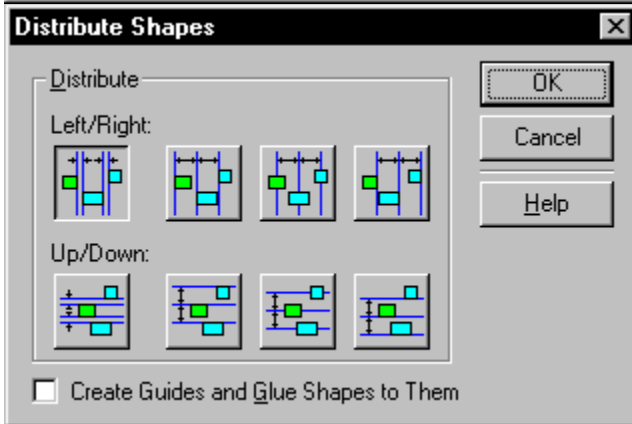
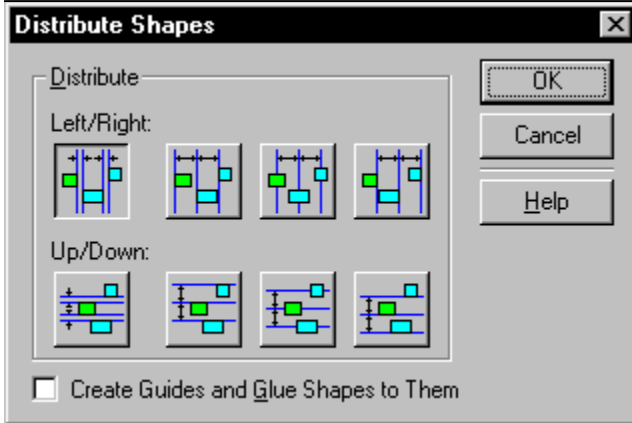
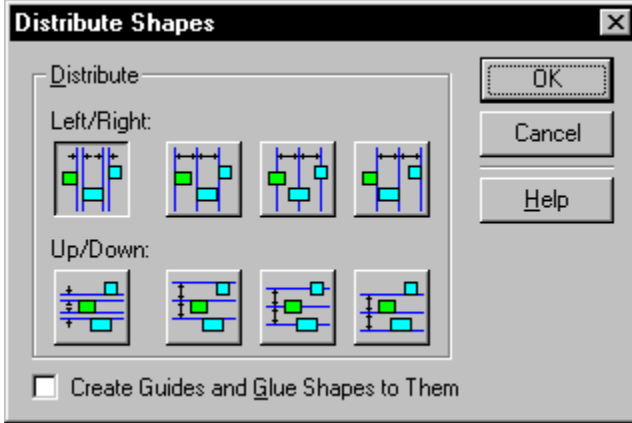
- One or more [stencils](#), which are opened when you open a new [drawing file](#) with the template.
- One or more drawing pages, including [background](#) pages. Each page can contain a [drawing](#) and can use a different size and [scale](#).
- Print settings from the [Page Setup](#) dialog box.
- Styles for lines, text, and [fills](#).
- [Snap](#) and [glue](#) options set in the [Snap & Glue](#) dialog box.
- A color palette from the [Color Palette](#) dialog box.
- Window sizes and positions.

When you create templates, keep these things in mind:

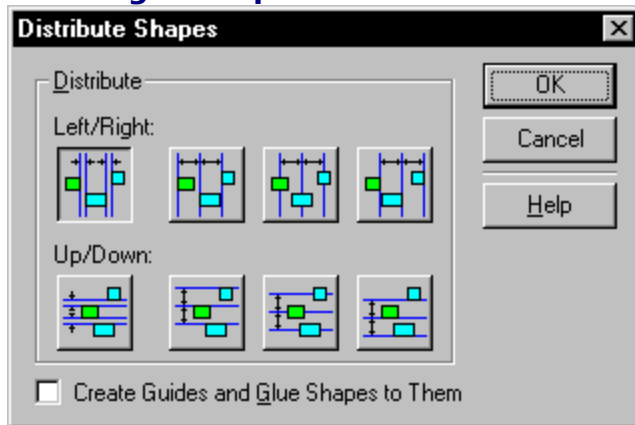
- The scale of a drawing page is set by a template. The scale of a [master shape](#) is set by the scale at which the master shape is drawn. To avoid unexpected behavior, master shapes and drawing pages should use the same scale, or one scale should be no more than eight times greater than the other.
- You can create a template from a new drawing file. Open the drawing file, set the options and open the stencils you want, and then save the new drawing file as a template.
- You can also create a template from a drawing file that's already set up the way you want. If you don't want to include drawings in the template, open a copy of the drawing file, and then delete the drawings and the master shapes on the [drawing file stencil](#). Save the copy of the drawing file as a template.

Creating a template  
Editing a template file

## Creating a template

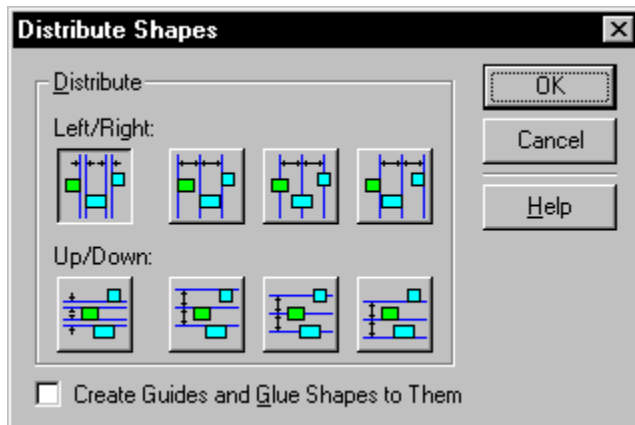


## Creating a template



### [Overview](#)

By creating a [template](#), you can store [stencils](#), [styles](#), a color palette, and page settings so you can use them at any time. You create a template by saving a [drawing file](#) with the settings you want for the template.



### **To create a template:**

1. Open the drawing file on which you want to base the template.
2. If you want the template to open one or more stencils, open the stencils.
3. Arrange the stencil and drawing windows as you want them to appear when you open a new drawing file with the template.
4. Change or define options and settings that you want to include in the template.

A template usually includes settings for items such as styles, page display options, and the drawing [scale](#).

5. From the File menu, choose [Save As](#).
6. In the Save section, make sure Workspace is checked.
7. From Save As, choose Template (\*.VST).  
You may want to choose a different folder in which to save the file.
8. In the File Name box, enter a name for the template, click Save, then click OK in the Properties dialog box.

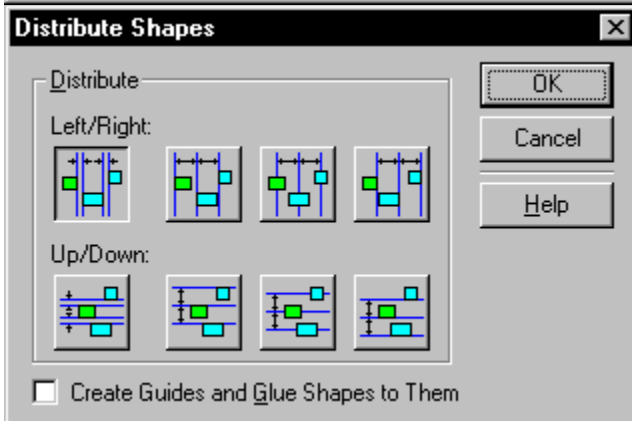
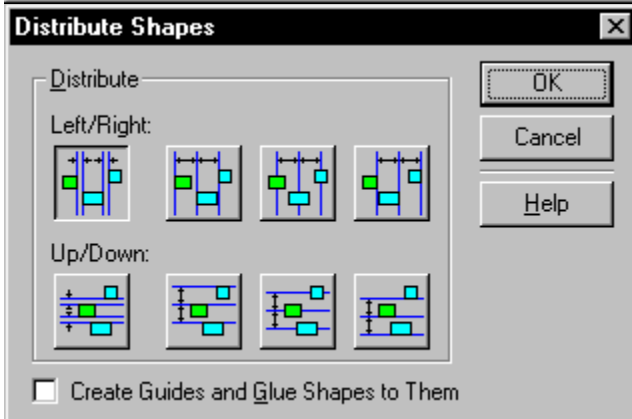
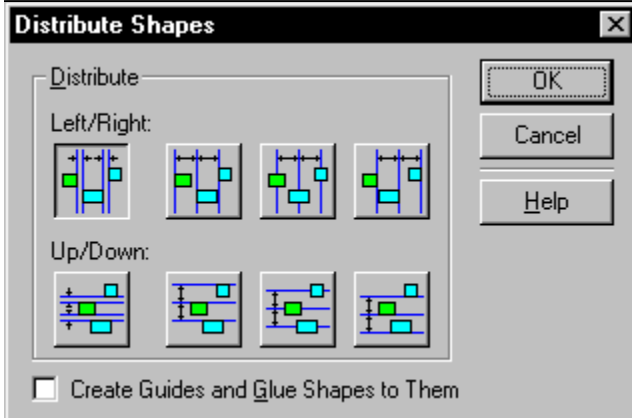
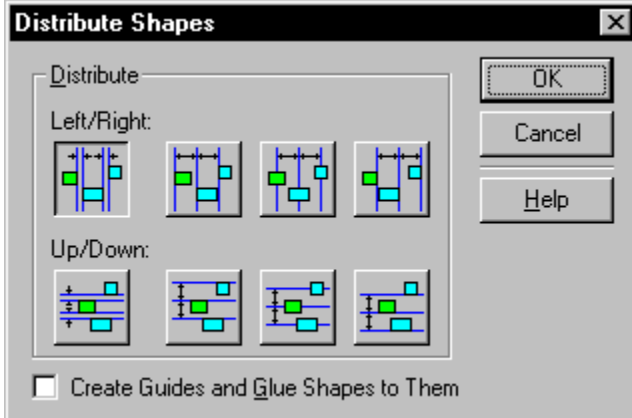
### **See also**

[Creating a new stencil](#)  
[Creating a style](#)

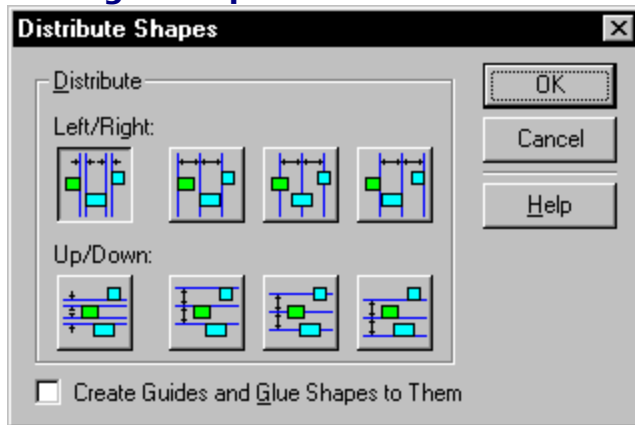




## **Editing a template file**

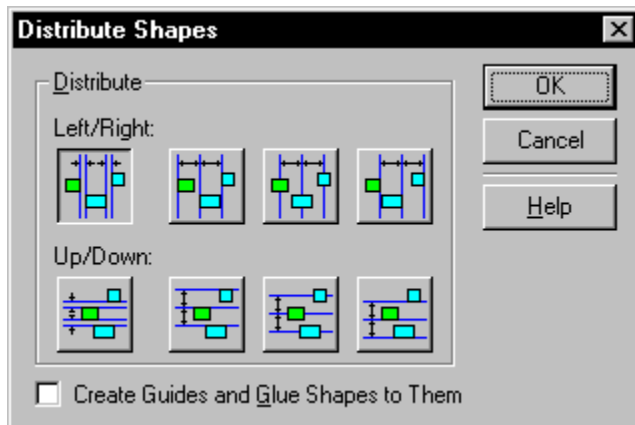


## Editing a template file



[Overview](#)

You can edit an original [template](#) file to make changes to the template settings. If you want to make changes to a template and preserve the original settings, you can open and edit a copy of a template.



### To edit a template file:

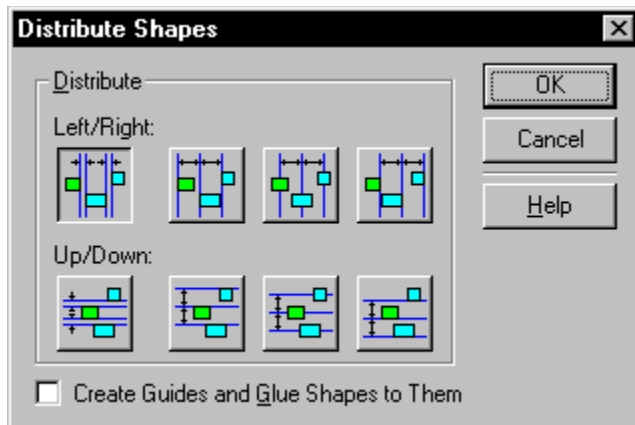
1. From the File menu, choose [Open](#).
2. In the File Name box, type or choose the template file you want to open.  
If you don't see the filename, choose Template (\*.VST) from the Save As list, or choose a different folder.
3. In the Open section, choose Original to open the original template, or choose Copy to open a copy of the template.
4. Click OK.
5. Change settings and options for the template, such as [styles](#), drawing [scale](#), and page display options.
6. From the File menu, choose [Save](#).  
You can also click the Save button.

### See also

[Creating a template](#)

---

## Working with stencils



### [Related procedures](#)

There are two types of stencils:

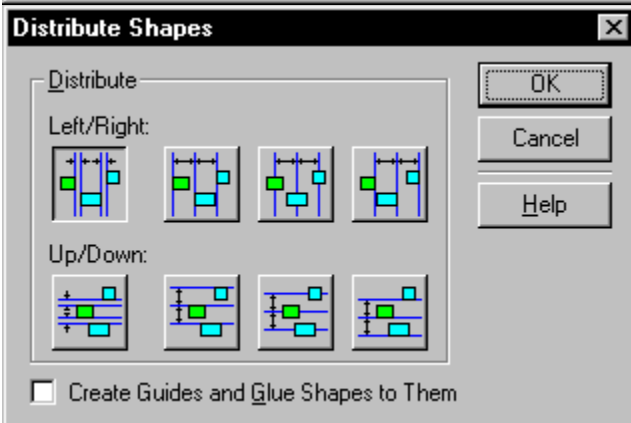
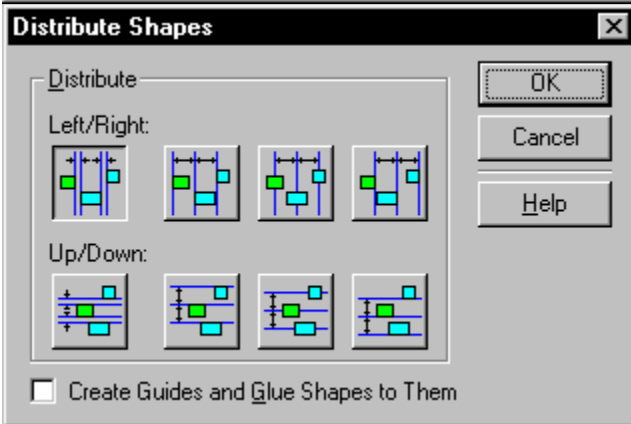
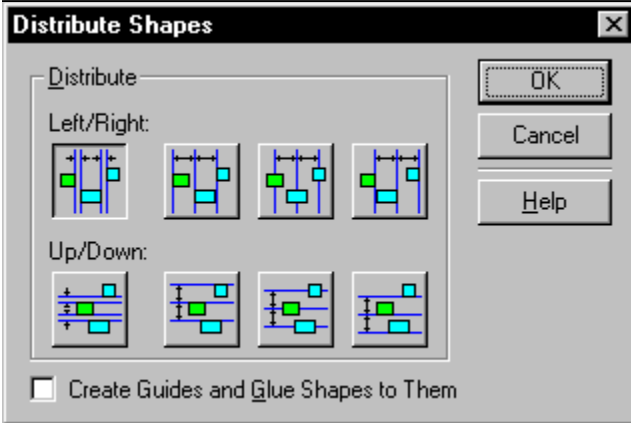
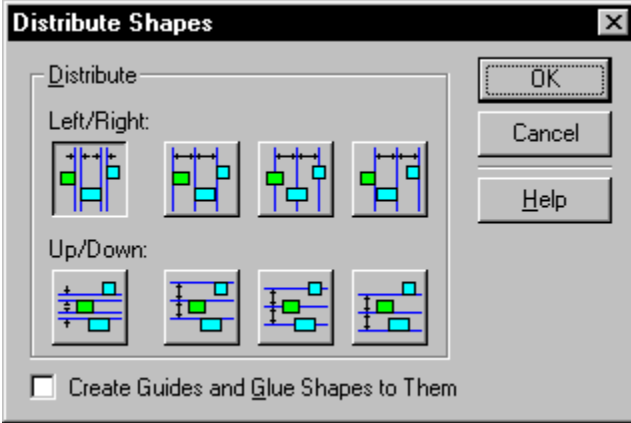
- A stand-alone stencil is a stencil file with the extension .VSS that can be opened separately or by a template.
- A drawing file stencil is a stencil stored in a drawing file. It contains copies of the master shapes used in that drawing file.

When you add or edit master shapes in a stand-alone stencil, the new or revised master shapes become available for any new drawing you create using that stencil or a template that opens the stencil. Instances of the master shapes in existing drawings are not affected.

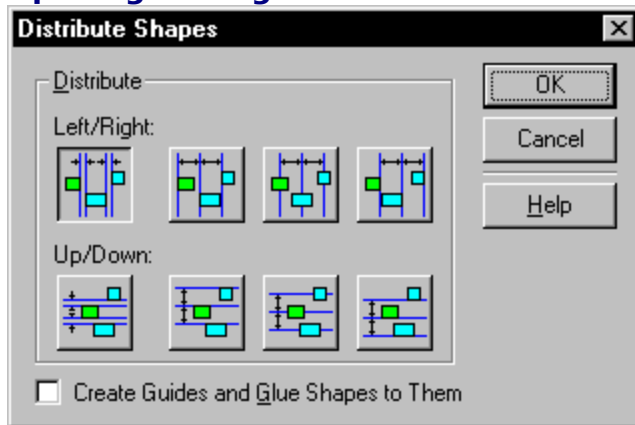
When you add or edit master shapes in a drawing file stencil, the changes affect only that drawing file. The master shapes are linked to their instances in the drawing, so changes you make to master shapes in a drawing file stencil are reflected in each instance of the shape in the drawing.

[Arranging master shapes in a stencil](#)  
[Creating a new stencil](#)  
[Deleting a master shape from a stencil](#)  
[Opening an original stencil](#)  
[Saving a drawing file stencil as a stand-alone stencil](#)

## Opening an original stencil

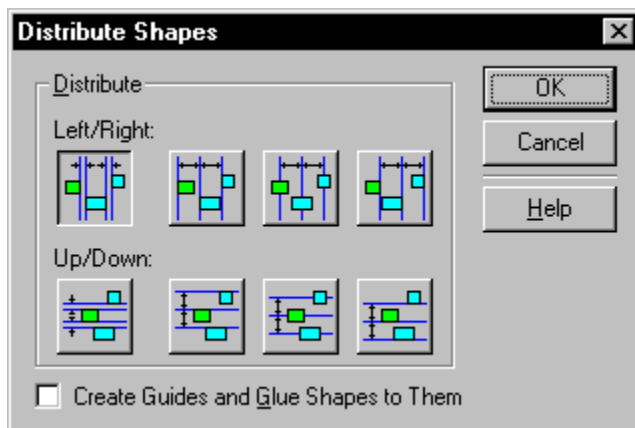


## Opening an original stencil



### [Overview](#)

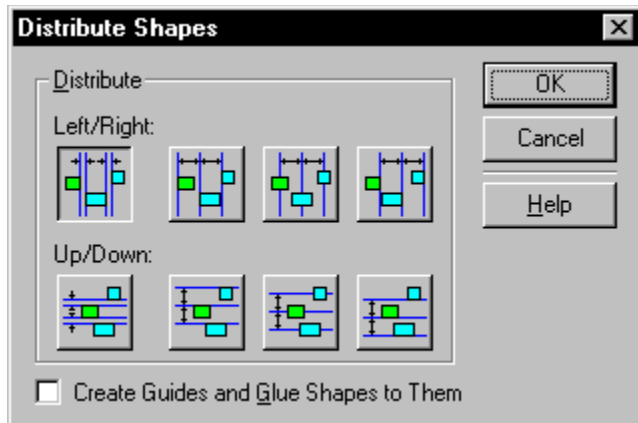
To create and edit [master shapes](#) in a [stencil](#), you need to open the original stencil file. When an original stencil file is open, its name appears without brackets in the stencil window title bar. You cannot open an original stencil if a read-only copy of the stencil is open already. If a read-only copy of a stencil is open, close the copy, and then open the original.



### To open an original stencil file:

1. From the File menu, choose [Stencils](#).  
You can also click the Stencils button.
2. From the Select Stencil list, choose the name of the stencil you want to open.
3. In the Open section, choose Original.
4. Click OK.





**To open a copy of a stencil:**

1. From the File menu, choose Open.
2. Under Files Of Type, select Stencil (\*.vss).
3. In the Look In box, open the Stencils folder, then open the folder in which the stencil is located.
4. Select the stencil you want.
5. Under Open, click Copy.
6. Click the Open button.

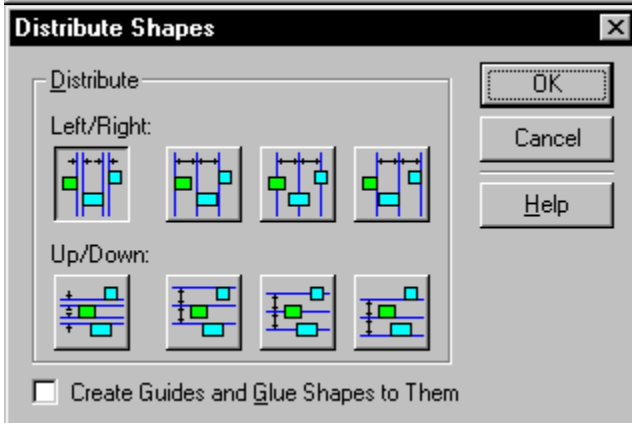
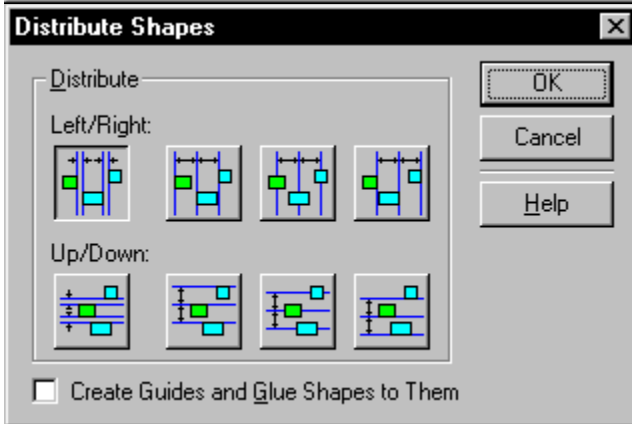
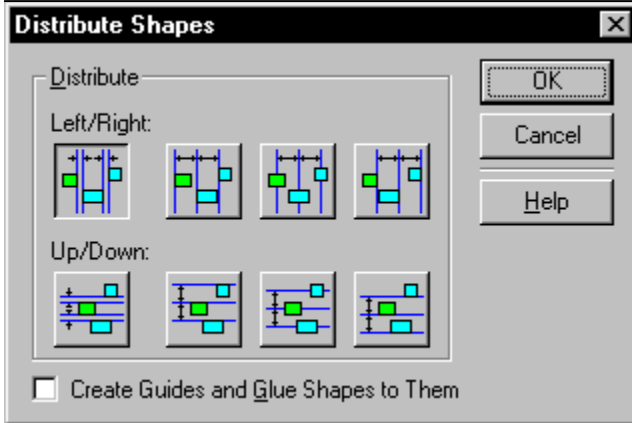
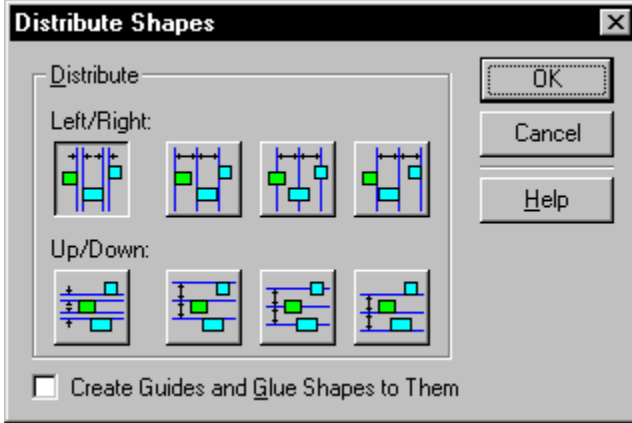
**See also**

[Creating a master shape from scratch](#)

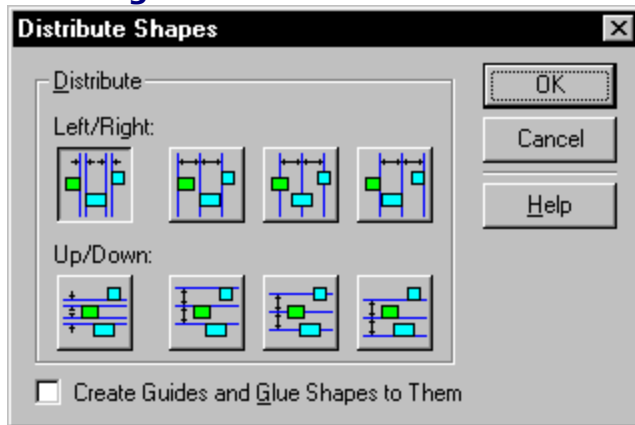
[Editing a master shape in a stand-alone stencil](#)

[Specifying master shape characteristics](#)

## Creating a new stencil

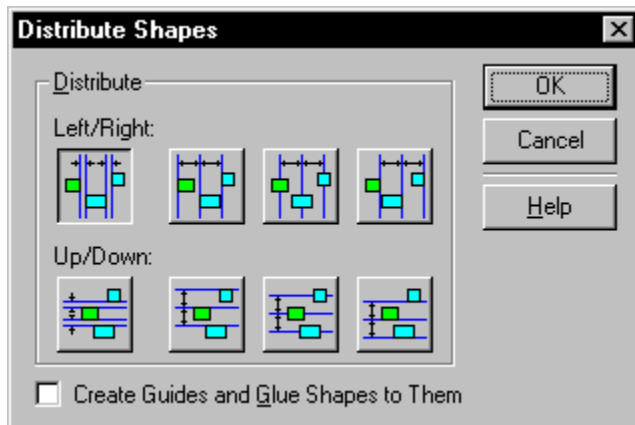


## Creating a new stencil



### [Overview](#)

You can base a new [stencil](#) on an existing stencil or create a new blank stencil and add [master shapes](#) to it. By creating new stencils, you can store master shapes from several stencils in one stencil or store a set of master shapes for a particular type of [drawing](#).



### To create a new stencil:

1. From the File menu, choose New.
2. In the New section, choose Stencil.
3. From the Based On list, choose No Stencil to create a blank stencil, or choose the stencil on which you want to base the new stencil.
4. Click OK.
5. Create master shapes, or drag and drop master shapes from other stencils you want to store in the new stencil.
6. From the File menu, choose Save As.
7. In the Save As section, make sure Stencil (\*.vss) is chosen.
8. In the File Name box, type a name for the stencil file.
9. If you want to protect the stencil from accidental changes, check Read Only in the Save section.  
You may want to choose a different folder in which to save the file.
10. Click Save.

### See also

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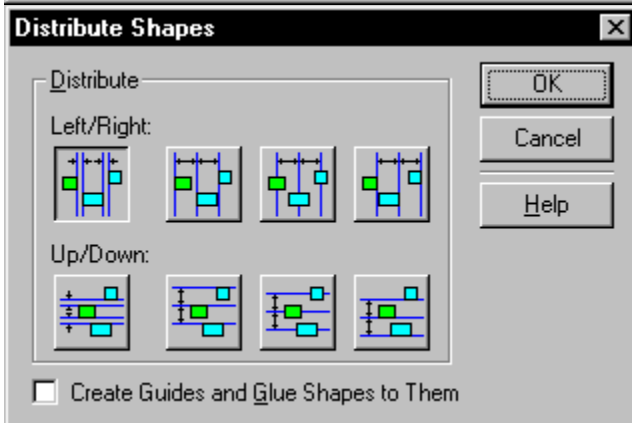
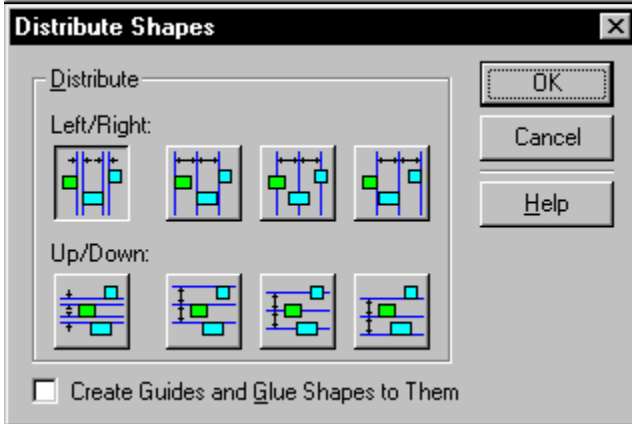
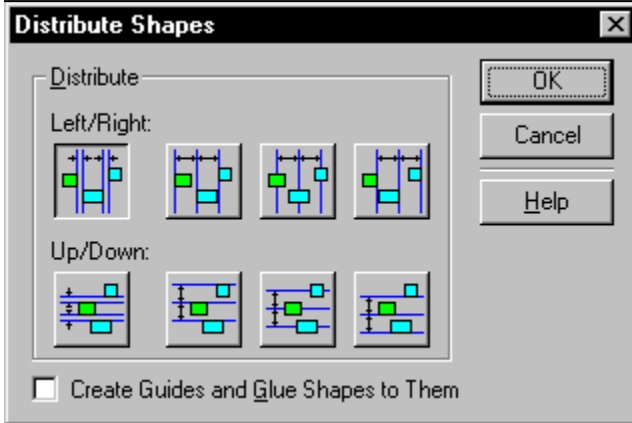
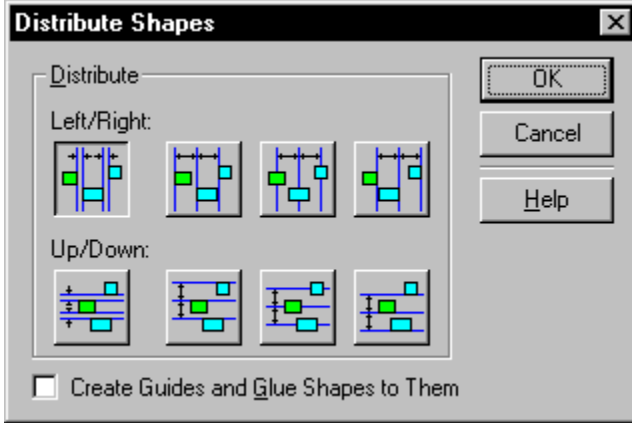
Creating a template

Displaying a drawing file stencil

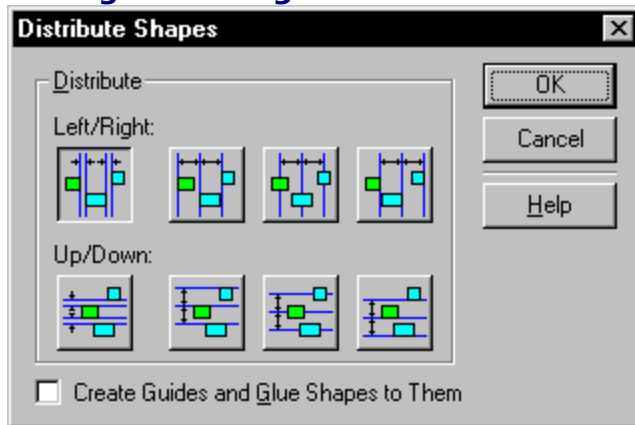
Opening a stencil

Saving a drawing file stencil as a stand-alone stencil

## **Saving a drawing file stencil as a stand-alone stencil**

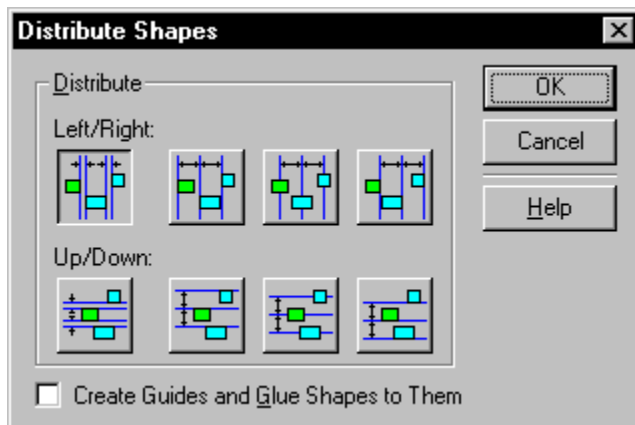


## Saving a drawing file stencil as a stand-alone stencil



[Overview](#)

You can save a copy of a [drawing file stencil](#) as a [stand-alone stencil](#). After saving the drawing file stencil, you can use its [master shapes](#) in other [drawings](#).



**To create a stand-alone stencil from a**

### **drawing file stencil:**

1. From the File menu, choose Open.
2. From the File Name list, choose the drawing file you want to use as the basis of the new stencil.
3. In the Open section, choose Copy, and then click OK.
4. From the Window menu, choose Show Master Shapes.
5. Make sure the drawing window is active. From the Edit menu, choose Drawing Page, then choose Delete from the Page menu.
6. In the Delete dialog box, click a page, hold down the Shift key and choose all other pages, and then click OK.
7. From the File menu, choose Save As.
8. From the Save As list, choose Stencil (\*.vss).  
You may want to choose a different folder in which to save the file.
9. Type a name for the new stencil file, and then click Save.

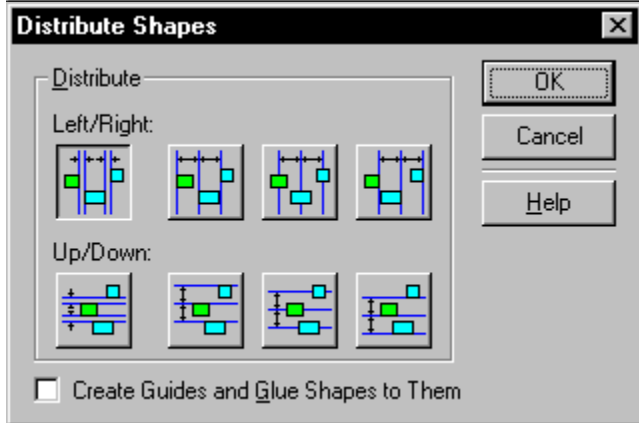
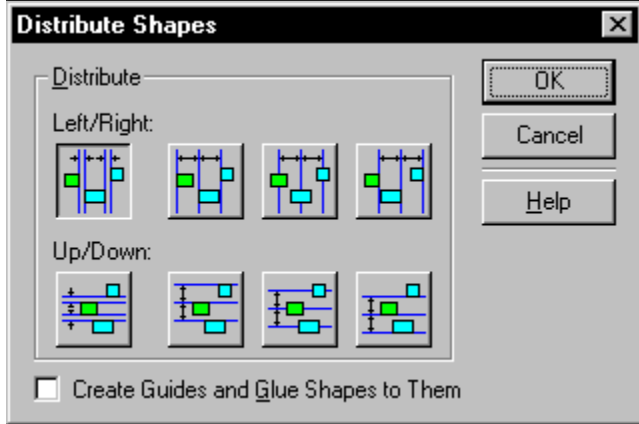
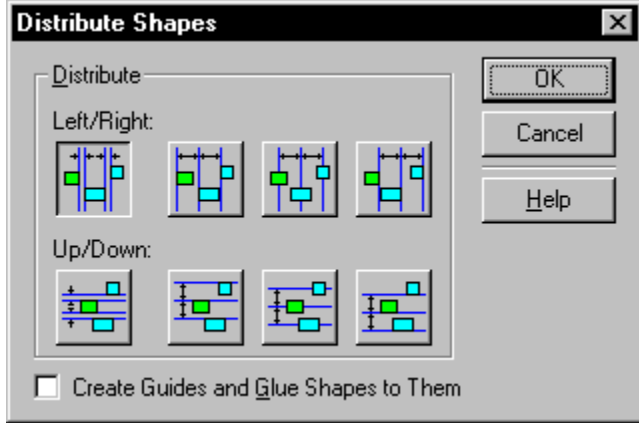
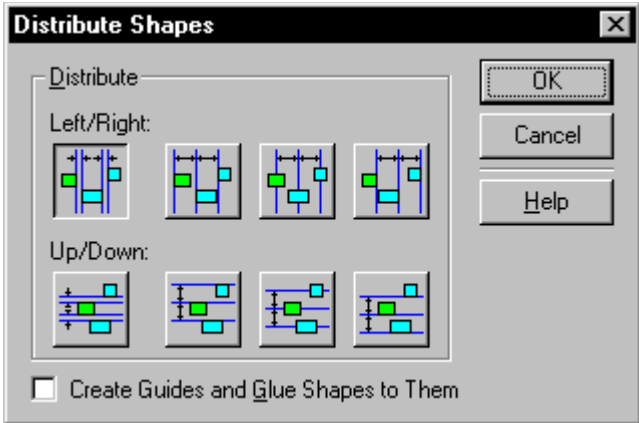
### **See also**

[Opening a stencil](#)

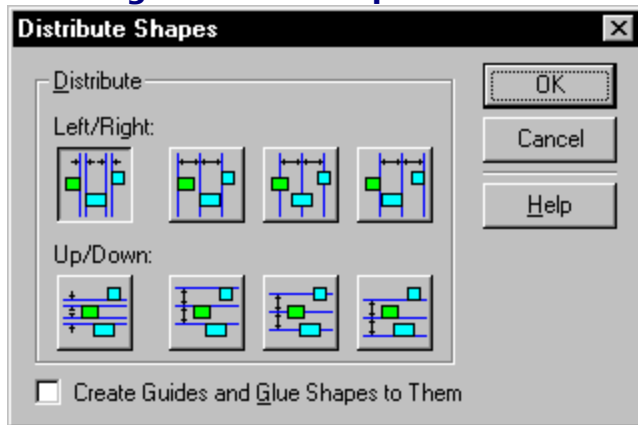




## **Deleting a master shape from a stencil**

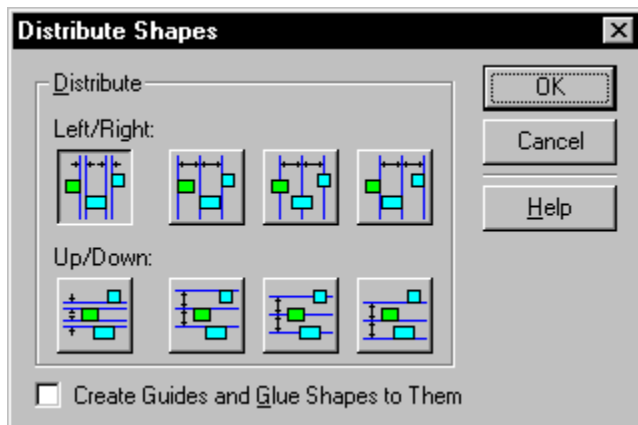


## Deleting a master shape from a stencil



### [Overview](#)

If you no longer need a [master shape](#), you can delete it. Deleting a master shape breaks the connection between the master and any [instances](#) in a [drawing](#).



### To delete a master shape:

1. Open the [stencil](#) file that contains the master shape you want to delete.  
Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).
2. In the stencil window, select the master shape.
3. From the Edit menu, choose [Clear](#).  
**Note:** Before you delete a master shape from a drawing file stencil, Visio warns you that deleting the master shape breaks the connection between the master and its instances. Click OK to delete the master, or click Cancel to cancel deletion.
4. From the File menu, choose [Save](#).  
You can also click the Save button.

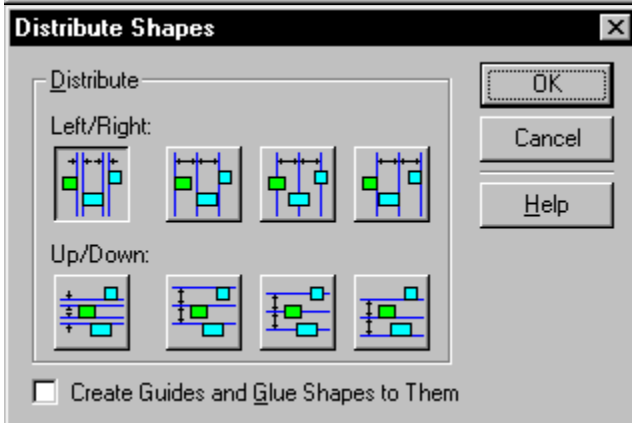
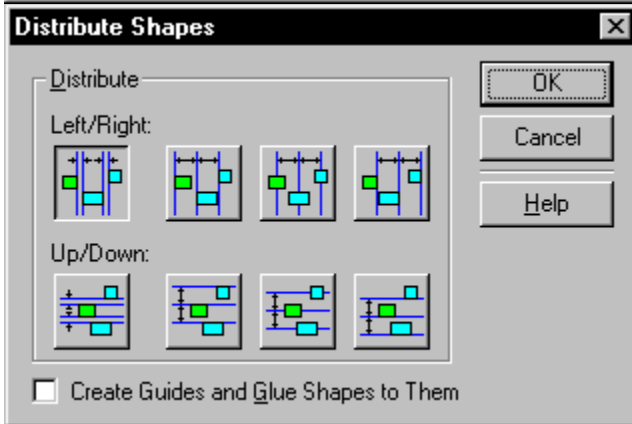
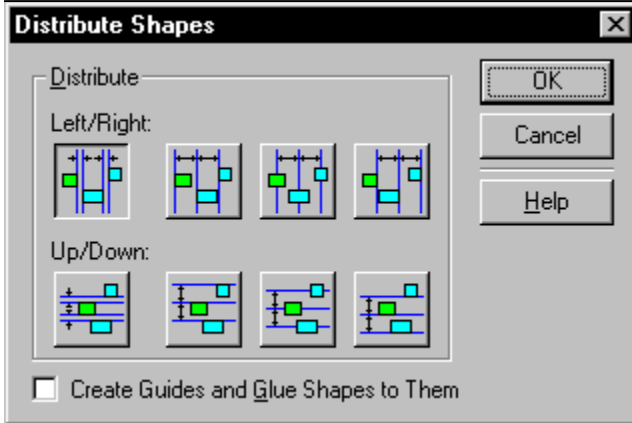
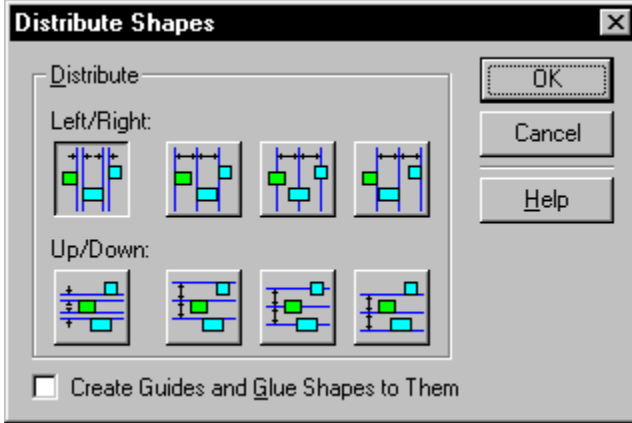
### See also

[Arranging master shapes in a stencil](#)

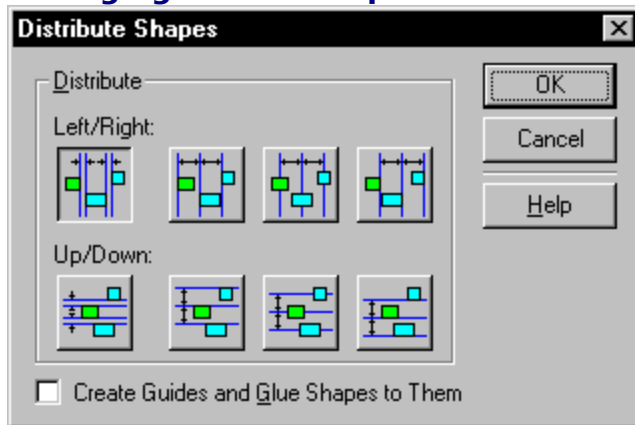
[Deleting shapes](#)

[Opening an original stencil](#)

## Arranging master shapes in a stencil

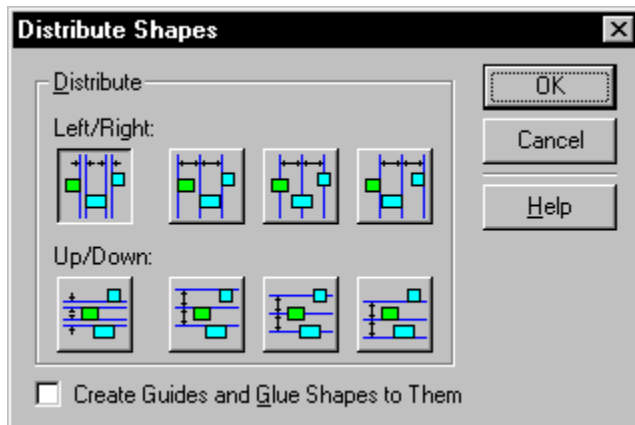


## Arranging master shapes in a stencil



### [Overview](#)

You can change the order of [master shapes](#) in a [stencil](#) to make the shapes you use frequently more accessible. You can also arrange master shapes after you modify or delete master shapes in a stencil.



### To change the order of master

#### shapes:

1. Open the stencil file that contains the master shape you want to arrange.  
Make sure to open the original stencil or a copy. For details, see [Opening an original stencil](#).
2. Drag each master shape icon to arrange them in the order you want.
3. From the File menu, choose [Save](#).  
You can also click the Save button.

**Tip:** To automatically arrange master shapes when you modify a stencil, right-click the stencil, then choose [Auto Arrange](#) from the shortcut menu. If Auto Arrange is not checked, choose [Arrange Icons](#) from the shortcut menu.

#### See also

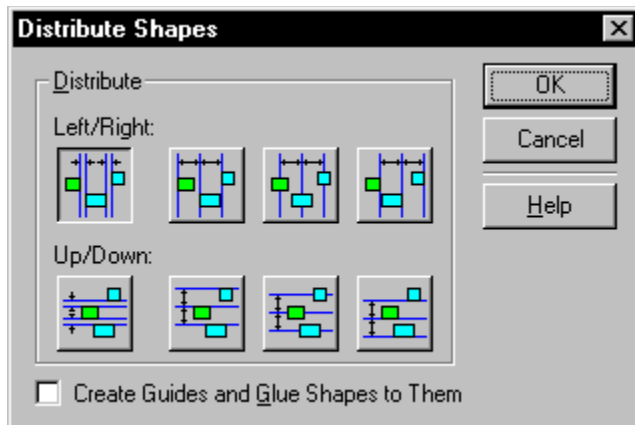
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[Opening an original stencil](#)  
[Updating master shape icons](#)





## Visio and OLE Automation



### [Related procedures](#)

You can use a programming language that supports OLE Automation, such as Visual Basic 3.0, to write programs that control Visio shapes and drawings. A program can use OLE Automation to incorporate the drawing and diagramming capabilities of Visio or automate simple repetitive tasks. For example, a program might generate an organization chart from a list of names and positions or print all of the [master shapes](#) on a [stencil](#).

A program controls Visio by accessing its objects and then using their properties and methods:

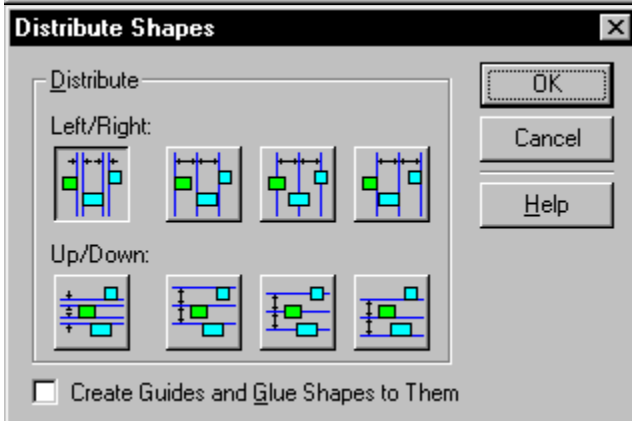
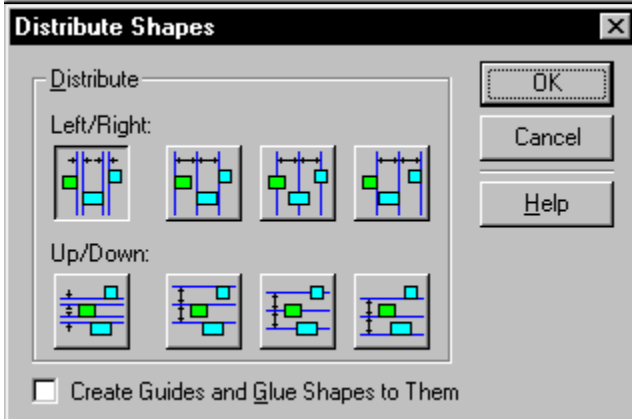
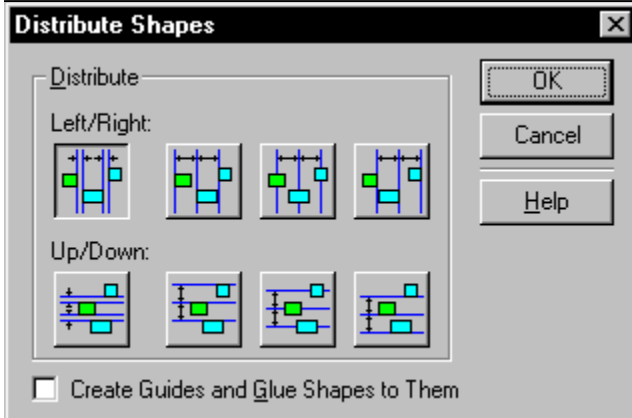
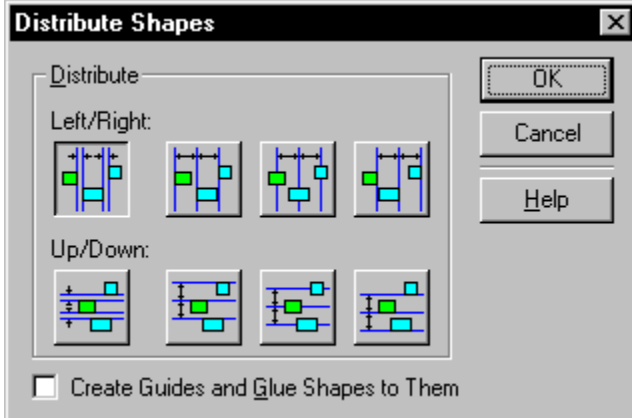
- Objects represent items you work with in Visio, such as documents, drawing pages, shapes, and formulas.
- Methods are actions that can be performed with an object. For instance, a program can use the Copy method of a Window object to copy a selected shape to the Clipboard. This method is equivalent to selecting a shape on the drawing page and using the Copy command on the Edit menu in Visio.
- Properties are attributes that determine the appearance or behavior of objects. For example, a Shape object has a Name property, which represents the name of that shape.

For complete information about writing programs to control Visio, see *Developing Visio Solutions* (published by Visio Corporation). For information about Visio objects, methods, and properties, see the online OLE Automation reference, supplied with Visio Technical and with the disk that accompanies *Developing Visio Solutions*.

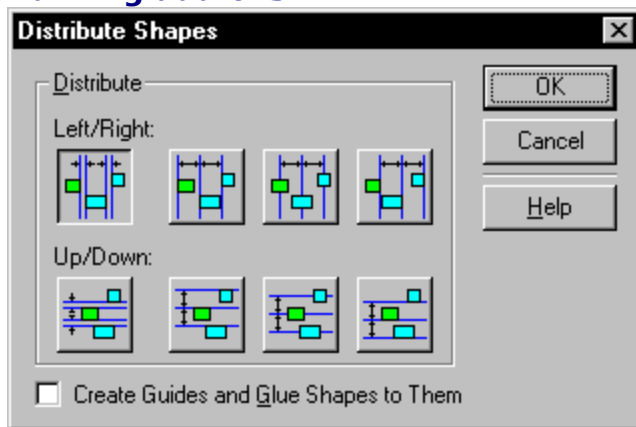
Running add-ons

Viewing a sample program

## Running add-ons



## Running add-ons

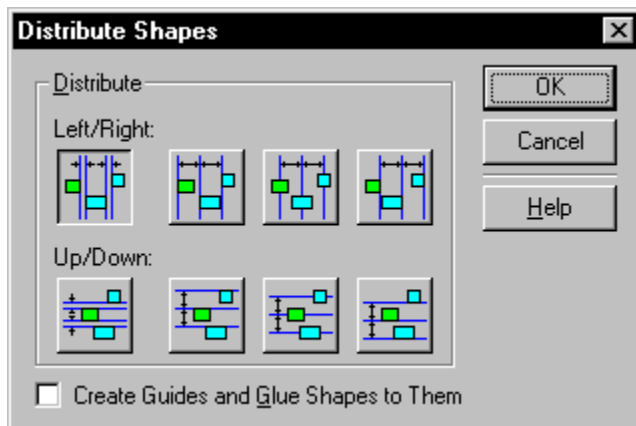


### [Overview](#)

An add-on is a program that adds functionality to Visio. Exactly how you run an add-on depends on the context for which it was designed. If an add-on is designed to be run externally to Visio, you run it like any Windows program (for example, by double-clicking an icon on the Desktop). For details, see your Windows documentation.

If a program is designed to be run in Visio, you might run it in either of these ways:

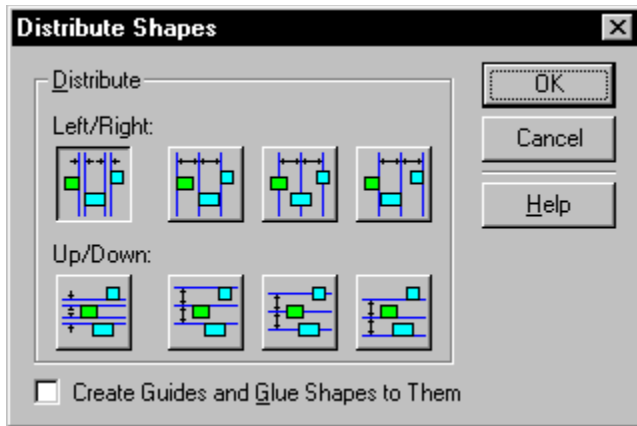
- Choose the add-on from Visio's Run Add-on submenu or dialog box. The program's .EXE file must be in Visio's Add-ons folder to appear on this menu or in the dialog box.
- Double-click a shape associated with the add-on. The program must be selected in the Run Add-on option of the Double-Click dialog box for the shape.



### **To run an add-on from Visio's Tools**

#### **menu:**

1. From the Tools menu, choose Run Add-on.
2. From the Run Add-on submenu, choose the program to run. If the program doesn't appear on the submenu, choose Add-ons and choose the program in the dialog box, then click OK.



**To associate an add-on with a shape**

**and run the add-on:**

1. Select the shape.
2. From the Format menu, choose Double-Click.
3. In the Double-Click dialog box, choose the Run Add-on option.
4. From the list of add-ons, select the one you want to run.
5. Click OK.
6. Double-click the shape to run the program.

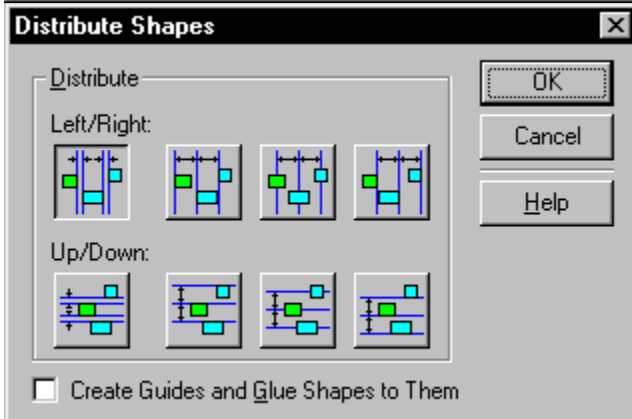
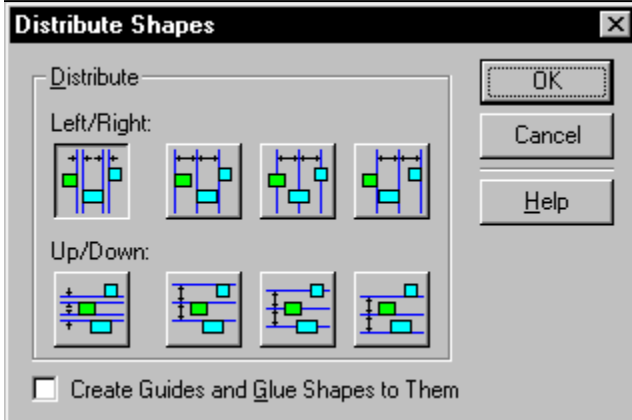
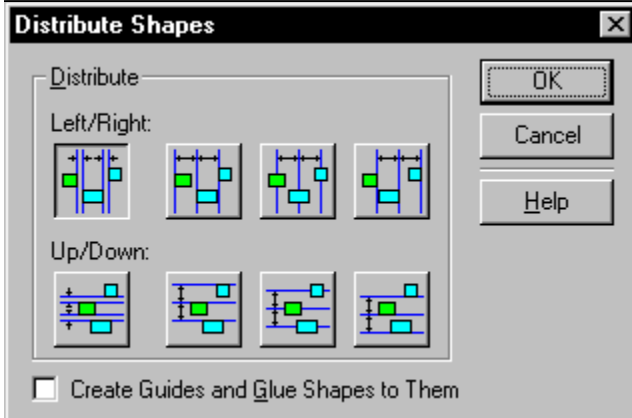
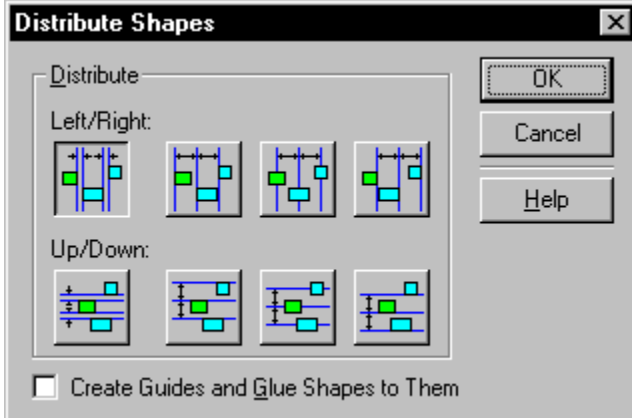
You can also associate an add-on with a shape by entering a formula that uses the [RUNADDON](#) or [RUNADDONWARGS](#) function in the [EventDbIcIck](#) cell in the ShapeSheet.

**See also**

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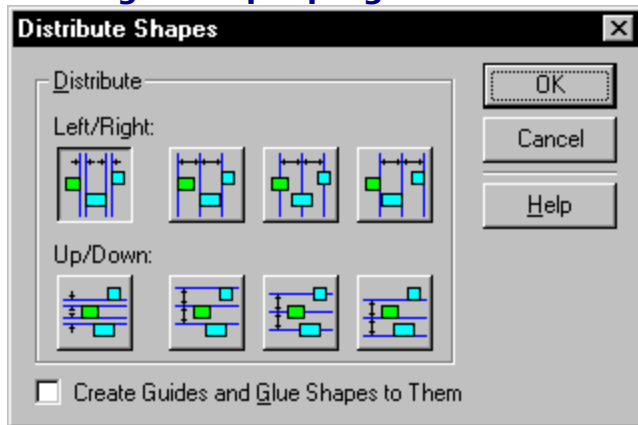
[Viewing a sample program](#)

Viewing a sample program



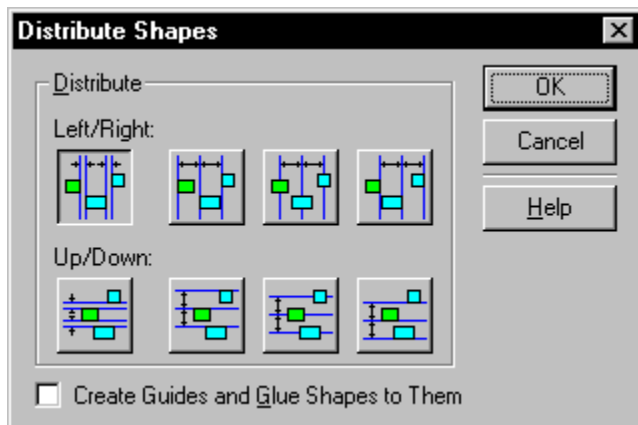


## Viewing a sample program



### [Overview](#)

This sample Visual Basic program examines the open [drawings](#) in Visio and then prints the name of each drawing file, followed by the names of the pages in the drawing.



### **The program does the following:**

1. Finds a drawing file that is open in Visio.
2. Prints the path of the drawing file.
3. Prints the name of each page in the drawing file.
4. Repeats steps 1 through 3 until all open drawing files have been listed.

The program looks like this:

### **This Visual Basic code**

```
Sub ShowNames ()
    Dim iDoc As Integer, iPag As Integer
    Dim appVisio As Object
    Dim pagObj As Object, docObj As Object
    Dim docsObj As Object
    Set appVisio = GetObject(,"visio.application")
    Set docsObj = appVisio.Documents
    For iDoc = 1 To docsObj.Count
        Set docObj = docsObj(iDoc)
        Printer.Print docObj.Name
        For iPag = 1 To docObj.Pages.Count
            Set pag = docObj.Pages(iPag)
            Printer.Print Tab(5); pagObj.Name
```

### **Does this**

```
Variable declarations
Gets all open drawings
Gets one drawing
Prints its name
Gets a page
Prints its name
```

```
        Next iPag
    Next iDoc
    Printer.EndDoc
End Sub
```

Here's an example of the program's output:

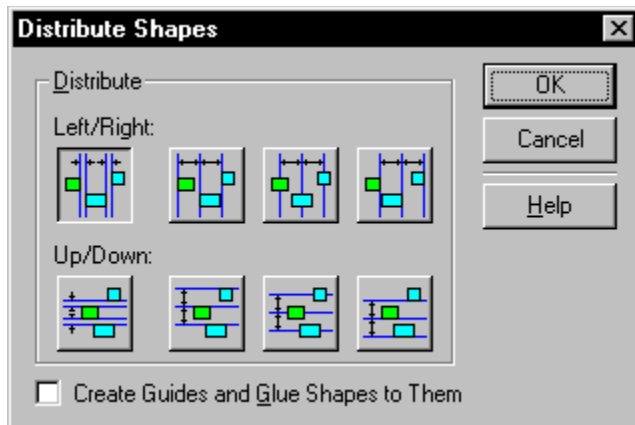
<b>Sample output</b>	<b>Description</b>
c:\drawings\pages.vsd	The name of the first drawing
Background-1	The name of page 1
Background-2	The name of page 2
c:\drawings\recycle.vsd	The name of the second drawing
Page-1	The name of page 1
Page-2	The name of page 2
Page-3	The name of page 3

### **See also**

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[Running add-ons](#)

## Drag and drop drawing



[Related procedures](#)

### Dragging and dropping master shapes

The easiest way to create [drawings](#) is to drag master shapes from [stencils](#) and drop them on the drawing page. This is called drag and drop drawing. When you drag a master shape into a drawing, you create an [instance](#) of the master shape. You can drag and drop a master shape with drawing tools, but it's easiest to use the [pointer tool](#).

As you drag, a line (representing a 1-D shape) or a box (representing a 2-D shape) shows the shape's location on the page. If you pause while dragging, you'll see the shape instead of a line or box, so you can position the shape more precisely.

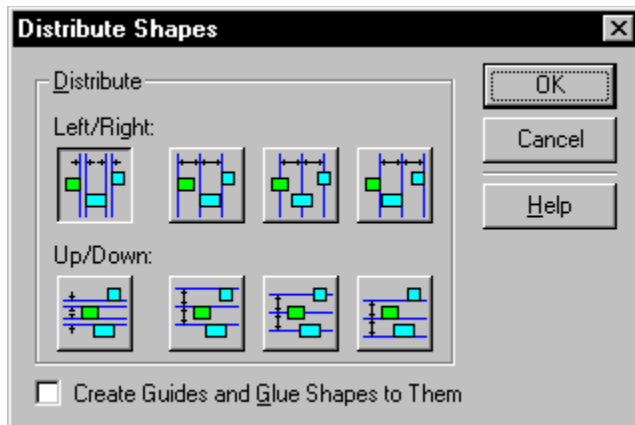
For drawings such as flowcharts, organization charts, and network diagrams, you'll need to connect shapes. You can connect shapes in a variety of ways, including dragging and dropping [connector](#) master shapes.

### Drawing file stencil

The first time you create an instance of a master in a drawing, Visio creates a copy of the master in the drawing file stencil. When you edit a master shape stored in the drawing file stencil, you can update all instances of the master in that drawing file at the same time.

Dragging and dropping connector shapes  
Dragging and dropping master shapes

## Drawing shapes



[Related procedures](#)

Visio comes with a variety of drawing tools. You can use the [pencil tool](#) to draw both lines and arcs. As you begin to draw with the pencil tool, Visio quickly calculates the [path](#) the mouse is traveling and draws a line if the path is straight or an arc if the path curves.

You can also use the [line tool](#), [arc tool](#), [ellipse tool](#), [rectangle tool](#), or [freeform tool](#) to draw shapes.

When drawing shapes, it's often helpful to use guides and grid lines to help you position the shapes. When creating complex shapes, use the Union, Combine, Fragment, Intersect, or Subtract commands (on the Shape menu and Operations submenu) to help you join and break up simpler shapes.

Closing a shape

Drawing ellipses and circles

Drawing freeform shapes

Drawing lines and arcs

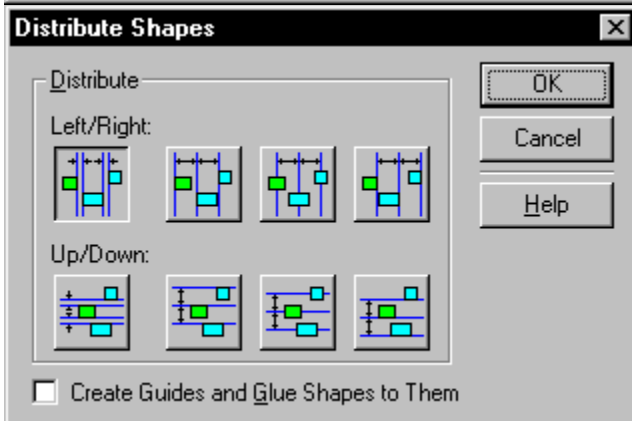
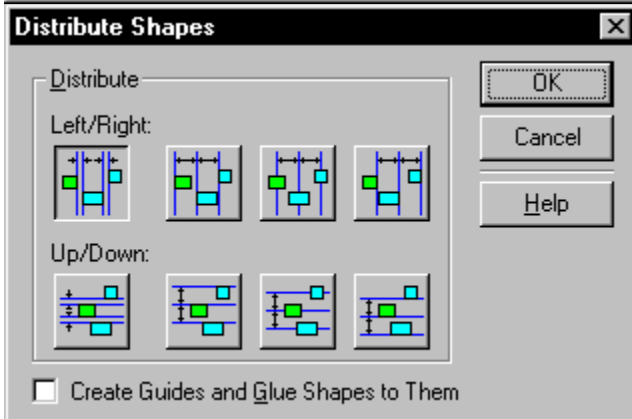
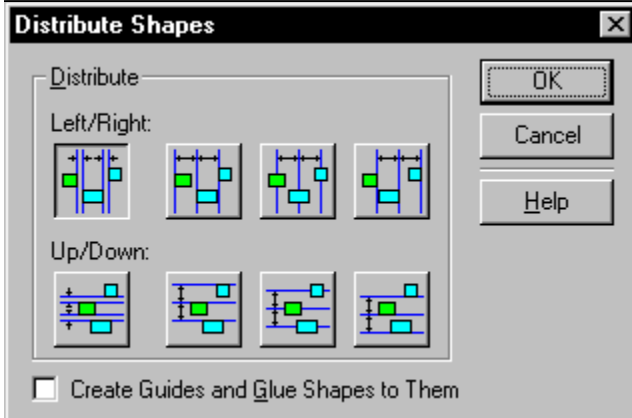
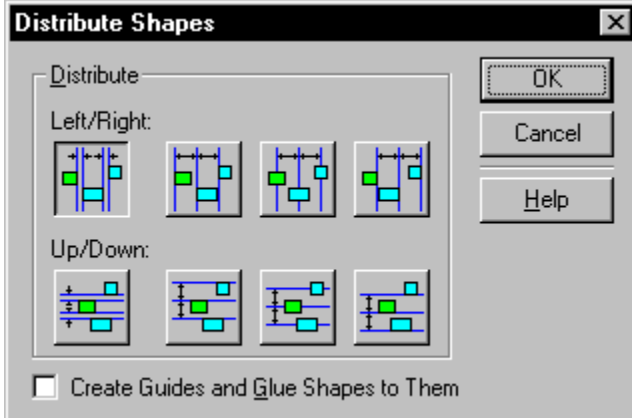
Drawing rectangles and squares

Drawing shapes with several segments

Undoing segments while drawing

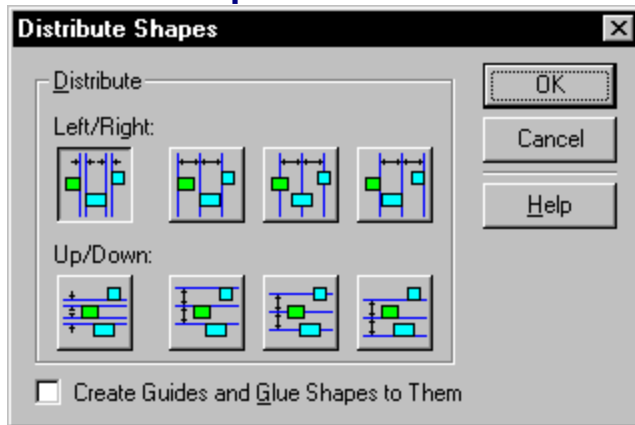
What is a shape?

**What is a shape?**





## What is a shape?



### [Overview](#)

When you create a drawing in Visio, you can drag [master shapes](#) from stencils or draw your own shapes on the drawing page. A shape is one line or arc, a series of line and arc segments, or several shapes grouped together. A single line, for example, is a shape, and so is a [drawing](#) of several shapes grouped together.

### 1-D and 2-D shapes

A Visio shape can be either one-dimensional (1-D) or two-dimensional (2-D).

A 1-D shape has [endpoints](#) and behaves like a line. 1-D shapes are often used as connectors between two 2-D shapes. When you select a 1-D shape with the [pencil tool](#), you'll also see the control point. You can drag the control point to change lines to arcs and arcs to lines. You can also use the control point to change the bow of an arc.

A 2-D shape displays [vertexes](#) (rather than endpoints) at the ends of segments. When a 2-D shape is selected with the pencil tool, each segment displays a control point.

You can convert a shape from 2-D to 1-D so you can use it as a connector, or you can convert a 1-D shape to a 2-D shape, which lets you size it proportionally by dragging its corner handles.

### Closed and open shapes

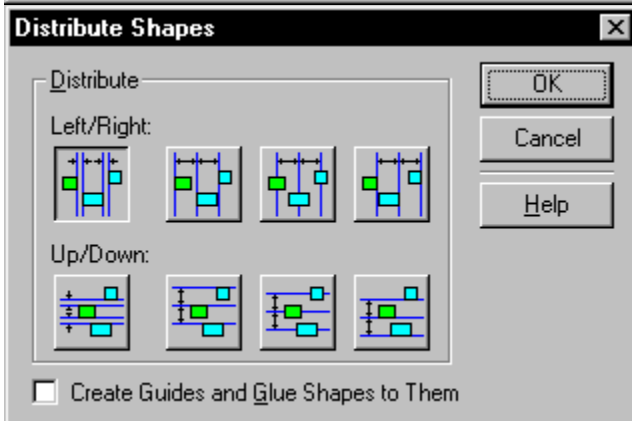
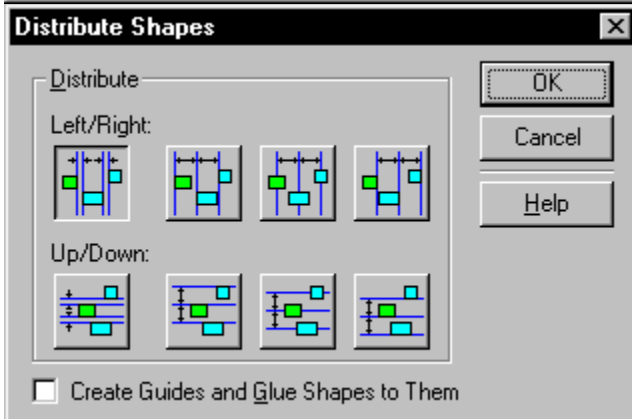
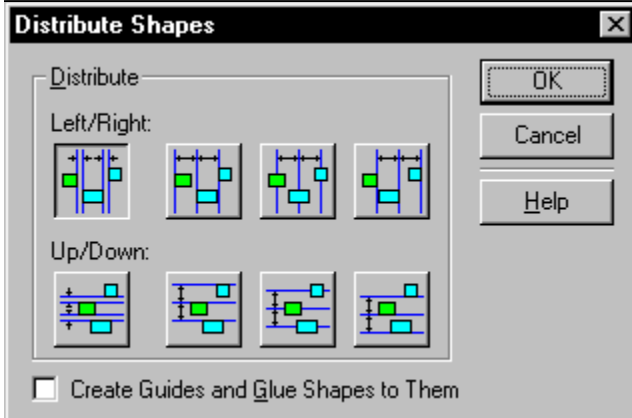
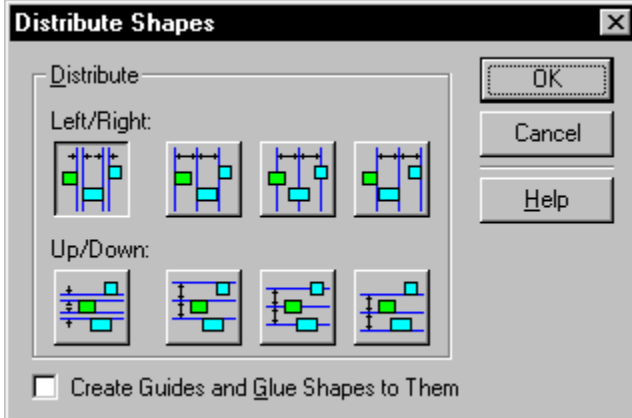
A shape is either closed or open. Shapes like rectangles or circles are *closed* shapes. Lines, half-circles, or zigzag shapes are *open* shapes. You can fill closed shapes with colors and patterns. You can [format](#) the ends of open shapes. For example, any open shape can have an arrowhead at each end.

### See also

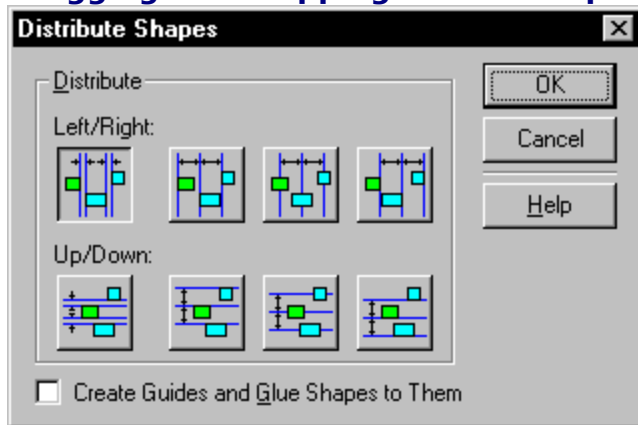
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[Changing 1-D and 2-D behavior](#)  
[Dragging and dropping master shapes](#)  
[Drawing rectangles and squares](#)  
[Drawing shapes with several segments](#)

## **Dragging and dropping master shapes**

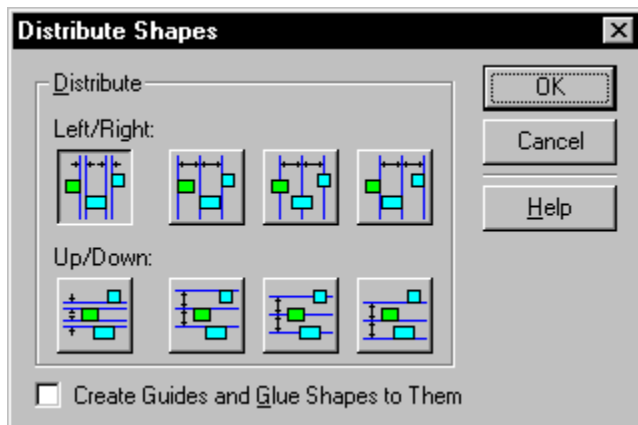


## Dragging and dropping master shapes



[Overview](#)

The easiest way to create a [drawing](#) is to drag [master shapes](#) from stencils and drop them into drawings.



**To drag a master shape into a**

### **drawing:**

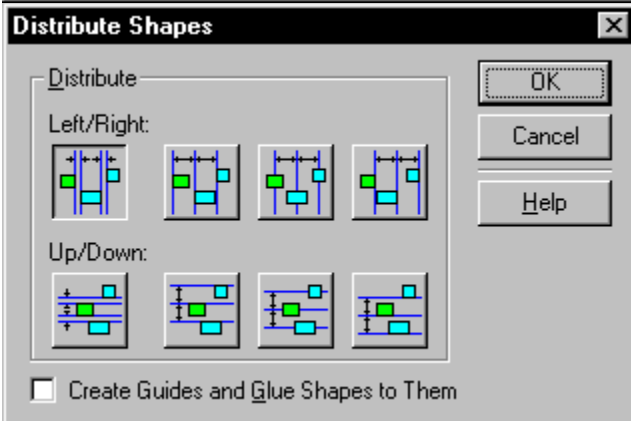
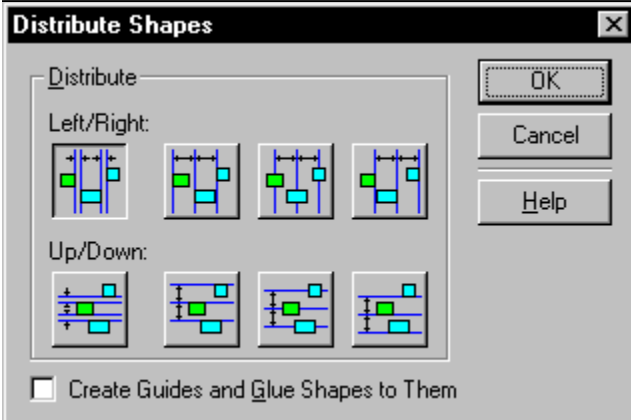
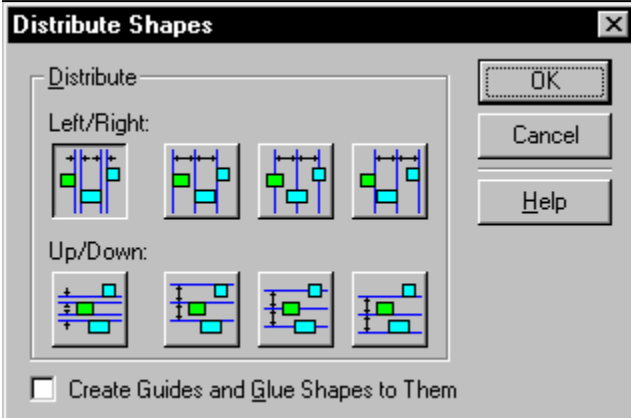
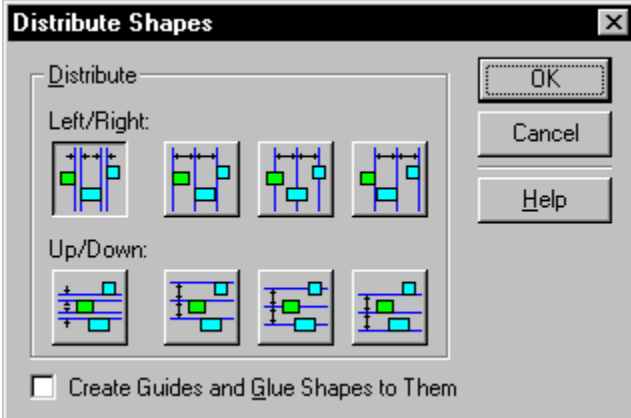
1. From the toolbar, choose the [pointer tool](#).
2. In the stencil window, point to the icon for the master shape.
3. Hold down the left mouse button and drag the master shape from the stencil to the drawing page.
4. Release the mouse button to drop an [instance](#) of the master shape in the drawing.

### **See also**

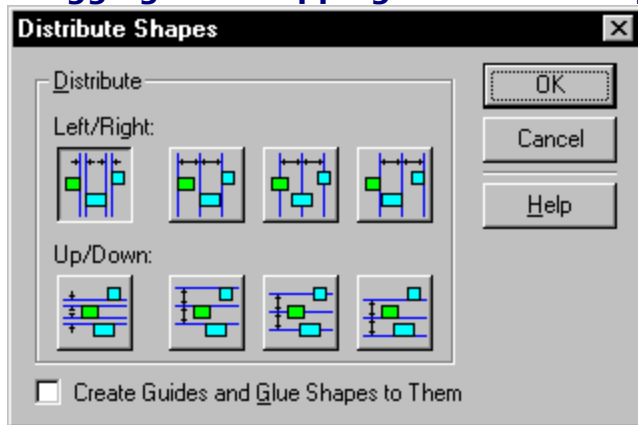
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[Dragging and dropping connector shapes](#)  
[Stamping master shapes](#)

## **Dragging and dropping connector shapes**



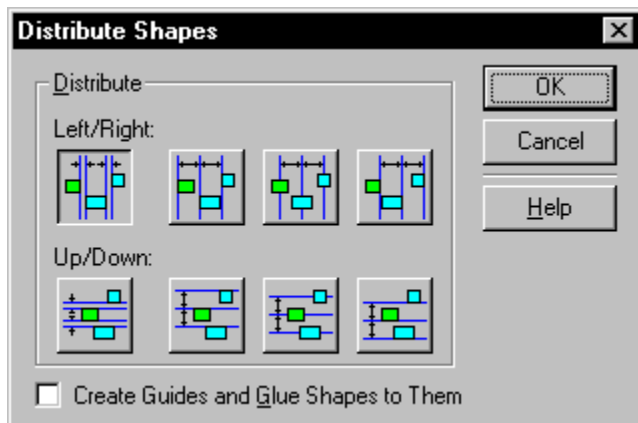
## Dragging and dropping connector shapes



### [Overview](#)

You can [drag and drop](#) connector master shapes to connect shapes in a drawing. To connect shapes, you drag the connector to the shape you want to [glue](#) it to. The connections are made at [connection points](#), which appear as blue Xs on the screen.

Connection points can be on a shape's perimeter, inside the shape, or even outside the shape. You can glue the endpoint of a [1-D](#) shape to points on [2-D](#) shapes and to [groups](#), to [objects](#) from other programs, or to an endpoint or connection point on another one-dimensional shape.



### To glue a connector shape using the

#### drag and drop technique:

1. Drag the shapes you want to connect into position on the drawing page.
2. Drag the connector shape from the stencil window into the drawing window.  
You can use any 1-D shape as a connector. When you are using a stencil that contains the [Universal connector](#) master shape, it's best to use that shape.
3. Drag an endpoint of the connector shape to the connection point you want to glue it to.  
If the glue is successful, the endpoint turns red.
4. Drag the other connector shape endpoint to the point you want to glue it to.

To glue a connector shape to points other than connection points on other shapes, you need to set glue options in the [Snap & Glue](#) dialog box.

**Tip:** You can also connect shapes as you drag them from the stencil and drop them on the page. For details, see [Connecting a series of shapes automatically](#).

**See also**

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[Creating and deleting connection points](#)

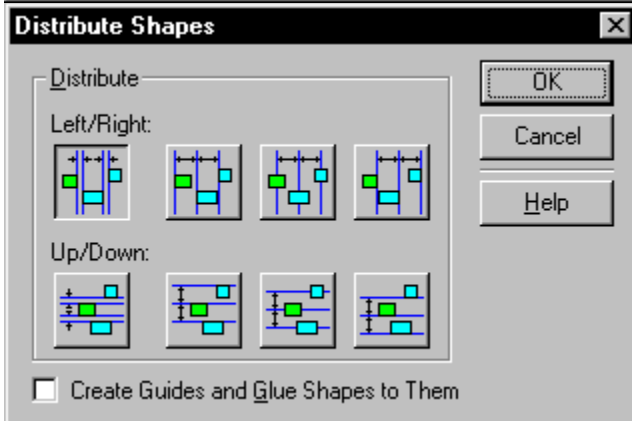
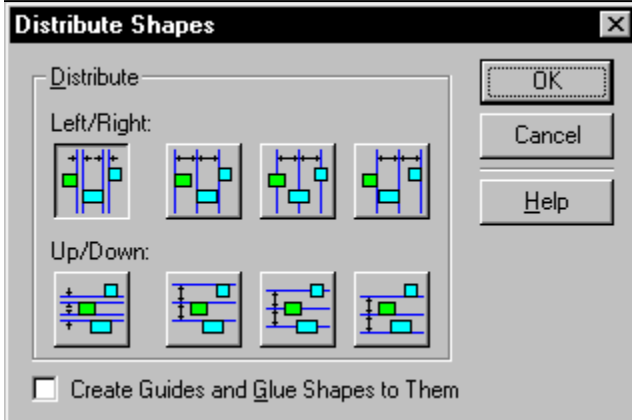
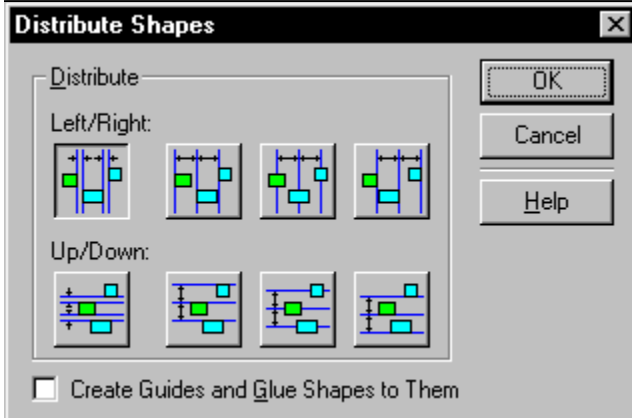
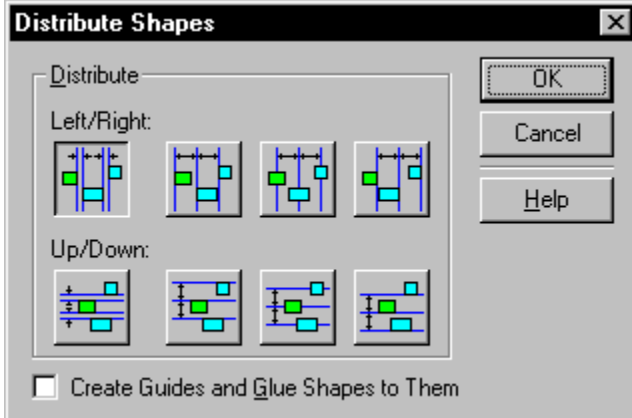
[Setting glue options](#)

[Stamping master shapes](#)

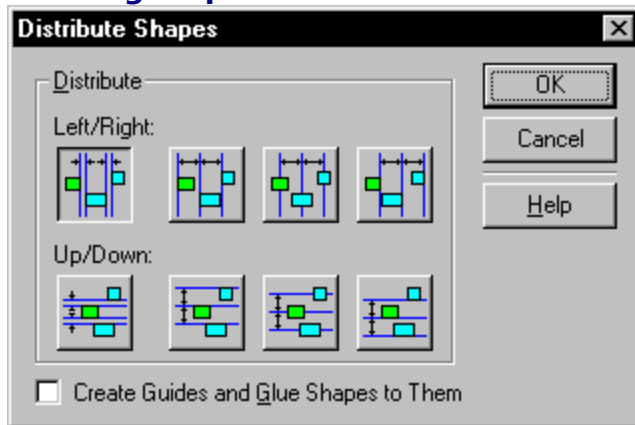
[Using the connector tool to connect two shapes](#)



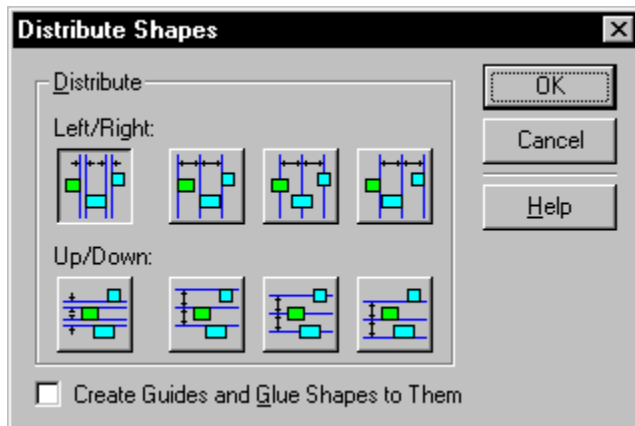
## **Drawing ellipses and circles**



## Drawing ellipses and circles



[Overview](#)



**To draw an ellipse or a circle:**

1. From the drawing tool menu, choose the [ellipse tool](#).
2. Point to where you want to start drawing the shape.
3. Drag until the shape is the size you want.  
For a circle, hold down the Shift key as you drag.
4. Release the mouse button.

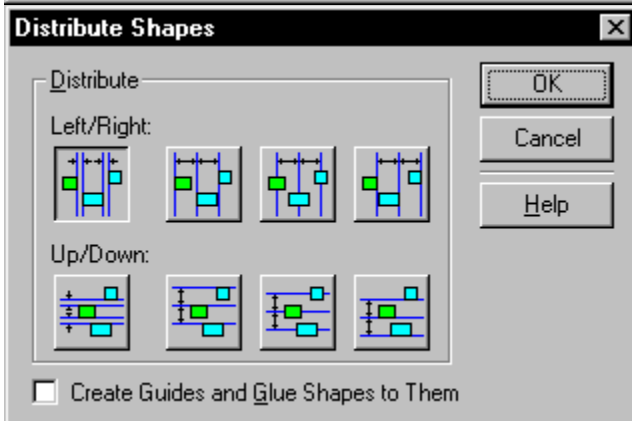
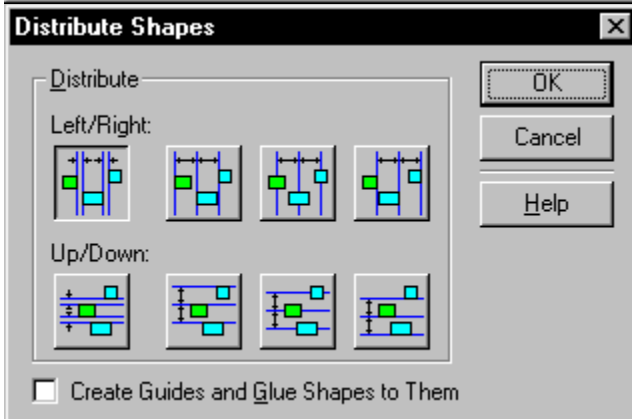
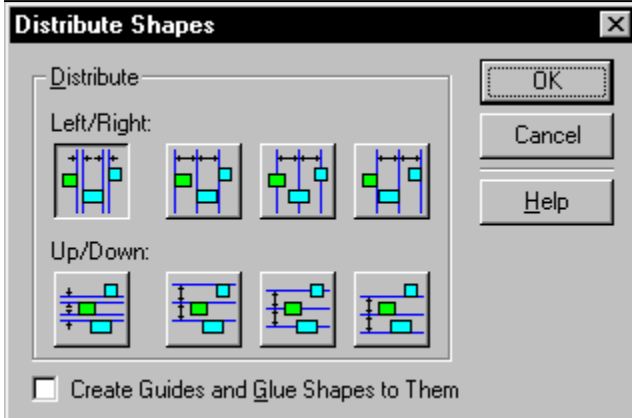
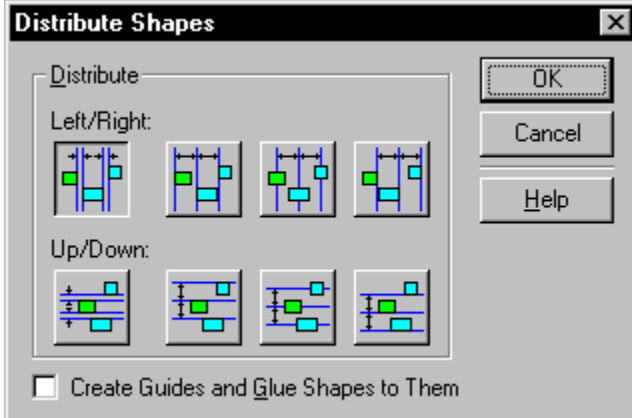
### See also

[Changing 1-D and 2-D behavior](#)

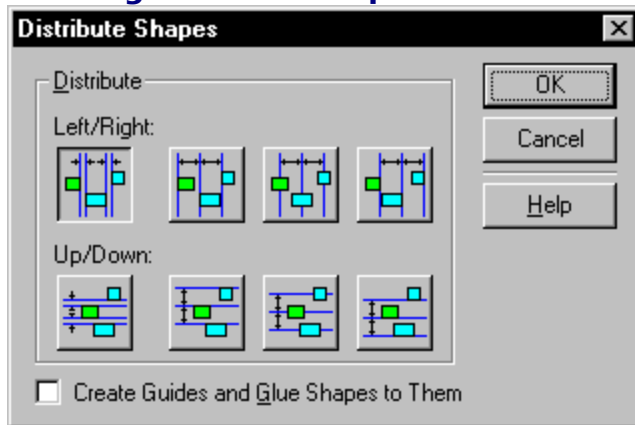
[Drawing lines and arcs](#)

[Moving shapes by dragging](#)

## **Drawing freeform shapes**

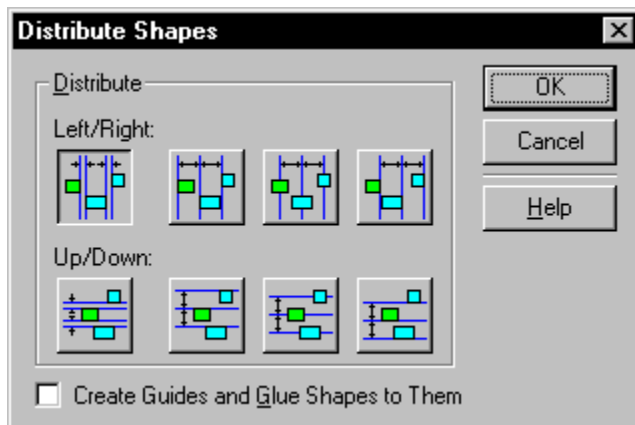


## Drawing freeform shapes



### [Overview](#)

The freeform tool draws smooth curves. For example, you can draw network wiring that is smooth, not jagged.



### To draw a freeform shape:

1. From the drawing tool menu, choose the [freeform tool](#).
2. Hold down the left mouse button as you drag in various directions to draw a freeform shape, then release the mouse button.

To connect another freeform shape to the end of the first one, place the cursor over the end of the first freeform shape, then click and drag the second freeform shape.

3. To edit a freeform shape while it is still selected, click and drag a control point.

To edit more than one control point at a time, press the Shift key while clicking multiple control points.

To delete a control point, select it, then press the Del key.

To add a control point, press the Ctrl key while clicking the freeform shape.

To resize a freeform shape, select the shape with the pointer, then drag a selection handle.

**Note:** If the freeform shape is not selected, from the drawing tool menu, choose the pencil tool, then click a control point.

4. When you're finished, choose the pointer or another tool from the toolbar to continue working on the diagram.

To change freeform shape defaults, choose Options from the Tools menu, then edit the

Freeform Drawing section.

**See also**

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[Changing 1-D and 2-D behavior](#)

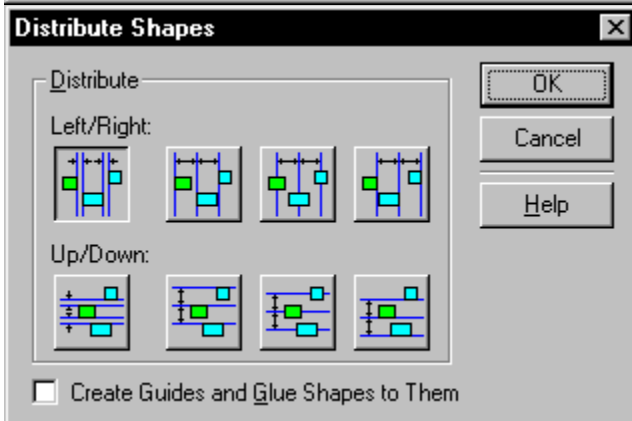
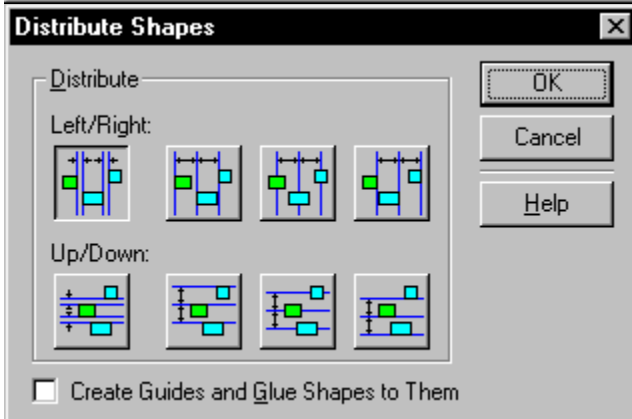
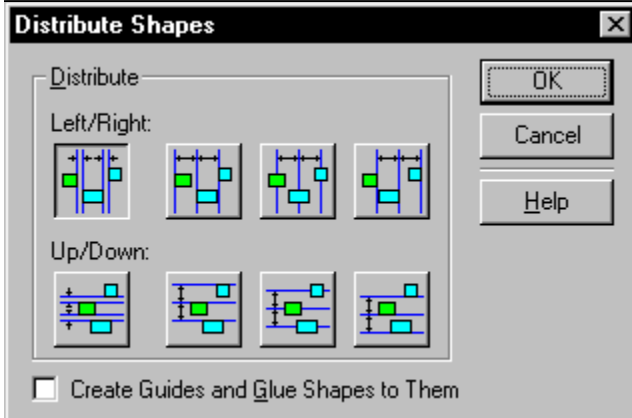
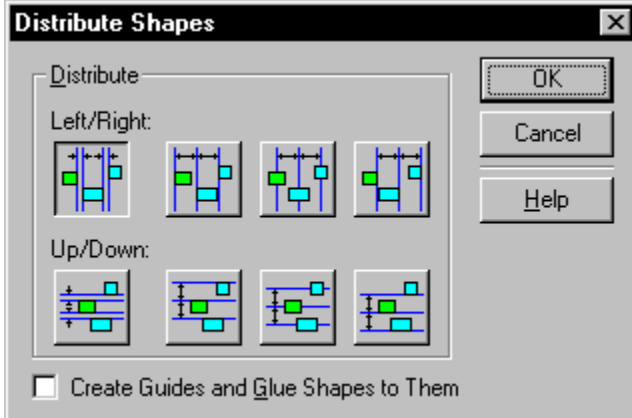
[Changing shape angles by dragging a vertex](#)

[Drawing lines and arcs](#)

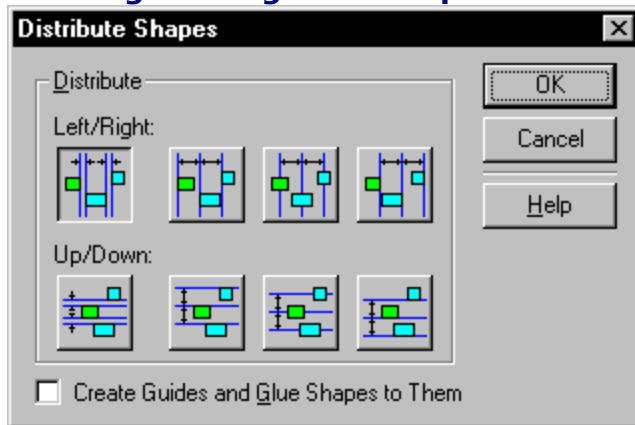
[Moving shapes by dragging](#)

## **Drawing rectangles and squares**

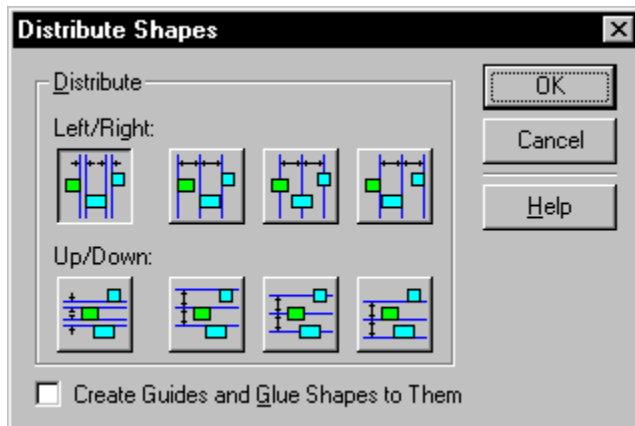




## Drawing rectangles and squares



[Overview](#)



**To draw a rectangle or square:**

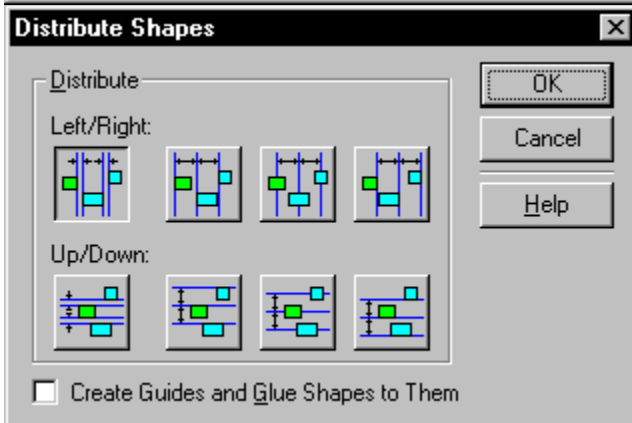
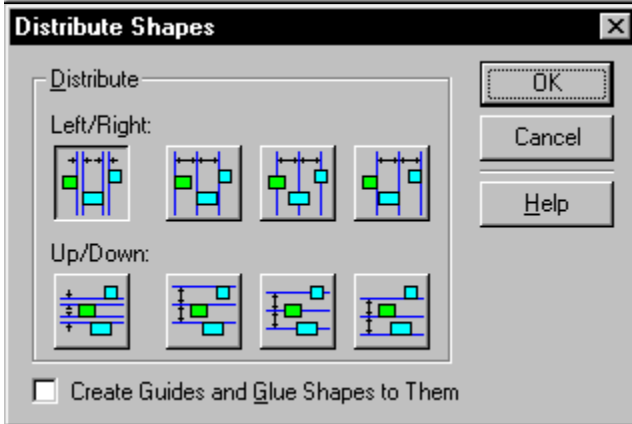
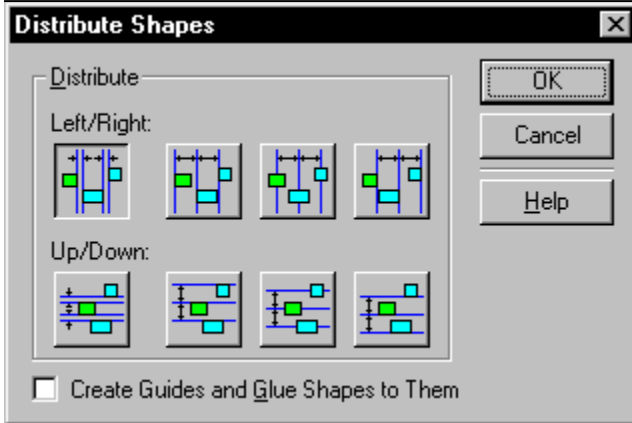
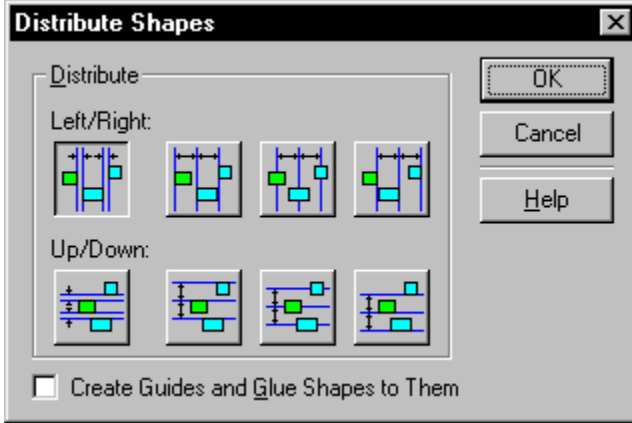
1. From the drawing tool menu, choose the [rectangle tool](#).
2. Point to where you want a corner of the shape.
3. Drag until the shape is the size you want.  
To draw a square, hold down the Shift key as you drag.
4. Release the mouse button.

### See also

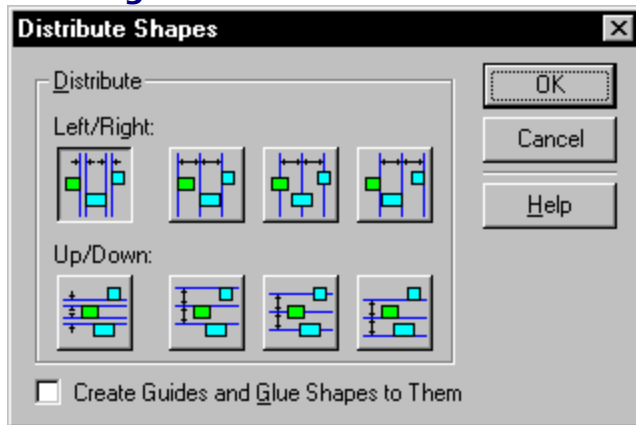
[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

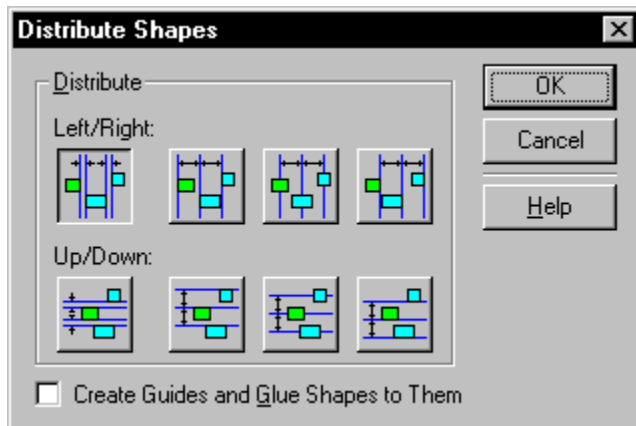
## **Drawing lines and arcs**



## Drawing lines and arcs



[Overview](#)



### To draw a line or an arc:

1. From the drawing tool menu, choose the [pencil tool](#).  
Alternatively, choose the [line tool](#) or the [arc tool](#).
2. Point to where you want to start the line or arc.
3. Drag to draw the line or arc.  
To draw lines at 45 intervals, hold down the Shift key as you draw lines.  
To constrain the shape of the arc, hold down the Shift key as you draw arcs.
4. Release the mouse button.

**Note:** Arcs differ depending on which tool you use to draw them. An arc you draw with the pencil tool is a portion of a circle. The portion and size of the circle vary depending on how you move the mouse. An arc you draw with the arc tool is always a quarter of an ellipse.

### See also

[Changing 1-D and 2-D behavior](#)

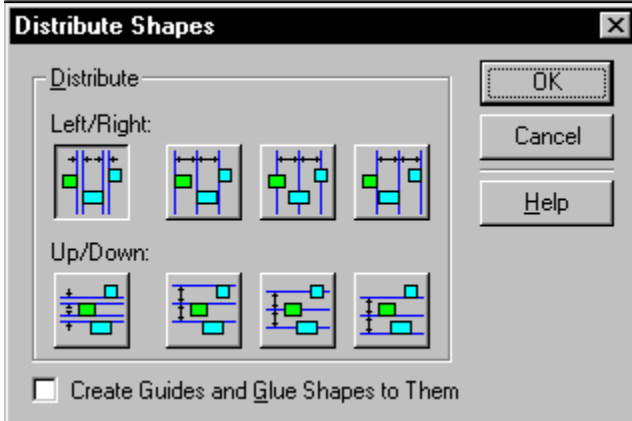
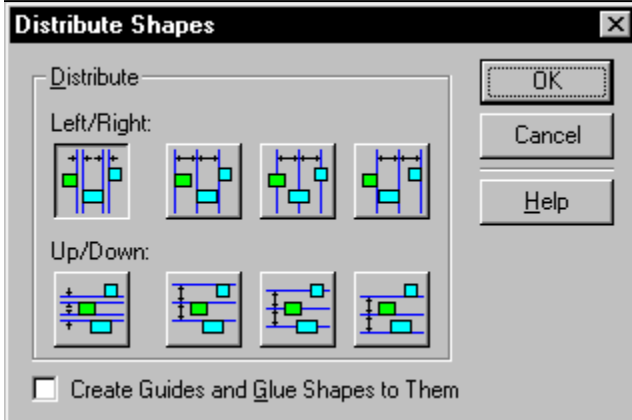
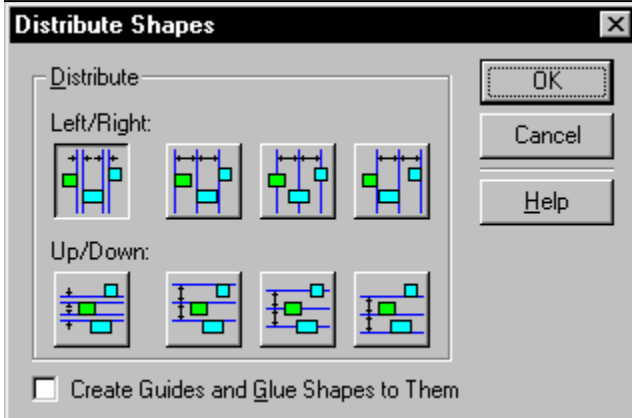
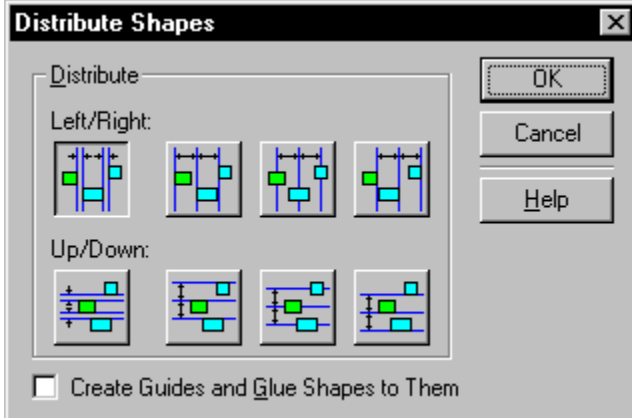
[Changing an arc's eccentricity](#)

[Changing shape angles by dragging a vertex](#)

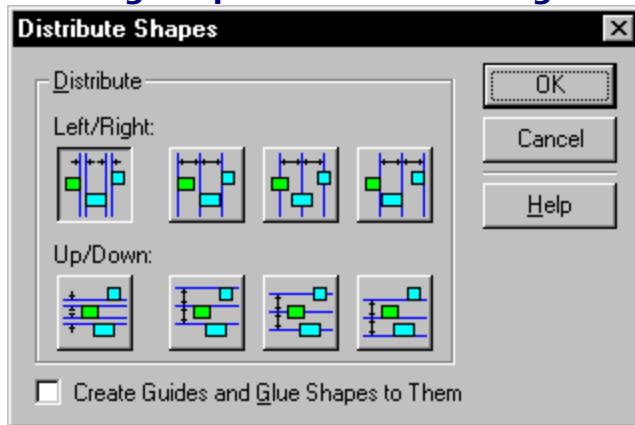
[Drawing ellipses and circles](#)

[Drawing freeform shapes](#)

## **Drawing shapes with several segments**

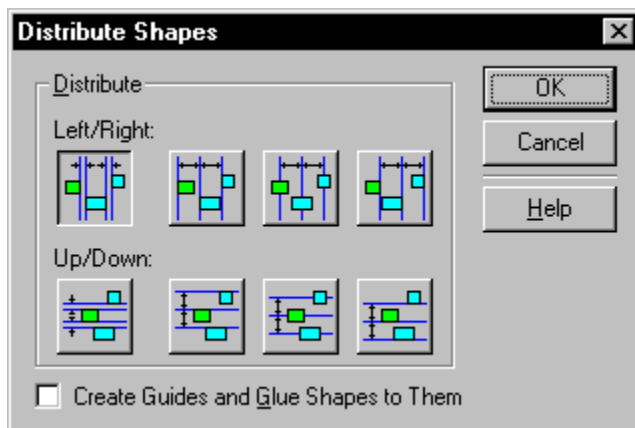


## Drawing shapes with several segments



### [Overview](#)

To draw a shape with more than one segment, start each new segment at one of the endpoints or at a vertex on another segment. You can delete a segment you draw by choosing Undo from the Edit menu. You can also adjust, add, and delete segments after you complete the shape.



### **To draw a shape with several**

#### **segments:**

1. From the drawing tool menu, choose the pencil tool.  
Alternatively, choose the line tool, arc tool, or freeform tool.
2. Point to where you want to start the shape.
3. Drag to create the first segment and release the mouse button.
4. Point to one of the endpoints of the first segment, and then drag to draw the next segment. When you finish, release the mouse button.

Be careful not to click the endpoint of the first segment. If you select an endpoint, it turns magenta. If you drag an endpoint, Visio resizes the existing segment instead of starting a new one (if you resize a segment rather than draw a new one, choose Undo from the Edit menu).

5. To draw additional segments, point to a vertex on one of the segments you've drawn, and then drag to draw the next segment.

#### **See also**

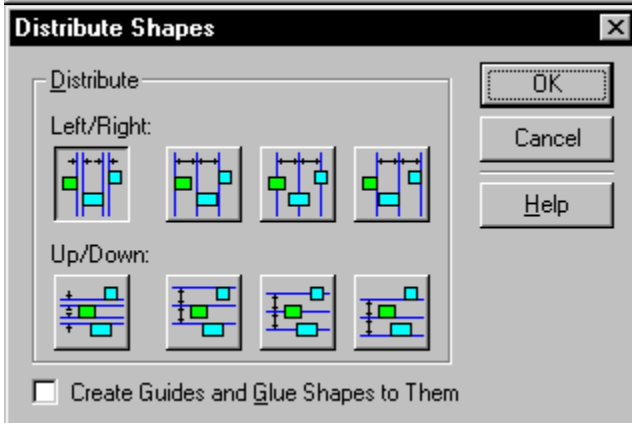
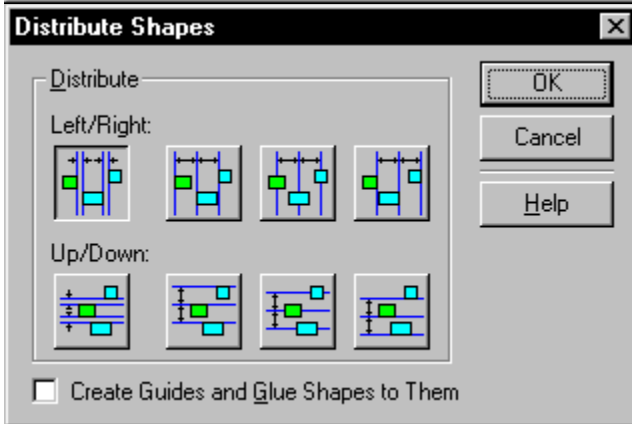
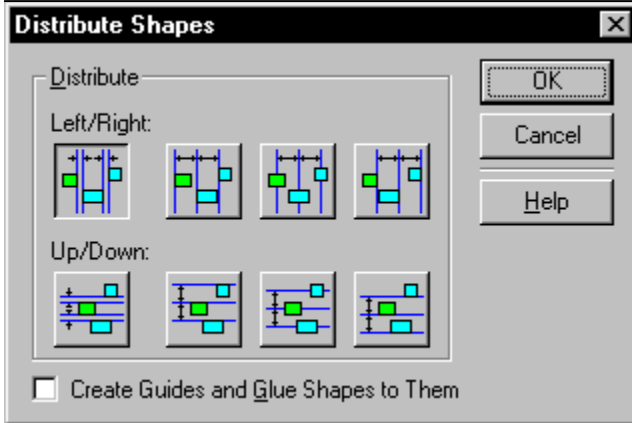
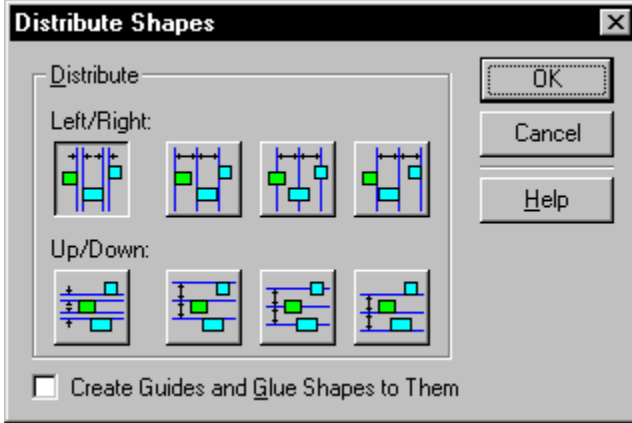
[Closing a shape](#)

[Drawing freeform shapes](#)

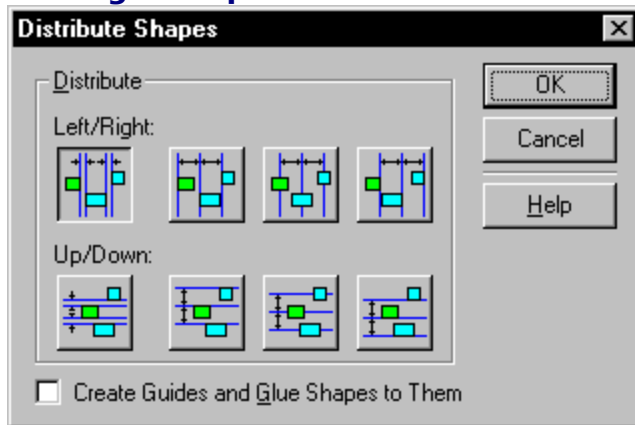


Undoing segments while drawing

## Closing a shape

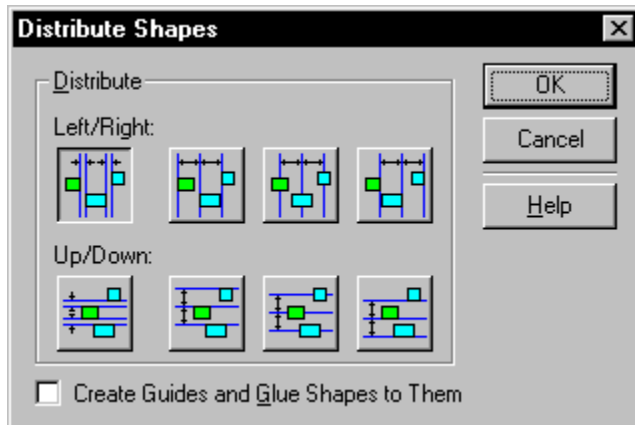


## Closing a shape



[Overview](#)

To close a shape in Visio, drag the last [vertex](#) of the shape so that it meets the first vertex.



### To close a shape:

1. Drag the last [segment](#) of the shape until the mouse pointer is over the last open vertex for the shape.
2. Release the mouse button.

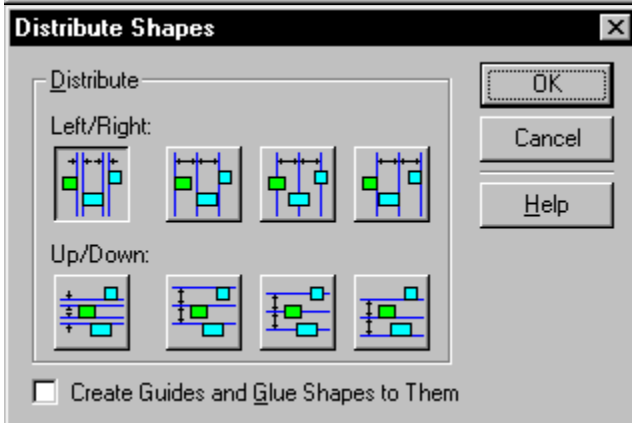
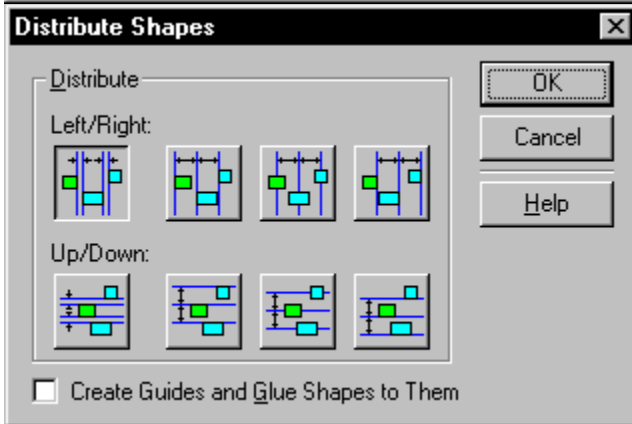
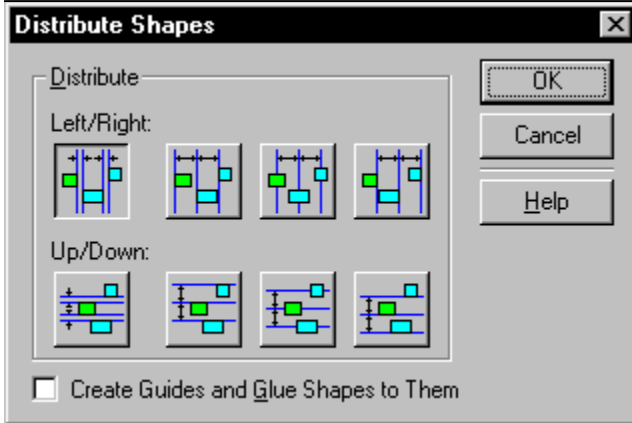
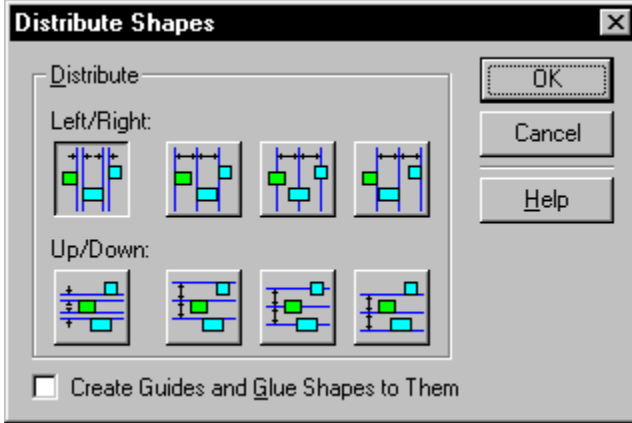
### See also

[Adding segments to shapes](#)

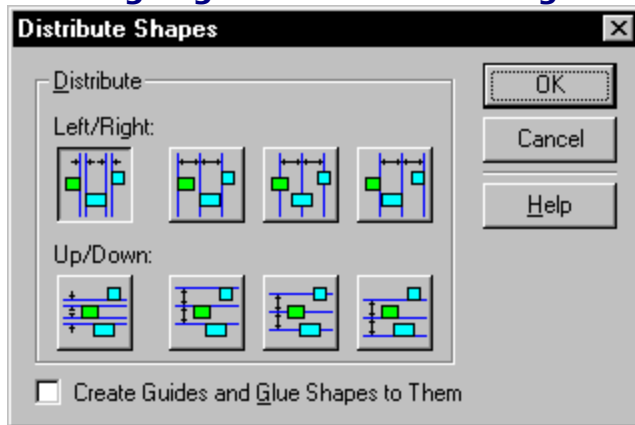
[Deleting segments from shapes](#)

[Undoing segments while drawing](#)

## Undoing segments while drawing

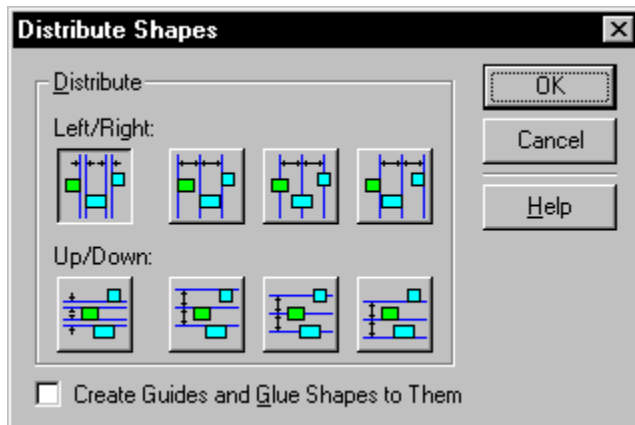


## Undoing segments while drawing



[Overview](#)

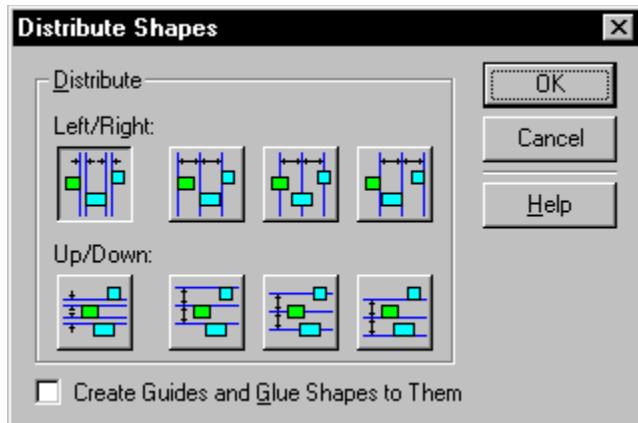
If you need to change or delete a segment while drawing with the pencil tool, line tool, arc tool, or freeform tool, you can start a segment over before you finish drawing it or undo segments one at a time.



### To start a segment over:

1. Before you release the mouse button at the end of a segment, drag back to the vertex at the beginning of the segment.  
Make sure you hit the vertex precisely or you may not delete the segment completely.
2. Redraw the segment.

**Tip:** To zoom in for a closer look, choose a percentage from the Zoom box, or press Ctrl+Shift+left mouse button.



**To undo segments one at a time:**

1. After you draw segments, but before you perform other actions, choose Undo from the Edit menu.

### **See also**

[Adding segments to shapes](#)

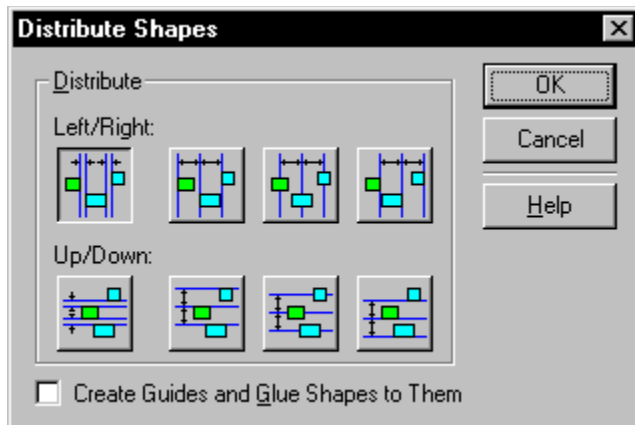
[Changing shape angles by dragging a vertex](#)

[Deleting segments from shapes](#)

[Grouping and ungrouping shapes](#)



## Copying, duplicating, and deleting shapes



### [Related procedures](#)

You can use commands to copy, cut, [paste](#), and duplicate shapes. By indicating exactly where you want Visio to place a copy of a shape, you can quickly create borders or evenly spaced boxes in organization charts.

You can also copy and move shapes from one [drawing](#) to another by selecting shapes and copying them to the Windows [Clipboard](#) or by dragging shapes from one drawing to another.

If you no longer need a shape in a drawing, you can delete it from the drawing.

Copying shapes in the current drawing

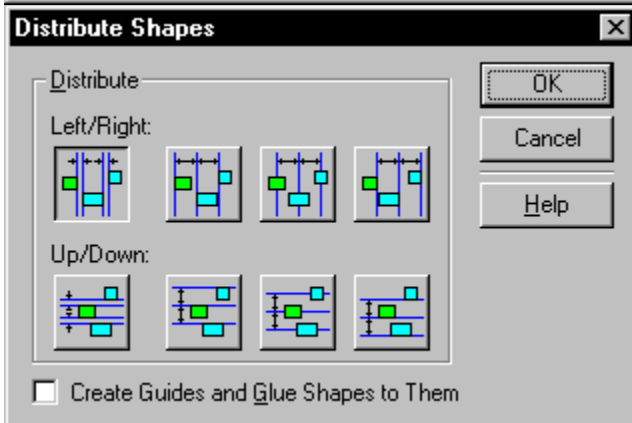
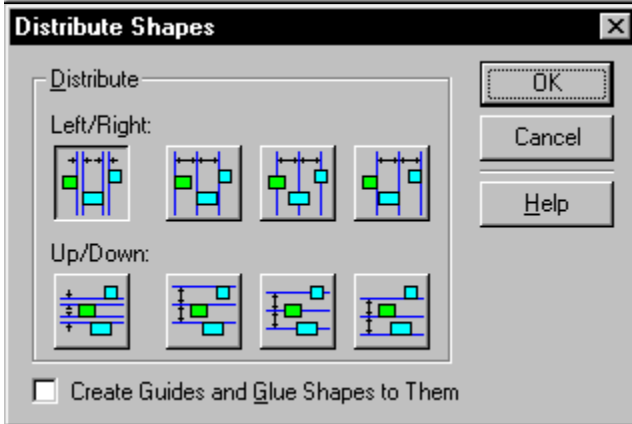
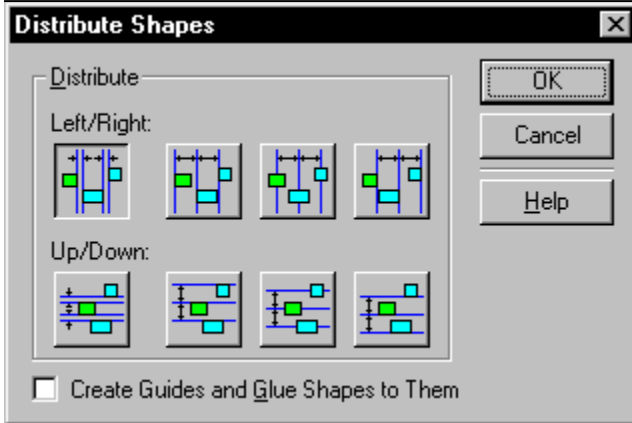
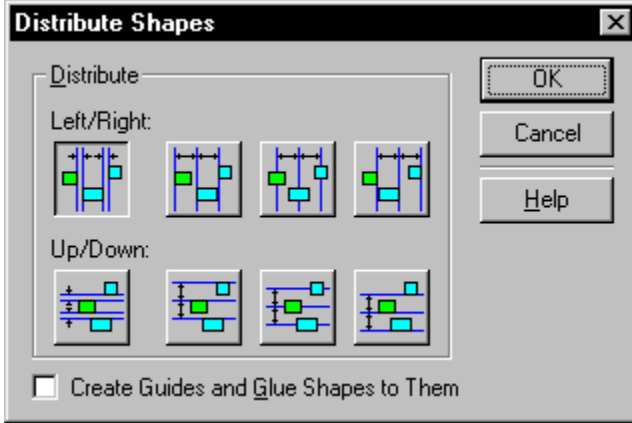
Copying shapes to another drawing

Deleting shapes

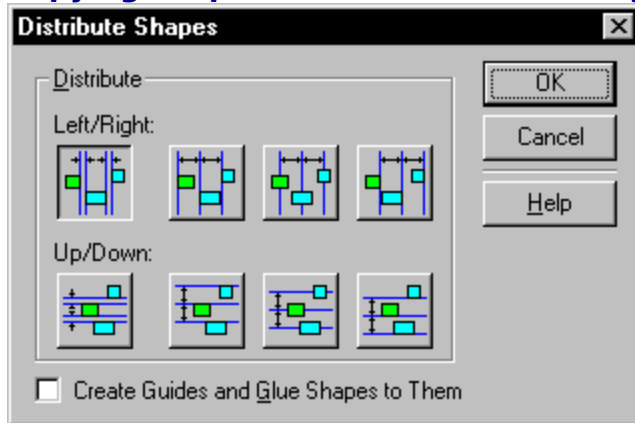
Dragging shapes to another drawing

Stamping master shapes

## Copying shapes in the current drawing

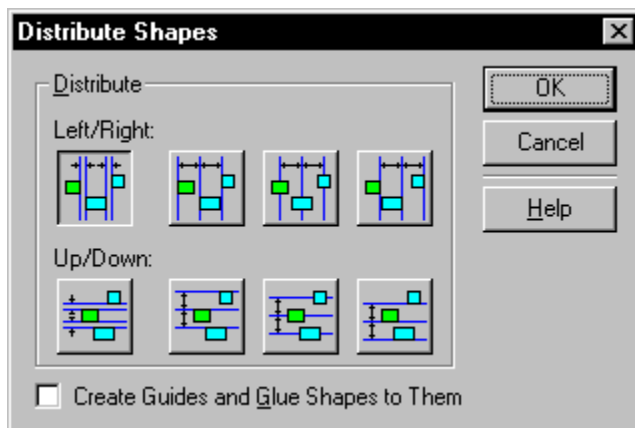


## Copying shapes in the current drawing



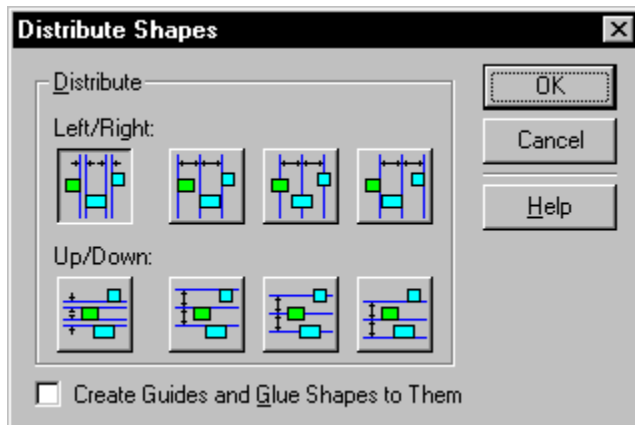
[Overview](#)

You can copy a shape at a standard distance from the original shape or drag a copy of a shape exactly where you want it. After copying a shape, you can quickly create additional copies—each additional copy is offset from the previous copy by the same amount as the first copy is offset from the original.



**To duplicate a shape:**

1. Select the shape.
2. From the Edit menu, choose Duplicate.
3. To create additional copies equally spaced apart, press F4 for each additional copy you want to create.



**To copy a shape at a specific location:**

1. Select the shape.

2. Hold down the Ctrl key and drag the shape where you want the copy.
3. Release the mouse button.

The copy appears where you release the mouse button.

4. To create additional copies equally spaced apart, press F4 for each copy you want.

**Note:** You can also use the [Copy](#) and [Paste](#) commands to duplicate shapes in a drawing; however, the Duplicate command is quicker and easier.

### **See also**

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[Copying and applying shape formatting](#)

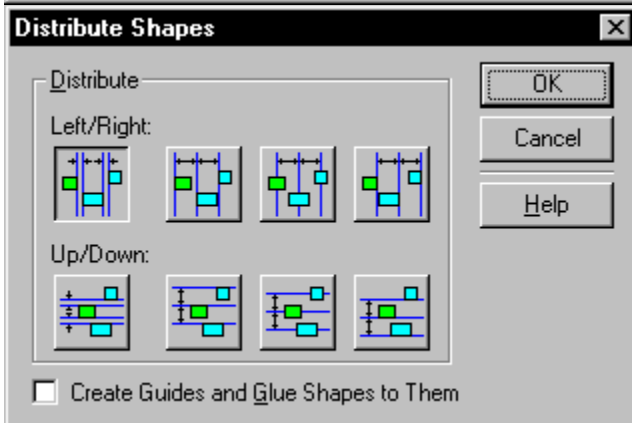
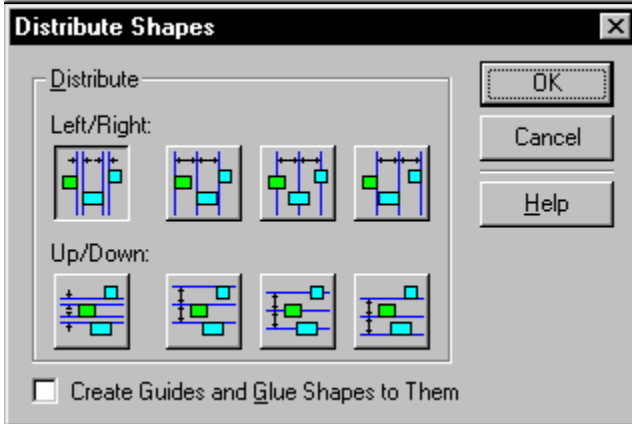
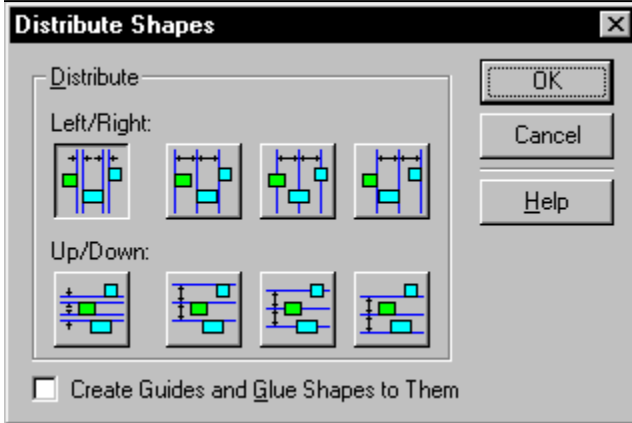
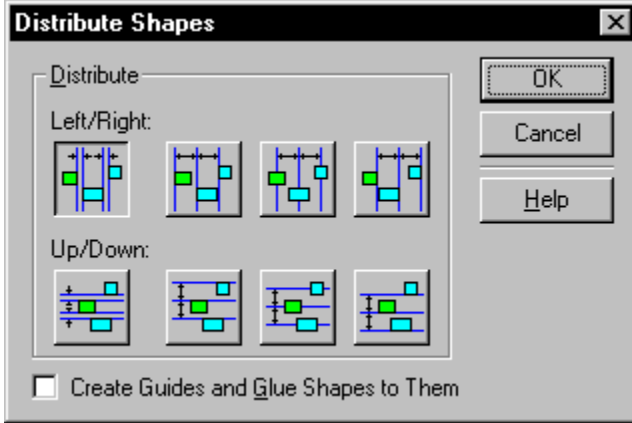
[Copying shapes into another drawing](#)

[Deleting shapes](#)

[Embedding Visio shapes in another document](#)

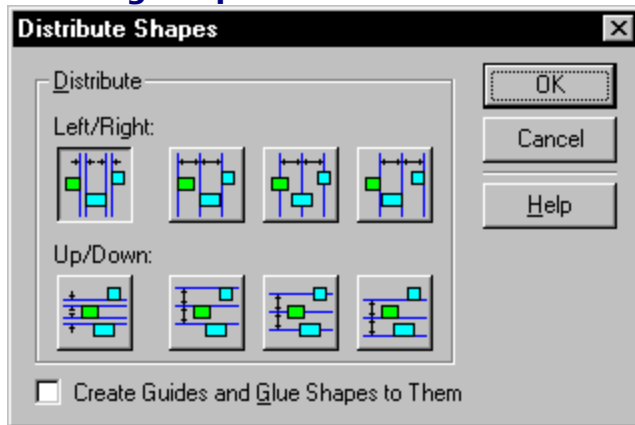
[Pasting information in a particular format](#)

## Deleting shapes

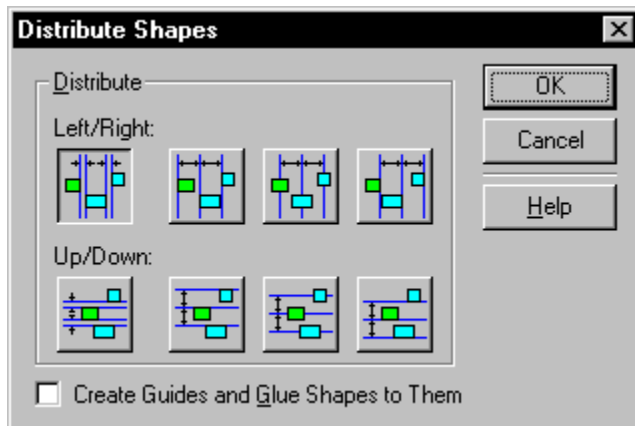




## Deleting shapes



[Overview](#)



**To delete a shape from a drawing:**

1. Select the shape.
2. From the Edit menu, do one of the following:
  - To delete the shape from the [drawing](#), choose [Clear](#).
  - To delete the shape and place a copy on the Clipboard, choose [Cut](#) or click the Cut button on the toolbar.

### See also

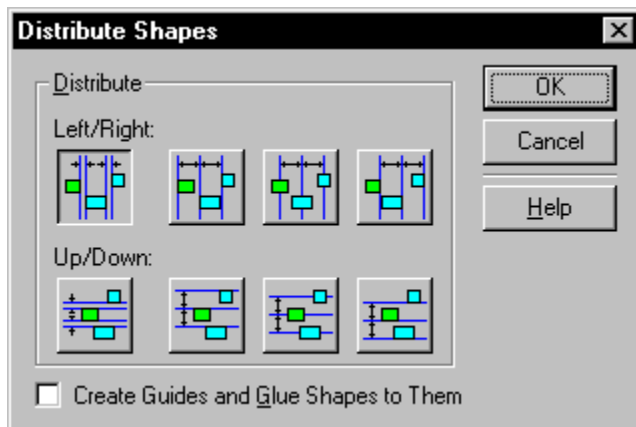
[Adding and removing shapes in groups](#)

[Adding segments to shapes](#)

[Copying shapes into another drawing](#)

[Deleting segments from shapes](#)

## Joining and fragmenting shapes



[Related procedures](#)

You can create complex shapes by drawing simple components and then using an Operations command to create a complex shape.

### **Use this command:**

### **To do this:**

#### Combine

Combine shapes to create shapes with holes in them (such as picture frame shapes and doughnut shapes) and shapes with multiple paths.

#### Fragment

Break a closed shape into smaller parts.

Create a new closed shape where two or more closed shapes overlap.

Create a new closed shape from the enclosed area of two or more lines, arcs, or smooth curves (splines).

#### Intersect

Create a new shape that is the intersected area of two or more shapes.

#### Subtract

Create a new shape by subtracting one or more shapes from an existing shape.

#### Union

Unite two or more overlapping closed shapes to create one shape from the perimeters of other shapes.

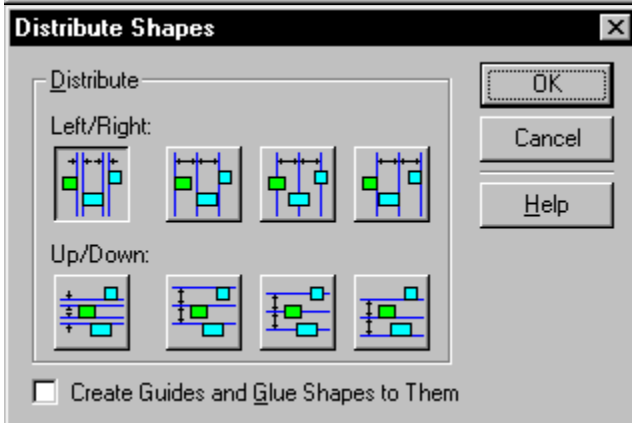
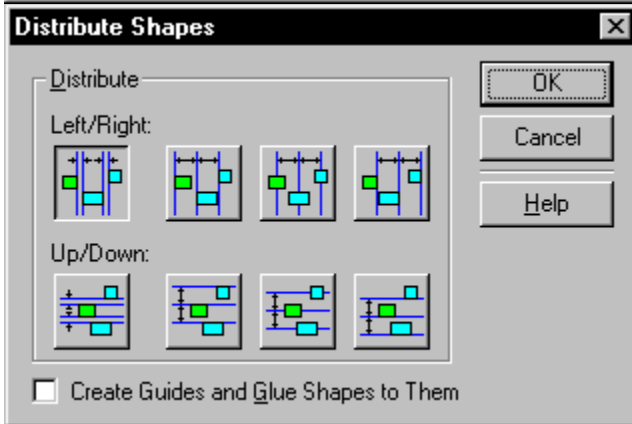
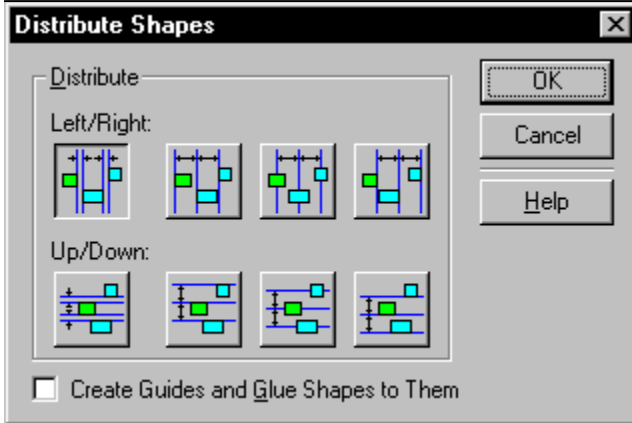
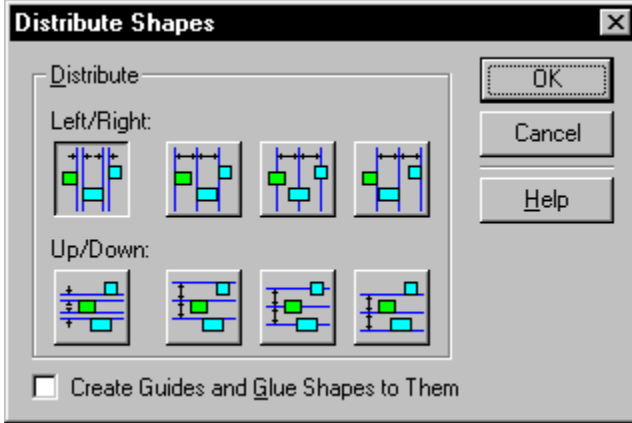
When you create new shapes with the Combine, Subtract, or Union command, the new shape inherits the formats and text of the first shape you select. The formats and text of other shapes are discarded.

**Note:** When you unite, combine, intersect, or subtract shapes, you change their ShapeSheets. Each original shape has a ShapeSheet, but after the shapes are united or combined, only the new shape has a ShapeSheet.

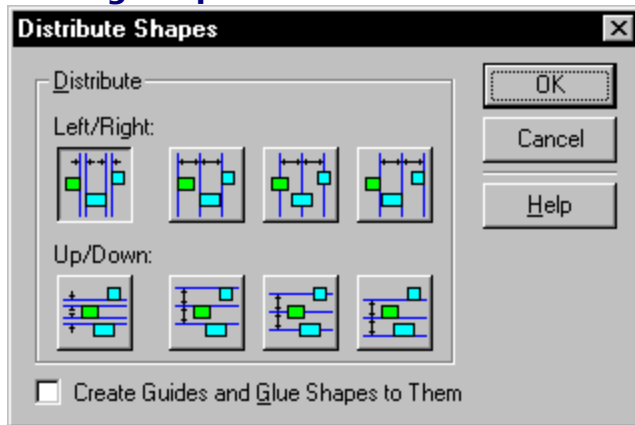


Combining shapes  
Fragmenting shapes  
Intersecting shapes  
Subtracting shapes  
Uniting shapes

## Uniting shapes

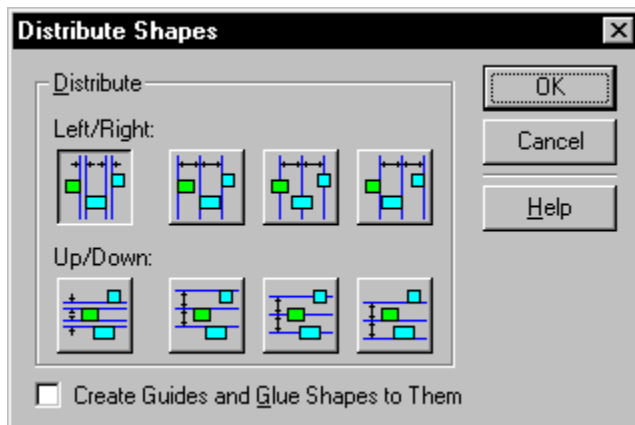


## Uniting shapes



[Overview](#)

You can unite two or more overlapping closed shapes to create one shape from their perimeters.



### To unite shapes:

1. Arrange the shapes that you want to unite on the drawing page.
2. Select the shapes.
3. From the Shape menu, choose Operations, then choose Union.

If the shapes do not overlap, the Union command creates one shape, but the shapes appear unchanged. If a shape is open, Visio discards the open shape when you choose Union.

### See also

[Combining shapes](#)

[Fragmenting shapes](#)

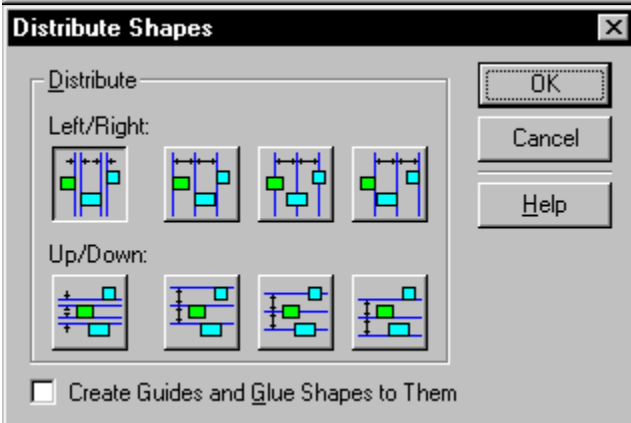
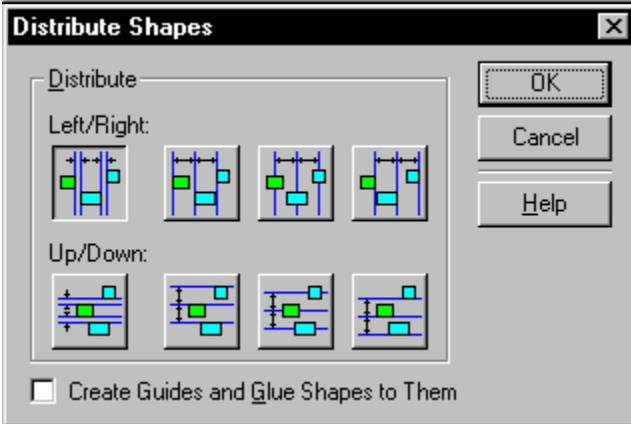
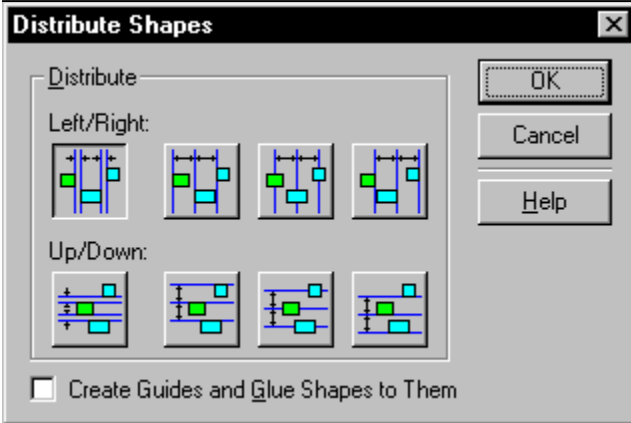
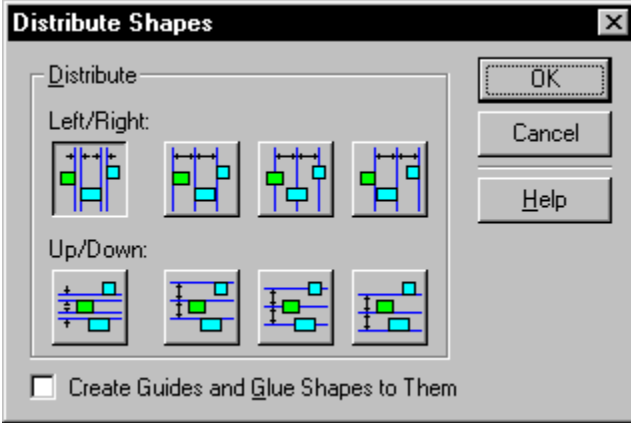
[Grouping and ungrouping shapes](#)

[Intersecting shapes](#)

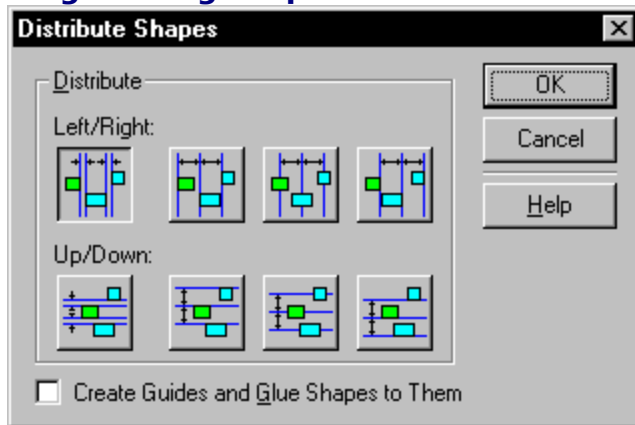
[Subtracting shapes](#)

## Fragmenting shapes



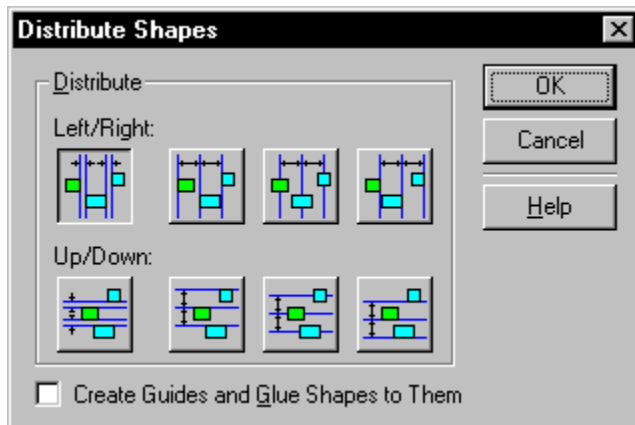


## Fragmenting shapes



[Overview](#)

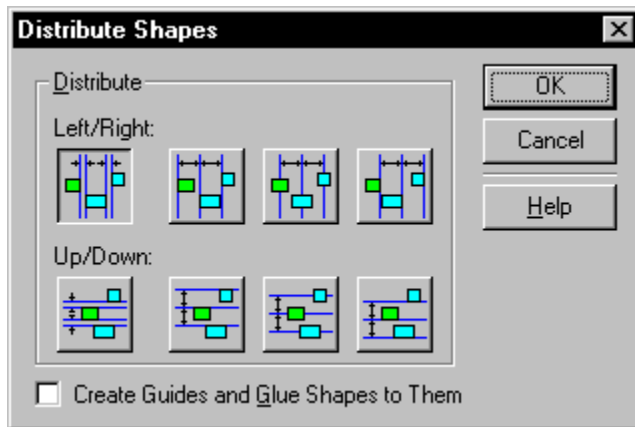
By using the Fragment command, you can break a shape into smaller parts. You can also create new shapes from 2-D shapes that overlap or from intersecting lines. The Fragment command provides an ideal way to create Venn diagrams and marketing pyramids.



**To break a 2-D shape into smaller**

### parts:

1. Draw lines through the shape where you want to break it.
2. Select the shape and the lines.
3. From the Shape menu, choose Operations, then choose Fragment.

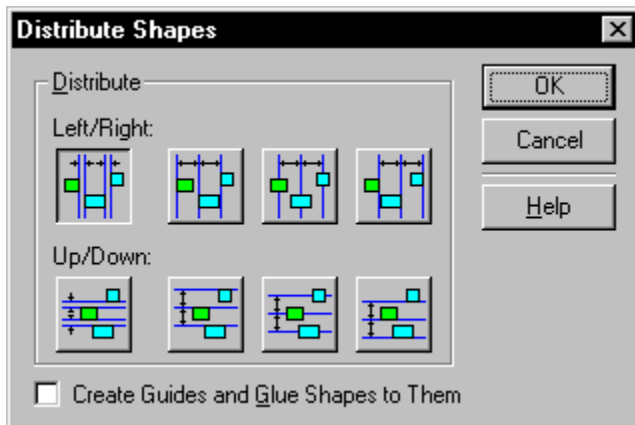


**To create new shapes where 2-D**

### shapes overlap:

1. Select the overlapping shapes.

2. From the Shape menu, choose Operations, then choose Fragment.



To create a new shape from

**intersecting lines:**

1. Select the intersecting lines.
2. From the Shape menu, choose Operations, then choose Fragment.

**Tip:** After you fragment shapes, delete the pieces you don't need.

**See also**

[Combining shapes](#)

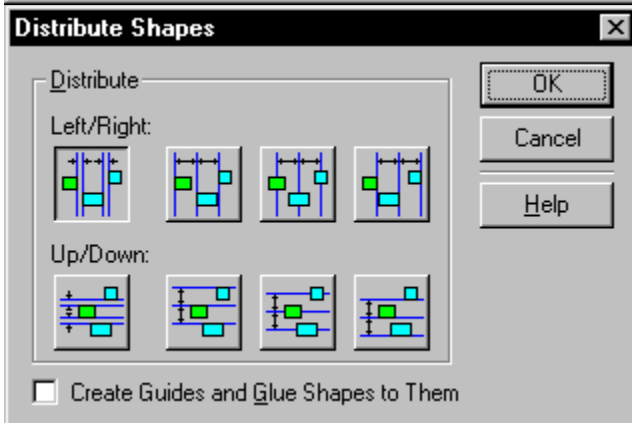
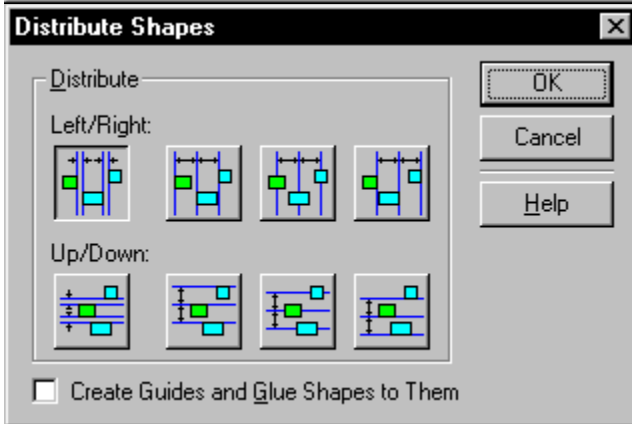
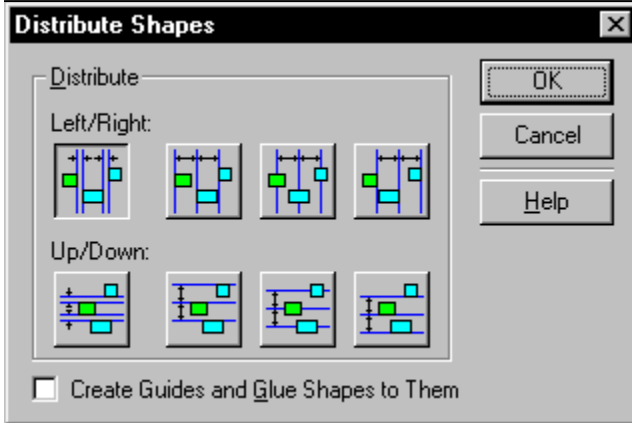
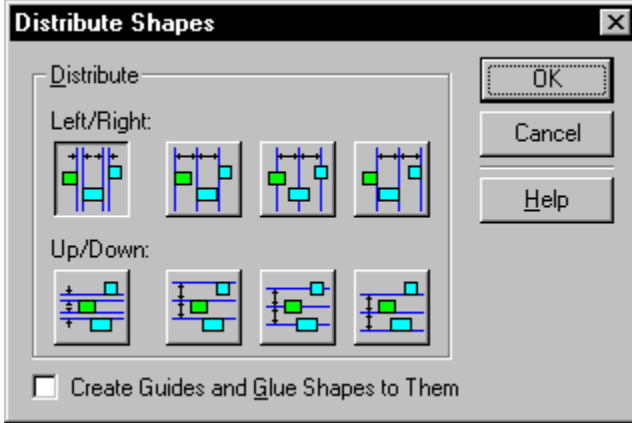
[Grouping and ungrouping shapes](#)

[Intersecting shapes](#)

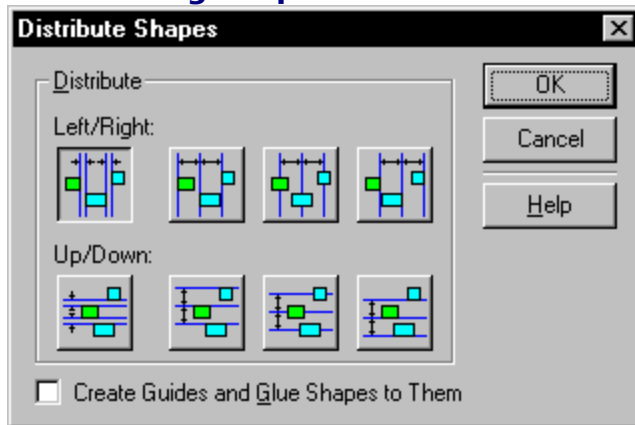
[Subtracting shapes](#)

[Uniting shapes](#)

## Intersecting shapes



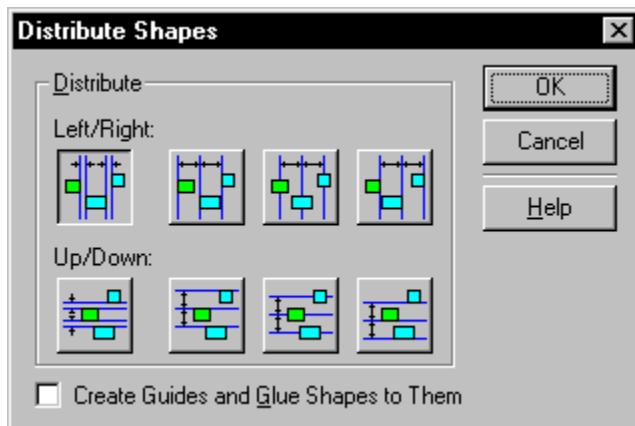
## Intersecting shapes



### [Overview](#)

You can create one closed shape from the area in which two shapes overlap or intersect. The new shape inherits the text and formatting of the first shape you select.

**Note:** When you intersect two or more shapes, Visio creates a ShapeSheet for the new shape and deletes the ShapeSheets of the original shapes.



### **To intersect shapes:**

1. Arrange the shapes you want to intersect on the drawing page.
2. Select the shapes.
3. From the Shape menu, choose Operations, then choose [Intersect](#).

### **See also**

[Combining shapes](#)

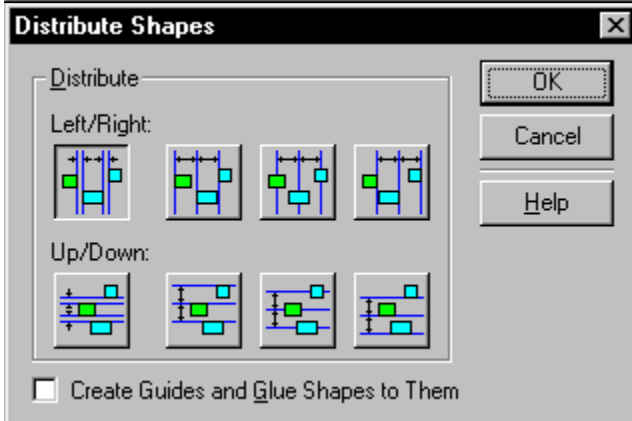
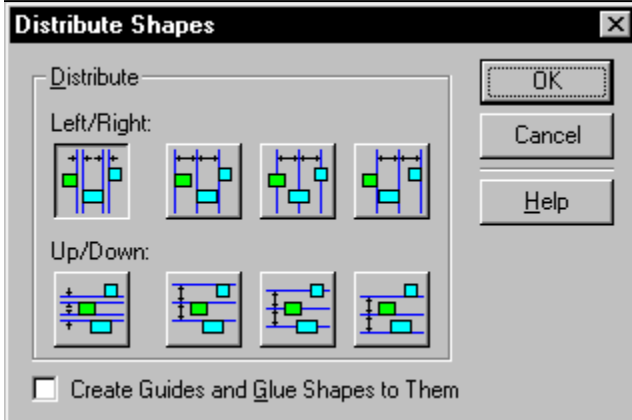
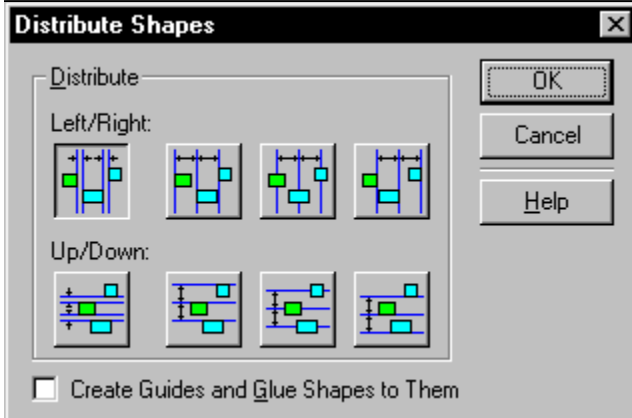
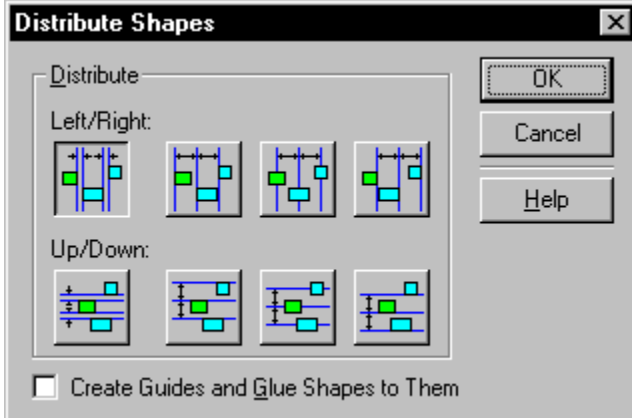
[Fragmenting shapes](#)

[Grouping and ungrouping shapes](#)

[Subtracting shapes](#)

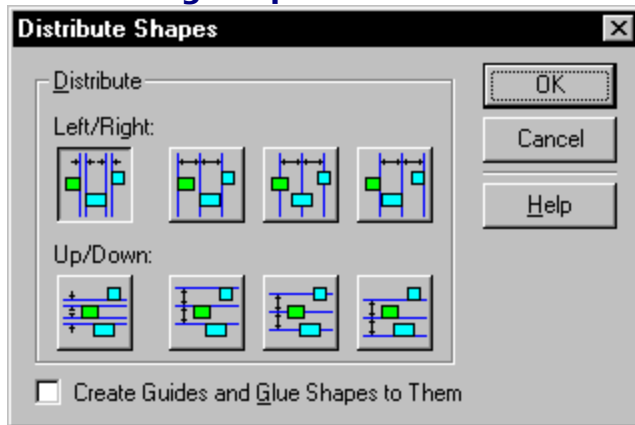
[Uniting shapes](#)

## Subtracting shapes





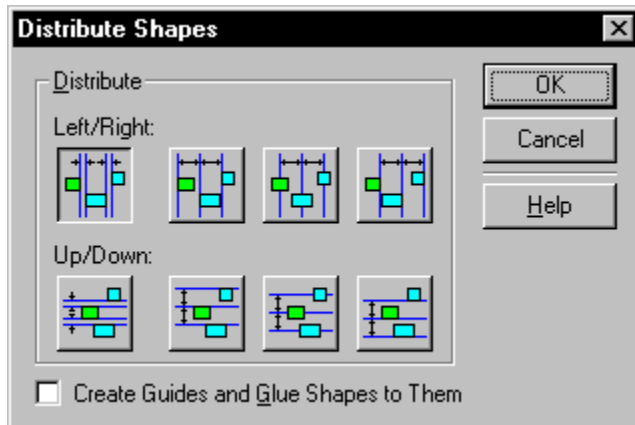
## Subtracting shapes



### [Overview](#)

The Subtract command works like a cookie cutter. Overlap two shapes, select the first one, and then the second. Choose Subtract to delete the second shape you selected, leaving its shape cut into the first. (The overlapping segment of the second shape is "subtracted" from the first.)

When you use this command on two or more shapes, Visio creates a [ShapeSheet](#) for the new shape and deletes the ShapeSheets of the original shapes.



### **To subtract shapes:**

1. Arrange the shapes you want to subtract on the drawing page.
2. Select the shapes.
3. From the Shape menu, choose Operations, then choose [Subtract](#).

### **See also**

[Combining shapes](#)

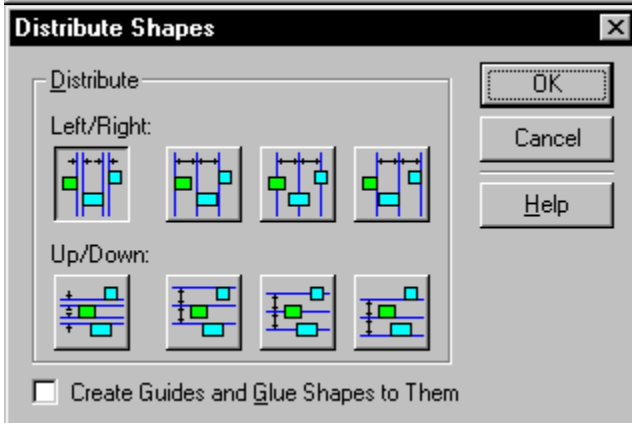
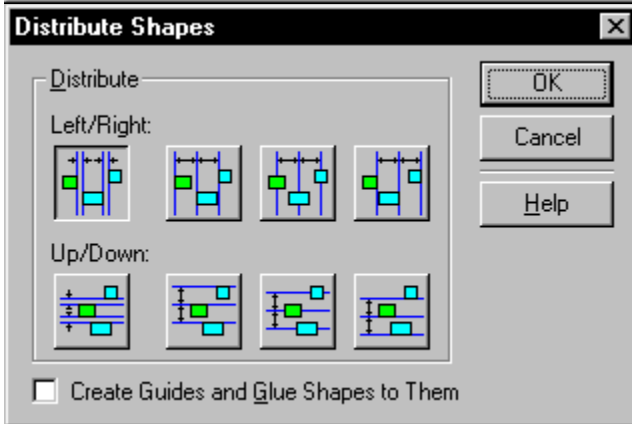
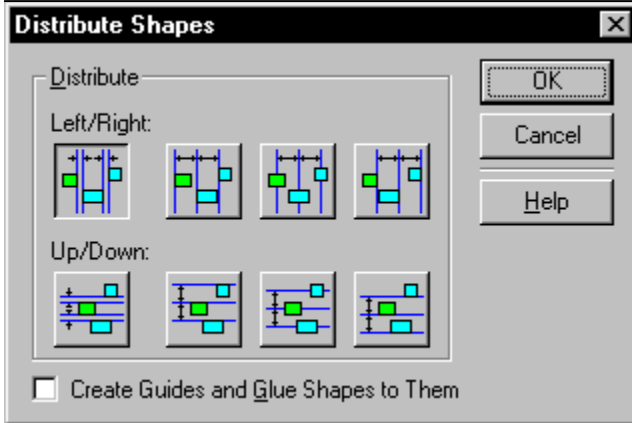
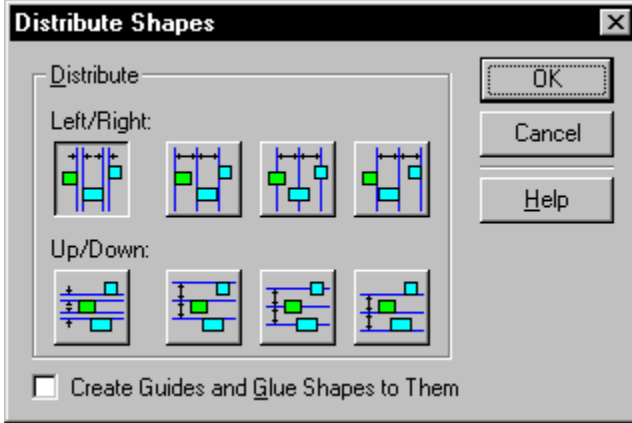
[Fragmenting shapes](#)

[Grouping and ungrouping shapes](#)

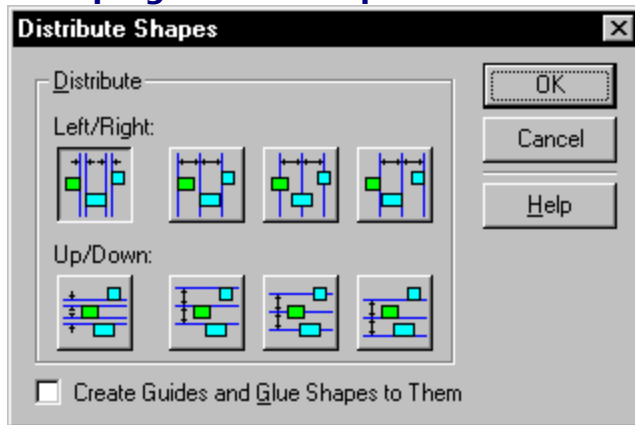
[Intersecting shapes](#)

[Uniting shapes](#)

## Stamping master shapes

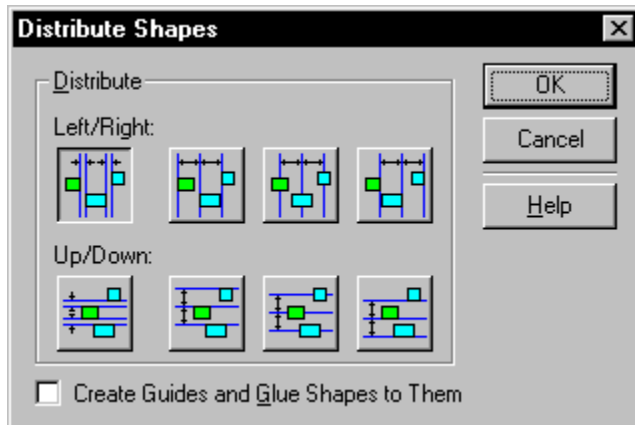


## Stamping master shapes



[Overview](#)

You can use the stamp tool to quickly create copies of a master shape.



### To stamp a master shape:

1. From the connection tool menu, choose the [stamp tool](#).
2. In the stencil window, click the icon for the [master shape](#).
3. In the drawing window, place the pointer where you want the center of the shape.
4. Click the left mouse button.

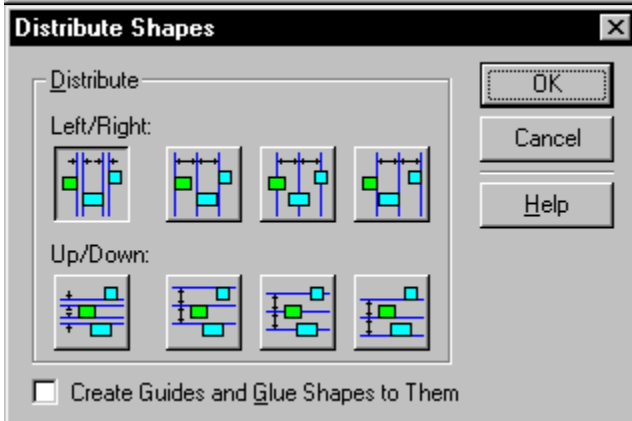
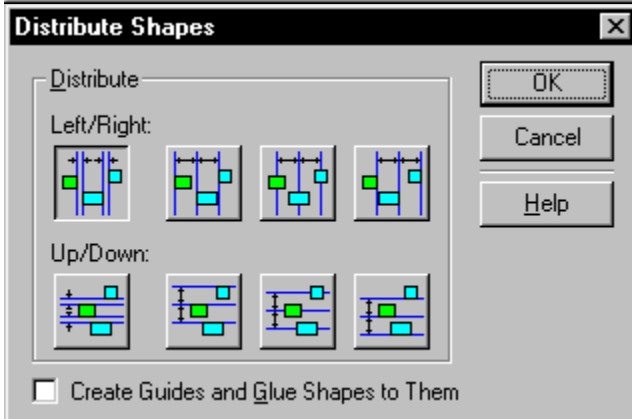
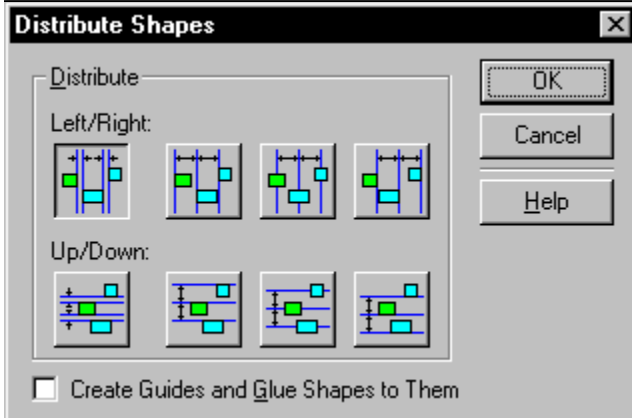
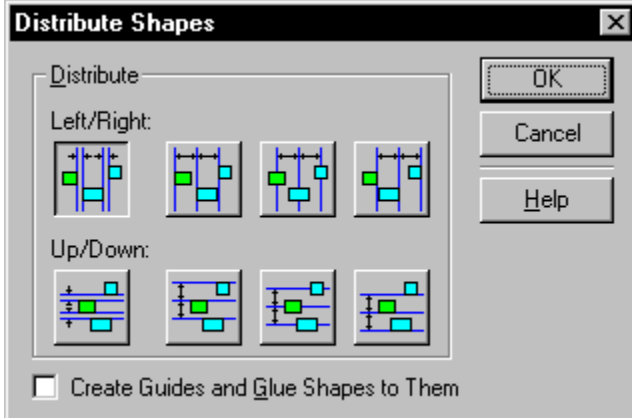
**Tip:** If you want to [glue](#) an [endpoint](#) of a 1-D shape to a point on another shape, select a 1-D master shape and drag the stamp tool between the points you want to connect. If an endpoint of a 1-D shape is successfully glued to a point on another shape, the endpoint turns red.

### See also

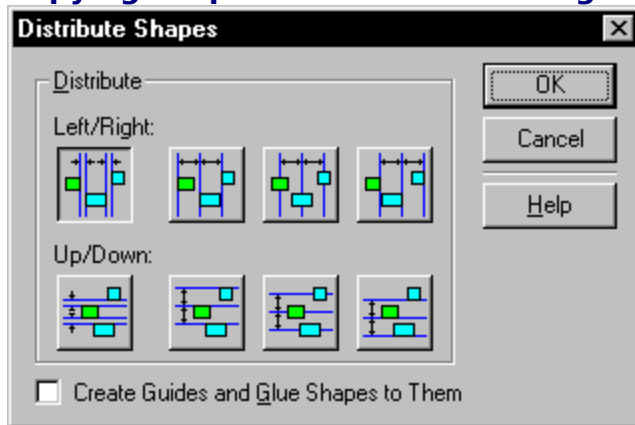
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[Connecting shapes with the stamp tool](#)  
[Dragging and dropping connector shapes](#)  
[Dragging and dropping master shapes](#)

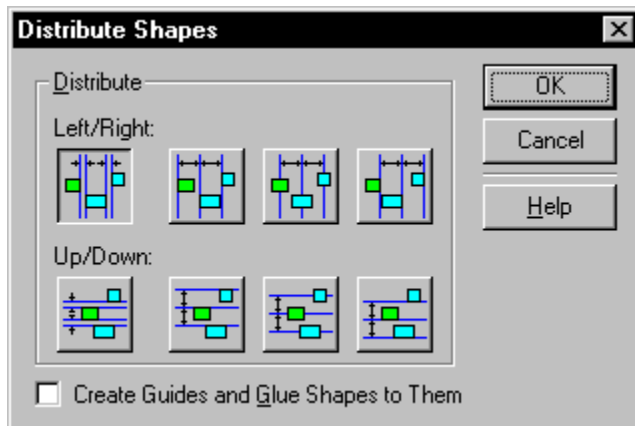
## Copying shapes to another drawing



## Copying shapes to another drawing



[Overview](#)



**To copy a shape and paste it in**

### **another drawing:**

1. Select the shape.
2. From the Edit menu, choose Copy, or click the Copy button on the toolbar.
3. Display the [drawing](#) that you want to paste the shape into.

If the drawing is in the same [drawing file](#) as the current drawing, from the Edit menu, choose Go To, then choose Page. Choose the page you need. If the drawing is in a different file, open the file and display the correct page.

4. From the Edit menu, choose Paste, or click the Paste button on the toolbar.

The shape is pasted into the middle of the page.

### **See also**

[Copying and applying shape formatting](#)

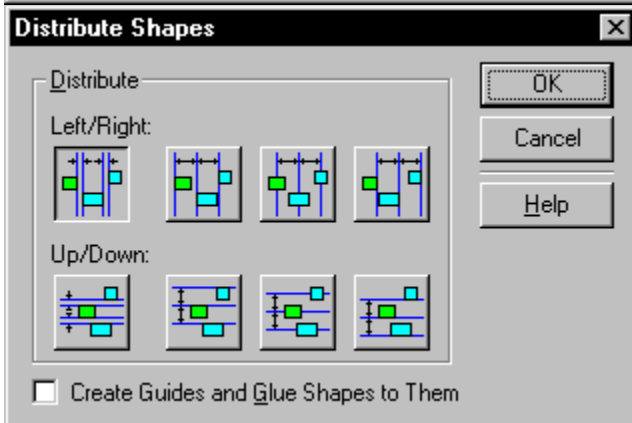
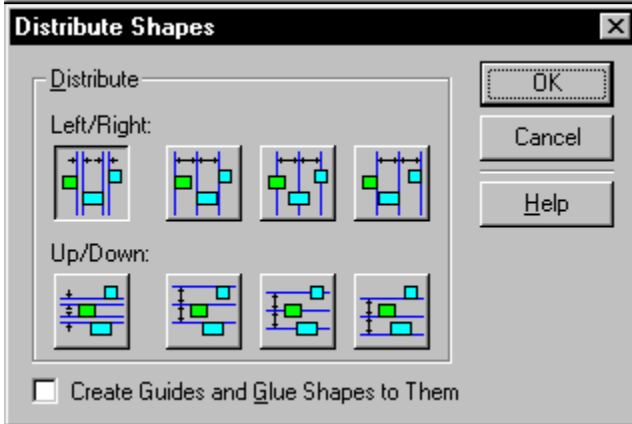
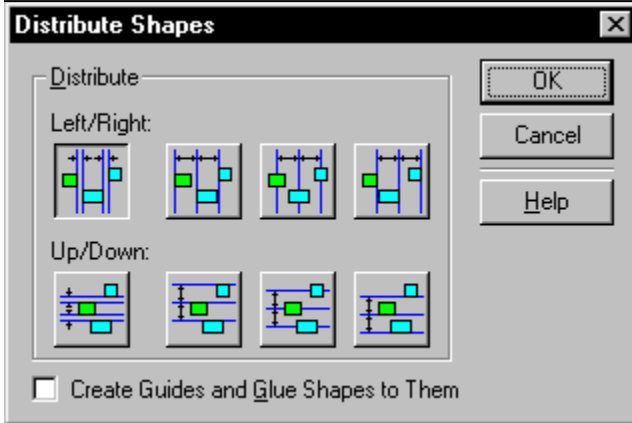
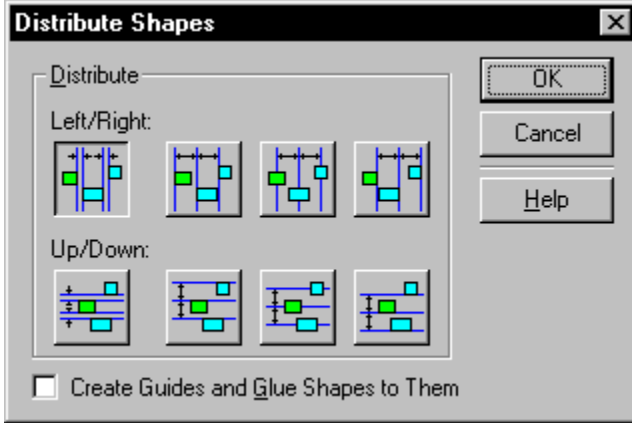
[Copying shapes in the current drawing](#)

[Creating a new page](#)

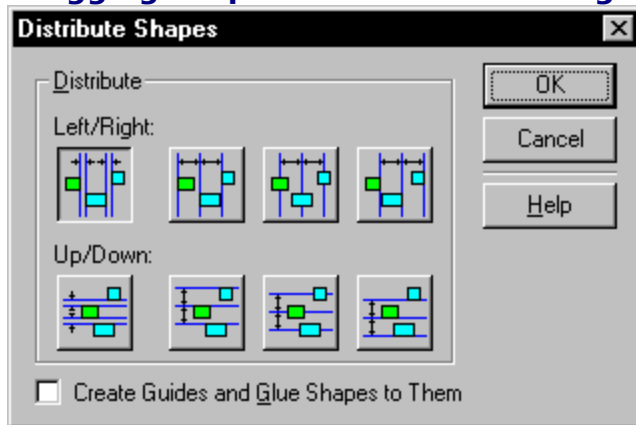
[Dragging shapes to another drawing](#)

## **Dragging shapes to another drawing**



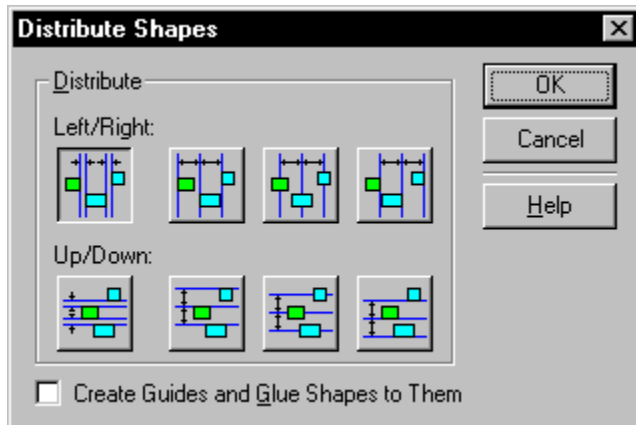


## Dragging shapes to another drawing



### [Overview](#)

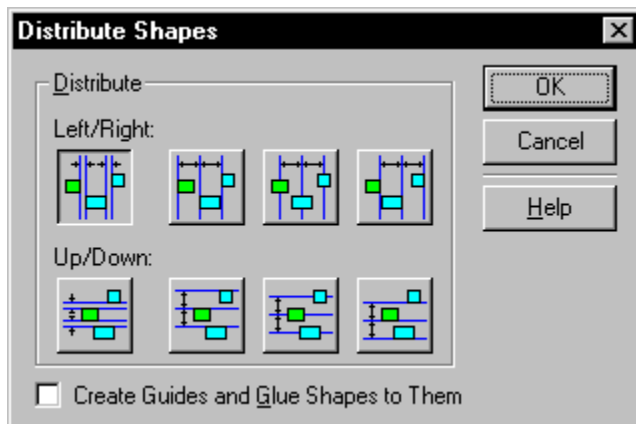
By dragging shapes, you can move or copy shapes from one [drawing](#) to another.



### **To move shapes by dragging:**

1. Display the drawing page with the shape you want to move.
2. In a separate window, display the drawing page you want to move the shape to.
3. Point to the shape you want to move.
4. Drag the shape to the other drawing window.

The shape is deleted from the original drawing and appears in the second drawing.



### **To copy shapes by dragging:**

1. Display the drawing page that contains the shape you want to copy.
2. In a separate window, display the drawing page you want to copy the shape to.

3. Point to the shape you want to copy.
4. Hold down the Ctrl key and drag the shape to the other drawing window.  
A copy of the shape appears in the second drawing.

**See also**

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[Copying shapes in the current drawing](#)

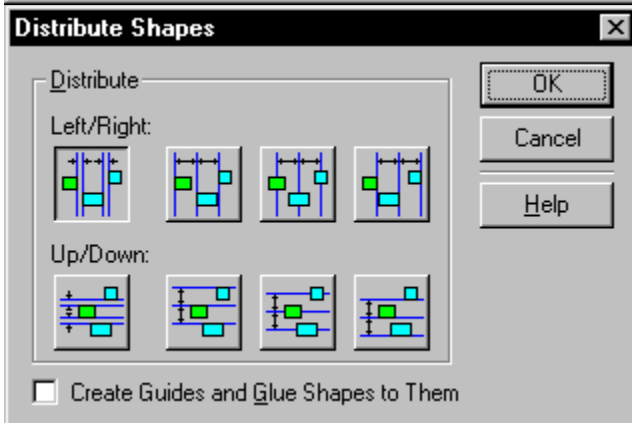
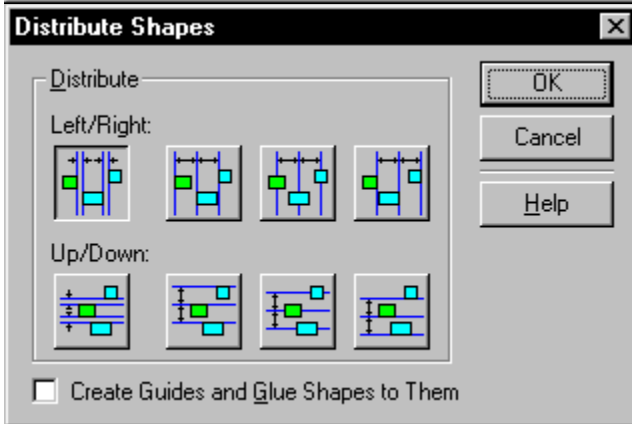
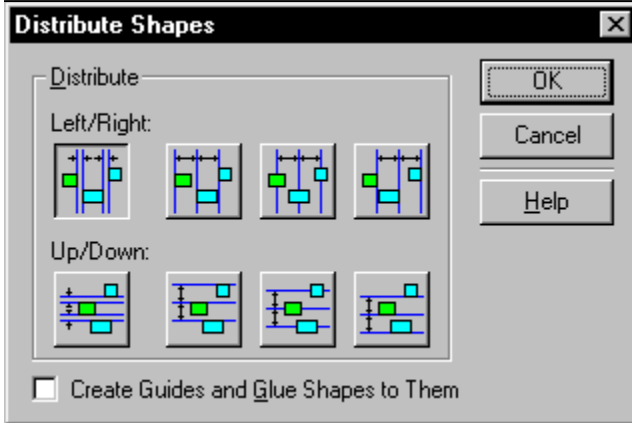
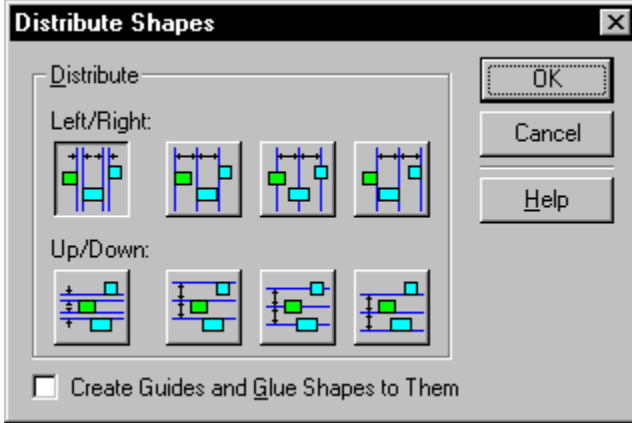
[Creating a new page](#)

[Deleting shapes](#)

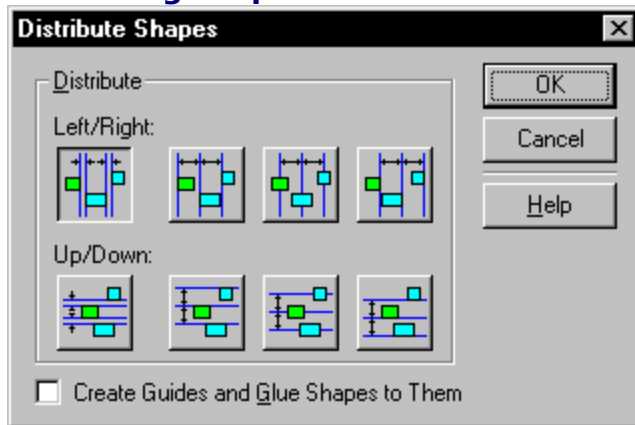
[Embedding Visio shapes in another document](#)

[Pasting information in a particular format](#)

## Combining shapes

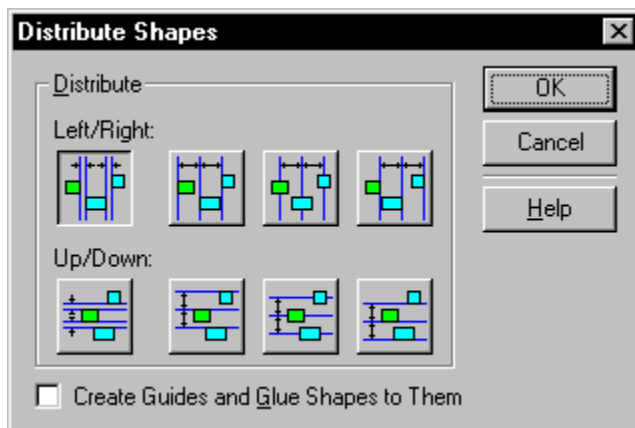


## Combining shapes



### [Overview](#)

You can use the Combine command to create shapes with holes in them (such as picture frame shapes and doughnut shapes) and other shapes with multiple [paths](#). For example, to create a doughnut shape, place a small circle in the middle of a larger one, and then combine the shapes.



### **To combine shapes:**

1. Arrange the shapes you want to combine on the drawing page.
2. Select the shapes.
3. From the Shape menu, choose Operations, then choose [Combine](#).

You can also combine [1-D](#) shapes with each other and combine 1-D and [2-D](#) shapes together. In these cases, Visio creates one shape from the selected shapes, but the new shape might not look different from the old ones. The new shape has one ShapeSheet with multiple sections. When you apply a style, such as a fill, the style formats the entire shape.

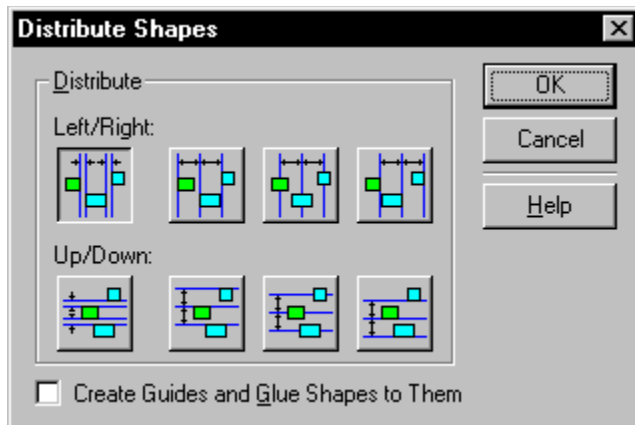
### **See also**

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[Fragmenting shapes](#)  
[Grouping and ungrouping shapes](#)  
[Intersecting shapes](#)  
[Subtracting shapes](#)  
[Uniting shapes](#)



## Sizing and reshaping shapes



[Related procedures](#)

By sizing and reshaping shapes, you can:

- Make 1-D shapes shorter, longer, or taller.
- Change the width and height of 2-D shapes.
- Add segments to and delete segments from shapes.
- Change the angle where two segments meet.
- Edit arcs (drawn with the arc tool, pencil tool, or freeform tool) with the pencil tool.

Every arc (drawn with the arc tool) follows the perimeter of an invisible circle or an ellipse. You can change the bow of an arc so the arc becomes a larger or smaller portion of the circle or ellipse—even flatten an arc to make it a line. You can also edit an arc by using its eccentricity handles to reshape the ellipse on which the arc is based and to change the angle at which the arc leans.



[Adding segments to shapes](#)

[Changing an arc's eccentricity](#)

[Changing shape angles by dragging a vertex](#)

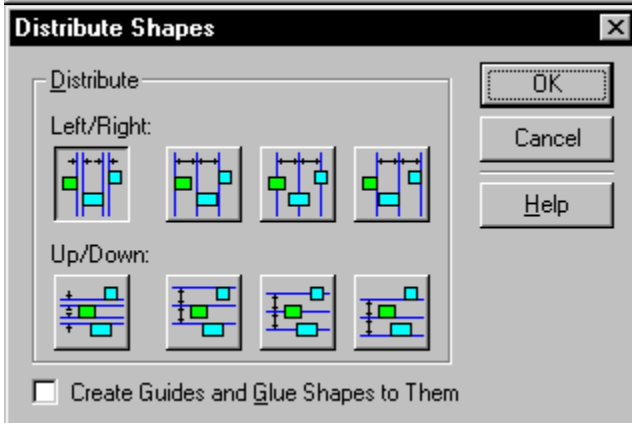
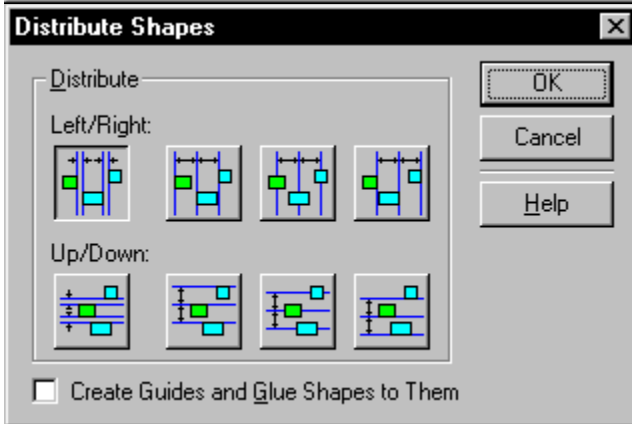
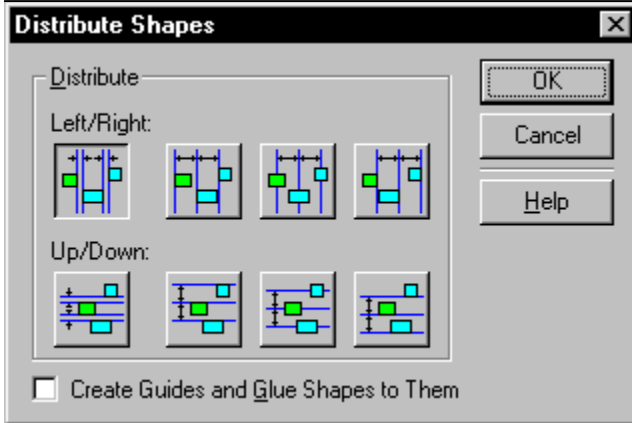
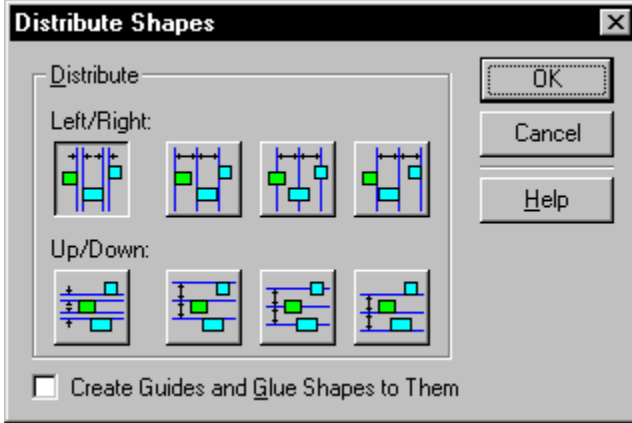
[Changing the size of a 1-D shape](#)

[Changing the size of a 2-D shape](#)

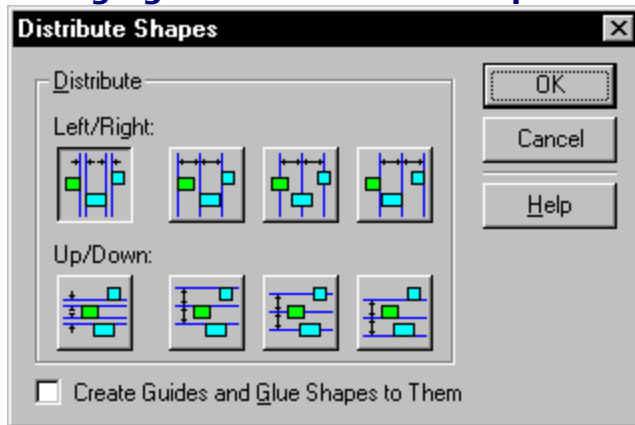
[Deleting segments from shapes](#)

[Reshaping arcs](#)

## Changing the size of a 1-D shape

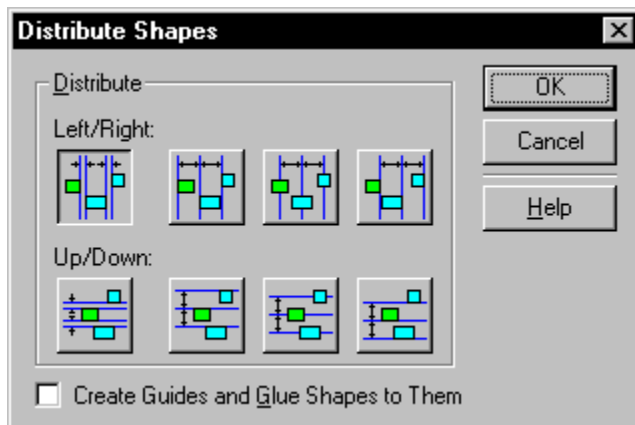


## Changing the size of a 1-D shape



[Overview](#)

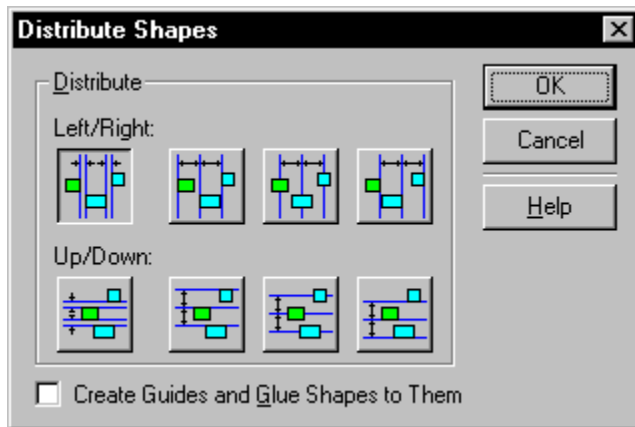
You can change the size of a 1-D shape by dragging one of its [endpoints](#). 1-D shapes that are not straight lines have [selection handles](#) you can use to size the shape.



**To make a 1-D shape longer or**

**shorter:**

1. With the [pointer tool](#), select the shape.
2. Place the pointer over an [endpoint](#) until it changes to a four-headed arrow, then drag to make the shape the length you want.
3. Release the mouse button.



**To make a 1-D shape thicker or**

**thinner:**

1. With the [pointer tool](#), select the shape.

2. Place the pointer over a selection handle until it changes to a two-headed arrow, then drag until the shape is the height you want.
3. Release the mouse button.

**See also**

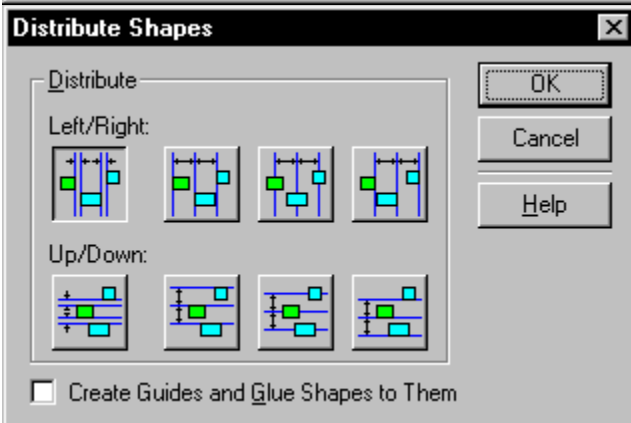
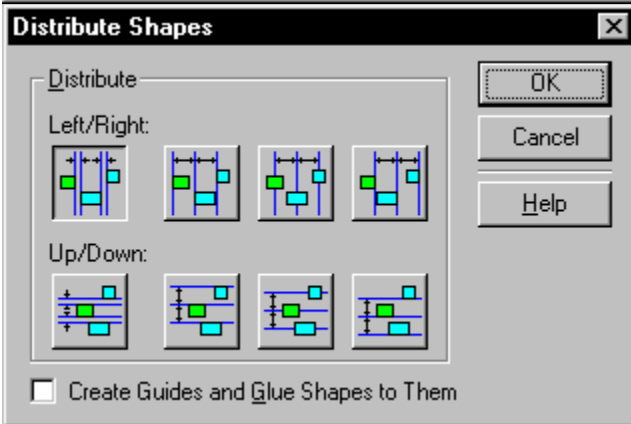
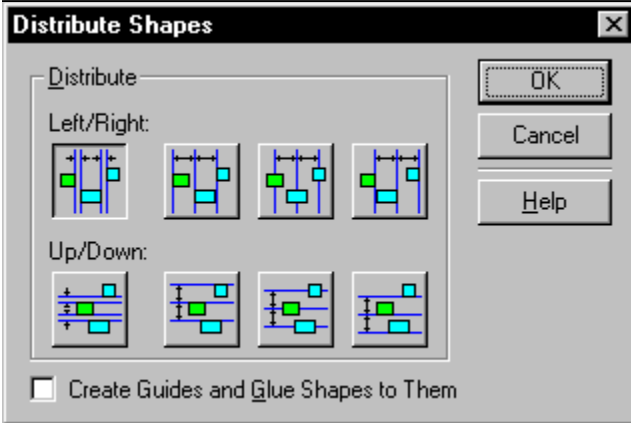
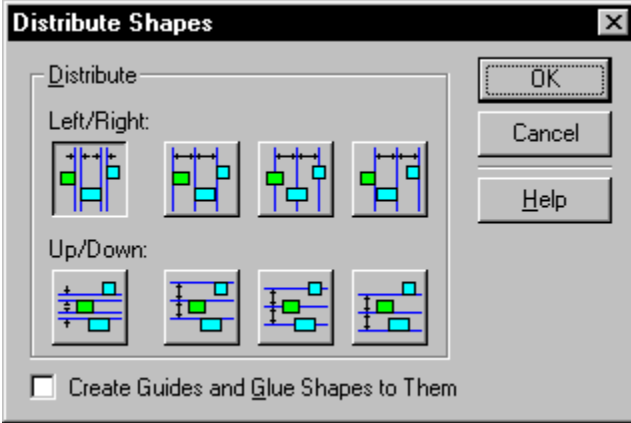
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[Changing 1-D and 2-D behavior](#)

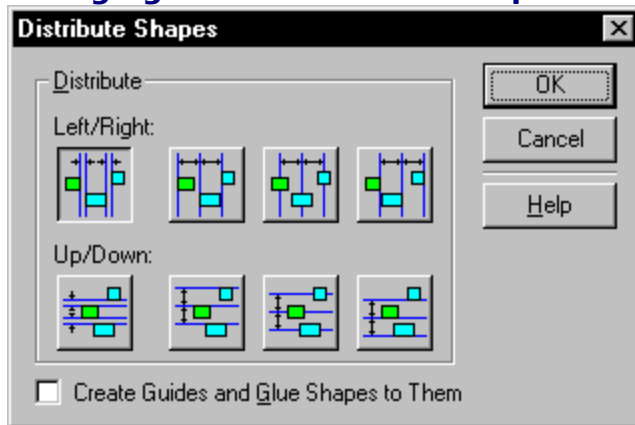
[Determining a 1-D shape's size and location](#)

[Moving shapes by dragging](#)

## Changing the size of a 2-D shape

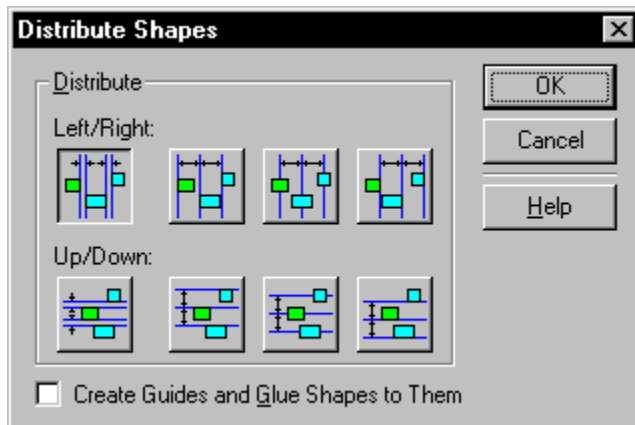


## Changing the size of a 2-D shape



[Overview](#)

You can change the width and height of a 2-D shape by dragging a [selection handle](#). You can size a 2-D shape in one direction at a time or size the shape in both directions at once to preserve the shape's proportions.



**To size a 2-D shape:**

1. With the [pointer tool](#), select the shape.
2. Drag a selection handle until the shape is the size you want. To size the shape proportionately, drag a corner handle.

**Tip:** If you see fewer than eight handles on a 2-D shape, zoom in on the drawing to see the rest of the handles and to size the shape more accurately.

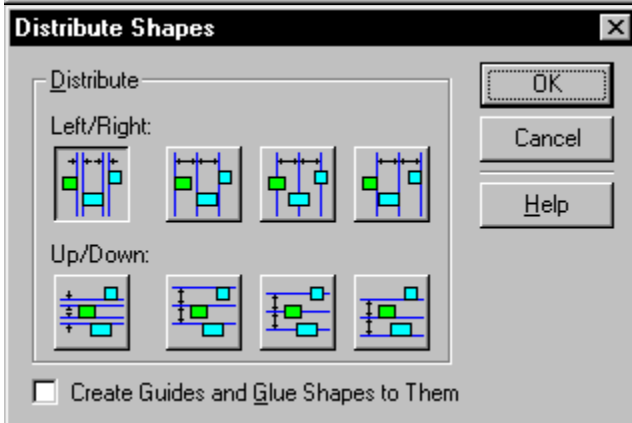
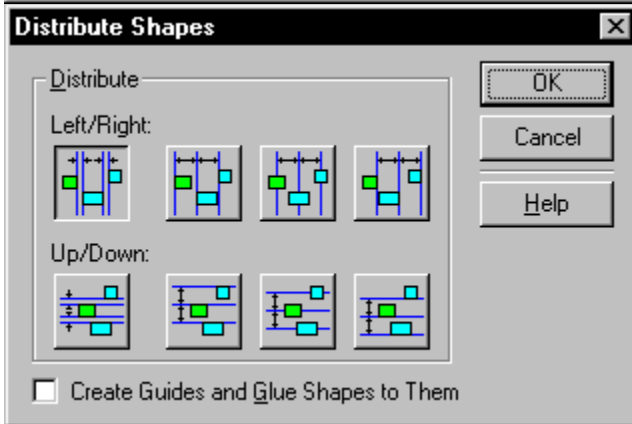
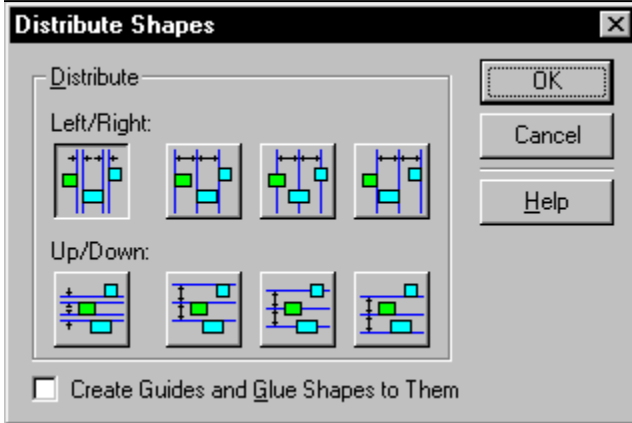
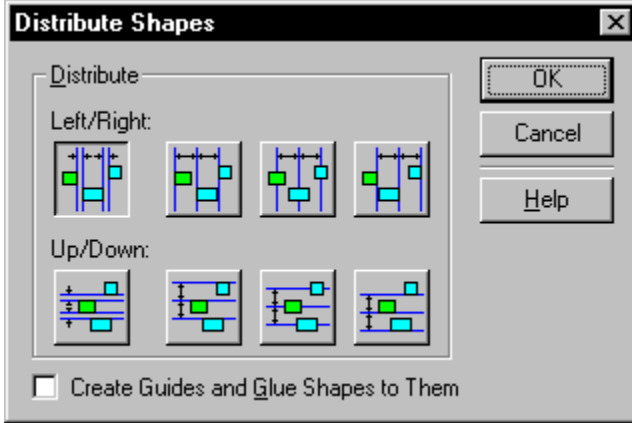
### See also

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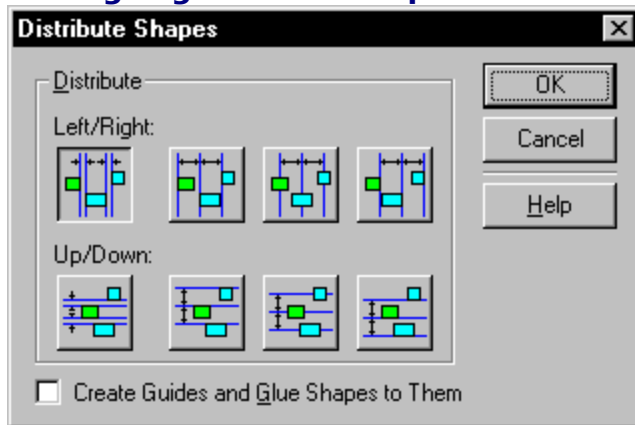
[Changing 1-D and 2-D behavior](#)  
[Changing shape angles by dragging a vertex](#)  
[Determining a 2-D shape's size and location](#)  
[Selecting shapes](#)



## **Adding segments to shapes**

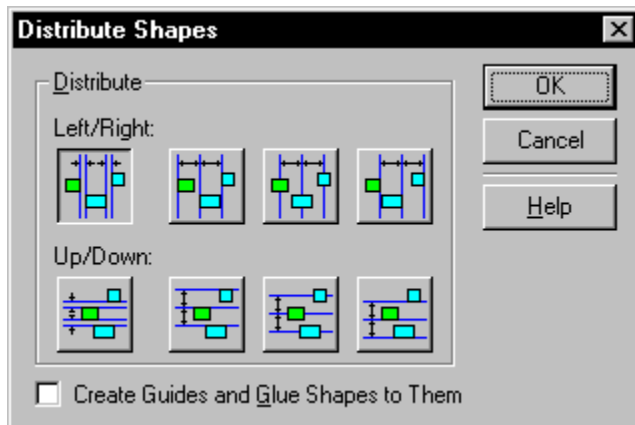


## Adding segments to shapes



### [Overview](#)

You can add [segments](#) to shapes to change the way shapes look. For example, you can turn a triangle into a rectangle. When you add a segment, Visio creates a new vertex where one end of the new segment meets the end of an existing segment.



### **To add a new segment to a shape:**

1. With the [pencil tool](#), select the shape.
2. Point to where you want to add the segment.
3. Hold down the Ctrl key and click.

**Tip:** Adding segments is sometimes easier when [snap](#) is turned off. It's also helpful to [zoom](#) into the drawing so you can clearly see when the pencil is over a line or arc segment.

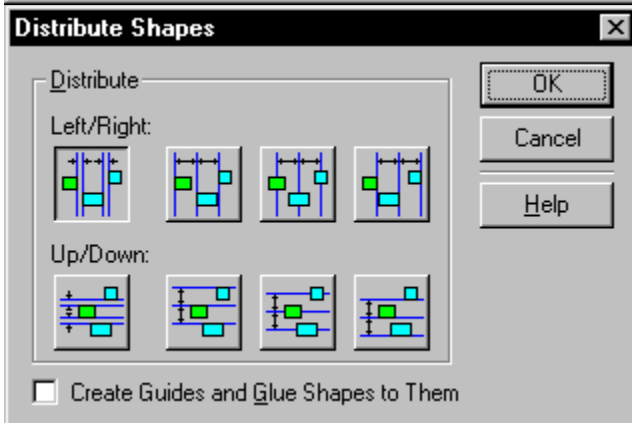
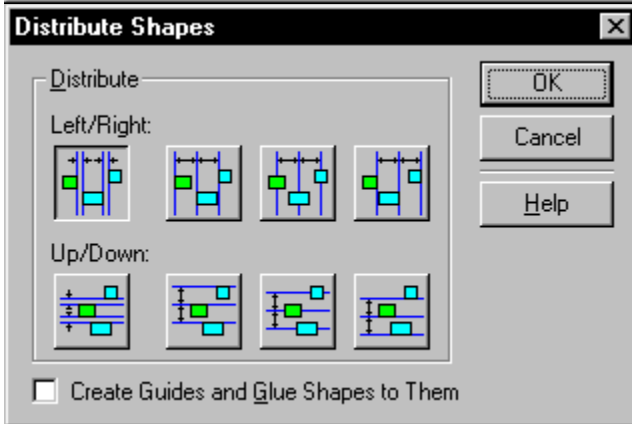
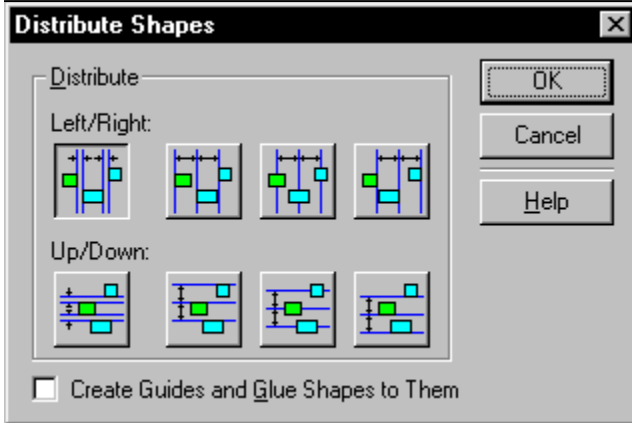
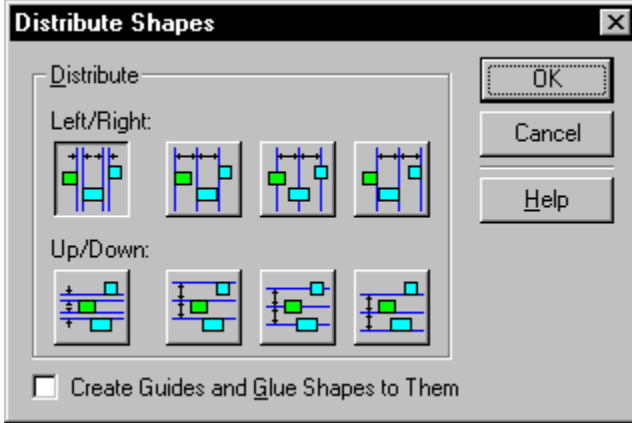
After you add a segment, you may need to adjust the shape by dragging vertexes and [control points](#) to make the shape look the way you want.

### **See also**

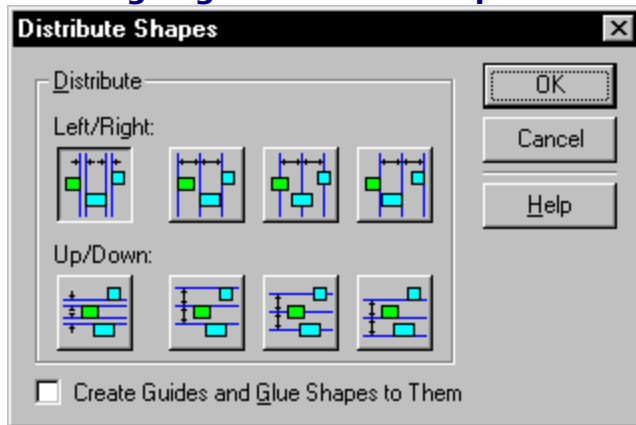
[Changing shape angles by dragging a vertex](#)

[Deleting segments from shapes](#)

## **Deleting segments from shapes**



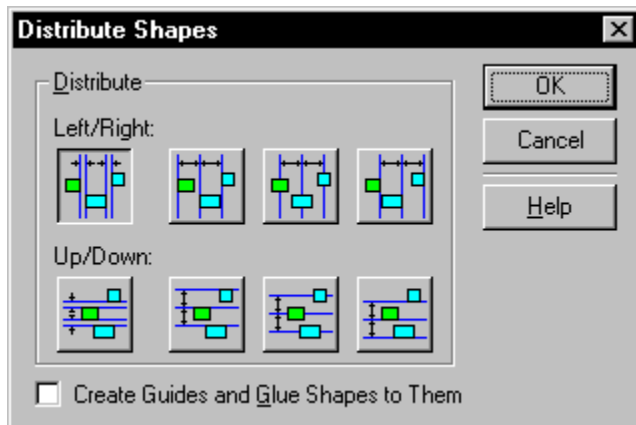
## Deleting segments from shapes



### [Overview](#)

If you want fewer [segments](#) in a shape, you can delete segments you don't want. For example, you can delete a segment from a rectangle to make it a triangle.

When you delete a segment, Visio redraws the shape on the basis of the order in which the shape's segments were created, whether a [vertex](#) is at the beginning or end of an open shape, and whether the segment that follows the one you delete is a line or an arc.



### To delete a segment:

1. With the [pencil tool](#), select the shape.
2. Point to a vertex on the segment you want to delete.  
When the pointer is directly over a vertex, it changes from a pencil to a four-headed arrow. When the vertex is selected, it turns magenta.
3. Click the vertex to select it.
4. Press the Delete key, or choose [Clear](#) from the Edit menu.

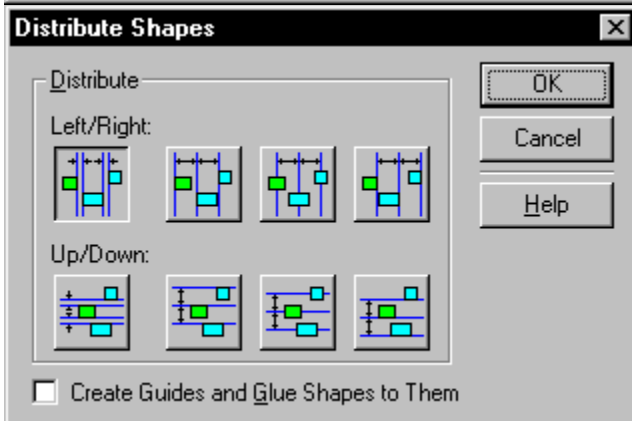
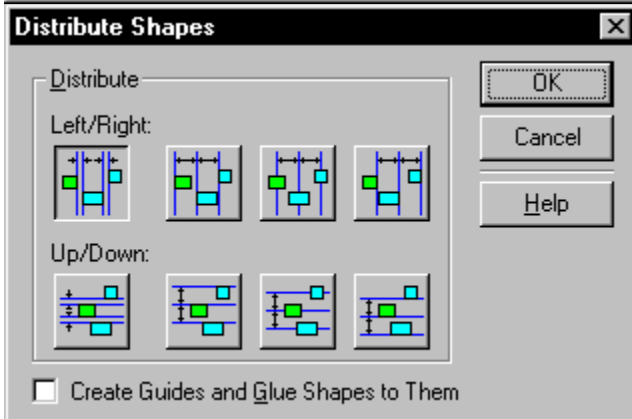
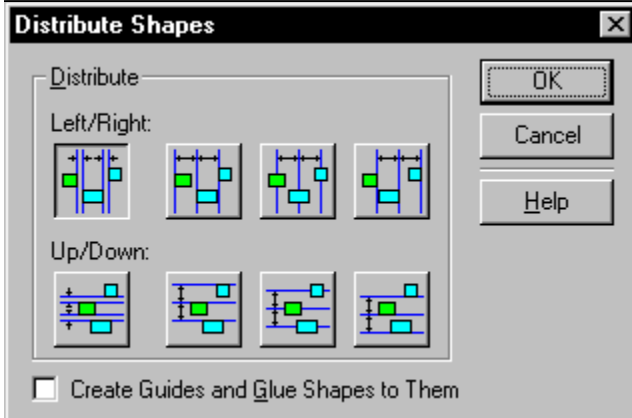
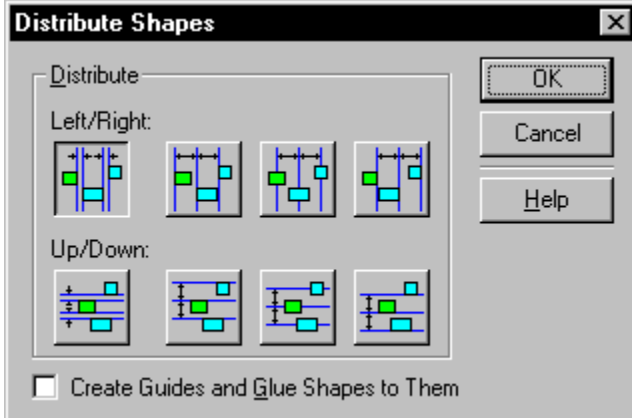
After you delete segments, you may need to adjust the shape by dragging vertexes and [control points](#) to make the shape look the way you want.

### See also

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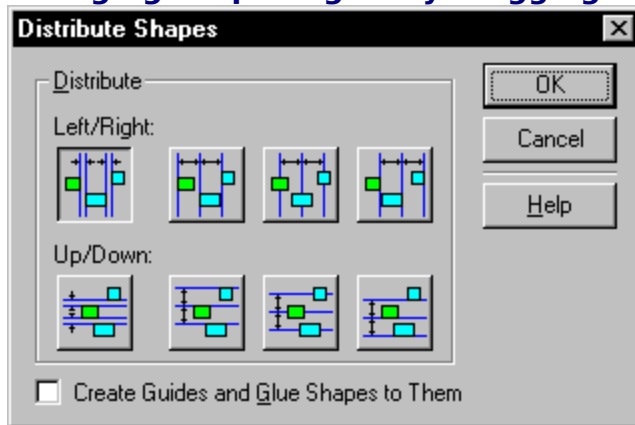
[Adding segments to shapes](#)  
[Changing shape angles by dragging a vertex](#)  
[Undoing segments while drawing](#)

**Changing shape angles by dragging a vertex**



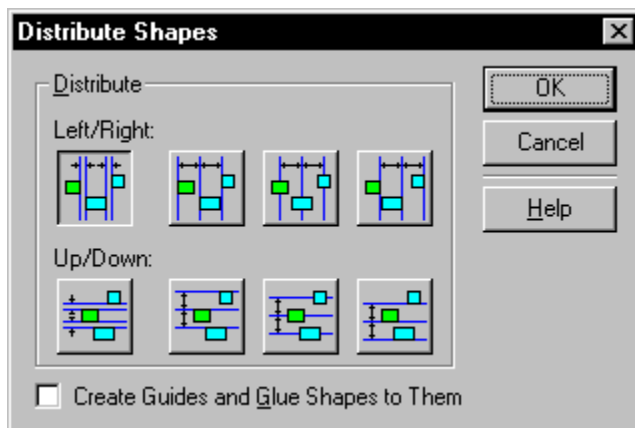


## Changing shape angles by dragging a vertex



[Overview](#)

By dragging a vertex, you can change the angle where two segments meet. Dragging a vertex often makes a segment longer or shorter. You can also select several vertexes and drag them all at the same time. The selected vertexes maintain their position in relation to each other and move in relation to the rest of the shape.



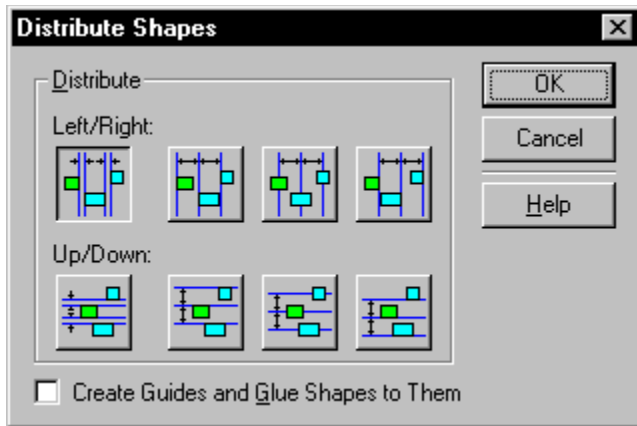
**To reshape angles by dragging a**

**vertex:**

1. With the pencil tool, select the shape.
2. Click the vertex whose position you want to change.

When the pointer is directly over the vertex, it changes to a four-headed arrow. When the vertex is selected, it turns magenta.

3. Drag the vertex to its new position.



**To reshape angles by dragging**

**multiple vertexes:**

1. With the [pencil tool](#), select the shape.
2. Click a vertex that you want to move, and then hold down the Shift key and click the other vertexes whose position you want to change.
3. Place the pointer over one of the selected vertexes, and then drag.

The selected vertexes move together, maintaining their relationship to one another.

**See also**

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[Adding segments to shapes](#)

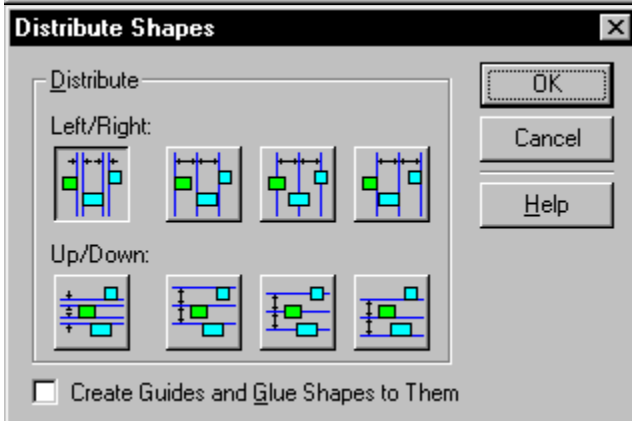
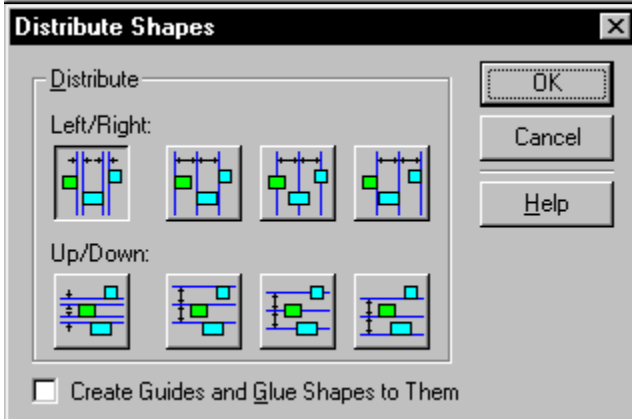
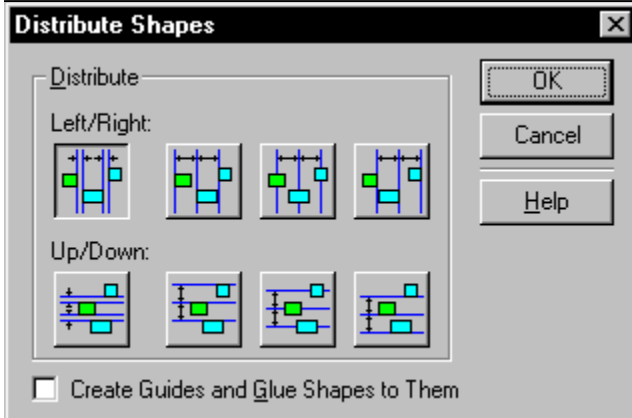
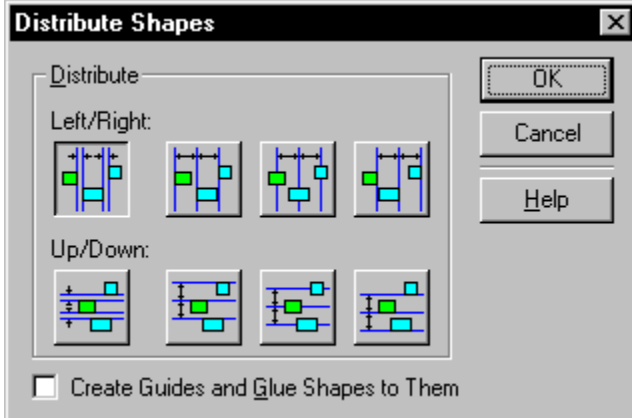
[Deleting segments from shapes](#)

[Drawing freeform shapes](#)

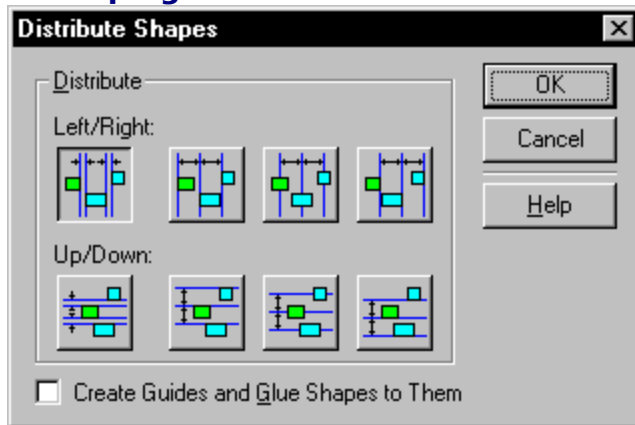
[Drawing lines and arcs](#)

[Reshaping arcs](#)

## Reshaping arcs

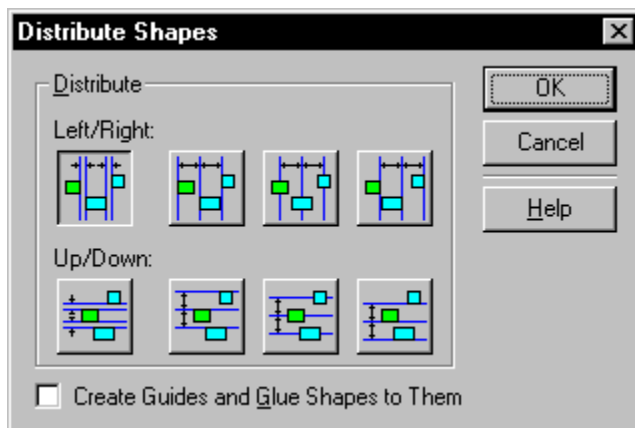


## Reshaping arcs



[Overview](#)

You can change the bow of an arc, flatten an arc until it becomes a line, or reshape a line to make it an arc. An arc has an invisible snap point in the middle of an invisible line between its two endpoints. When you drag the control point to that snap point, the arc becomes a line.



### To reshape an arc:

1. With the [pencil tool](#), select the arc or the shape that contains the arc.
2. Point to the arc's [control point](#).
3. Drag the control point until the arc looks the way you want.

### See also

[Adding segments to shapes](#)

[Changing an arc's eccentricity](#)

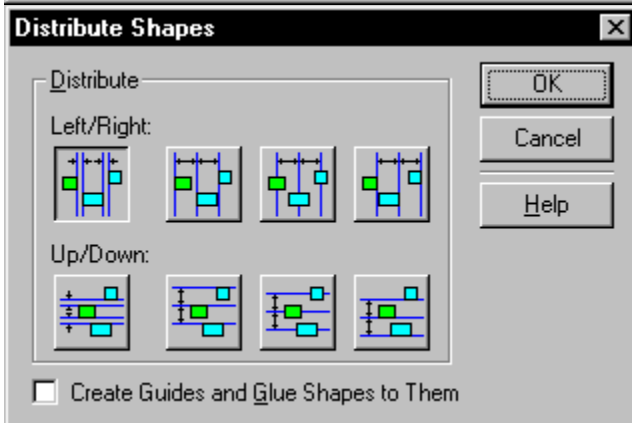
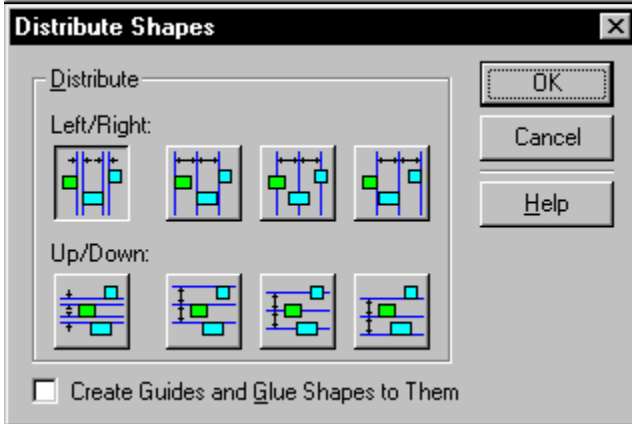
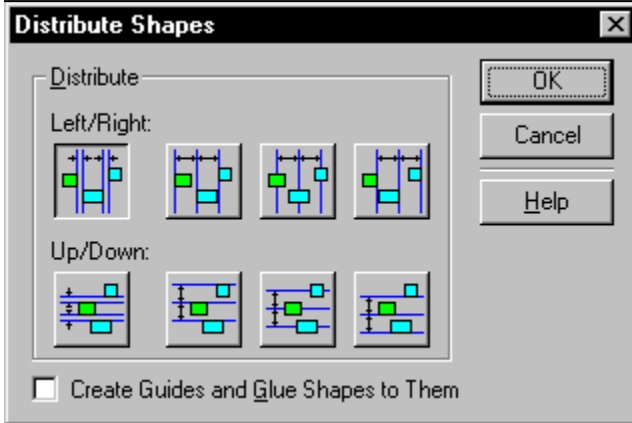
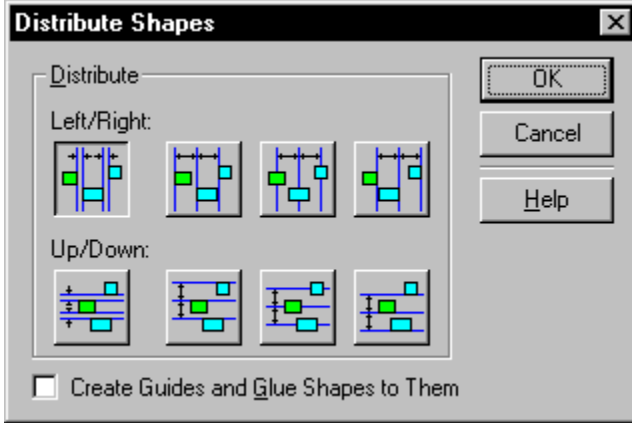
[Changing shape angles by dragging a vertex](#)

[Deleting segments from shapes](#)

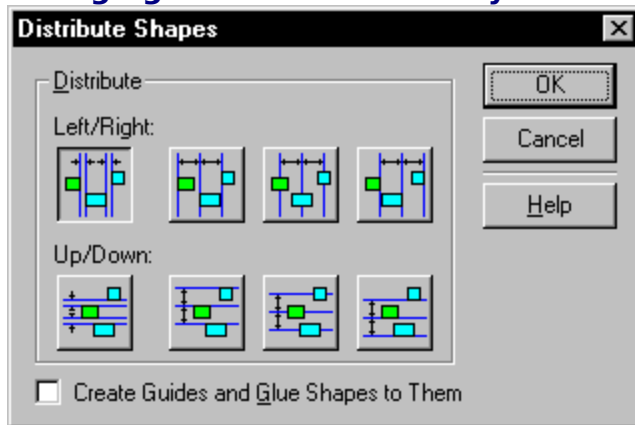
[Determining a 2-D shape's size and location](#)

[Drawing lines and arcs](#)

## Changing an arc's eccentricity

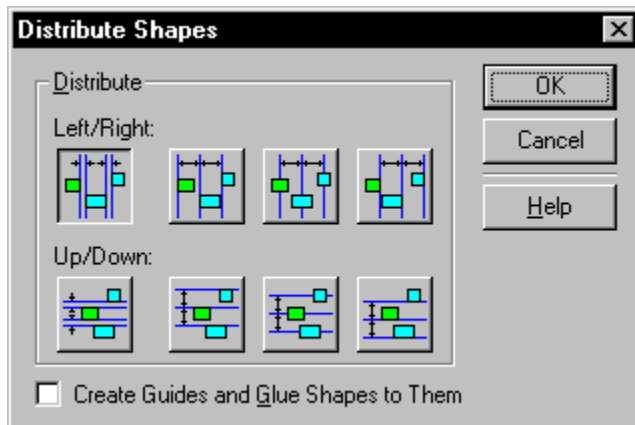


## Changing an arc's eccentricity



### [Overview](#)

By dragging an arc's eccentricity handles, you can reshape the invisible ellipse the arc is based on. You can change the flatness of an arc (the arc's magnitude of eccentricity) or change the way an arc leans (the arc's angle of eccentricity).



### **To change an arc's eccentricity:**

1. With the [pencil tool](#), select the arc or shape that contains the arc.
2. Click the control point on the arc to display the eccentricity handles.  
On circular arcs, the eccentricity handles are under the control point.  
If you don't see the eccentricity handles, hold down the Ctrl key and drag the pointer slightly away from the control point to display the eccentricity handles.
3. Edit the arc by doing the following:  
To change the arc's magnitude of eccentricity, drag an eccentricity handle farther from or closer to the control point.  
To change the arc's angle of eccentricity, drag an eccentricity handle around the control point.

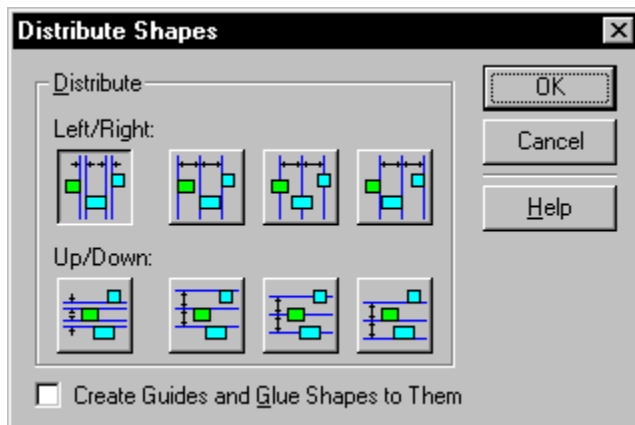
### **See also**

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[Adding segments to shapes](#)  
[Changing shape angles by dragging a vertex](#)  
[Drawing lines and arcs](#)  
[Reshaping arcs](#)



## Grouping shapes



### [Related procedures](#)

Consider grouping shapes that you use together regularly. A [group](#) can be formatted, moved, and sized as a single shape, but you can also [format](#) and edit the shapes in a group individually. You can group any shapes on the same drawing page, regardless of their distance from each other.

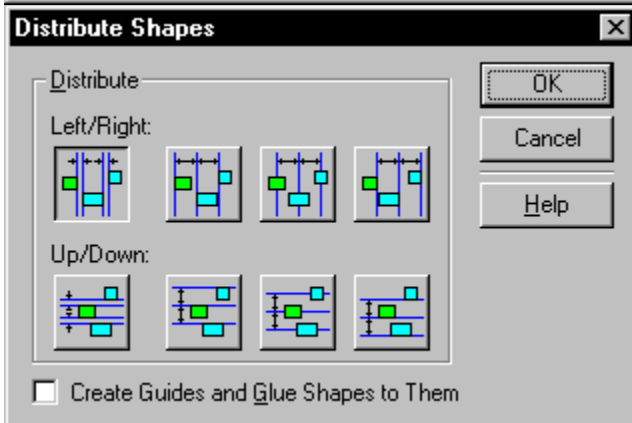
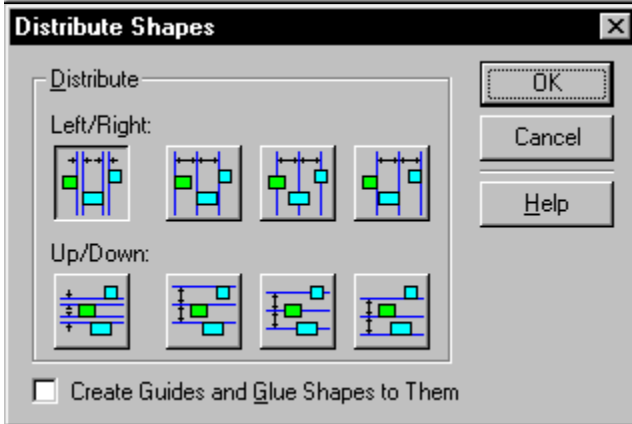
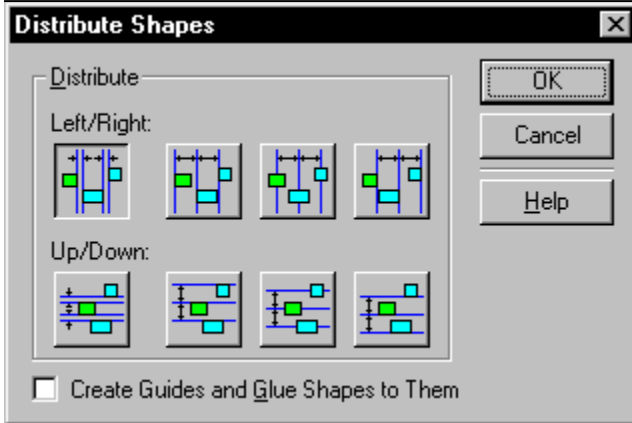
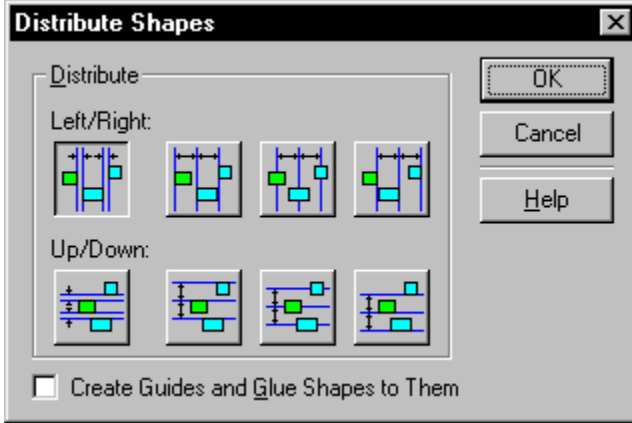
You can work with groups in the [group window](#). By opening the group window, you can add or remove shapes from a group, rotate shapes in a group, or edit the shapes in a group individually.

Keep these things in mind as you work with groups:

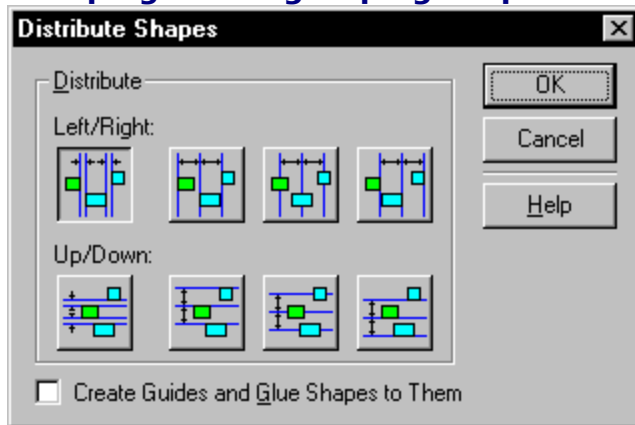
- You cannot edit a group with the [pencil tool](#) in the drawing window. However, when you open the group in the group window, you can edit the shapes in the group with the pencil tool or with the other commands and tools you use to edit shapes in the drawing window.
- A group can include [guides](#) and [objects](#) from other programs. A group has a [ShapeSheet](#), as does each shape and each object in the group.
- If you add a guide and the shapes glued to it to a group, be sure to select both the guide and shapes before you add them to the group; otherwise the glue breaks. You can only add guides to rotated groups when the group is displayed in the group window.
- If you want to rotate a group's shapes individually, open the group in the group window. [Bitmaps](#) or other imported objects will not rotate even when you rotate the group they are included in. To rotate an imported object, first convert it to a Visio group.
- If you want to size, move, or rotate a text block for a shape in a group, open the group in the group window, and then select the text block with the [text block tool](#).

[Adding and removing shapes in groups](#)  
[Editing and formatting a group](#)  
[Editing the shapes in a group](#)  
[Formatting and adding text to a shape in a group](#)  
[Grouping and ungrouping shapes](#)  
[Setting a group's sizing behavior](#)  
[Updating a group's selection rectangle](#)

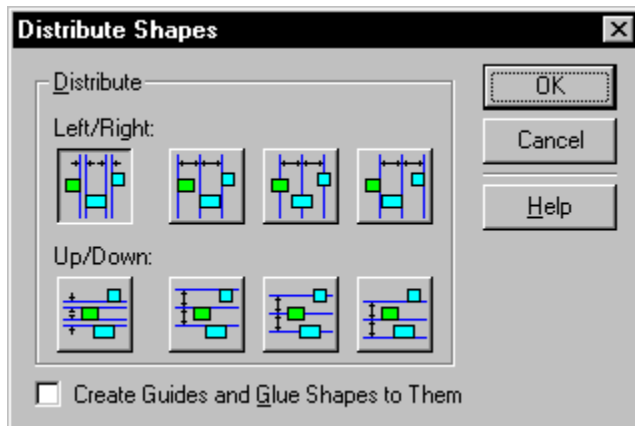
## **Grouping and ungrouping shapes**



## Grouping and ungrouping shapes

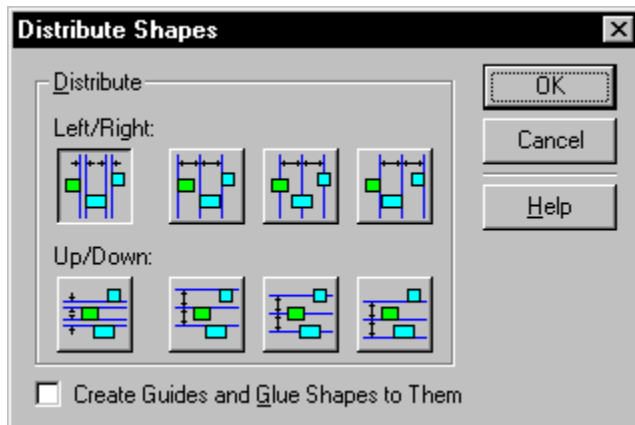


[Overview](#)



**To group shapes:**

1. Select the shapes you want to include in the [group](#).
2. From the Shape menu, choose Grouping, then choose [Group](#).



**To ungroup shapes:**

1. Select the group.
2. From the Shape menu, choose Grouping, then choose [Ungroup](#).

When you ungroup shapes, Visio discards the group's [ShapeSheet](#).

If you ungroup an [instance](#) of a master shape, the instance no longer inherits characteristics from the master shape in the [drawing file stencil](#).

**See also**

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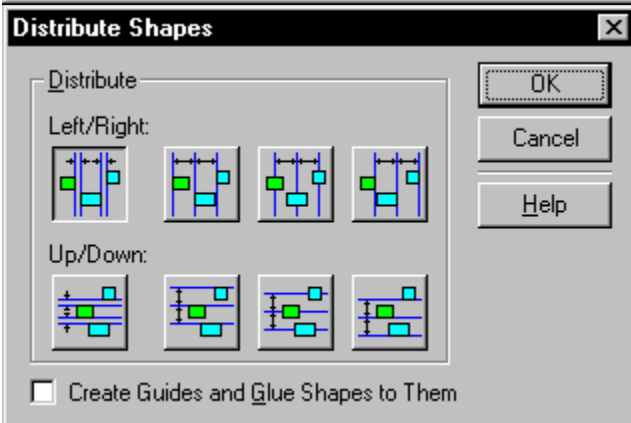
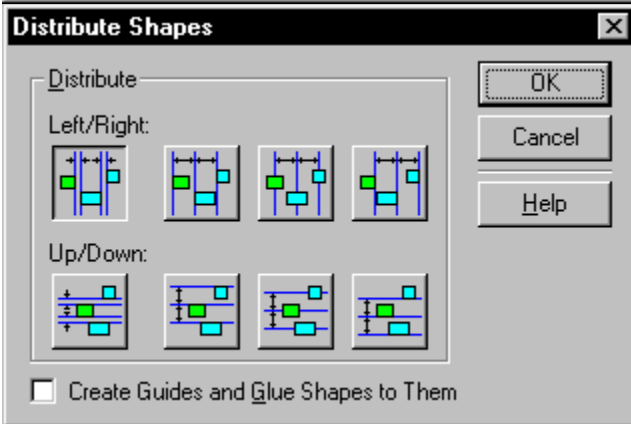
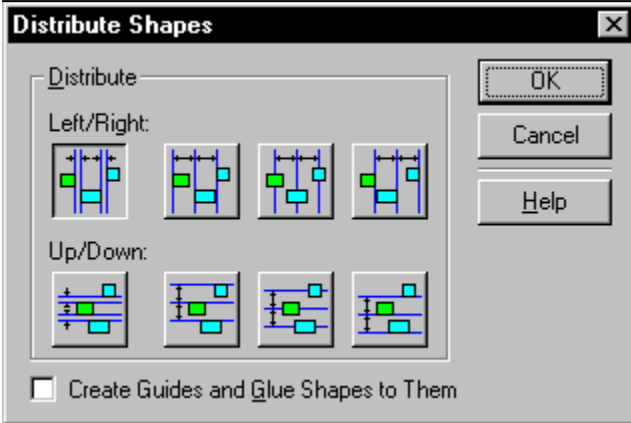
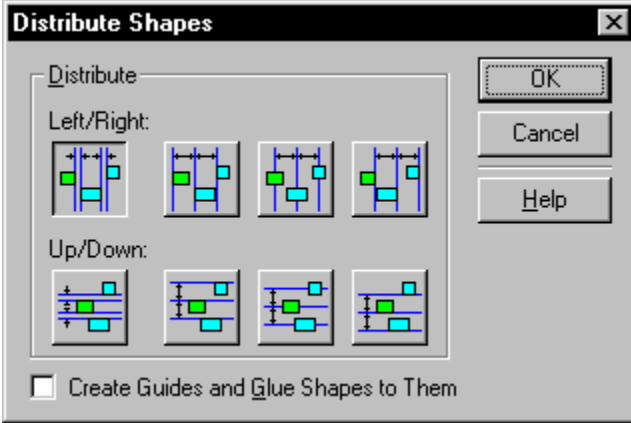
[Combining shapes](#)

[Editing and formatting a group](#)

[Editing the shapes in a group](#)

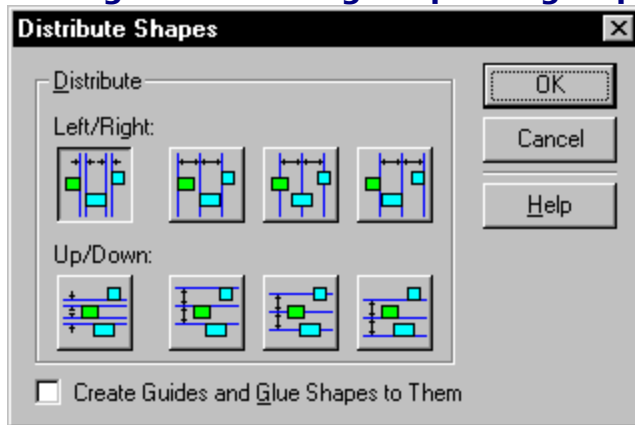
[Uniting shapes](#)

## **Adding and removing shapes in groups**



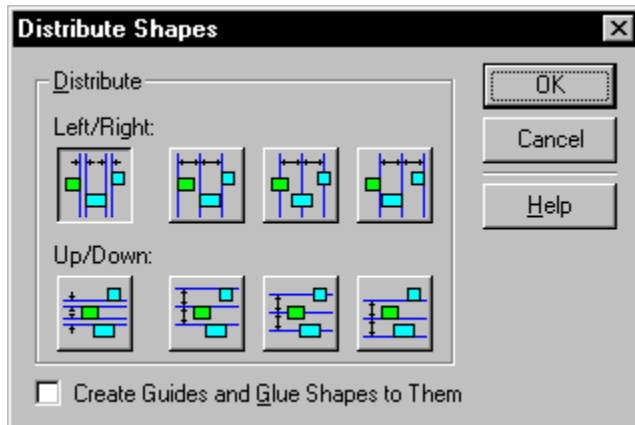


## Adding and removing shapes in groups



[Overview](#)

You can add shapes to or remove shapes from a group.



**To add shapes to or remove shapes**

### **from a group:**

1. Select the group.
2. Hold down the Shift key and select the shapes you want to add to or remove from the group.
3. From the Shape menu, choose Grouping, then choose [Add To Group](#) or [Remove From Group](#).

You can also add and remove shapes without ungrouping the group. To add a shape to a group, select the group, and then choose [Open Group](#) from the Edit menu to open the group window. Select the shape you want to add to the group, and then drag it into the group window.

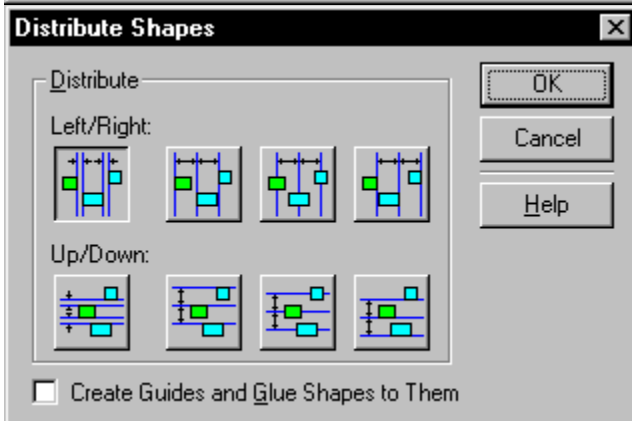
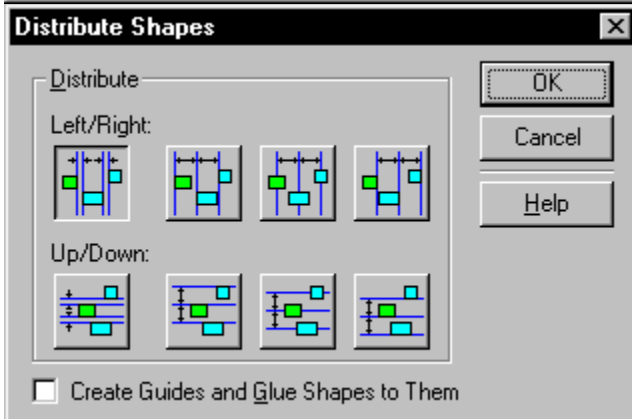
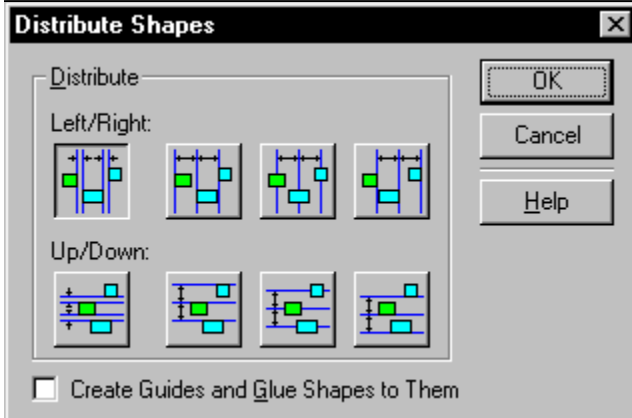
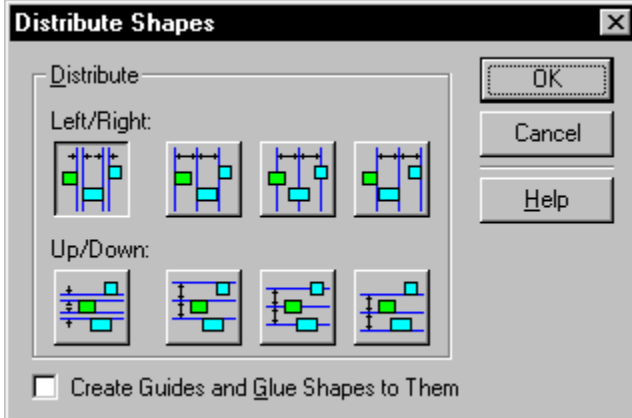
To remove a shape from a group, open the group window and delete the shape you want to remove from the group.

### **See also**

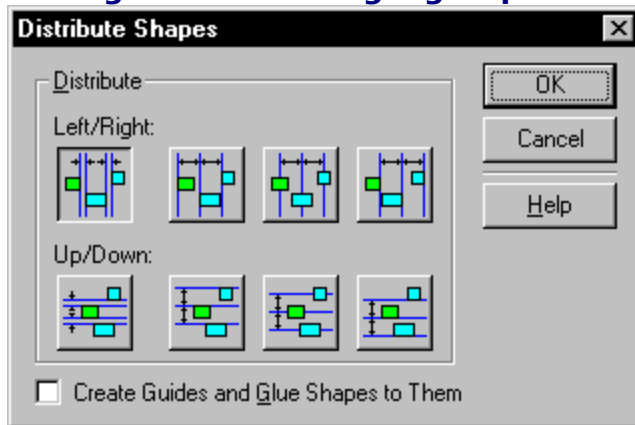
---

[Editing and formatting a group](#)  
[Editing the shapes in a group](#)  
[Grouping and ungrouping shapes](#)  
[Updating a group's selection rectangle](#)

## **Editing and formatting a group**



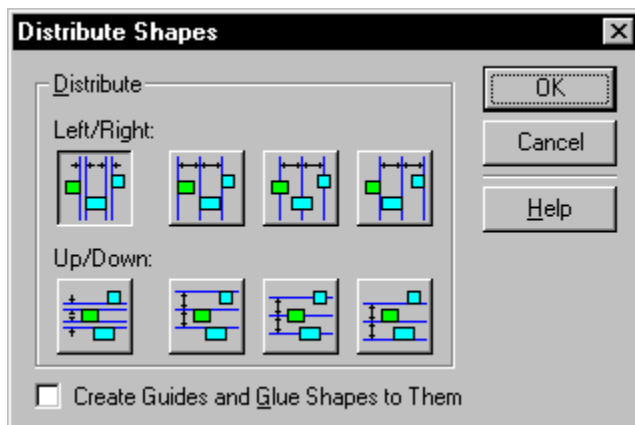
## Editing and formatting a group



### [Overview](#)

You can size, move, rotate, and format a group without opening the group in the group window. You edit and format a group in much the same way as you do other shapes.

When you format the entire group, the formatting affects all the shapes in the group. When you add text to a group, the text appears on the shape at the front of the stacking order in the group.



### **To edit or format a group:**

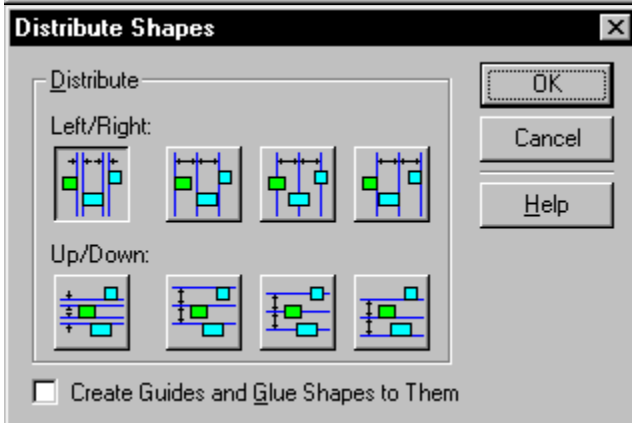
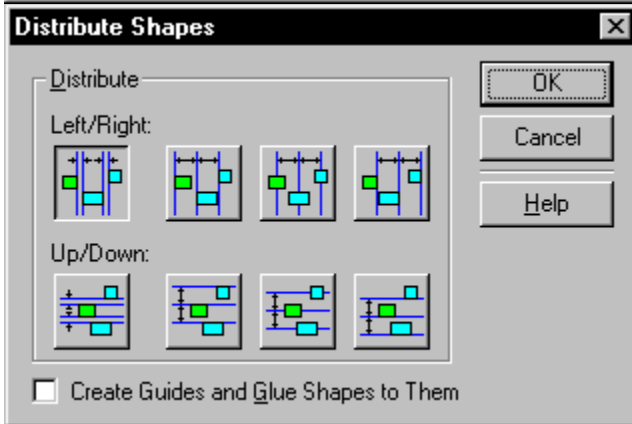
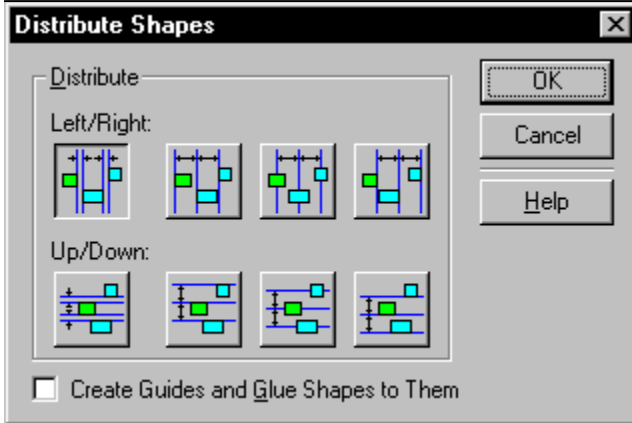
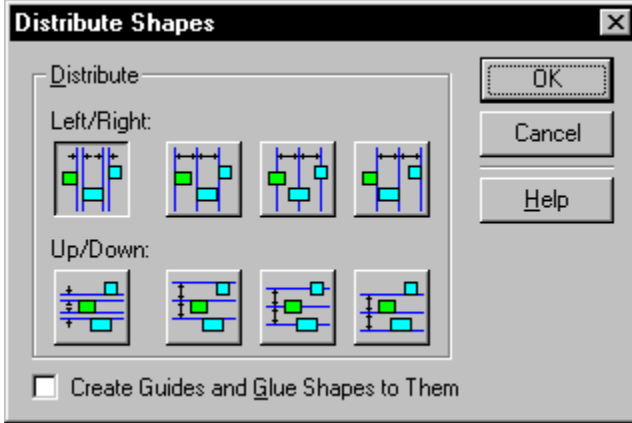
1. Select the group.
2. Size, move, rotate, format, or add text to the group as you would for other shapes.

### **See also**

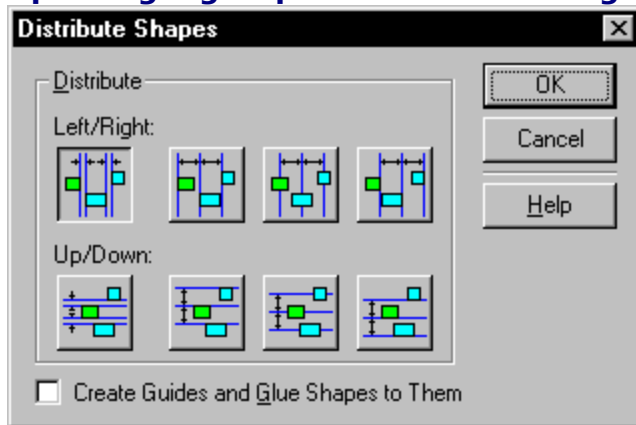
---

[Editing the shapes in a group](#)  
[Formatting fills and shadows](#)  
[Moving shapes by dragging](#)  
[Rotating shapes with the rotation tool](#)

## Updating a group's selection rectangle

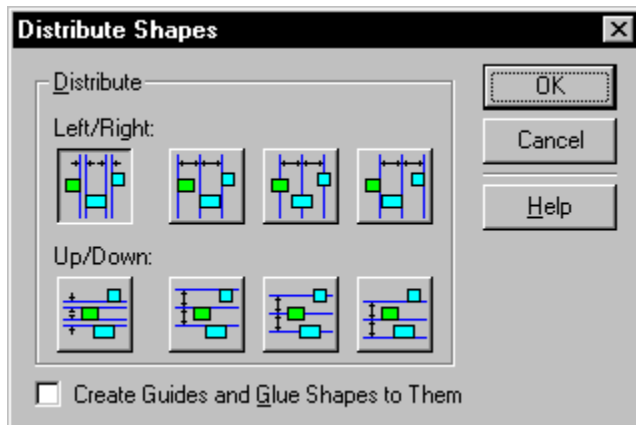


## Updating a group's selection rectangle



### [Overview](#)

After you edit [groups](#) in the group window—for example, after you change the contents of a group or reshape a shape in a group—you can update the group's [selection rectangle](#) in the drawing window to fit the new dimensions.



### To adjust a group's selection

#### rectangle:

1. Select the group.
2. From the Tools menu, choose [Update Alignment Box](#).

**Note:** Some [master shapes](#) included with Visio have unusually large or small selection rectangles that are specifically designed to match the selection rectangles on related shapes. You should not adjust selection rectangles on [instances](#) of these shapes unless you plan not to use the shape with another related shape.

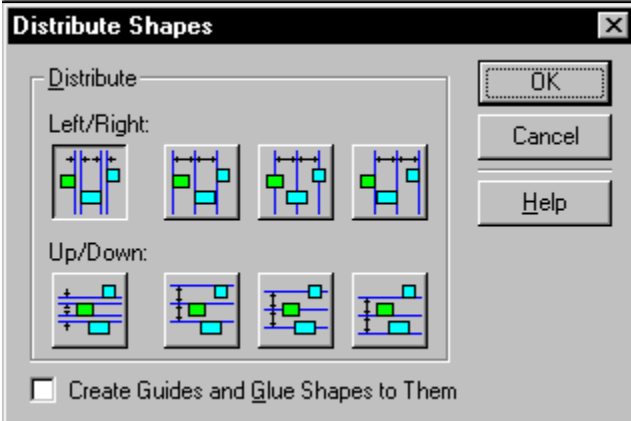
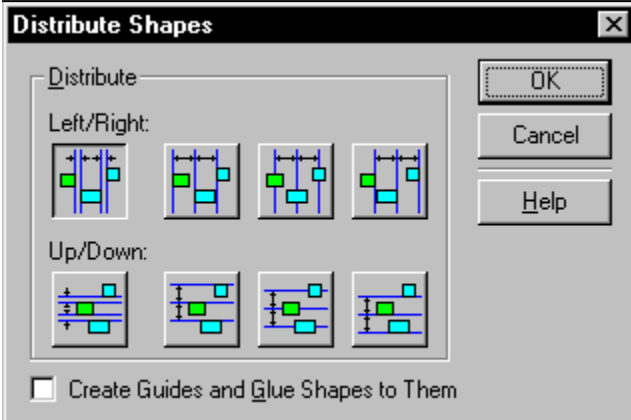
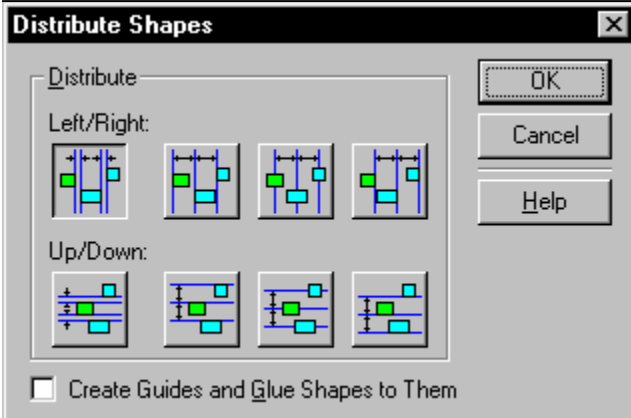
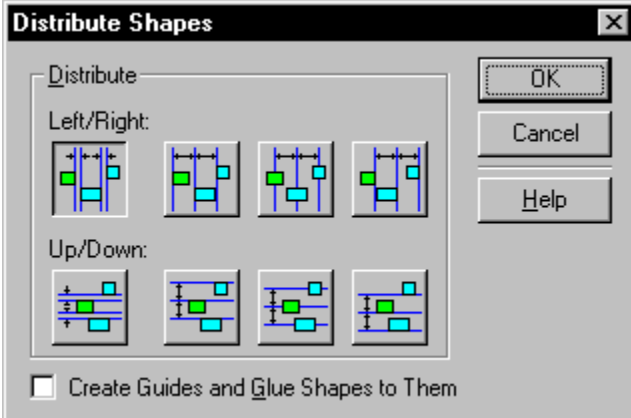
#### See also

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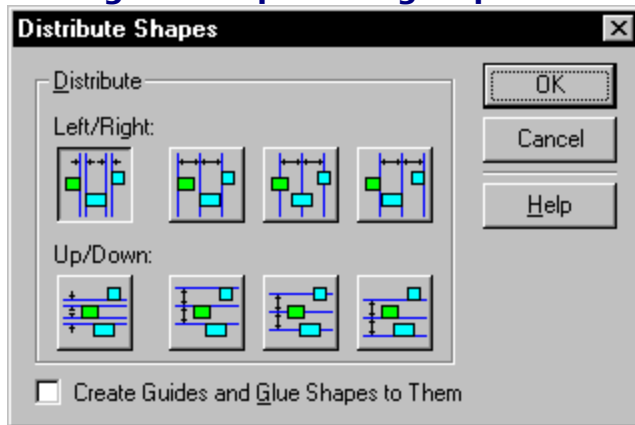
[Editing the shapes in a group](#)  
[Flipping and reversing shapes](#)  
[Grouping and ungrouping shapes](#)

## **Editing the shapes in a group**



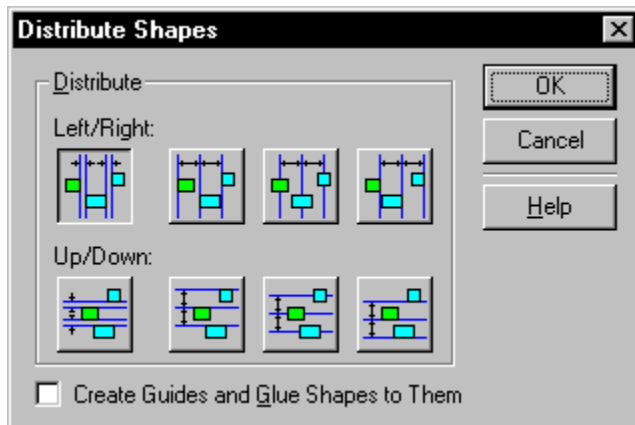


## Editing the shapes in a group



### [Overview](#)

You can edit the shapes in a group individually by opening the [group](#) in the [group window](#). In the group window, the group is not rotated even if it is rotated on the drawing page, so you can align shapes with [grid lines](#) and ruler intervals.



### To open the group window and edit a

#### shape:

1. Select the group.
2. From the Edit menu, choose [Open Group](#).
3. Edit the shapes in the group as you would edit ungrouped shapes on the drawing page.  
As you make changes, you can see the changes in both the group window and the drawing window.
4. To close the group window, click the X box in the upper-right corner of the window.

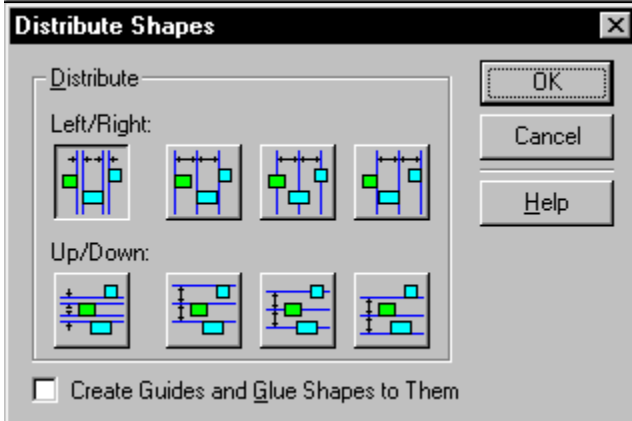
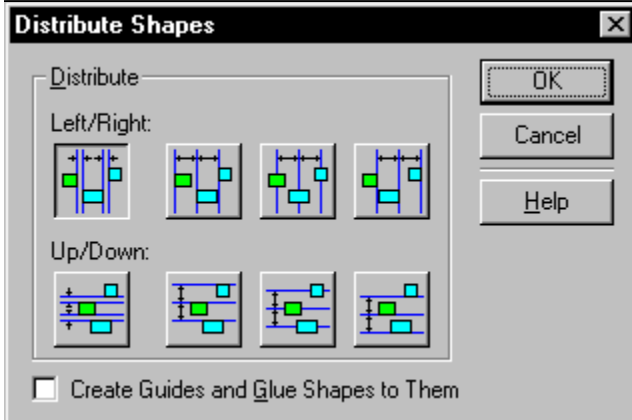
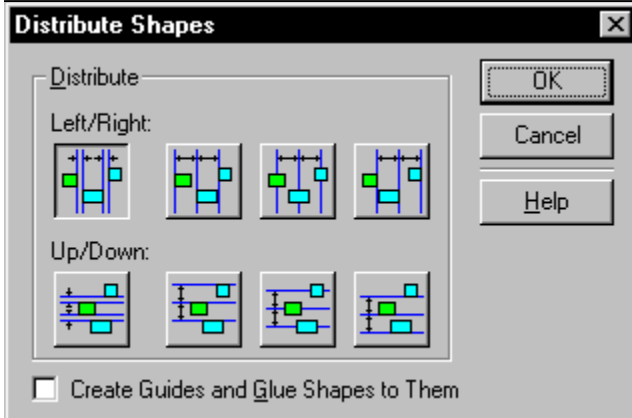
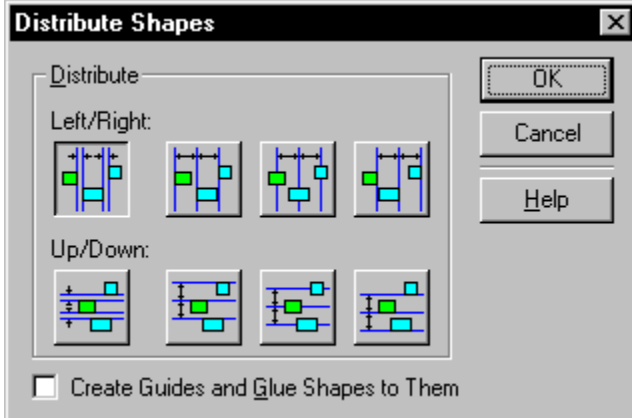
**Note:** By default, when you double-click a group, the group window opens. However, double-clicking a group may cause different behavior if the group's double-click action has been changed.

#### See also

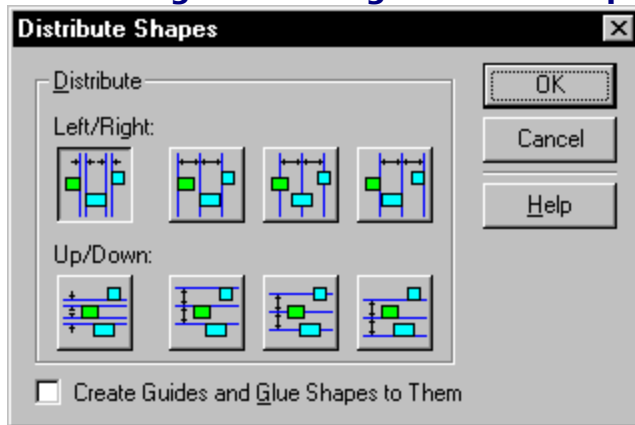
---

[Adding and removing shapes in groups](#)  
[Editing and formatting a group](#)  
[Specifying a shape's double-click behavior](#)

## **Formatting and adding text to a shape in a group**

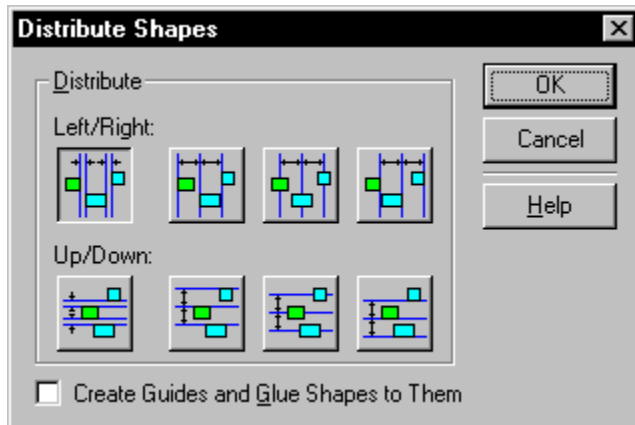


## Formatting and adding text to a shape in a group



[Overview](#)

You can [format](#) and add text to shapes in a [group](#) without opening the group window.



**To format or add text to a shape in a**

### **group:**

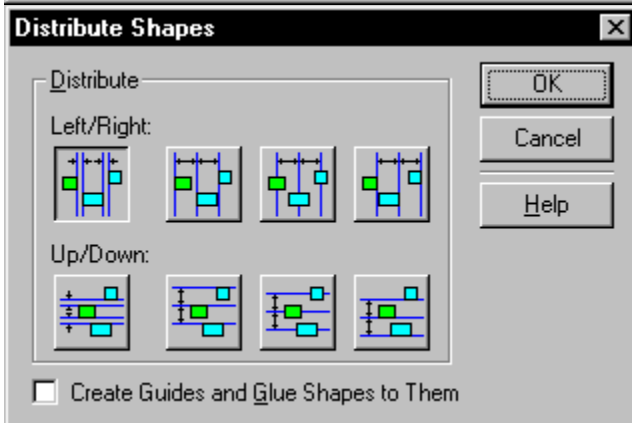
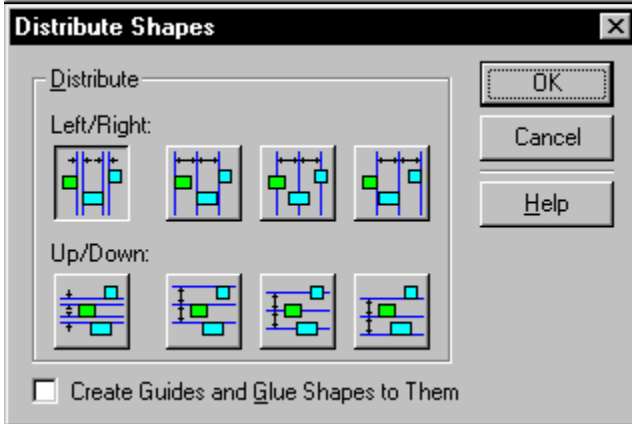
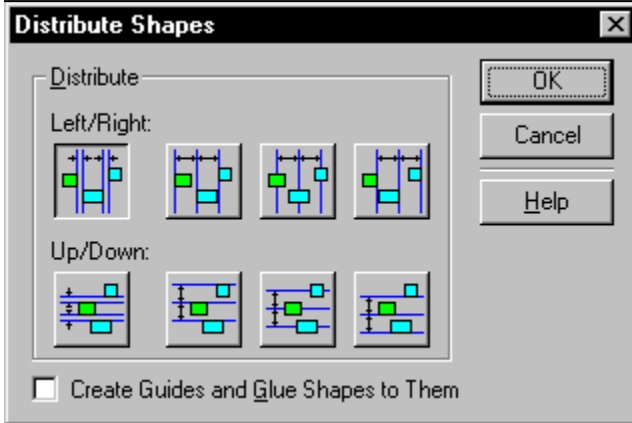
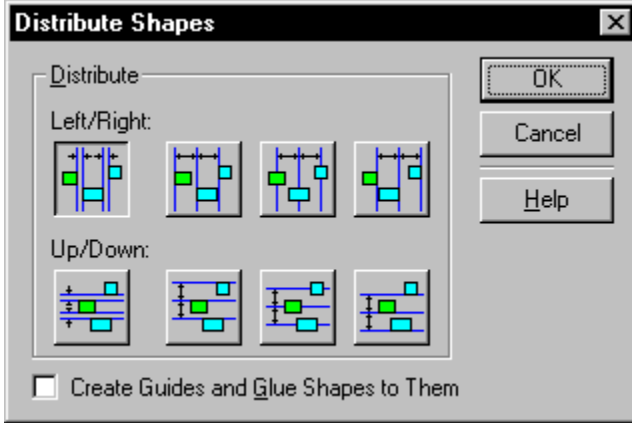
1. Select the group, then pause.  
Green [selection handles](#) appear on the group.
2. Click the shape you want to work with to subselect it.  
Gray selection handles appear on the shape.
3. Format or add text to the shape, just as you would to an ungrouped shape.

**Tip:** If you want to size, move, or rotate a text block for a shape in a group, first open the group in the [group window](#), and then select the text block with the [text block tool](#).

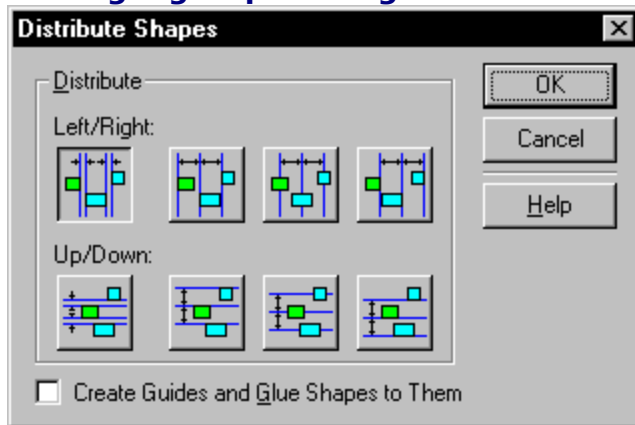
### **See also**

[Checking the spelling of text](#)  
[Editing and formatting a group](#)  
[Editing the shapes in a group](#)  
[Typing text into shapes](#)

## Setting a group's sizing behavior

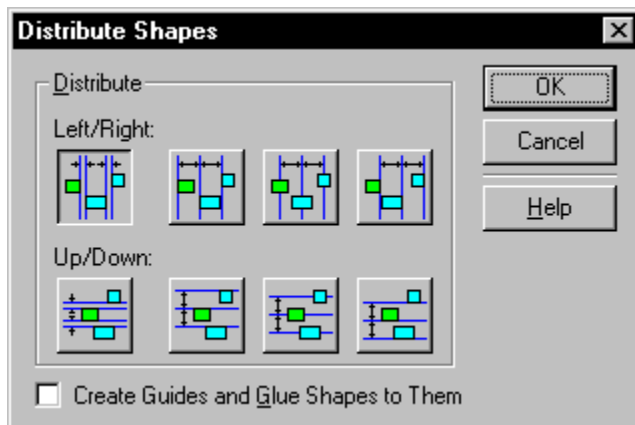


## Setting a group's sizing behavior



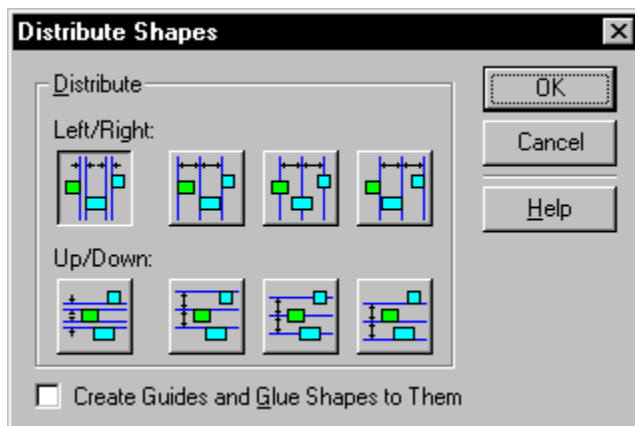
### [Overview](#)

When you resize a [group](#), a shape in the group either resizes with the group or maintains its original size. Each shape in a group can be set to resize differently.



### To set the sizing behavior for a group:

1. Select the group.
2. From the Format menu, choose [Behavior](#).
3. In the Resize Behavior section, choose the option you want.
4. Click OK.



### To set the sizing behavior for a shape

#### in a group:

1. Select the group.



2. From the Edit menu, choose [Open Group](#) to open the group in the group window.
3. Select the shape.
4. From the Format menu, choose [Behavior](#).
5. In the Resize Behavior section, choose one of the following options:
  - Scale With Group, to resize the shape when the group is resized. This is the normal behavior for shapes in a group.
  - Reposition Only, to keep the shape's original size when the group is sized.
  - Use Group's Setting, if you want the shape to inherit the sizing behavior that you set for the group.
6. Click OK.
7. To close the group window, click the X box in the upper-right corner of the window.

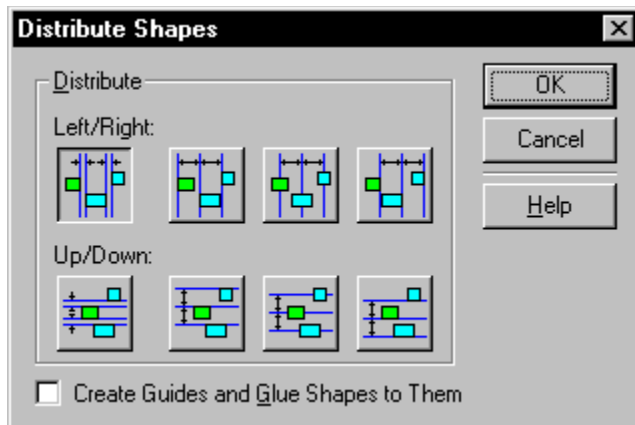
**See also**

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[Determining a 2-D shape's size and location](#)

[Setting shape display options](#)

## Changing shape behavior



[Related procedures](#)

Most of the shapes that come with Visio are [SmartShapes](#). A SmartShape behaves as you expect it to, so you won't often need to change its behavior. However, if you need a shape to behave in a specific way, you can change the behavior of a master shape or of a shape you create.

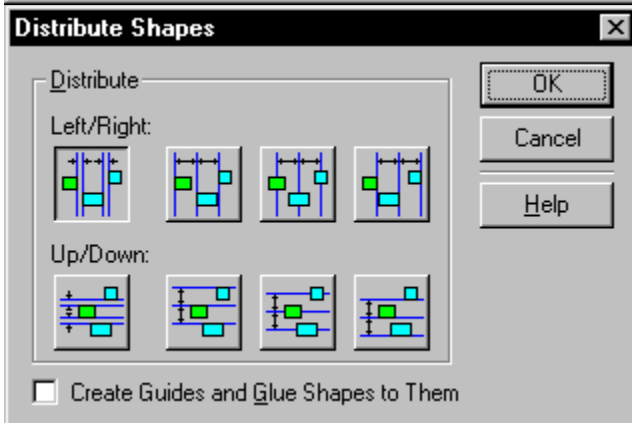
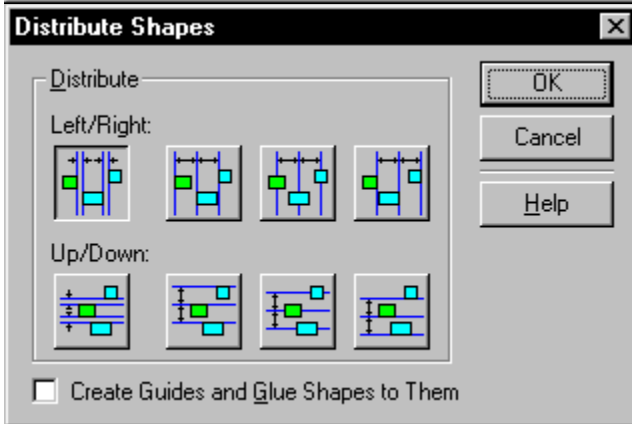
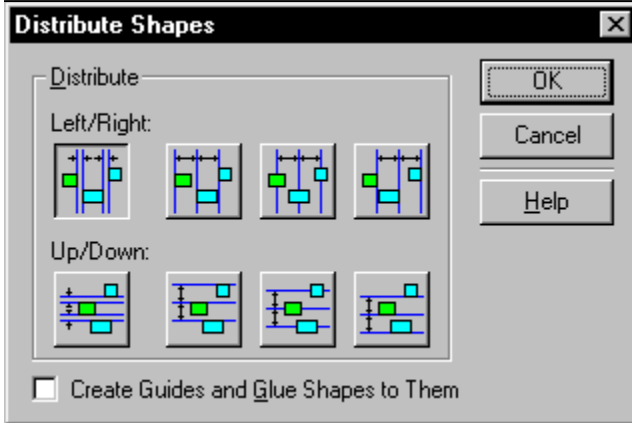
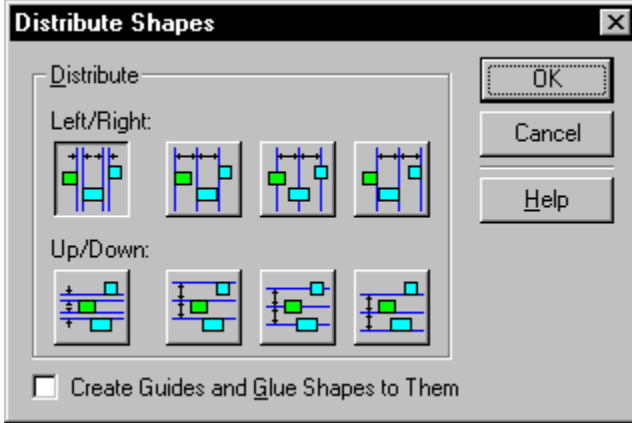
In Visio, you can:

- Protect shapes.
- Use [control handles](#) to modify a shape.
- Set a shape's double-click behavior.
- Set shape display options.
- Change a [1-D](#) shape to a [2-D](#) shape, or a 2-D shape to a 1-D shape.
- Add custom properties to a shape.

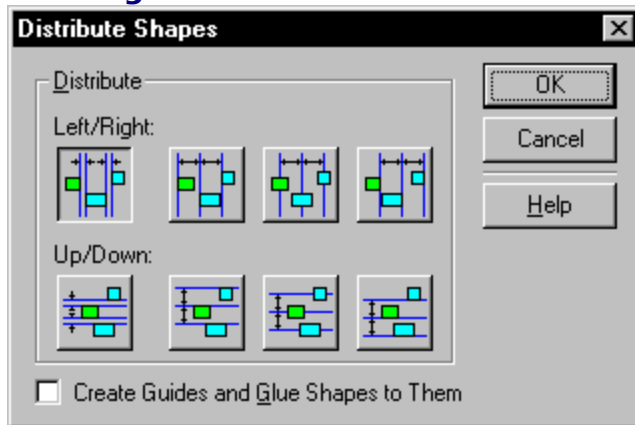
You can also change shape behavior by changing formulas in the [ShapeSheet](#).

[Associating data with shapes](#)  
[Changing 1-D and 2-D behavior](#)  
[Creating a nonprinting shape](#)  
[Protecting shapes](#)  
[Setting shape display options](#)  
[Specifying a shape's double-click behavior](#)  
[Working with control handles](#)

## **Working with control handles**



## Working with control handles



### [Overview](#)

Some master shapes have control handles that let you work with shapes in ways you can't with standard 1-D and 2-D shapes.

**Tip:** Shapes with control handles have control handle help: select the shape, then place the pointer over the control handles to display the handle's ToolTips.

Control handles work differently depending on the design and purpose of a shape. For example, you might use a control handle to adjust a rounded corner or reshape an arrow or to pull a connector directly out of a shape.

When you use a control handle on one shape to create another shape (such as a [text block](#) or a [connector](#)), the shapes may behave differently from how they would if you had created them separately. For example, if you select a shape from which you've dragged a connector, the connector is also selected.

### See also

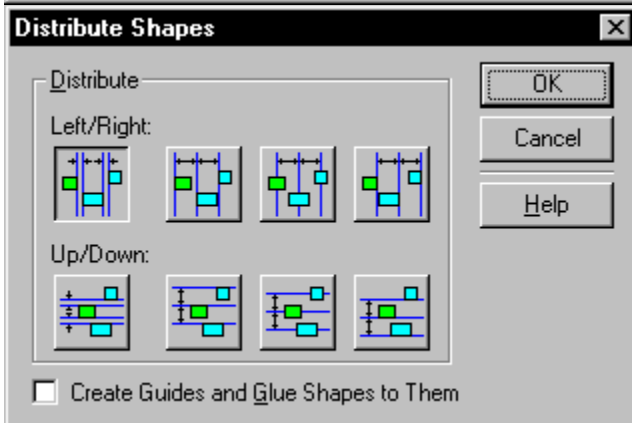
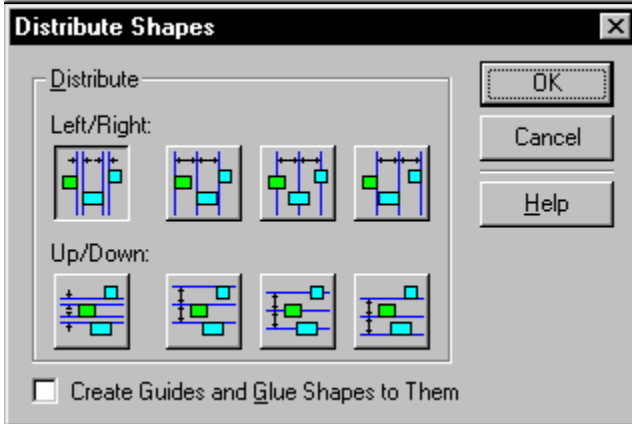
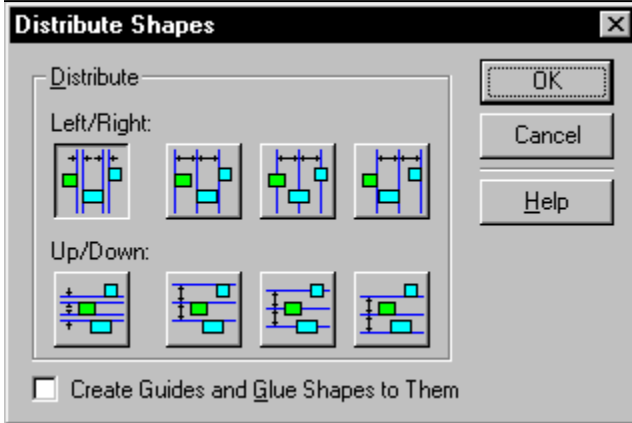
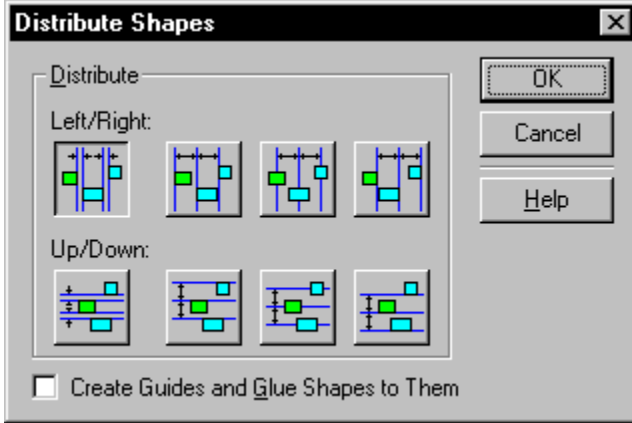
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[Connecting a series of shapes automatically](#)

[Quickly creating an organization chart and similar drawings](#)

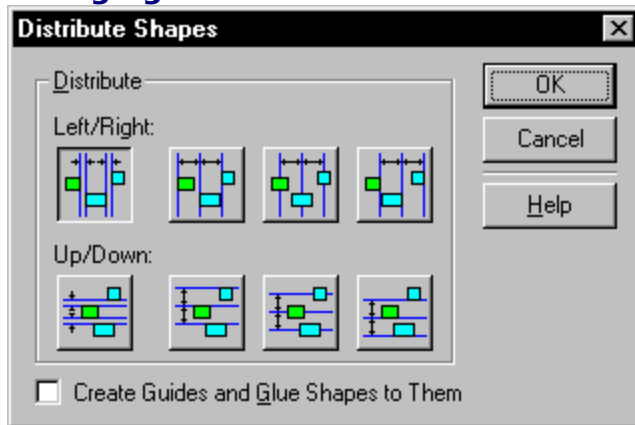
[Setting shape display options](#)

## **Changing 1-D and 2-D behavior**



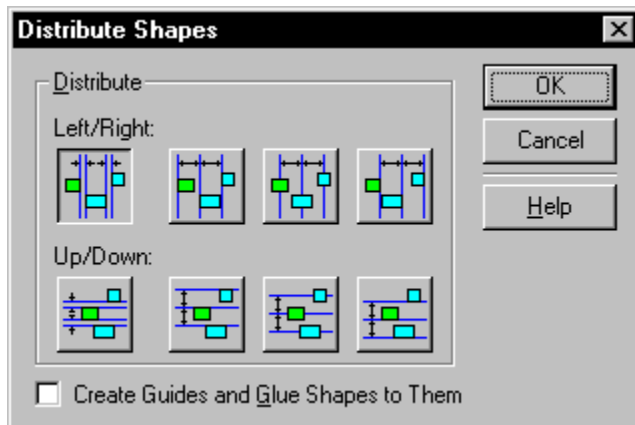


## Changing 1-D and 2-D behavior



[Overview](#)

You can change a 2-D shape to a 1-D shape so you can use it as a [connector](#). You can also change a 1-D shape to a 2-D shape so you can size the shape proportionately when you drag its corner [handles](#).



**To set a shape's behavior as 1-D or 2-**

**D:**

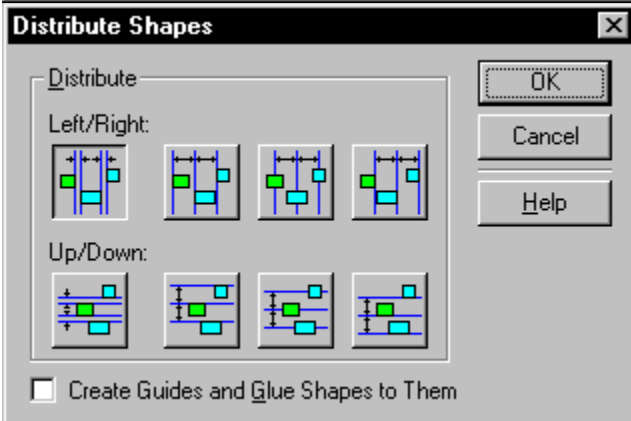
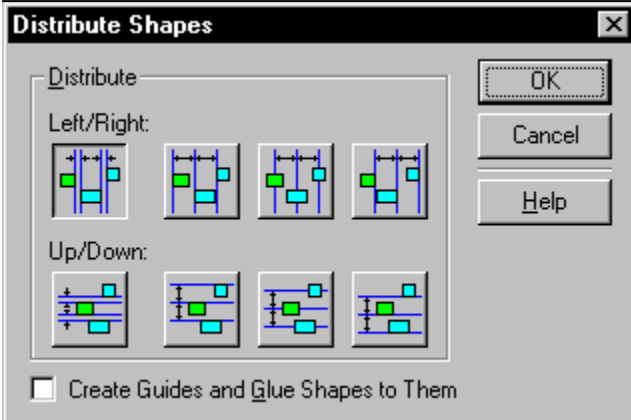
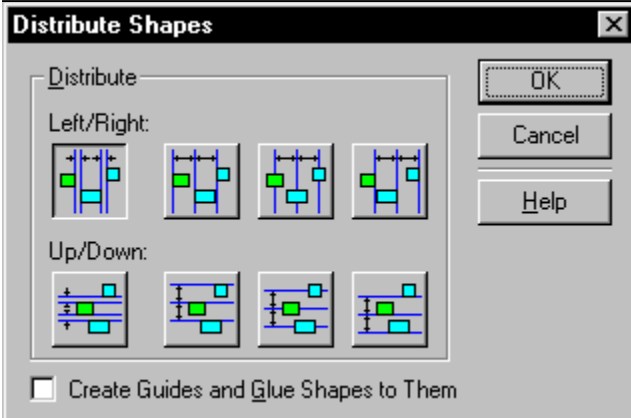
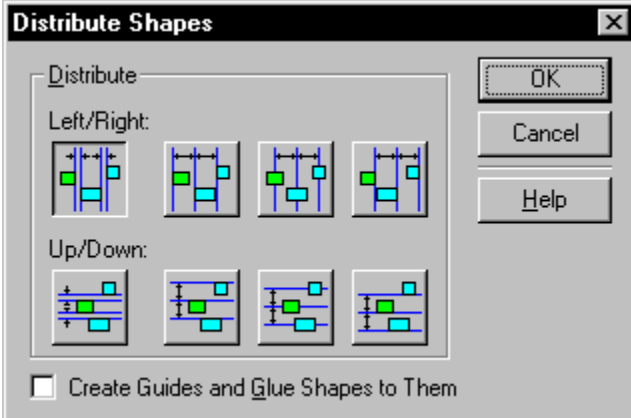
1. Select the shape.
2. From the Format menu, choose [Behavior](#).
3. In the Interaction Style section, choose Line (1-Dimensional) or Box (2-Dimensional).
4. Click OK.

**Important:** Changing 1-D and 2-D behavior for a shape may produce unexpected results. For example, if a 1-D shape is glued to another shape, changing the 1-D shape to a 2-D shape will break the glue.

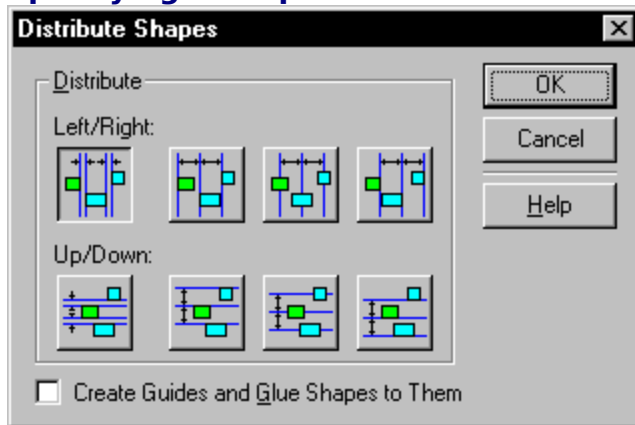
### See also

[Setting a group's sizing behavior](#)  
[Working with control handles](#)

## **Specifying a shape's double-click behavior**



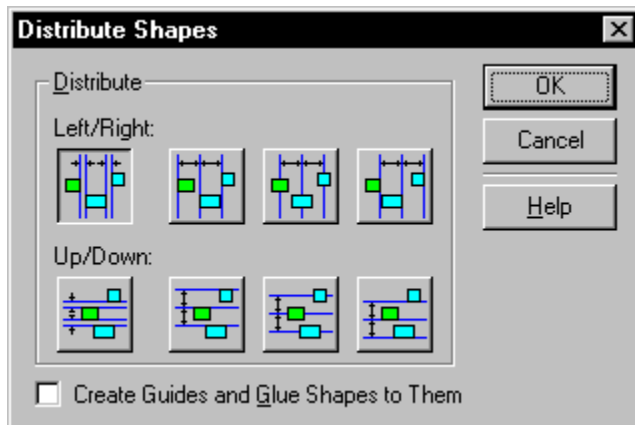
## Specifying a shape's double-click behavior



[Overview](#)

You can modify shapes so they behave in a special way when they are double-clicked. By default, a shape's double-click behavior is to open the shape's text block. However, you could change the double-click behavior to display a page in a multipage [drawing file](#) or open the shape's [ShapeSheet](#).

**Note:** The default double-click behavior for a group is to open the group window.



**To specify a shape's double-click**

**behavior:**

1. Select the shape.
2. From the Format menu, choose [Double-Click](#).
3. In the dialog box, choose a double-click action for the shape.
4. Click OK.

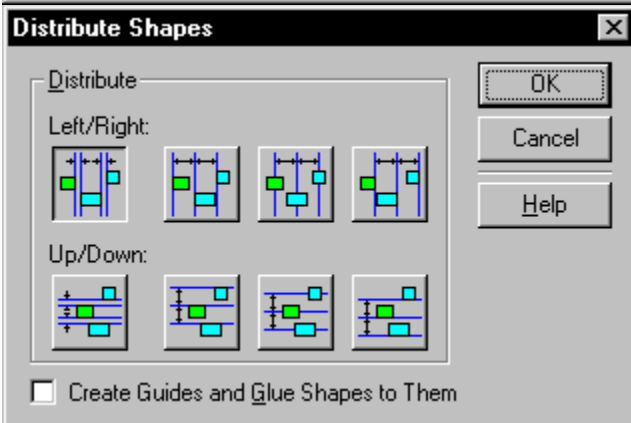
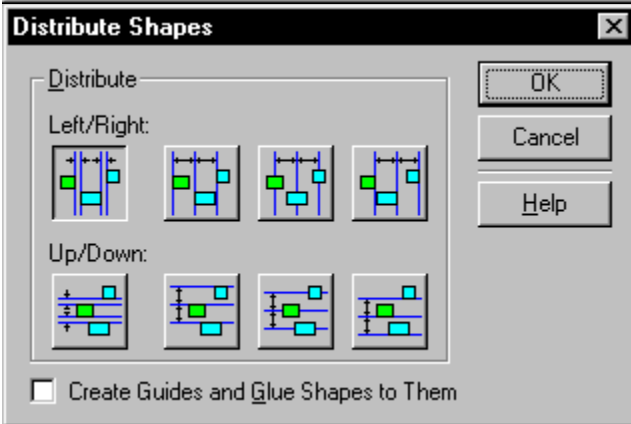
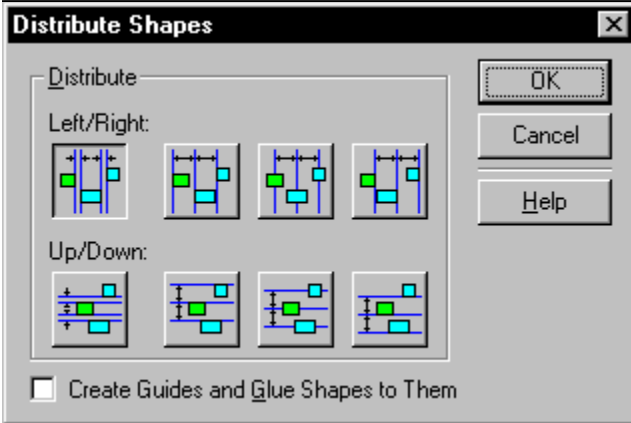
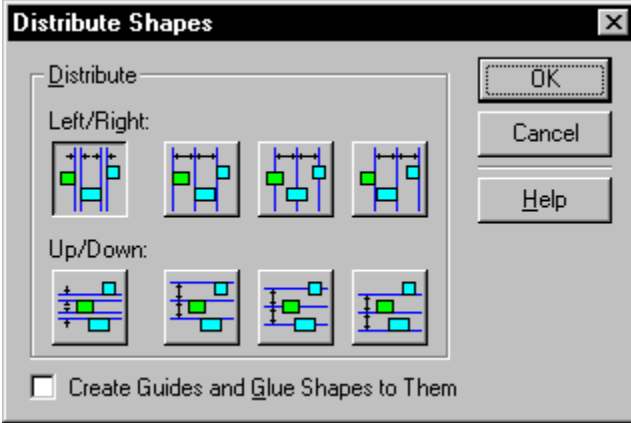
**See also**

[Adding and replacing text](#)

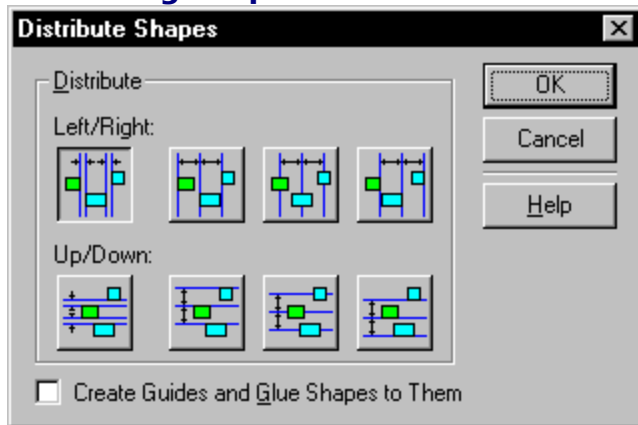
[Displaying pages](#)

[Running add-ons](#)

## Protecting shapes

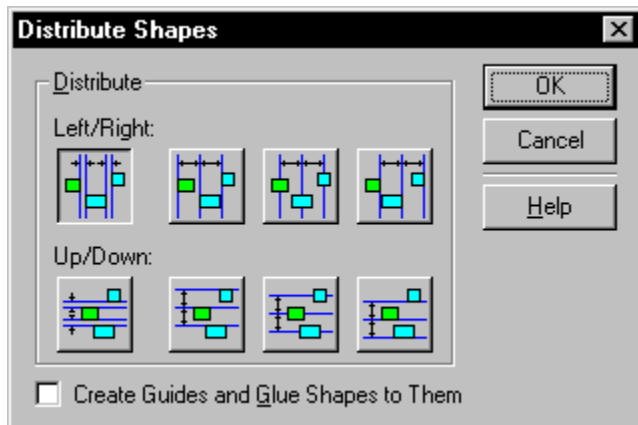


## Protecting shapes



### [Overview](#)

You can protect a shape from changes by locking it with the Protection command. When a shape is locked, it displays padlocks that indicate that the protected behavior cannot be performed. Protected behaviors cannot be performed or changed until you unlock the shape.



### To lock or unlock shape behaviors:

1. Select the shape.
2. From the Format menu, choose [Protection](#).
3. Choose the shape behaviors that you want to lock or unlock.

When a behavior is checked, it is locked. For example, to ensure that no one can select a shape, in the Protection dialog box, check From Selection, then in the [Protect Document](#) dialog box, check Shapes.

4. Click OK.

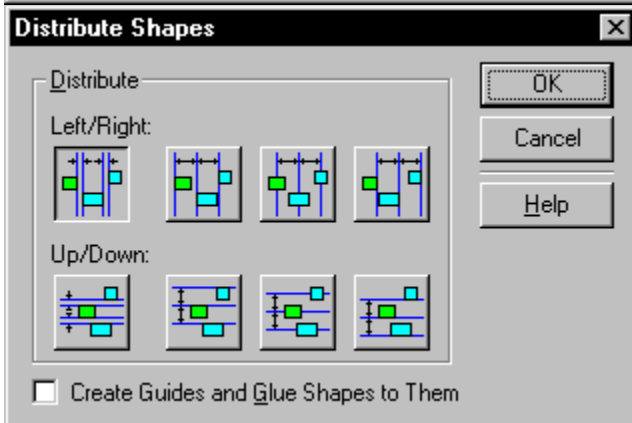
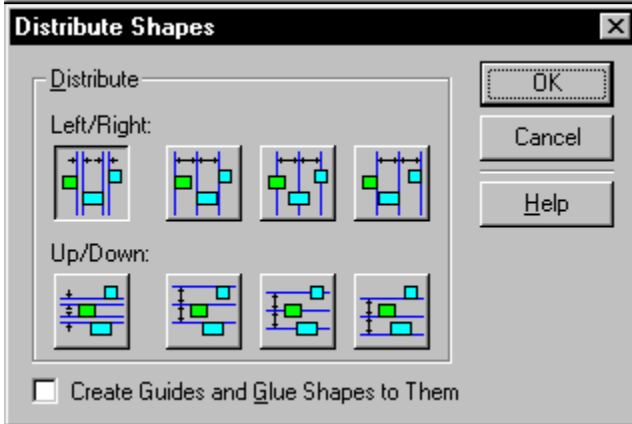
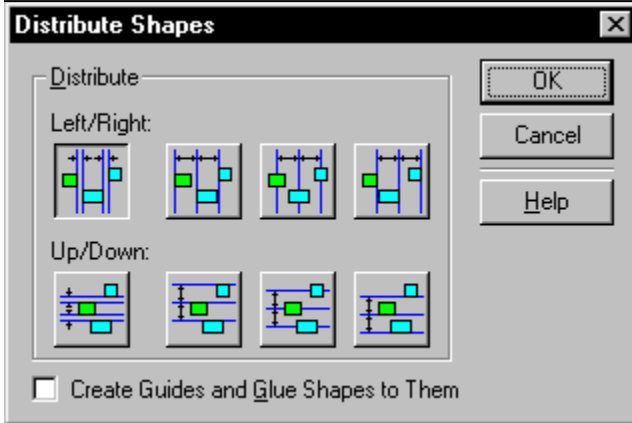
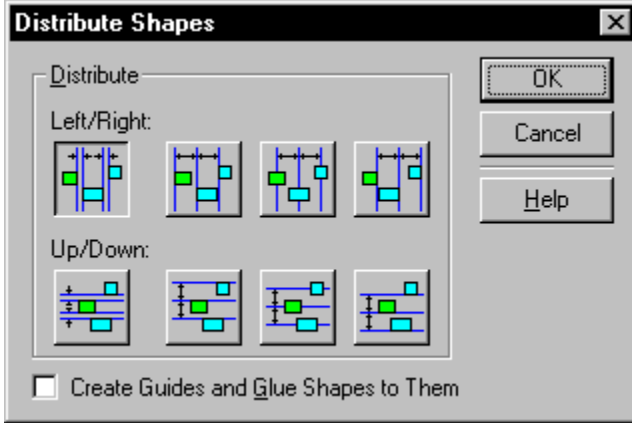
**Note:** Several of the [master shapes](#) that come with Visio are locked to protect their angles and dimensions. Unlocking and changing these shapes may cause them to behave in unexpected ways.

### See also

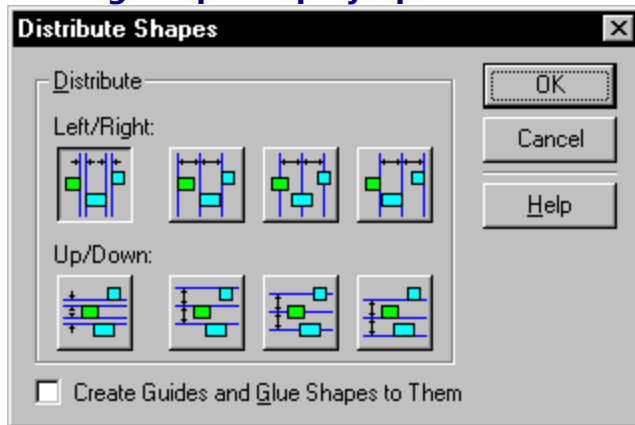
- 
- [Protecting a file](#)
  - [Setting page display options](#)
  - [Setting shape display options](#)

## Setting shape display options



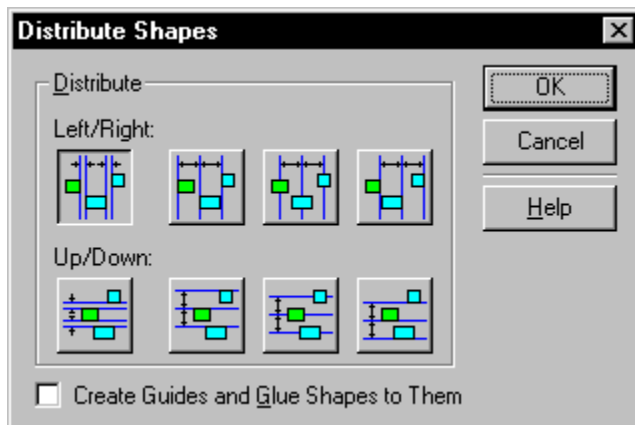


## Setting shape display options



[Overview](#)

When working with shapes, you choose options to display or hide shape handles, control handles, and selection rectangles.



**To show or hide shape display**

### options:

1. Select the shape.
2. From the Format menu, choose [Behavior](#).
3. In the Selection Highlighting section, choose the options you want:
  - To show or hide selection handles, choose Show Shape Handles.
  - To show or hide control handles, choose Show Control Handles.
  - To show or hide the shape's selection rectangle, choose Show Alignment Box.
4. Click OK.

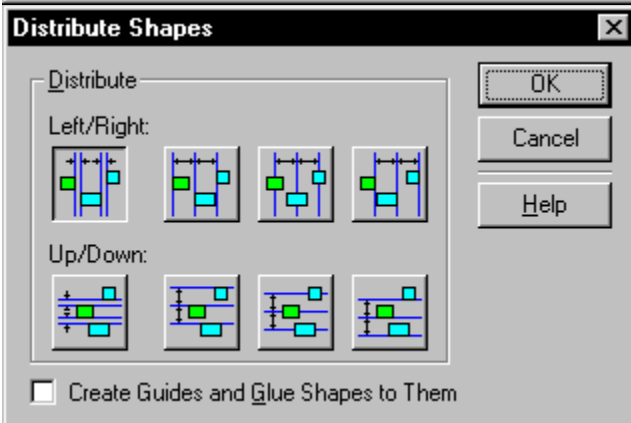
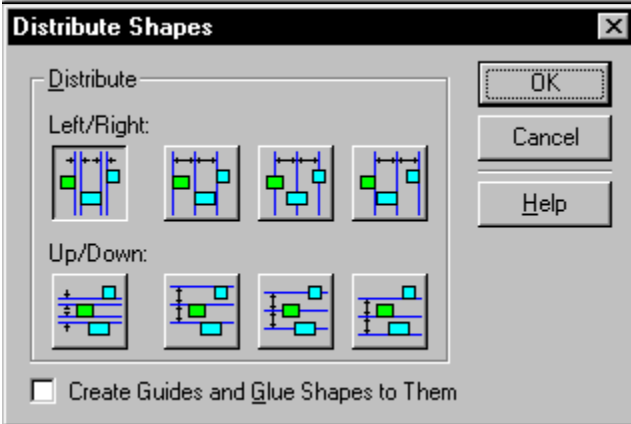
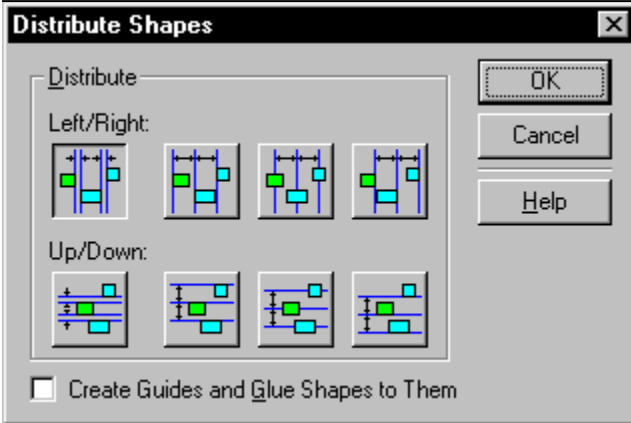
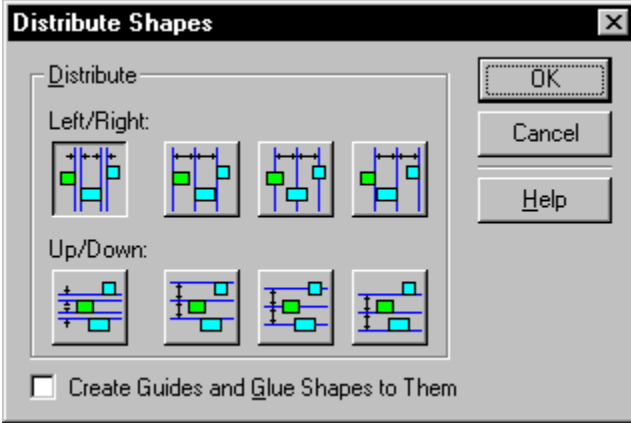
**Note:** If you uncheck all three options, you won't be able to tell if a shape is selected.

### See also

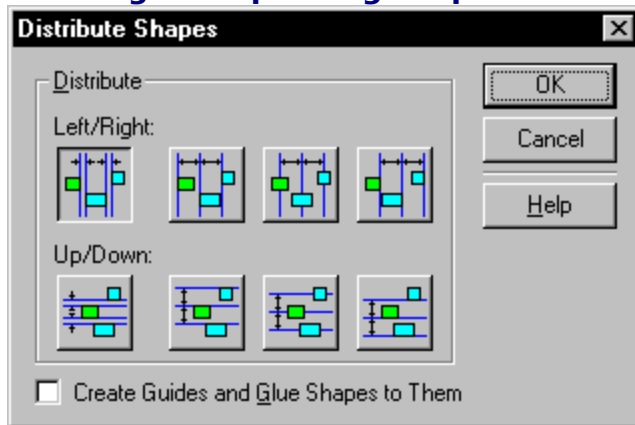
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[Protecting shapes](#)  
[Setting display options](#)  
[Setting page display options](#)  
[Viewing layers](#)

## Creating a nonprinting shape



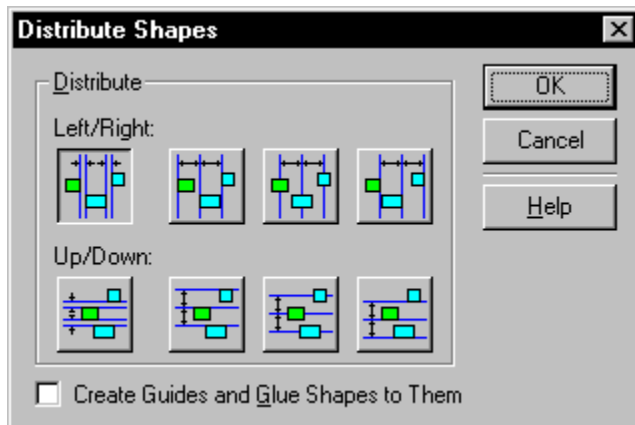
## Creating a nonprinting shape



[Overview](#)

Sometimes you may want to print a [drawing](#) without printing certain shapes, for example, if you include a shape that is only for reference, such as a parts list or other list of specifications. By choosing settings in the Behavior dialog box, you can create a nonprinting shape.

In addition, you can use the [Layer Properties](#) dialog box to print layers you specify.



**To create a shape that doesn't print:**

1. Select the shape.
2. From the Format menu, choose [Behavior](#).
3. In the dialog box, check Non-Printing Shape.
4. Click OK.

### See also

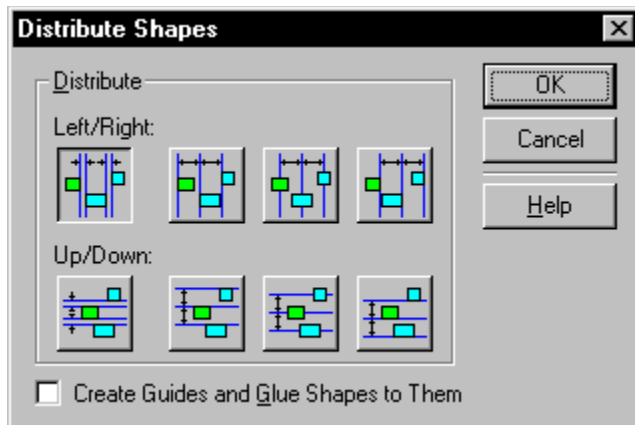
[Printing layers](#)

[Protecting shapes](#)

[Setting display options](#)

[Setting shape display options](#)

## Selecting and moving shapes



[Related procedures](#)

### Selecting shapes

In most cases you select shapes using the [pointer tool](#). However, you can use other tools. For example, when you want to rotate a shape, you select it with the [rotation tool](#).

When you select a shape with the pointer tool, green [selection handles](#) and a [selection rectangle](#) appear on the shape. When you select multiple shapes, the first shape you select displays green selection handles and the other shapes display blue handles. You can also select shapes by dragging the pointer tool to create a selection net.

### Stacking order

Shapes have a [stacking order](#) on the page. The first shape you draw or drop on the page is at the back of the stack; the most recently created shape is at the front.

If you drag a selection net around several shapes, the shape at the front of the stacking order is the first shape selected and displays green handles.

### Moving shapes

You move shapes by dragging them. You can also rotate shapes, flip shapes vertically or horizontally, or reverse a shape's ends.

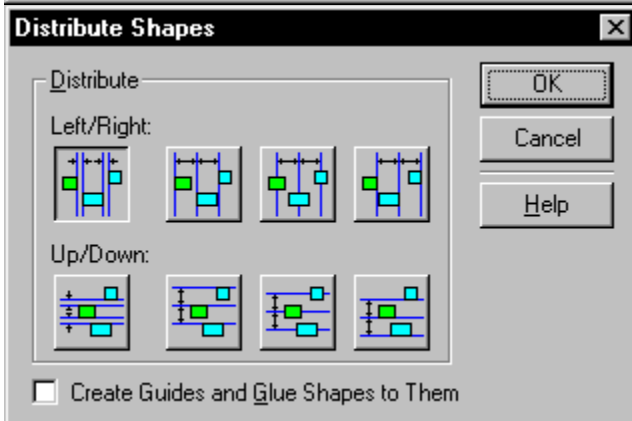
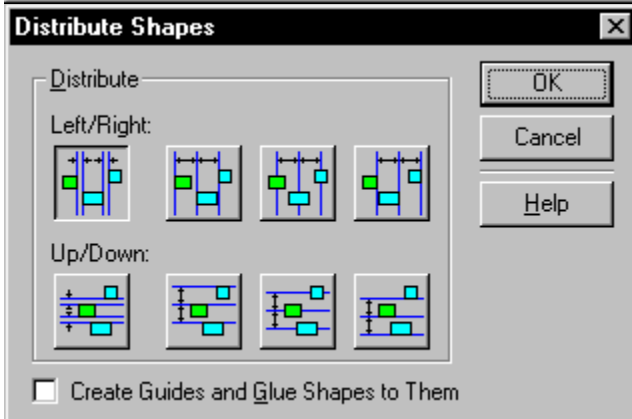
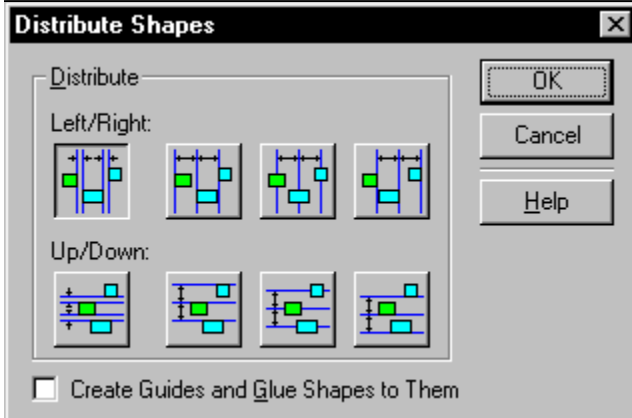
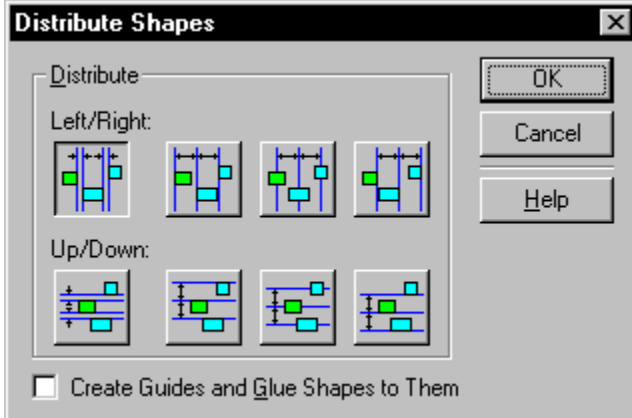
As you drag a shape, a box (representing a 2-D shape) or a line (representing a 1-D shape) shows the shape's location on the page. If you pause while moving a shape and continue to hold down the left mouse button, you'll see an outline of the shape instead of the box or line that represents the shape, so you can position the shape more precisely.

Faint lines on each ruler indicate the shape's location. You can also use the grid to help you position shapes.

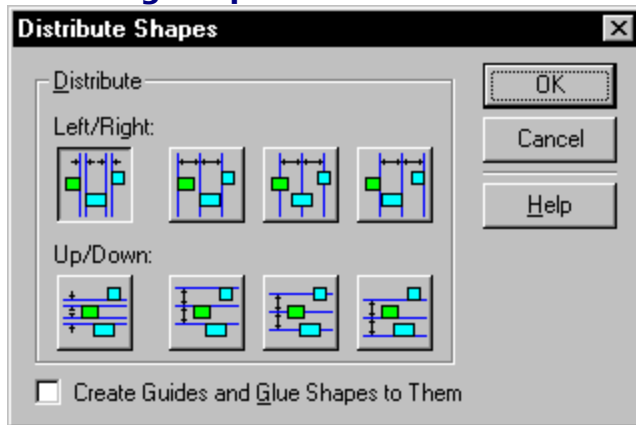
[Changing the snap strength](#)  
[Changing the stacking order of shapes](#)  
[Flipping and reversing shapes](#)  
[Moving a 2-D shape's center of rotation](#)  
[Moving shapes by dragging](#)  
[Rotating shapes by 90-degree increments](#)  
[Rotating shapes with the rotation tool](#)  
[Selecting shapes](#)  
[Snapping shapes into place](#)

## Selecting shapes





## Selecting shapes



### [Overview](#)

When the mouse pointer is over a [shape](#), it changes from a black arrow to a white arrow. When the arrow is white, you can click to select a shape.

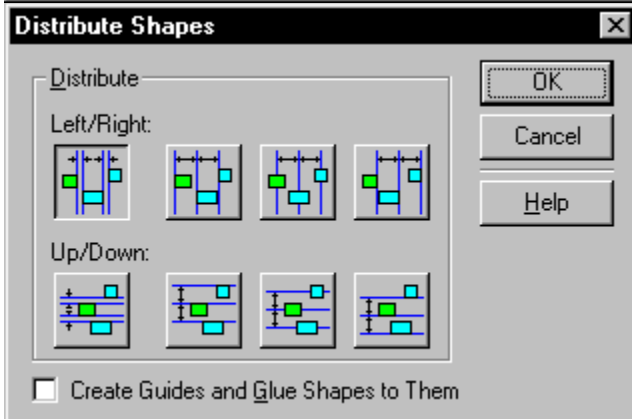
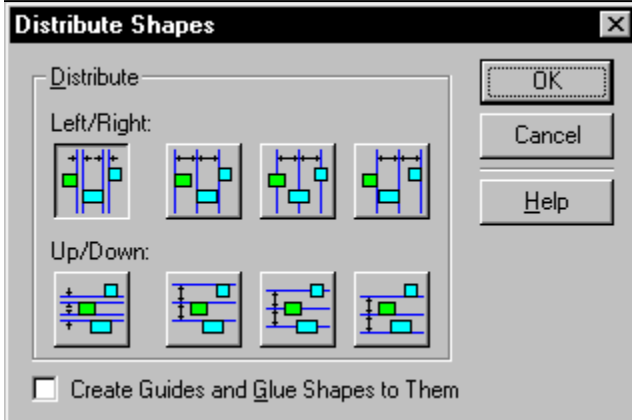
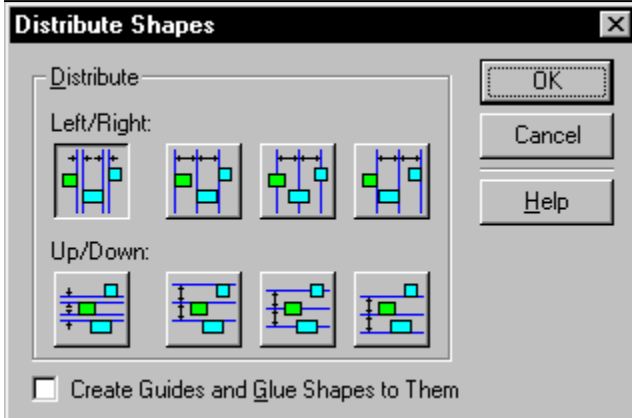
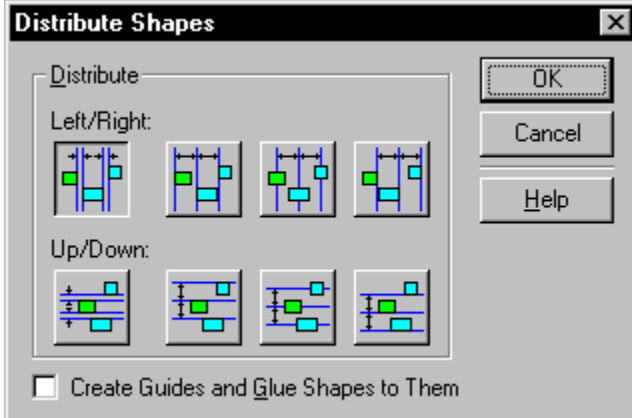
<b>To:</b>	<b>Do this:</b>
Select one shape	Click the shape with the <a href="#">pointer tool</a> .
Select several shapes by clicking	Select the first shape, hold down the Shift key, and then click to select the other shapes one at a time.
Select several shapes by dragging	With the pointer tool, drag a <a href="#">selection net</a> around the shapes you want to select.
Select all the shapes on a page	Choose <a href="#">Select All</a> from the Edit menu.
Select all of a particular item, such as shapes, groups, or guides	Choose <a href="#">Select Special</a> from the Edit menu, and then choose the type of items you want to select.
Cancel a selection	Click away from selected shapes.
Cancel the selection of a shape or other item when several are selected	Hold down the Shift key and click the shape or item.
Select a vertex on a shape	Click the shape with the <a href="#">pencil tool</a> , and then click the vertex.
Select a shape in a group	Click the group, and then click the shape.

### See also

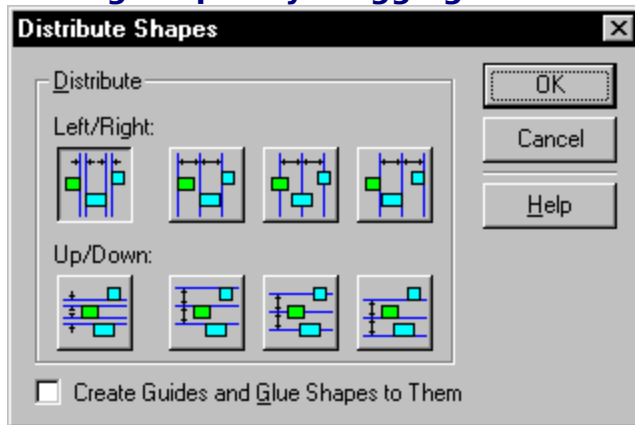
[Copying shapes](#)  
[Deleting shapes](#)

## Grouping and ungrouping shapes

## **Moving shapes by dragging**

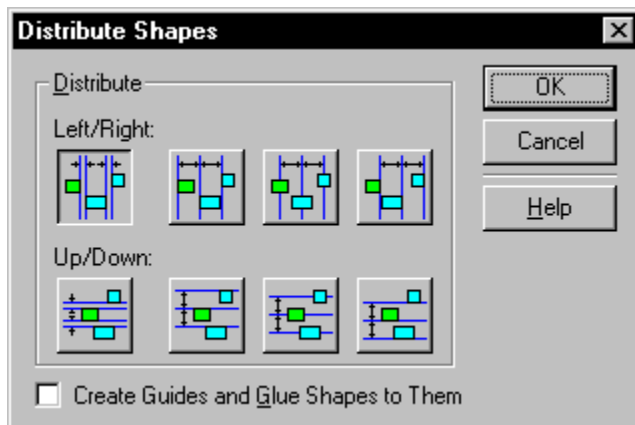


## Moving shapes by dragging



[Overview](#)

To move a shape, drag it to where you want it. Use the [grid lines](#) and rulers to help place the shape.



**To move a shape:**

1. With the [pointer tool](#), point to the shape.  
The pointer turns white.
2. Press the left mouse button, and then drag the shape to where you want it.  
If snapping is on, the shape may jump into place.

**Tip:** Be careful not to point to a [handle](#). If you accidentally resize a shape, choose Undo from the Edit menu.

### See also

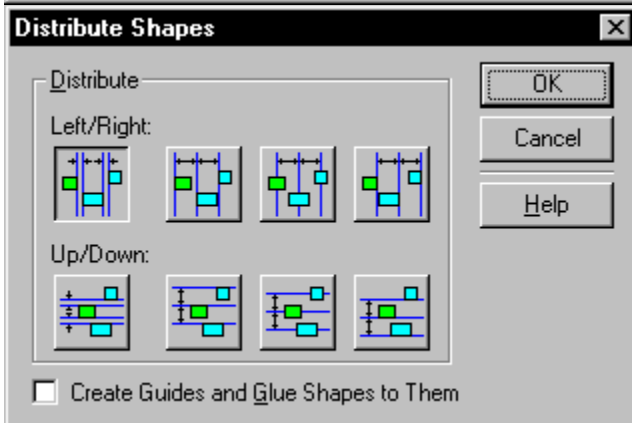
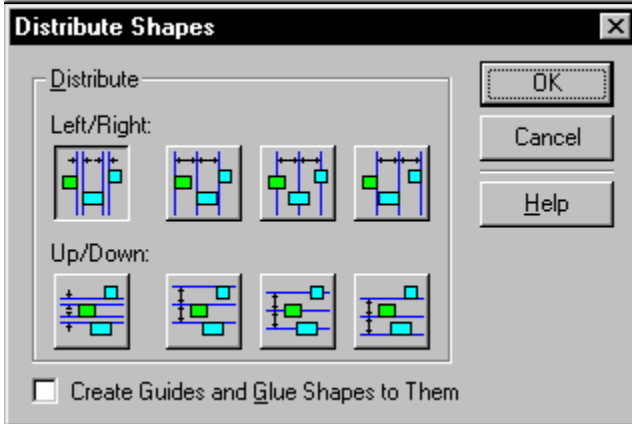
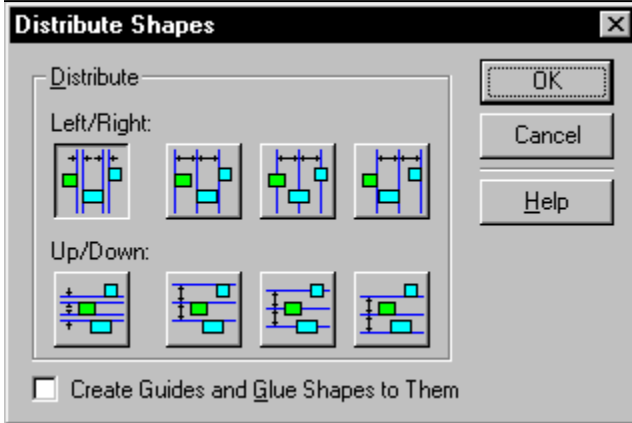
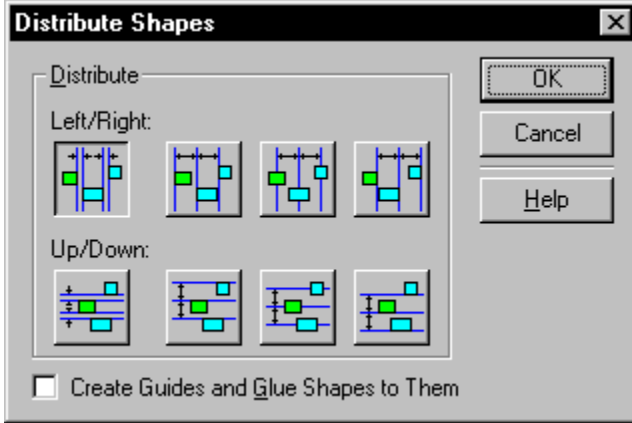
[Changing the stacking order of shapes](#)

[Dragging and dropping master shapes](#)

[Moving shapes after you glue them](#)

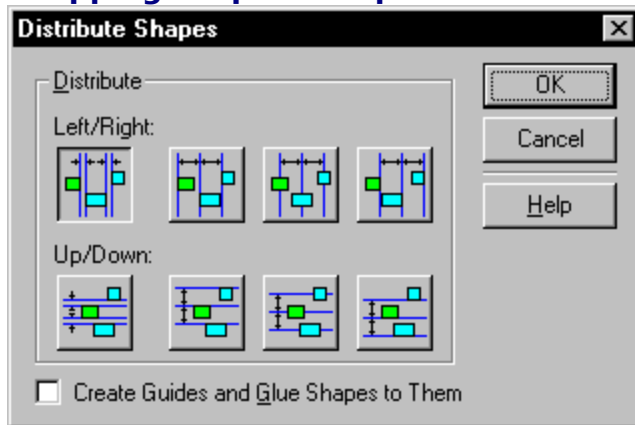
[Snapping shapes into place](#)

**Snapping shapes into place**



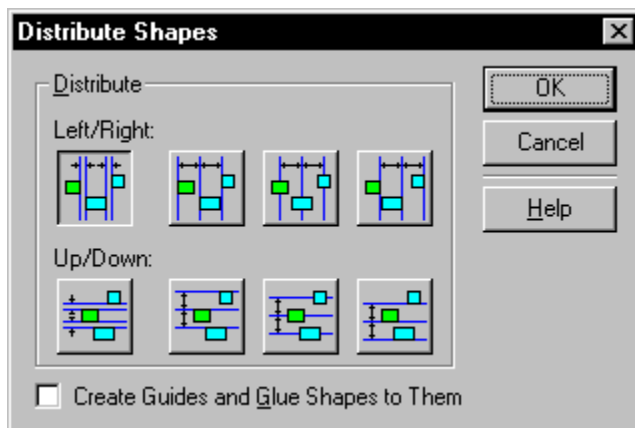


## Snapping shapes into place



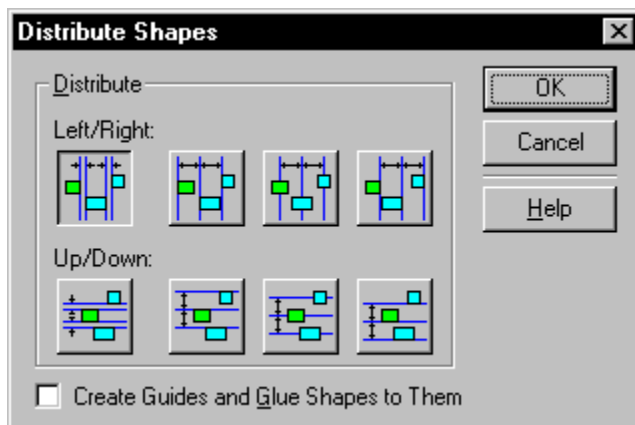
[Overview](#)

Snapping pulls shapes toward the item you want to align them with. You can determine when you want to snap, what to snap to, and the snap strength. When you set snap options, set only the options you need. For example, if you want to snap to guides, you do not need to set the [Grid Lines](#) option.



**To turn snapping on or off:**

1. From the Tools menu, choose [Snap & Glue](#).  
You can also click the Snap button.
2. In the Currently Active section, check Snap.
3. Click OK.



**To set snap options:**

1. From the Tools menu, choose [Snap & Glue](#).
2. In the Snap To section of the dialog box, check the options you want.  
The Ruler Subdivisions, Grid, and Guides options are useful for aligning shapes.  
The Shape Handles ([selection handles](#)), Shape Vertexes, and Connection Points options are useful for gluing shapes together.
3. Make sure the Snap option is checked in the Currently Active section.
4. Click OK.

**Tip:** To place shapes as precisely as possible, set the snap strength to a high setting, [zoom](#) into the drawing, then move shapes into place.

### **See also**

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[Aligning shapes to other shapes](#)

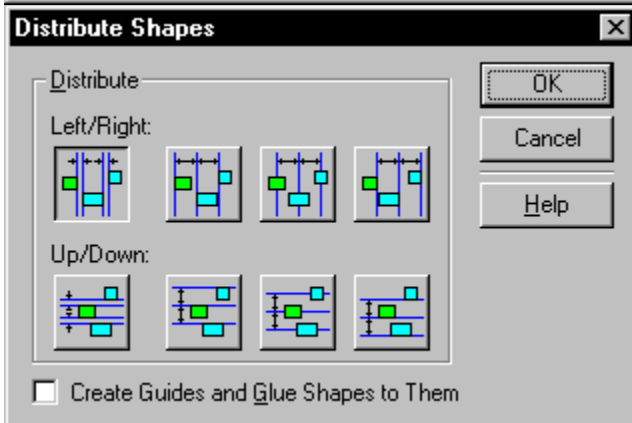
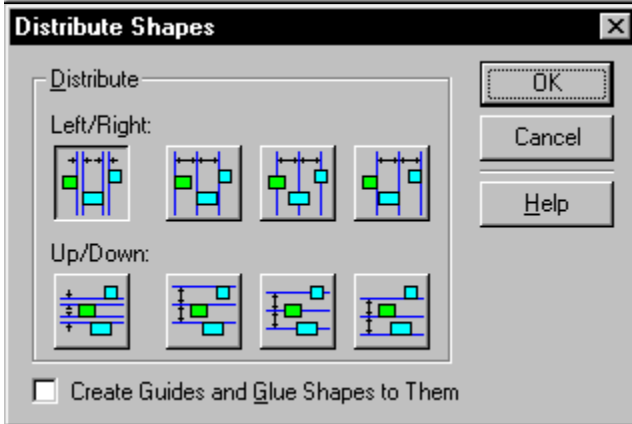
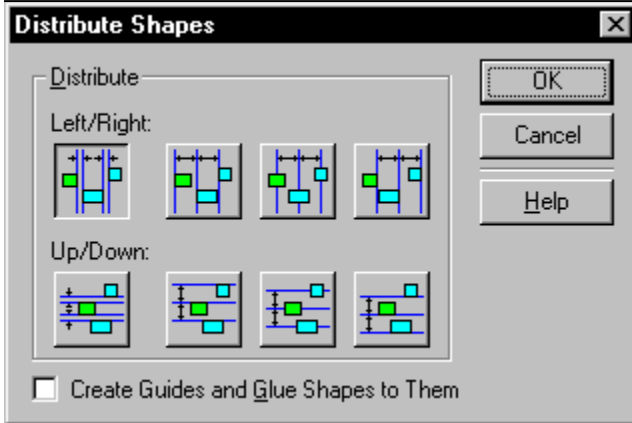
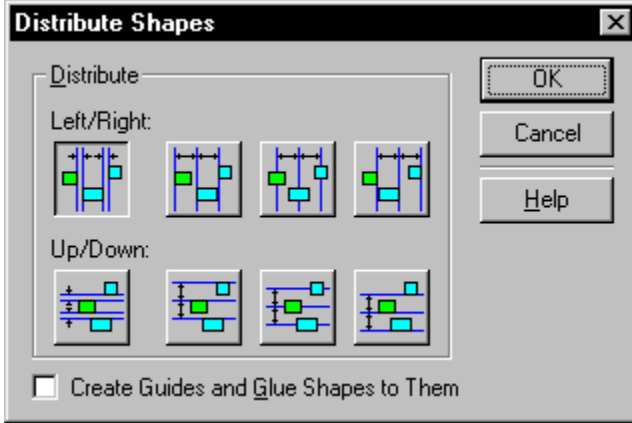
[Aligning shapes to rulers](#)

[Changing the snap strength](#)

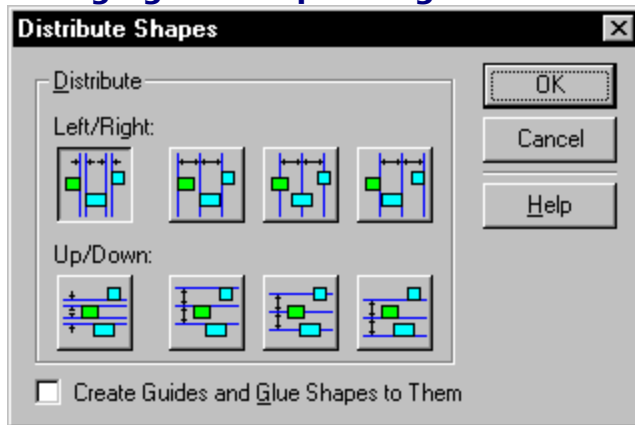
[Moving shapes after you glue them](#)

[Moving shapes by dragging](#)

## Changing the snap strength

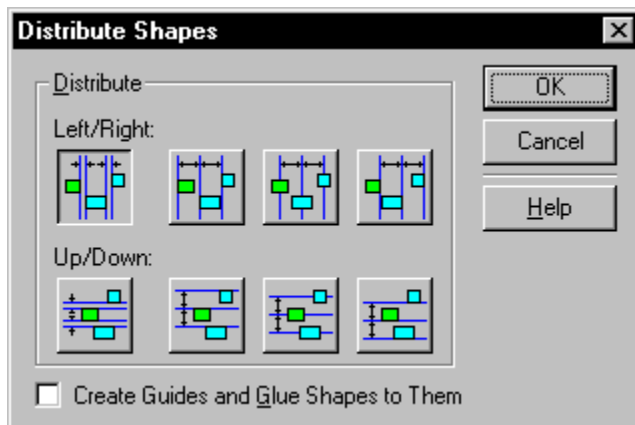


## Changing the snap strength



[Overview](#)

You can change the snap strength for each item you can snap to. When you increase the snap strength, Visio pulls a shape toward the item from farther away.



**To change the snap strength:**

1. From the Tools menu, choose [Snap & Glue](#).
2. In the Snap & Glue Strength section of the dialog box, drag the scroll box to adjust the snap strength for rulers, grid, or guides. Use the Points bar to control the snap strength of selection handles, vertexes, and connection points.
3. Click OK.

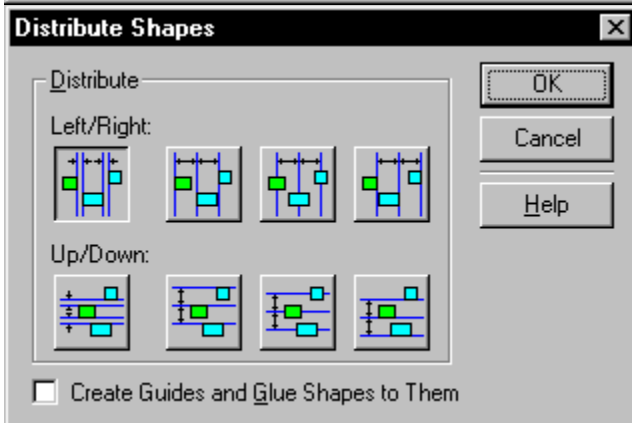
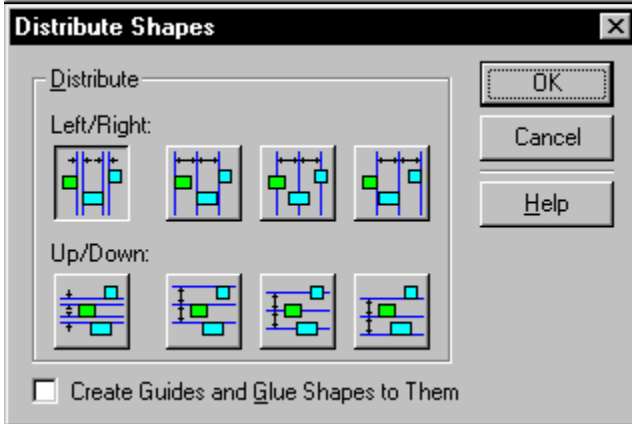
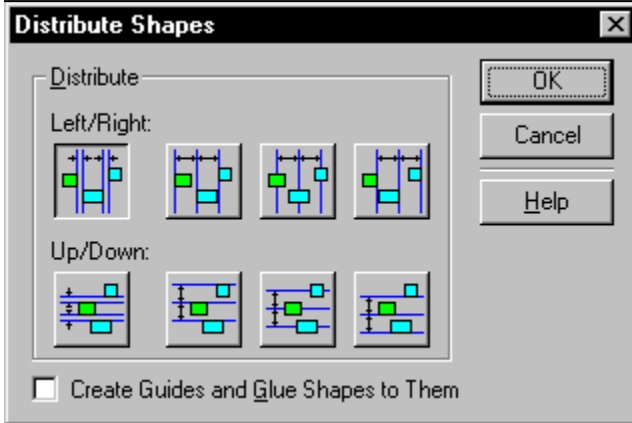
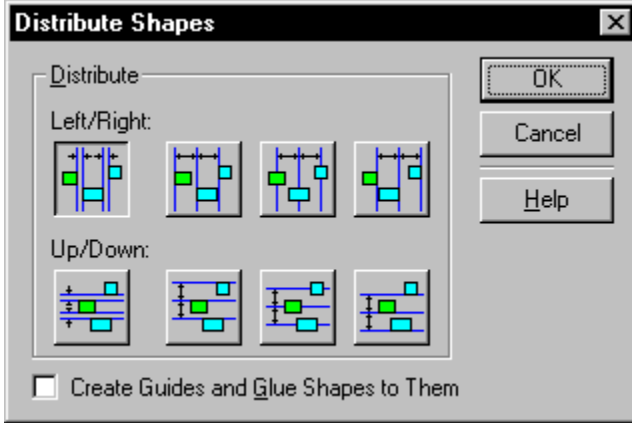
### See also

[Aligning shapes to other shapes](#)

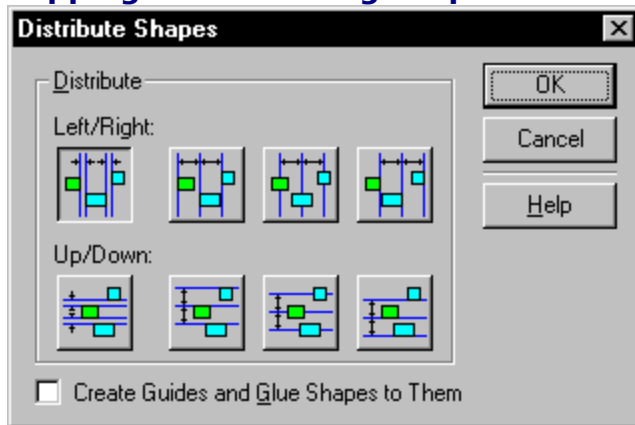
[Aligning shapes to rulers](#)

[Snapping shapes in place](#)

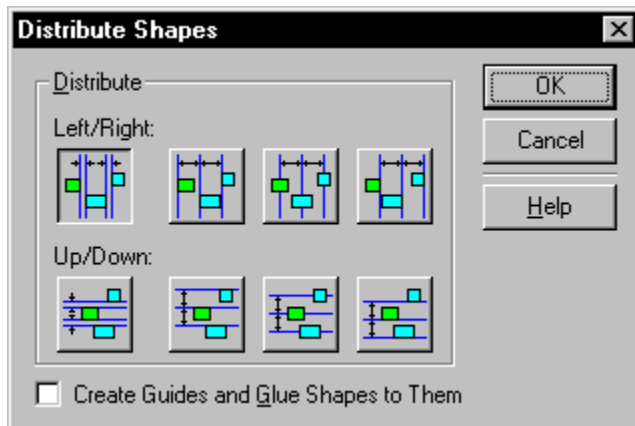
## Flipping and reversing shapes



## Flipping and reversing shapes



[Overview](#)



**To flip or reverse a shape:**

1. Select the shape.
2. From the Shape menu, choose the command you want:

[Flip Vertical](#)

[Flip Horizontal](#)

[Reverse Ends](#)

You can also use the Flip Vertical and Flip Horizontal buttons.

**Note:** Some shapes based on actual objects are locked against being flipped.

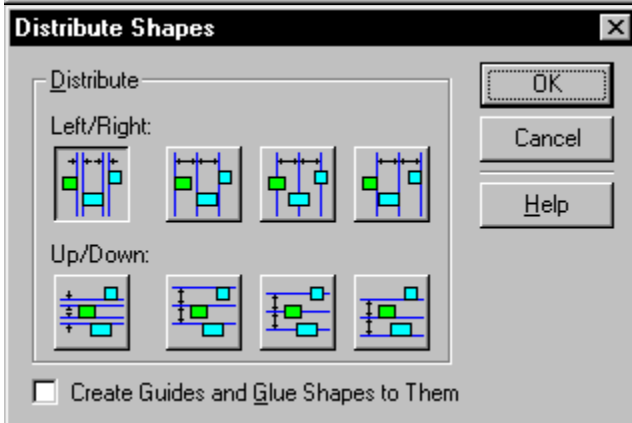
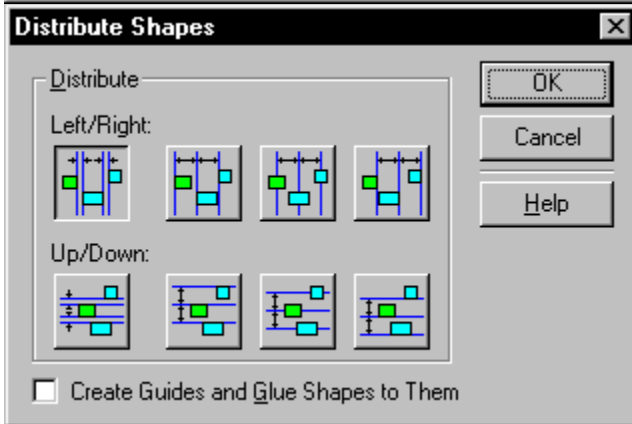
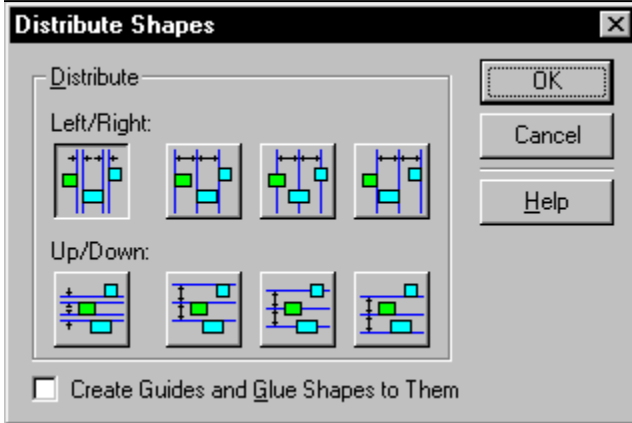
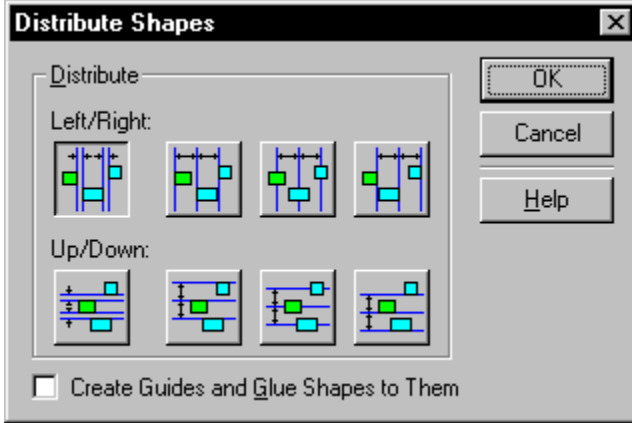
### See also

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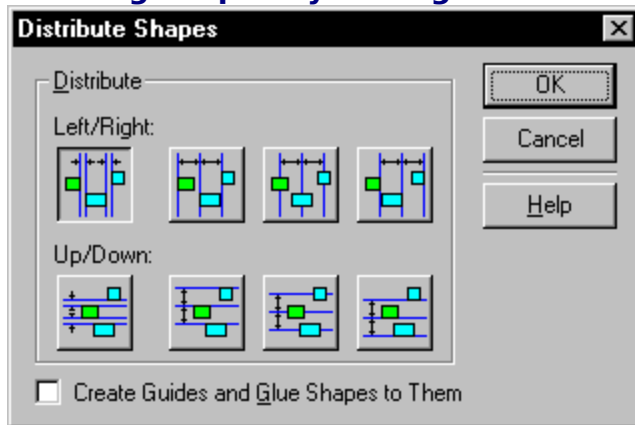
[Moving a 2-D shape's center of rotation](#)  
[Rotating shapes by 90-degree increments](#)  
[Rotating shapes with the rotation tool](#)



## Rotating shapes by 90-degree increments

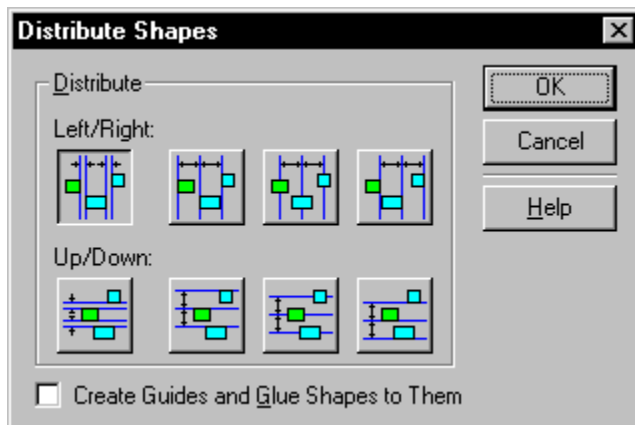


## Rotating shapes by 90-degree increments



[Overview](#)

You can rotate shapes by 90-degree increments by using the Rotate Left or Rotate Right commands.



**To rotate a shape 90-degrees:**

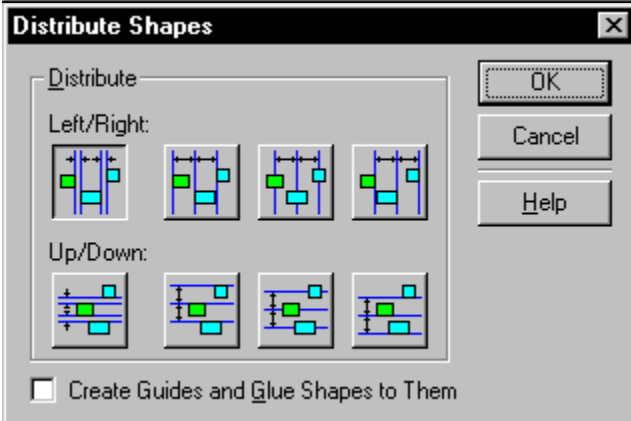
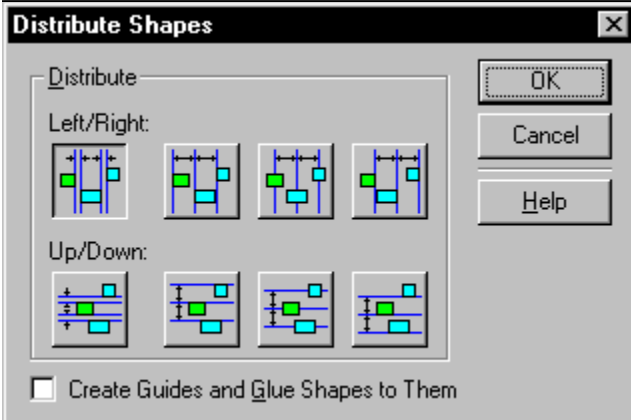
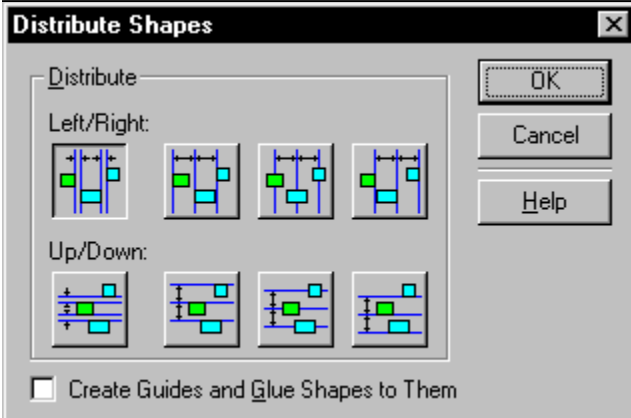
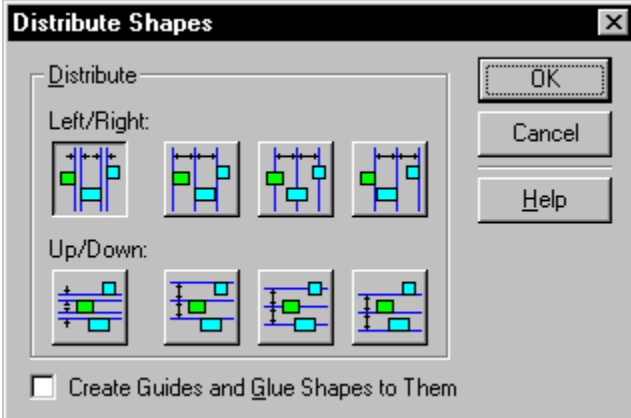
1. Select the shape.
2. From the Shape menu, choose the command you need:
  - Choose [Rotate Left](#) to rotate the shape 90-degrees counter-clockwise.
  - Choose [Rotate Right](#) to rotate the shape 90-degrees clockwise.You can also use the Rotate Left and Rotate Right buttons on the toolbar.

### See also

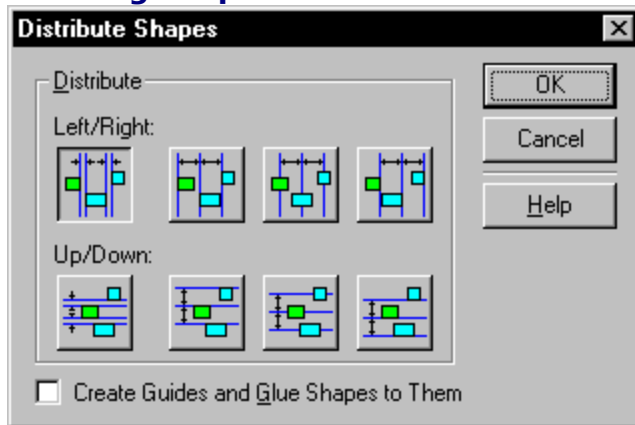
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[Flipping and reversing shapes](#)  
[Moving a 2-D shape's center of rotation](#)  
[Rotating shapes with the rotation tool](#)

## Rotating shapes with the rotation tool

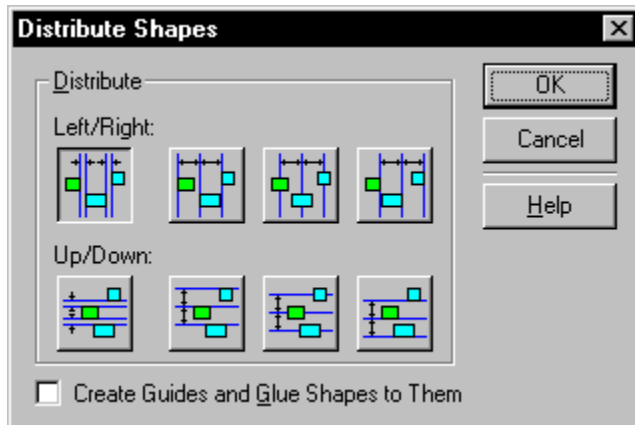


## Rotating shapes with the rotation tool



[Overview](#)

You can rotate shapes to any angle by using the rotation tool.



**To rotate a shape any amount:**

1. From the toolbar, choose the [rotation tool](#).
2. Select the shape you want to rotate.  
When you select a shape with the rotation tool, rotation handles appear on the shape.
3. Press the mouse button and drag a rotation handle.  
When you point to rotation handles, the mouse pointer changes to two arrows forming a circle.  
When you rotate a shape, a line appears through the shape's center of rotation and the pointer, showing the shape's angle of rotation. The shape's alignment box shows its orientation on the page, and the status bar shows the angle of rotation in the unit of measure for the drawing. For finer control, drag the pointer farther from the shape.
4. Release the mouse button.

**Tip:** You can also rotate a 1-D shape by dragging one of its endpoints. Be careful not to size the shape as you rotate it.

### See also

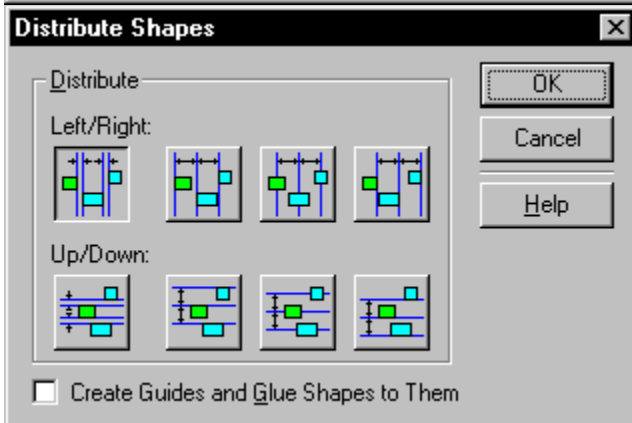
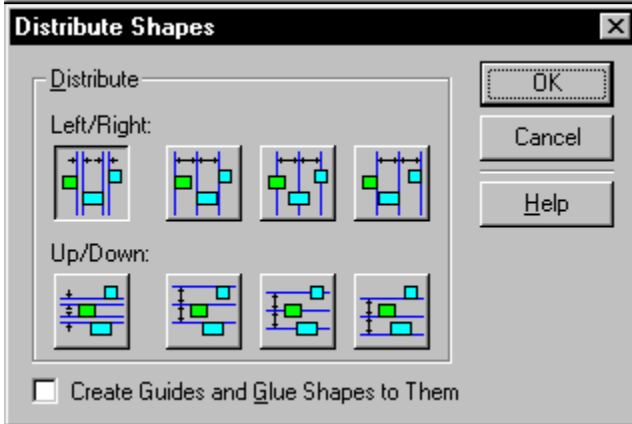
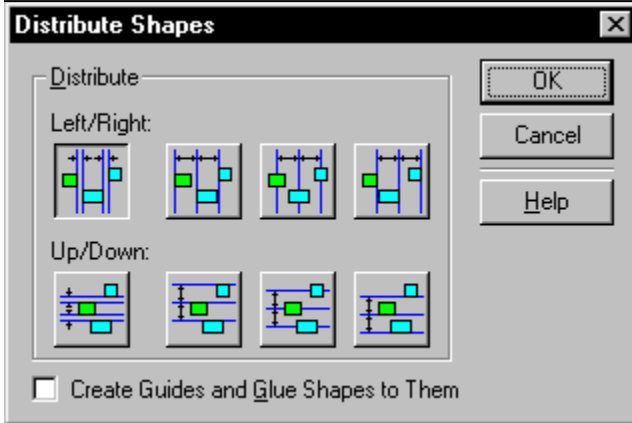
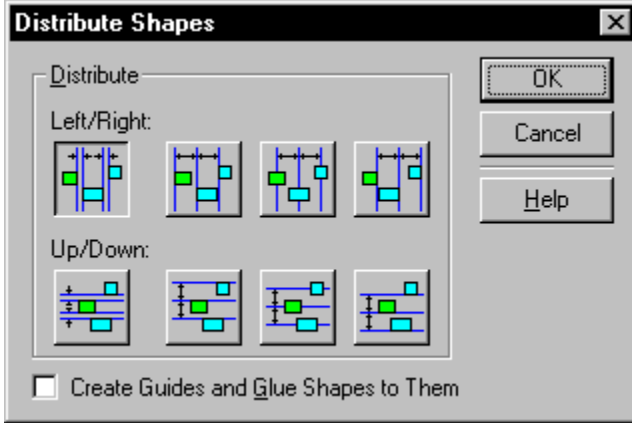
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[Flipping and reversing shapes](#)  
[Moving a 2-D shape's center of rotation](#)  
[Moving shapes by dragging](#)

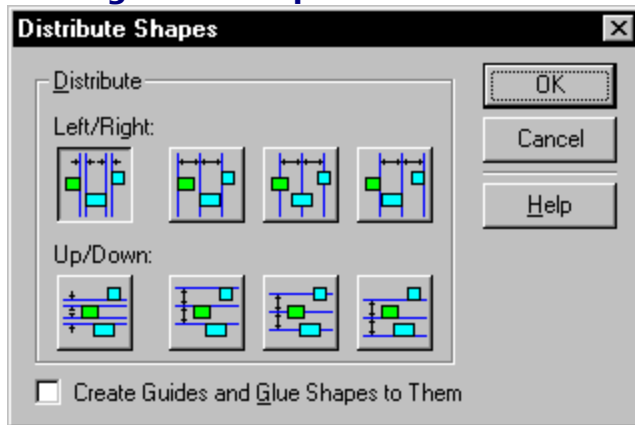
Rotating shapes by 90-degree increments

## Moving a 2-D shape's center of rotation



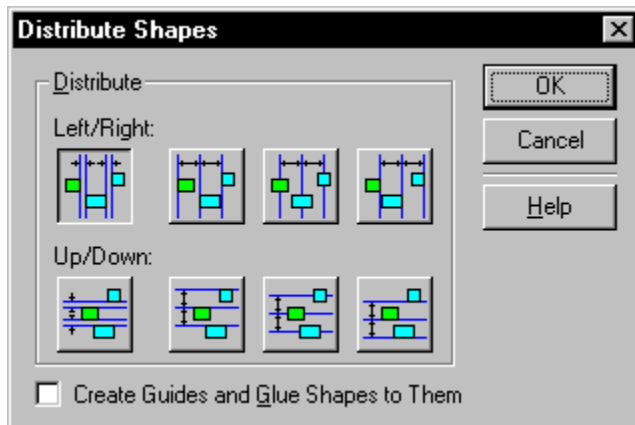


## Moving a 2-D shape's center of rotation



[Overview](#)

On a 2-D shape, a plus sign in a circle appears at the center of rotation (which is usually at the center of the shape's selection rectangle). You can move the center of rotation to rotate a 2-D shape around any point in the drawing window.



**To move the center of rotation:**

1. With the [rotation tool](#), select the shape.
2. Place the rotation tool over the center of rotation, and then drag the center of rotation to the position you want it.

### See also

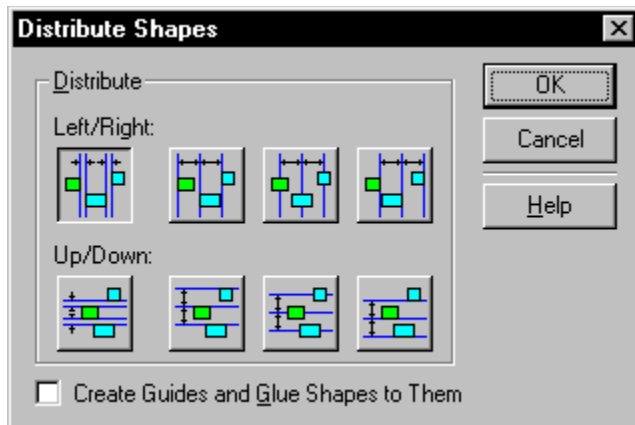
[Determining a 1-D shape's size and location](#)

[Determining a 2-D shape's size and location](#)

[Flipping and reversing shapes](#)

[Rotating a text block](#)

## Determining a shape's size and location



### [Related procedures](#)

You can determine the exact size and location of a shape by choosing the Size & Position command. You can also use options in the Size & Position dialog box to move and size a shape. Options in the dialog box depend on whether you're working with a 1-D or 2-D shape.

For a 1-D shape, use the Size & Position command to:

- Resize the shape vertically, horizontally, or in both directions.
- Change the position of the shape's beginning point while keeping the ending point stationary.
- Change the position of the shape's ending point while keeping the beginning point stationary.
- Change the height or angle of rotation of the shape.

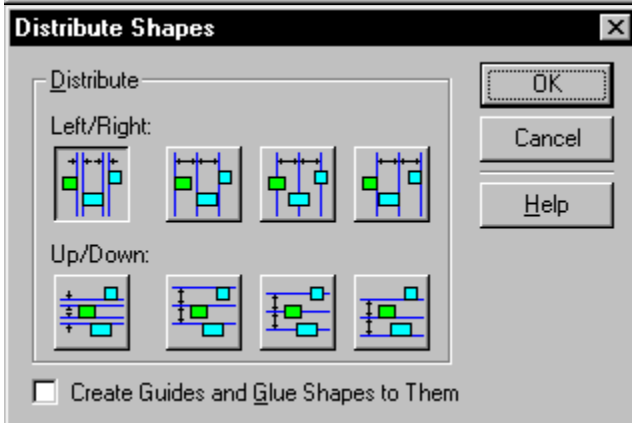
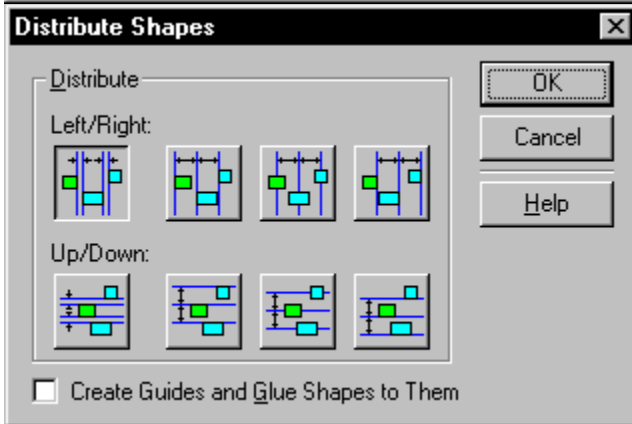
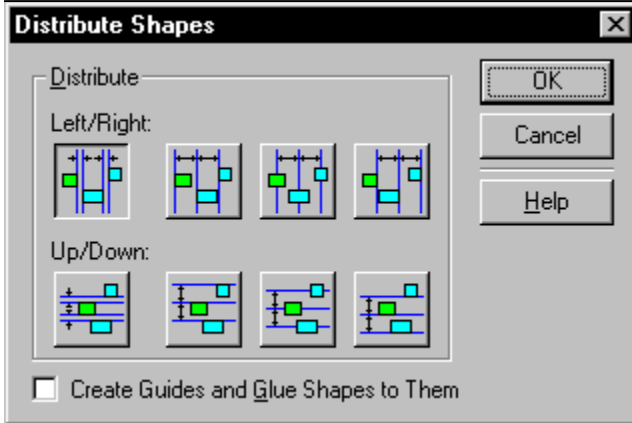
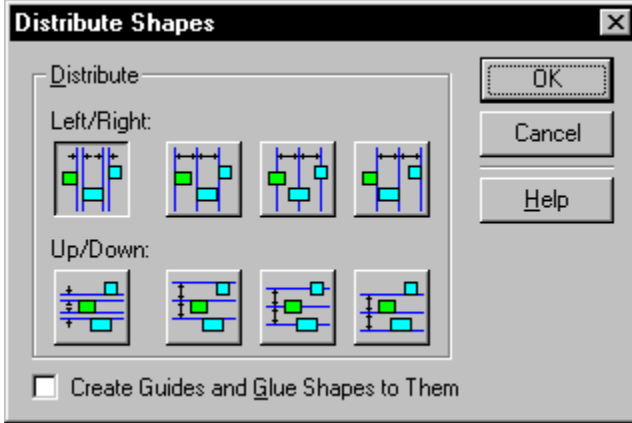
For a 2-D shape, use the Size & Position command to:

- Change the width and height of the shape.
- Change the shape's angle of rotation.
- Flip the shape vertically or horizontally.
- Move a shape by changing the position and location of the shape's center of rotation.

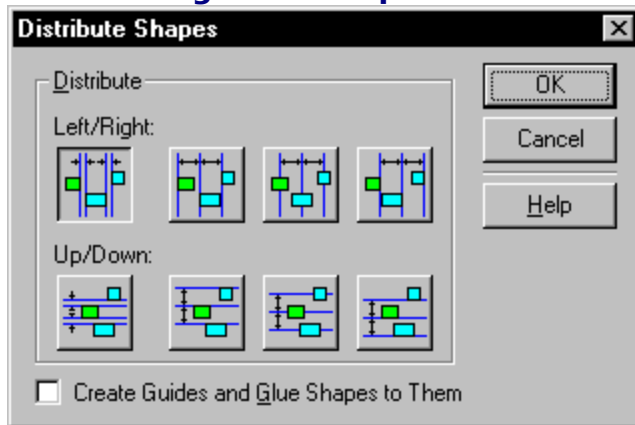
The status bar displays information about a shape's size and position. You can also determine the size and position for a shape by displaying the shape's [ShapeSheet](#).

Determining a 1-D shape's size and location  
Determining a 2-D shape's size and location

## **Determining a 1-D shape's size and location**

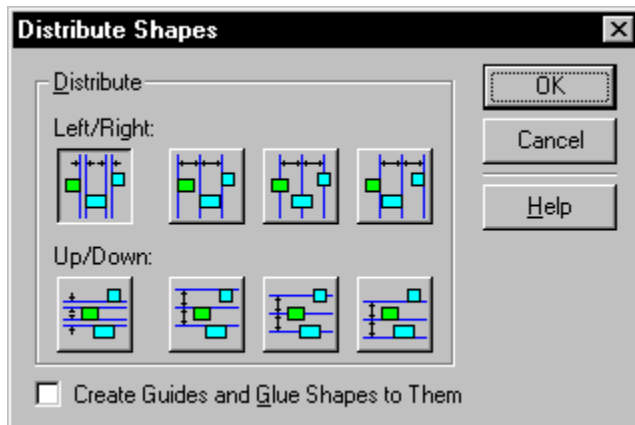


## Determining a 1-D shape's size and location



### [Overview](#)

When you use the Size & Position dialog box to work with a [1-D](#) shape, the option you choose in the Show section displays the options you set in the Parameters section to change the size and position of the shape.



### To change the size and position of a

#### 1-D shape:

1. Select the shape.
2. From the Shape menu, choose [Size & Position](#).
3. In the Show section, choose one of the following options:
  - Begin and End Points (the default option) to change the position of the shape's beginning and ending points or to change the shape's height.
  - Begin, Length, Angle to change the position of the shape's beginning point (the ending point remains stationary) or to change the length, angle of rotation, or height of the shape.
  - End, Length, Angle to change the position of the shape's ending point (the beginning point remains stationary) or to change the length, angle of rotation, or height of the shape.
4. In the Parameters section, specify values for any or all of the options:
  - If you chose Begin and End Points in the Show section, specify a value in the Begin X or End X box to resize the shape horizontally; specify a value in the Begin Y or End Y box to resize the shape vertically; or specify a value in the Height box to change the shape's height.

If you chose Begin, Length, Angle in the Show section, specify a value in the Begin X or Begin Y box to change the position of the shape's beginning point, or specify a value in the Length, Angle, or Height box to change the size and position of the shape.

If you chose End, Length, Angle in the Show section, specify a value in the End X or End Y box to change the position of the shape's ending point, or specify a value in the Length, Angle, or Height box to change the size and position of the shape.

5. Click Apply to see the results before you close the dialog box, or click OK to apply the changes and close the dialog box.

**Tip:** To move a shape without resizing or rotating it, change the values in the Begin X and End X or Begin Y and End Y boxes by the same amount. For example, to move a shape down one inch, decrease the values of Begin Y and End Y by one inch each. To resize and rotate the shape at the same time, enter new values for both the x- and y-coordinates.

### **See also**

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[1-D Endpoints section](#)

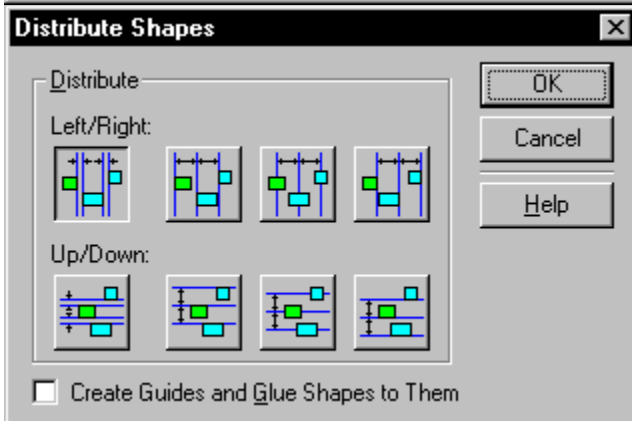
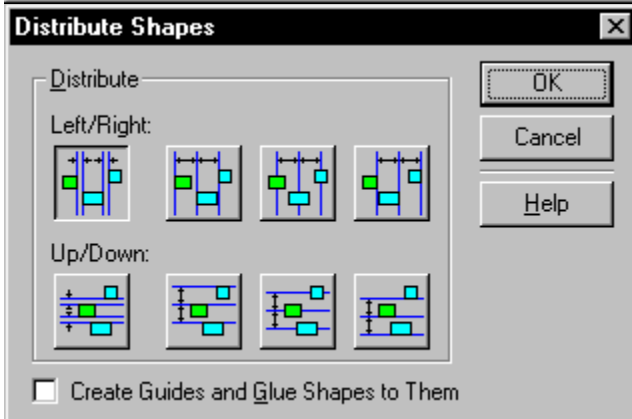
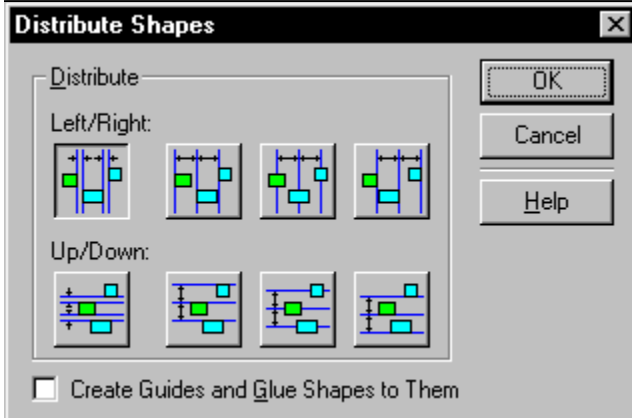
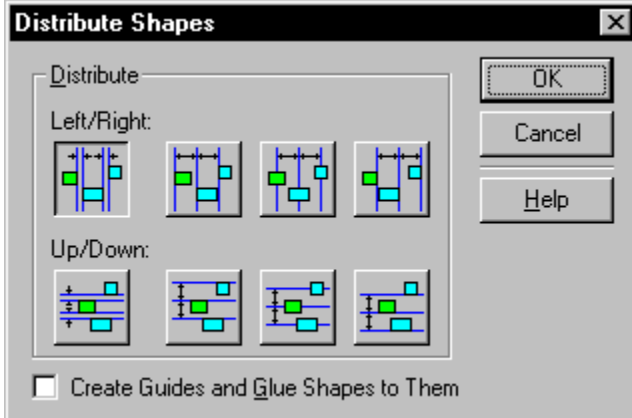
[Changing the size of a 1-D shape](#)

[Determining a 2-D shape's size and location](#)

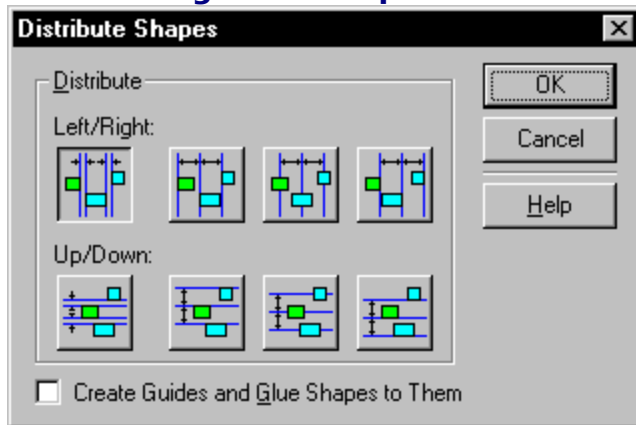
[Displaying a ShapeSheet](#)



## **Determining a 2-D shape's size and location**

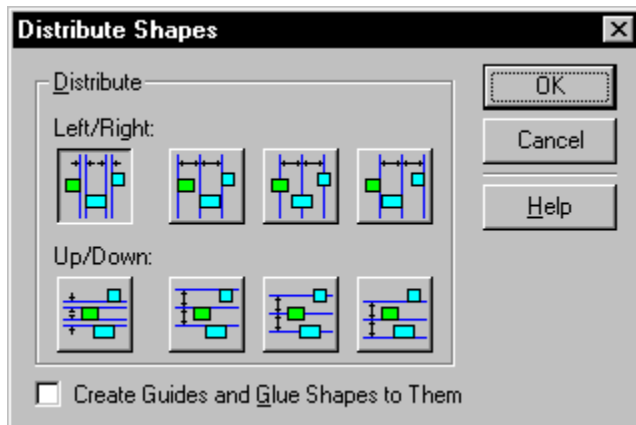


## Determining a 2-D shape's size and location



[Overview](#)

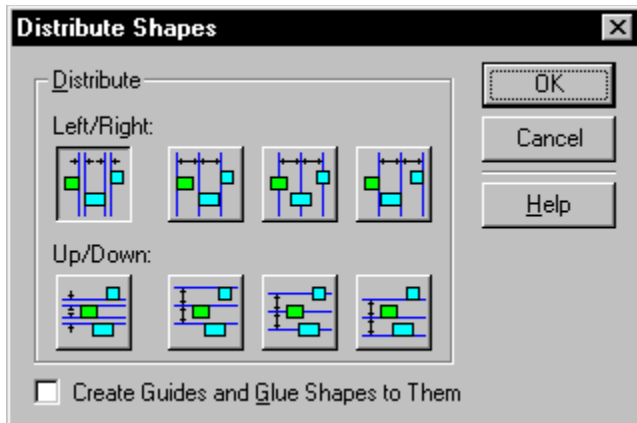
Using options in the Size & Position dialog box, you can specify exact dimensions for a [2-D](#) shape. You can also rotate a 2-D shape or move a shape by changing the position and location of the shape's center of rotation.



**To change the size and position of a**

### **2-D shape:**

1. Select the shape.
2. From the Shape menu, choose [Size & Position](#).
3. In the Size section, specify values for the shape's width, height, and angle of rotation. You can also check options to flip the shape vertically or horizontally.
4. Click Apply to see the results without closing the dialog box, or click OK to apply the changes and close the dialog box.



**To specify a new location for a 2-D**

**shape:**

1. Select the shape.
2. From the Shape menu, choose [Size & Position](#).
3. To move the shape by changing the coordinates for its center of rotation, specify values in the X and Y boxes in the Position section.
4. To move the shape by changing the location of its center of rotation, click a section of the shape diagram. The center of rotation is repositioned at that point on the shape, and the shape moves so its center of rotation is at the coordinates specified in the X and Y boxes.
5. Click Apply to see the results without closing the dialog box, or click OK to apply the changes and close the dialog box.

### **See also**

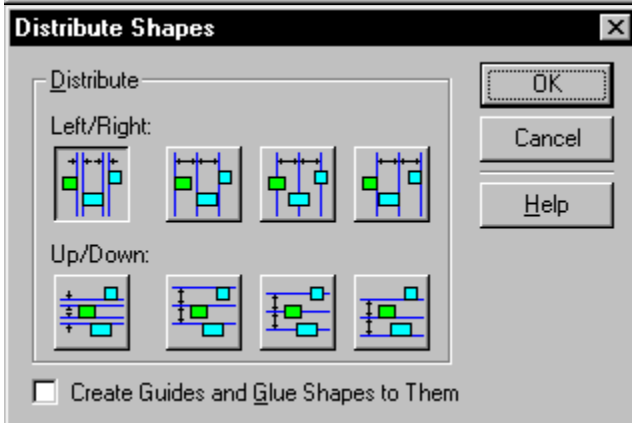
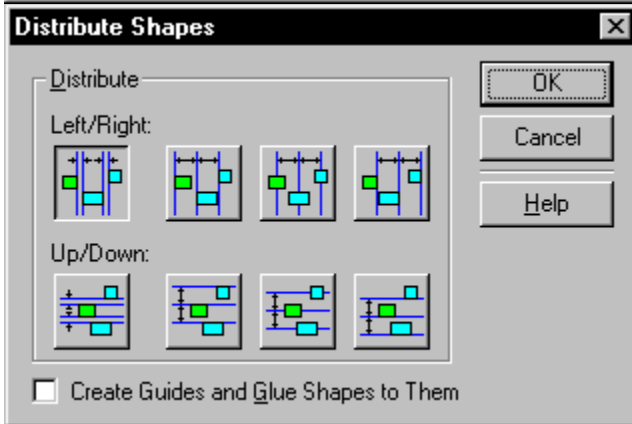
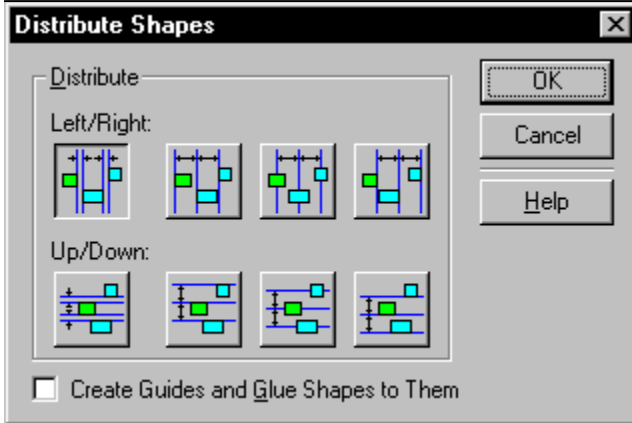
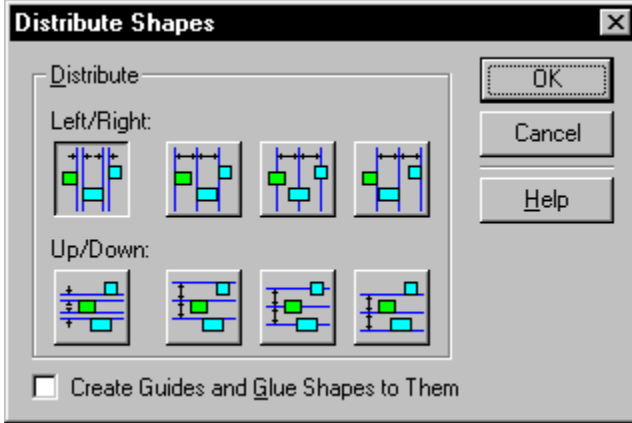
[Changing the size of a 2-D shape](#)

[Determining a 1-D shape's size and location](#)

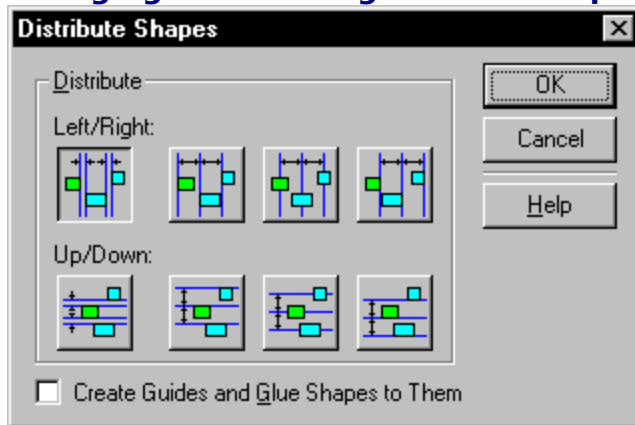
[Displaying a ShapeSheet](#)

[Object Transform section](#)

## Changing the stacking order of shapes

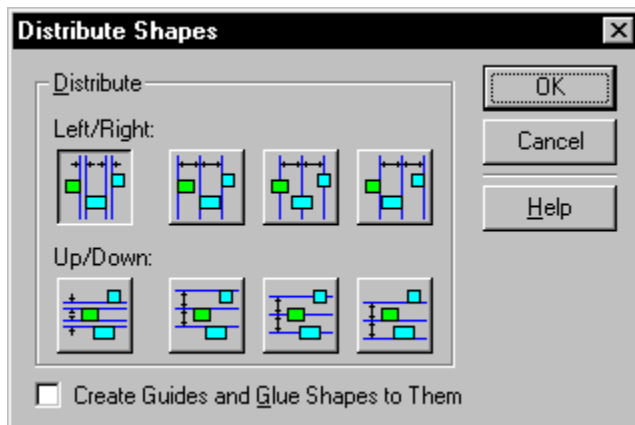


## Changing the stacking order of shapes



[Overview](#)

By changing the [stacking order](#) of shapes, you can change which shapes appear in front of or behind other shapes.



**To change the stacking order of**

**shapes:**

1. Select the shape you want to change.
2. From the Shape menu, choose the command you need:

[Bring Forward](#)

[Bring To Front](#)

[Send Backward](#)

[Send To Back](#)

Shapes on a background always appear behind shapes on a foreground. Layers, however, have no effect on stacking order.

**Tip:** When you select multiple shapes with a [selection net](#), the frontmost shape in the stacking order has green [handles](#) and the other shapes have blue handles. The handle-color distinction is helpful when you align shapes. The frontmost shape is used to align the other shapes.

**See also**

[Assigning a shape to a layer](#)

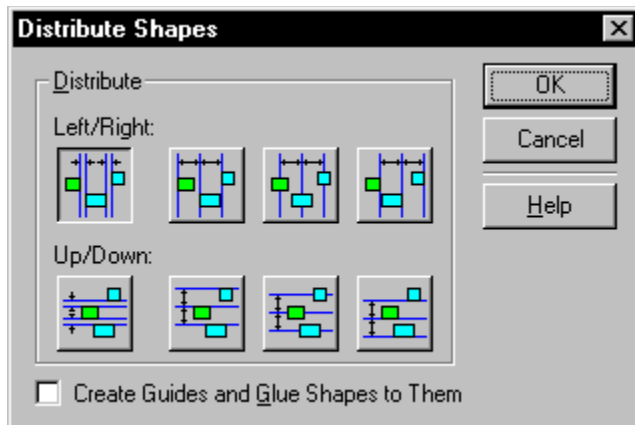
[Editing and formatting a group](#)

[Grouping and ungrouping shapes](#)

Moving shapes by dragging



## Aligning and distributing shapes



[Related procedures](#)

As you move shapes, you can align them with ruler intervals and grid lines.

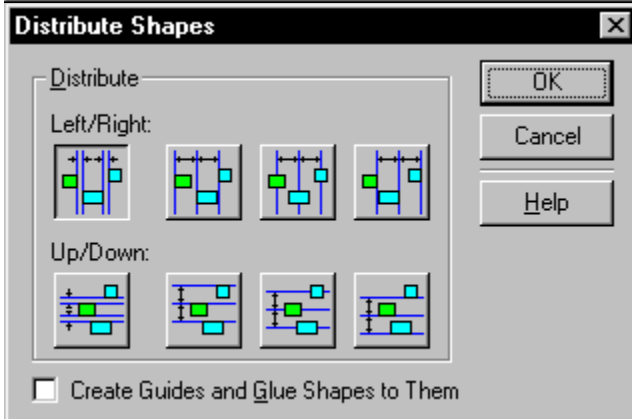
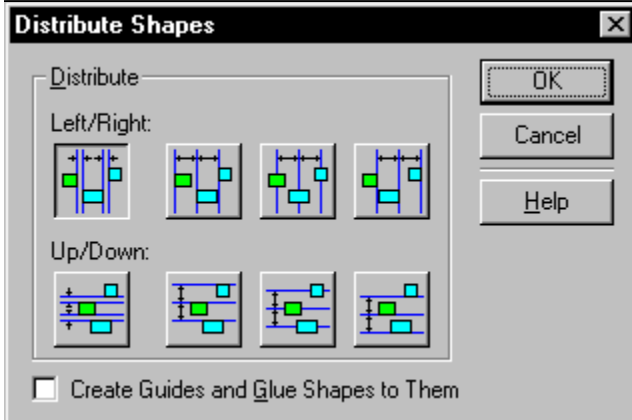
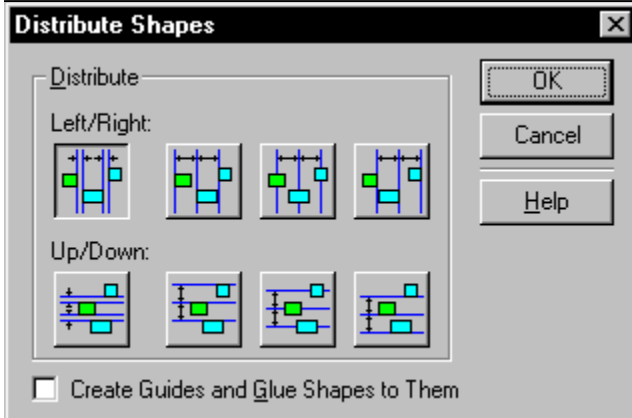
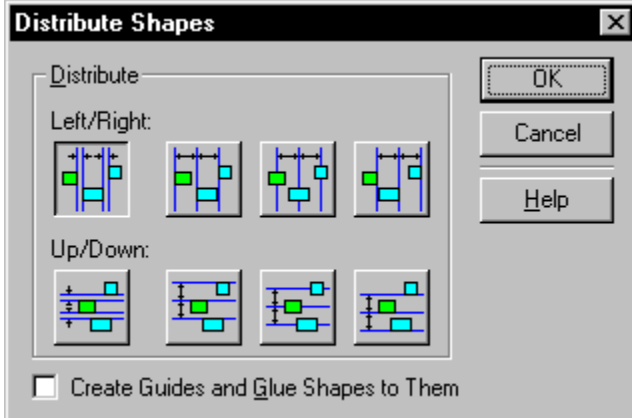
You can also:

- Create [guides or guide points](#) and align shapes to them.
- Align shapes to other shapes. You can align the tops, bottoms, left sides, right sides, or centers of shapes.
- Distribute three or more shapes to create an equal distance between the ends or centers of shapes.

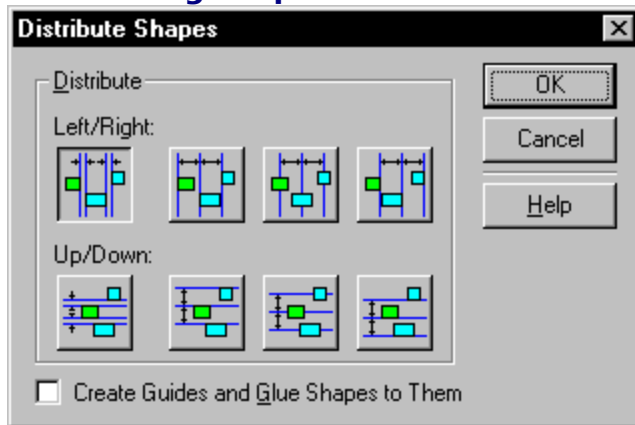
The [stacking order](#) affects how shapes are aligned when you use the Align Shapes command. If you drag a [selection net](#) around several shapes, the top shape in the stacking order is the first shape selected (primary selection—or the shape with the green handles). The other shapes in the selection are aligned in relation to the location of the primary shape.

[Aligning shapes to guides](#)  
[Aligning shapes to other shapes](#)  
[Aligning shapes to rulers](#)  
[Aligning the centers of shapes](#)  
[Centering a drawing on the page](#)  
[Creating guide points](#)  
[Creating guides](#)  
[Distributing shapes](#)

## Distributing shapes

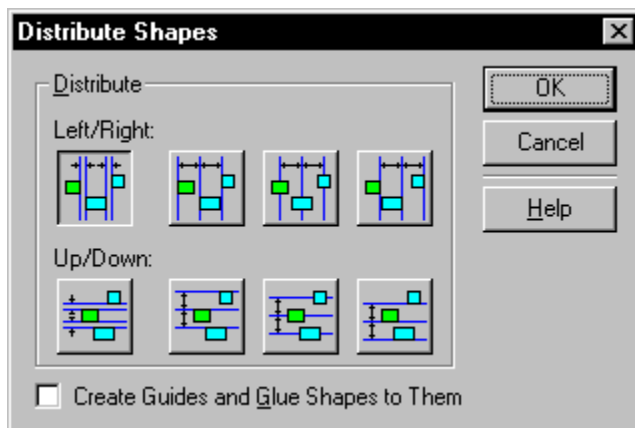


## Distributing shapes



### [Overview](#)

You can distribute three or more shapes to create an equal distance between the ends or centers of the shapes. When you distribute shapes vertically, the top and bottom shapes in the selection define the boundaries of the distribution. For horizontal distribution, the boundaries are defined by the leftmost and rightmost shapes.



### **To distribute shapes:**

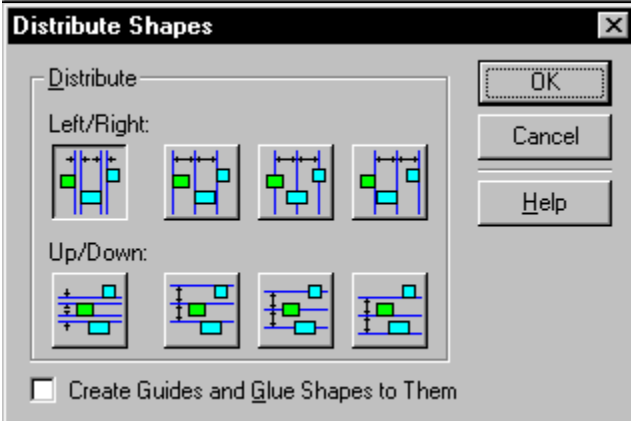
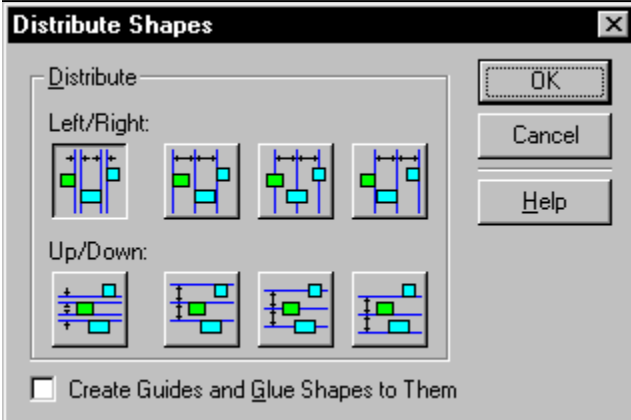
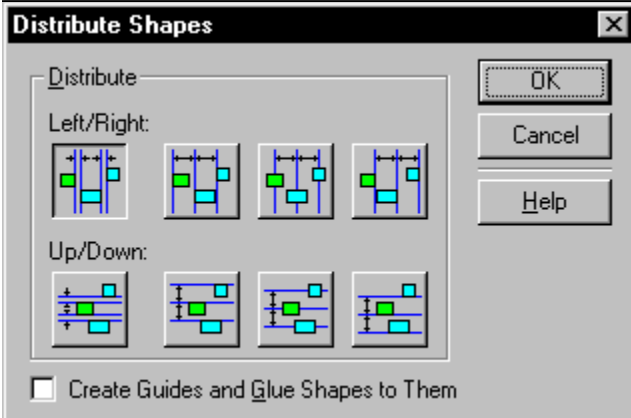
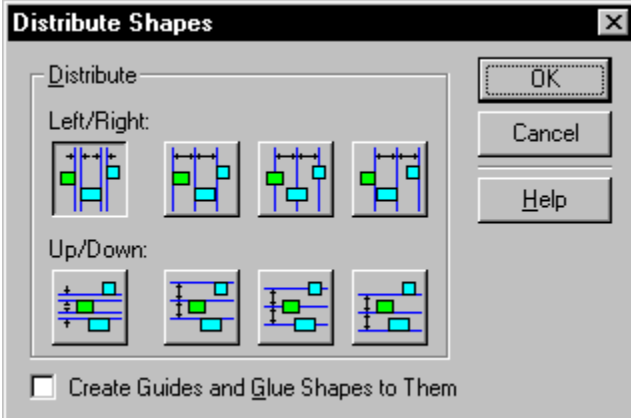
1. Shift+click to select three or more shapes.
2. From the Tools menu, choose [Distribute Shapes](#).  
You can also use the Distribute Shapes button and choose a distribution option.
3. In the dialog box, choose a distribution option.
4. To create guides and glue the shapes to them, check Create Guides And Glue Shapes To Them.  
If you choose this option, you can select and move the outermost guides to move the shapes without changing the distribution.
5. Click OK.

### **See also**

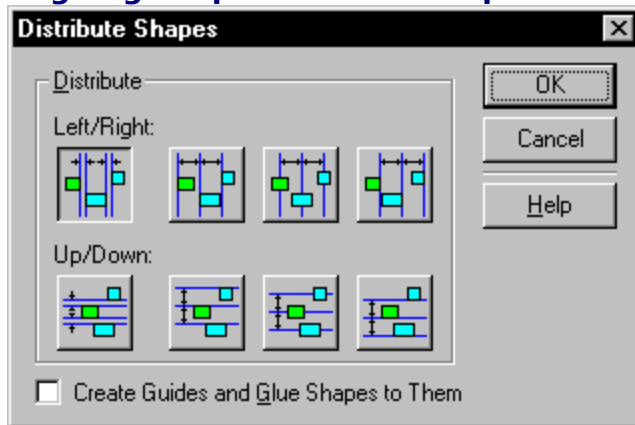
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[Aligning shapes to guides](#)  
[Aligning shapes to other shapes](#)  
[Aligning the centers of shapes](#)  
[Creating guide points](#)

## **Aligning shapes to other shapes**

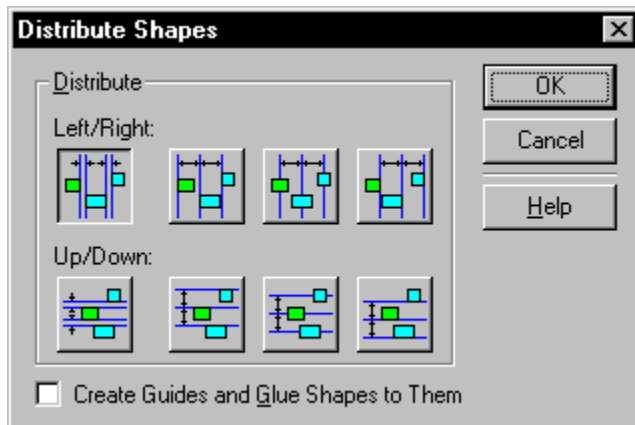


## Aligning shapes to other shapes



### [Overview](#)

With the Align Shapes command, you can align selected shapes with the first shape you select. You can also create a [guide](#) automatically, so you can move the shapes with the guide and maintain their alignment.



### To align shapes to the primary

#### selection:

1. Select the shape that you want to align other shapes to.
2. Shift+click to select the shapes you want to align.
3. From the Tools menu, choose [Align Shapes](#).

You can also use the Align Shapes button and choose an alignment option.

4. In the dialog box, choose the alignment options you want.

Each alignment option is represented by an illustration. Choose one Up/Down Alignment and one Left/Right Alignment option. To cancel the selection of Up/Down Alignment or the Left/Right Alignment options, choose the red X in that section.

5. To create a guide and [glue](#) shapes to it, check Create Guide And Glue Shapes To It.
6. Click OK.

#### See also

[Aligning the centers of shapes](#)

[Creating guides](#)

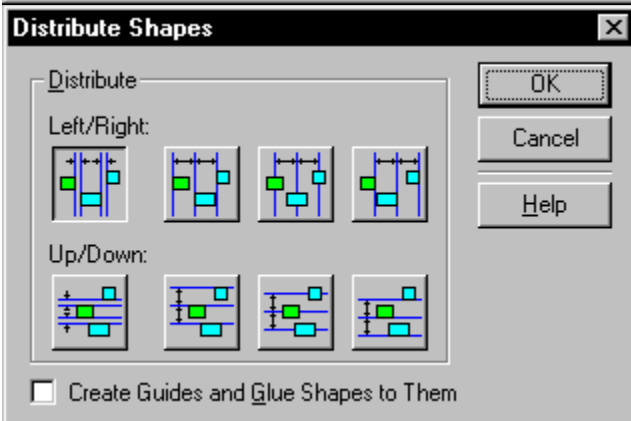
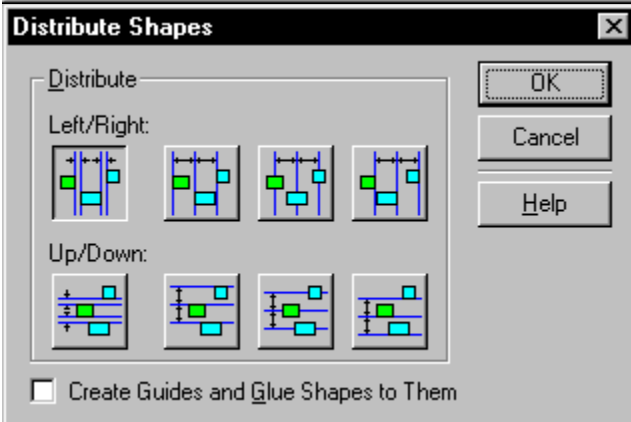
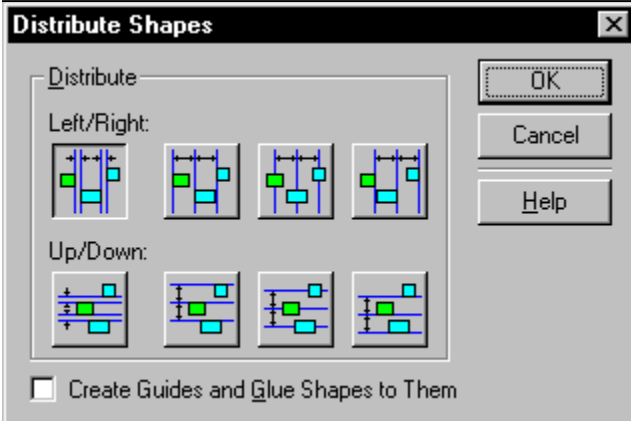
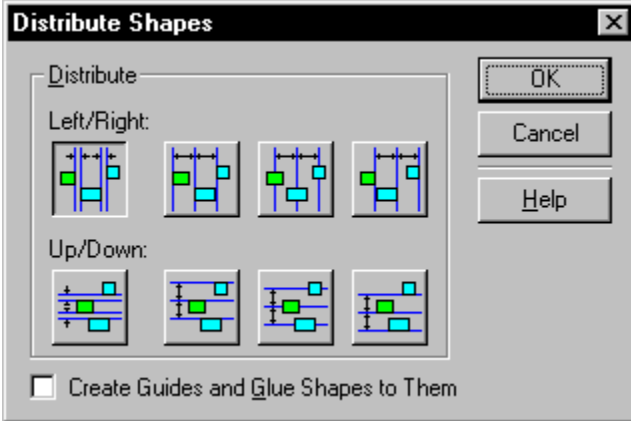
[Distributing shapes](#)

[Gluing shapes to guides](#)

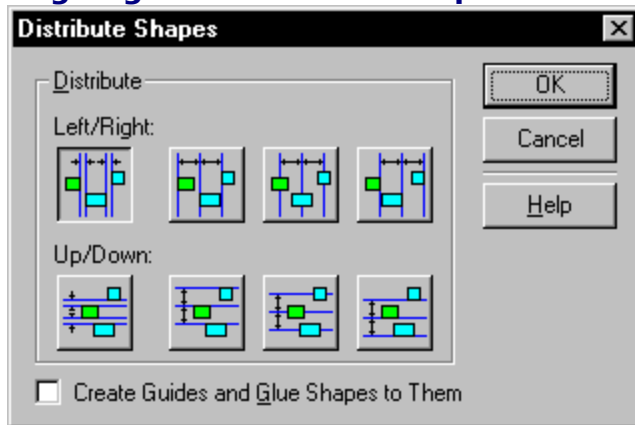




## **Aligning the centers of shapes**

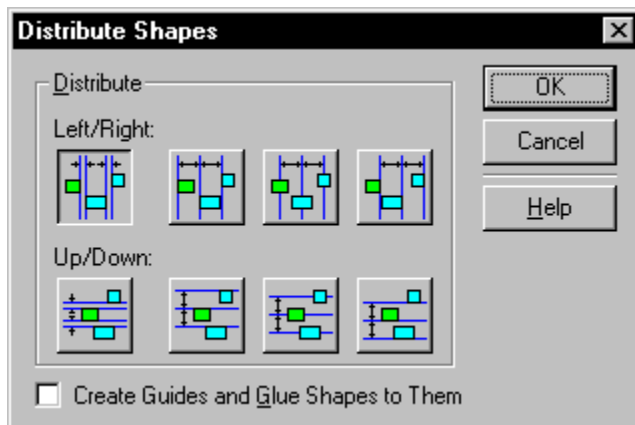


## Aligning the centers of shapes



[Overview](#)

By choosing options for vertical and horizontal alignment, you can align the centers of shapes.



**To align the centers of shapes:**

1. Select the shapes.
2. From the Tools menu, choose [Align Shapes](#).
3. Choose the vertical center alignment option.
4. Choose the horizontal center alignment option.
5. Click OK.

### See also

[Aligning shapes to other shapes](#)

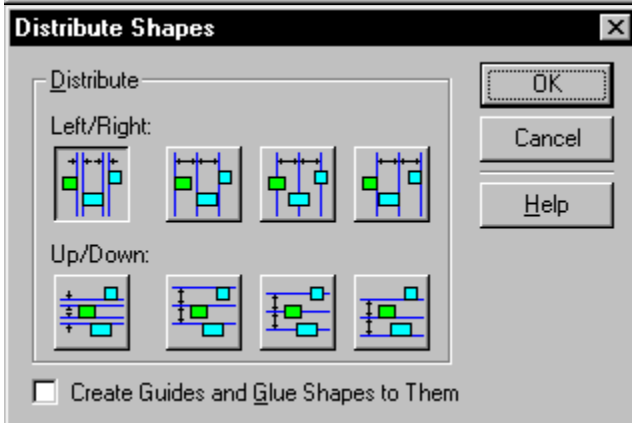
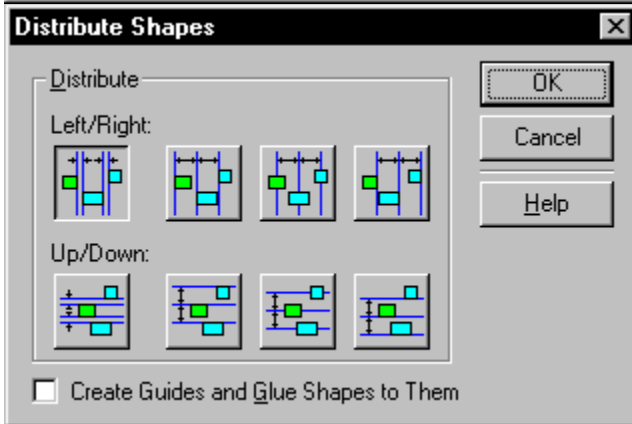
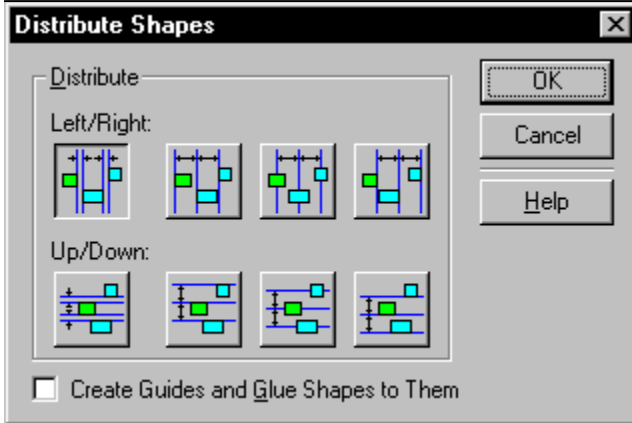
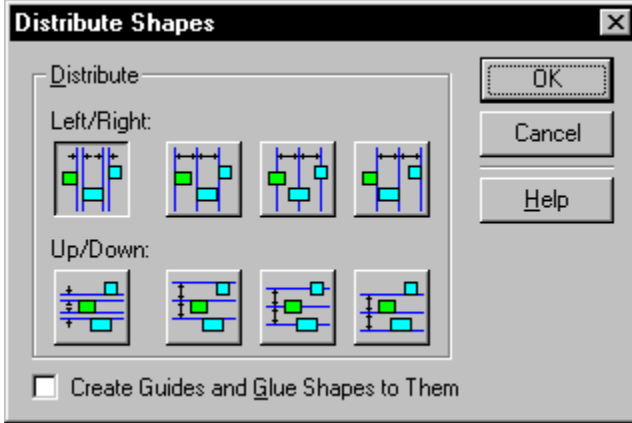
[Aligning shapes to rulers](#)

[Creating guides](#)

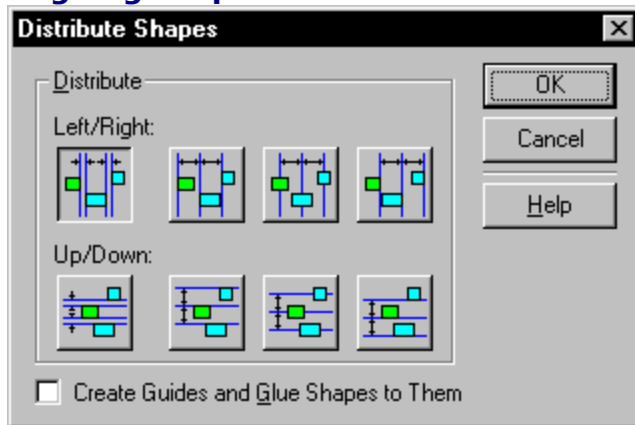
[Distributing shapes](#)

[Gluing shapes to guides](#)

**Aligning shapes to rulers**



## Aligning shapes to rulers

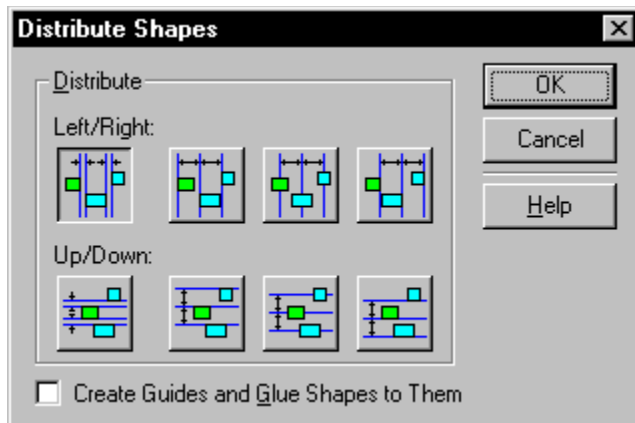


### [Overview](#)

By default, rulers appear along the edges of Visio's drawing window. The rulers indicate the scale of the drawing and are helpful for aligning shapes on the page. If you don't see the rulers, make sure [Rulers](#) is checked in the View menu.

### Zero point

Sometimes it's useful to change the position of the zero point on the rulers. For example, you might want to measure the distances between shapes that aren't near the current zero point.

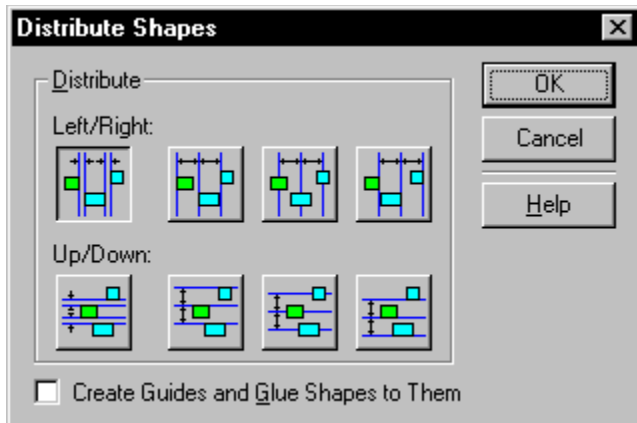


### To move the zero point on both rulers

#### at once:

1. Hold down the Ctrl key and point to the crossbar at the intersection of the two rulers.
2. Drag to position the zero point at the location you want.

Or, choose [Rulers & Grid](#) from the Tools menu.

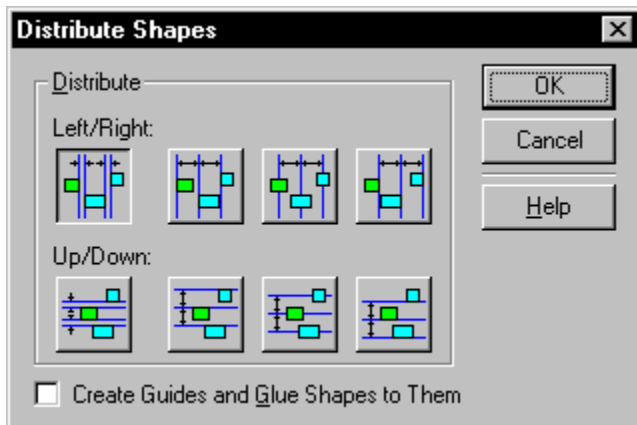


**To move the zero point on the**

**horizontal ruler:**

1. Hold down the Ctrl key and point to the ruler at the left of the drawing window.
2. Drag the zero point to the location you want.

Or, choose Rulers & Grid from the Tools menu.



**To move the zero point on the vertical**

**ruler:**

1. Hold down Ctrl and point to the ruler at the top of the drawing window.
2. Drag the zero point to the location you want.

Or, choose Rulers & Grid from the Tools menu.

**See also**

[Aligning shapes to other shapes](#)

[Creating guides](#)

[Distributing shapes](#)

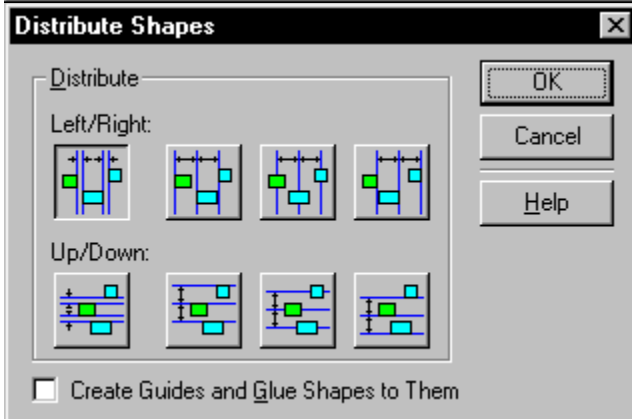
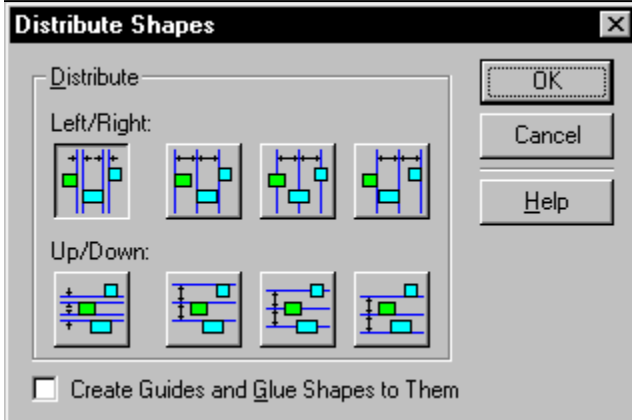
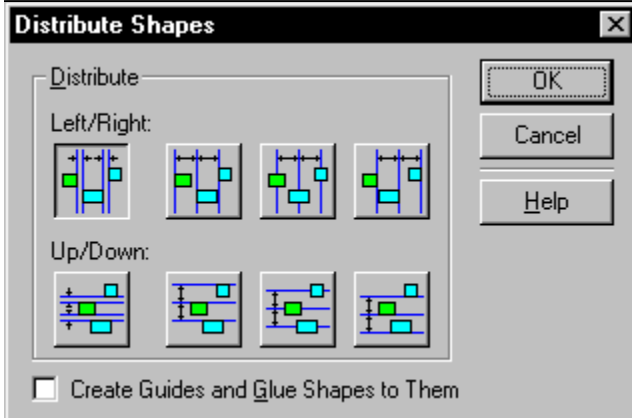
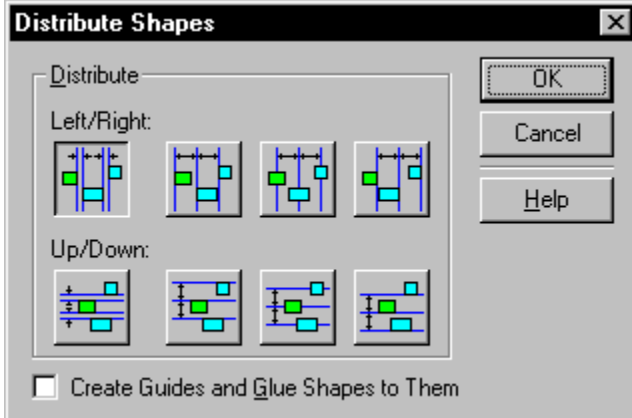
[Setting glue options](#)

[Setting page display options](#)

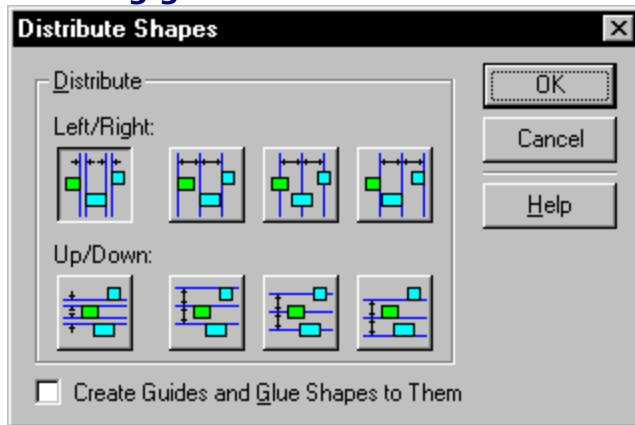
[Snapping shapes into place](#)



## Creating guides



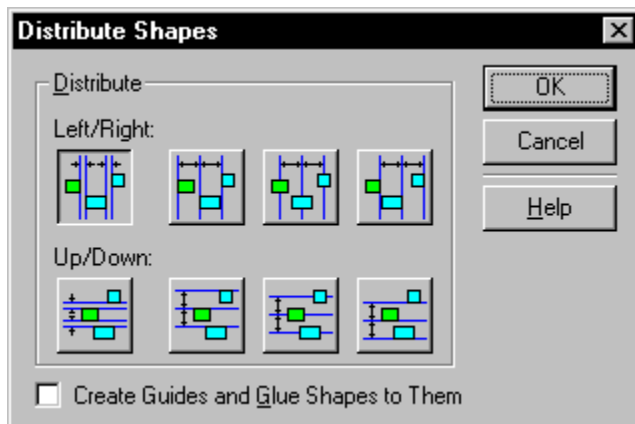
## Creating guides



### [Overview](#)

[Guides](#) are helpful in ways that rulers and [grid lines](#) are not. For example, you can place guides anywhere on the page and glue shapes to them. When you move the guides, the shapes move with them.

Before you create guides, make sure both [Guides](#) and [Rulers](#) are checked on the View menu.

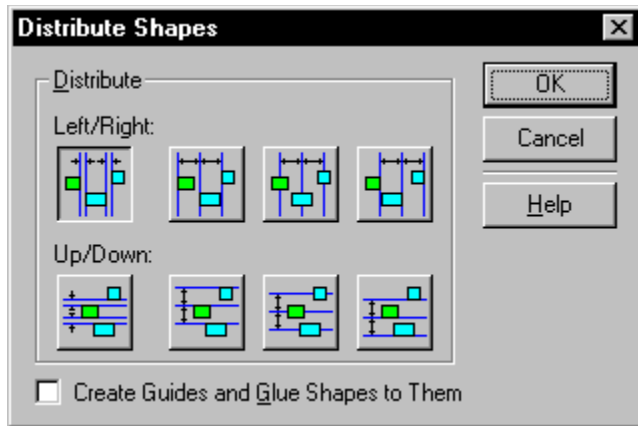


### **To create a guide:**

1. Point to the ruler from which you want to drag a guide.
  - To create a horizontal guide, point to the ruler at the top of the drawing window.
  - To create a vertical guide, point to the ruler at the left of the drawing window.
2. Drag the guide where you want to place it.
3. Release the mouse button.

**Tip:** You can't create diagonal guides. To align shapes diagonally, draw a diagonal line, drag the shapes to the line and align them manually, and delete the line when you're finished.

You delete guides the same way you delete shapes.



**To delete a guide:**

1. Select the guide.
2. From the Edit menu, choose [Clear](#), or press the Delete key.

**See also**

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[Aligning shapes to guides](#)

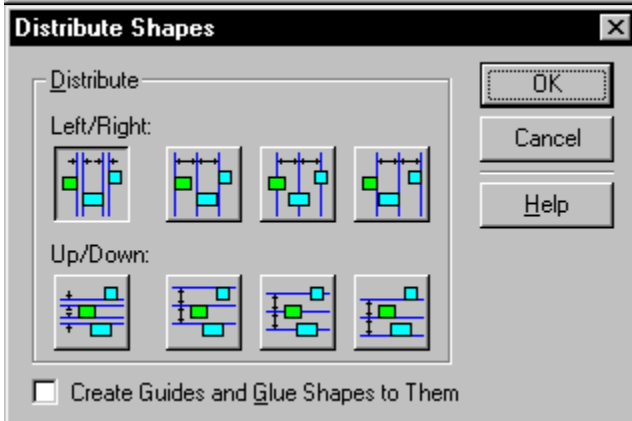
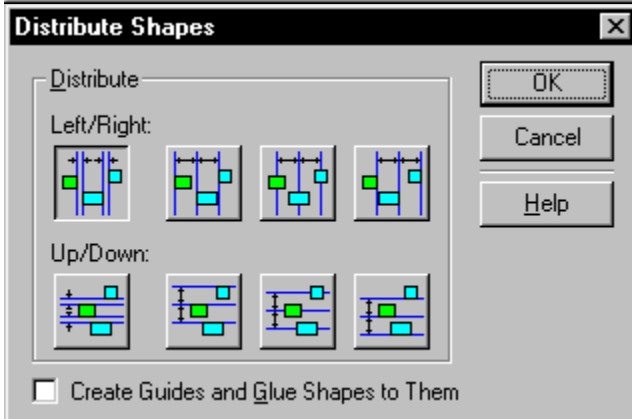
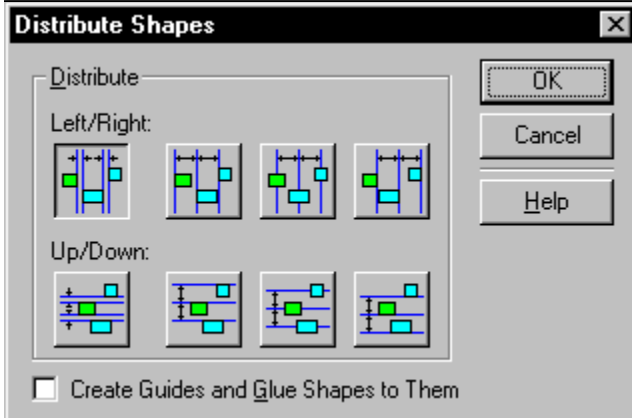
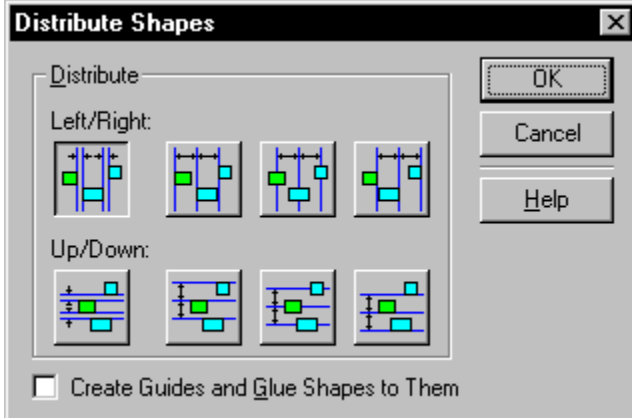
[Creating guide points](#)

[Distributing shapes](#)

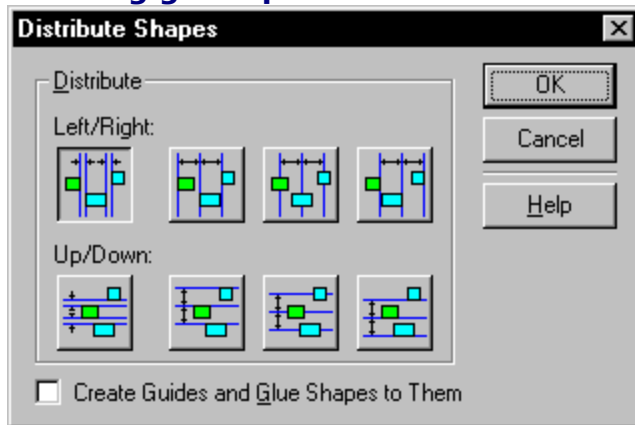
[Gluing shapes to guides](#)

[Moving shapes after you glue them](#)

## Creating guide points

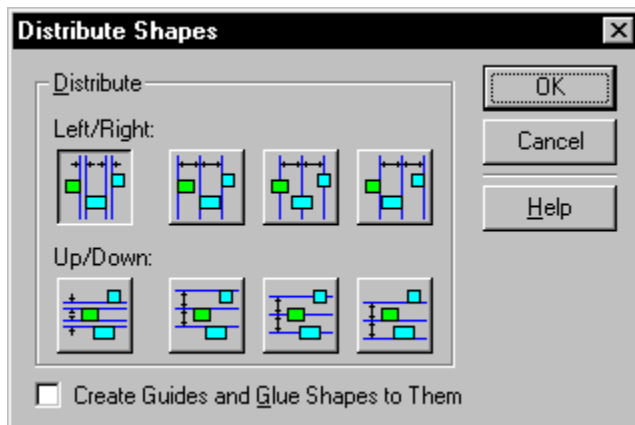


## Creating guide points



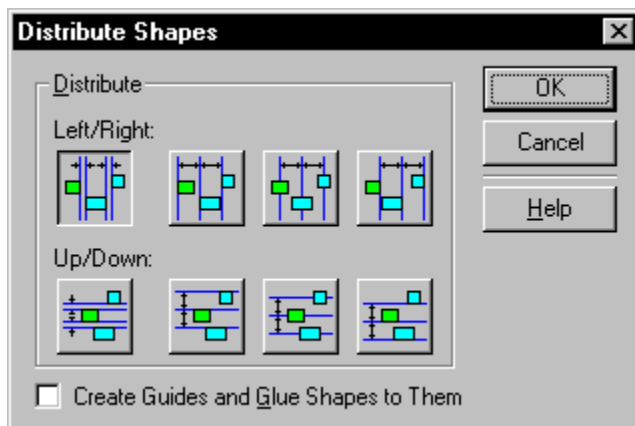
[Overview](#)

Guide points are crossbar-shaped [guides](#) that you drag from the intersection of the rulers. You can align a shape's [endpoint](#) or sides to a guide point.



### To create a guide point:

1. In the upper-left corner of the [drawing window](#), point to the crossbar at the intersection of the two rulers.
2. Drag to where you want the guide point.
3. When the guide point is where you want it, release the mouse button.



### To delete a guide point:

1. Click the guide point to select it.

You may need to [zoom](#) in to see it. Guide points on the primary selection turn green when selected; all others turn blue.

2. From the Edit menu, choose [Clear](#), or press the Delete key.

**See also**

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[Aligning shapes to guides](#)

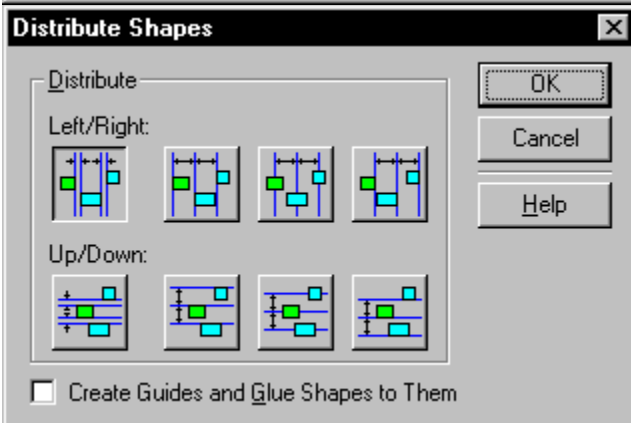
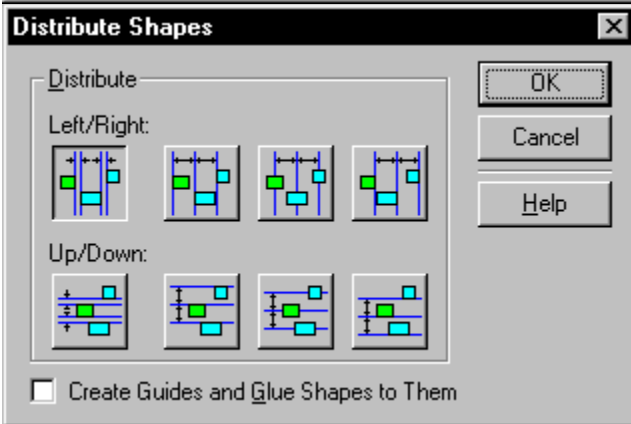
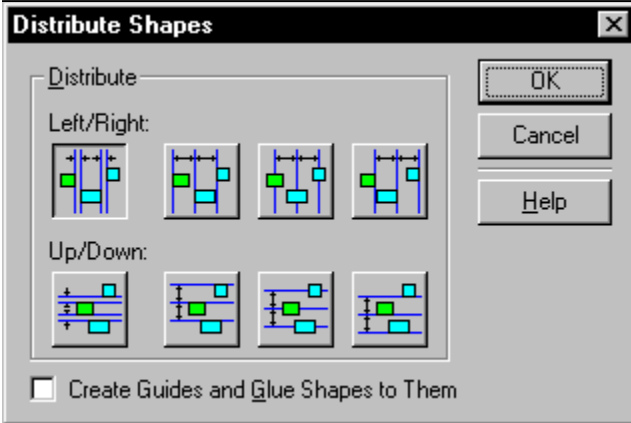
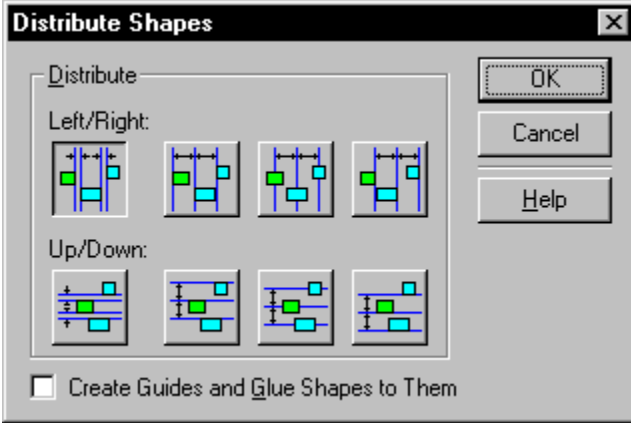
[Aligning shapes to rulers](#)

[Creating guides](#)

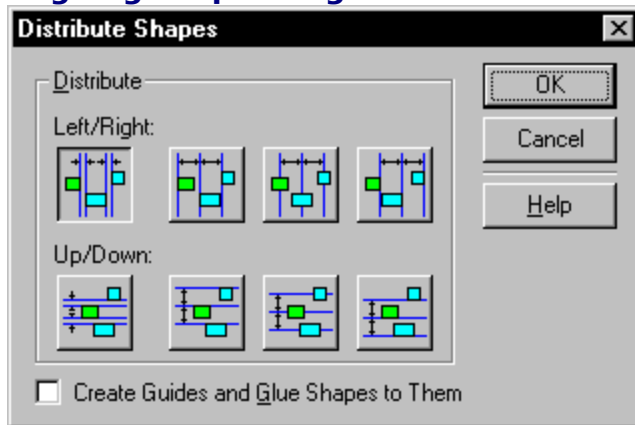
[Gluing shapes to guides](#)



## **Aligning shapes to guides**

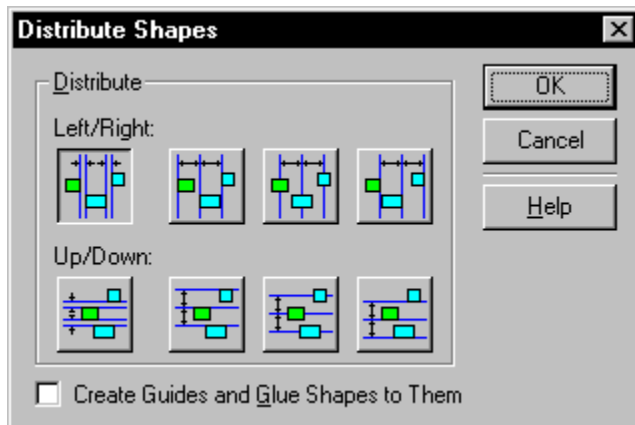


## Aligning shapes to guides



[Overview](#)

You can align shapes to [guides and guide points](#) by dragging the shapes to the guides. To align shapes to a guide point, position the corner of a 2-D shape's selection rectangle or an endpoint of a 1-D shape on the guide point.



**To align shapes with guides or guide**

### points:

1. Create a guide or guide point where you want to align shapes.
2. Drag the shapes to the guides.

You can use the [Align Shapes](#) command to create a guide and glue shapes to it.

### See also

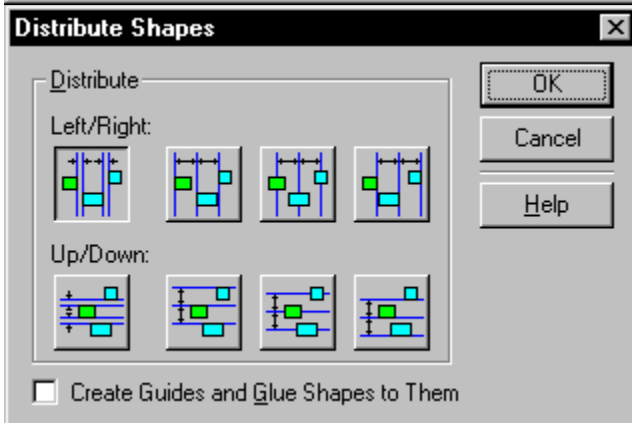
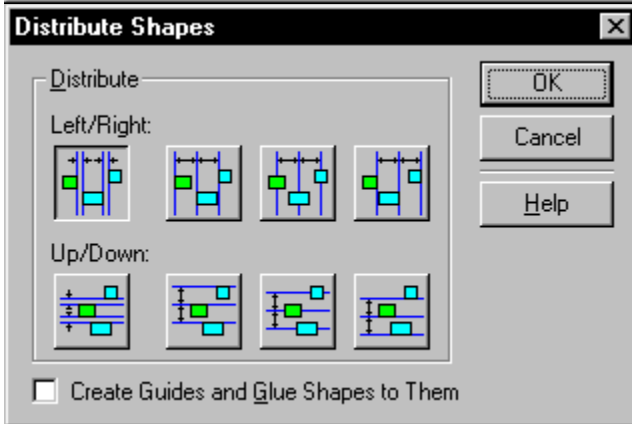
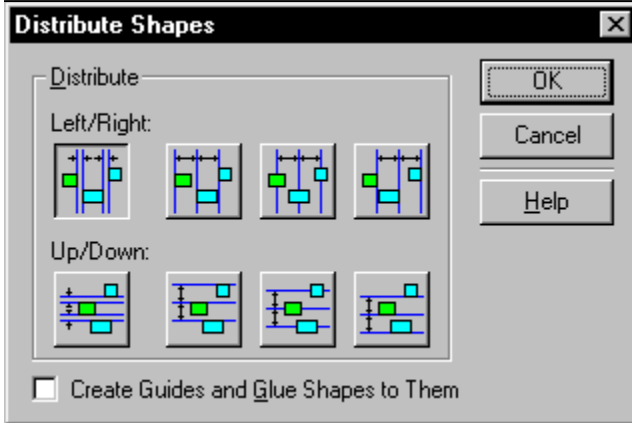
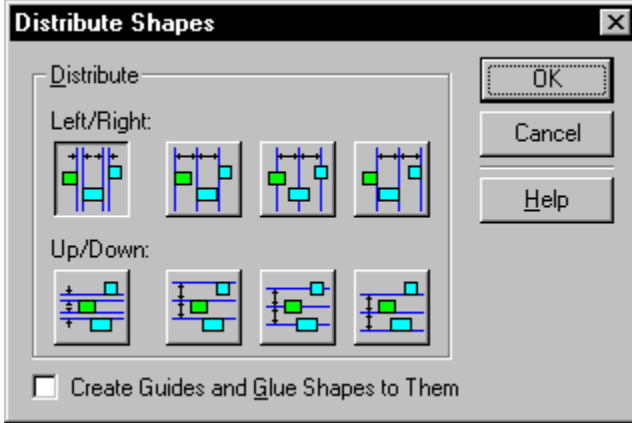
[Creating guide points](#)

[Distributing shapes](#)

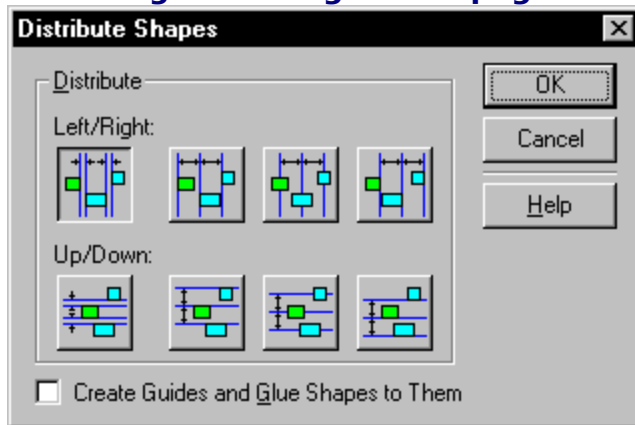
[Gluing shapes to guides](#)

[Setting glue options](#)

**Centering a drawing on the page**

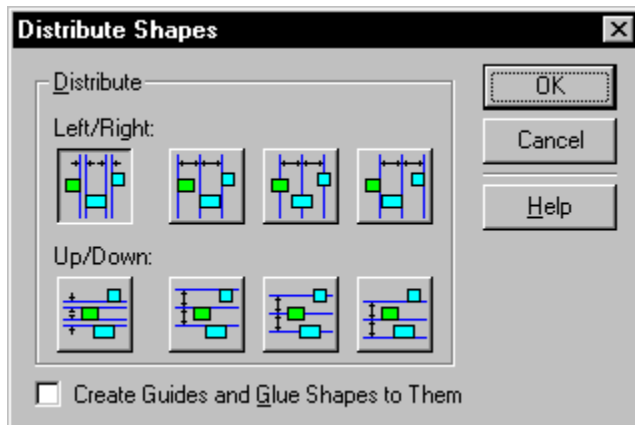


## Centering a drawing on the page



[Overview](#)

In some cases, you may find that the finished [drawings](#) are not centered on the page. For example, you might create an organization chart block by block and find that the finished chart extends off one side of the page and onto the [pasteboard](#).



**To center the drawing on the page:**

1. From the Tools menu, choose [Center Drawing](#).

Visio shifts the drawing to the center of the drawing page.

**Note:** If you are using the [grid](#) to align shapes in the drawing, the shapes may no longer be aligned with the grid units after using this command.

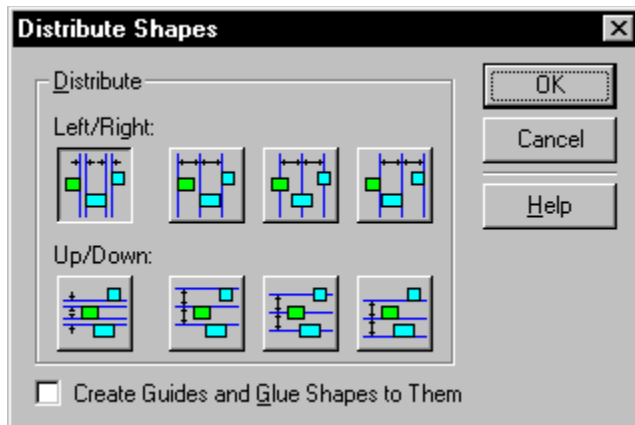
### See also

[Aligning shapes to other shapes](#)

[Moving shapes by dragging](#)

[Reducing or enlarging a drawing for printing](#)

## Techniques for connecting shapes



[Related procedures](#)

By dragging and dropping connector [master shapes](#), you can connect shapes in any type of drawing. Visio also provides several techniques for connecting shapes that make specific drawing tasks faster and easier.

To:	Do this:
Connect shapes in a flowchart	Drag and drop <a href="#">2-D shapes</a> using the <a href="#">connector tool</a> . Connectors are glued automatically from one shape to another.
Connect shapes in an organization chart	Drag control handles to create <a href="#">connectors</a> , or use the connector tool to draw connectors between specific points on 2-D shapes.
Connect a series of shapes	Select two or more shapes, then choose <a href="#">Connect Shapes</a> from the Tools menu.
Connect a callout or connector line to a shape	Drag and drop callout master shapes and glue them to 2-D shapes.

### SmartConnectors

Many of the [stencils](#) that come with Visio include [SmartConnector](#) master shapes that you can drag and drop to connect shapes. The most useful connector shape is the [Universal connector](#), which bends to create any connection you need.

You can use the Universal connector to connect any point on one shape to any point on another. You can also let the connector calculate the shortest path between two shapes for you. You can adjust the way the connector bends by dragging its control handles. The number of control handles varies depending on the number of bends in the shape.

**Important:** If you adjust a [control handle](#) on a Universal connector shape and then move the shape it's connected to, the Universal connector loses its ability to calculate the best possible connection. To reestablish its smart behavior, hold down the Ctrl key, drag the endpoints away from the shapes they're connected to, and then reconnect the endpoints to the shapes.

## Connections and glue

When you drag the connector tool between connection points on 2-D shapes, Visio [glues](#) a connector solidly to the connection points. If you move the shapes, the connector stays connected to those points.

When you use the Connect Shapes command, or hold down the Ctrl key and drag the connector tool from one shape to another, Visio glues a connector to the shapes using [dynamic glue](#).

In a standard connection, the connector's beginning point is marked by an X, and the ending point is marked by a plus sign. Both [endpoints](#) also have borders. In a connection that uses dynamic glue, the endpoints are not marked or surrounded by a border.

Several connector shapes, including the Universal connector, are designed to connect shapes with dynamic glue. Connectors designed to connect specific points on 2-D shapes (for example Top to Top, Top to Side, Bottom to Top, and similarly named shapes) are programmed to create solid (non-dynamic) connections.

No matter which technique you use to connect shapes, you can always switch between a solid connection and dynamic glue, as long as the connector is designed to work with dynamic glue.



[Connecting a series of shapes automatically](#)

[Connecting shapes quickly in a flowchart](#)

[Connecting shapes with the stamp tool](#)

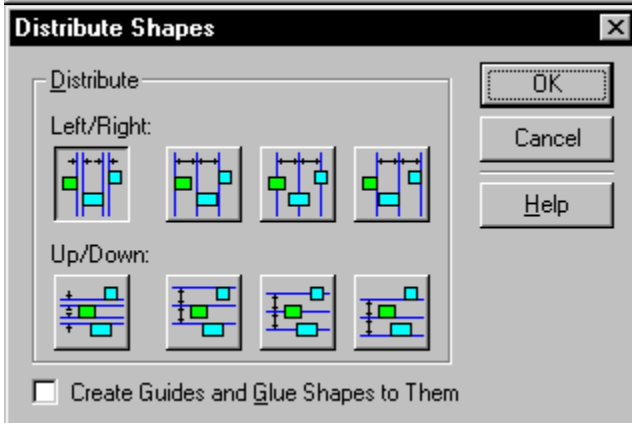
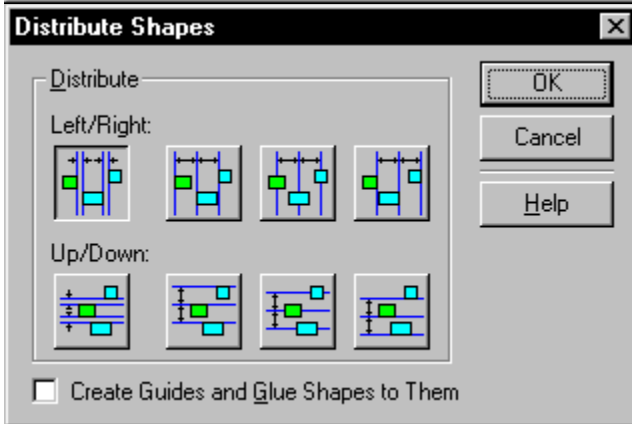
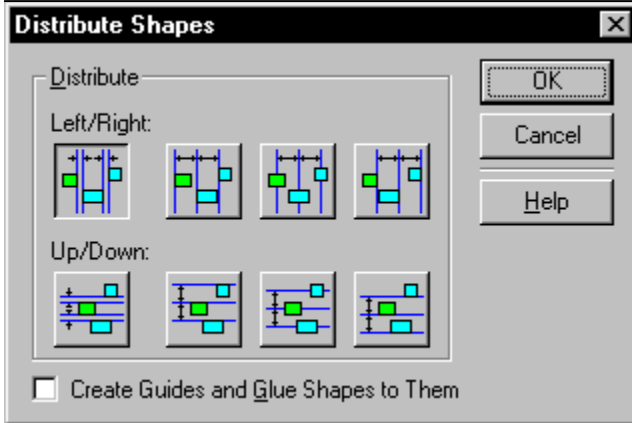
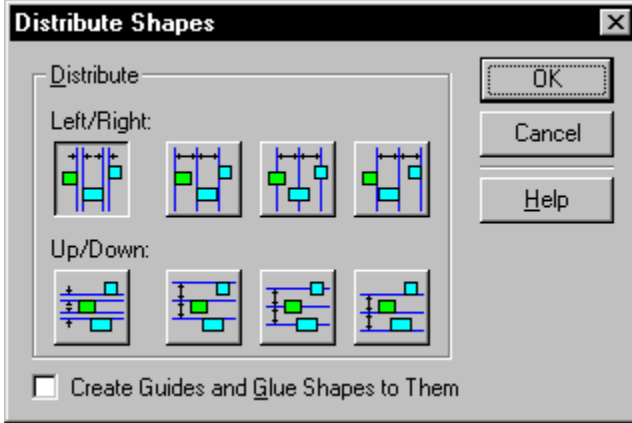
[Gluing shapes to guides](#)

[Moving shapes after you glue them](#)

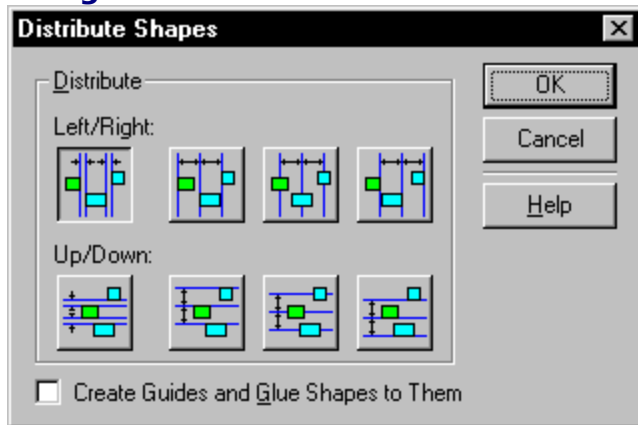
[Quickly creating an organization chart and similar drawings](#)

[Using the connector tool to connect two shapes](#)

**Using the connector tool to connect two shapes**

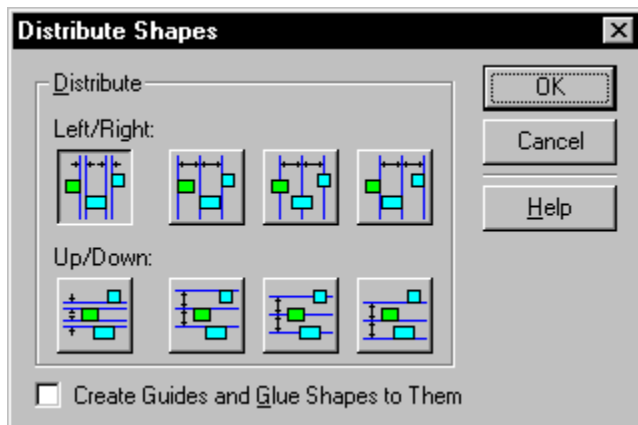


## Using the connector tool to connect two shapes



### [Overview](#)

You often glue the [endpoint](#) of a [connector](#) shape to a specific point on a [2-D](#) shape. An easy way to glue a connector between two specific points is to use the connector tool.



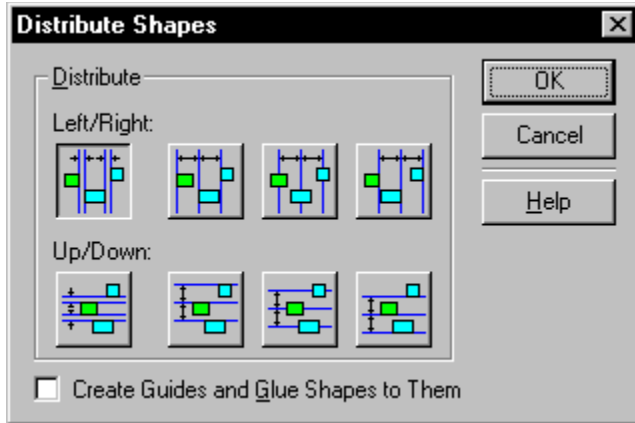
### To glue a connector between two

#### points:

1. Drag the 2-D shapes where you want them on the drawing page.
2. From the connection tool menu, choose the [connector tool](#).
3. If you'd like, choose a connector shape from the stencil.  
This is an optional step. If you don't choose a connector, Visio uses the [Universal connector](#).
4. On the first shape, position the pointer over the connection point to which you want to glue the beginning point of the connector shape.  
Visio displays a box around the connection point.
5. Drag the pointer to the second shape and position the pointer over the connection point to which you want to glue the connector's ending point.
6. Release the mouse button.

**Note:** Some master shapes have connection points at their centers that you can glue connectors to. However, if you position the connector tool over the middle of a shape that does not contain a center connection point, Visio displays a box around the entire shape to indicate that you're using dynamic glue.

When 2-D shapes are in position on the drawing page, you can also use the connector tool to connect them with [dynamic glue](#).



**To connect shapes that are already on**

**the drawing page:**

1. From the connection tool menu, choose the [connector tool](#).
2. If you'd like, choose a connector shape from the stencil.

This is an optional step. If you don't choose a connector, Visio uses the Universal connector. If you do choose a connector, be sure it's one that can work with dynamic glue.

3. Hold down the Ctrl key and position the pointer over one of the shapes you want to connect.

Visio displays a box around the shape to indicate that you're creating a dynamic connection.

4. Click and drag from the first shape to the second shape.
5. Release the mouse button.

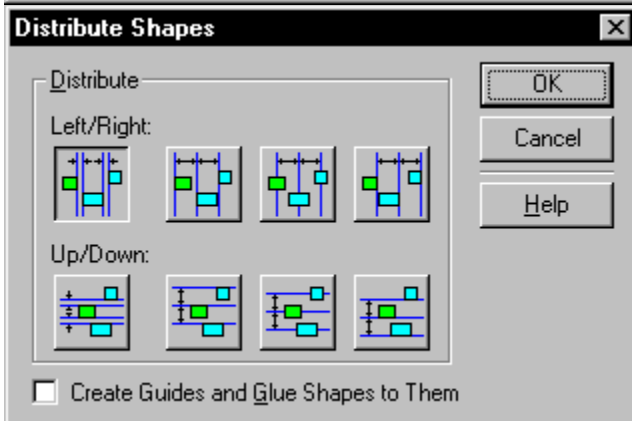
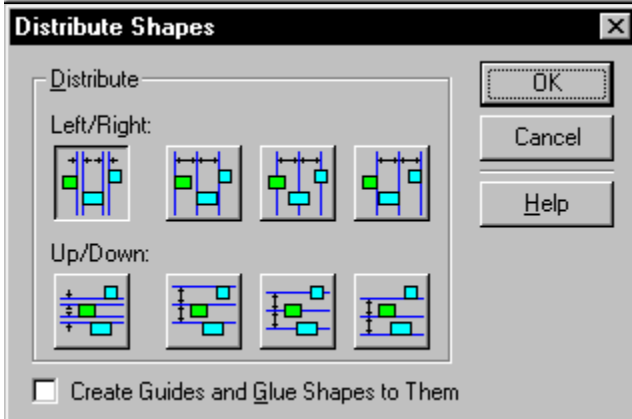
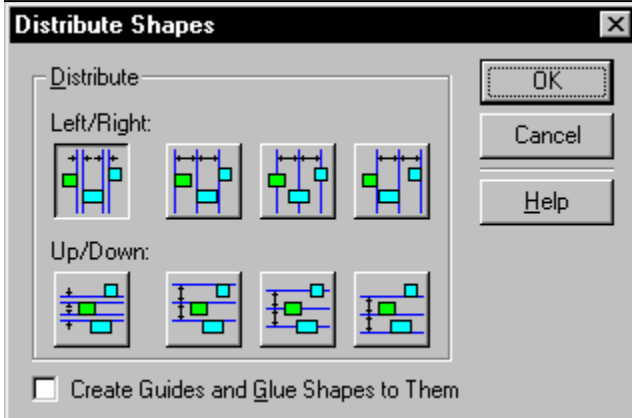
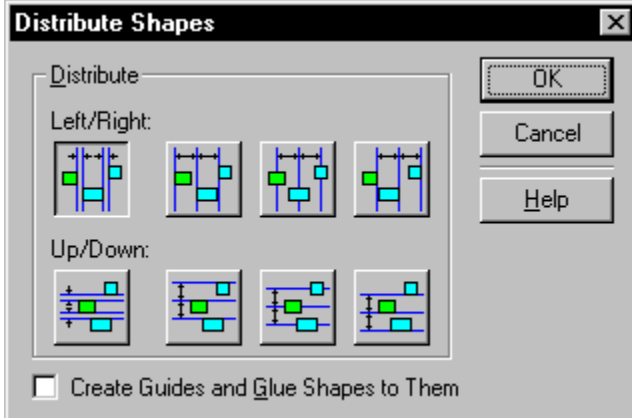
Visio creates an instance of the connector and connects it to the points using dynamic glue.

**Tip:** If you need to modify a drawing in which shapes are connected with a Universal connector, move the 2-D shapes first. Then, if necessary, use control handles on the Universal connector to adjust the connector's bends.

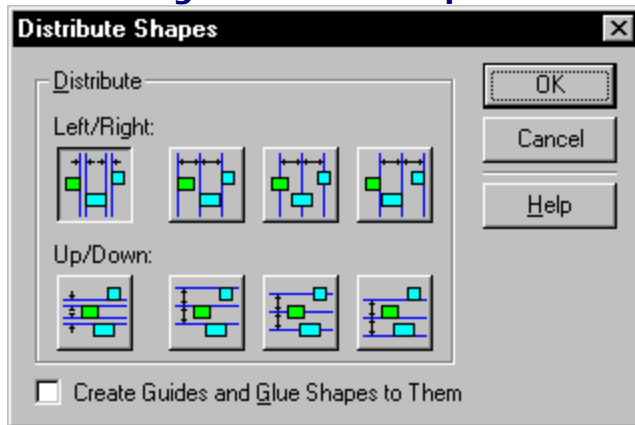
**See also**

- 
- [Connecting a series of shapes automatically](#)
  - [Creating and deleting connection points](#)
  - [Dragging and dropping connector shapes](#)

**Connecting a series of shapes automatically**

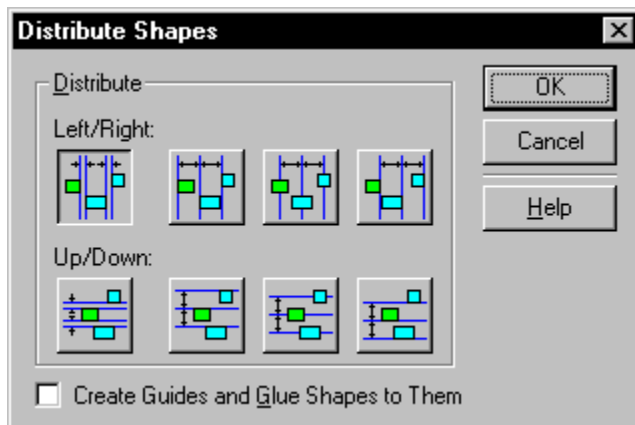


## Connecting a series of shapes automatically



[Overview](#)

The Connect Shapes command provides a quick way to connect a series of 2-D shapes. The shapes are connected in the order you select them.



**To connect a series of shapes with**

### **the Connect Shapes command:**

1. Select the 2-D shapes in the order that you want to connect them.  
Select the shapes by clicking the first shape, and then press the Shift key and click the other shapes. (If you select by dragging, the shapes will be connected according to their stacking order, from front to back.)
2. If you'd like, choose a [connector](#) shape from the stencil.  
This is an optional step. If you don't choose a connector, Visio uses the [Universal connector](#).
3. From the Tools menu, choose [Connect Shapes](#).  
You can also use the Connect Shapes button.  
Visio creates an instance of the connector and uses dynamic glue to connect the shapes, providing the connector you are using can use [dynamic glue](#).

### **See also**

[Dragging and dropping connector shapes](#)

[Dragging and dropping master shapes](#)

[Moving shapes after you glue them](#)

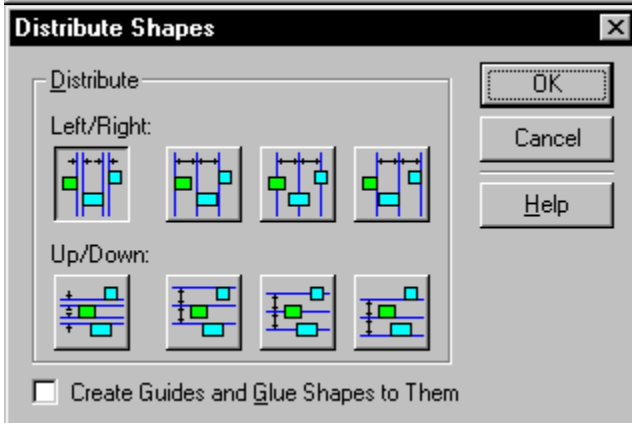
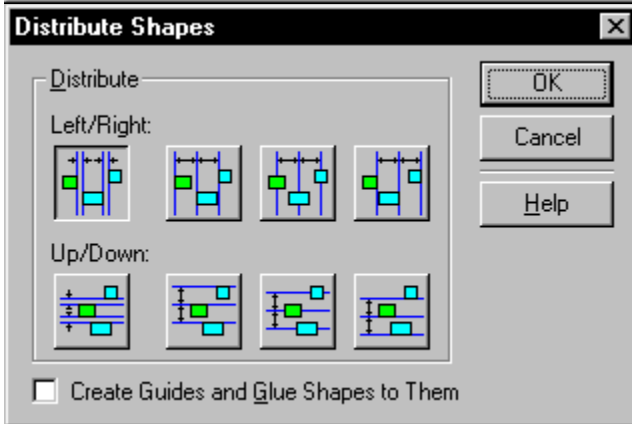
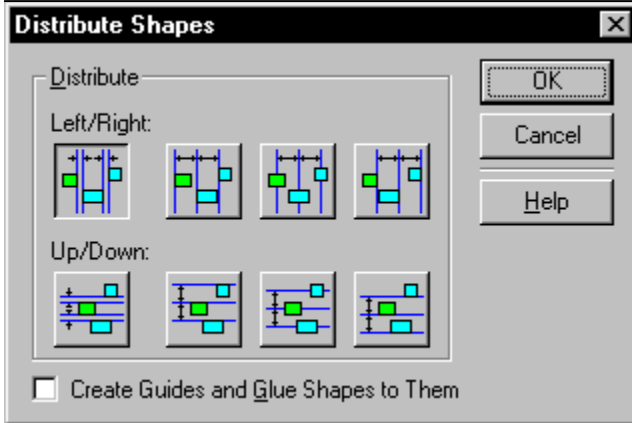
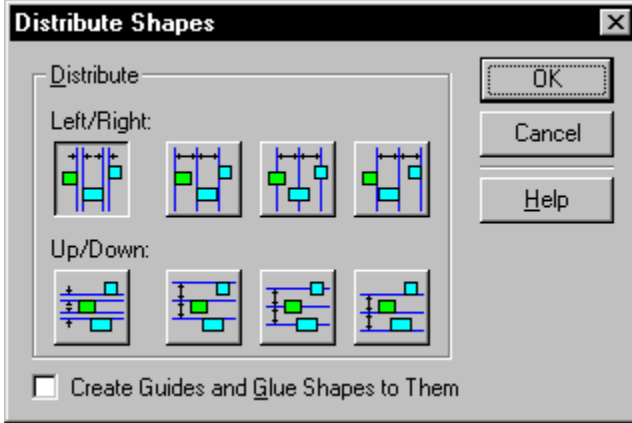
[Selecting shapes](#)

[Using the connector tool to connect two shapes](#)

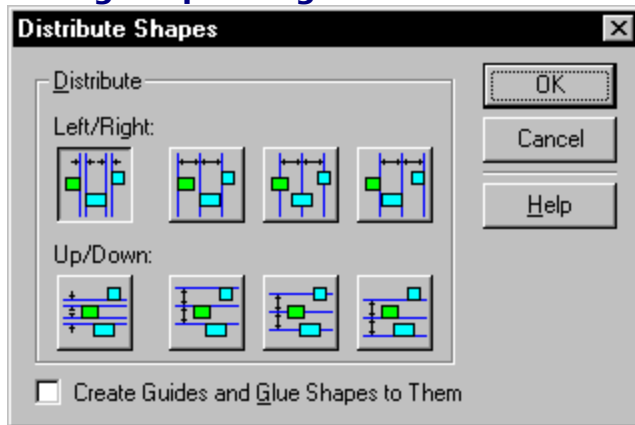




## **Gluing shapes to guides**

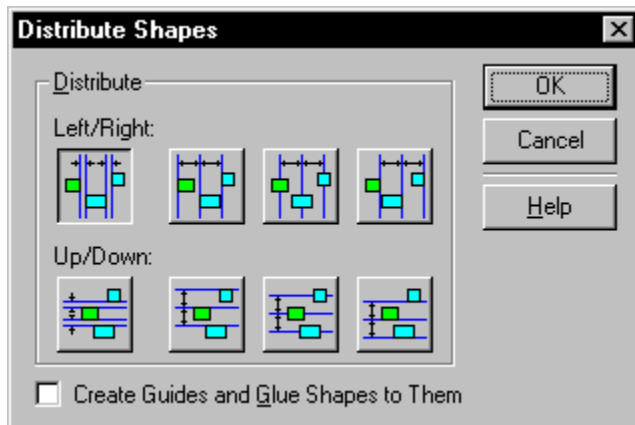


## Gluing shapes to guides



### [Overview](#)

By [gluing](#) shapes to a [guide or guide point](#), you can move the guide, and all the shapes glued to the guide move with it. You can glue an endpoint of a [1-D](#) shape to a guide or guide point, or you can glue selection handles of a [2-D](#) shape to a guide or guide point.



### **To glue a shape to a guide:**

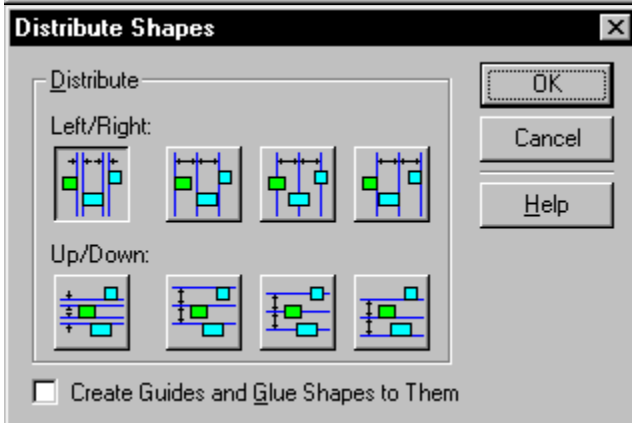
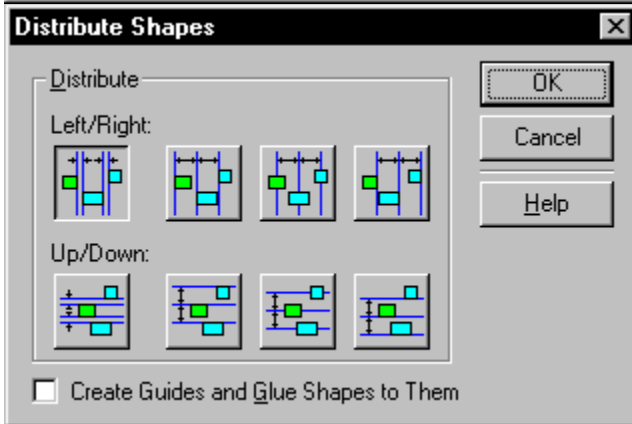
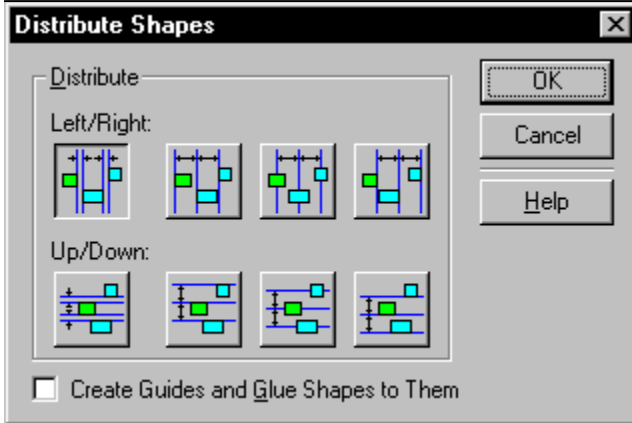
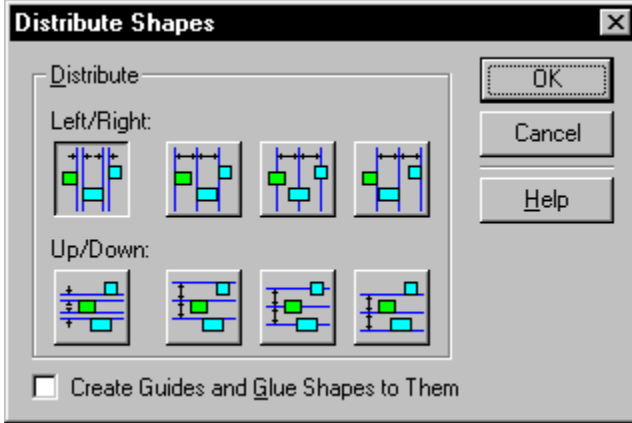
1. Make sure glue options are set appropriately in the [Snap & Glue](#) dialog box (on the Tools menu).
2. Point to the shape that you want to glue to a guide.
3. Drag the shape to the place on the guide you want to glue it to:
  - If you're gluing a 1-D shape, drag an endpoint to the guide. When the shape is successfully glued, the endpoint turns red.
  - If you're gluing a 2-D shape, drag the shape toward the guide. When the shape is successfully glued, the [selection handles](#) on the part of the shape that is glued to the guide turn red.

### **See also**

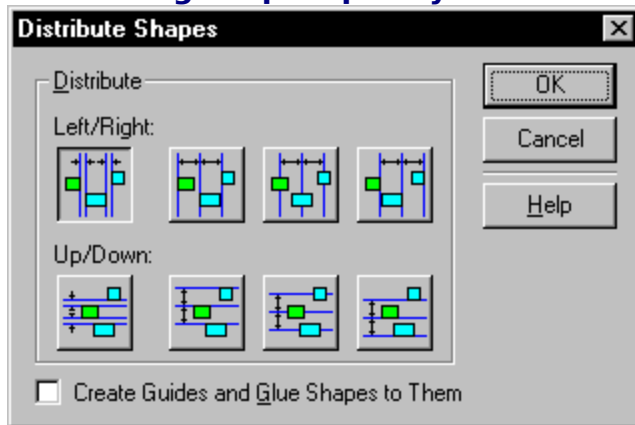
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[Aligning shapes to guides](#)  
[Creating guide points](#)  
[Dragging and dropping connector shapes](#)  
[Moving shapes after you glue them](#)  
[Setting glue options](#)  
[Snapping shapes into place](#)

**Connecting shapes quickly in a flowchart**

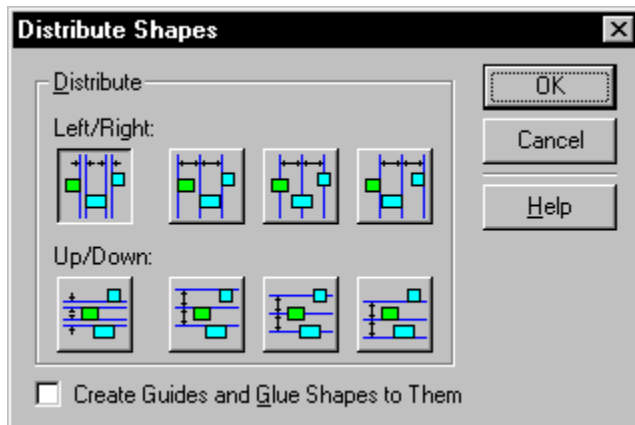


## Connecting shapes quickly in a flowchart



[Overview](#)

The fastest and easiest way to connect [shapes](#) in a flowchart is to drag and drop shapes with the connector tool. As each shape is dropped onto the drawing page, it is automatically connected to the previous shape with a [connector](#).



**To automatically connect shapes:**

1. From the connection tool menu, choose the [connector tool](#).
2. Drag and drop a [2-D shape](#) from the stencil onto the drawing page.
3. With the first shape still selected, drag and drop another 2-D shape onto the drawing page.

Visio automatically connects the shapes with an instance of the [Universal connector](#).

As long as the connector tool is selected, Visio adds a connector between the shape selected on the page and the shape dropped onto the drawing page. To create new branches in the chart, click the drawing page to deselect the last shape you dropped, select the shape you want to branch from, and then drag a new shape onto the drawing page. Visio adds a connector between the selected shape and the new shape.

### See also

[Connecting a series of shapes automatically](#)

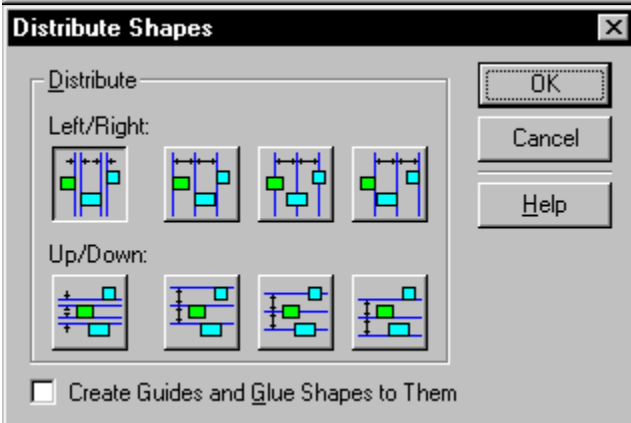
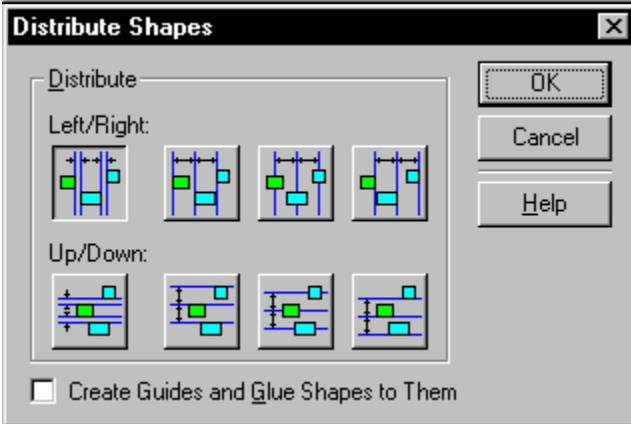
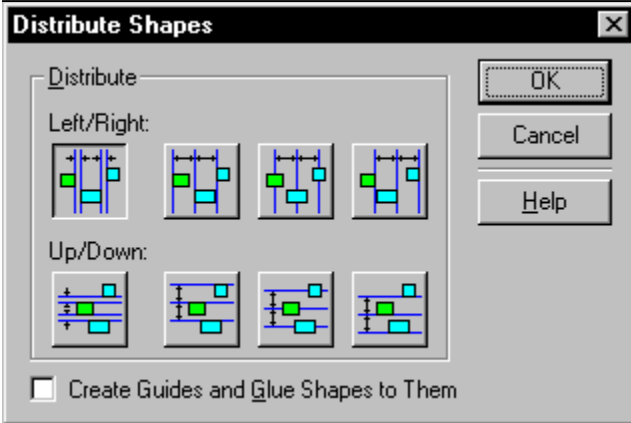
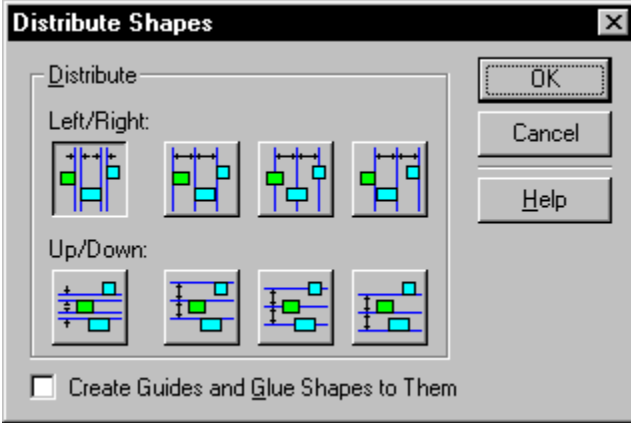
[Dragging and dropping connector shapes](#)

[Quickly creating an organization chart and similar drawings](#)

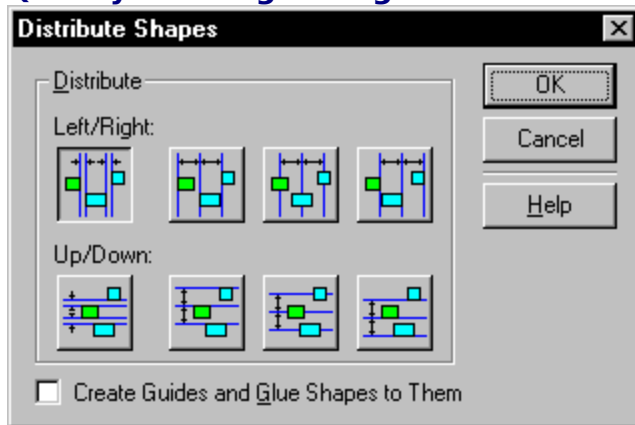
[Using the connector tool to connect two shapes](#)

**Quickly creating an organization chart and similar drawings**



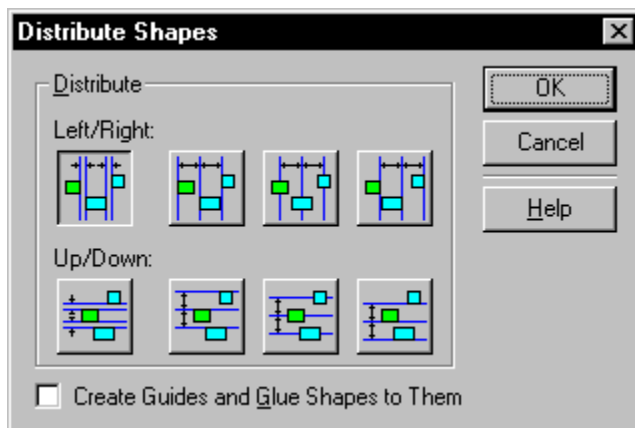


## Quickly creating an organization chart and similar drawings



### [Overview](#)

Many of the shapes designed to create an organization chart or a network diagram have [control handles](#) that you can drag to create [connectors](#). You can often tell which shapes produce connectors by looking at the [master shape](#) icon. Connectors appear as yellow lines extending from the main shape.



### To use a control handle to connect

#### shapes:

1. Drag the organization chart shapes into position on the drawing page.
2. Select a shape and position the pointer over the shape's control handle.
3. Drag the control handle and [glue](#) it to a [connection point](#) on the shape you want to connect to.

Visio glues the end of the connector to the connection point. If you move the shape the connector is glued to, the connector remains attached to that point.

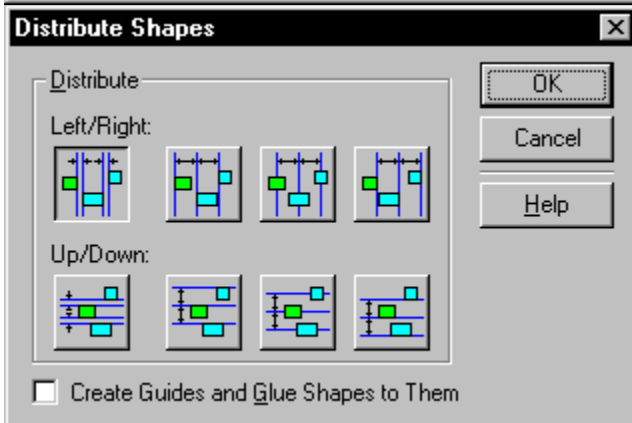
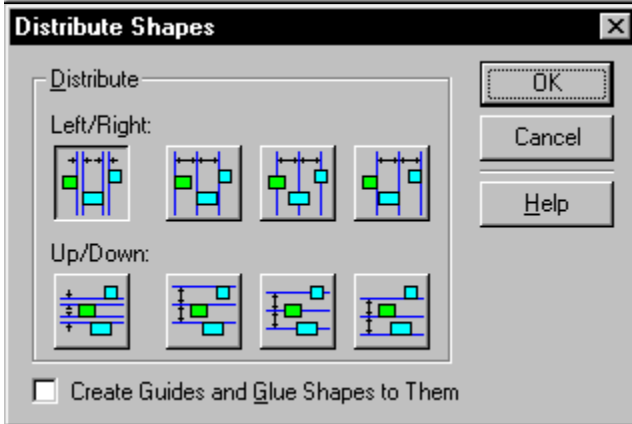
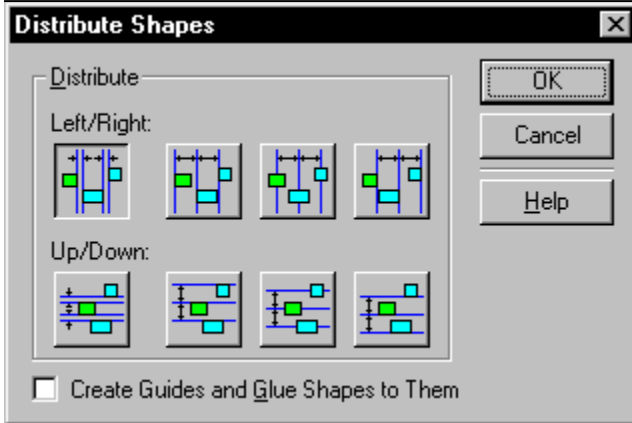
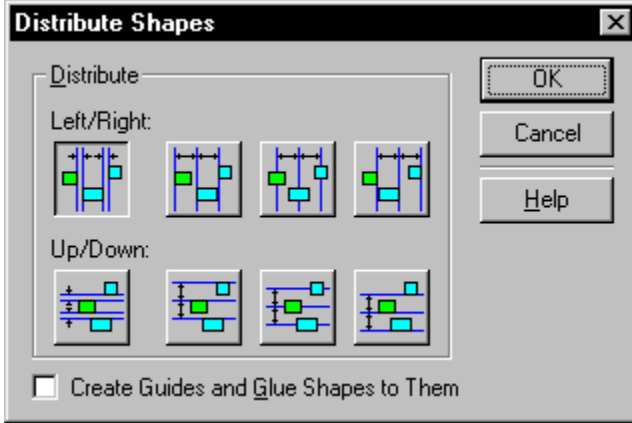
**Tip:** You can also use the Org Chart Wizard to automate creating an organization chart. (From the File menu, choose New, select Org Chart Wizard, then click OK. Follow the instructions on screen.)

#### See also

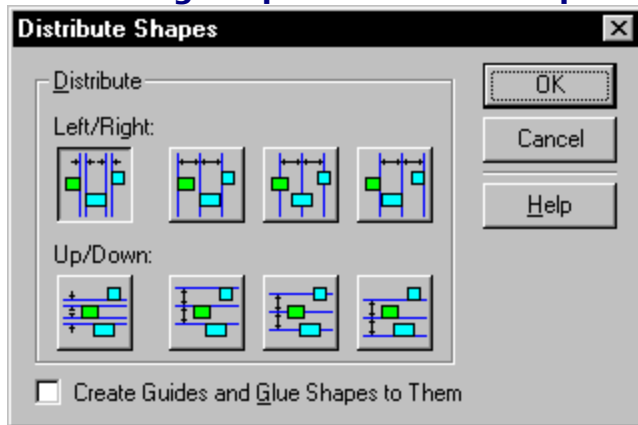
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[Connecting a series of shapes automatically](#)  
[Connecting shapes quickly in a flowchart](#)  
[Dragging and dropping connector shapes](#)  
[Using the connector tool to connect two shapes](#)

## Connecting shapes with the stamp tool

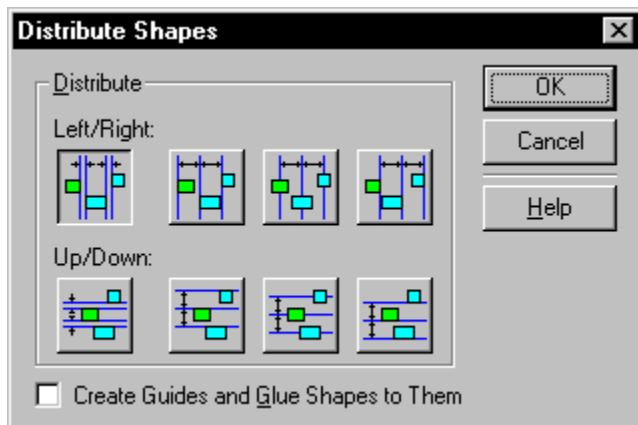


## Connecting shapes with the stamp tool



[Overview](#)

The stamp tool, which is typically used for duplicating [master shapes](#) on a drawing page, is also handy for gluing [connectors](#) to specific points on [2-D](#) shapes.



**To stamp a connector master shape**

### **between shapes:**

1. Position 2-D shapes on the drawing page.
2. From the connection tool menu, choose the [stamp tool](#).
3. In the stencil window, select a connector master shape.
4. In the drawing window, position the stamp tool over a connection point on one of the 2-D shapes.
5. Hold down the left mouse button and drag to a connection point on another shape.
6. Release the mouse button.

Visio adds an instance of the connector you selected between the points on the 2-D shapes.

**Tip:** The stamp tool does not use [dynamic glue](#), but you can convert the connection's [glue](#) type.

### **See also**

[Connecting a series of shapes automatically](#)

[Converting the glue](#)

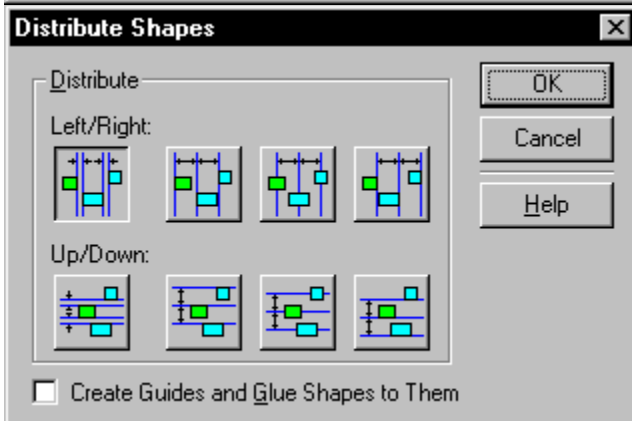
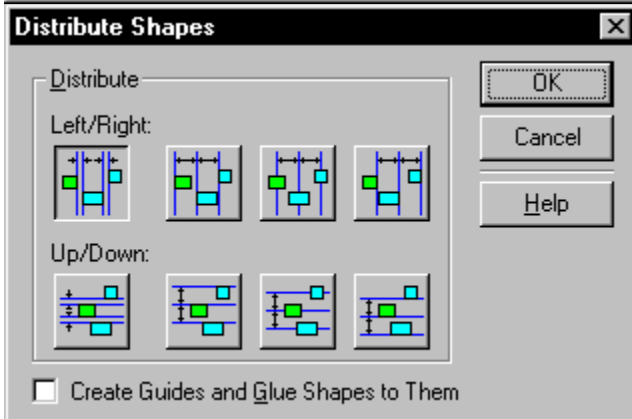
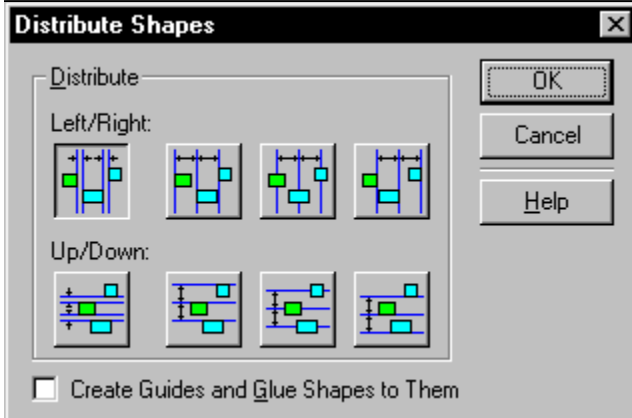
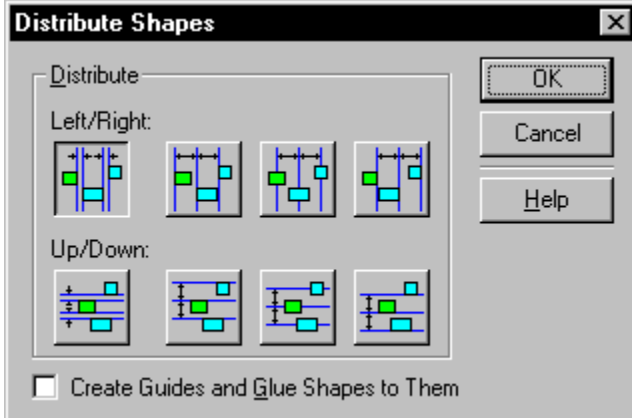
[Dragging and dropping connector shapes](#)

[Stamping master shapes](#)

[Using the connector tool to connect two shapes](#)

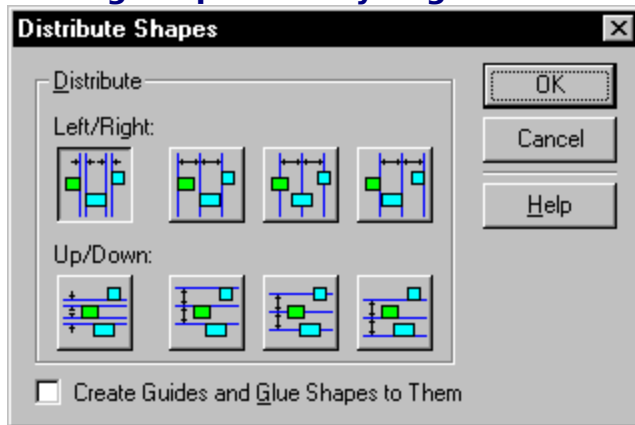


**Moving shapes after you glue them**





## Moving shapes after you glue them



### [Overview](#)

After shapes are glued, you can move the shape that has another shape glued to it without breaking the [glue](#). For example, if you glue a [connector](#) to a box, you can move the box without breaking the glue, but there are restrictions on the ways you can move the connector.

The following actions do not break glued connections:

- Moving a shape or guide that has other shapes glued to it.
- Moving the free [endpoint](#) of a [1-D](#) shape whose other endpoint is glued to a shape.
- Reversing a shape using [Reverse Ends](#).

These actions break glued connections:

- Moving the glued endpoint of a [1-D](#) shape.
- Moving a shape glued to a guide away from the guide.
- Flipping or rotating a shape that is glued to another shape.

### See also

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[Connecting a series of shapes automatically](#)

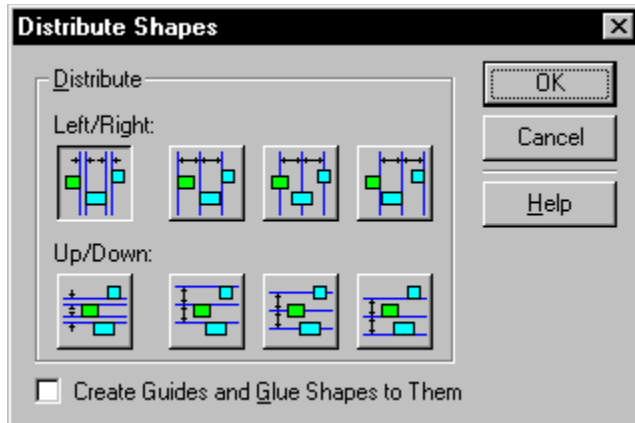
[Connecting shapes quickly in a flowchart](#)

[Dragging and dropping connector shapes](#)

[Quickly creating an organization chart and similar drawings](#)

[Using the connector tool to connect two shapes](#)

## Adjusting connectors and glue settings



[Related procedures](#)

Once shapes are connected in a [drawing](#), you can adjust connector shapes and the shapes the [connectors](#) are glued to.

You can:

- Adjust the bend in a [Universal connector](#) shape.
- Move shapes after you glue them.
- Switch between a solid connector and [dynamic glue](#).
- Display, create, and delete [connection points](#).
- Format the line ends of a connector shape.

[Adjusting the bends in a Universal connector](#)

[Converting the glue](#)

[Creating and deleting connection points](#)

[Displaying connection points](#)

[Formatting connector shapes](#)

[Setting glue options](#)

**See also**

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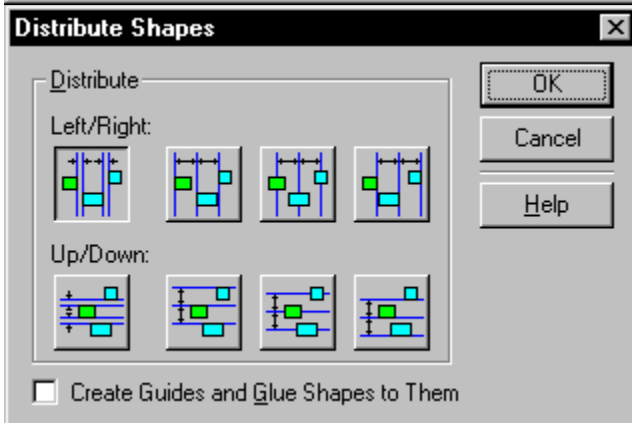
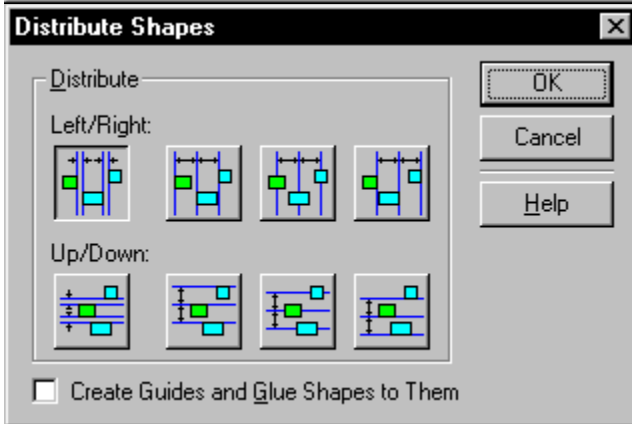
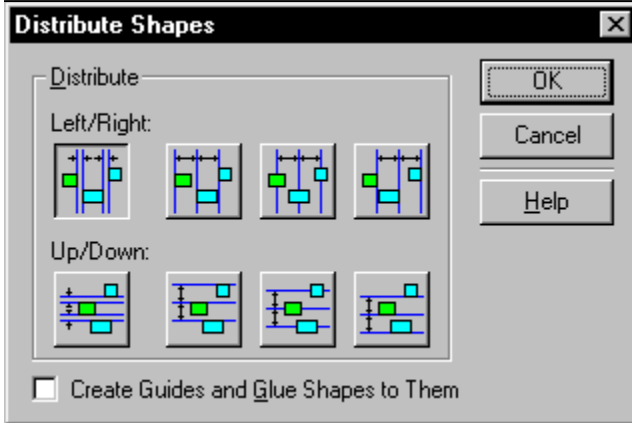
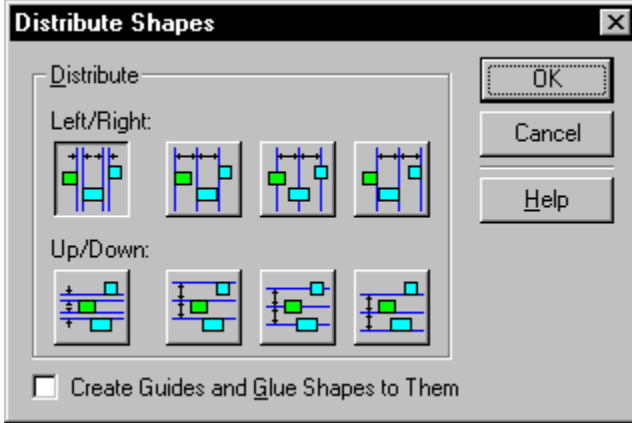
[Aligning and distributing shapes](#)

[Determining a shape's size and location](#)

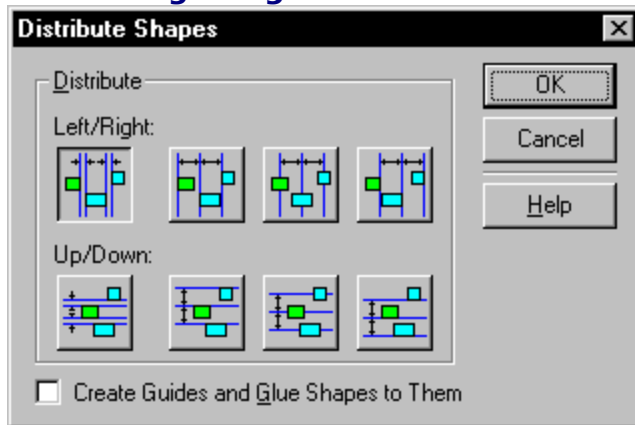
[Selecting and moving shapes](#)

[Techniques for connecting shapes](#)

## Converting the glue

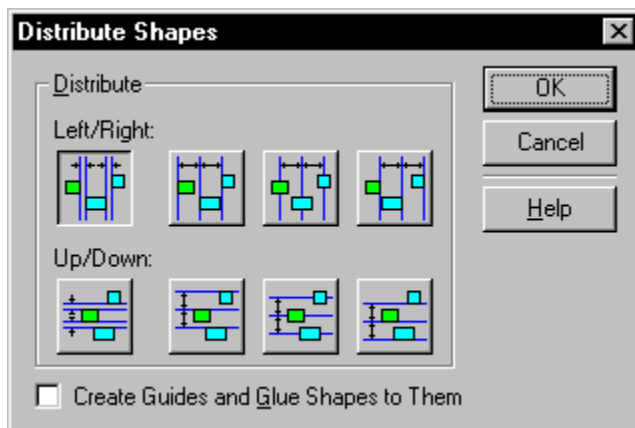


## Converting the glue



[Overview](#)

No matter which technique you use to glue shapes in the drawing, you can switch between a solid connection and dynamic glue providing the connector shape you're using is designed to work with dynamic glue. When you have shapes in their final positions, you can also switch from dynamic glue to a solid connection.

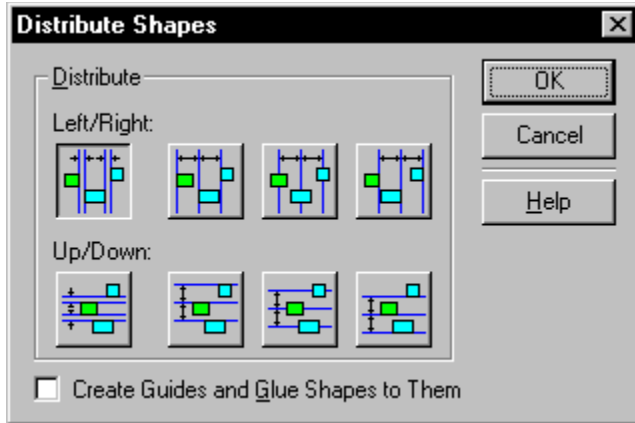


**To switch from a solid connection to**

### **dynamic glue:**

1. Choose the pointer tool and select the connector in the drawing.
2. Hold down the Ctrl key.
3. Drag each endpoint of the connector away from the connection point it is glued to.
4. Drag the endpoints back to the shape to glue the endpoints with dynamic glue.

Visio displays a box around the shape to indicate that you are creating a dynamic connection.



**To switch from dynamic glue to a**

**solid connection:**

1. Drag the endpoints of the connector shape away from the connection points.
2. Drag the endpoints back to the connection points.

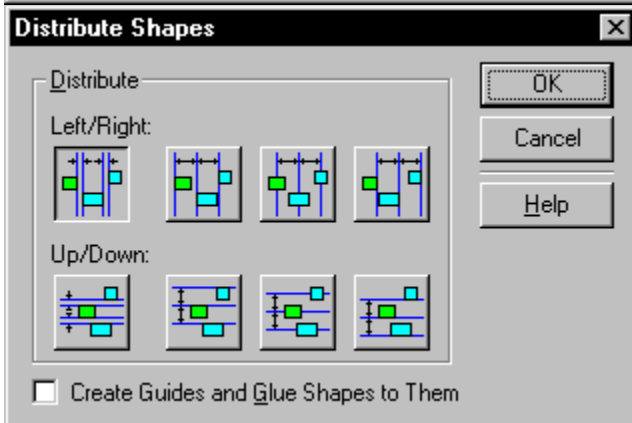
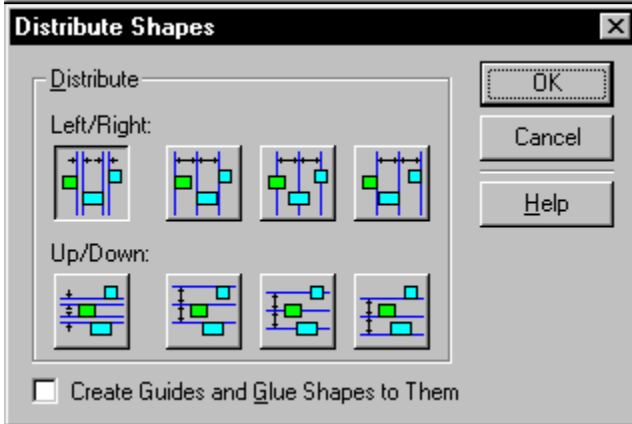
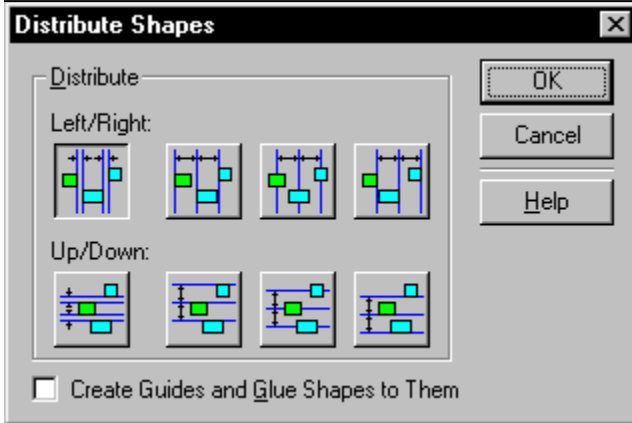
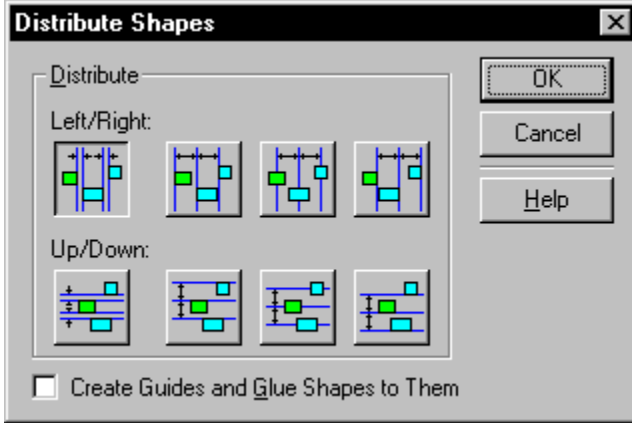
**See also**

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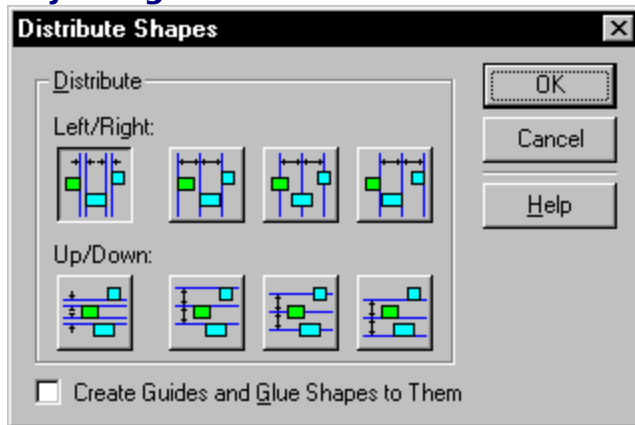
[Connecting a series of shapes automatically](#)  
[Dragging and dropping connector shapes](#)  
[Using the connector tool to connect two shapes](#)

**Adjusting the bends in a Universal connector**



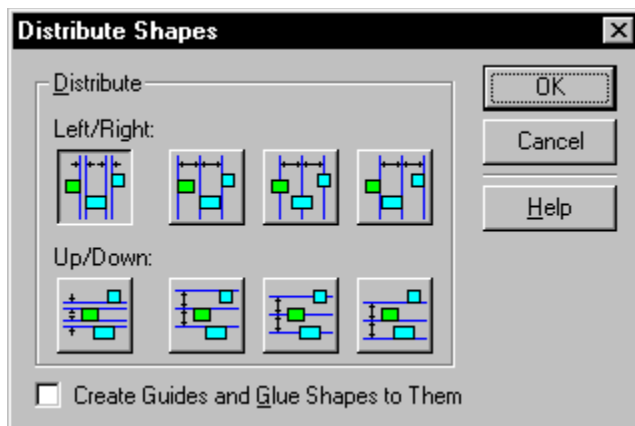


## Adjusting the bends in a Universal connector



[Overview](#)

When connecting 2-D shapes, the [Universal connector](#) uses the geometry of the shapes and the location of the [connection points](#) to calculate the most direct route between the shapes. When you move the shapes the connector is attached to, the connector adjusts itself to avoid crossing over the shapes it connects. Once the [2-D](#) shapes are in position, you can use [control handles](#) on the connector to fine-tune the location of the connector's bends.



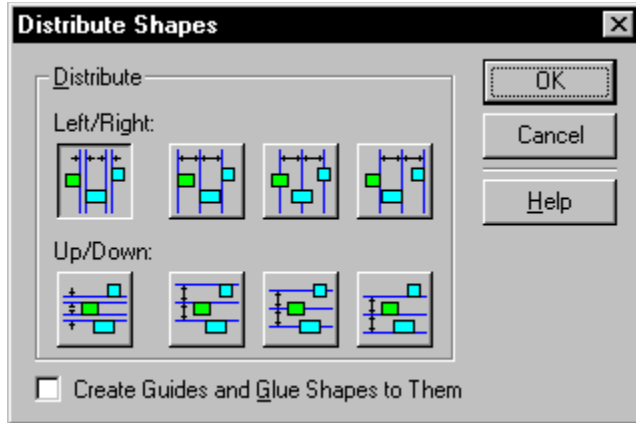
**To adjust the bends in a Universal**

**connector:**

1. Select the Universal connector shape.
2. Drag a control handle to adjust the bends in the connector.

The number of control handles varies depending on the number of bends in the shape.

If you use control handles to adjust the position of the Universal connector, the connector maintains that position and will not reposition itself if you move the shapes it is connected to. You can reactivate the Universal connector so it regains its self-adjusting behavior.



**To reactivate the Universal connector:**

1. Select the Universal connector shape.
2. Hold down the Ctrl key and drag the connector's endpoints away from the shapes they're connected to. Release the Ctrl key.
3. Drag the endpoints back to reconnect them to the shapes.

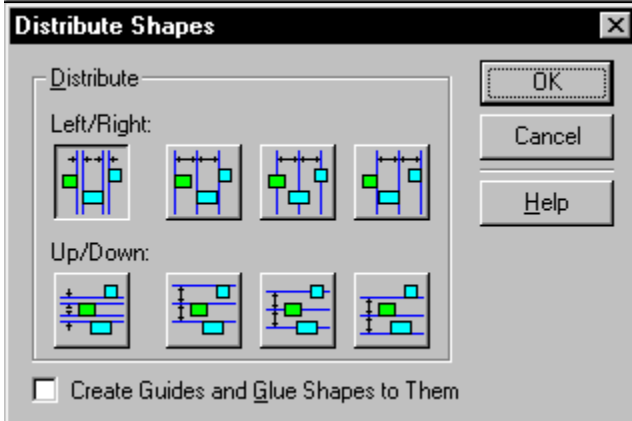
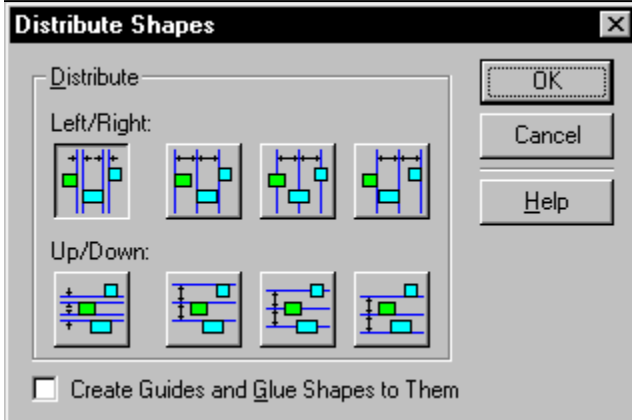
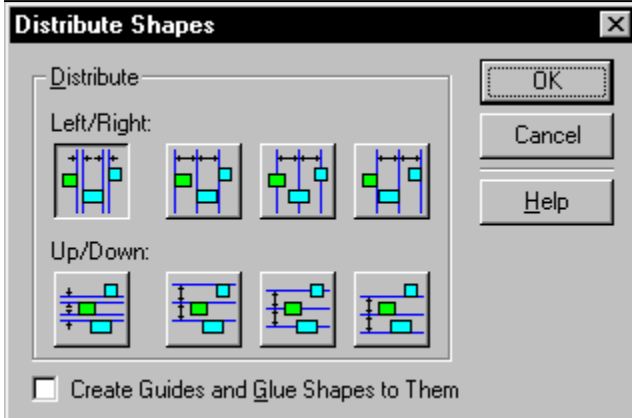
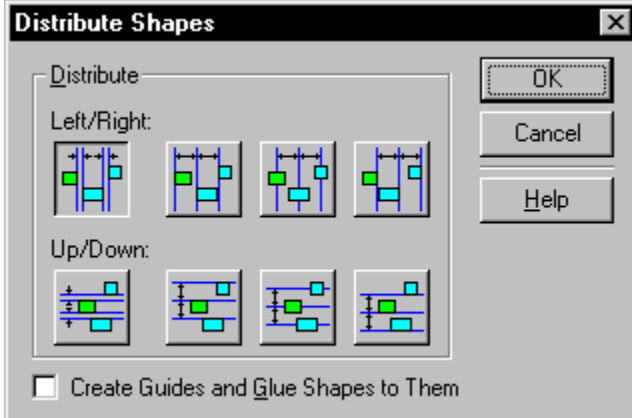
### **See also**

[Connecting a series of shapes automatically](#)

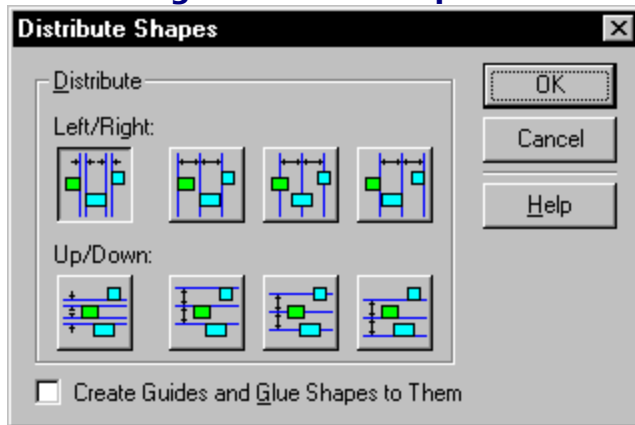
[Dragging and dropping connector shapes](#)

[Using the connector tool to connect two shapes](#)

## Formatting connector shapes

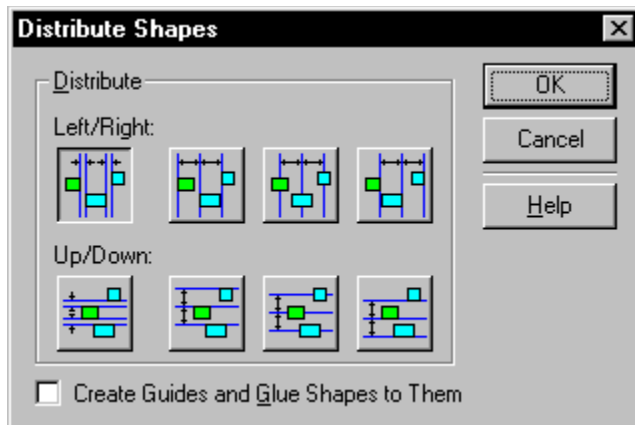


## Formatting connector shapes



### [Overview](#)

Connector master shapes are formatted with a [template-based style](#) that is designed to match the requirements of the drawing type. For example, the connector shapes in flowchart-related stencils have arrowheads; the connector shapes in organization chart-related stencils do not. You can change the style or location of the arrowhead by applying line formatting to the connector. In some cases, you may need to adjust the direction of the connector shape. For example, you may draw a [connector](#) and find that the arrowhead is pointing at the wrong shape.



### To add or delete arrowheads for a

#### connector shape:

1. Select the connector.
2. From the Format menu, choose [Line](#).
3. In the Arrows section, change the appropriate settings.

To add an arrowhead to the beginning point, the ending point, or both, choose an arrowhead style from the Begin and End lists. To delete an arrowhead from the beginning or ending points, choose None from the Begin and End lists. To switch the arrowhead from one end to the other, choose None in the Begin list and choose an arrowhead style from the End list.

4. Click OK.

Alternatively, select the connector shape and click the Line Ends button. The button adds and deletes arrowheads from each end of the connector shape with each consecutive click.

### See also

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Connecting a series of shapes automatically

Connecting shapes quickly in a flowchart

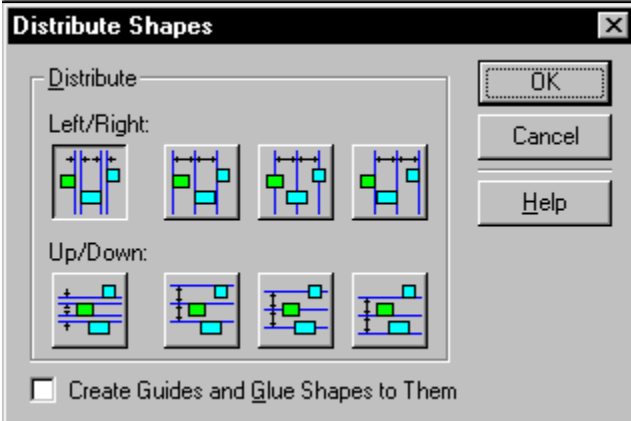
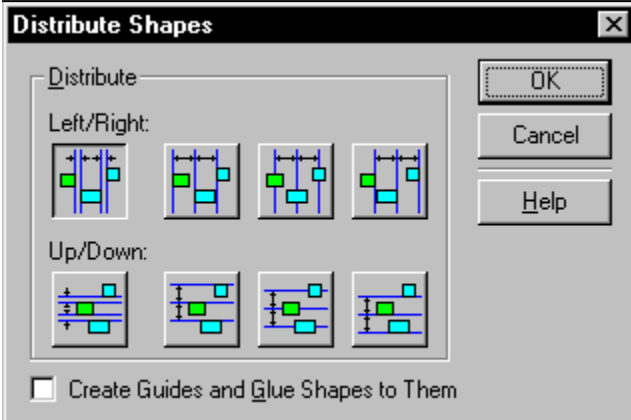
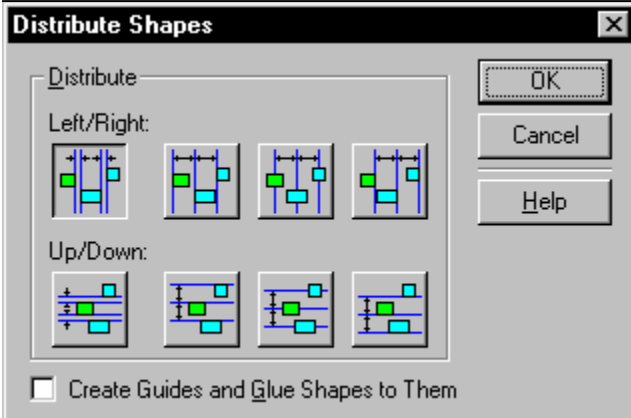
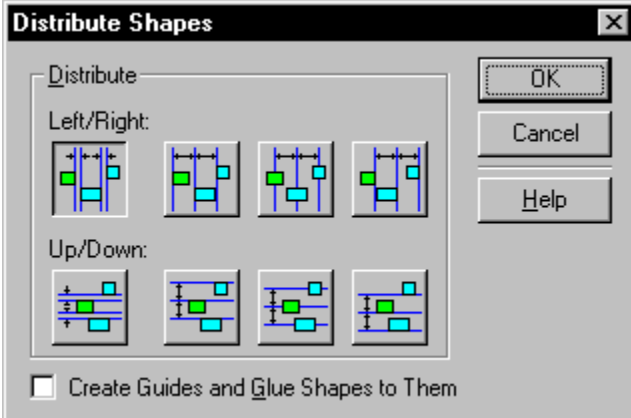
Dragging and dropping connector shapes

Quickly creating an organization chart and similar drawings

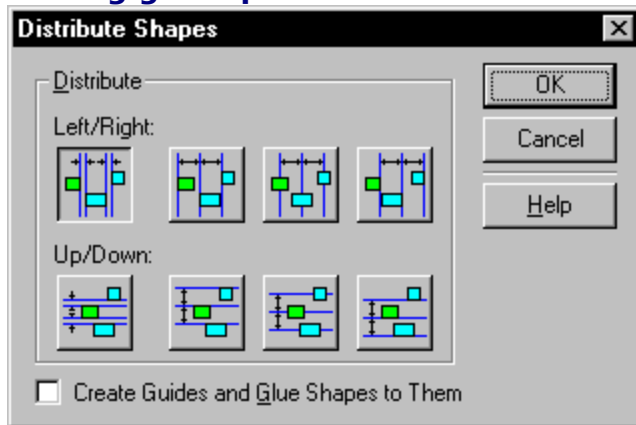
Using the connector tool to connect two shapes

## Setting glue options



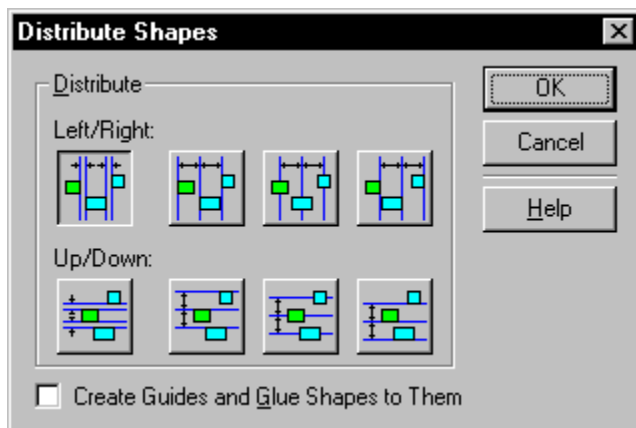


## Setting glue options



### [Overview](#)

Before you glue shapes, you may need to specify glue settings. Glue settings apply when you connect shapes by dragging and dropping and when you use the [stamp tool](#) to connect shapes. You do not need to set glue options to use the Connect Shapes command or the connector tool.



### To set glue options:

1. From the Tools menu, choose [Snap & Glue](#).
2. In the Currently Active section, check the Glue option.
3. In the Glue To section, check the options you want.

Check as many items as you want. If you want to glue the endpoints of 1-D shapes to the endpoints on other 1-D shapes, check either Shape Handles or Shape Vertices. If you want to glue to [selection handles](#) on shapes, [groups](#), and [objects](#) from other programs, choose Shape Handles.

4. Click OK.

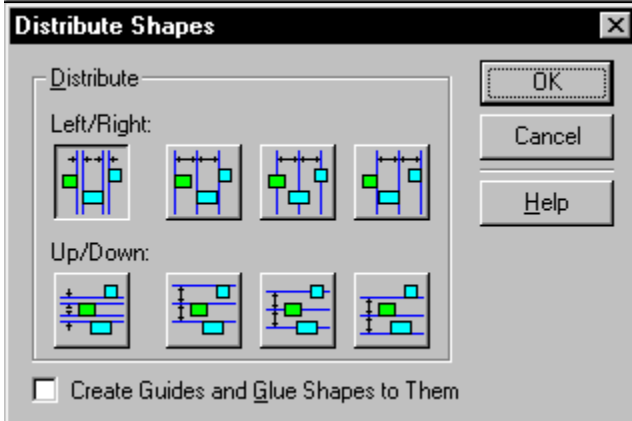
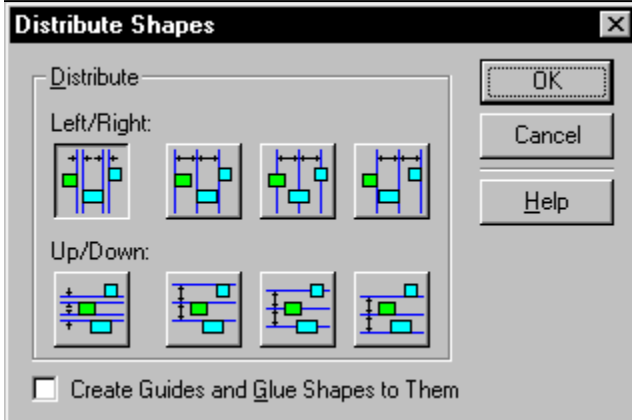
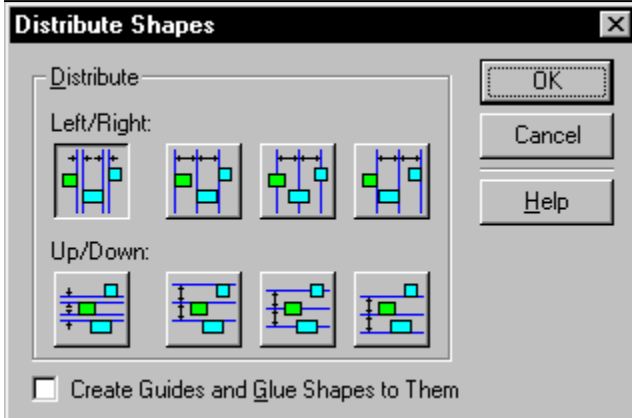
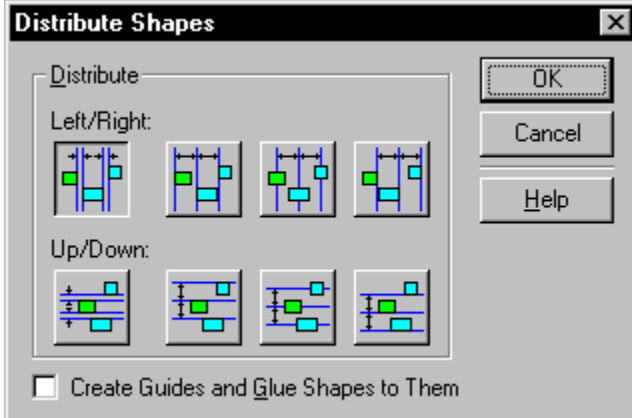
**Tip:** To glue to [guides](#), [handles](#), or [connection points](#), make sure these items are visible. If guides or connection points are not displayed, choose the [Guides](#) or the [Connection Points](#) command on the View menu. If selection handles are not displayed, from the Format menu, choose Smarts, then choose [Behavior](#); check Show Shape Handles in the Selection Highlighting section.

### See also

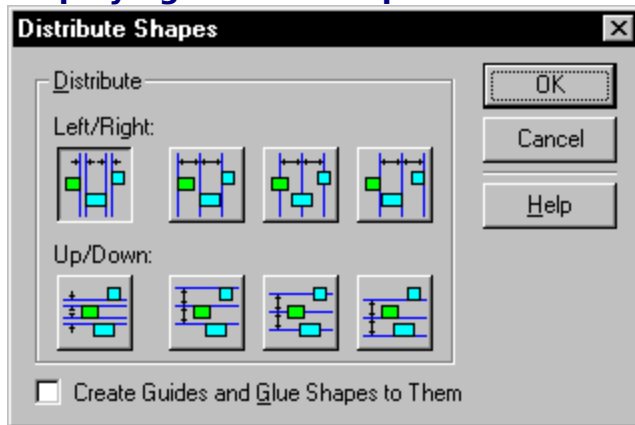
[Dragging and dropping master shapes](#)  
[Moving shapes after you glue them](#)

[Moving shapes by dragging](#)  
[Stamping master shapes](#)

## Displaying connection points

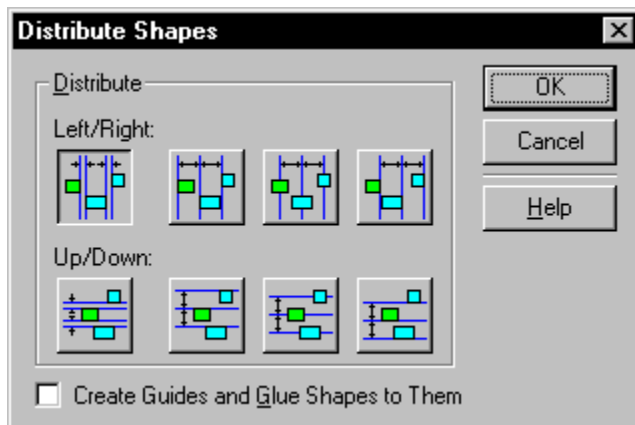


## Displaying connection points



[Overview](#)

Connection points appear on shapes as blue Xs. A connection point can be on the perimeter of a shape, inside a shape, or even outside a shape.



**To display connection points:**

1. From the View menu, choose [Connection Points](#).

When the command is checked, the item is visible.

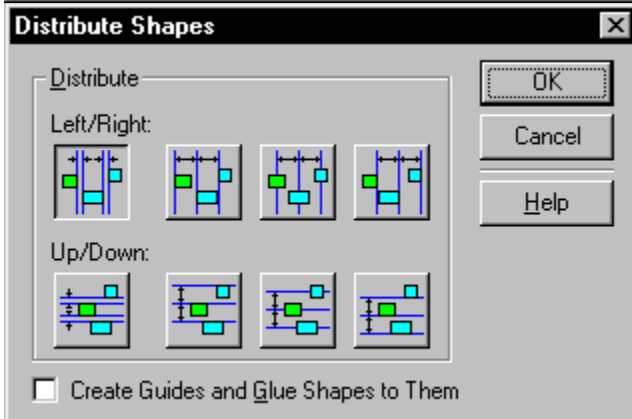
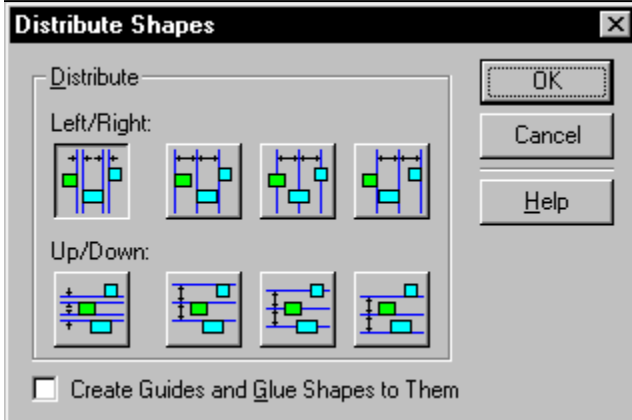
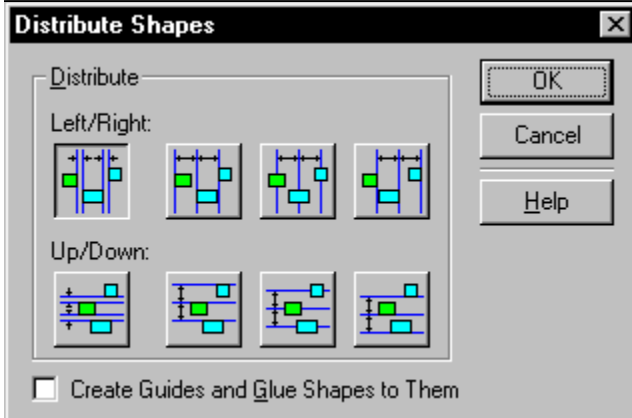
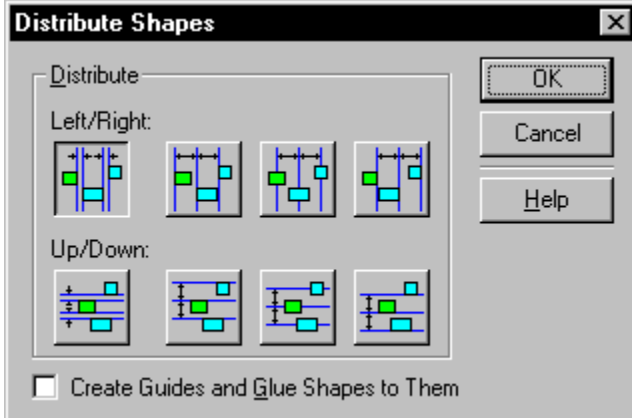
**Note:** Connection points do not print.

### See also

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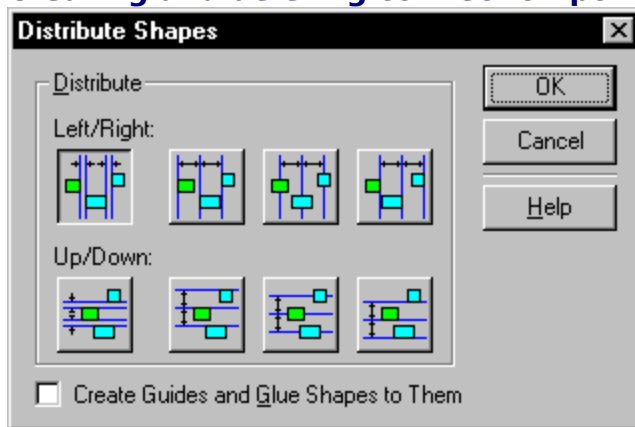
[Creating and deleting connection points](#)  
[Dragging and dropping connector shapes](#)  
[Dragging and dropping master shapes](#)  
[Moving shapes by dragging](#)  
[Setting display options](#)

## **Creating and deleting connection points**



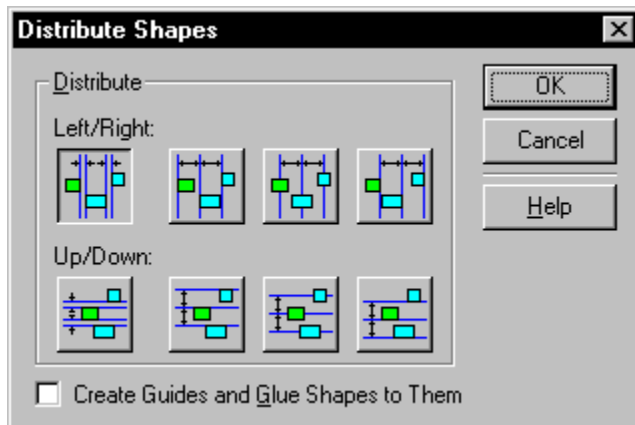


## Creating and deleting connection points



[Overview](#)

When you glue something to a shape's vertex or selection handle, Visio creates a connection point. You can also create connection points at other locations on a shape or even outside a shape's boundaries. If you don't need a connection point, you can delete it.

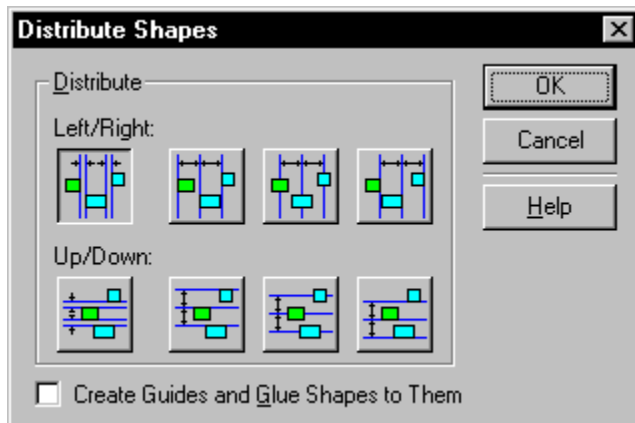


**To add a new connection point to a**

**shape:**

1. Select the shape.
2. From the connection tool menu, choose the connection point tool.
3. Hold down the Ctrl key and click where you want to add the connection point.

You can click on, inside, or outside the shape's perimeter. Visio adds an X to that location to show the new connection point.



**To delete a connection point from a**

**shape:**

1. From the connection tool menu, choose the [connection point tool](#).
2. Select the connection point you want to delete.  
It turns magenta when it's selected.
3. From the Edit menu, choose [Clear](#), or press the Delete key.

**See also**

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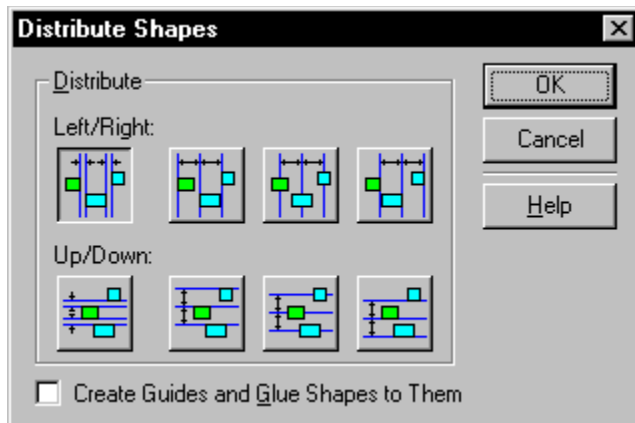
[Connecting a series of shapes automatically](#)

[Connection point section](#)

[Displaying connection points](#)



## Understanding local formatting and styles



### [Related procedures](#)

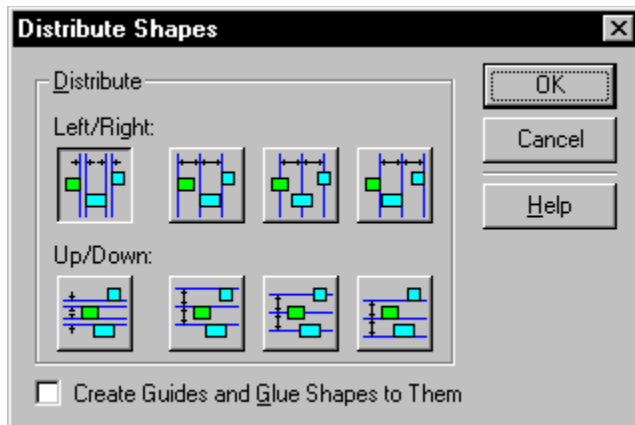
There are two ways to change the look of a shape: local formatting and styles. Local formatting means applying individual attributes such as line width, fill color, and font size to a shape. Local formatting is most useful when you want to give a unique look to one or just a few shapes. Styles are combinations of formatting attributes; they are most useful when you want to apply more than one attribute at a time, or to give many or all shapes a consistent look.

You can change the following attributes:

- Line pattern (solid, dashed, or none), line weight, and line color.
- Line ends (arrowheads, dots, or boxes) and line caps (rounded or square).
- Corners (to make them more or less rounded).
- Fill color and pattern.
- Shadow color, pattern, and location.
- Text font, size, color, position, case, style (bold, italic), alignment, indentation, spacing, margins, and background color of the [text block](#).

**Tip:** You can apply the formatting of one shape to another by selecting the shape you like, clicking the [Format Painter](#) on the toolbar, then selecting the shape you want to format.

## Applying formats to shapes



[Related procedures](#)

To [format](#) shapes, select the shape or shapes you want to format, then choose the command you need. You can also use buttons on the [toolbar](#) to format shapes. To apply the formatting of one shape to another, you can use the Format Painter button on the toolbar.

### Menu commands

When applying local formatting, choose commands from the Format menu:

- [Line](#)
- [Corners](#)
- [Fill](#)
- [Shadow](#)
- [Font, Paragraph, Tabs, or Text Block](#)

You can format more than one shape at a time.

To:	Do this:
Format all the shapes in a <a href="#">group</a>	Select the group, then the <a href="#">style</a> or <a href="#">attribute</a> .
Format several shapes at once	Select all the shapes, then the style or attribute.
Apply the formatting of one shape to another	Select the shape you like, click the <a href="#">Format Painter</a> on the toolbar, then select the shape you want to format.
Quickly repeat formatting	Format one shape, select other shapes, then press F4.

To see the effects of the formatting in greater detail, you can [zoom](#) in on the drawing, print the page, or change display options.

Changing line color, weight, and pattern

Changing the shadow offset

Choosing a color palette

Copying and applying shape formatting

Creating a transparent shape

Creating dashed lines

Creating line ends

Creating patterned fills and shadows

Creating round corners

Formatting fills and shadows

Removing shape borders

Choose the Line command to format line ends, line caps, corners, and line weight, color, and pattern.

Choose the Corners command to format corner rounding.

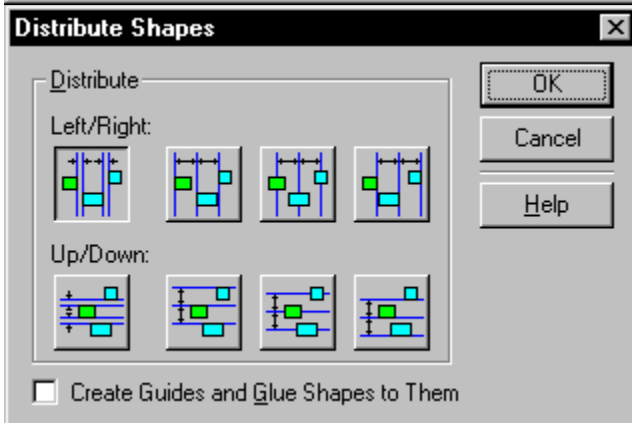
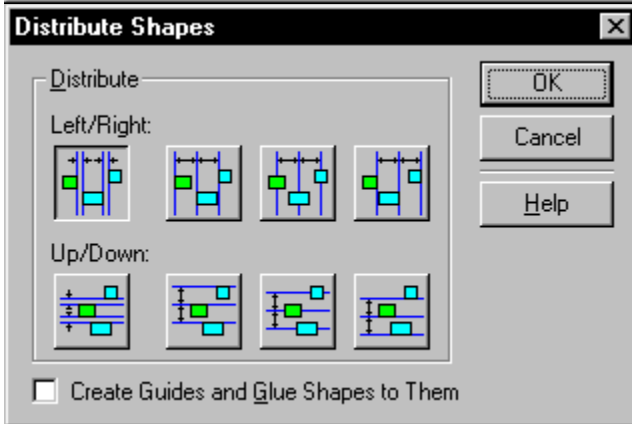
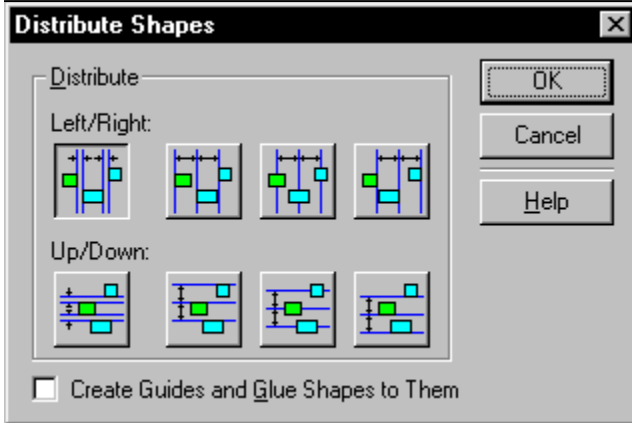
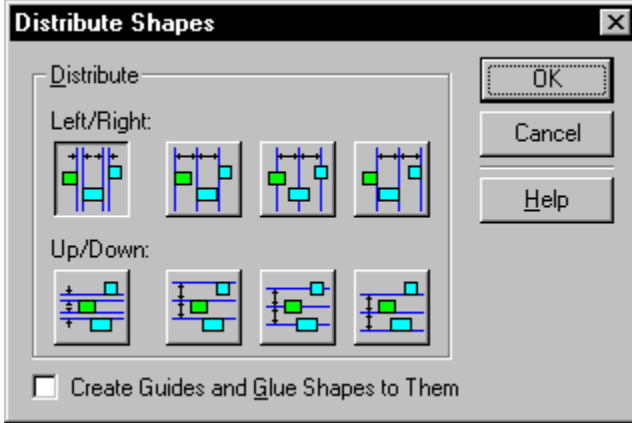


Choose the Fill command to format a shape's fill color and pattern and to apply shadows to shapes.

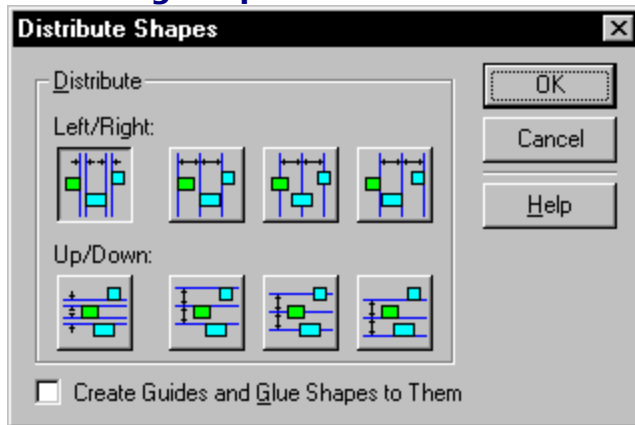
Choose the Shadow command to format the color and pattern for a shape's shadow.

Choose one of the text formatting commands to format a shape's text, including font, font size, paragraph alignment, and tabs.

## Removing shape borders

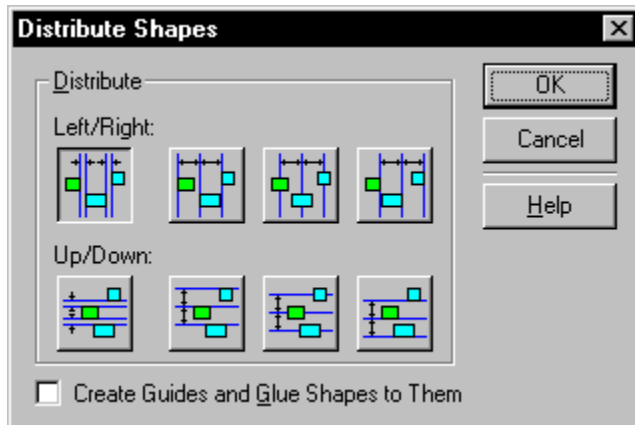


## Removing shape borders



[Overview](#)

You can remove the border on a shape to make the outline of the shape invisible.



**To remove shape borders:**

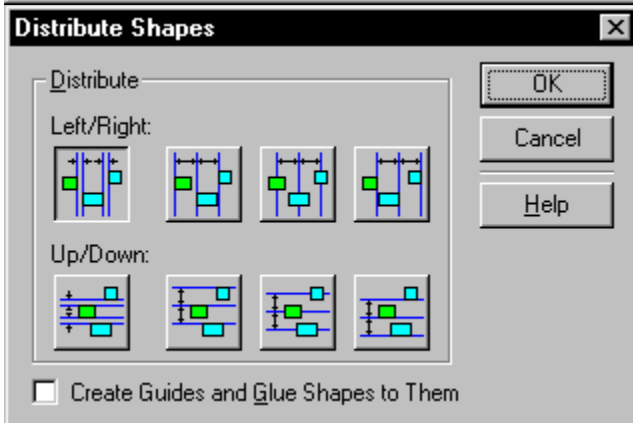
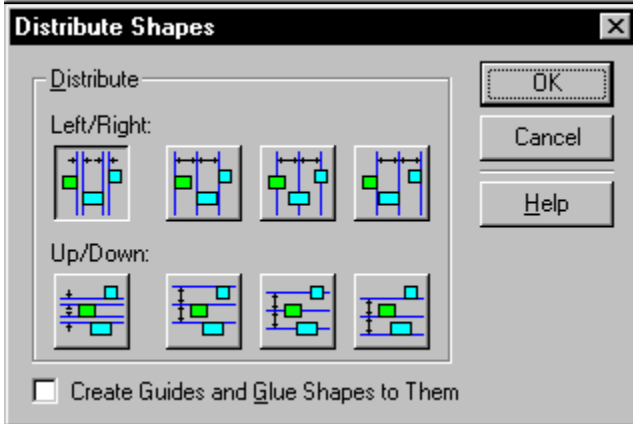
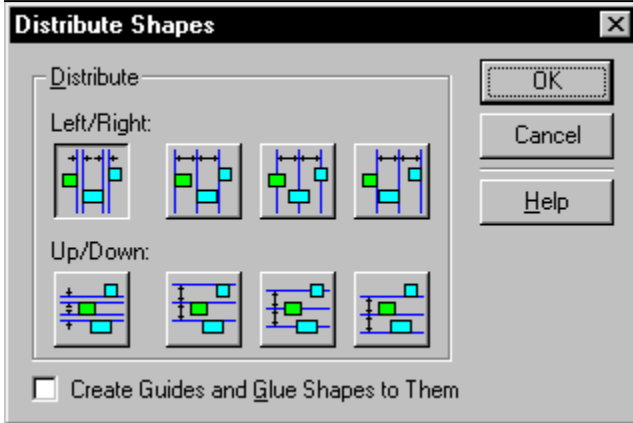
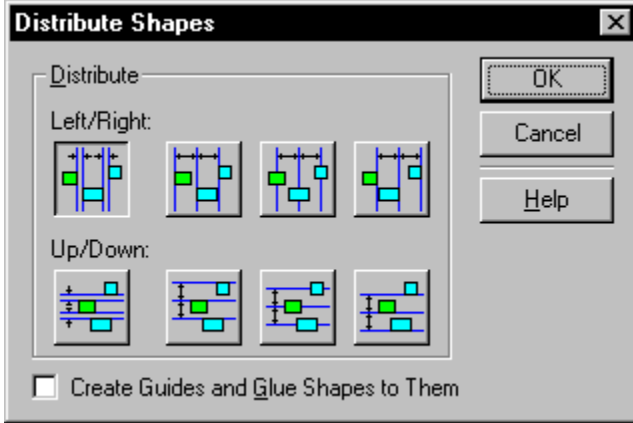
1. Select the shape.
2. From the Format menu, choose [Line](#).
3. In the Line section, choose None from the Pattern list.
4. Click Apply to apply the formatting and view the change before closing the dialog box, or click OK to apply the formatting and close the dialog box.

### See also

[Changing line color, weight, and pattern](#)

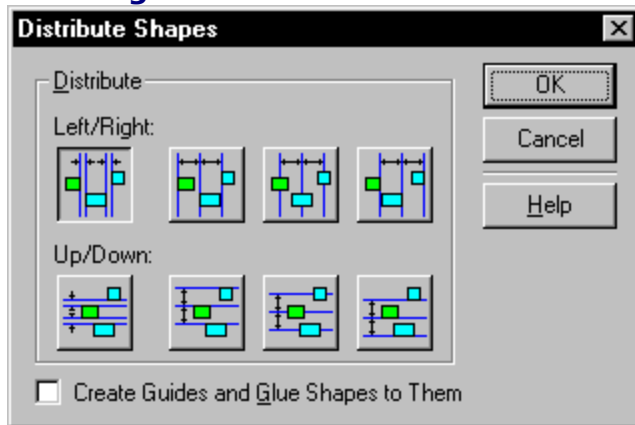
[Creating a transparent shape](#)

## Creating dashed lines

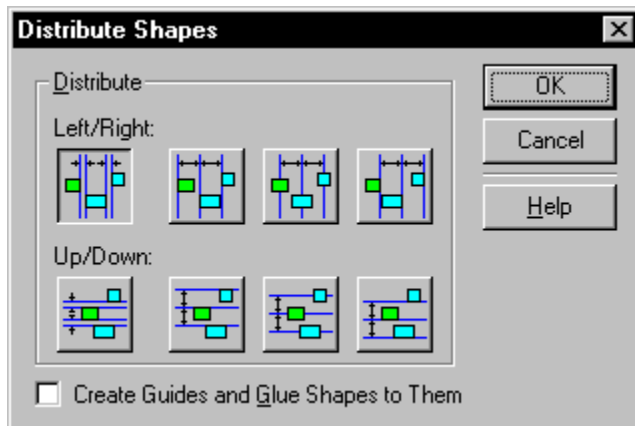




## Creating dashed lines



[Overview](#)



**To apply a dashed-line pattern:**

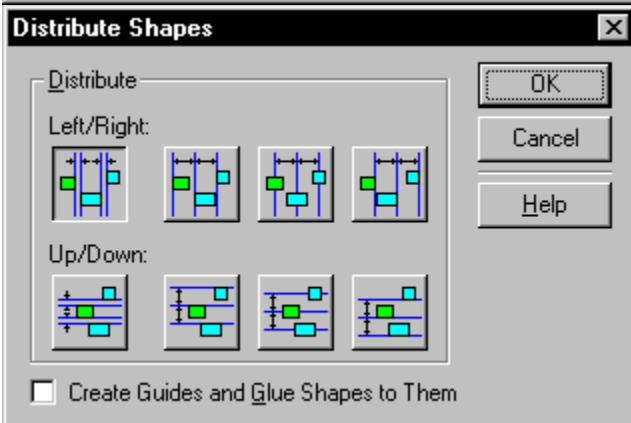
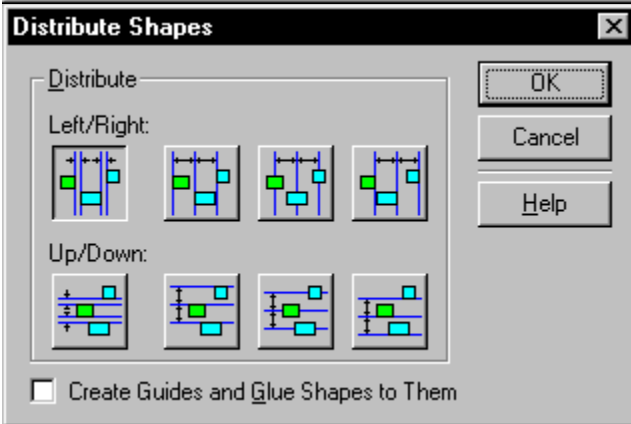
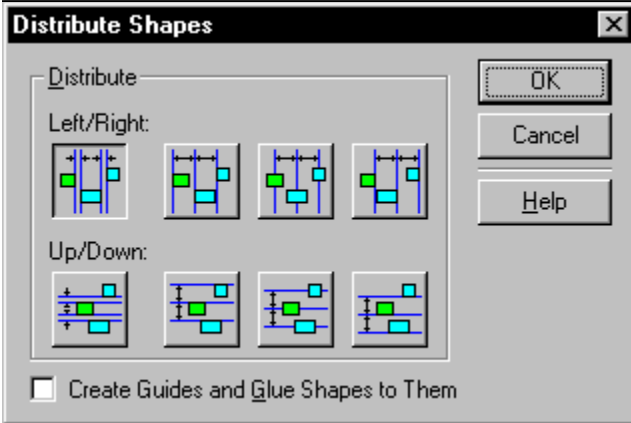
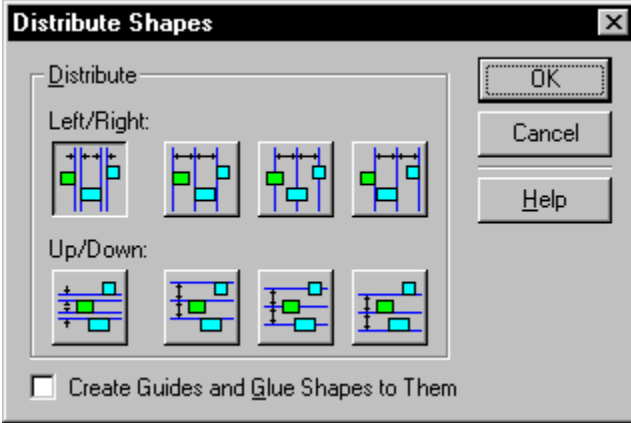
1. Select the shape.
2. From the Format menu, choose [Line](#).
3. In the Line section, choose a dashed-line pattern from the Pattern list.
4. Click Apply to apply the formatting and view the change before closing the dialog box, or click OK to apply the formatting and close the dialog box.

### See also

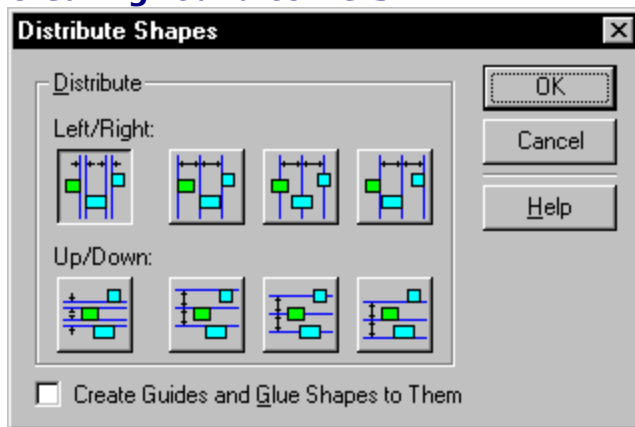
[Changing line color, weight, and pattern](#)

[Creating line ends](#)

**Creating round corners**

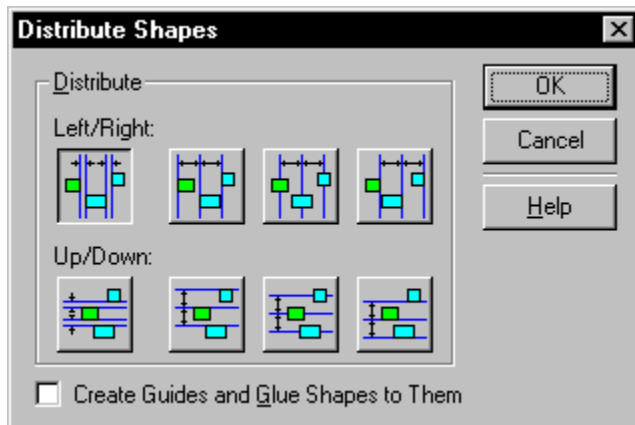


## Creating round corners



### [Overview](#)

To round the corners where two [segments](#) meet, choose a setting in the Corners dialog box or from the Round Corners section in the Line dialog box. You can also enter a value to specify corner roundness.



### To change corner roundness:

1. Select the shape.
2. From the Format menu, choose [Corners](#).
3. In the Round Corners section, choose an option, or type a value in the Rounding box to specify corner roundness.
4. Click OK.

You can also change the roundness of corners by using the [Line](#) command or the Corner Roundings button on the toolbar.

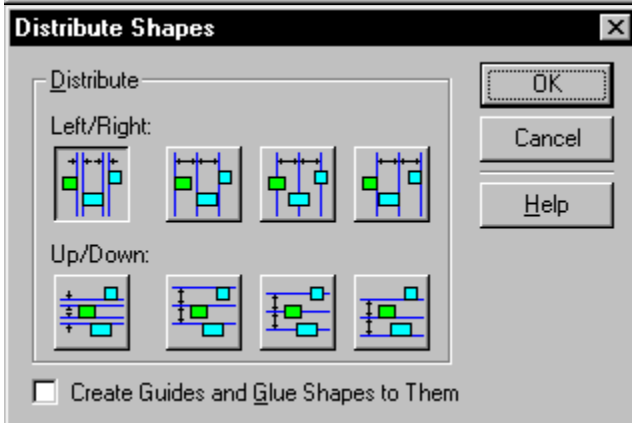
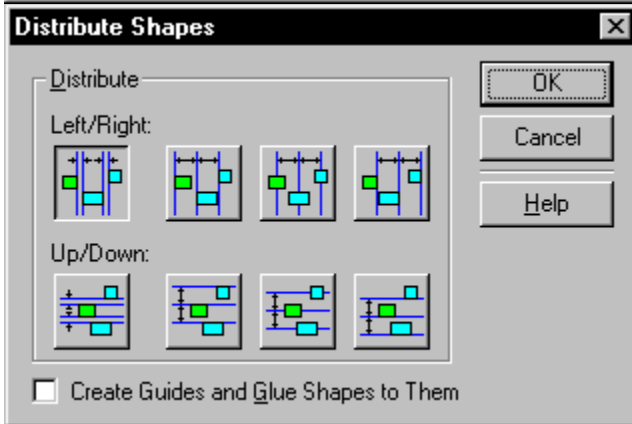
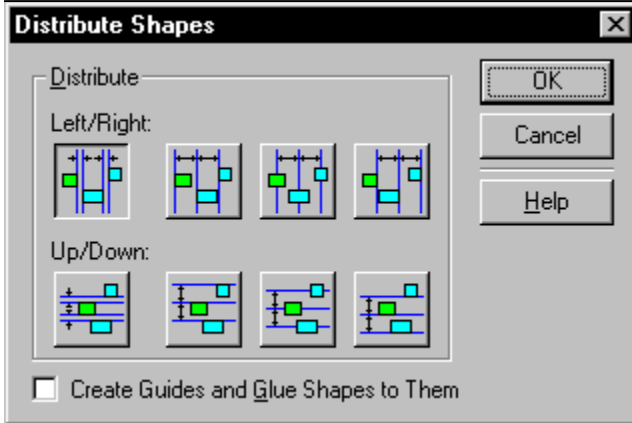
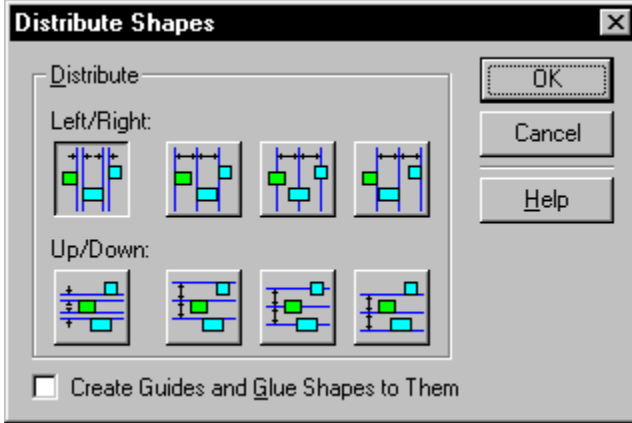
**Note:** If you combine, fragment, intersect, subtract, or unite shapes, round corners are replaced by elliptical arcs.

### See also

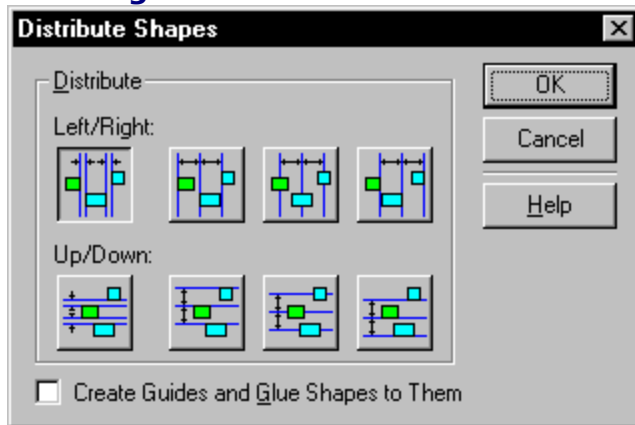
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[Changing line color, weight, and pattern](#)  
[Creating dashed lines](#)  
[Creating patterned fills and shadows](#)  
[Formatting fills and shadows](#)

## Creating line ends

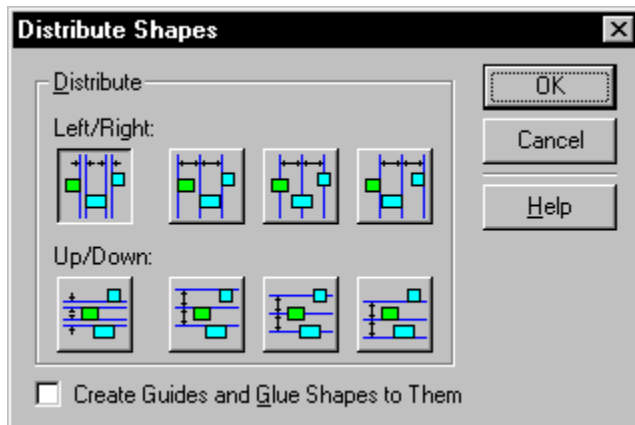


## Creating line ends



[Overview](#)

By applying line ends, you can turn any line or other open shape into an arrow. You can apply an arrowhead or other line end to the beginning point, the ending point, or both endpoints of a shape. You can also choose options for the size of line ends.



**To apply a line end to a shape:**

1. Select the shape.
2. From the Format menu, choose [Line](#).
3. In the Line Ends section, choose line end options:  
In the Begin box, choose a line end for the beginning point.  
In the End box, choose a line end for the ending point.  
In the Size box, choose an option for the size of the line ends.
4. Click Apply to apply the line ends and view the change before closing the dialog box, or click OK to apply the line ends and close the dialog box.

You can also use the Line Ends button on the toolbar.

### See also

[Changing line color, weight, and pattern](#)

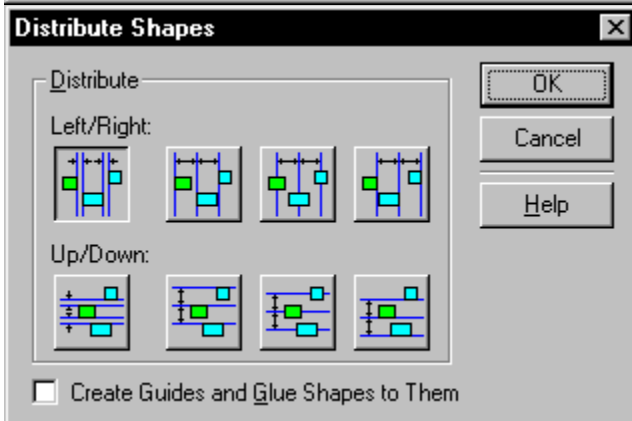
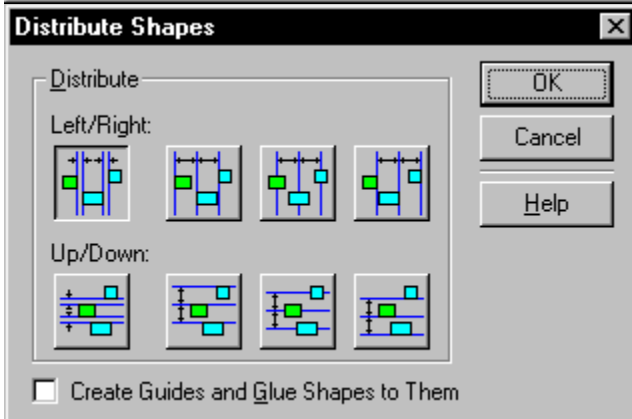
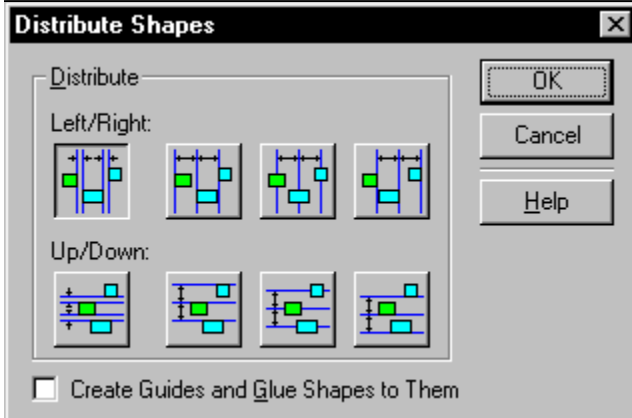
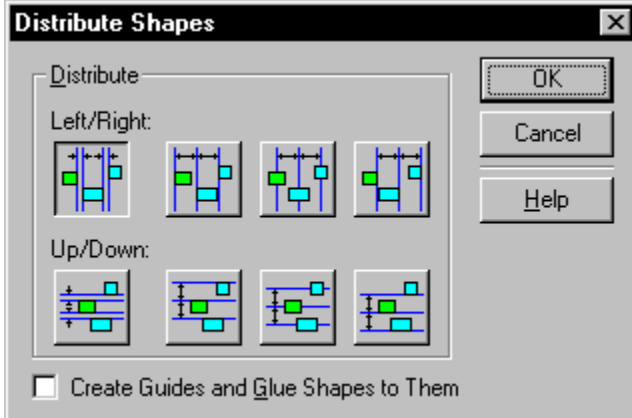
[Creating dashed lines](#)

[Creating round corners](#)

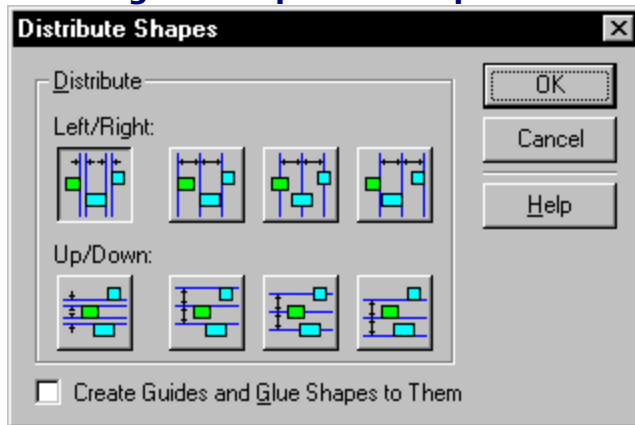
[Removing shape borders](#)

## Creating a transparent shape

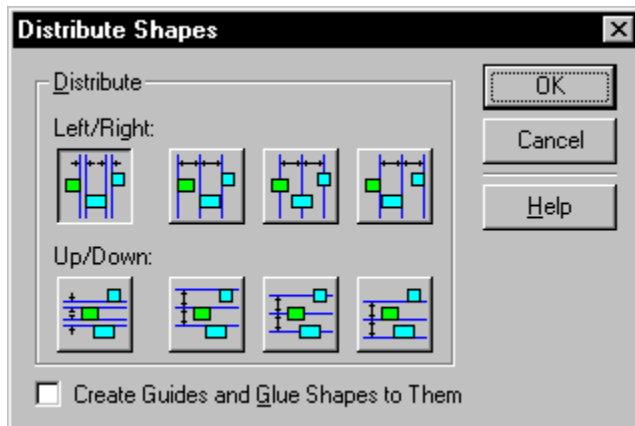




## Creating a transparent shape



[Overview](#)



**To create a transparent shape:**

1. Select the shape.
2. From the Format menu, choose [Fill](#).
3. In the Fill section, choose None from the Pattern list.
4. Click Apply to view the change before closing the dialog box, or click OK to change the pattern and close the dialog box.

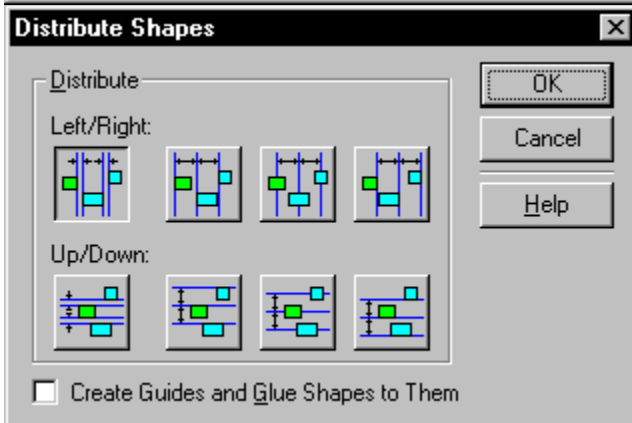
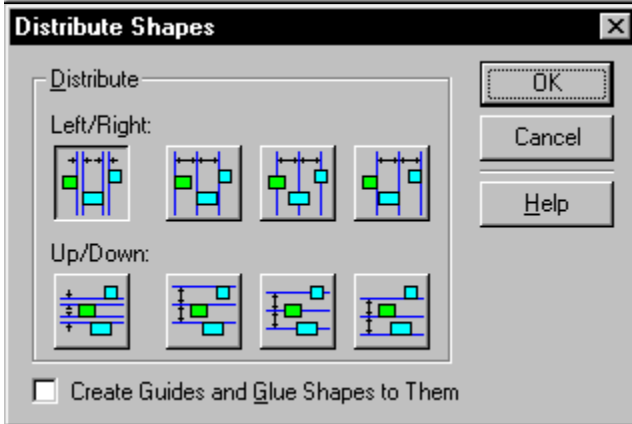
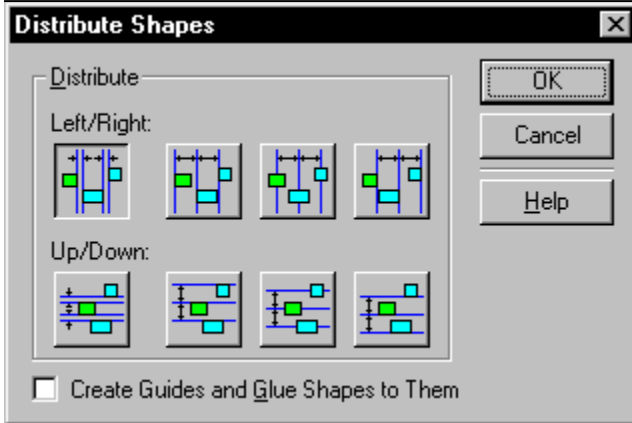
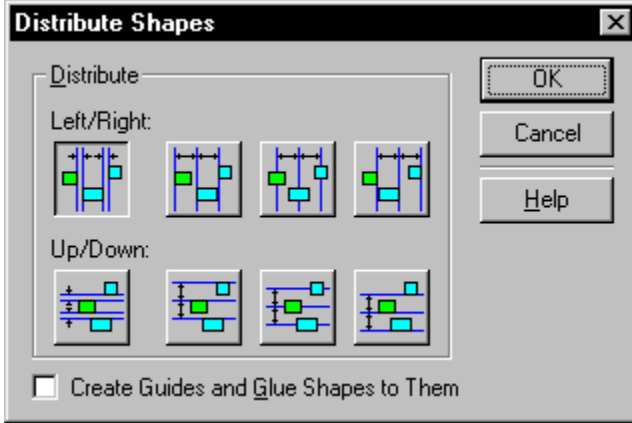
**Tip:** To hide a shape completely, create a transparent shape, then choose None from the Pattern list in the Line dialog box. You can also create shapes with transparent holes by using the [Combine](#) command. To temporarily hide a shape, assign the shape to a layer, then make the layer invisible in the [Layer Properties](#) dialog box.

### See also

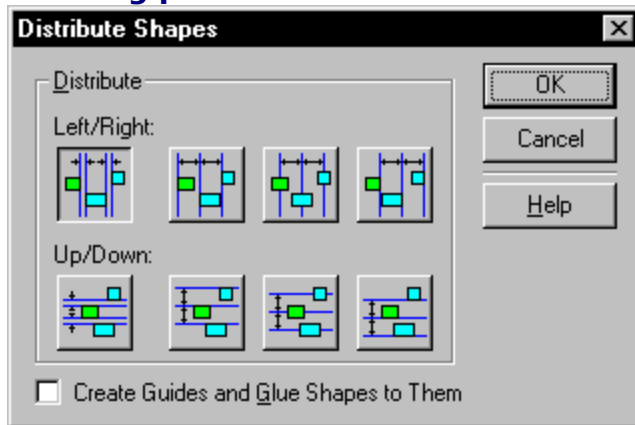
[Removing shape borders](#)

[Viewing layers](#)

## Creating patterned fills and shadows

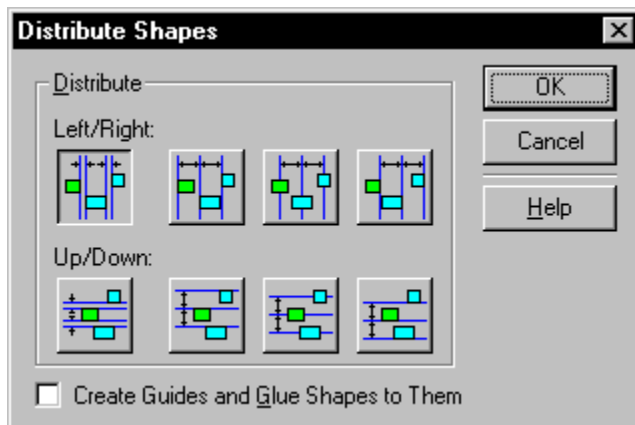


## Creating patterned fills and shadows



[Overview](#)

You can apply a patterned fill or shadow to a shape and specify the color for the foreground and background of the pattern.



**To create a patterned fill or shadow:**

1. Select the shape.
2. From the Format menu, choose [Fill](#).
3. From the Pattern list for fills or shadows, choose a pattern other than 0 or 1.
4. From the Foreground list, choose a color for the detail in the pattern.
5. From the Background list, choose a color for the pattern background.
6. To format shadows, choose options from the Shadow section.
7. Click OK.

### See also

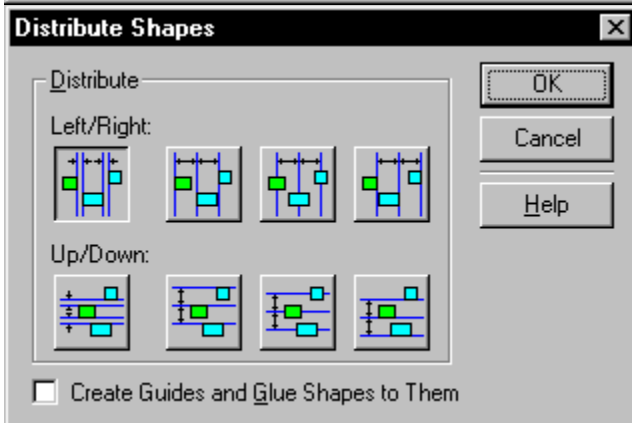
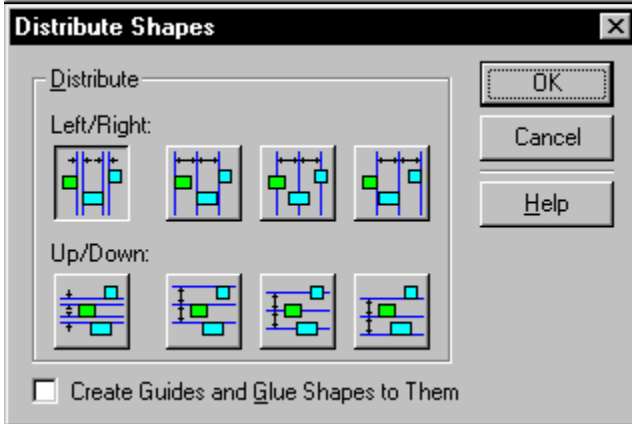
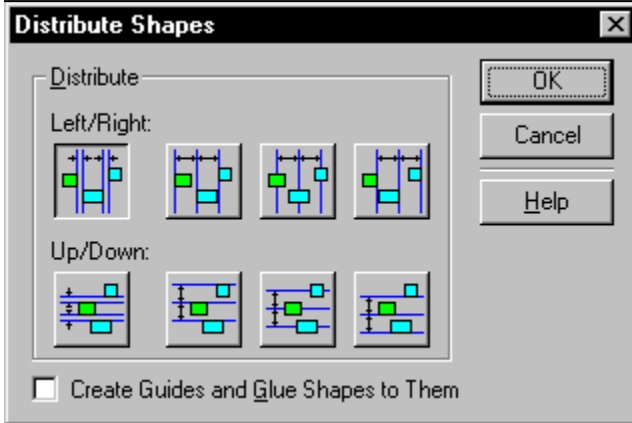
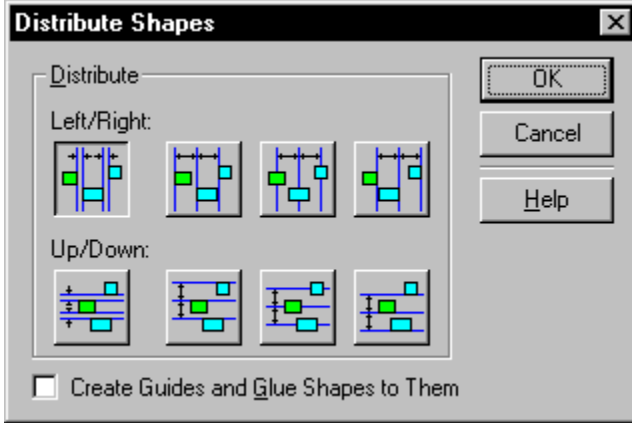
[Changing line color, weight, and pattern](#)

[Changing the shadow offset](#)

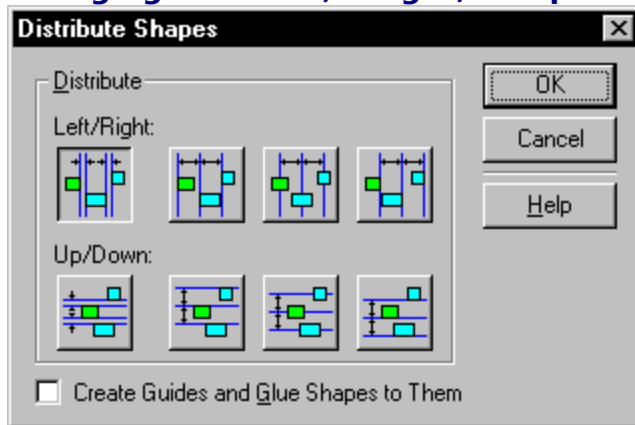
[Choosing a color palette](#)

[Formatting fills and shadows](#)

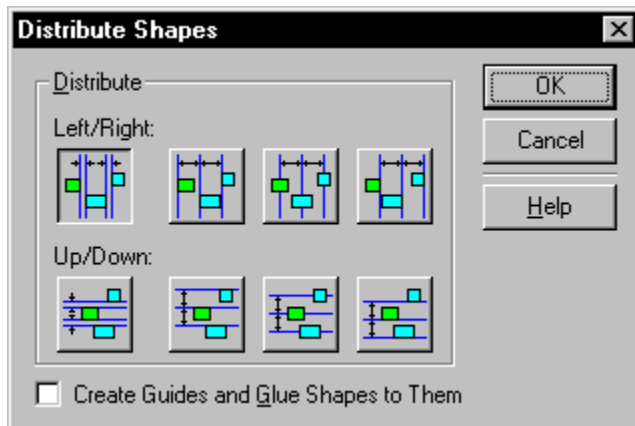
## **Changing line color, weight, and pattern**



## Changing line color, weight, and pattern



[Overview](#)



To change line color, weight, and

### pattern:

1. Select the shape.
2. From the Format menu, choose [Line](#).
3. In the Line section, choose options from the Pattern, Weight, and Color lists.
4. Click Apply to view the change before closing the dialog box, or click OK to apply the formatting and close the dialog box.

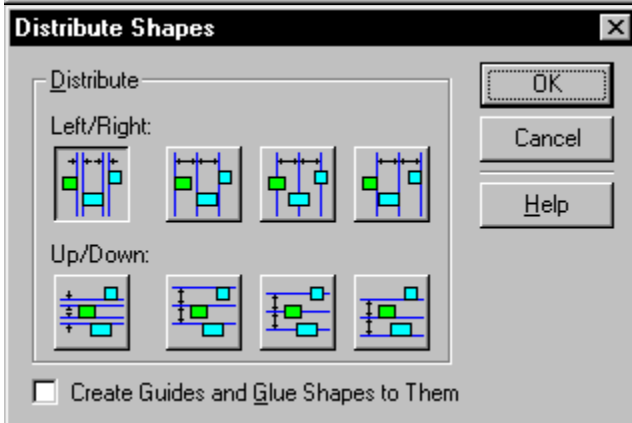
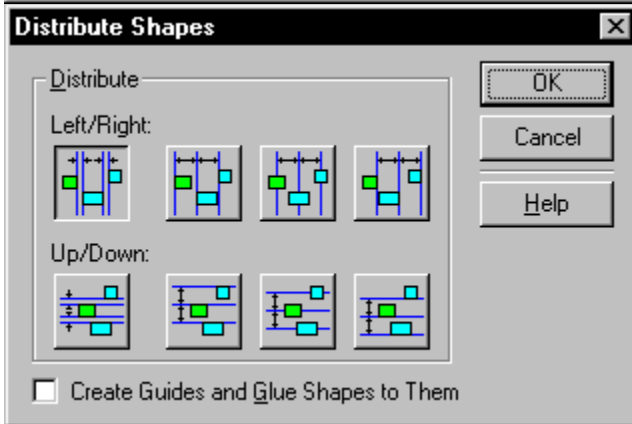
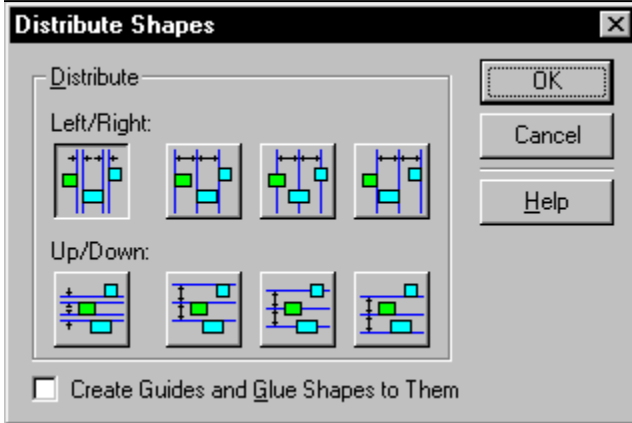
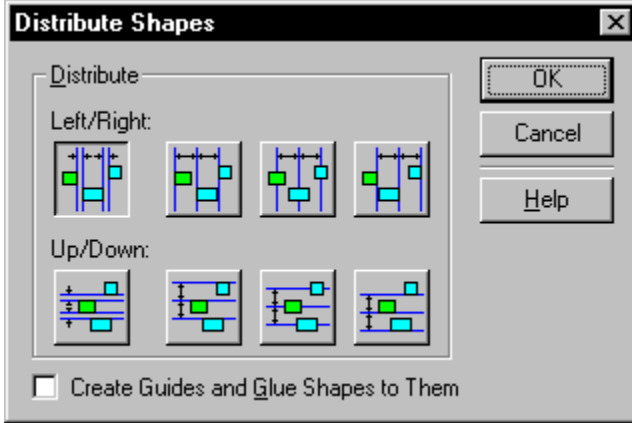
### See also

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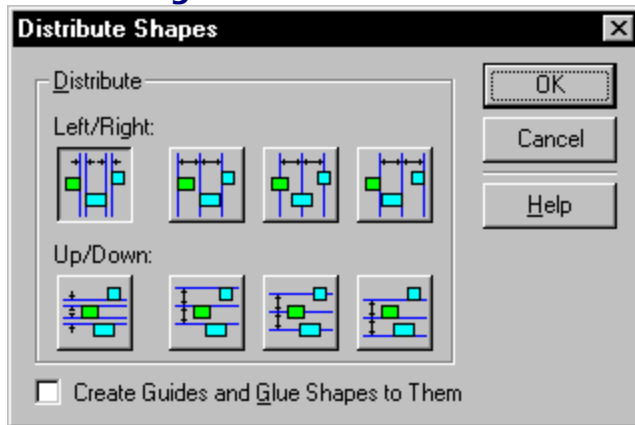
[Creating dashed lines](#)  
[Creating round corners](#)  
[Removing shape borders](#)



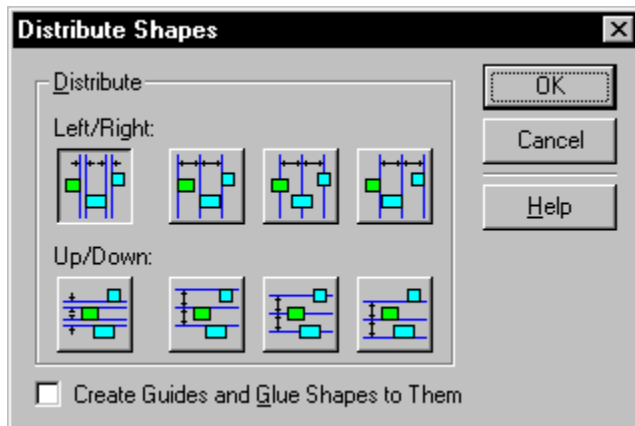
## **Formatting fills and shadows**



## Formatting fills and shadows

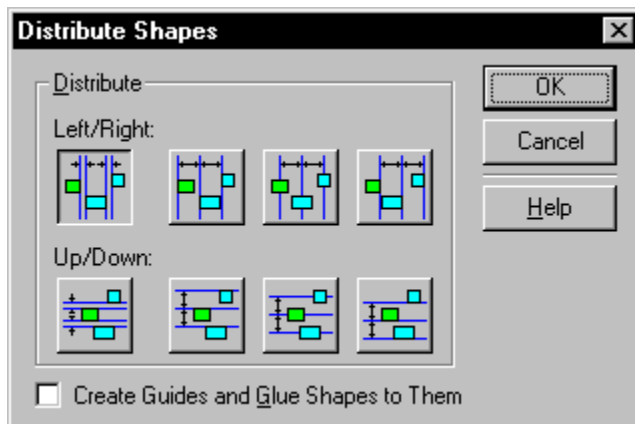


[Overview](#)



**To apply a fill and shadow:**

1. Select the shape.
2. From the Format menu, choose [Fill](#).
3. In the Fill section, choose options from the Pattern, Foreground, and Background lists.
4. In the Shadow section, choose options from the Pattern, Foreground, and Background lists.
5. Click OK.



**To apply just a shadow:**

1. Select the shape.
2. From the Format menu, choose [Shadow](#).

You can also use the Shadow button.

3. In the Shadow section, choose options from the Pattern, Foreground, and Background lists.
4. Click OK.

**Tip:** To delete a shadow, choose None from the shadow pattern list.

### **See also**

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[Choosing a color palette](#)

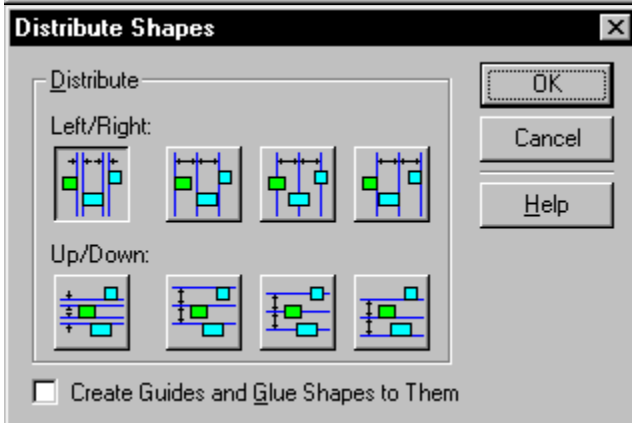
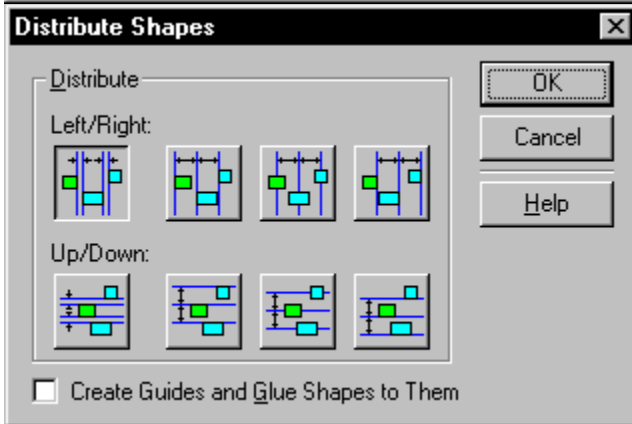
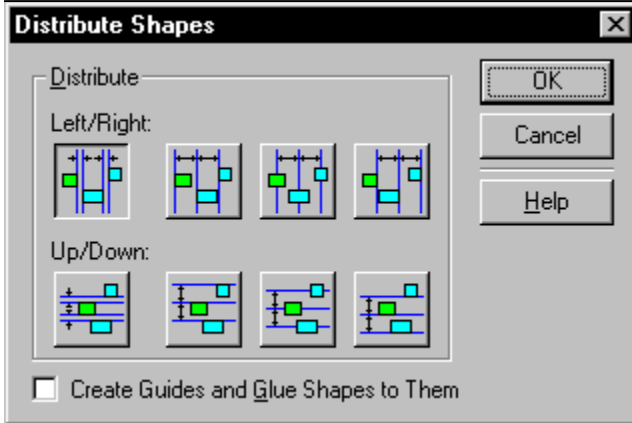
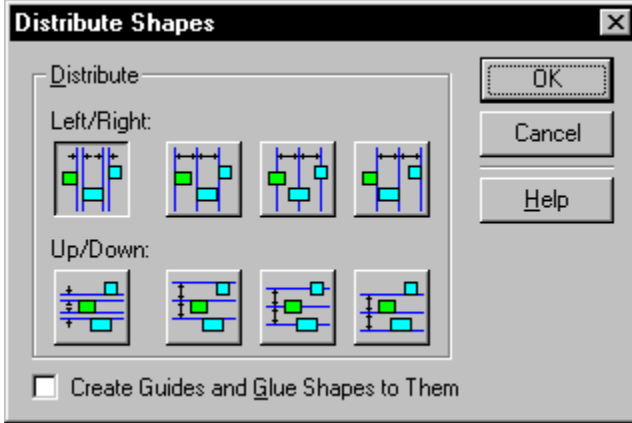
[Creating a transparent shape](#)

[Creating dashed lines](#)

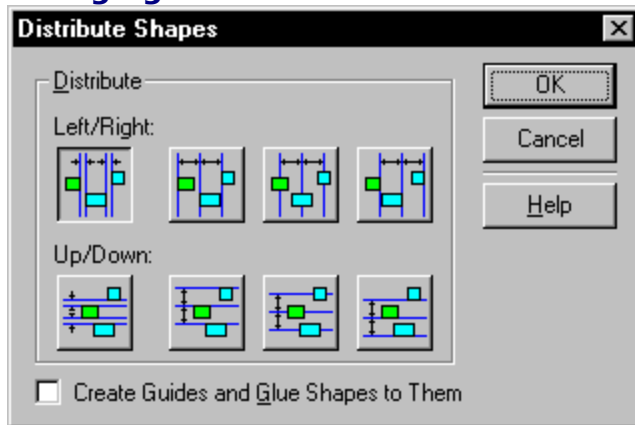
[Creating line ends](#)

[Creating patterned fills and shadows](#)

## Changing the shadow offset

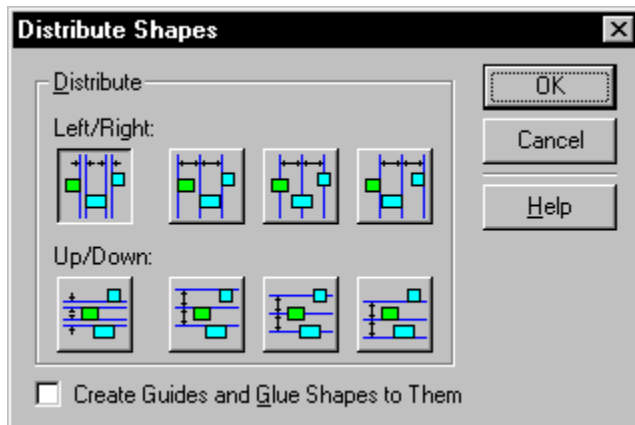


## Changing the shadow offset



[Overview](#)

Shadows on shapes can be a different color and pattern, but all shadows on the same page are offset from their shapes by the same distance. You can change the size and angle of the shadow offset for all the shapes on a page.



**To change the shadow offset for a**

**page:**

1. From the Edit menu, choose Drawing Page, then choose [Properties](#).
2. In the Shape Shadow Offset section, type values for the shadow offset in the Right and Down boxes.  
To move shadows to the left or top of shapes, use negative values.
3. Click OK.

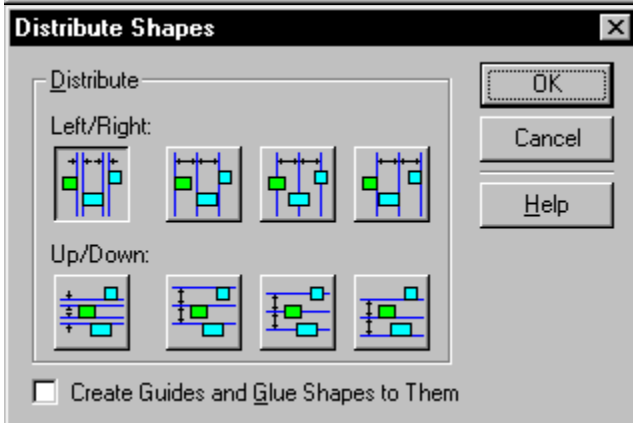
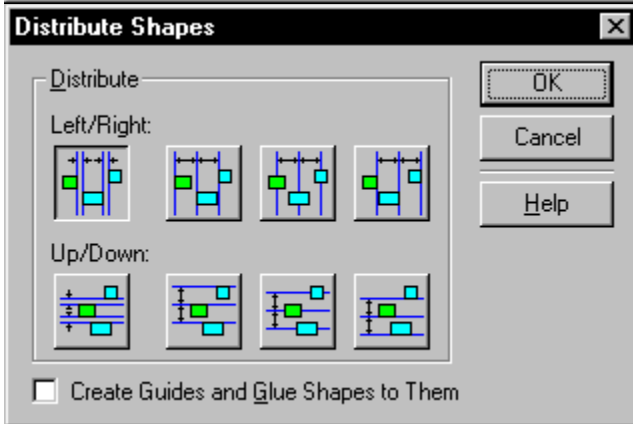
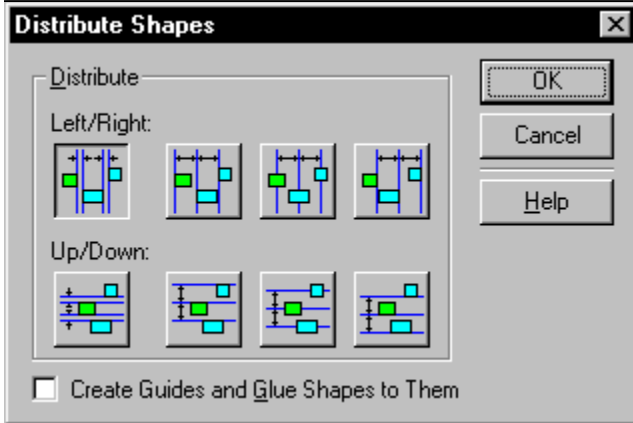
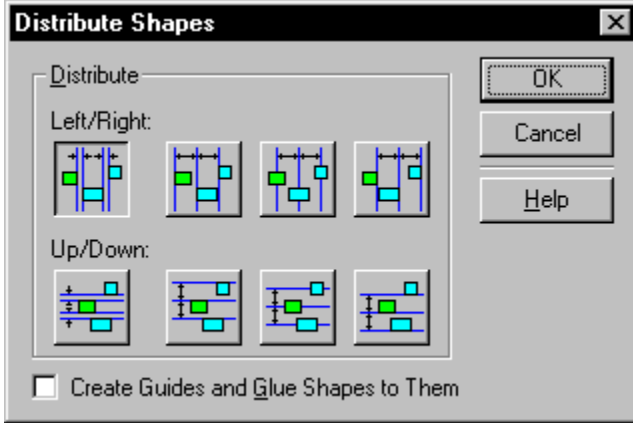
### **See also**

[Creating patterned fills and shadows](#)

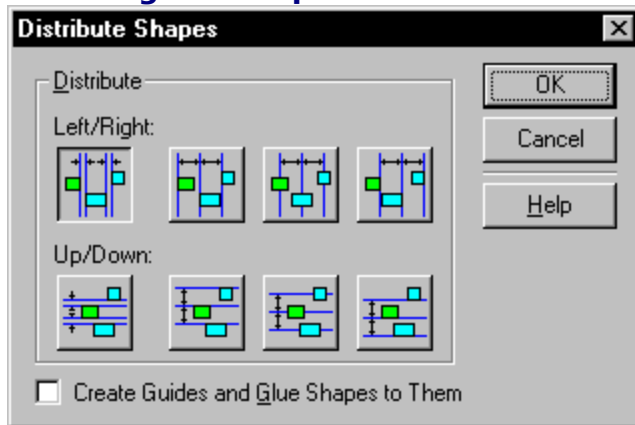
[Formatting fills and shadows](#)

## Choosing a color palette



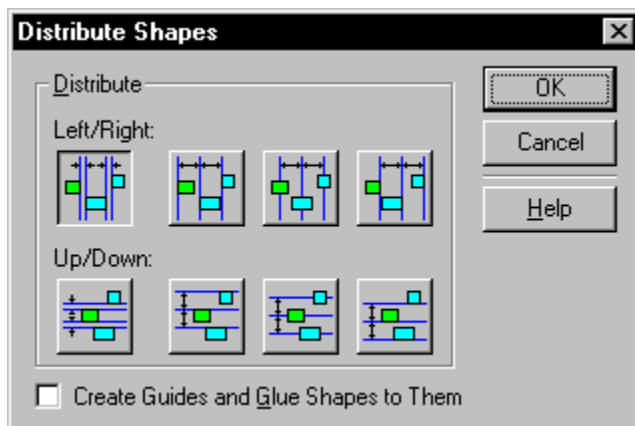


## Choosing a color palette



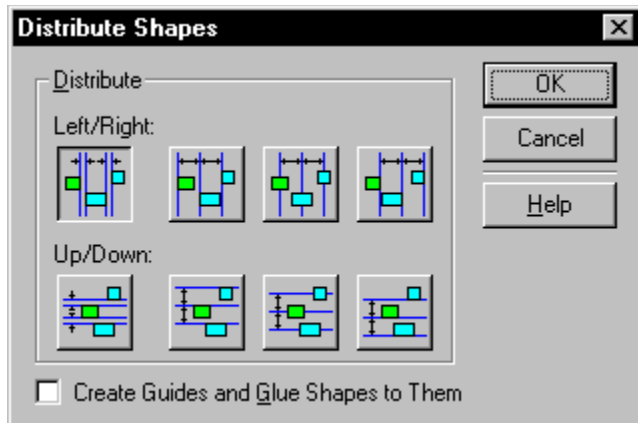
### [Overview](#)

The [templates](#) provided with Visio use the Windows default color palette. You can choose a different color palette for a template or a drawing file by choosing another color palette provided with Visio or by copying a color palette from another file. You can also create a custom color palette or modify an existing one.



### **To choose a color palette:**

1. Open the file with the color palette you want to use.
2. From the Tools menu, choose [Color Palette](#).
3. From the Copy Colors From list, choose one of the listed color palettes or a filename.  
Choosing a filename copies the color palette for that file to the current drawing. Only the names of open files appear in the list.
4. Click OK.



**To create a custom color palette:**

1. From the Tools menu, choose [Color Palette](#).
2. From the list of colors, choose the color you want to change.
3. Choose Edit.  
The Color dialog box appears.
4. In the Color dialog box, edit the color.
5. Click OK.
6. In the Color Palette dialog box, click OK.

For details about editing colors, see the Windows documentation.

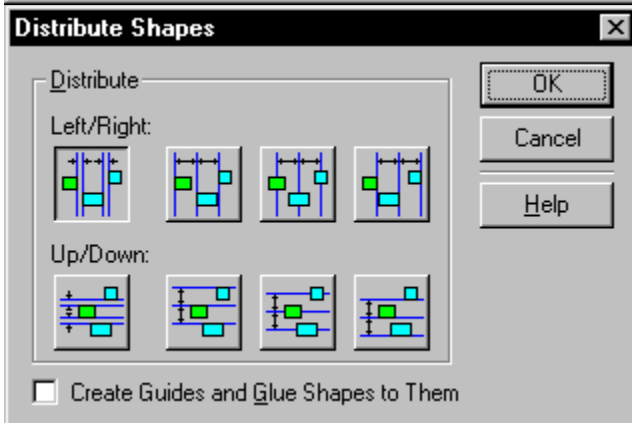
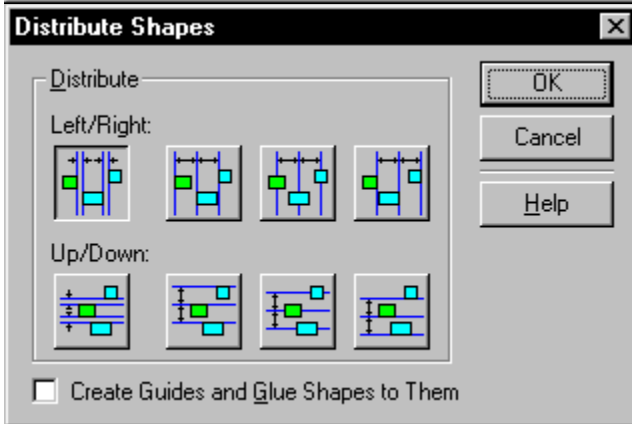
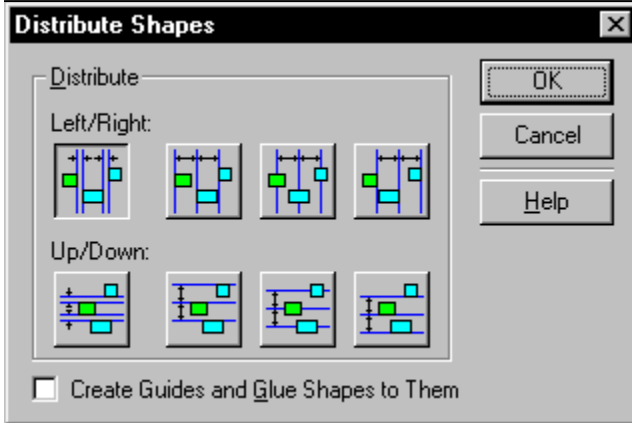
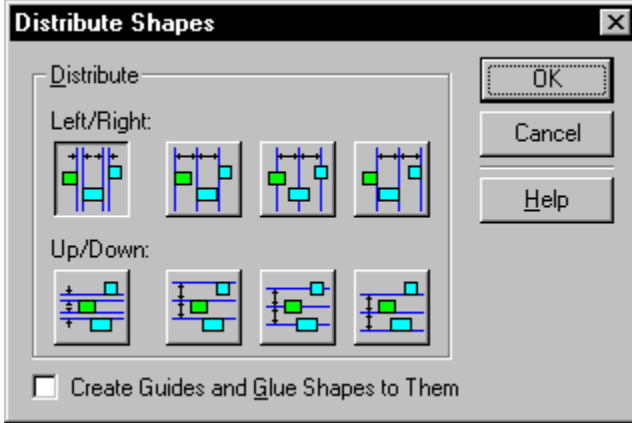
**Note:** When you edit a color in a color palette, shapes formatted with that color change to reflect the new color.

**See also**

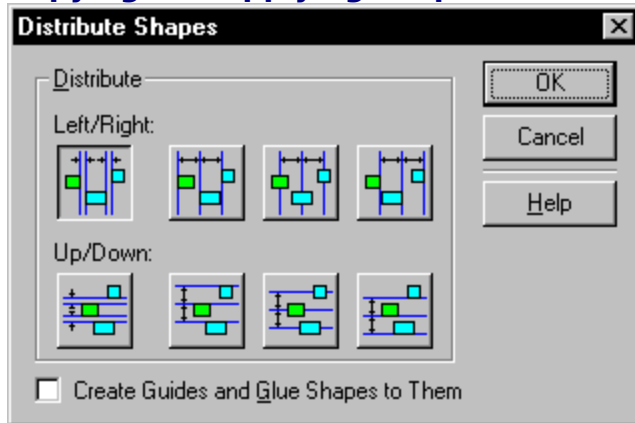
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[Changing line color, weight, and pattern](#)  
[Creating patterned fills and shadows](#)  
[Formatting fills and shadows](#)

## **Copying and applying shape formatting**

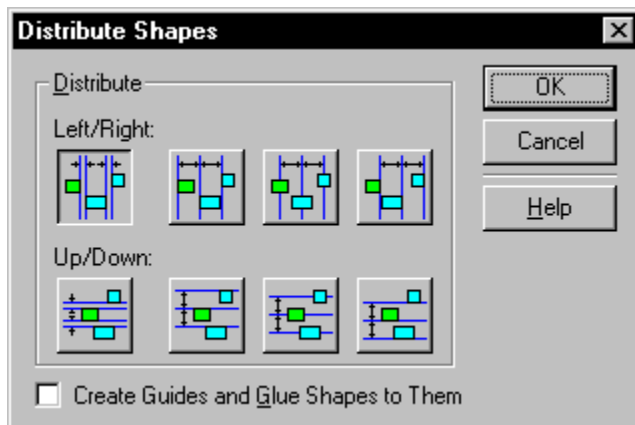


## Copying and applying shape formatting



[Overview](#)

If you're pleased with the formatting of a particular shape, you can quickly transfer the formatting (such as line, fill, and text styles) to another shape.



**To copy a shape's formatting and**

### **apply it to another shape:**

1. Select the shape that has the formatting you like.

To copy and apply only the text formatting of a shape, double-click the shape that has the text formatting you like, then select the text in the shape.

2. Click the [Format Painter](#) button on the toolbar.

The pointer changes to an arrow with a paint brush.

3. Click the shape you want to format.

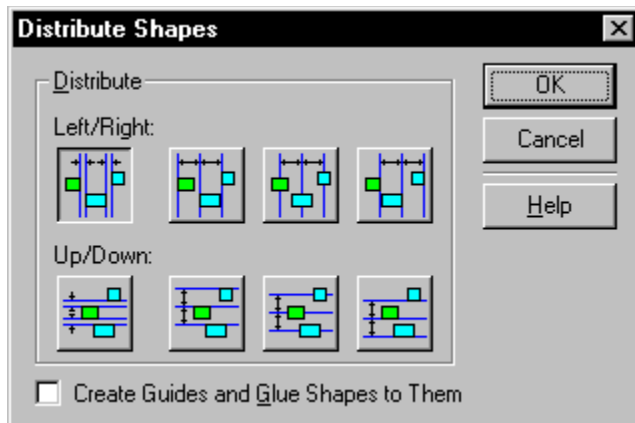
**Tip:** To format multiple shapes, double-click the Format Painter button. When you're finished formatting shapes, click the pointer tool on the toolbar. (You cannot use this method to copy and apply just text formatting.)

### **See also**

[Copying shapes in the current drawing](#)

[Copying shapes to another drawing](#)

## Using styles



### [Related procedures](#)

The easiest way to give shapes a uniform look is with [styles](#). Using styles, you can apply a set of line, fill, and text attributes to several shapes at the same time.

You can apply all the attributes (line, fill, and text) defined in a style in one of two ways:

- Choosing a style from the Line, Fill, or Text style list on the [status bar](#).
- Choosing a style from lists in the [Style](#) dialog box.

### Applying multiple attributes

Some styles include attributes for line, fill, and text. When you choose one of these styles from a style list, a dialog box appears asking if you want to apply all the attributes in the style or only those for the item you have chosen. Click Yes to apply all attributes, or click No to apply only the attributes for the item you chose.

### Preserving local formatting

Unless you specify otherwise, when you apply a style to a shape, the [attributes](#) defined in the style replace local formatting applied to the shape. For example, if you've applied arrowheads to a line using the Line Ends button or the Lines command, and you then apply a style that specifies no line ends, the arrowheads are deleted when you apply the style. You can preserve local formatting by checking the Preserve Local Formatting option in the Style dialog box before applying a style. Some of the styles that come with Visio are defined to preserve local formatting.

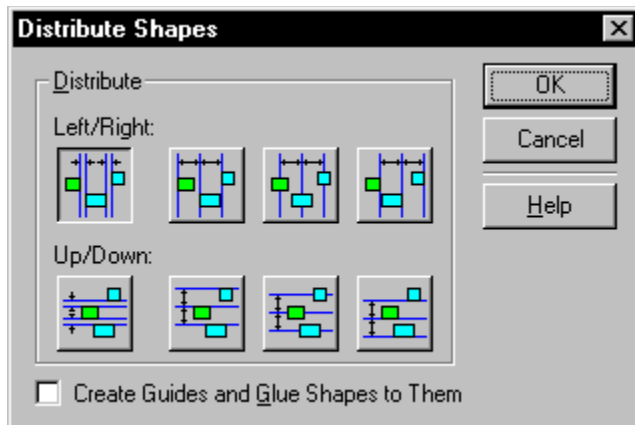
### Home team wins rule

If a [master shape](#) and a [drawing file](#) each contain a style with the same name, but the styles are defined differently, a master shape you drag into a drawing will use the style as it is defined in the drawing file.

Applying styles from a style list  
Applying styles from the Style dialog box  
Protecting local formatting  
Reverting to a master shape's style



## Editing and creating styles



[Related procedures](#)

You can edit and create [styles](#) in the [Define Styles](#) dialog box. When you edit or create a style in a [template](#), new drawing files based on that template can use the new style. If you edit or create a style in a drawing file, only that drawing file can use the new style.

When you define a new style, its name appears in style lists and in the Style dialog box.

### Default values in styles

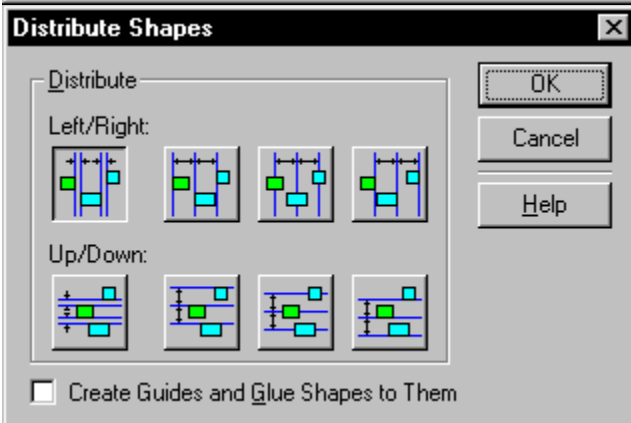
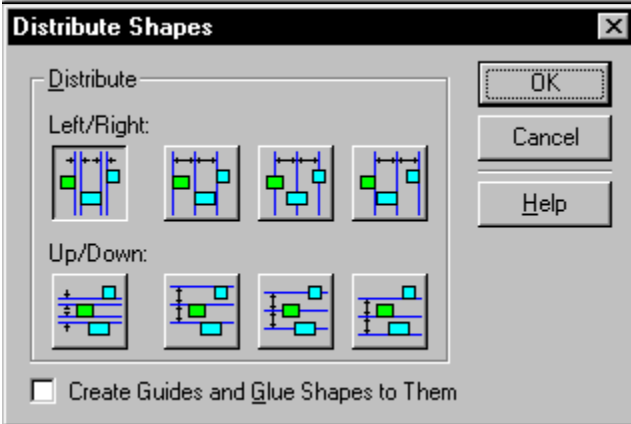
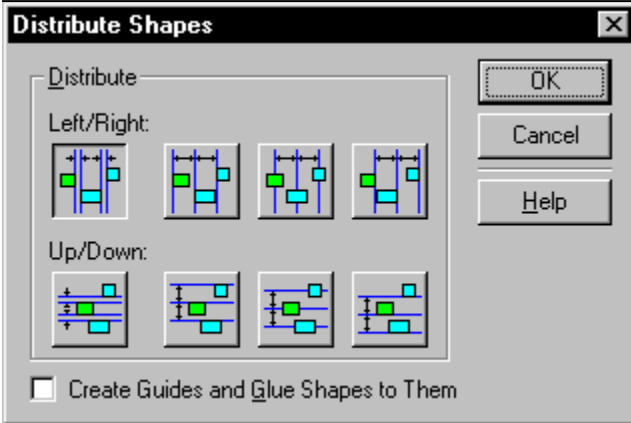
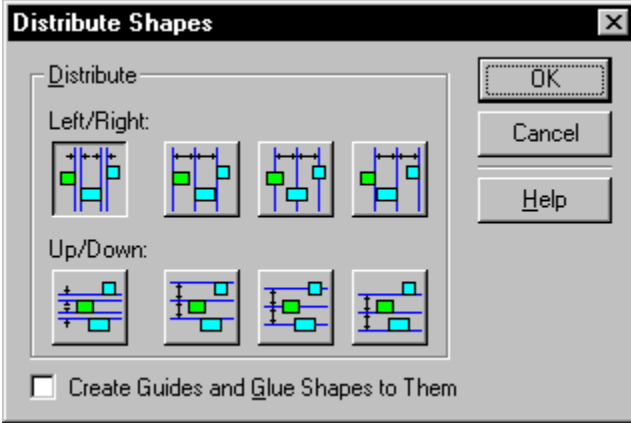
Visio uses a set of default [attributes](#) for text, line, and fill. When Text, Line, or Fill are checked in the Includes section of the Define Styles dialog box, a new style contains the default attributes for that item unless the attributes are defined differently in the style. To include the default attributes in the style, check the appropriate item. To exclude the attributes, make sure the item is not checked.

### Style tips

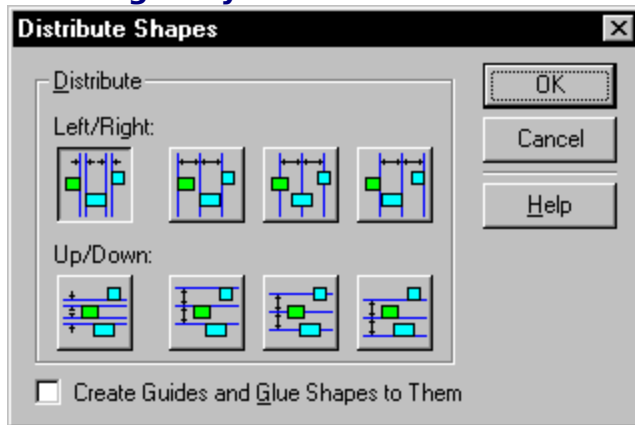
- One style can be based on another style. If you change a style, all styles based on that style also change.
- Many of the styles defined in templates include attributes for only line, fill, or text. These styles are usually based on the template's Normal style.
- Styles with more than one attribute are often based on one basic style for the template. For example, an organization chart template might have a basic style called Org Normal. The names of other styles that are based on Org Normal will also start with Org, such as Org Exec.
- If you have the same style names in both a drawing file and stencils associated with a template, make sure that the styles' definitions are the same. If they aren't, shapes may behave in unexpected ways when you drag them from a stencil to a drawing.

Creating a style  
Deleting a style  
Editing a style  
Renaming a style

## Creating a style

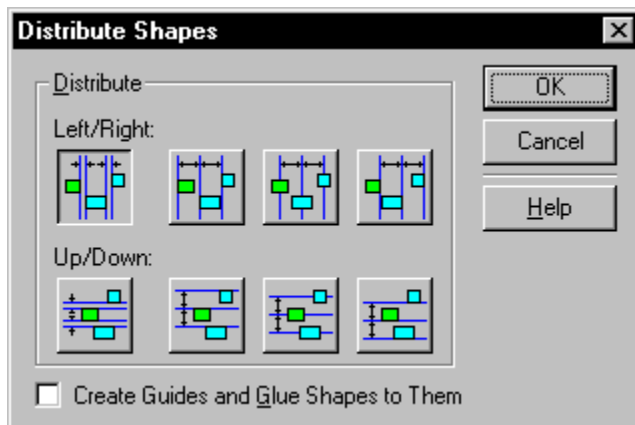


## Creating a style



### [Overview](#)

You can create a [style](#) from scratch or create a style that is based on another style. In the new style, you can define [attributes](#) for line, fill, or text, or for all three.



### **To create a style:**

1. From the Format menu, choose Define Styles.
2. In the Style box, type a name for the new style.
3. From the Based On list, choose the style on which you want to base the new style, or choose No Style to create a new style from scratch.
4. In the Includes section, uncheck the items you do not want to include in the style.  
If you leave an item checked, the new style will include the default attributes for that item unless you define new attributes in the style.
5. In the Change section, click the Text, Line, or Fill button to define or change attributes for the items you want to include in the new style.  
When you change text, line, or fill formats, a green line appears under the corresponding button in the Change section.
6. In the dialog boxes for the items included in the style, change or define the attributes for the items, then click OK.
7. When the style contains the attributes you want, choose one of the following:
  - Click OK to save the new style and close the dialog box.
  - Click Add to save the new style and leave the Define Styles dialog box open for more work.

- Click Apply to apply the style to any selected shapes and close the dialog box. The Apply button appears only when a shape is selected in the drawing.

**Tip:** If you select shapes before defining a style, you can apply the new style to the shapes and preserve local formatting by checking the Preserve Local Formatting On Apply option.

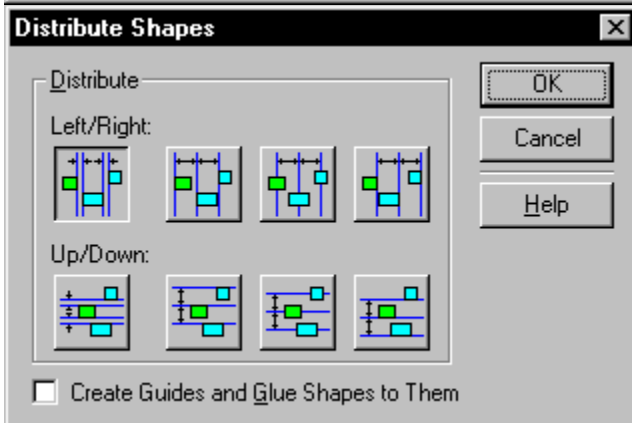
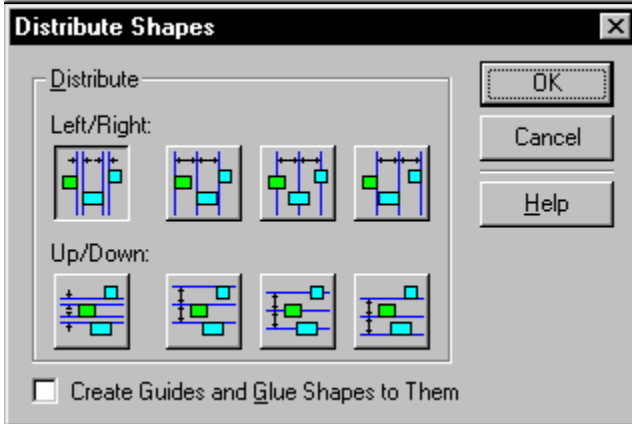
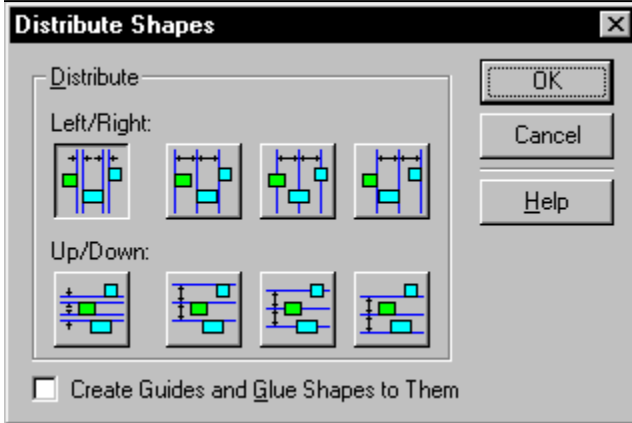
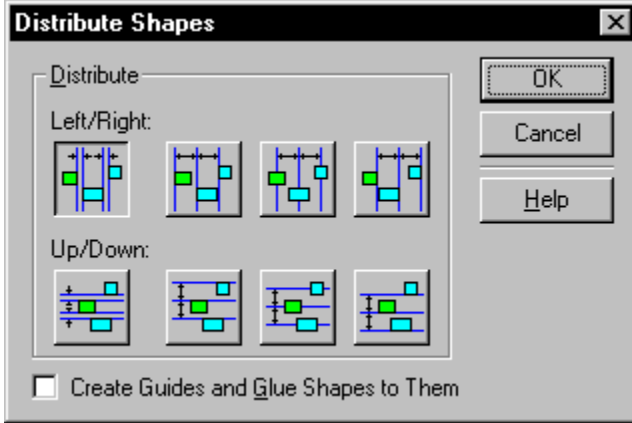
### **See also**

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[Applying styles from a style list](#)

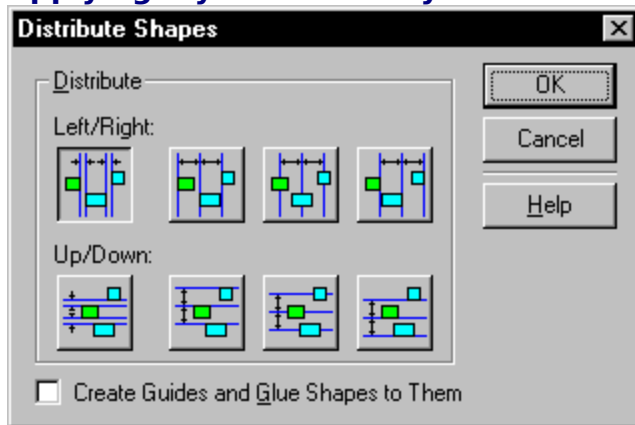
[Applying styles from the Style dialog box](#)

## **Applying styles from a style list**



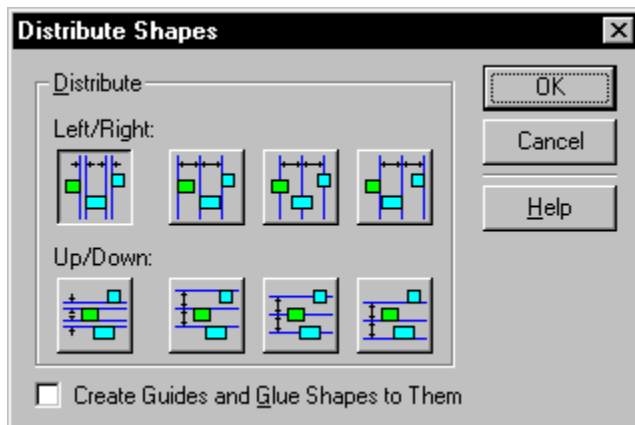


## Applying styles from a style list



[Overview](#)

You can choose a [style](#) from the Line, Fill, or Text style list to apply more than one [attribute](#) to a shape.



**To apply a style from a style list:**

1. Select the shape you want to format.
2. From a style list on the toolbar, choose a style from the Line, Fill, or Text style list.
3. If the style contains attributes for two or three items, a dialog box appears asking if you want to apply the other attributes for the style. Click Yes to apply all attributes in the style, or click No to apply only the attributes for the item indicated by the style list name (either Line, Fill, or Text).

### See also

[Applying styles from the Style dialog box](#)

[Creating a style](#)

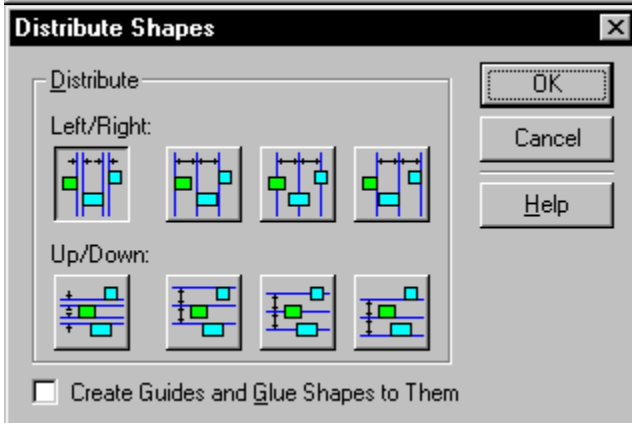
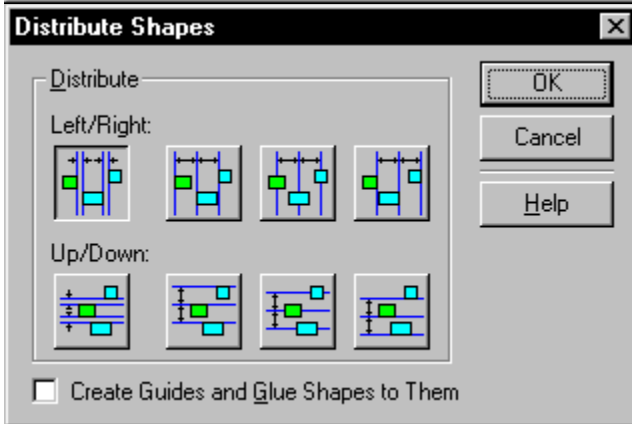
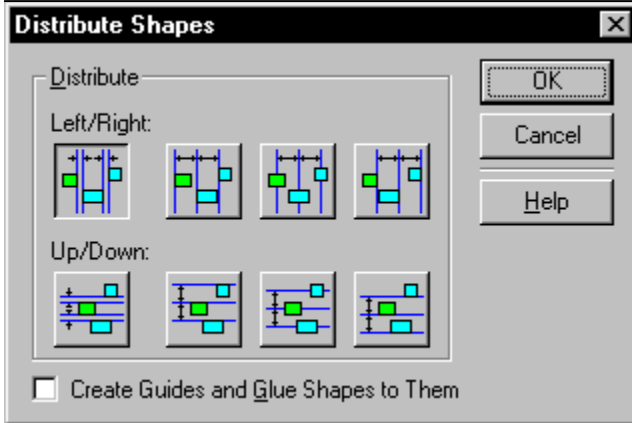
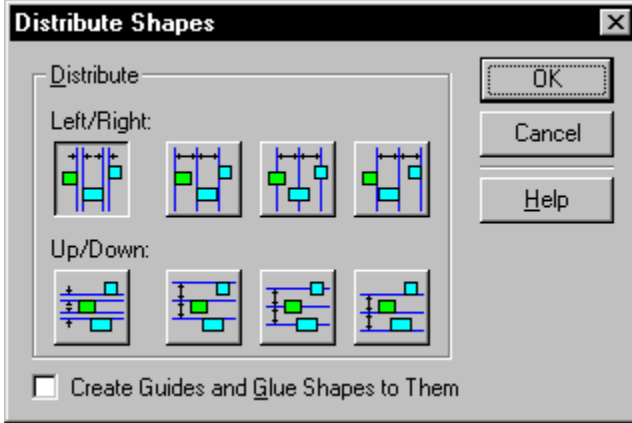
[Editing a style](#)

[Fill](#)

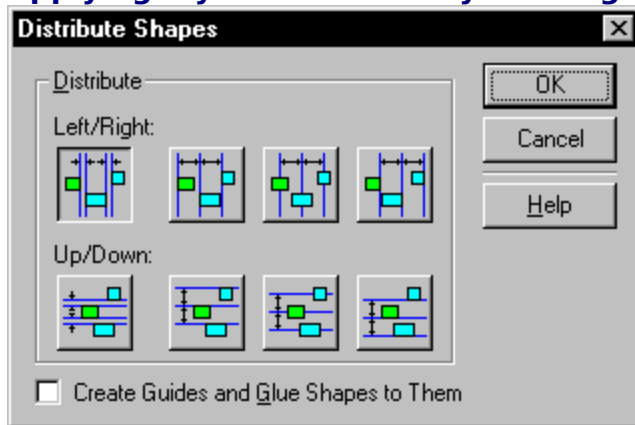
[Font](#)

[Line](#)

## **Applying styles from the Style dialog box**

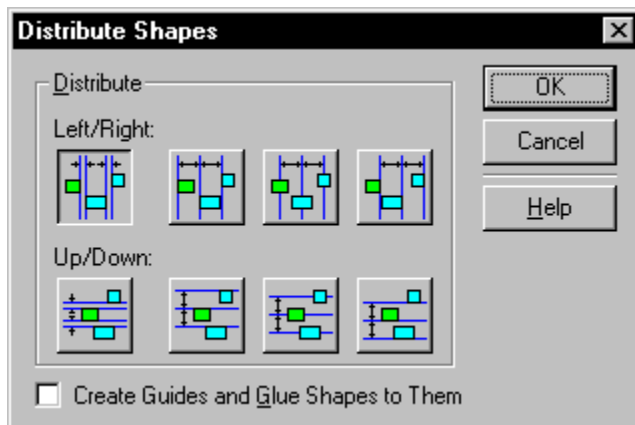


## Applying styles from the Style dialog box



[Overview](#)

By using the Style dialog box, you can apply the same [style](#) to a shape's line, fill, and text, or choose a different style for each aspect of a shape.



**To apply styles from the Style dialog**

### box:

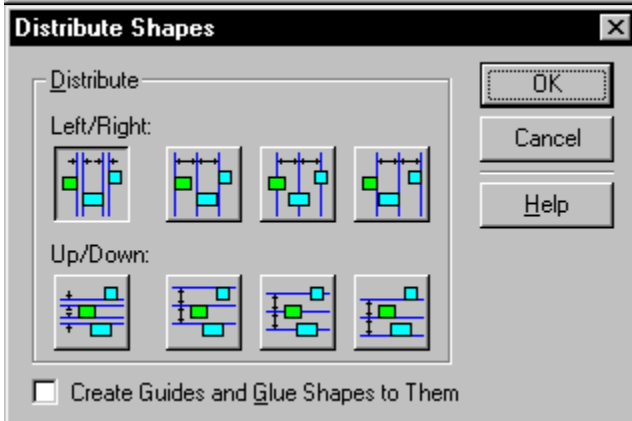
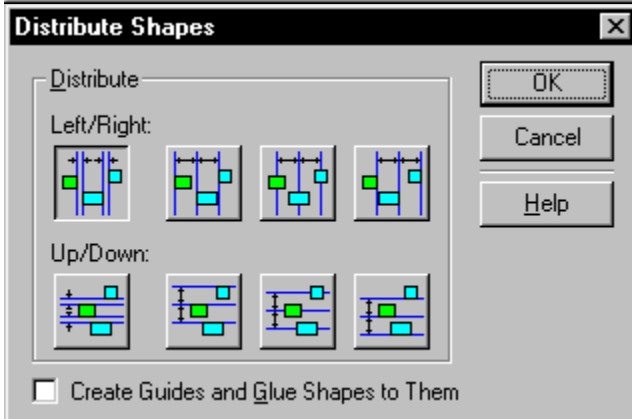
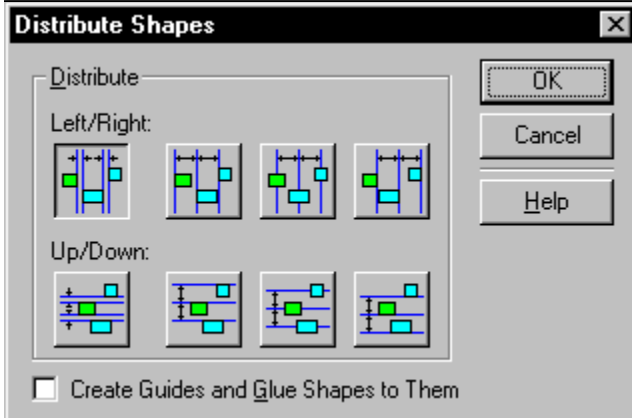
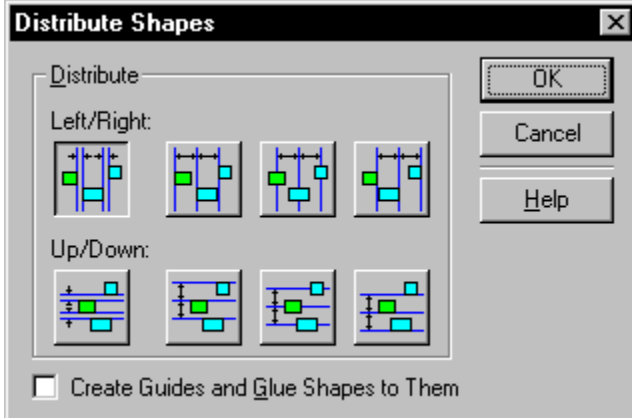
1. Select the shape.
2. From the Format menu, choose [Style](#).
3. Choose styles for the shape's text, line, and fill.
4. To preserve local formatting for the shape, check Preserve Local Formatting.
5. To view the style before you close the dialog box, click Apply.
6. Click OK.

### See also

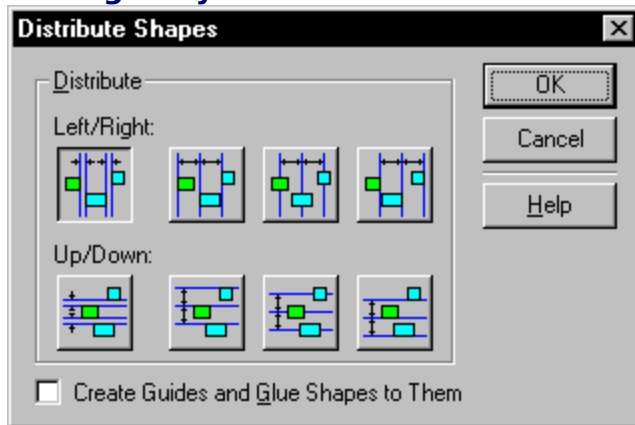
[Applying styles from a style list](#)

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## Editing a style

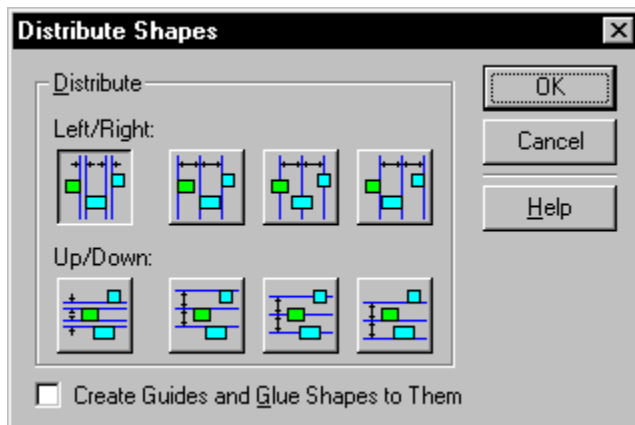


## Editing a style



[Overview](#)

Editing [styles](#) is a quick way to change the look of multiple shapes. When you edit a style, changes are reflected in each shape that uses that style in a drawing.



### To edit a style:

1. From the Format menu, choose [Define Styles](#).
2. From the Style list, choose the name of the style you want to edit.
3. In the Change section, click the Text, Fill, or Line button.
4. In the Font, Line, or Fill dialog box, change the style's definition, then click OK.
5. In the Define Styles dialog box, click Change.
6. Click OK.

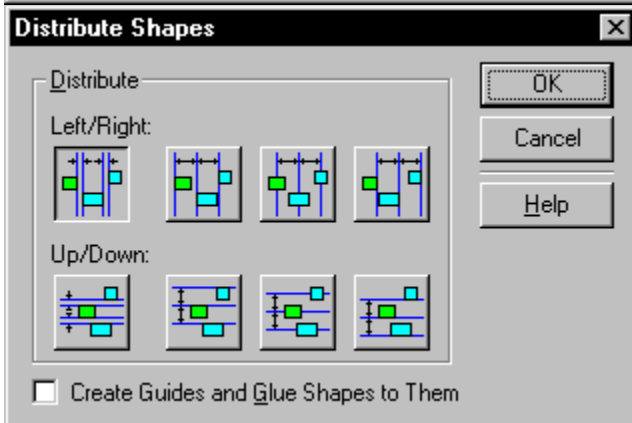
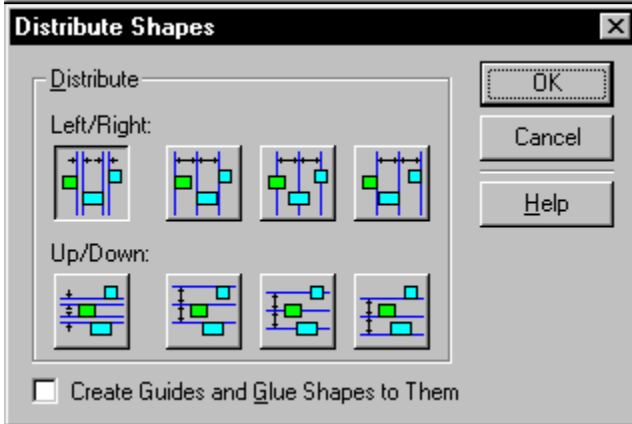
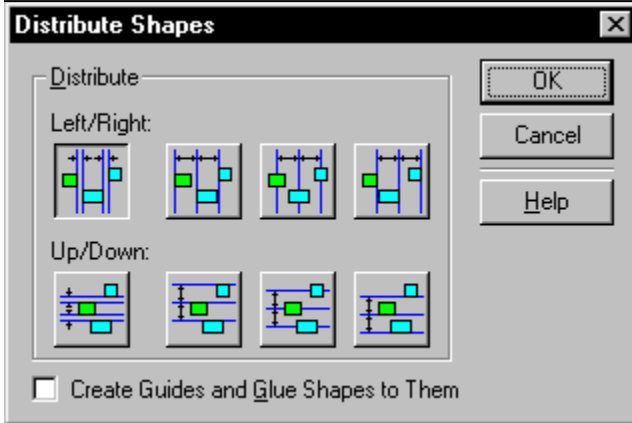
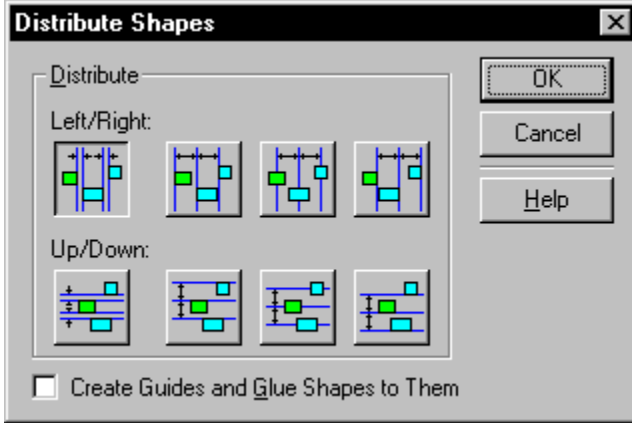
### See also

[Applying styles from a style list](#)

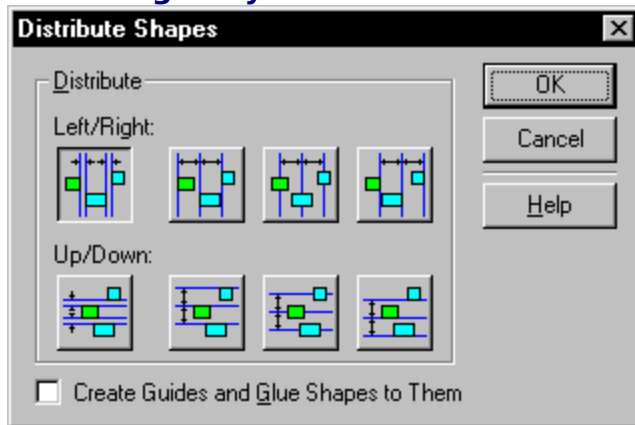
[Applying styles from the Style dialog box](#)

## Renaming a style

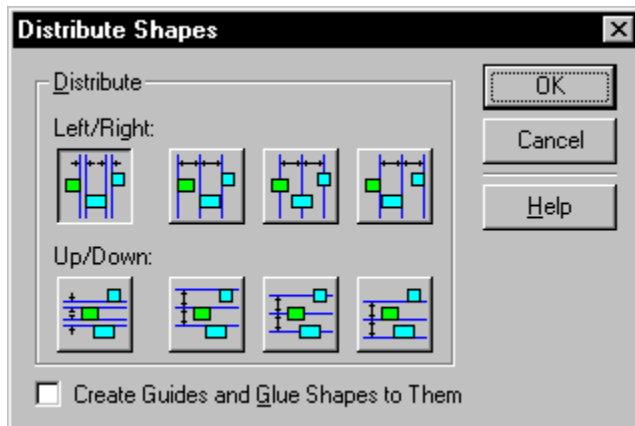




## Renaming a style



[Overview](#)



**To rename a style:**

1. From the Format menu, choose Define Styles.
2. In the Style list, choose the name of the style you want to rename.
3. Click Rename.
4. Type a new name for the style.
5. Click OK.
6. In the Define Styles dialog box, click OK.

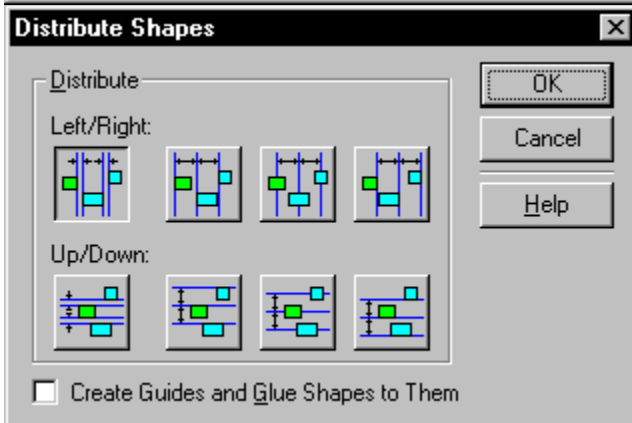
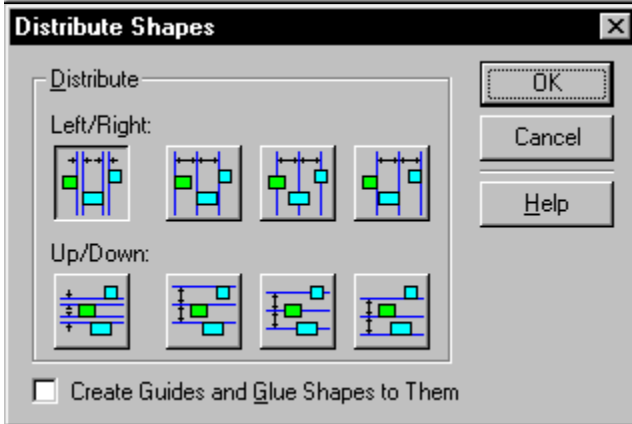
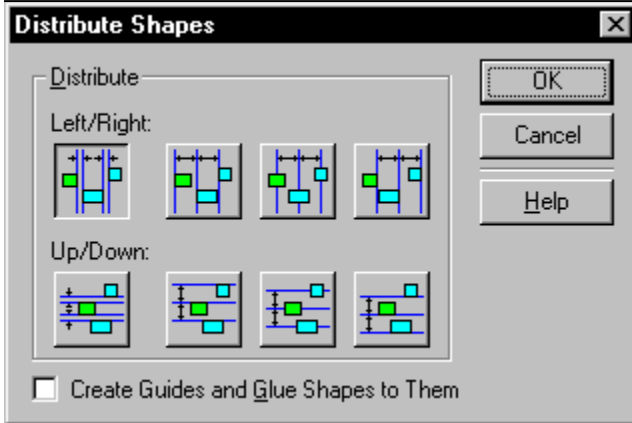
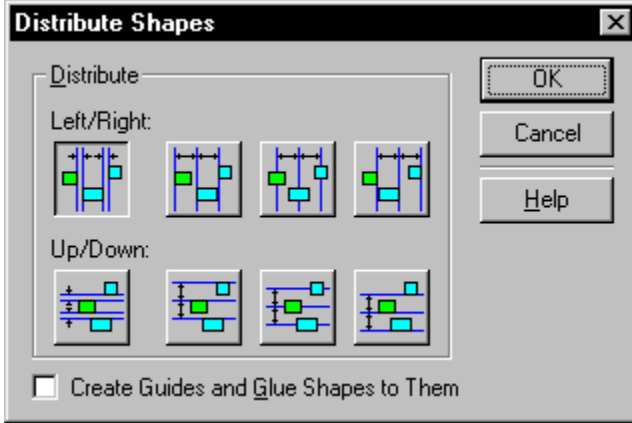
### **See also**

[Applying styles from a style list](#)

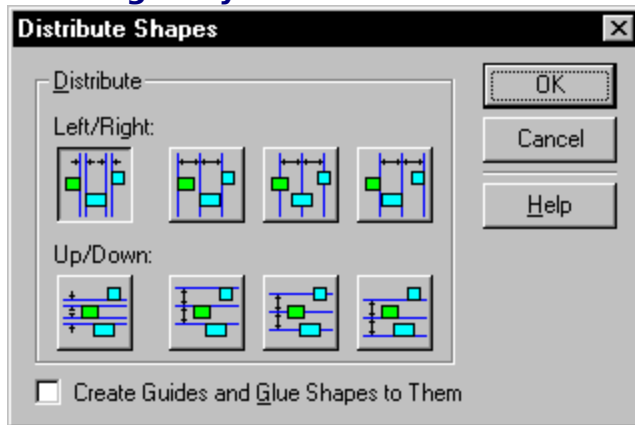
[Applying styles from the Style dialog box](#)

[Creating a style](#)

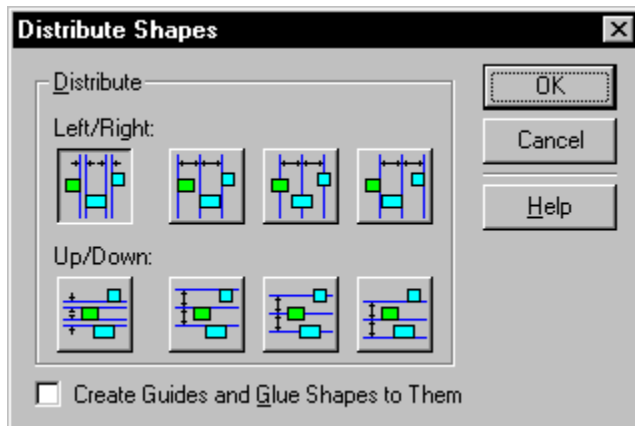
## Deleting a style



## Deleting a style



[Overview](#)



### To delete a style:

1. From the Format menu, choose Define Styles.
2. In the Style list, choose the name of the style you want to delete.
3. Click Delete.
4. Click OK.

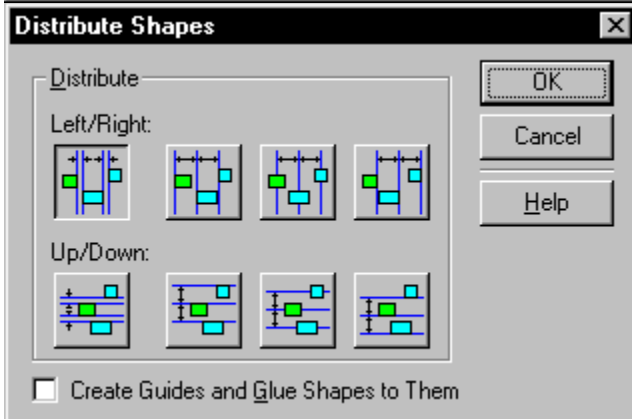
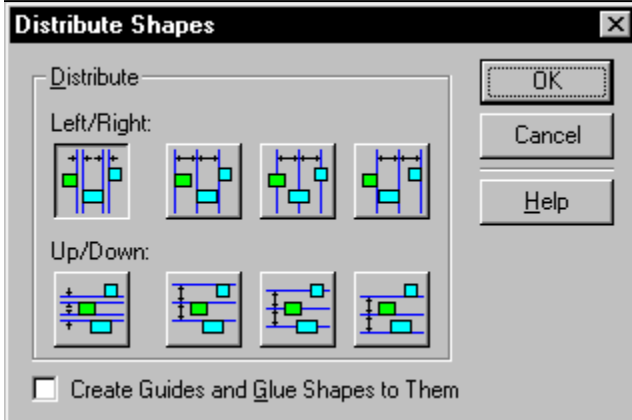
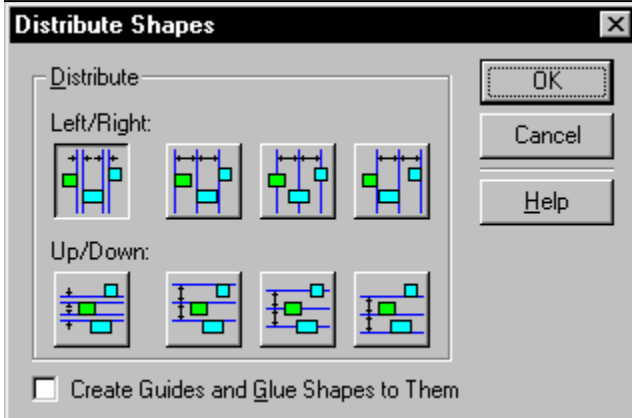
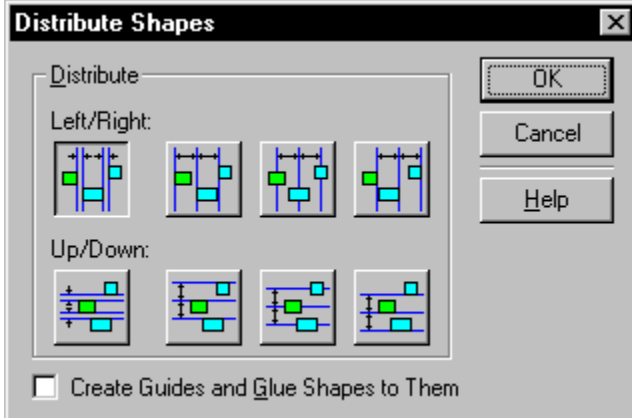
**Note:** All shapes that use the deleted style are changed to the style in the Based On box.

### See also

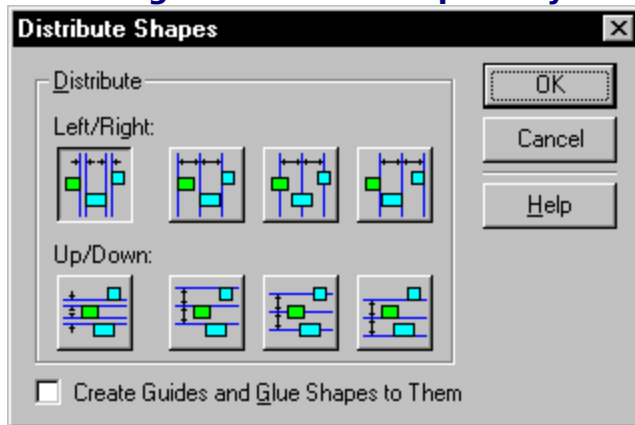
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[Applying styles from a style list](#)  
[Applying styles from the Style dialog box](#)

## Reverting to a master shape's styles

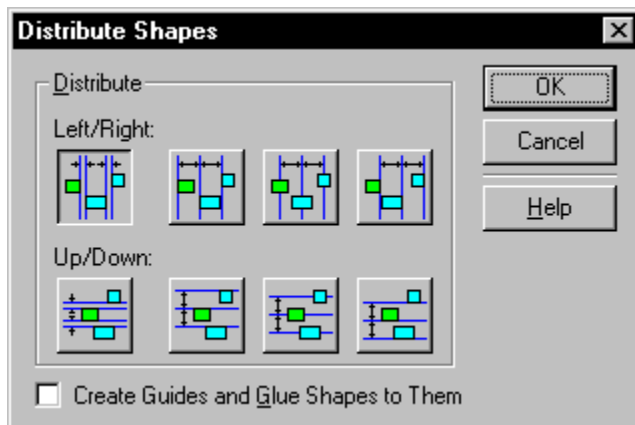


## Reverting to a master shape's styles



[Overview](#)

If you applied local formatting to an [instance](#) of a master shape without using [styles](#), you can revert to the master shape's original styles.



**To revert to a master shape's styles:**

1. Select the shape.
2. From the Format menu, choose [Style](#).
3. In the Style dialog box, choose Use Master's Format from the Text, Line, or Fill style lists.
4. Click OK.

**Tip:** The Use Master's Format item appears at the top of each style list; you may need to scroll up to see it.

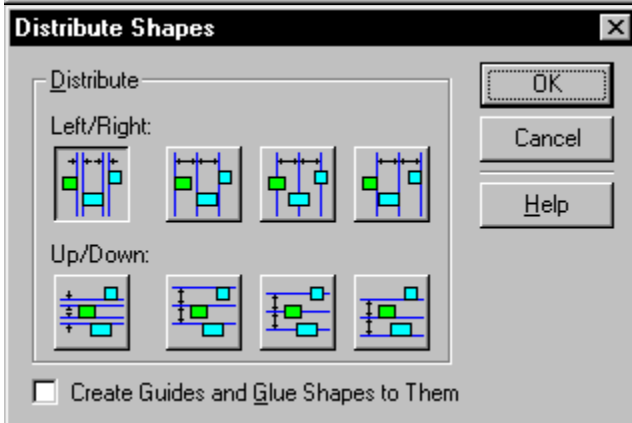
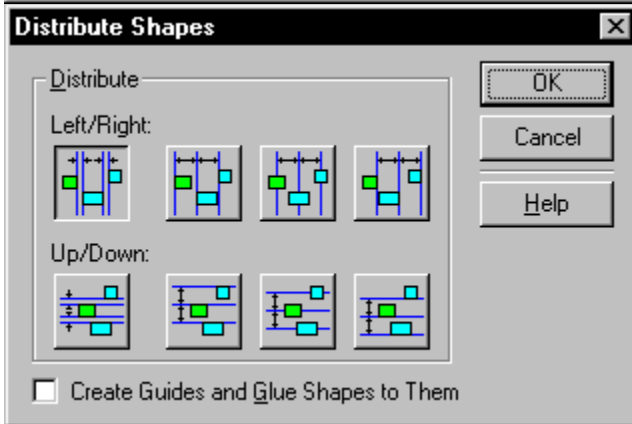
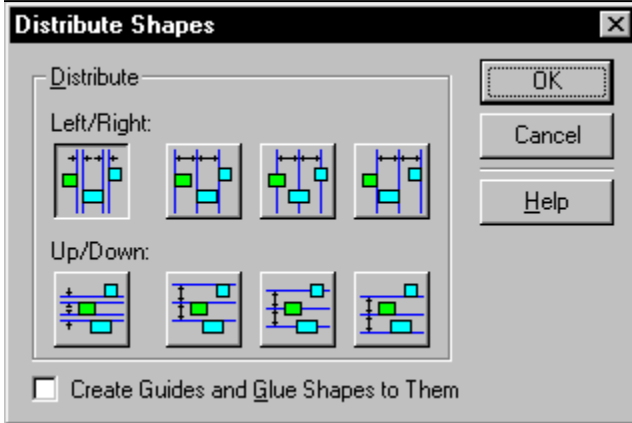
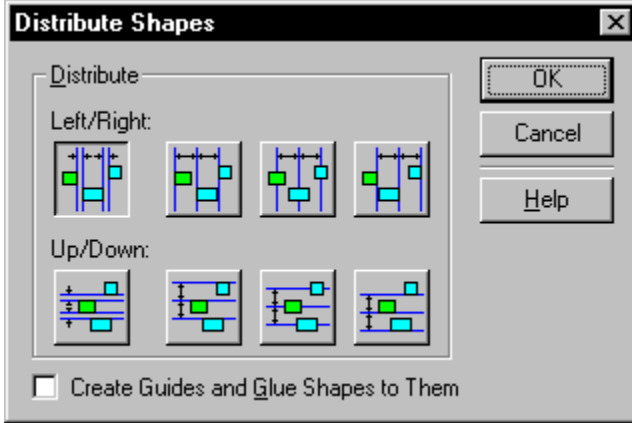
### See also

[Applying styles from a style list](#)

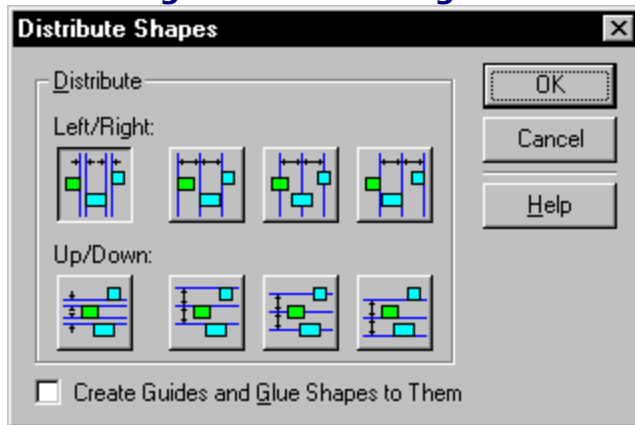
[Applying styles from the Style dialog box](#)



## **Protecting local formatting**

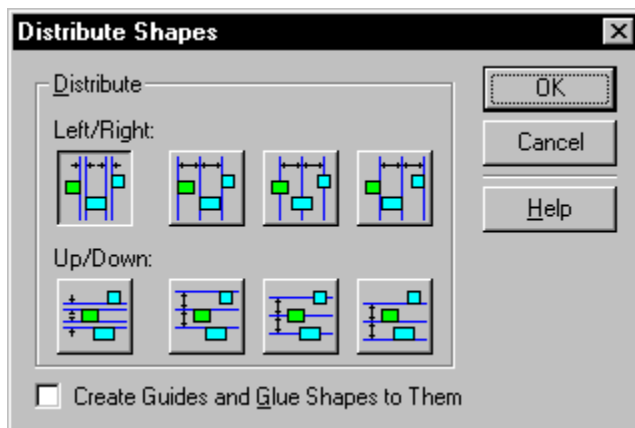


## Protecting local formatting



[Overview](#)

You can apply [styles](#) to shapes without changing local formatting that you have applied to the shapes. For example, if you applied a line end [format](#) to a shape and want to apply a style that specifies no line ends, you can preserve local formatting to apply the style and retain the line end format.



**To apply a style and protect local**

### **formatting:**

1. From the Format menu, choose [Style](#).
2. Choose the styles you want to apply.
3. Check Preserve Local Formatting.
4. Click OK.

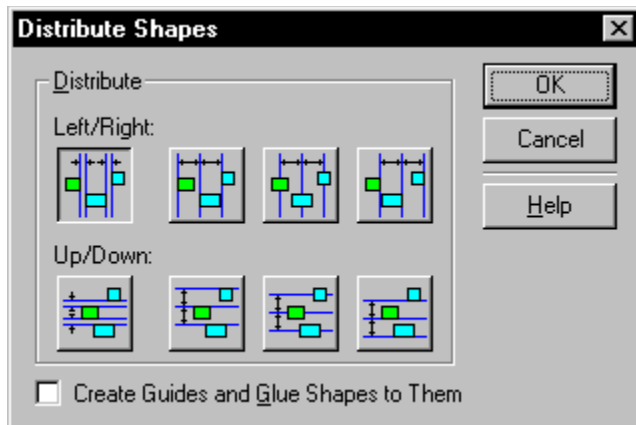
**Note:** You can also preserve local formatting when applying a style from the Define Styles dialog box. Check the Preserve Local Formatting On Apply option before applying the style.

### **See also**

[Applying styles from a style list](#)

[Applying styles from the Style dialog box](#)

## Adding and editing text



[Related procedures](#)

Many [drawings](#) require labels, legends, and titles. You can add text to any shape (including lines and connectors) and add independent text to a drawing. You can select, edit, and check the spelling of text, and search for and replace text much as you do with many word-processing programs. You can also copy text, then paste it in another shape.

When you work with text, you use the [text tool](#) and the [text block tool](#). When a shape's text block is open, the style toolbar changes to the text toolbar, which contains the buttons and lists you use to edit and format text.

To move the insertion point in a [text block](#), you can use these shortcuts:

<b>To move the insertion point to:</b>	<b>Press:</b>
Beginning of text block	Ctrl+Home
End of text block	Ctrl+End
Beginning of paragraph	Ctrl+Up Arrow
End of paragraph	Ctrl+Down Arrow
Preceding line	Up Arrow
Following line	Down Arrow
Beginning of line	Home
End of line	End
Beginning of word	Ctrl+Left Arrow
End of word	Ctrl+Right Arrow
Character to left	Left Arrow
Character to right	Right Arrow

[Adding and replacing text](#)

[Adding independent text to a drawing](#)

[Checking the spelling of text](#)

[Cutting, copying, and pasting text](#)

[Deleting text](#)

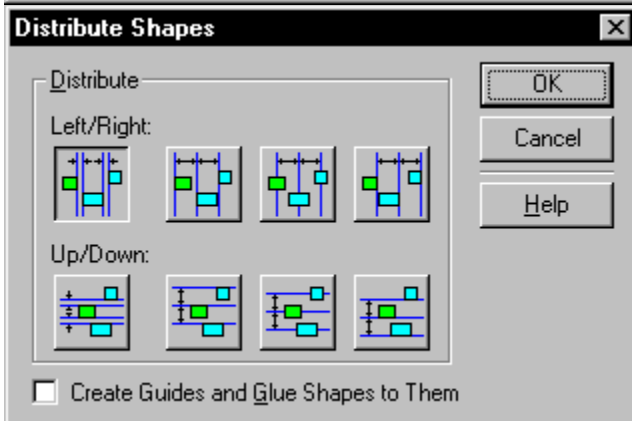
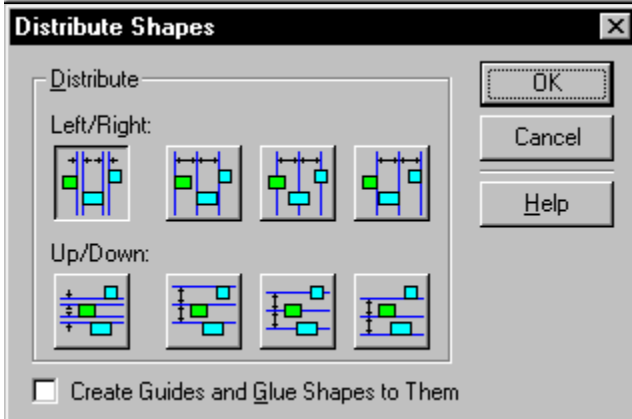
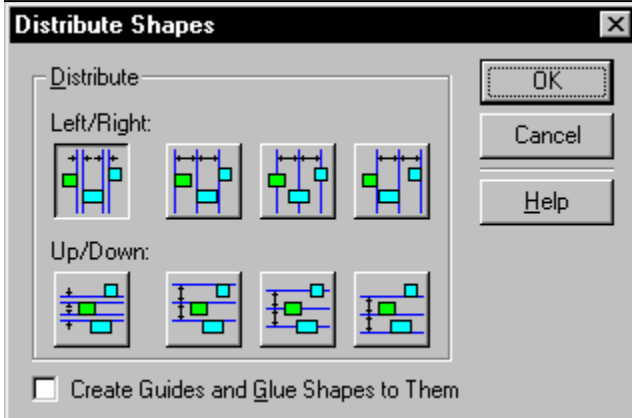
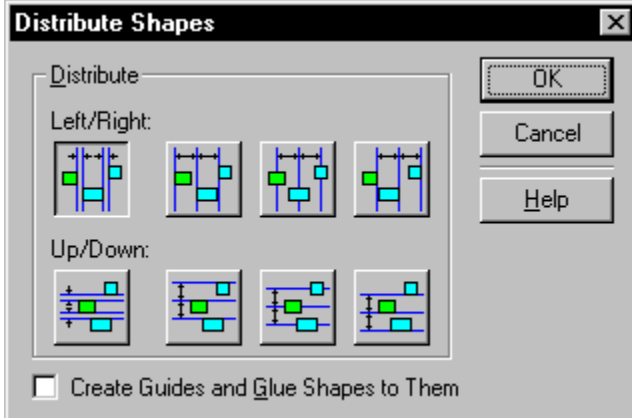
[Searching and replacing text](#)

[Selecting text](#)

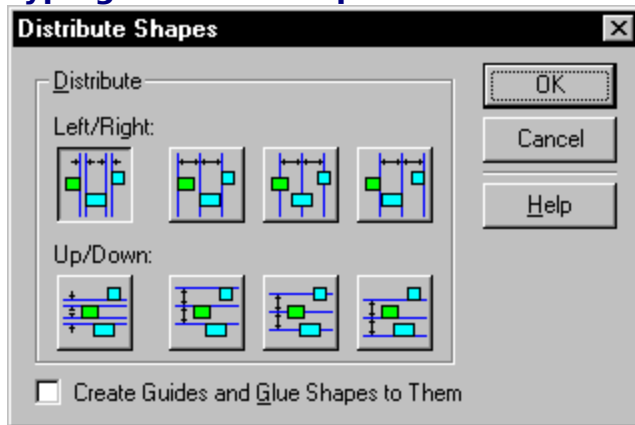
[Typing special characters](#)

Typing text into shapes

## Typing text into shapes



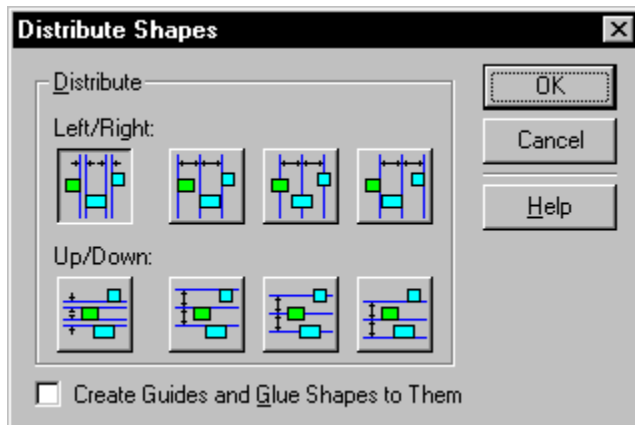
## Typing text into shapes



### [Overview](#)

To add text to a shape, select the shape and type the text. When you start typing, Visio opens the shape's text block. If the shape contains text, the existing text is replaced by the text you type.

If you add text to a group, the text appears on the frontmost shape in the group. If you subselect a shape in a group, the text you add appears on that shape.



### **To type text into a shape:**

1. Select the shape.
2. Type the text.  
Visio automatically [zooms](#) in on the drawing so that you can see what you are typing.
3. When you finish typing, press the Esc key or click outside the text block.

### **See also**

[Adding and replacing text](#)

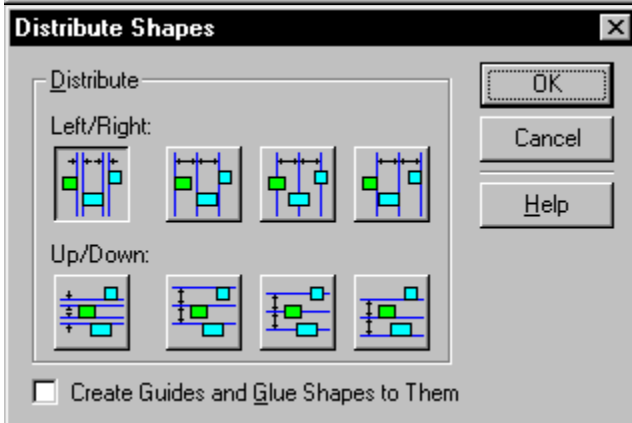
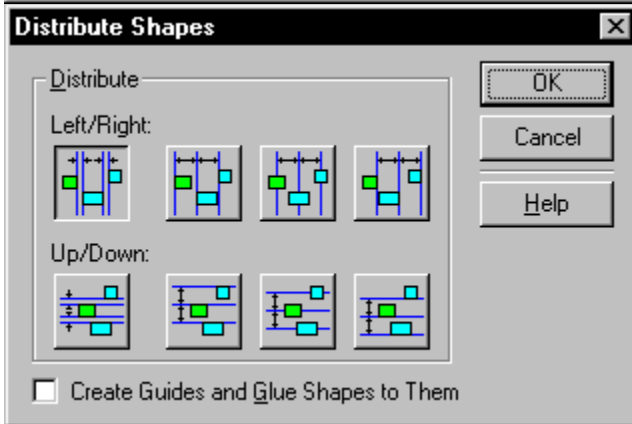
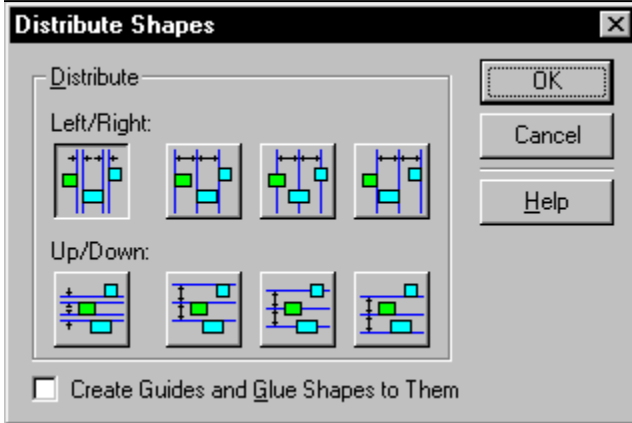
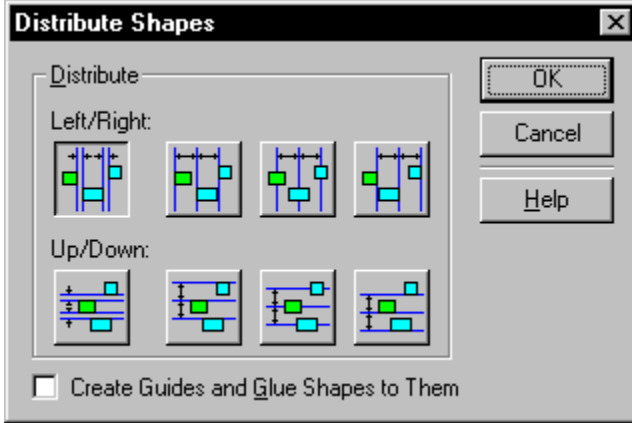
[Adding independent text to a drawing](#)

[Moving a text block](#)

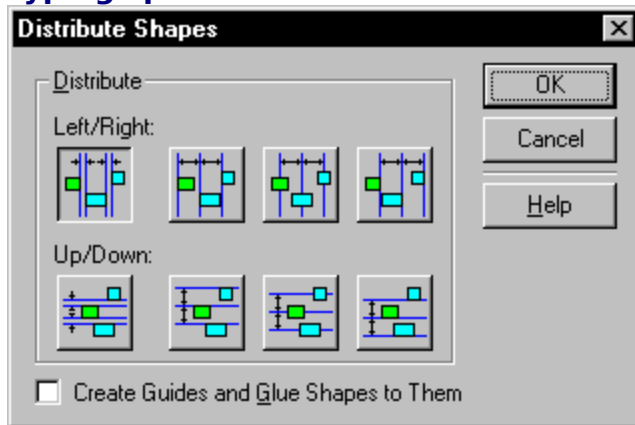
[Zooming in and out of a drawing](#)



## Typing special characters

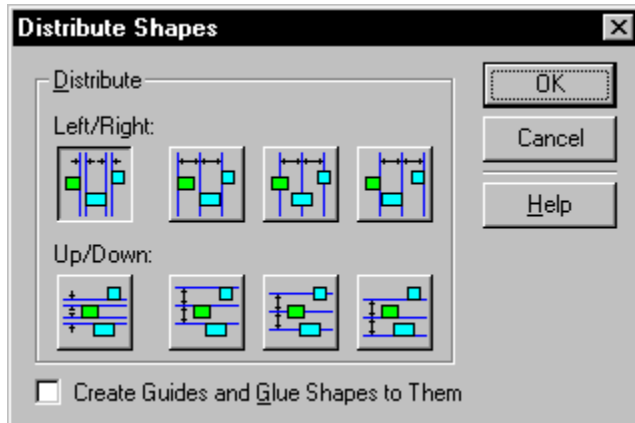


## Typing special characters



[Overview](#)

You can insert [ANSI characters](#) into text. The ANSI character set consists of 256 characters established by the American National Standards Institute. The appearance of ANSI characters depends on which font you are using.



### To type ANSI characters:

1. Hold down the Alt key. Using the keys on the numeric keypad, type 0, then the ANSI code for the character you want.

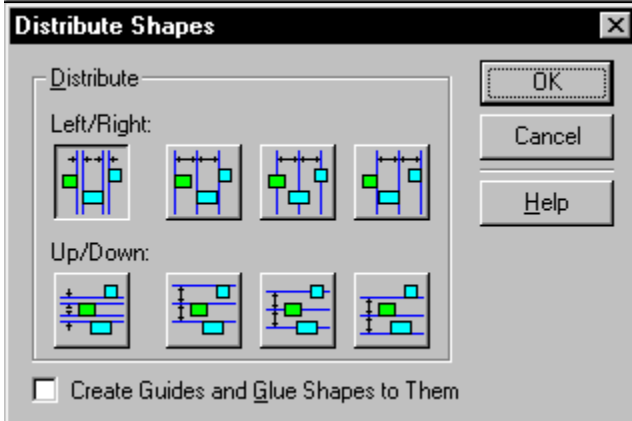
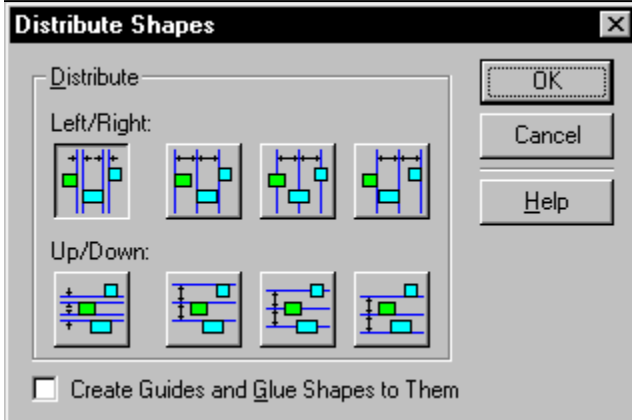
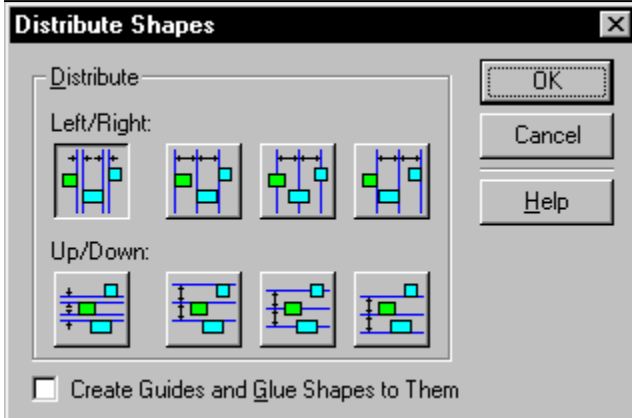
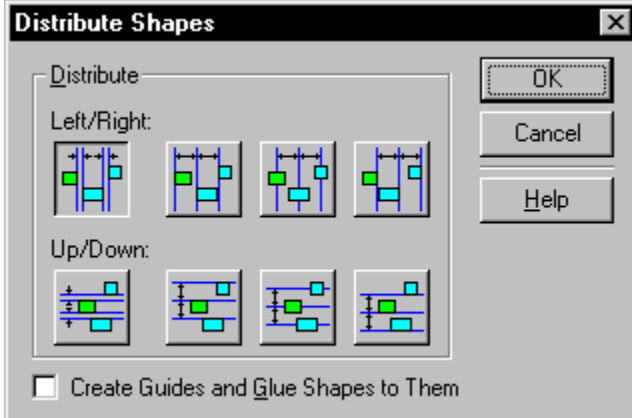
For example, to type an em dash (–), hold down the Alt key and type 0151.

### See also

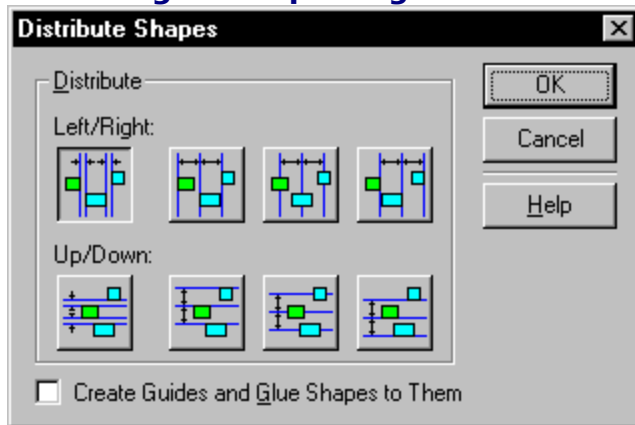
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[Adding and replacing text](#)  
[Adding independent text to a drawing](#)  
[Selecting text](#)  
[Typing text into shapes](#)

## Searching and replacing text

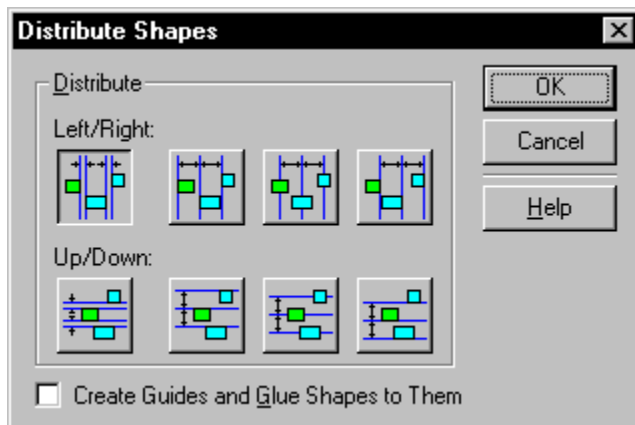


## Searching and replacing text



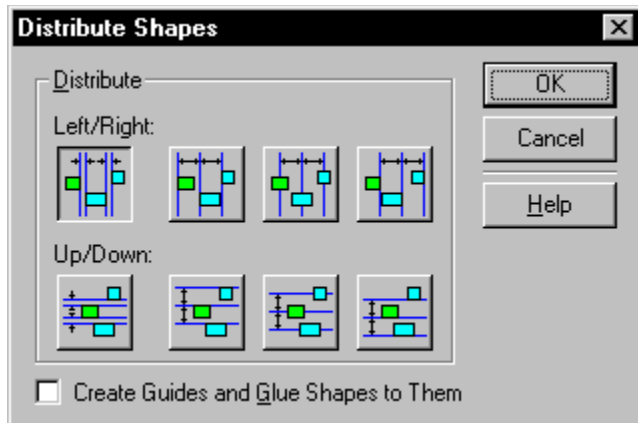
### [Overview](#)

You can search for and replace text in a drawing file, including text in shapes on a page, in the drawing file stencil, in the [Properties](#) box, or in data fields.



### **To search for text:**

1. From the Edit menu, choose [Find](#).
2. In the Find What box, enter the text you want to find.  
To search for special characters, click Special, then select the character you want to find.  
To limit the search range, under Search, choose Selection, Current Page, or All pages.  
To limit the text searched, check Match Case or Find Whole Words Only.
3. Click Find Next to find an occurrence of the word.



**To search for and replace text:**

1. From the Edit menu, choose [Replace](#).
2. In the Find What box, enter the text you want to find.
3. In the Replace With box, enter the text you want to replace it with.  
To search for special characters, click Special, then select the character you want to find.  
To limit the search range, under Search, choose Selection, Current Page, or All Pages.  
To limit the text searched, check Match Case or Find Whole Words Only.
3. Click Find Next to find an occurrence of the word.
4. Click Replace to replace just that occurrence of the specified text, or click Replace All to change all occurrences of the specified text.

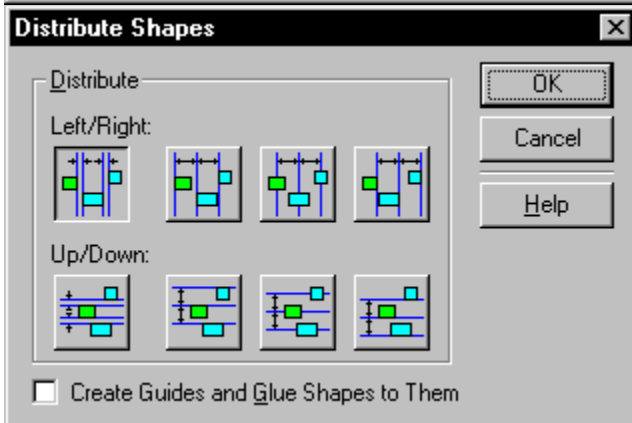
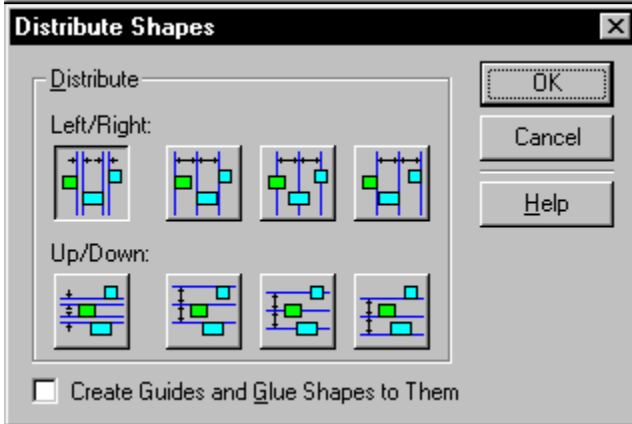
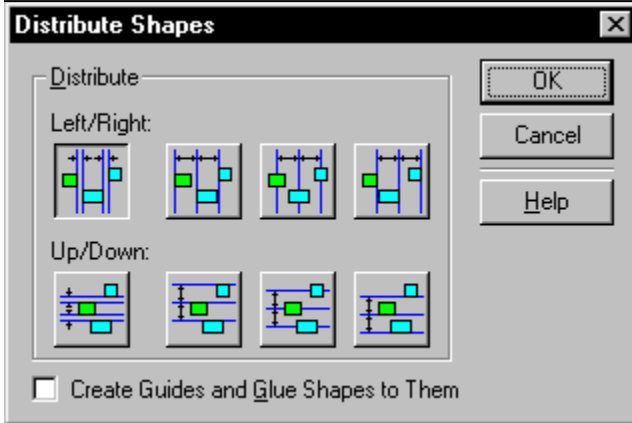
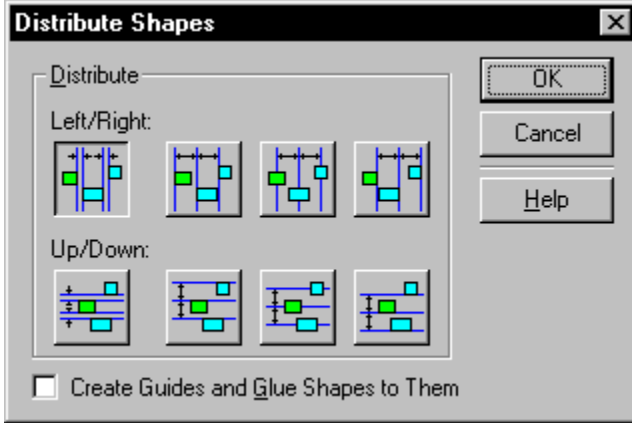
**See also**

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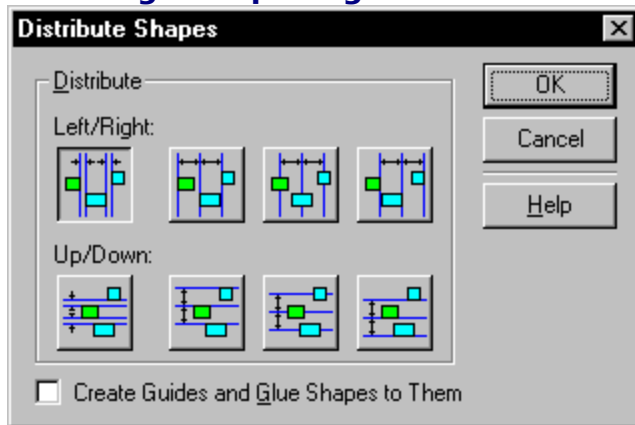
[Adding and replacing text](#)  
[Checking the spelling of text](#)  
[Typing text into shapes](#)

## Checking the spelling of text





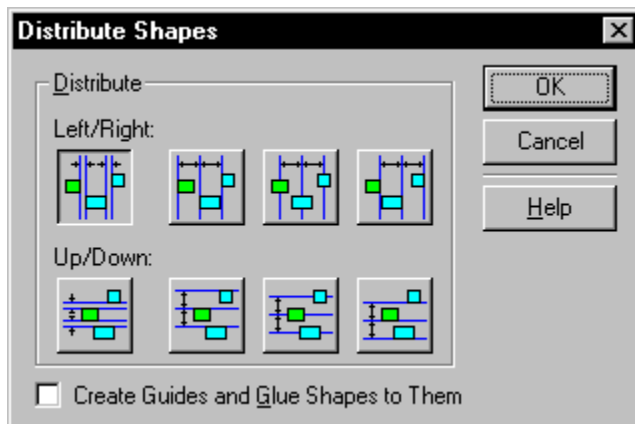
## Checking the spelling of text



### [Overview](#)

You can check the spelling of text in shapes, stencil shapes, [Properties](#) information, and data fields in the active drawing file.

**Note:** By default, Visio just checks the current page. To have Visio check the entire file, see the "To set spelling defaults" procedure below.



### To check spelling:

1. From the Tools menu, choose [Spelling](#).

You can also click the Spelling button.

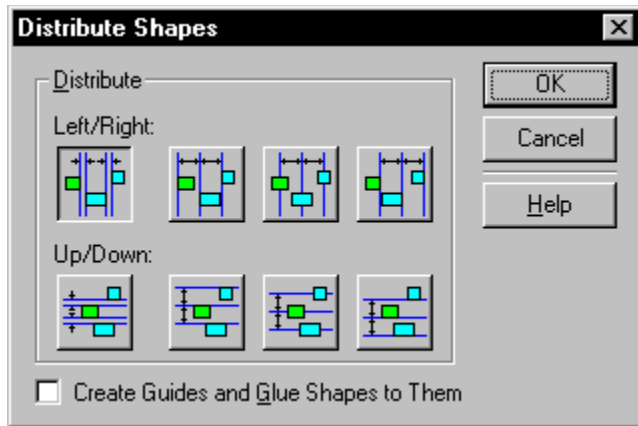
When Visio finds a word that isn't in the current dictionary, it highlights the word and lists suggestions.

2. To use a suggestion, select it, then click Change To. To change all occurrences of the word to the suggestion, click Change All.

To type the word you want, select the word in the Change To box, then type a word.

To have Visio move on without changing the word, click Ignore. To ignore all occurrences of the word, click Ignore All.

To add a word to the dictionary, click Add Words To, then select the dictionary to which you want to add the word.



**To set spelling defaults:**

1. From the Tools menu, choose [Options](#).
2. Click Spelling to open the [Spelling Options](#) dialog box.
3. Under Search, specify whether you want Visio to search the selection, a single page, or all pages by default.
4. Under User Dictionary, specify the dictionary you want to use.

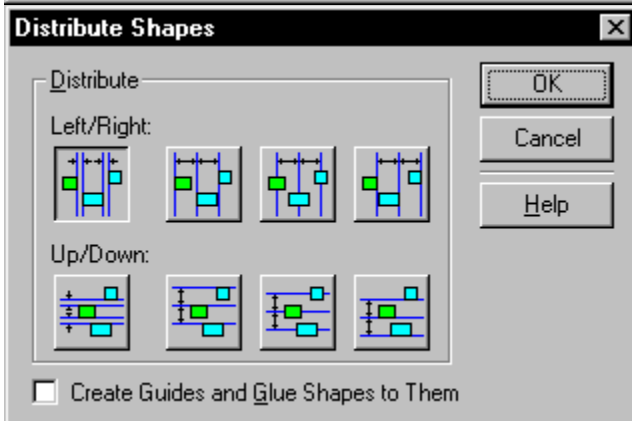
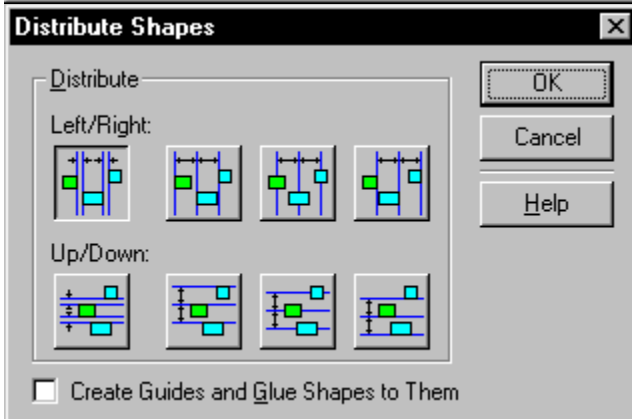
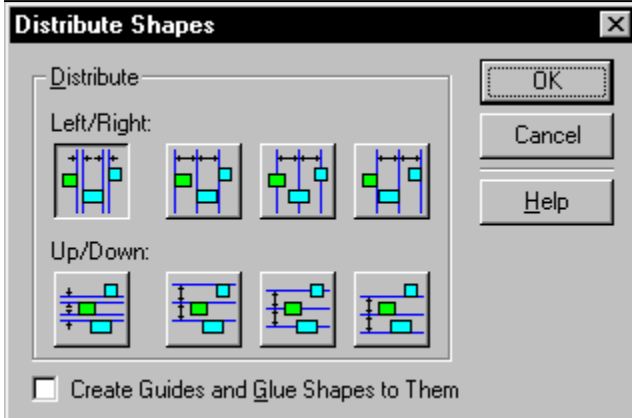
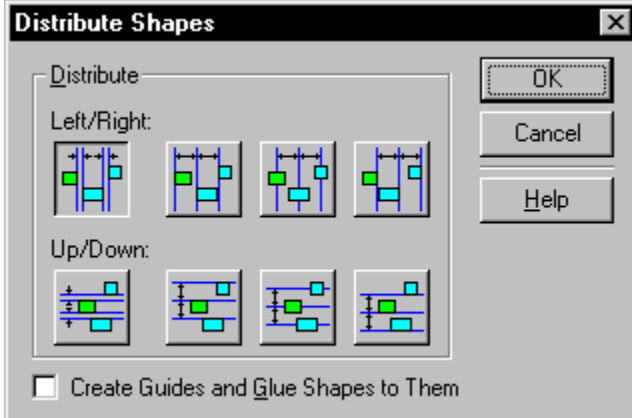
**See also**

[Adding and replacing text](#)

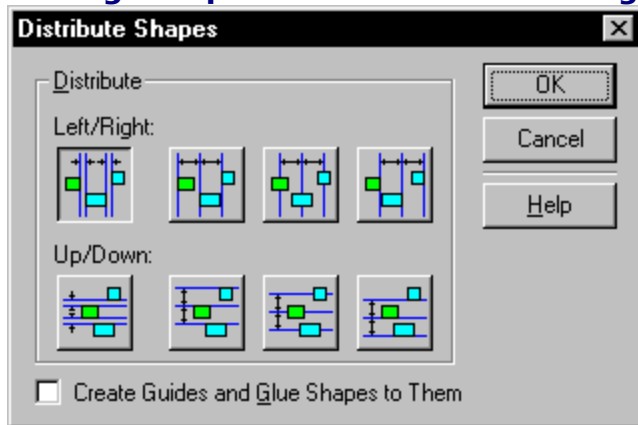
[Searching and replacing text](#)

[Typing text into shapes](#)

## **Adding independent text to a drawing**

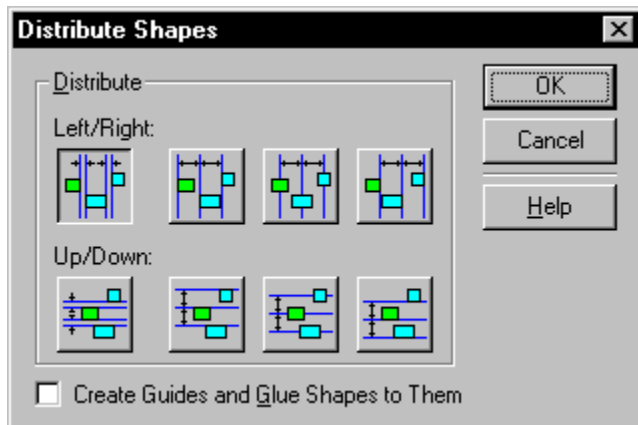


## Adding independent text to a drawing



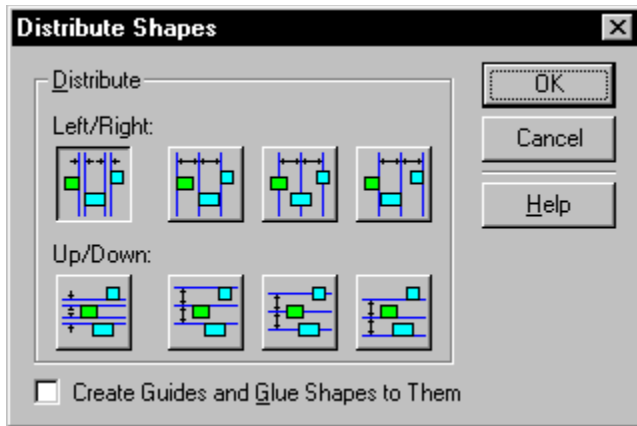
### [Overview](#)

When you add independent text such as a title to a [drawing](#), Visio creates an invisible shape to hold the text. If you want to specify the size of an independent [text block](#), you can do so before you type.



### **To type independent text:**

1. From the text tool menu, choose the [text tool](#).
2. With the text tool, click where you want to start typing.
3. Type.  
Visio automatically [zooms](#) in on the drawing so that you can see what you are typing.  
As soon as you start typing, Visio creates an invisible shape and opens its text block.
4. When you finish typing, press the Esc key or click outside the shape.



**To specify the width of an**

**independent text block:**

1. With the text tool, point to where you want to start the independent text block.
2. Click and drag down and to the left or right until the text block is the width you want.
3. Release the mouse button, then type.

**Tip:** Although you can't type text in an object from another program, you can type text over the object by creating an independent text block.

**See also**

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[Adding and replacing text](#)

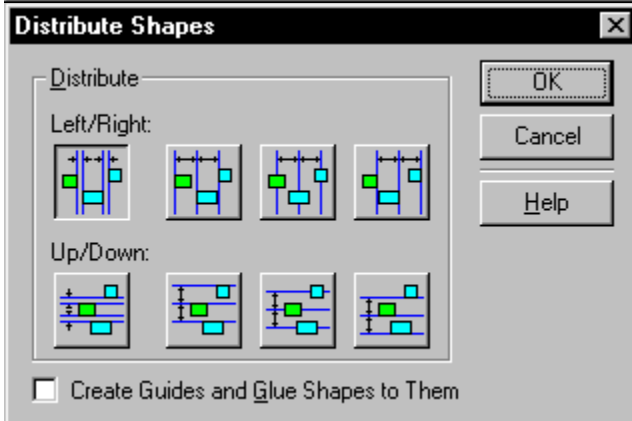
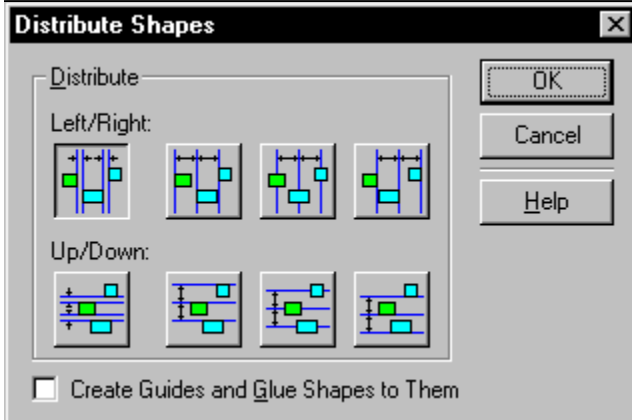
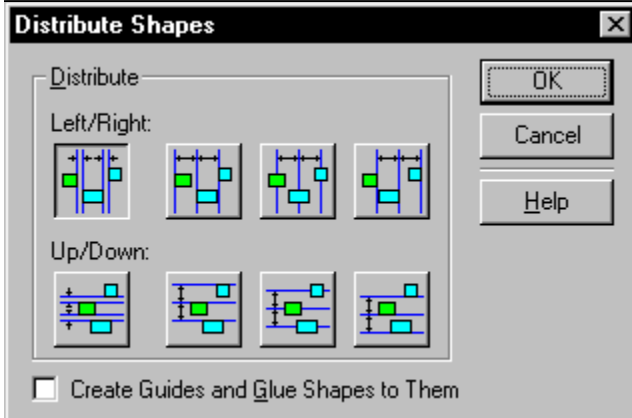
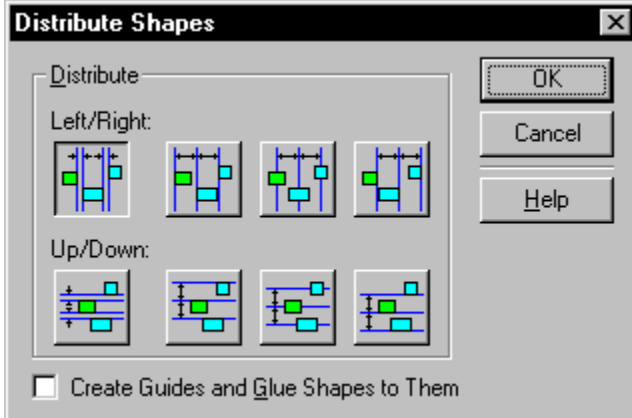
[Moving a text block](#)

[Typing text into shapes](#)

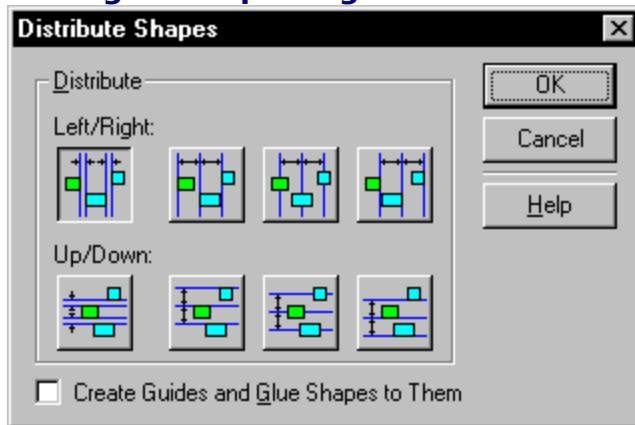
[Zooming in and out of a drawing](#)

## **Adding and replacing text**



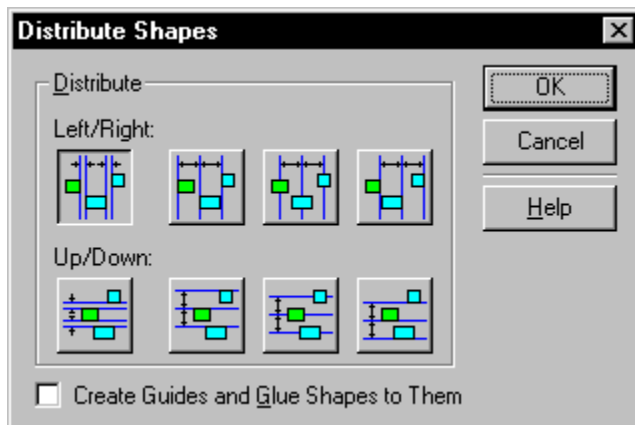


## Adding and replacing text



### [Overview](#)

To edit text in a shape, or to add text to existing text, you first open the shape's [text block](#), then edit the text as you do in most word-processing programs.



### **To add or edit text in a shape:**

1. Double-click the shape to open the [text block](#), or click the text with the text tool.  
Visio automatically [zooms](#) in on the drawing so that you can see what you are typing.
2. Click where you want to place the [insertion point](#).
3. Type the new text.
4. Press the Esc key.

**Note:** You can move the insertion point by clicking anywhere in the text block. You can also move the insertion point by using the arrow keys on the keyboard.

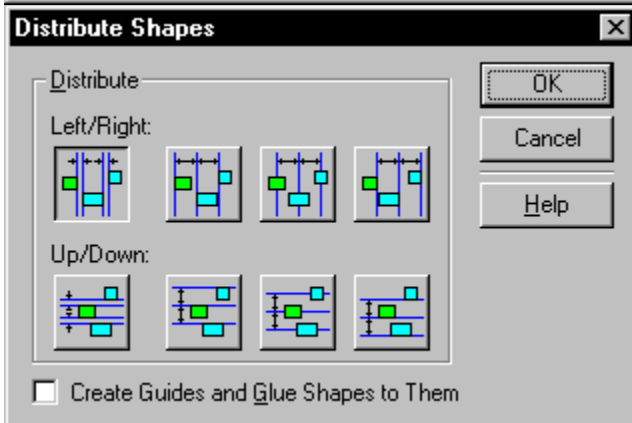
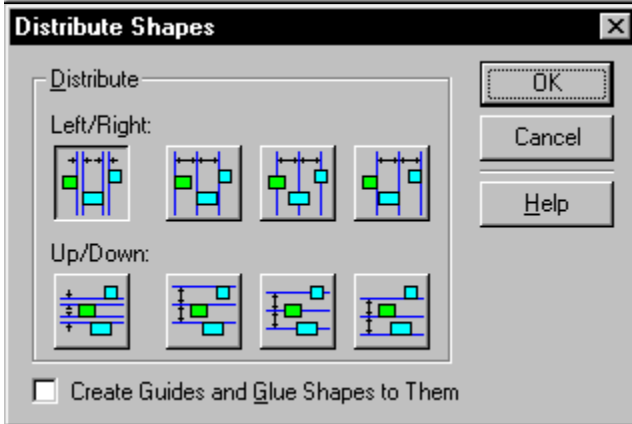
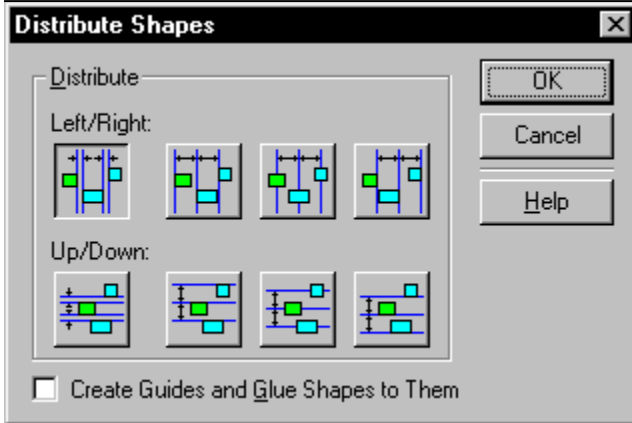
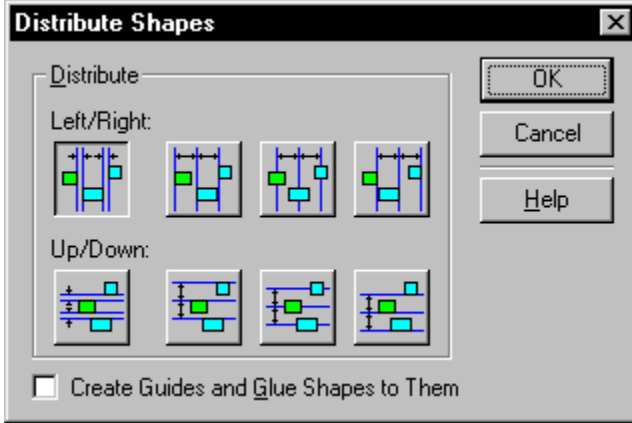
### **See also**

[Cutting, copying, and pasting text](#)

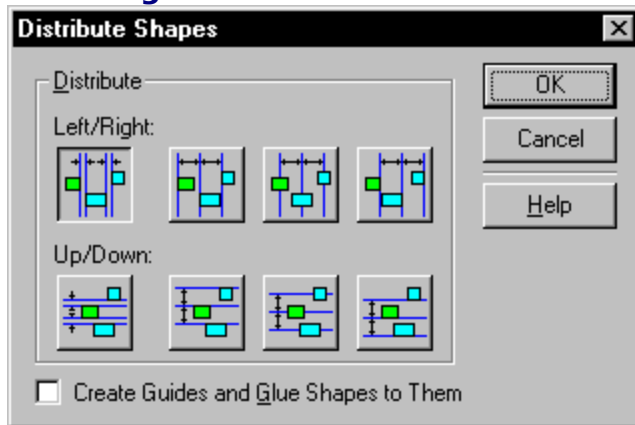
[Selecting text](#)

[Typing text into shapes](#)

## Selecting text

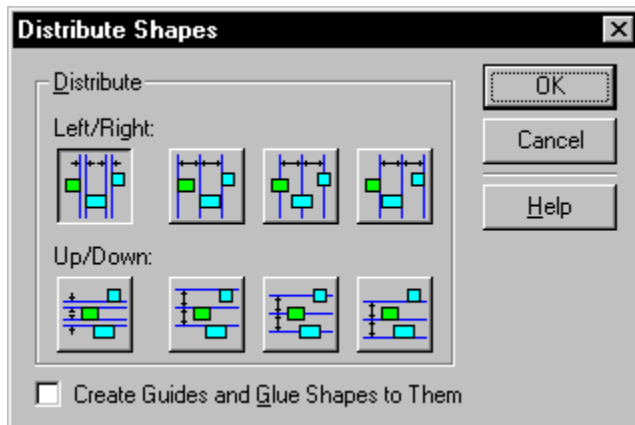


## Selecting text



### [Overview](#)

Before you copy, delete, paste, or format text, you need to open a shape's text block and select the text you want to work with. If no text is selected, the changes you make affect the entire text block.



### To select text:

1. Double-click the shape to open the text block, or click the text with the text tool.
2. 

To:	Do this:
Select all text	Choose <u>Select All</u> from the Edit menu
Select characters	Click and drag
Select a word	Double-click
Select a paragraph	Triple-click

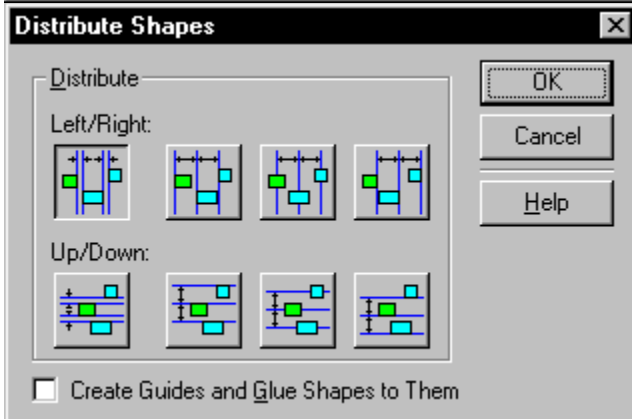
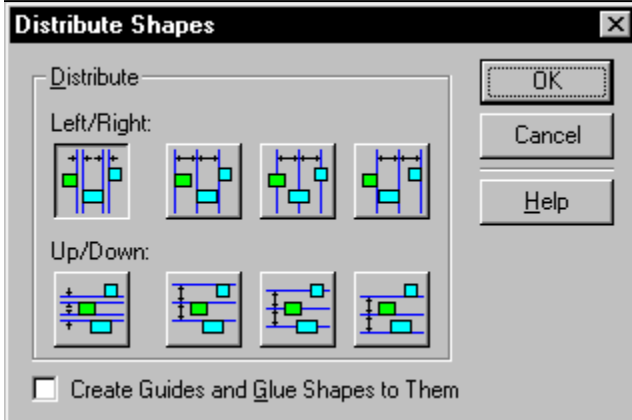
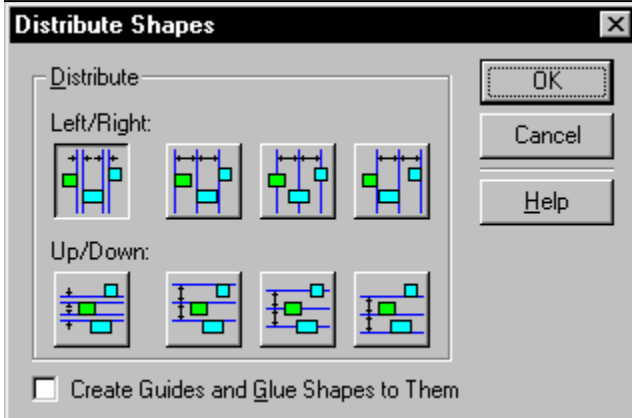
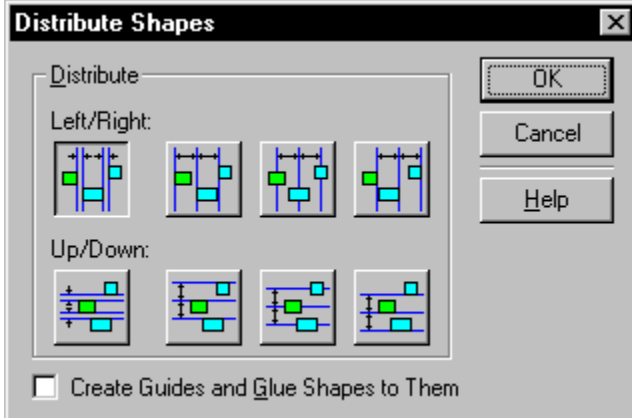
### See also

[Cutting, copying, and pasting text](#)

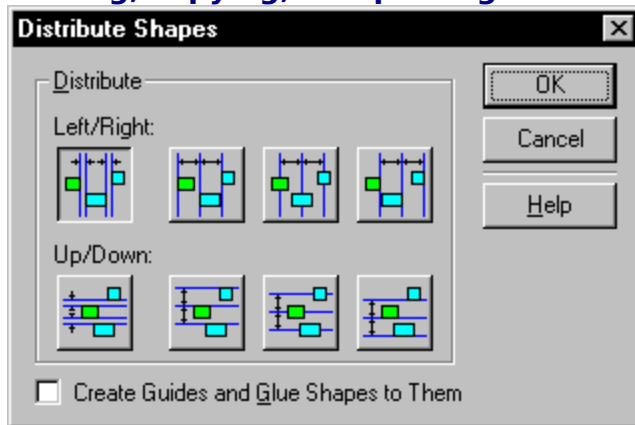
[Selecting a text block](#)

[Typing text into shapes](#)

## **Cutting, copying, and pasting text**

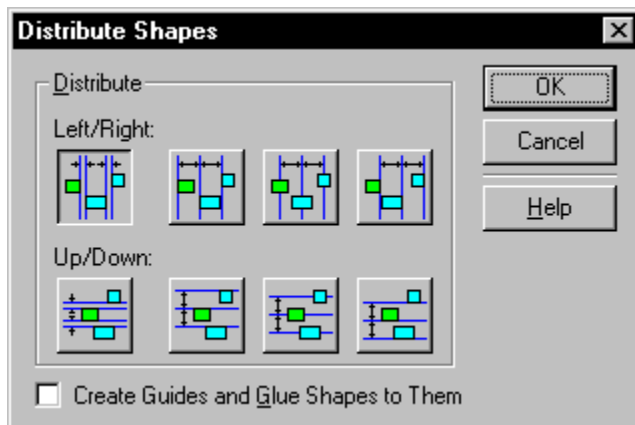


## Cutting, copying, and pasting text



[Overview](#)

You copy, cut, or paste text in Visio in the same way you do in many word-processing programs. You can also reverse text changes by using the Undo command.



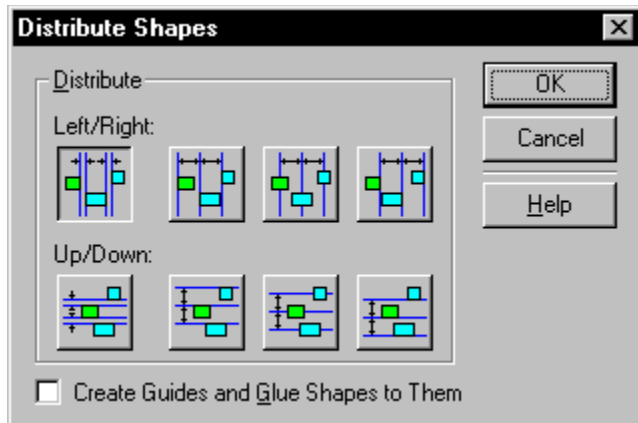
### To copy or cut selected text:

1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. Select the text you want to copy or cut.
3. From the Edit menu, choose the command you need:

Choose Copy or click the Copy button on the toolbar to copy the text to the Clipboard.

Choose Cut or click the Cut button on the toolbar to delete the text and move it to the Clipboard.





**To paste text:**

1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. Place the insertion point where you want to paste the text.
3. From the Edit menu, choose [Paste](#), or click the Paste button on the toolbar.

To paste text in an independent text block, drag the text tool to create the text block, then choose Paste from the Edit menu.

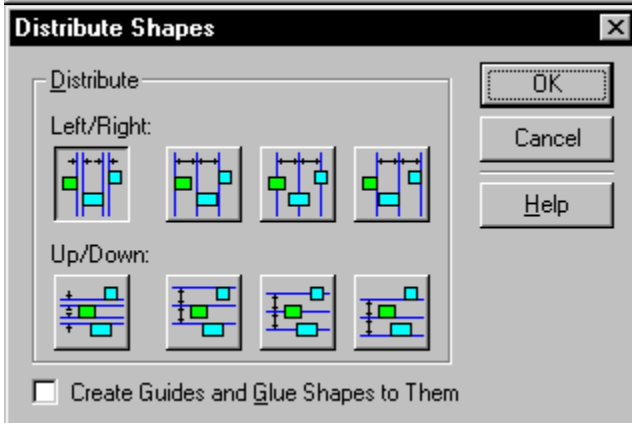
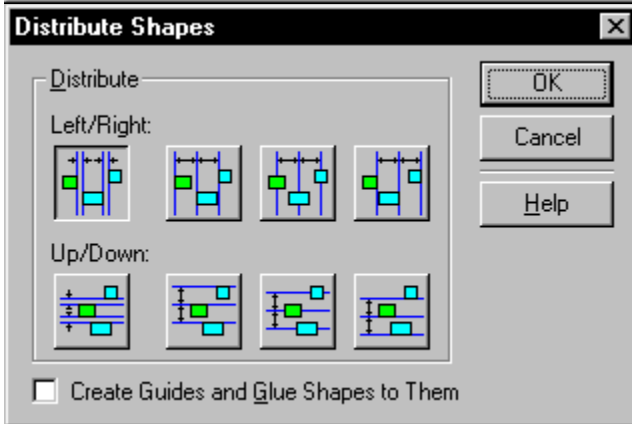
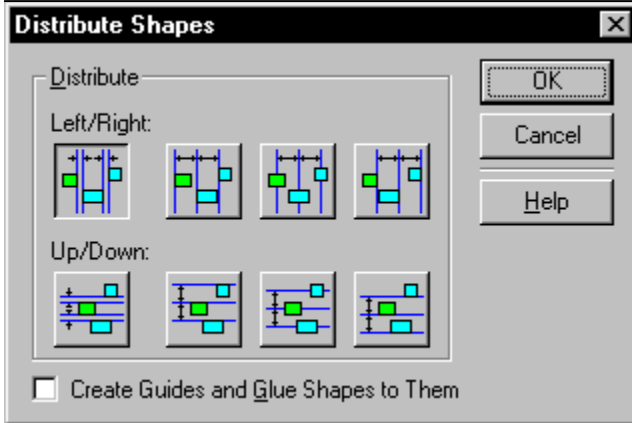
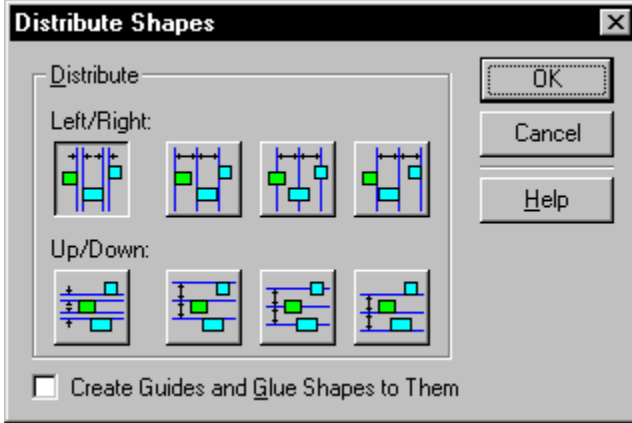
**Tip:** You can quickly repeat an action such as pasting text by pressing the F4 key.

**See also**

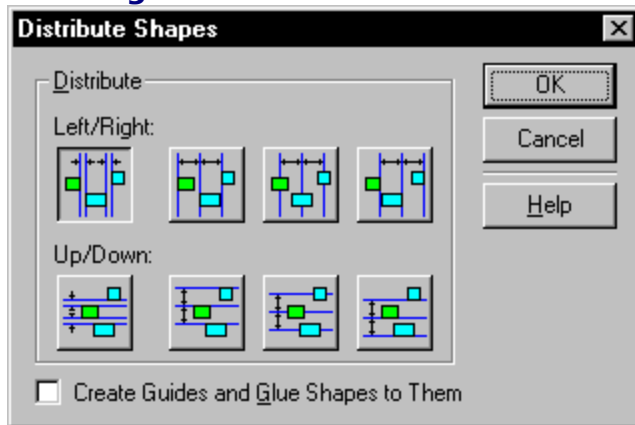
[Typing text into shapes](#)

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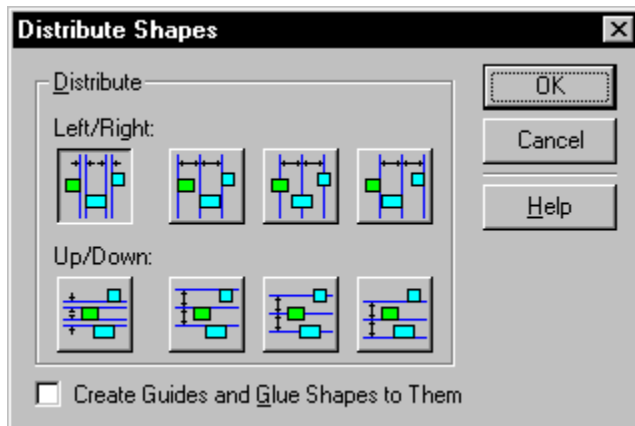
**Deleting text**



## Deleting text



[Overview](#)



### To delete text:

1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. Select the text you want to delete.
3. From the Edit menu, choose [Clear](#), or press the Delete key.

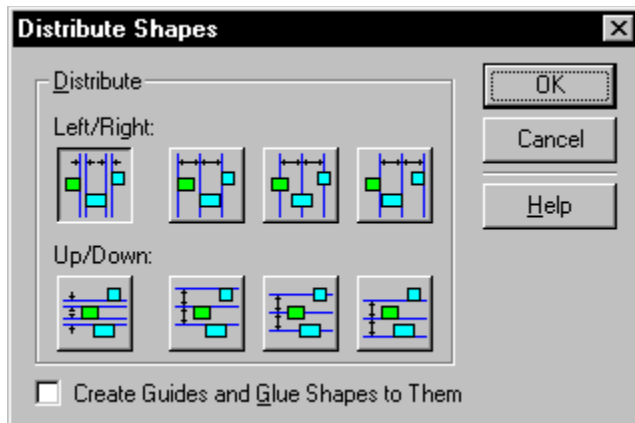
### See also

[Adding and replacing text](#)

[Cutting, copying, and pasting text](#)

[Selecting text](#)

## Formatting text



[Related procedures](#)

You [format](#) text in Visio in much the same way as you format text with many word-processing programs.

Visio has four text formatting dialog boxes: [Font](#), [Paragraph](#), [Tabs](#), and [Text Block](#). Each controls an attribute of text. You can also format text using the Style dialog box and the Text style list, the Font list, and toolbar buttons.

To apply a character, paragraph, or tab formatting to a portion of a shape's text, select a range of text at least one character long.

To apply a paragraph or tab formatting to a paragraph, triple-click to select the paragraph, then apply the formatting.

To format text, you can use these shortcuts.

<b>To format text as:</b>	<b>Press:</b>
Bold	Ctrl+Shift+B
Italic	Ctrl+Shift+I
Small caps	Ctrl+Shift+Y
Subscript	Ctrl+Shift+X
Superscript	Ctrl+Shift+Z
Underline	Ctrl+Shift+U

[Adding and deleting tabs](#)

[Aligning and indenting paragraphs](#)

[Aligning text in the text block](#)

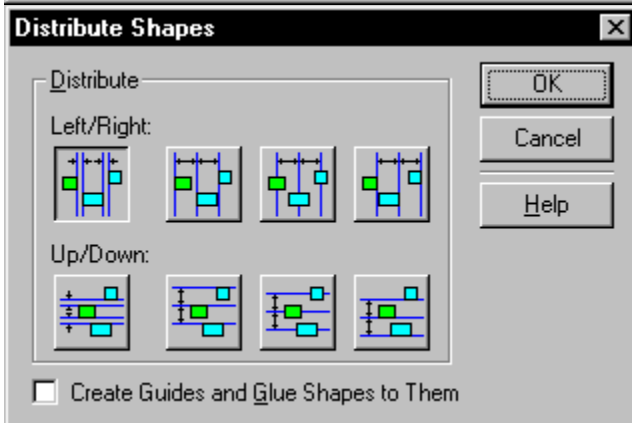
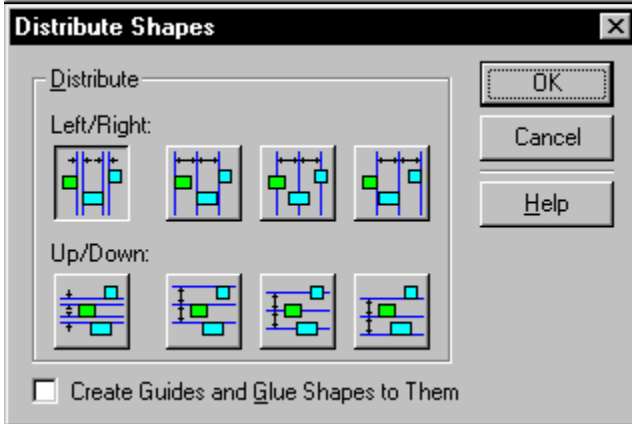
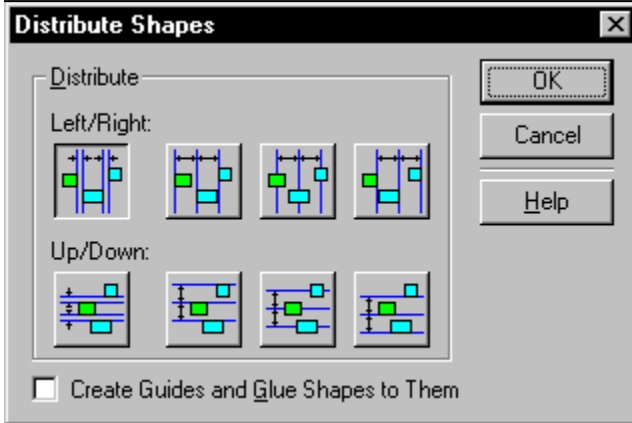
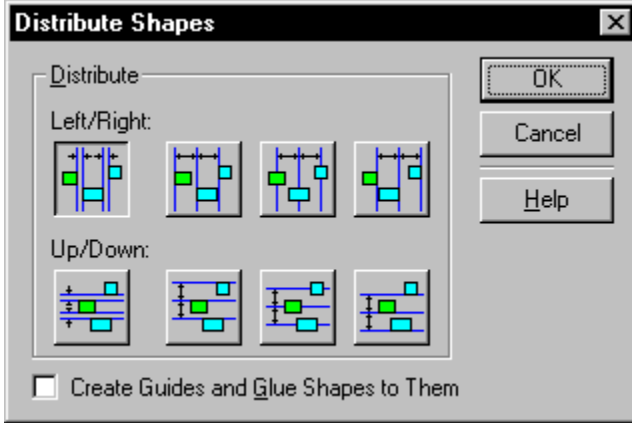
[Changing font attributes](#)

[Setting line spacing](#)

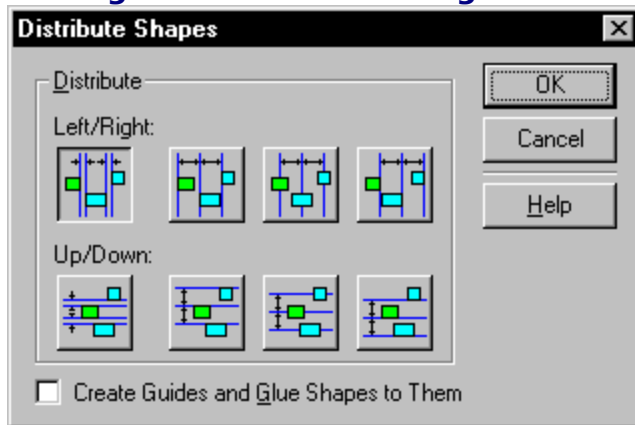
[Setting text block margins](#)

[Setting the text block background color](#)

## Setting the text block background color

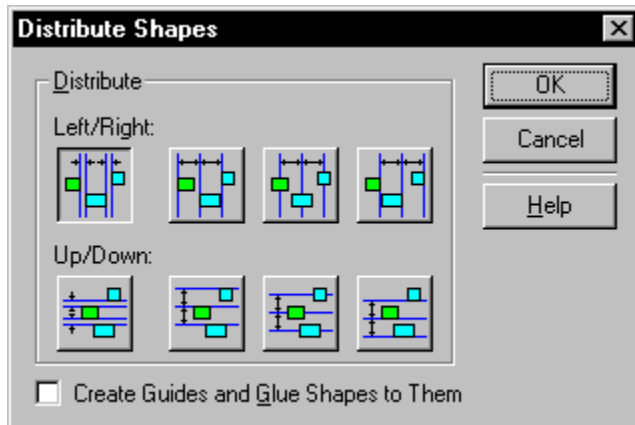


## Setting the text block background color



[Overview](#)

The background color of the [text block](#) can be different from that of the shape.



**To color the text block background:**

1. Select the shape.
2. From the Format menu, choose [Text Block](#).
3. In the Text Background section of the dialog box, choose a color from the Solid Color list.  
**Note:** The text block background color only appears when the shape contains text.
4. Click OK.

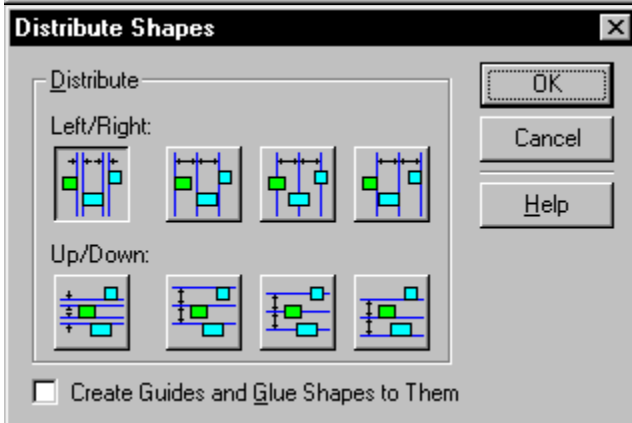
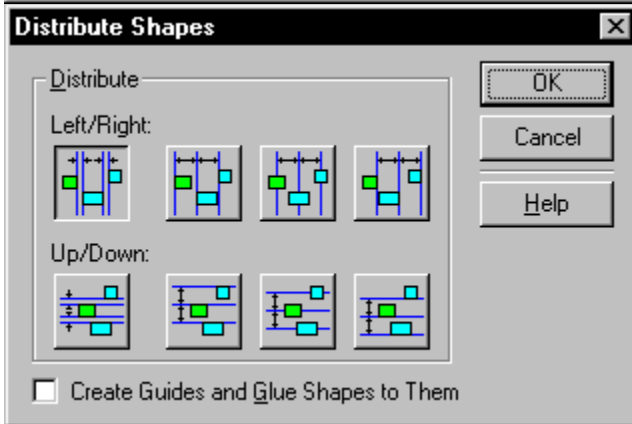
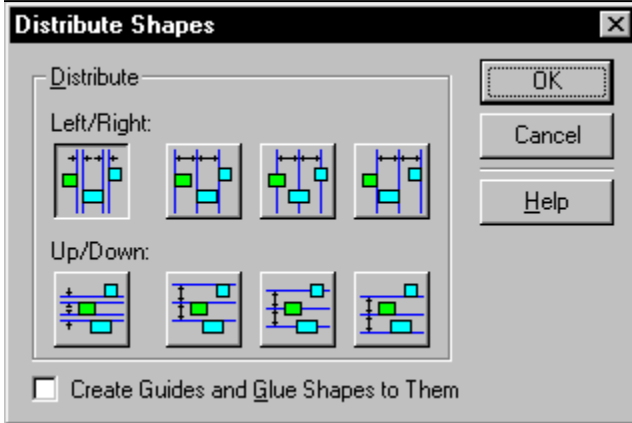
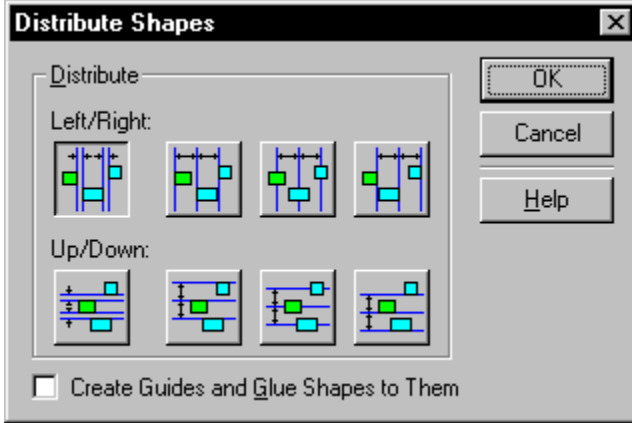
### See also

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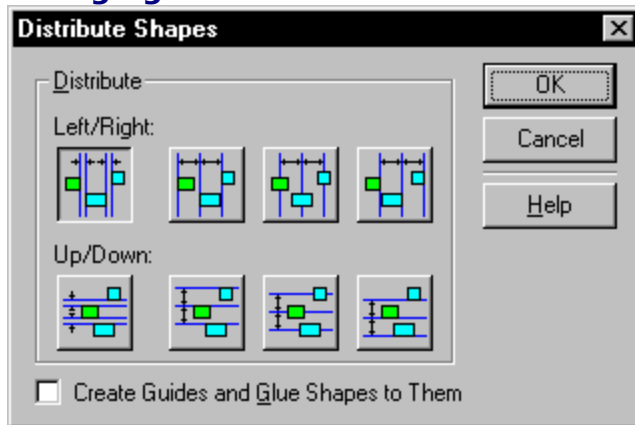
[Adding and replacing text](#)  
[Selecting shapes](#)



## Changing font attributes

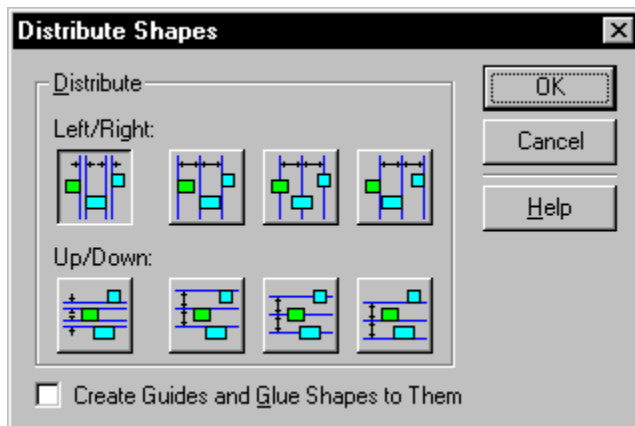


## Changing font attributes



### [Overview](#)

You can change font attributes such as color and size for an entire [text block](#) or for selected text. For example, you can select text and make that text bold.



### **To change and apply font attributes:**

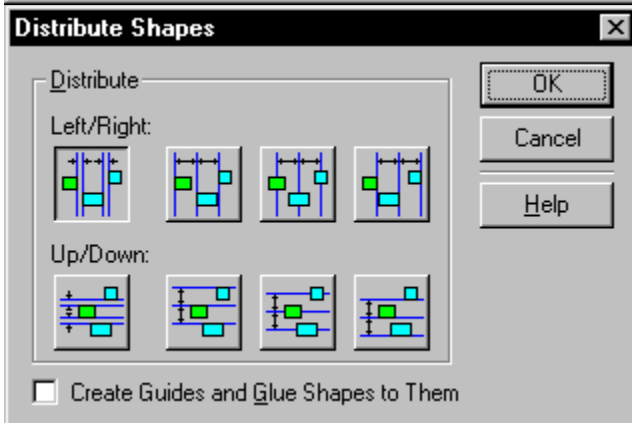
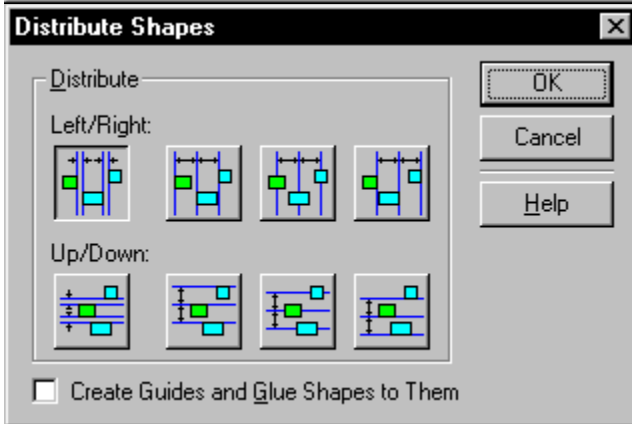
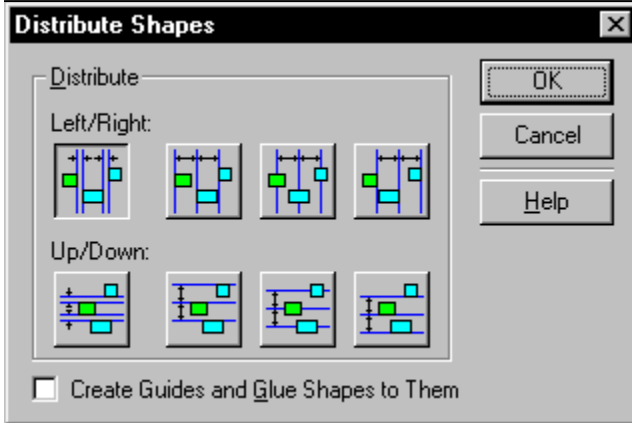
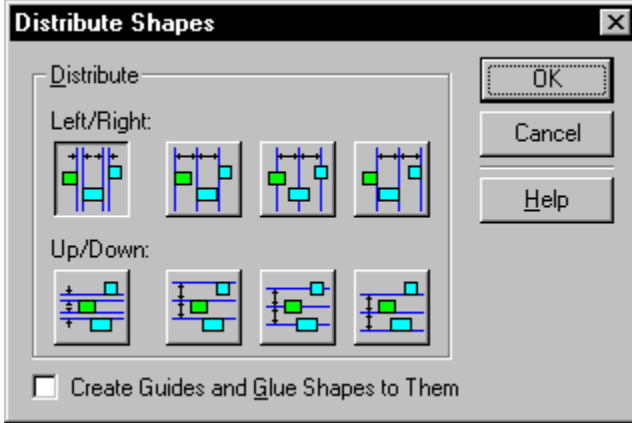
1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. To format a specific word, select the text you want to [format](#).
3. From the Format menu, choose [Font](#).
4. In the dialog box, choose options for the formats you want.  
You can choose options for the font, font size, color, case, position, and language.
5. Click Apply to apply the formats without closing the dialog box, or click OK to apply the formats and close the dialog box.

### **See also**

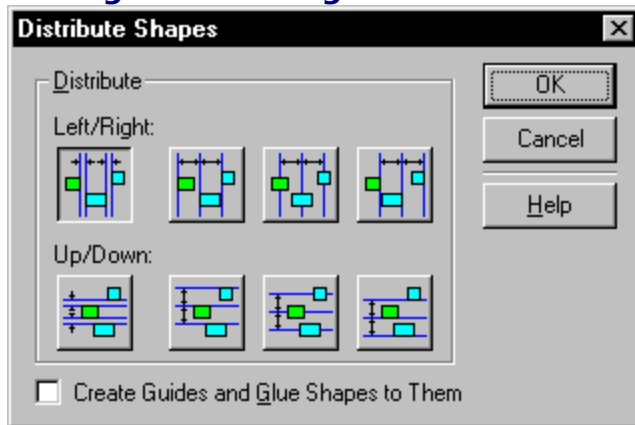
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[Adding and deleting tabs](#)  
[Aligning and indenting paragraphs](#)  
[Aligning text in the text block](#)  
[Selecting text](#)  
[Setting line spacing](#)  
[Setting text block margins](#)  
[Setting the text block background color](#)

## **Adding and deleting tabs**

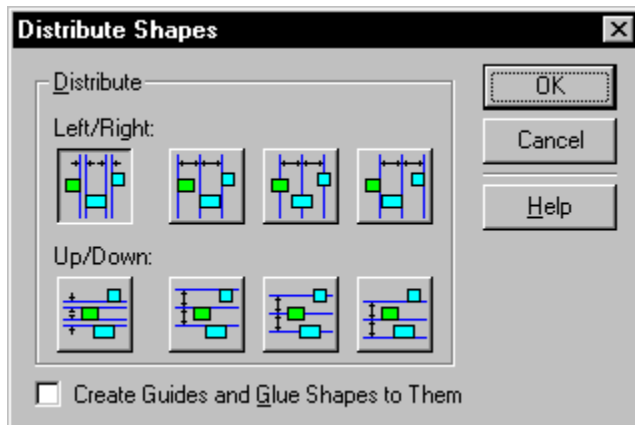


## Adding and deleting tabs



### [Overview](#)

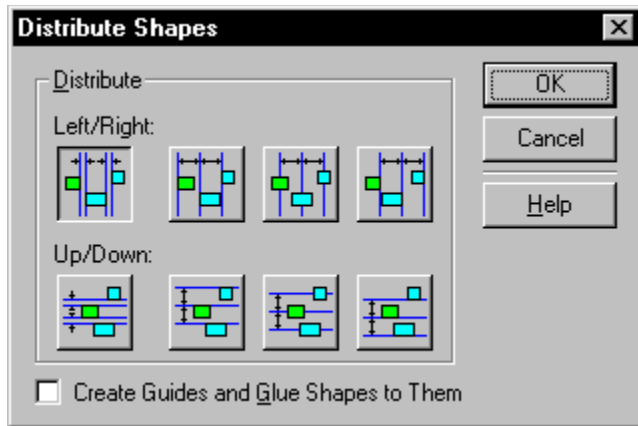
You can add and delete tabs to easily align text at the center, left, or right of the [text block](#), or to create decimal tabs to align columns of numbers. The position of tab reflects the width of a shape's text block, not the position of the shape on the page.



### **To specify tab indentations for**

#### **selected paragraphs:**

1. Double-click the shape to open the [text block](#), or click the text with the text tool.  
To set a tab for an entire text block, select the shape.
2. Select the paragraph you want to format.
3. From the Format menu, choose [Tabs](#).
4. In the Edit Tab section, type the position you want for a tab stop in the Position box.
5. From the Align list, choose an alignment option for the tab.
6. In the Edit Tab section, click Add.
7. Click OK.



**To delete a tab stop:**

1. Select the shape.
2. From the Format menu, choose [Tabs](#).
3. In the Tab Stop section, choose the tab stop you want to delete.
4. In the Edit Tab section, click Delete.
5. Click OK.

**See also**

[Aligning and indenting paragraphs](#)

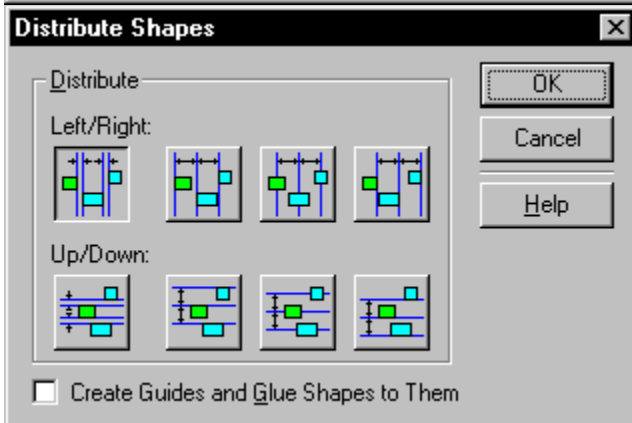
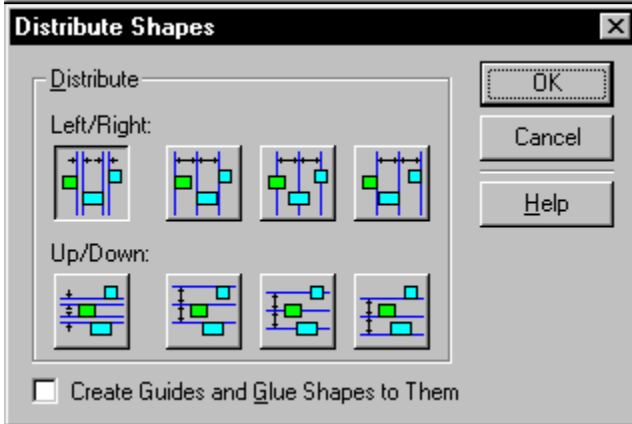
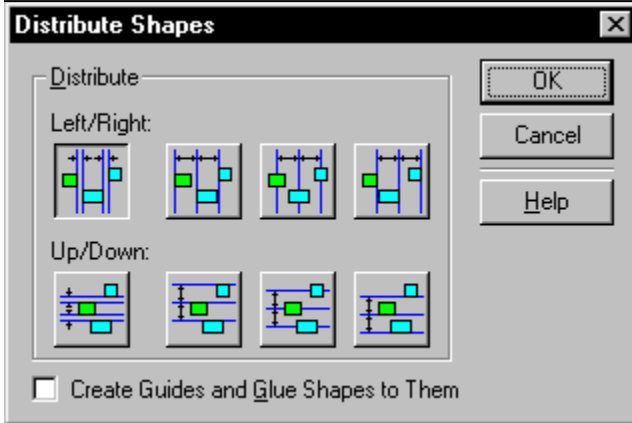
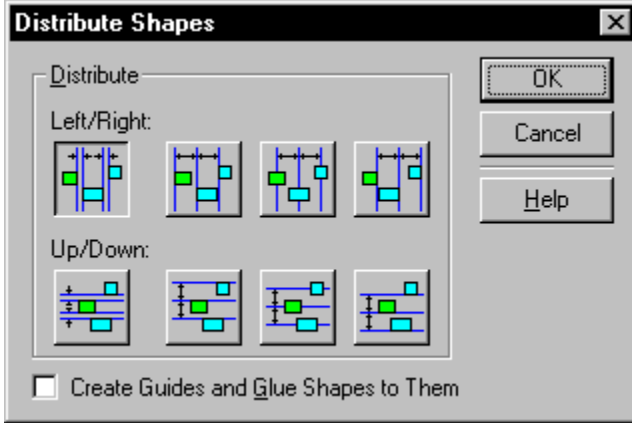
[Aligning text in the text block](#)

[Setting line spacing](#)

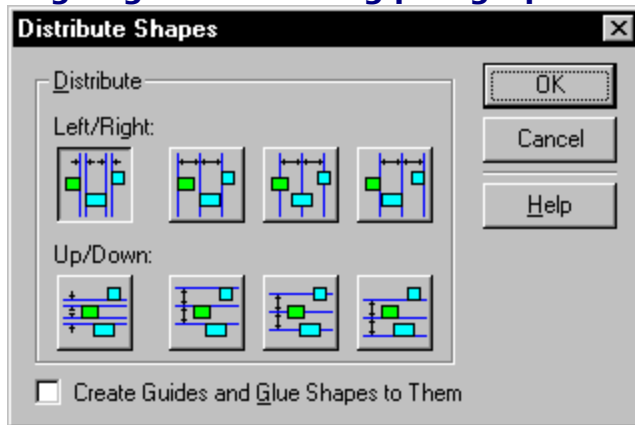
[Setting text block margins](#)

## **Aligning and indenting paragraphs**

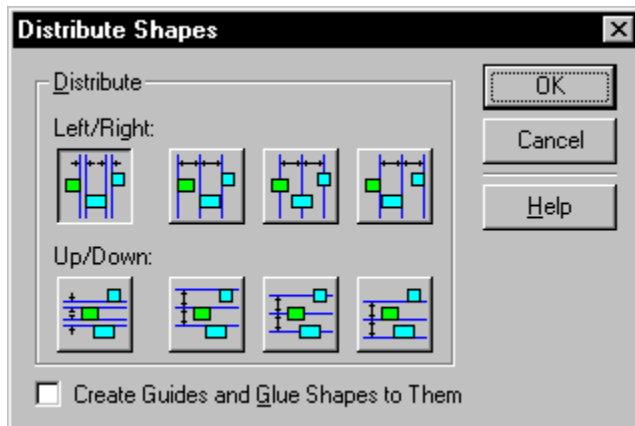




## Aligning and indenting paragraphs



[Overview](#)



### To align and indent paragraphs:

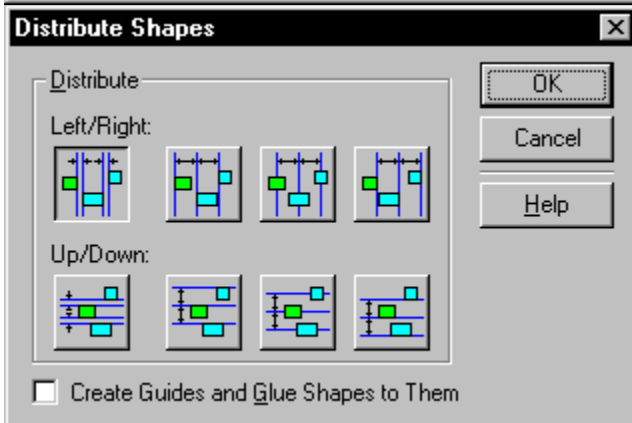
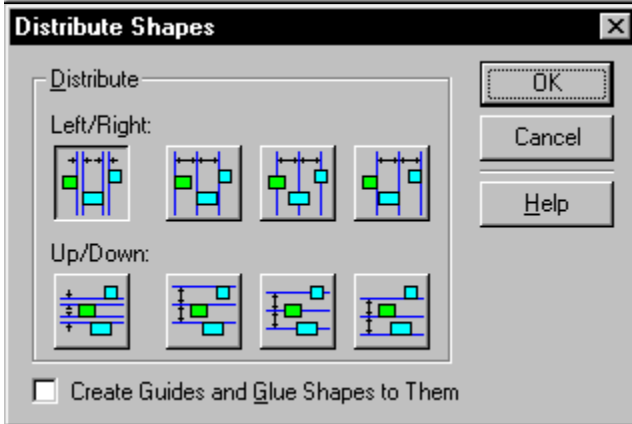
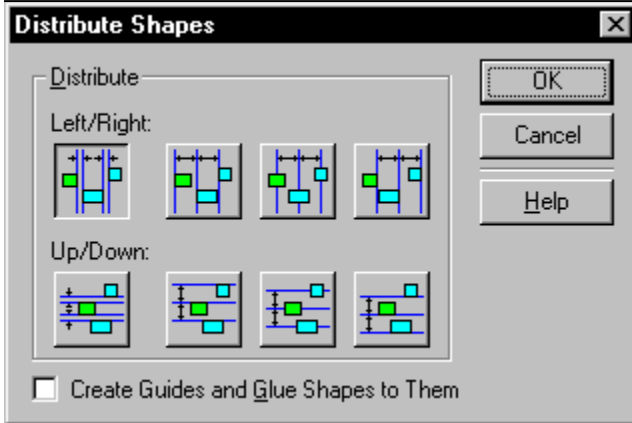
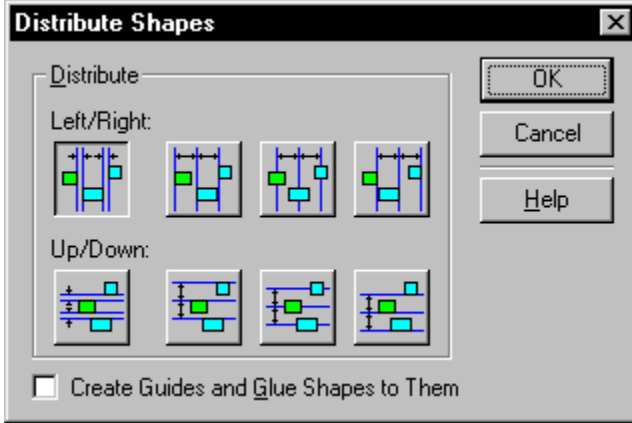
1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. Select the paragraph you want to [format](#).
3. From the Format menu, choose [Paragraph](#).
4. To set the horizontal alignment for a paragraph, choose an option from the Horizontal Alignment list.
5. To indent a paragraph, enter values in the Indents boxes.
6. Click Apply to apply the formats without closing the dialog box, or click OK to apply the formats and close the dialog box.

### See also

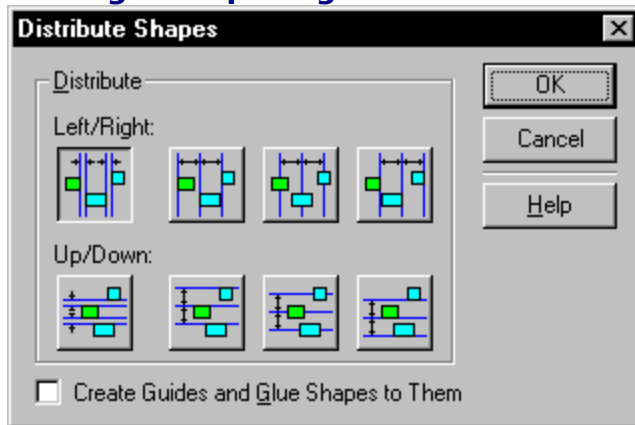
---

[Adding and deleting tabs](#)  
[Aligning text in the text block](#)  
[Setting line spacing](#)  
[Setting text block margins](#)

## Setting line spacing

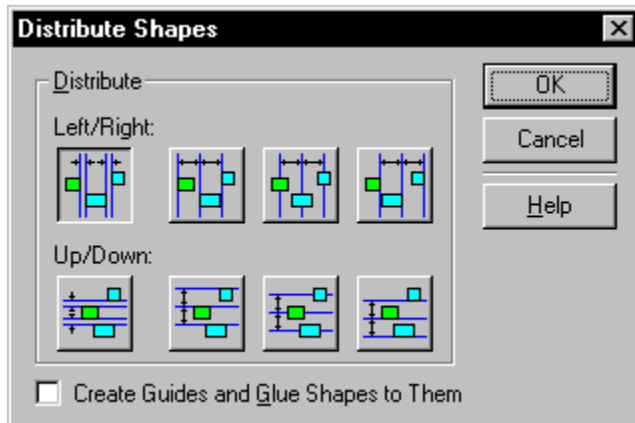


## Setting line spacing



### [Overview](#)

You can adjust the amount of space before each new paragraph, after each paragraph, and between the lines in a paragraph in a [text block](#).



### **To set line spacing:**

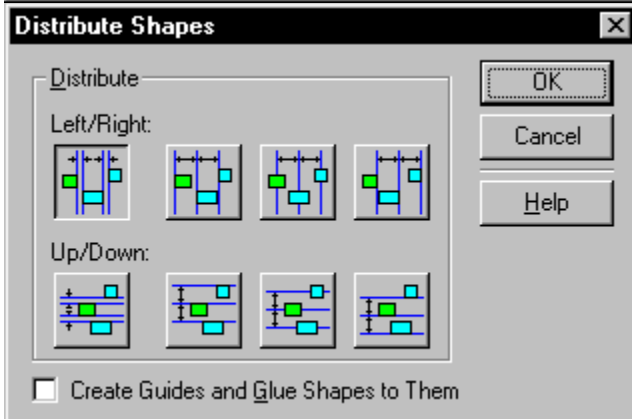
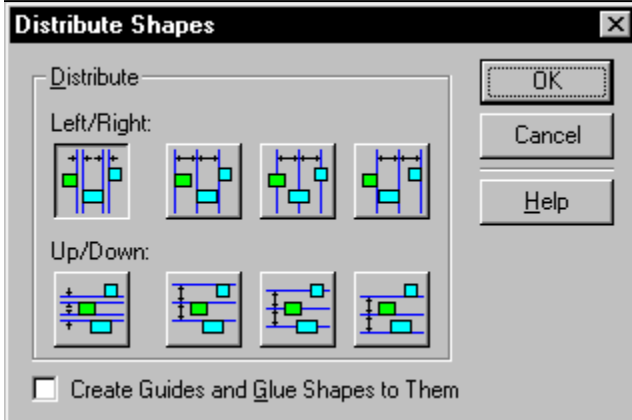
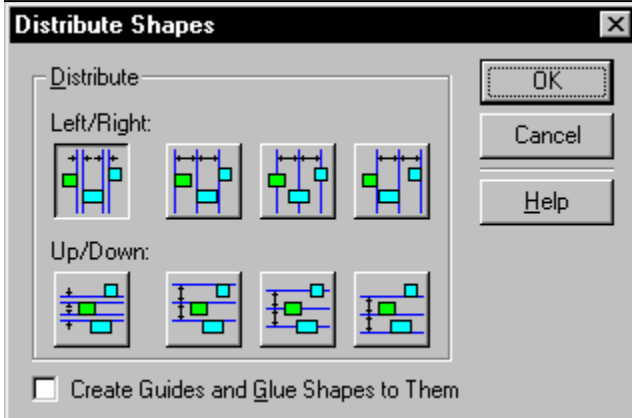
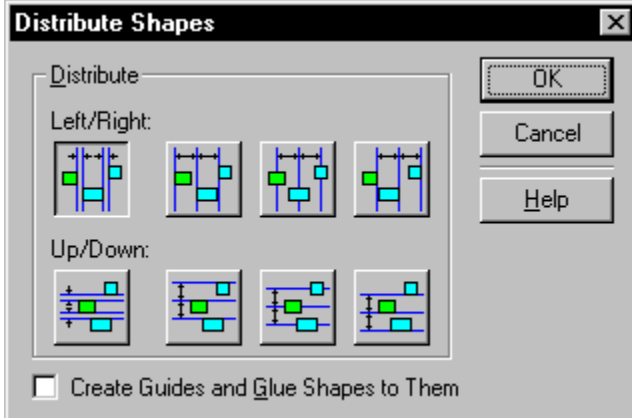
1. Double-click the shape to open the [text block](#), or click the text with the text tool.
2. Select the paragraph or text block you want to format.
3. From the Format menu, choose [Paragraph](#).
4. In the Spacing section, specify the line spacing you need:
  - To specify the spacing before each paragraph, type a value in the Before box.
  - To specify the spacing after each paragraph, type a value in the After box.
  - To specify the spacing between lines of a paragraph, type a value in the Line box.
5. Click OK.

### **See also**

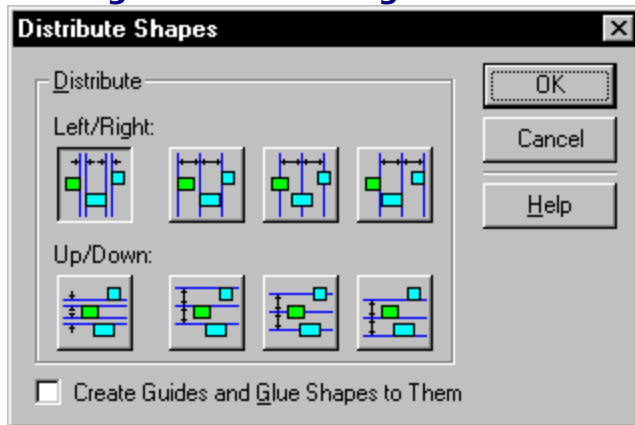
---

[Adding and deleting tabs](#)  
[Aligning and indenting paragraphs](#)  
[Aligning text in the text block](#)  
[Setting text block margins](#)

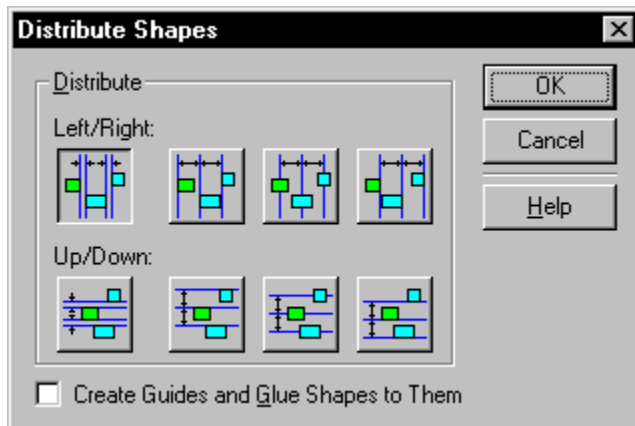
## Setting text block margins



## Setting text block margins



[Overview](#)



**To set text block margins:**

1. Select the shape you want to format.
2. From the Format menu, choose [Text Block](#).
3. In the Margins section, specify values in the Top, Bottom, Right, and Left boxes to set the text block margins.
4. Click OK.

### See also

[Adding and deleting tabs](#)

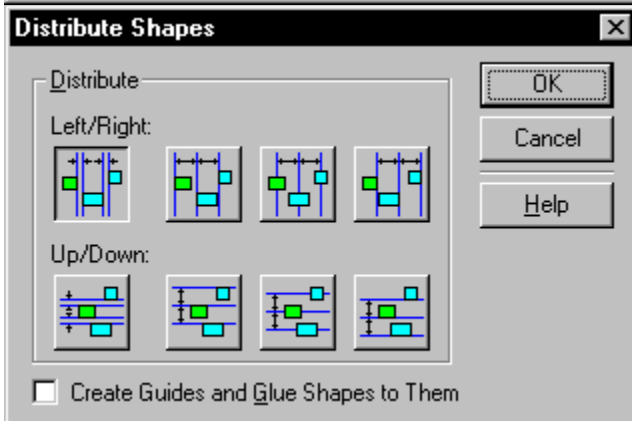
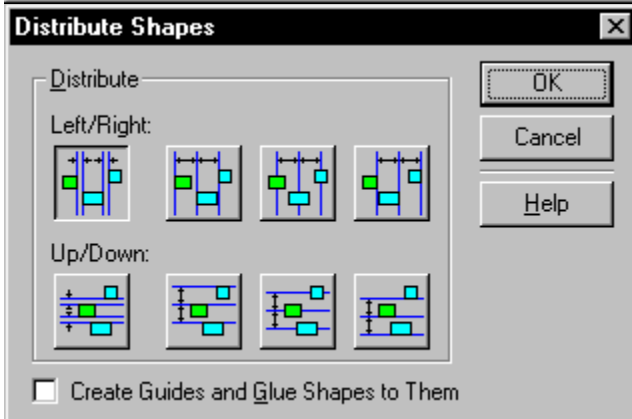
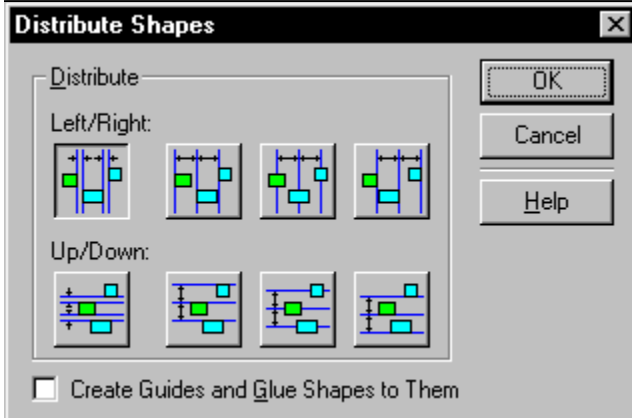
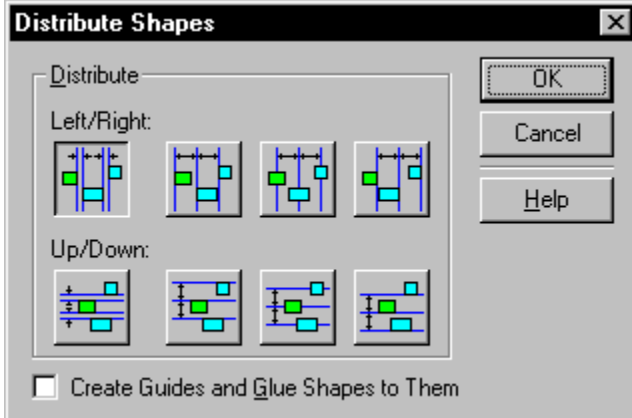
[Aligning and indenting paragraphs](#)

[Aligning text in the text block](#)

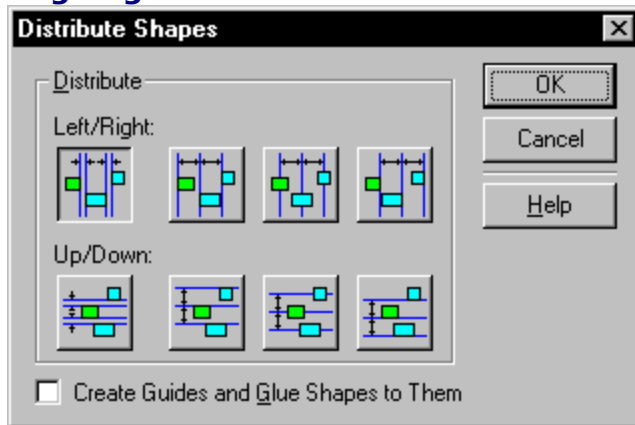
[Setting line spacing](#)



## **Aligning text in the text block**

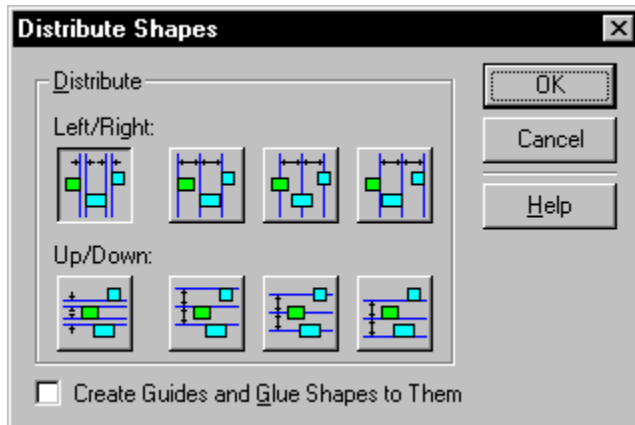


## Aligning text in the text block



[Overview](#)

You can align a [text block](#) with the top, middle, or bottom of text block margins.



**To align text in the text block:**

1. Select the shape you want to format.
2. From the Format menu, choose [Text Block](#).
3. From the Vertical Alignment list, choose a text alignment option.
4. Click OK.

### See also

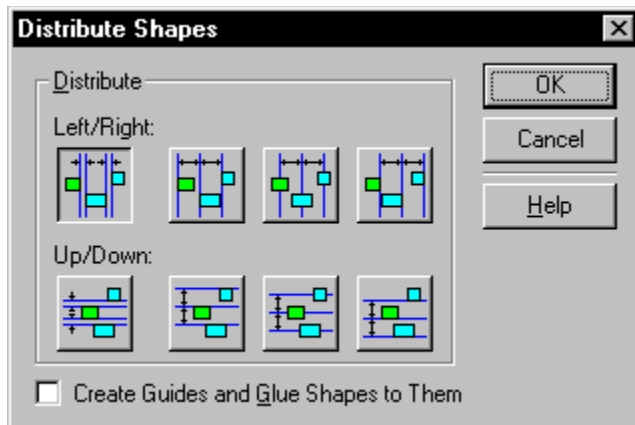
[Adding and deleting tabs](#)

[Aligning and indenting paragraphs](#)

[Setting line spacing](#)

[Setting text block margins](#)

## Selecting, sizing, and moving text blocks



[Related procedures](#)

When you size, rotate, or move a shape, its [text block](#) sizes, rotates, or moves with it. You can also size, rotate, and move a text block separately from its shape.

By moving a text block away from its shape, you can create a label that moves with the shape. You can move a shape's text block partially or completely outside the shape's borders. Even if the text block is not touching the shape, the text block moves, rotates, and sizes with the shape.

Before you size, rotate, or move a text block, you need to select the text block with the [text block tool](#). When a text block is selected, it displays [selection handles](#). Text blocks for 2-D shapes also display rotation handles at their corners. When you select the text block of a line, it appears that the line itself is selected, but it's really the text block that's selected.

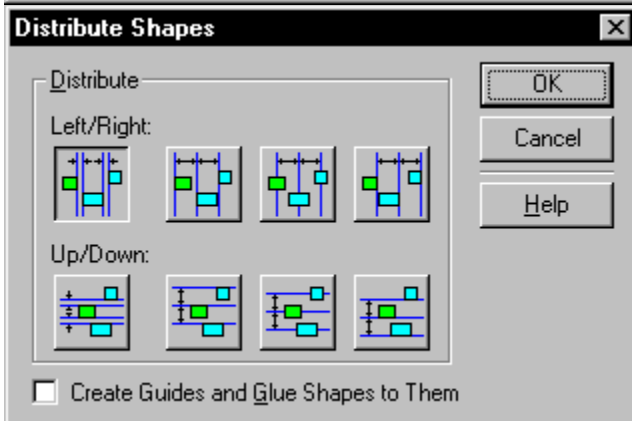
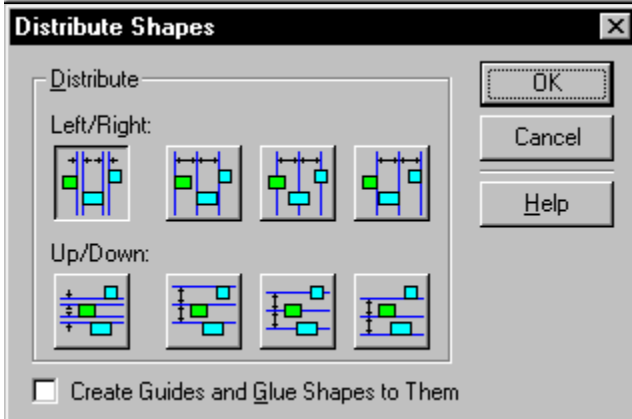
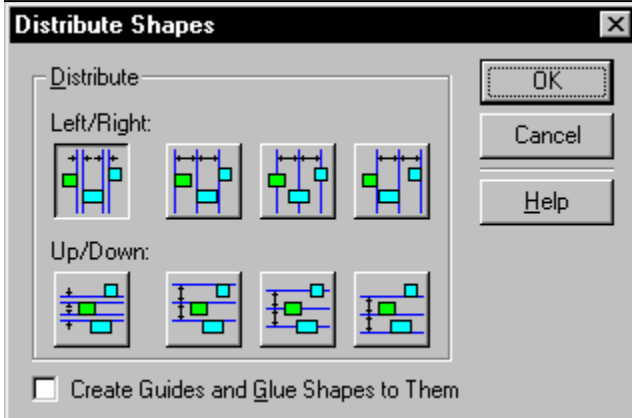
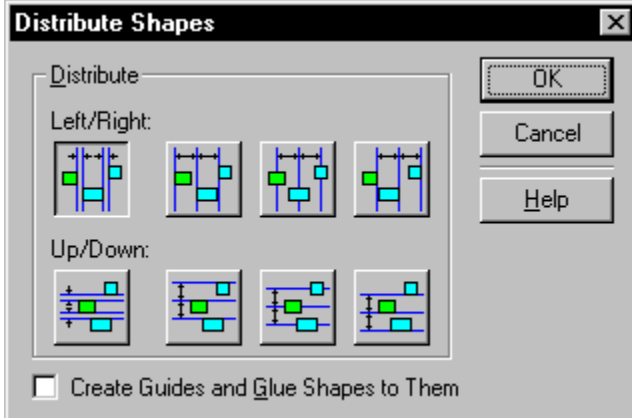
Moving a text block

Rotating a text block

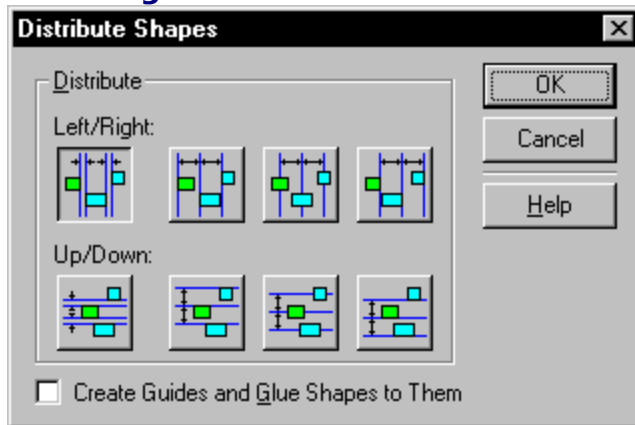
Selecting a text block

Sizing a text block

## Selecting a text block

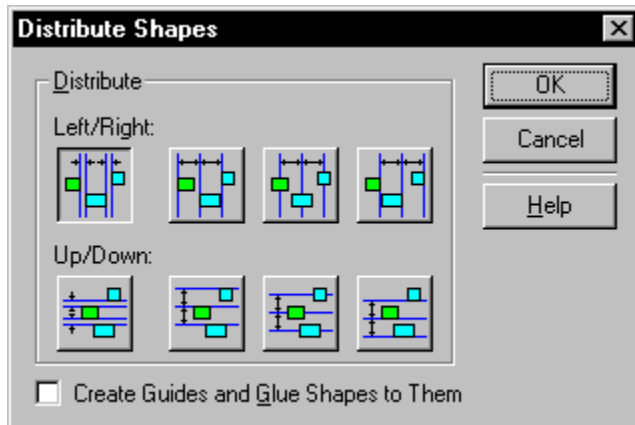


## Selecting a text block



[Overview](#)

Before you can size, move, or rotate a [text block](#), you need to select it first.



**To select a text block:**

1. From the text tool menu, choose the [text block tool](#).
2. Click the shape whose text block you want to select.

Alternatively, select the shape with the text tool, then press F2 to select the text block.

### See also

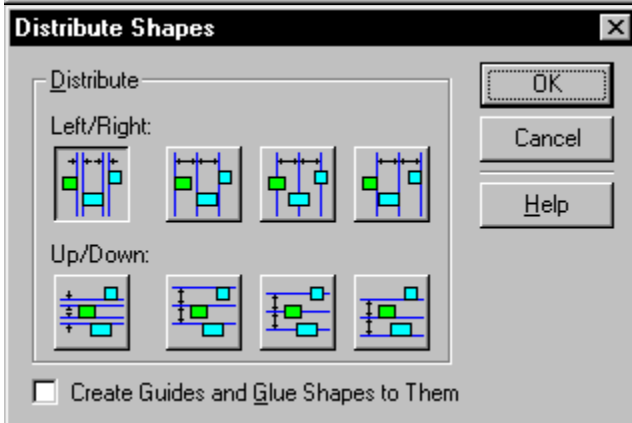
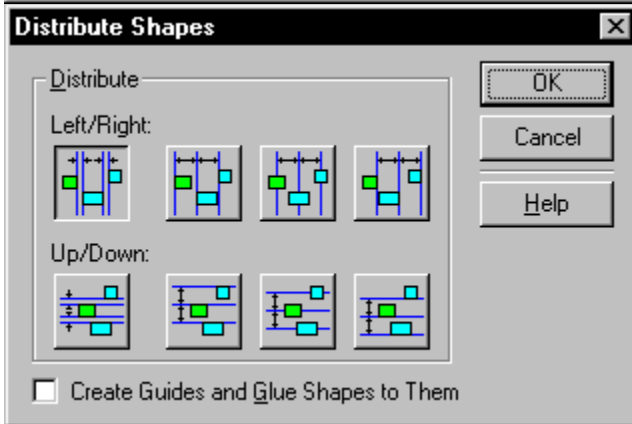
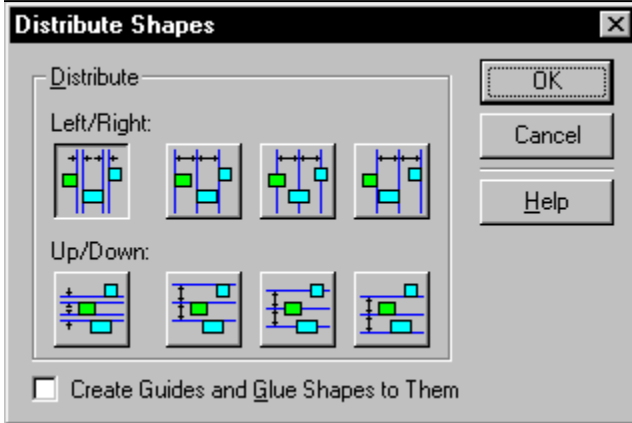
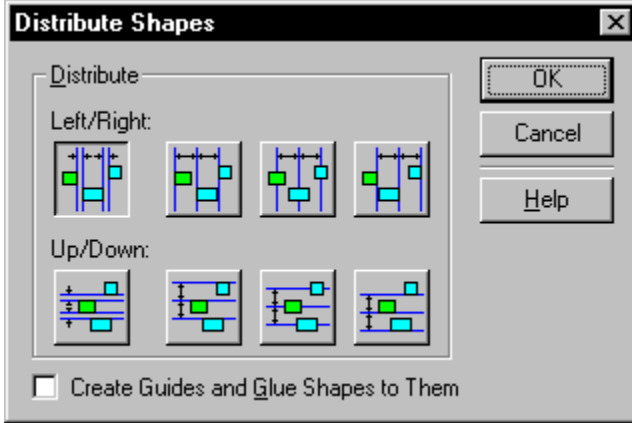
[Moving a text block](#)

[Rotating a text block](#)

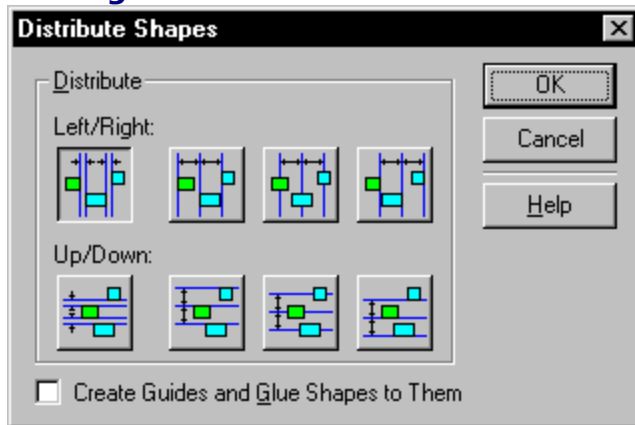
[Sizing a text block](#)



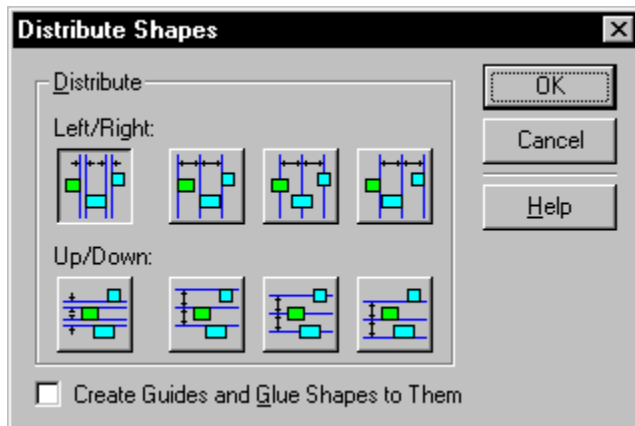
## **Moving a text block**



## Moving a text block



[Overview](#)



**To move a text block independently of**

**its shape:**

1. From the text tool menu, choose the [text block tool](#).
2. Click the shape to select its [text block](#).
3. Point to the dotted green line that indicates that the text block is selected.  
When the pointer is over the dotted line, it changes to a double rectangle.
4. Drag the text block to where you want it.

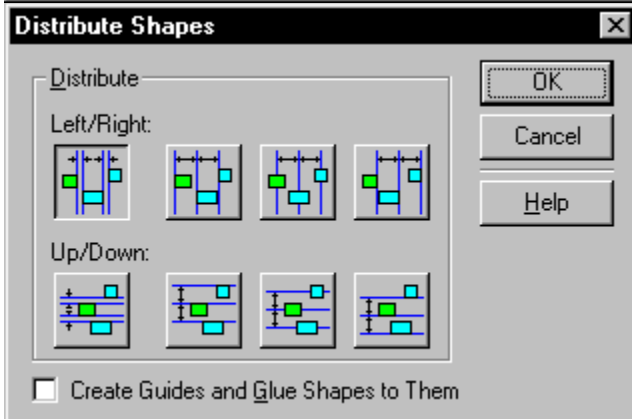
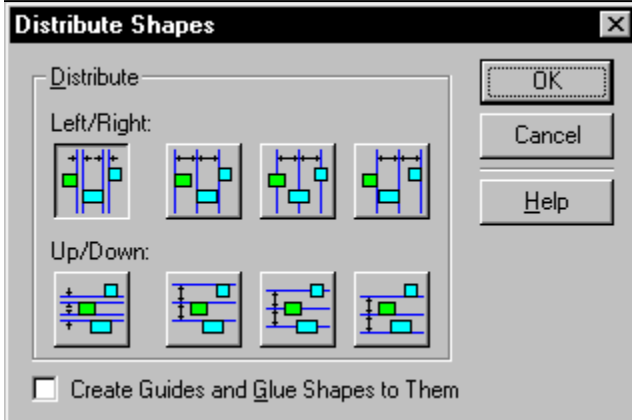
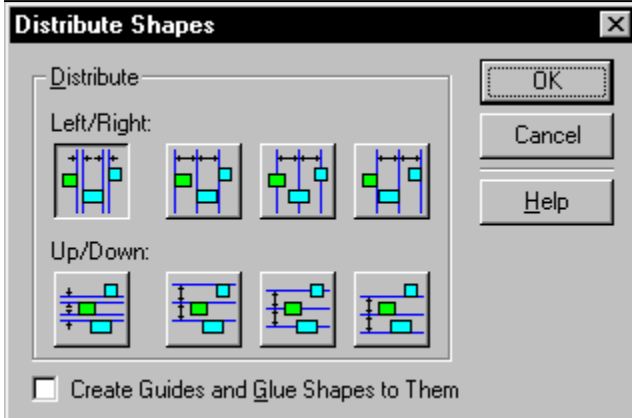
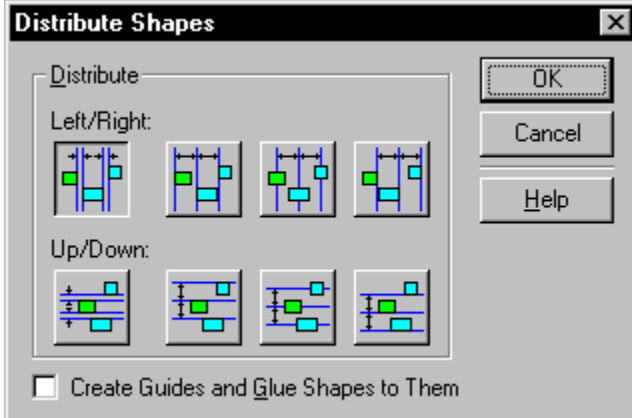
**Note:** If a shape is grouped, use the [Open Group](#) command to view it and move the text block.

### See also

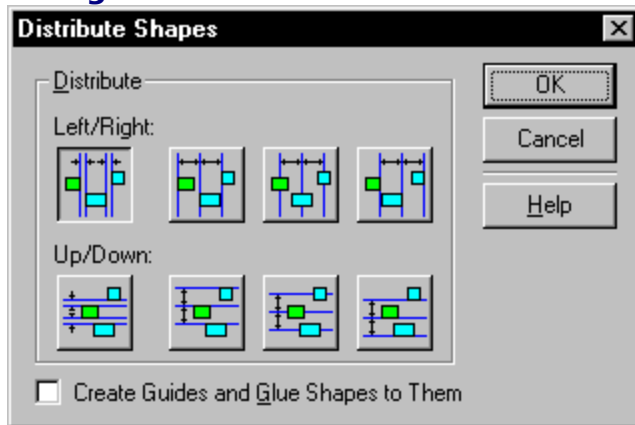
[Rotating a text block](#)

[Sizing a text block](#)

## **Sizing a text block**



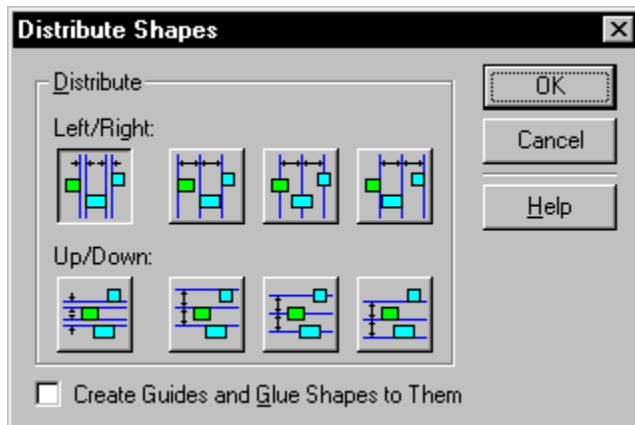
## Sizing a text block



### [Overview](#)

When you type text in a shape, the text block's width is determined by the shape's width. When you type independent text, Visio uses a default text block width unless you specify a different width before you type.

A text block's height is determined by how much text you type and the text block's width. You can change the size of a text block without changing the size of the shape.



### To change the text block width or

#### height:

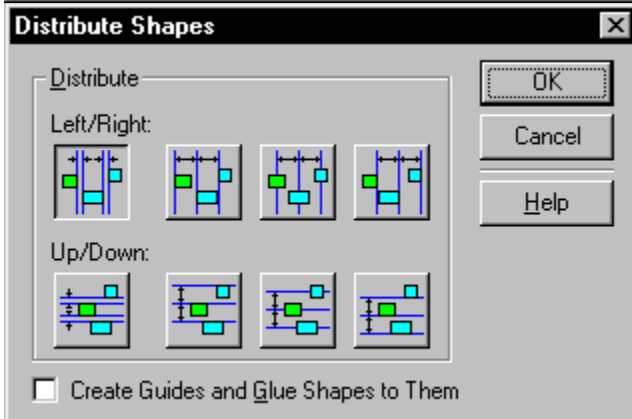
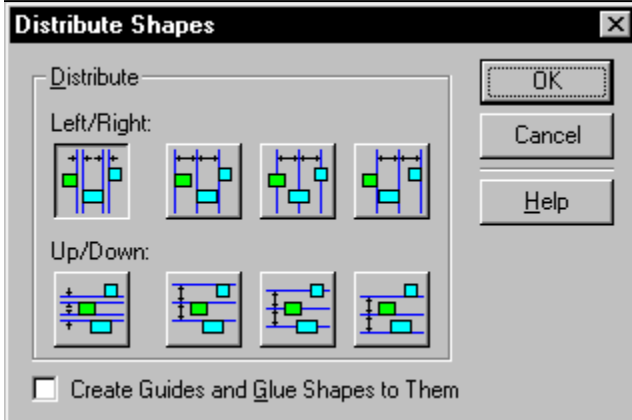
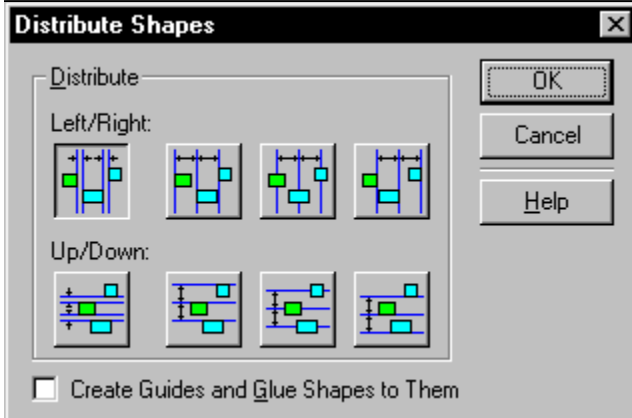
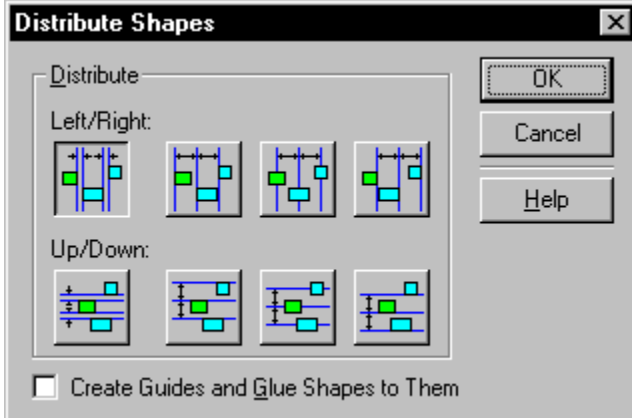
1. From the text tool menu, choose the [text block tool](#).
2. Click the shape to select its text block.
3. Drag a selection handle until the text block is the width or height you want.

#### See also

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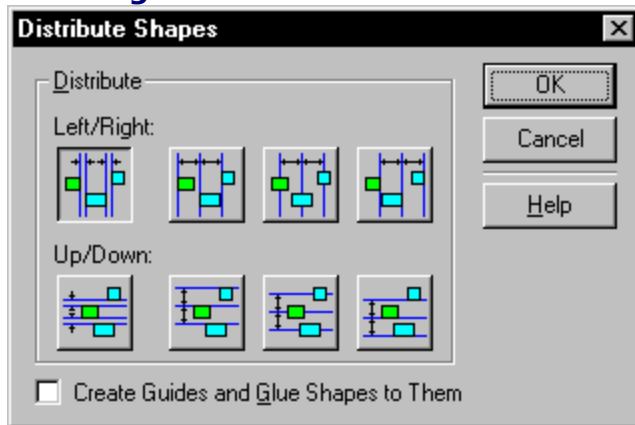
[Moving a text block](#)  
[Rotating a text block](#)

## Rotating a text block

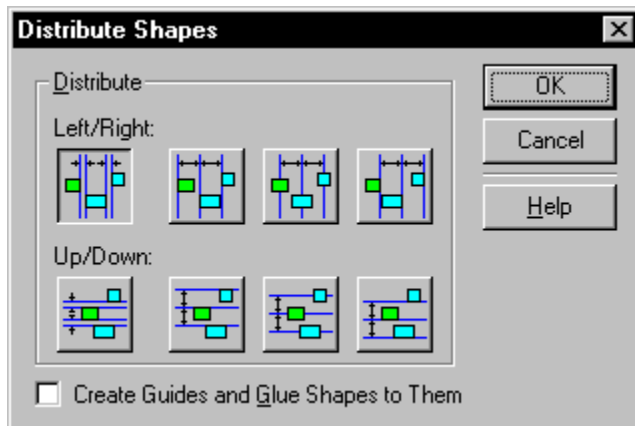




## Rotating a text block



[Overview](#)



**To rotate text independently of its**

### **shape:**

1. From the text tool menu, choose the [text block tool](#).
2. Click the shape to select its [text block](#).
3. Drag a [rotation handle](#).

If the text box is so small that you don't see rotation handles, resize the text box until you see the rotation handles.

When the pointer is over a rotation handle, it changes to a pair of arrows forming a circle.

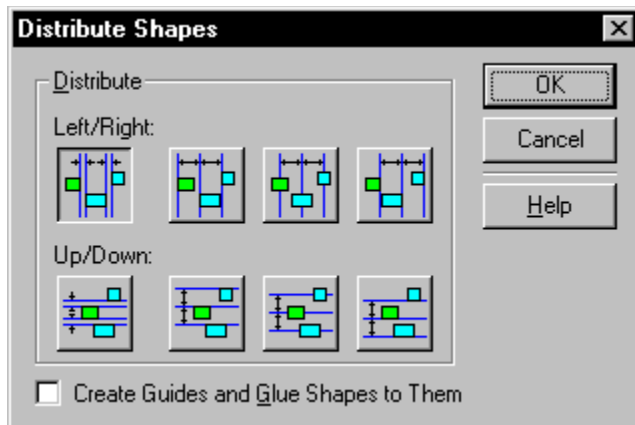
### **See also**

[Flipping and reversing shapes](#)

[Moving a text block](#)

[Sizing a text block](#)

## Using fields



### [Related procedures](#)

A field is a placeholder in text that displays information such as a date, time, or measurement. Information in fields changes automatically when you update a drawing. You can use fields to add dimension lines, callouts, and legends that reflect a drawing's current state. For example, if you insert the Current Date field, the current system date is displayed in the format you choose.

A text block can contain as many fields as you want. Use fields from existing categories or create your own formulas for fields. You can format or delete fields just as you format or delete other text.

Visio includes the following field categories:

[Custom Formula](#)

[Date/Time](#)

[Document Info](#)

[Geometry](#)

[Object Info](#)

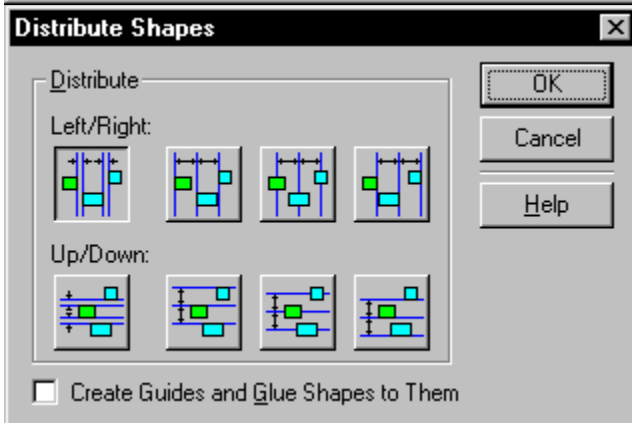
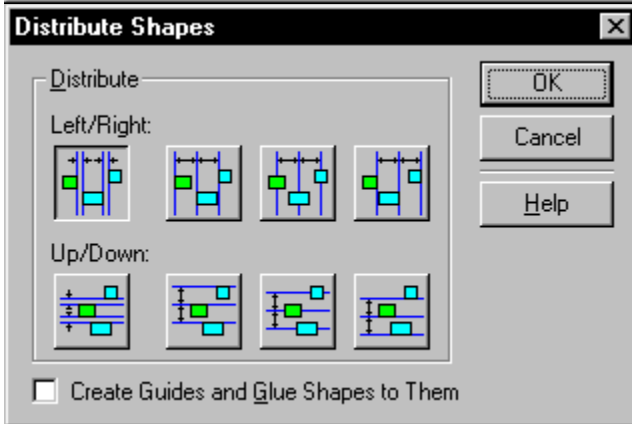
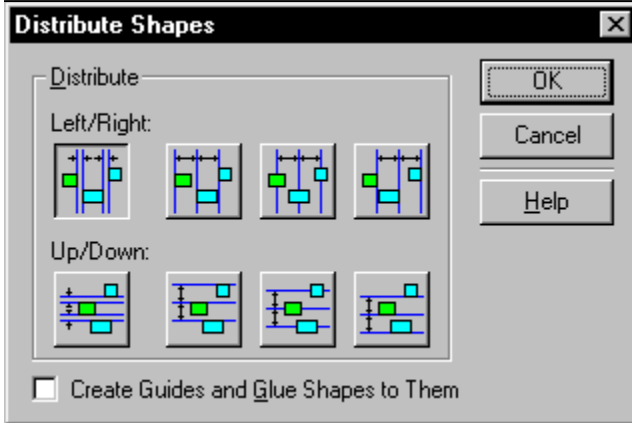
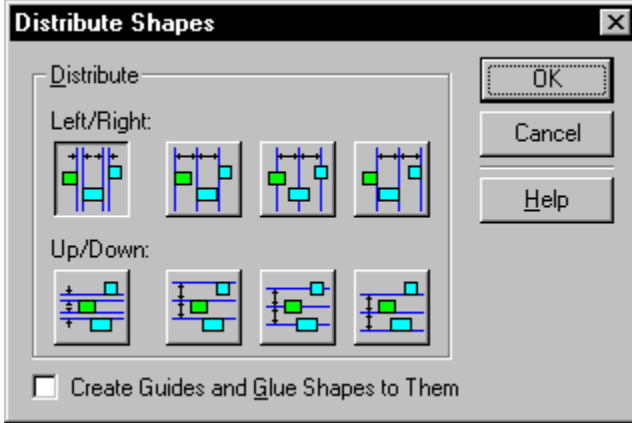
[Page Info](#)

[Lotus Notes](#)

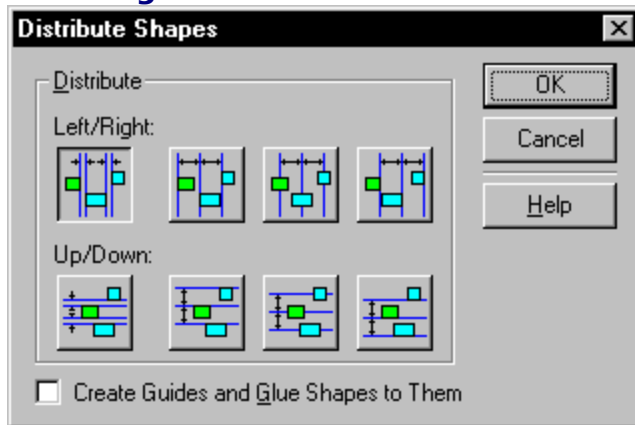
**Tip:** You can also associate custom data with shapes using the [Custom Properties section](#) of the ShapeSheet and the [Custom Properties](#) dialog box.

Inserting fields into text  
Using a custom formula in a field

## Inserting fields into text

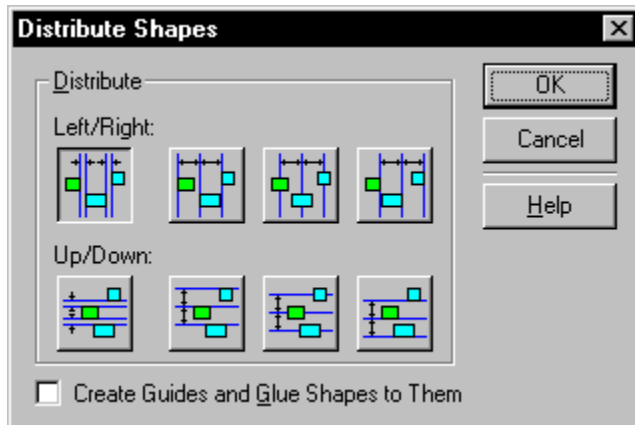


## Inserting fields into text



[Overview](#)

When you insert a [field](#) in text, Visio inserts the field at the [insertion point](#).



### To insert a field into text:

1. Double-click the shape to open the [text block](#) (or click the text with the text tool), then click where you want to insert the field.

If you want the field to replace the text in the shape, select the shape. You don't need to open the text block and place the insertion point.

2. From the Insert menu, choose [Field](#).
3. In the Category section, choose a field category.
4. In the Field section, choose a field.
5. In the Format section, choose a format for the field information.
6. Click OK.

**Tip:** Consider adding phrases before or after fields. For example, before the Current Date field, you might type the phrase "Today's date is," followed by a space.

**Note:** When you cut or copy a field and then paste it, the pasted text is no longer a field. The field text becomes static.

### See also

[Building a formula by pasting](#)

[Moving a text block](#)

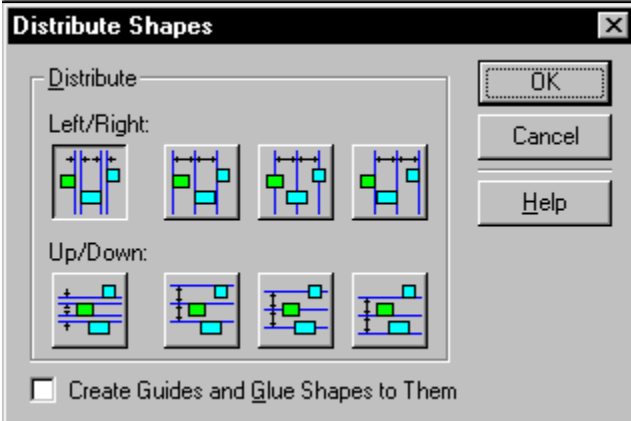
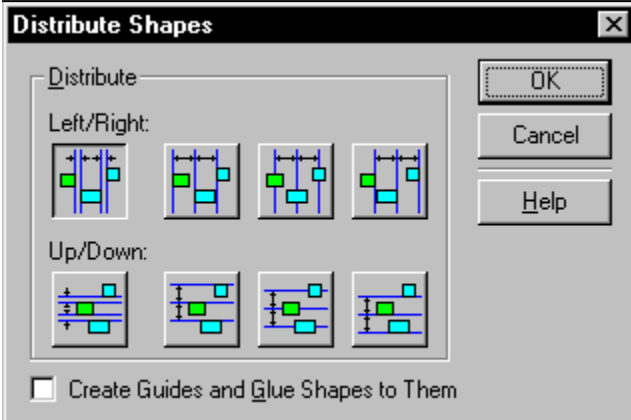
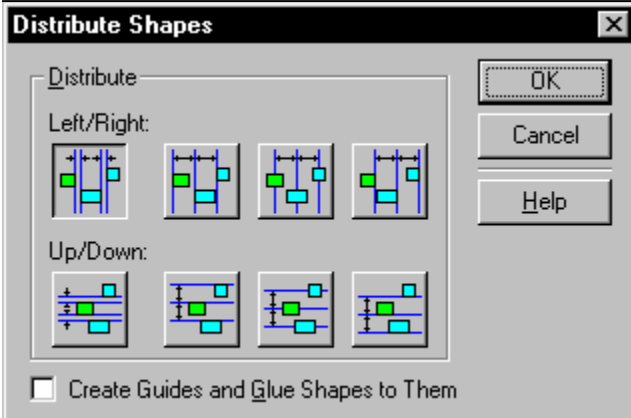
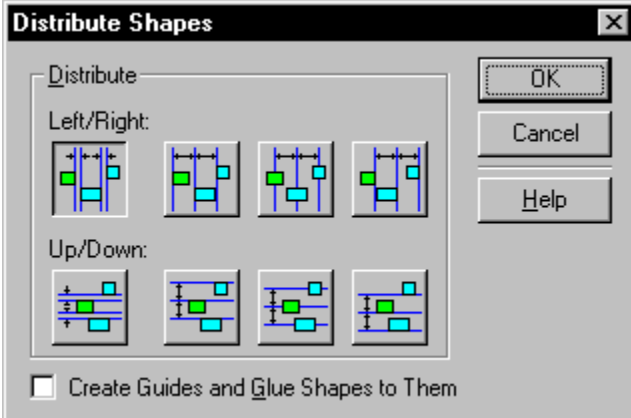
[Rotating a text block](#)

[Sizing a text block](#)

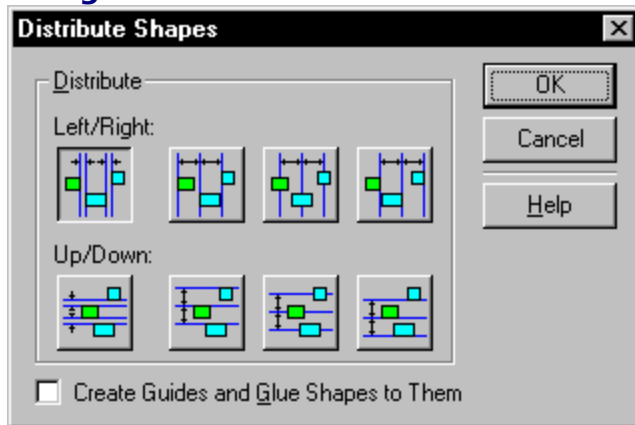
## Writing information from Visio to Lotus Notes

## Using a custom formula in a field



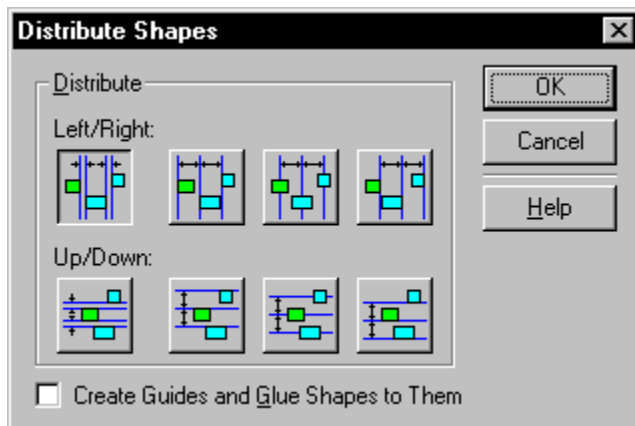


## Using a custom formula in a field



### [Overview](#)

You can insert a custom formula in a [text block](#). To create a custom formula, you work with the functions and syntax used for creating [ShapeSheet](#) formulas.



### **To use a custom formula in a field:**

1. Double-click the shape to open the [text block](#) (or click the text with the text tool), then click where you want to insert the field.  
If you want the field to replace the text in the shape, select the shape. You don't need to open the text block and place the insertion point.
2. From the Insert menu, choose [Field](#).
3. In the Category section, choose Custom Formula.
4. In the Custom Formula box, enter the formula.
5. Click OK.

### **See also**

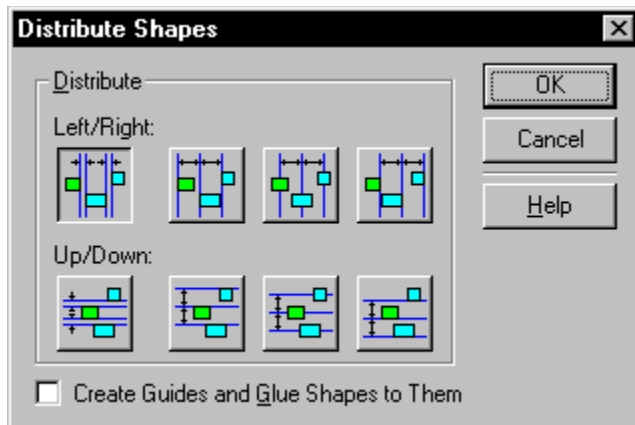
[Displaying the ShapeSheet Functions](#)

[Performing calculations on shape properties](#)

[Writing information from Visio to Lotus Notes](#)



## Working with pages and their backgrounds



### [Related procedures](#)

Each Visio drawing contains at least one page: its foreground page. A drawing may also contain one or more background pages. You can assign background pages to other pages in the Properties dialog box.

Visio provides two methods for displaying information on multiple planes: backgrounds and layers. The method you should use depends on the requirements of your drawing.

- When you want the same text or shape on multiple pages within the same file, use a background page. For example, you can have a corporate logo and name on every page that shares the background.
- When you need to have multiple depths of text and shapes within the same page, use layers. For example, an architectural drawing of a house can be composed of a wall layer, plumbing layer, electrical layer, and so on.

You can assign only one background page to a foreground page, but each background page can also have a background. You can create a layered effect using background pages. However, using layers instead of backgrounds is usually preferable because they provide better ways of working with separate information.

When a foreground page is displayed, you can see the shapes on all the backgrounds in the drawing. To edit the shapes on a background page, first display that background page in the drawing window, and then edit the same way you would edit a foreground page.

Assigning and canceling a background page

Creating a background page

Creating a new page

Deleting a page

Displaying pages

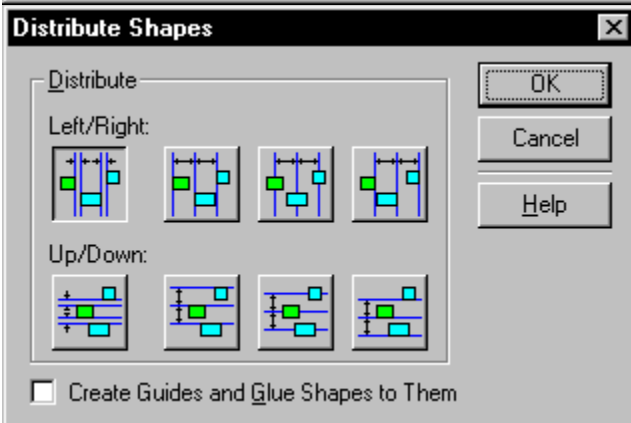
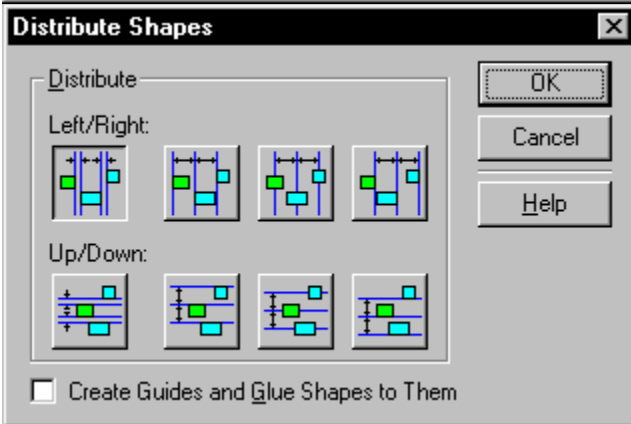
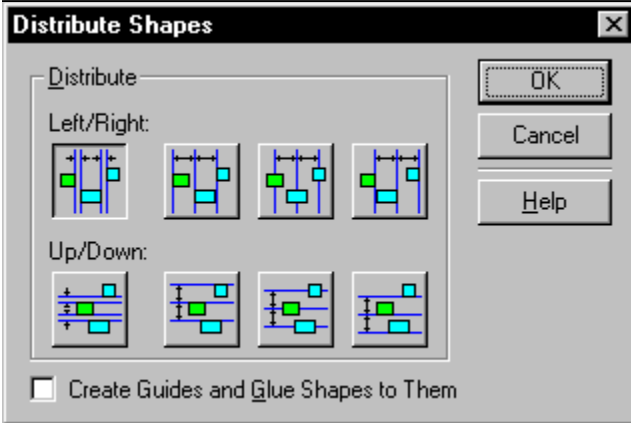
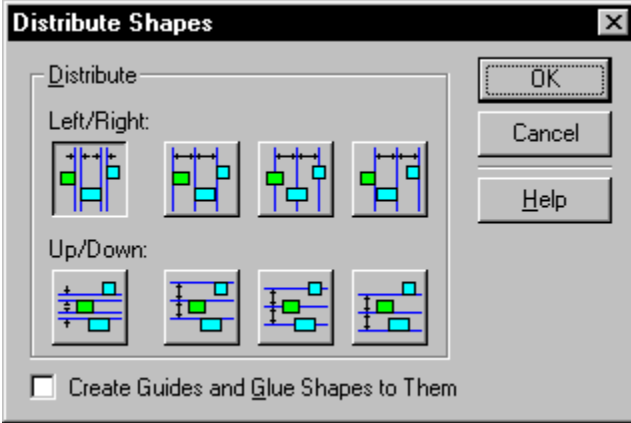
Modifying a background page

Rearranging foreground pages

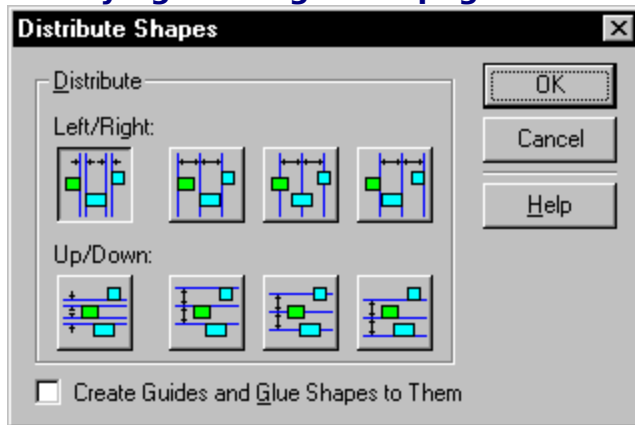
Setting page display options

Switching to a background page

## **Modifying a background page**

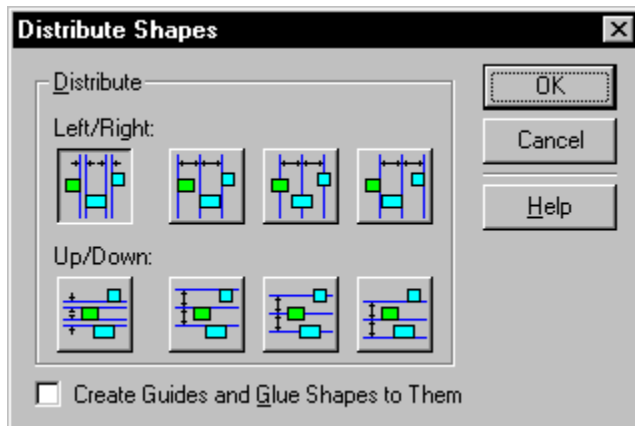


## Modifying a background page



### [Overview](#)

You edit the shapes on a background page in the same way you edit the shapes on a foreground page. You can display the background in one window and the page it's assigned to in another window, so you can see how the changes affect the whole drawing. You cannot edit shapes on the background page in the window that displays the foreground page.



### **To display a page and its background**

#### **in separate windows:**

1. Display the page to which the background is assigned.
2. From the Edit menu, choose Go To, then choose Page.
3. Choose the background name and check Open Page In New Window.
4. Click OK.
5. From the Window menu, choose Tile.

**Tip:** To switch between a foreground and a background page for a drawing, from the Edit menu, choose Go To, then choose Foreground and Background.

#### **See also**

[Adding layers](#)

[Assigning a shape to a layer](#)

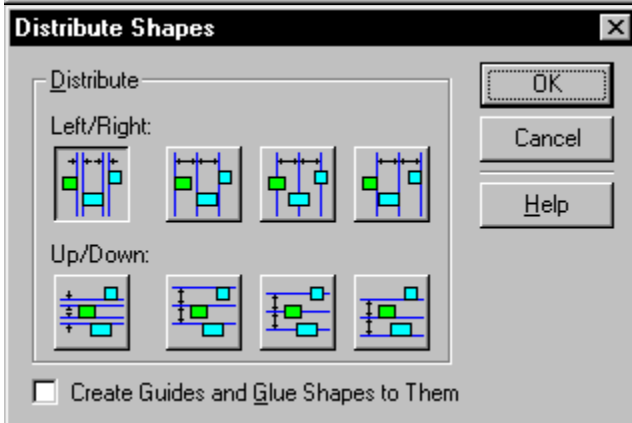
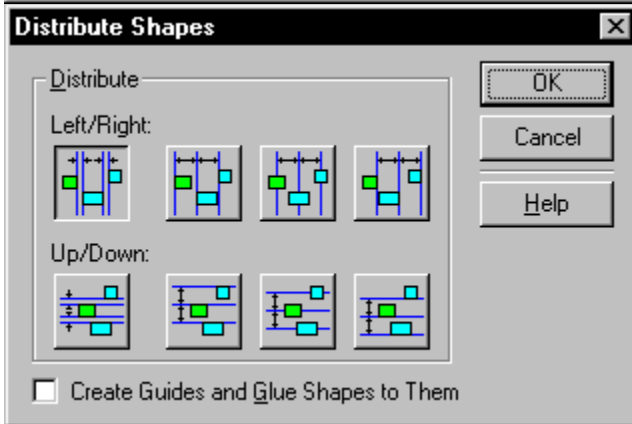
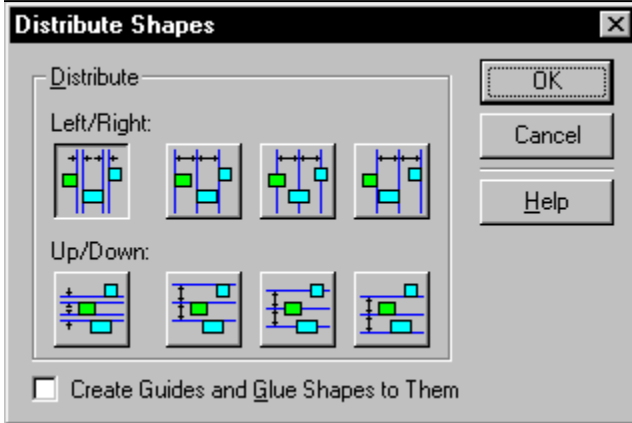
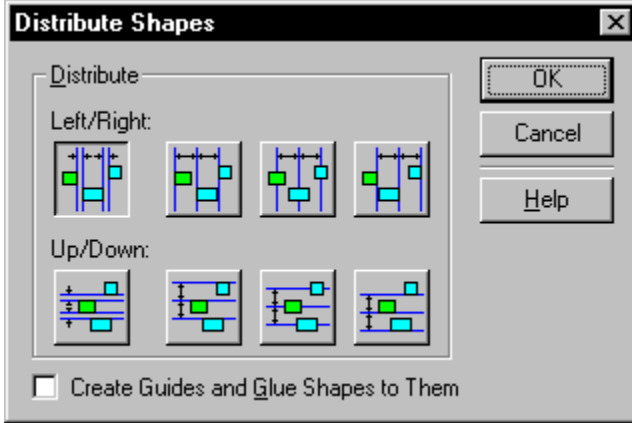
[Assigning and canceling a background page](#)

[Creating a background page](#)

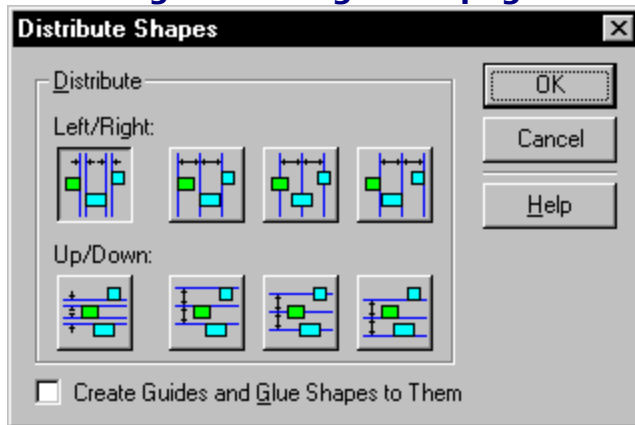
[Working with pages and their backgrounds](#)



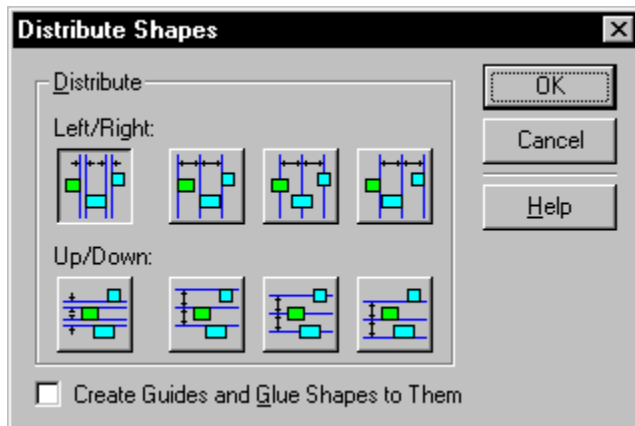
**Switching to a background page**



## Switching to a background page



[Overview](#)



To switch between a foreground page

### and a background page:

1. Display the [background's](#) drawing page.
2. From the Edit menu, choose Go To, then choose [Background](#).
3. To return to the foreground page, choose [Foreground](#).

### See also

[Adding layers](#)

[Assigning a shape to a layer](#)

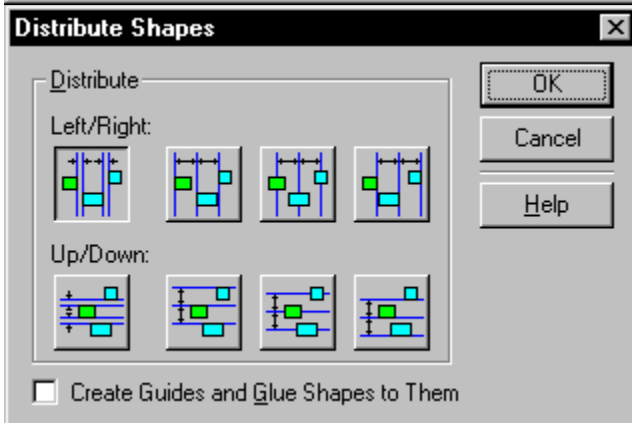
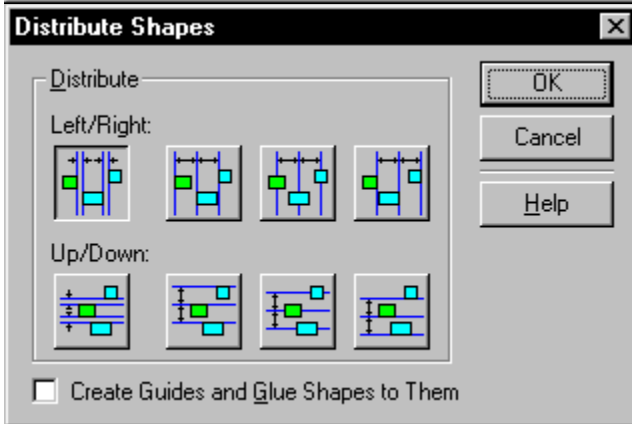
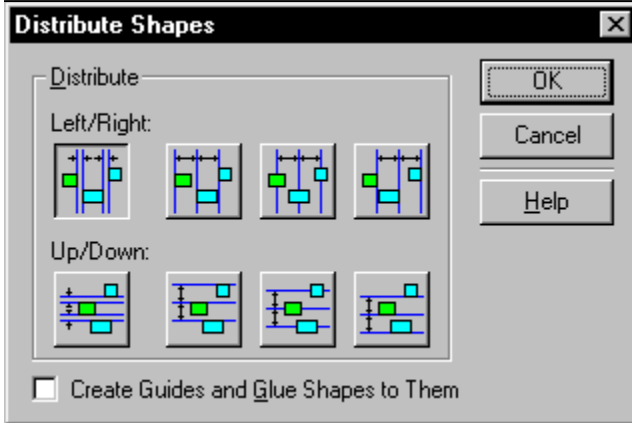
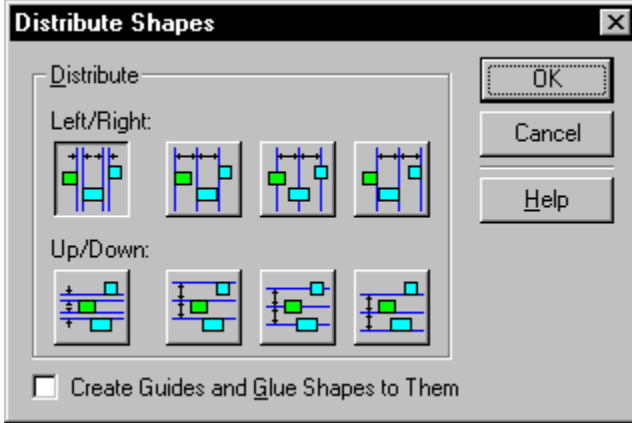
[Assigning and canceling a background page](#)

[Creating a background page](#)

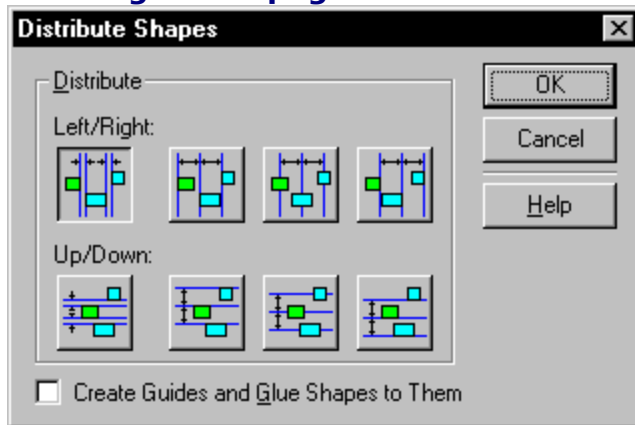
[Displaying pages](#)

[Modifying a background page](#)

**Creating a new page**

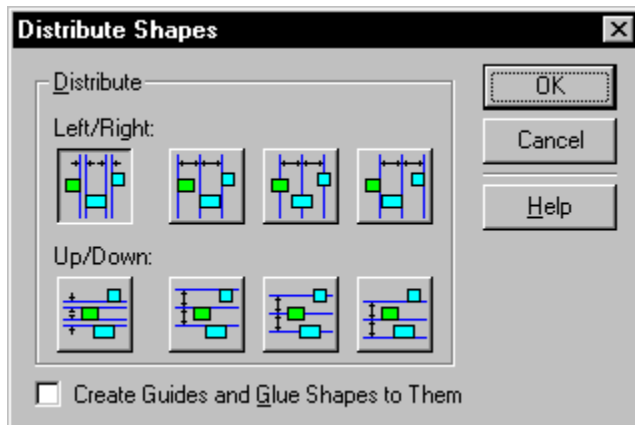


## Creating a new page



### [Overview](#)

You can easily create and add pages to a [drawing](#). By default, a new page uses the same settings as the page displayed in the drawing window. You can change page settings if you need to when creating a new page.



### To create a new page:

1. From the Insert menu, choose Page.
2. Type a name for the page, or use the default name provided by Visio.
3. If necessary, click Size/Scale to change the page size or scale for the new page.
4. Click OK.

**Tip:** When naming pages, it's helpful to use the default names provided by Visio. By using default page names, you can rearrange pages more easily.

### See also

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[Adding layers](#)

[Assigning a shape to a layer](#)

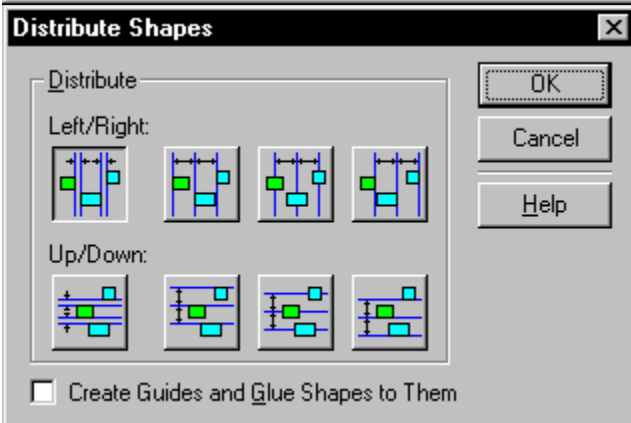
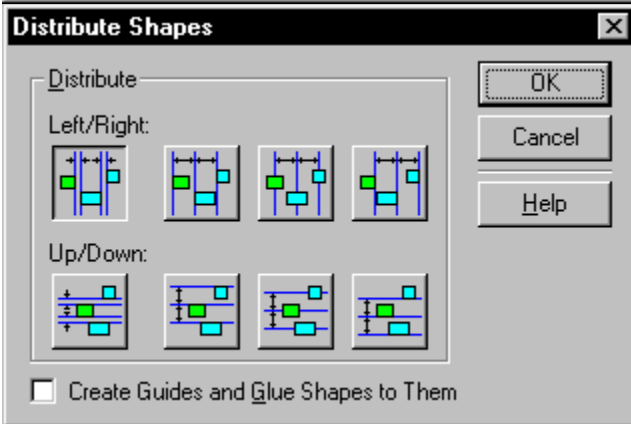
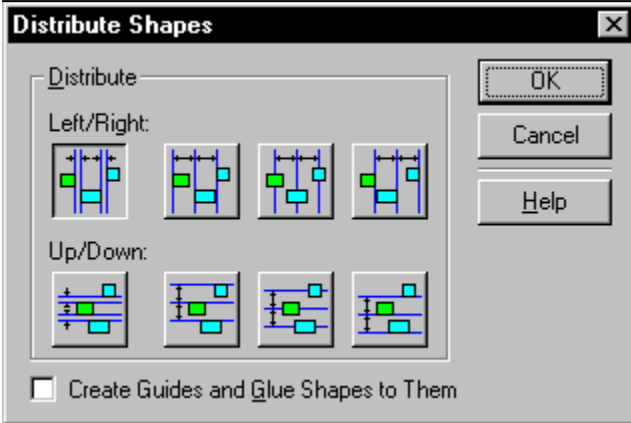
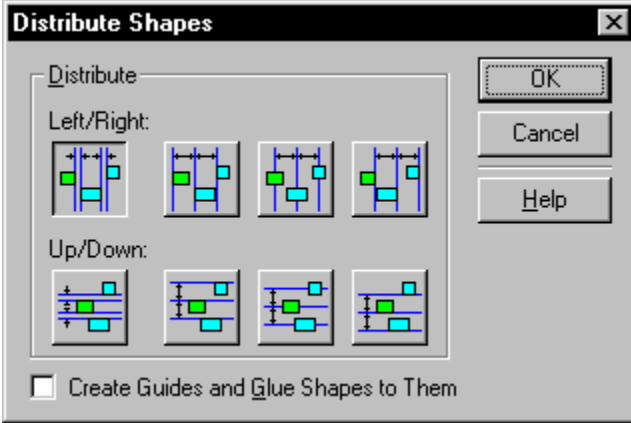
[Changing the size of the drawing page](#)

[Displaying pages](#)

[Rearranging foreground pages](#)

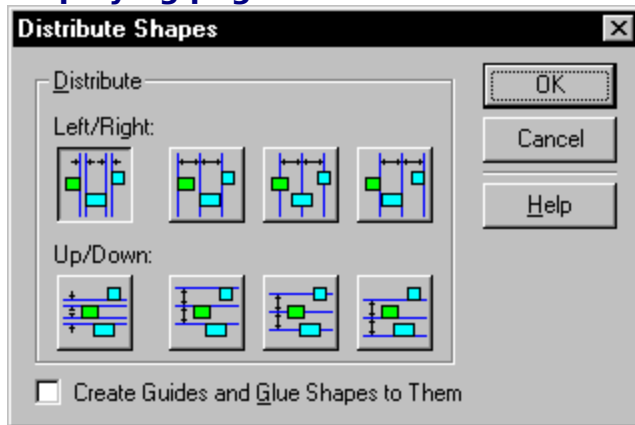
[Working with pages and their backgrounds](#)

## Displaying pages



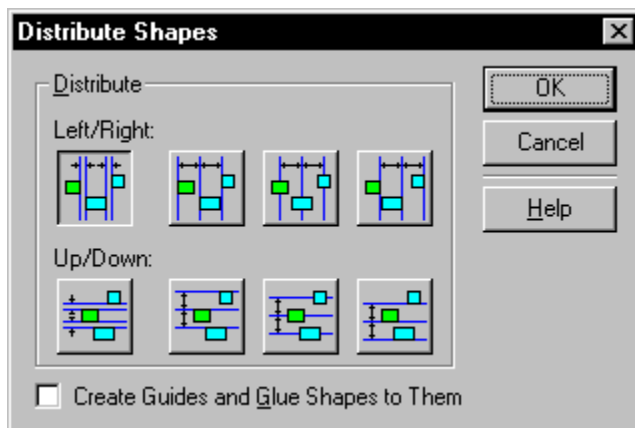


## Displaying pages



### [Overview](#)

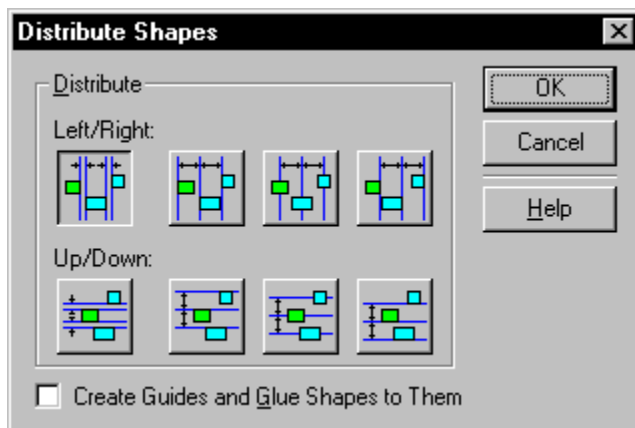
Visio displays one drawing page at a time in the drawing window. You can display a different page in the active drawing window by using the Go To submenu. You can also open more than one drawing window to display multiple views of the same page or to view multiple pages at the same time.



### **To display a page in the drawing**

#### **window:**

1. From the Edit menu, choose Go To, then choose the page that you want to display in the active window.



### **To open a new drawing window and**

#### **display a page in it:**

1. From the Window menu, choose New Window.

If you choose New Window when a drawing window is open, the new window contains

a duplicate of the open window's contents. If no drawing window is open, New Window opens a copy of the active stencil window.

2. To see all the open windows, choose Tile from the Window menu.

**Tip:** You can also display a page in a new window: from the Edit menu, choose Go To, then choose Page. Select the page, check Open Page In New Window, then click OK.

### **See also**

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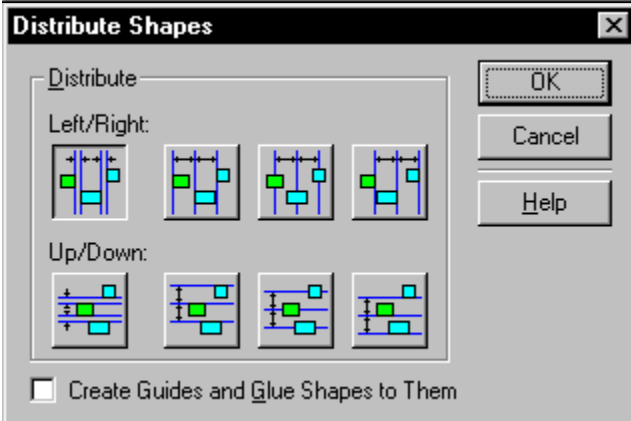
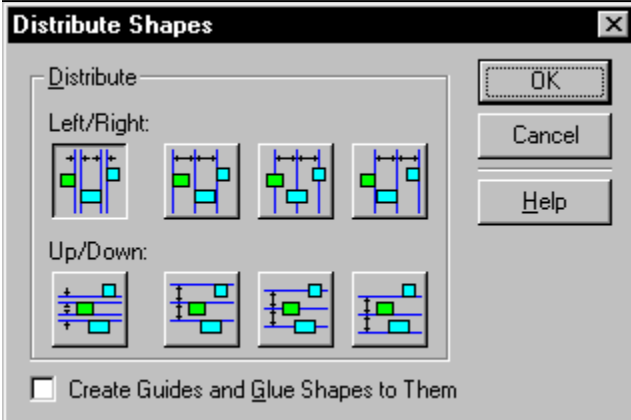
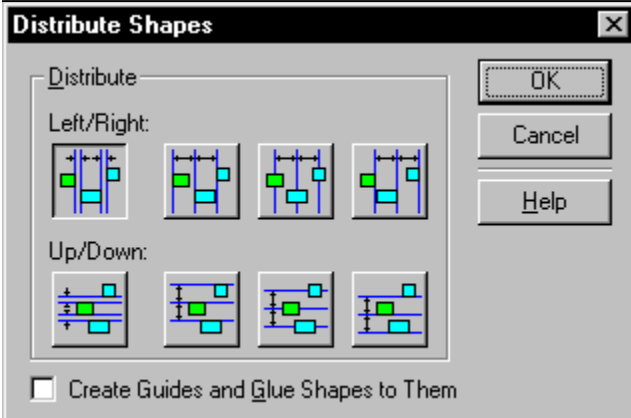
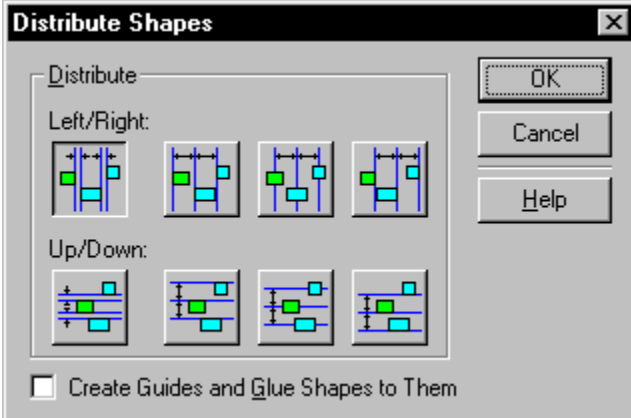
[Adding layers](#)

[Arranging Visio windows](#)

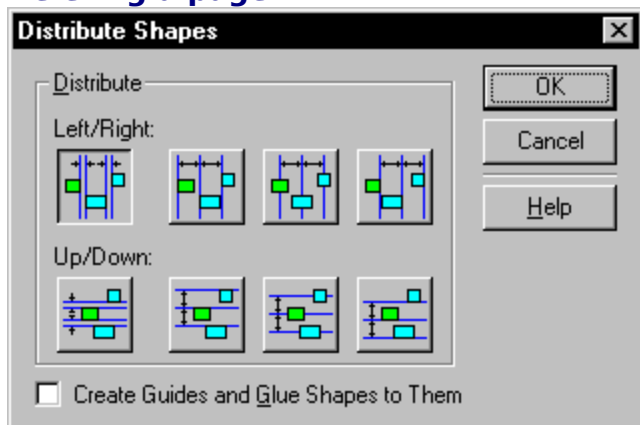
[Assigning a shape to a layer](#)

[Working with pages and their backgrounds](#)

## Deleting a page

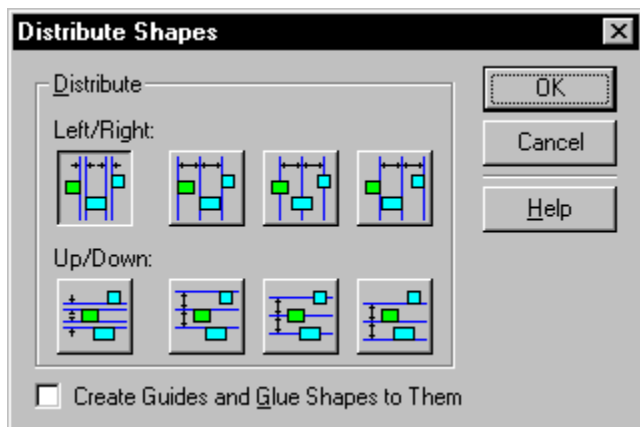


## Deleting a page



### [Overview](#)

You can delete [pages](#) you no longer need. However, you cannot delete a [background](#) page that is assigned to another page. To delete a background page, you first need to cancel its assignment. If you delete the last page in a file, Visio replaces that page with a blank page.



### **To delete a page:**

1. From the Edit menu, choose Drawing Page, then choose [Delete](#).
2. In the dialog box, choose the page or pages you want to delete.

To delete a range of pages, choose a page, hold down the Shift key, and then choose another page. The pages you choose and the pages between them are deleted.

To delete non-consecutive pages, choose a page, hold down the Ctrl key, and then choose another page. Each page you choose is deleted.
3. To update default page names to reflect the new page order, check Update Page Names.

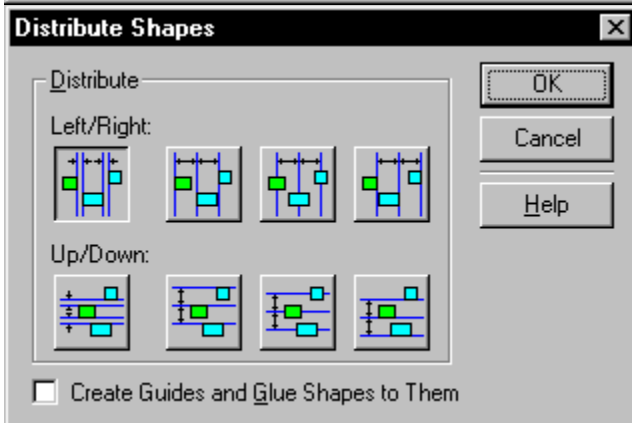
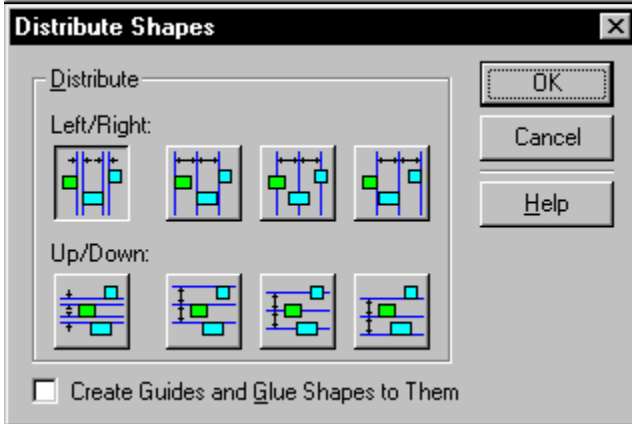
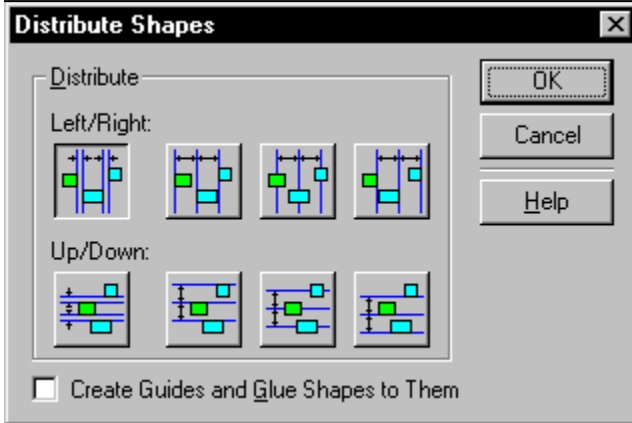
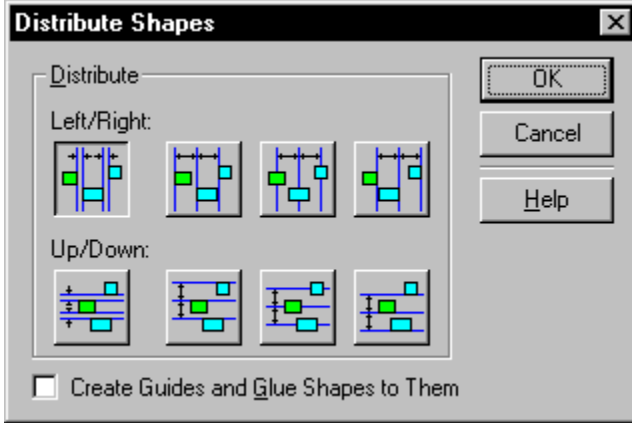
If a page has a name other than its default name, checking this option has no effect.
4. Click OK.

### **See also**

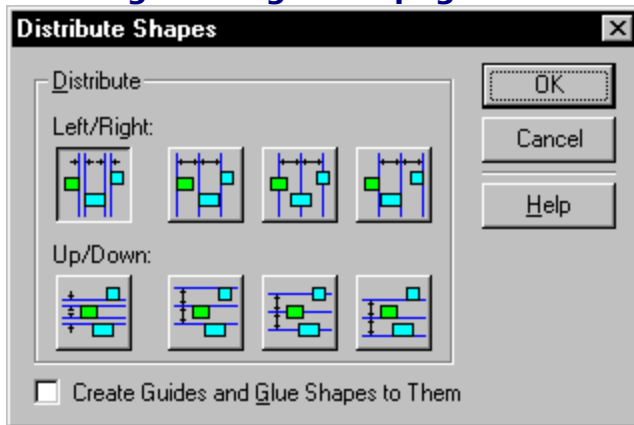
---

[Assigning and canceling a background page](#)  
[Displaying pages](#)  
[Setting page display options](#)

## **Creating a background page**

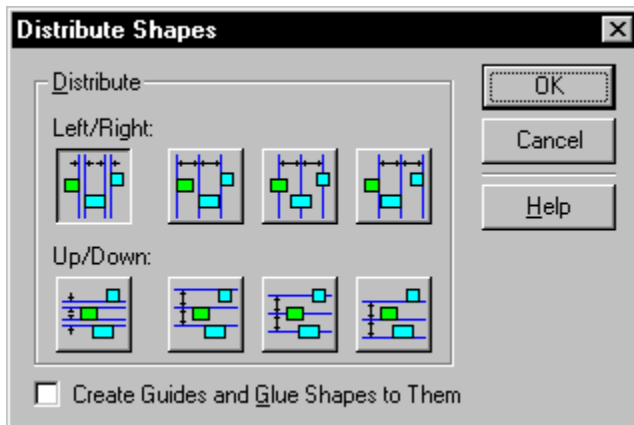


## Creating a background page



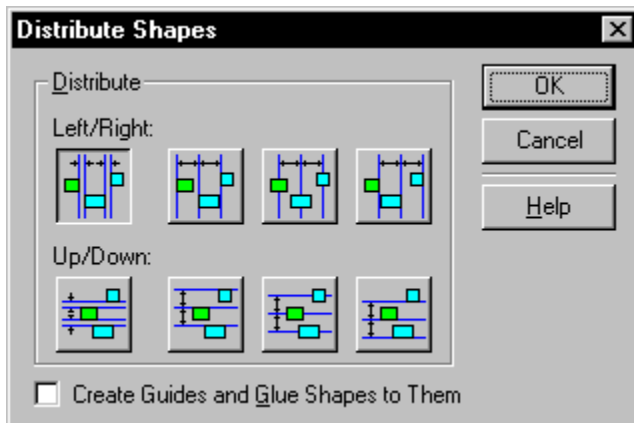
### [Overview](#)

You can create a new page as a [background](#) page or convert a [foreground](#) page to a background page. When you create a background page, Visio adds the page name to the Background list in the Page and Property dialog boxes.



### To create a background page:

1. From the Insert menu, choose Page.
2. In the Type section, choose Background.
3. If necessary, click Size/Scale to change the page size or scale for the new background.
4. Click OK.



### To convert a foreground page to a



**background page:**

1. Display the foreground page you want to convert to a background page.
2. From the Edit menu, choose Drawing Page, then choose Properties.
3. In the Type section, choose Background.
4. Click OK.

**See also**

---

[Adding layers](#)

[Assigning a shape to a layer](#)

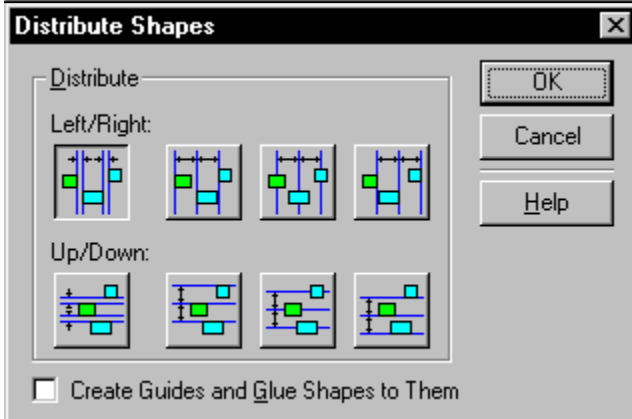
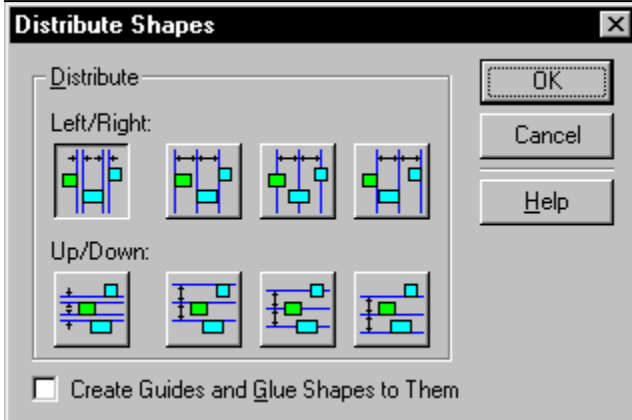
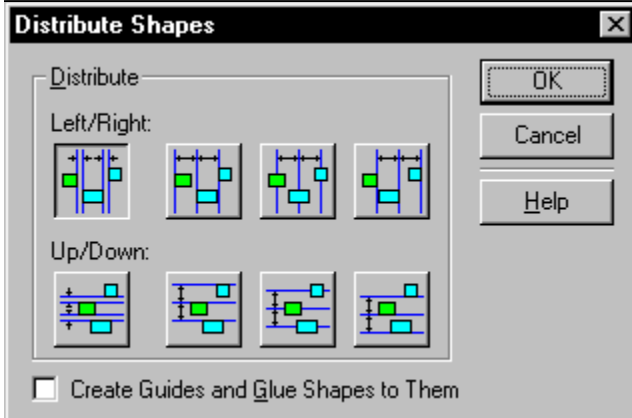
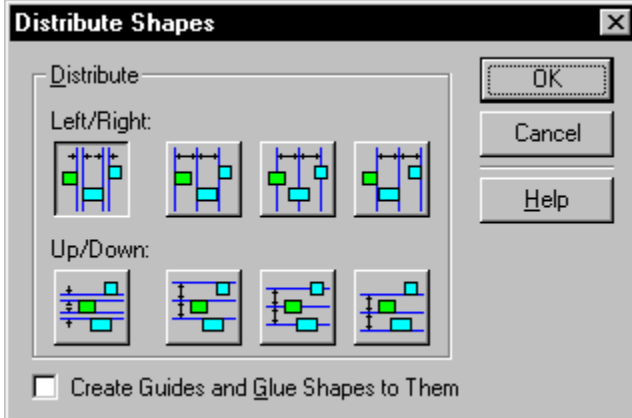
[Assigning and canceling a background page](#)

[Creating a new page](#)

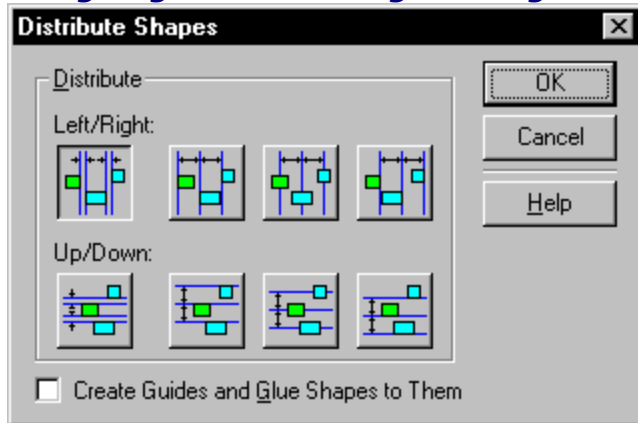
[Modifying a background page](#)

[Setting page display options](#)

## **Assigning and canceling a background page**

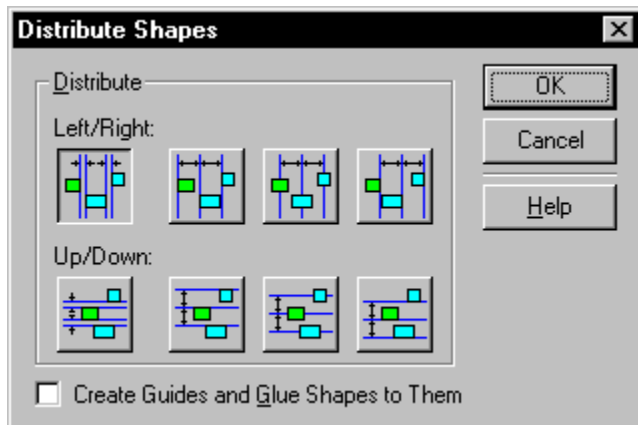


## Assigning and canceling a background page



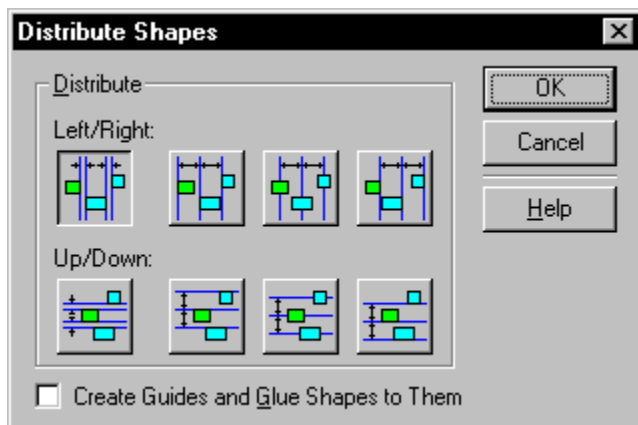
### [Overview](#)

You can assign one background page to each page in a drawing. You can assign the same background to as many pages as you want. If you no longer want a background page assigned to a particular page, you can cancel the assignment.



### **To assign a background to a page:**

1. Display the page you want to assign the background to.
2. From the Edit menu, choose Drawing Page, then choose Properties.
3. From the Background list, choose the name of the background page that you want to assign.
4. Click OK.



### **To cancel a page's background**

**assignment:**

1. Display the page the background is assigned to.
2. From the Edit menu, choose Drawing Page, then choose Properties.
3. From the Background list, choose None.
4. Click OK.

**Tip:** You can assign a background page to a new page by choosing a background from the Background list in the Page dialog box.

**See also**

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[Adding layers](#)

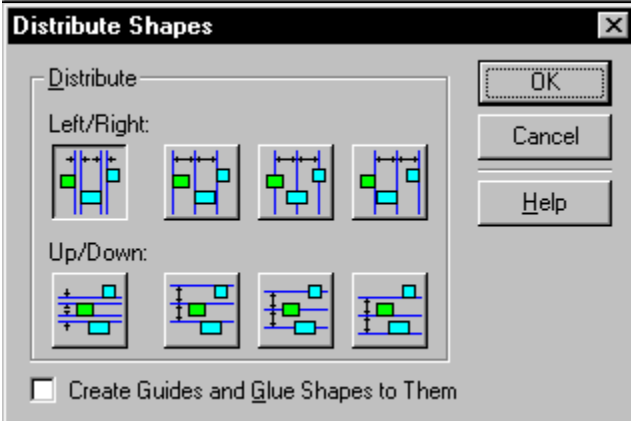
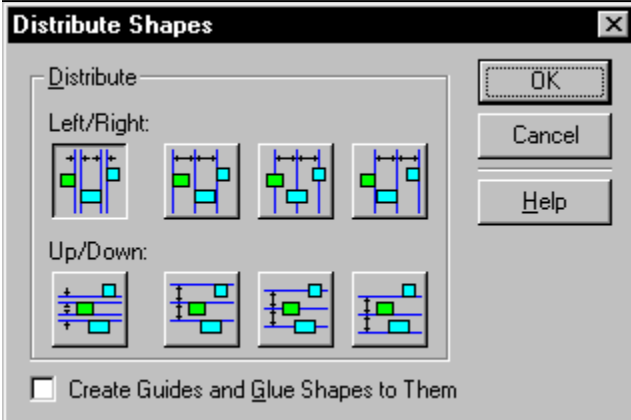
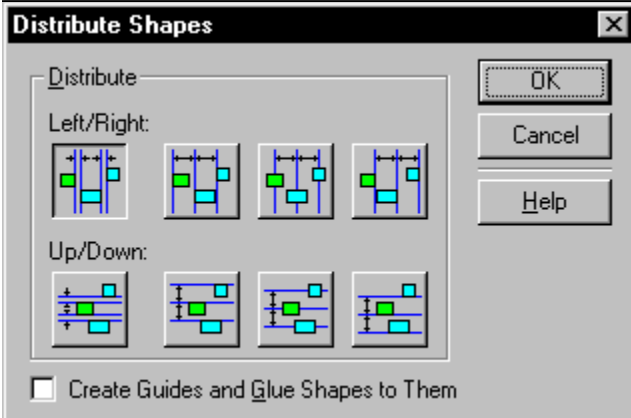
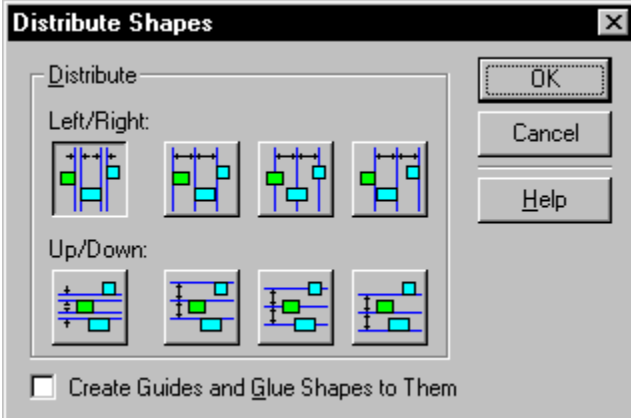
[Assigning a shape to a layer](#)

[Creating a background page](#)

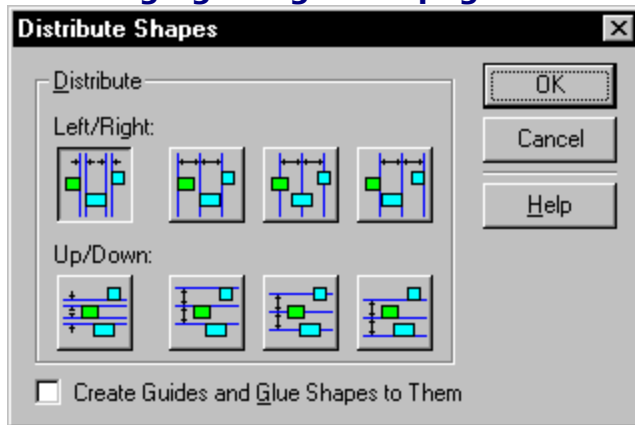
[Modifying a background page](#)

[Setting page display options](#)

## **Rearranging foreground pages**

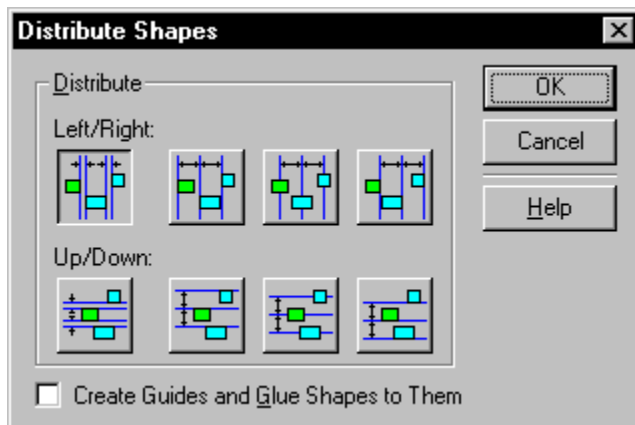


## Rearranging foreground pages



[Overview](#)

Visio stores [foreground](#) pages in the order the pages are created. You can view and change the order of foreground pages by choosing the Reorder command.



**To change the order of foreground**

### pages:

1. From the Edit menu, choose Drawing Page, then choose [Reorder](#).
2. In the dialog box, choose the page you want to move.  
The list displays the page names in the order they are stored in the file.
3. Click Move Up or Move Down to change the position of the page.
4. To update default page names to reflect the new page order, check Update Page Names.  
Checking this option has no effect on pages without default names.
5. Click OK.

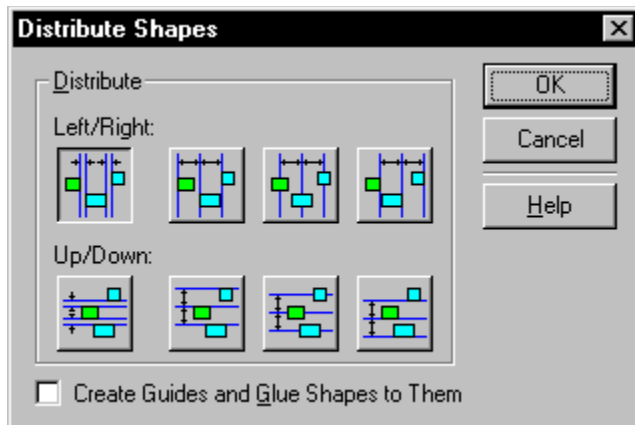
### See also

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[Adding layers](#)  
[Assigning a shape to a layer](#)  
[Assigning and canceling a background page](#)  
[Creating a new page](#)  
[Displaying pages](#)  
[Setting page display options](#)



## About layers



### [Related procedures](#)

By assigning shapes to different [layers](#), you can selectively view, print, and lock layers, as well as control whether shapes on a layer can be [snapped](#) to or [glued](#) to.

For example, if you're drawing an office layout, you can assign walls, doors, and windows to one layer, electrical outlets to another layer, and furniture to a third layer. That way, when you plan the electrical system, you don't have to worry about accidentally rearranging the walls.

After locking the wall and electrical outlet layers, you could distribute the office layout to coworkers, who could arrange the furniture in their offices without disturbing the foundation.

Shapes in the Office Layout template are already assigned to pre-existing layers.

If you want to use layers with shapes from other stencils, you need to create the layers and assign shapes to them.

[Adding layers](#)

[Assigning a shape to a layer](#)

[Deleting layers](#)

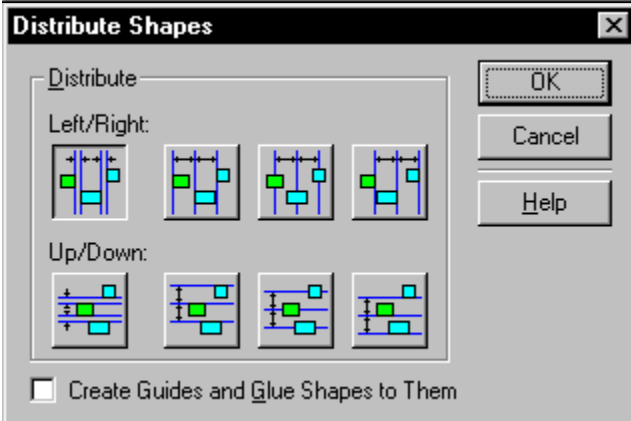
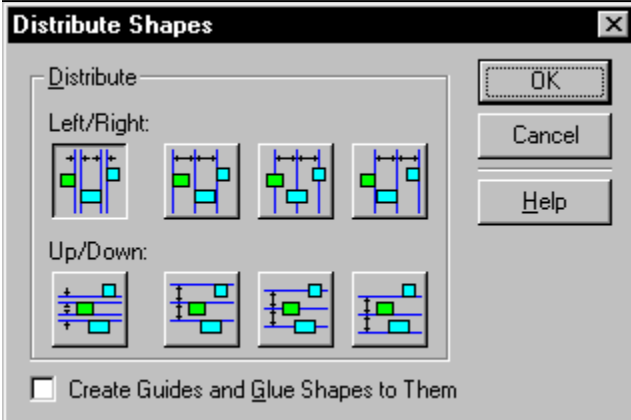
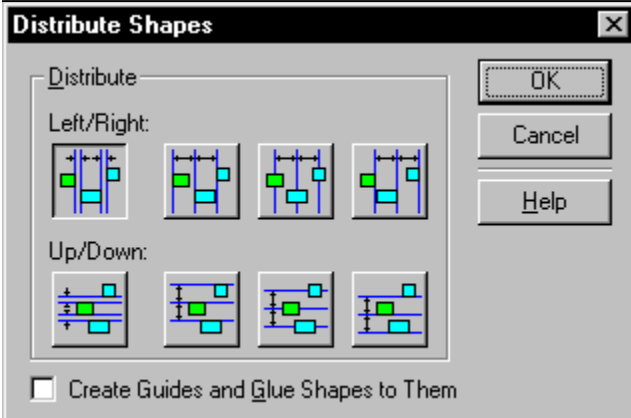
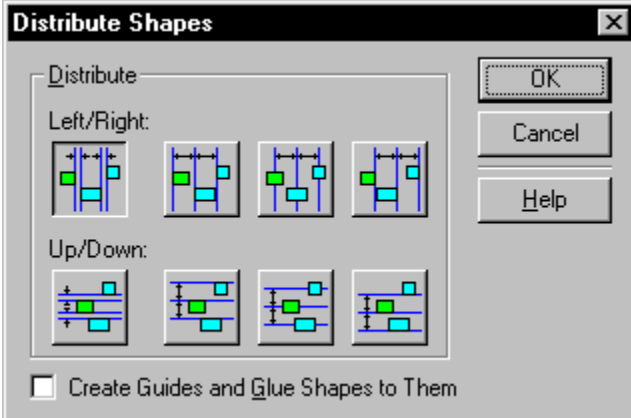
[Renaming layers](#)

[Setting options for layers](#)

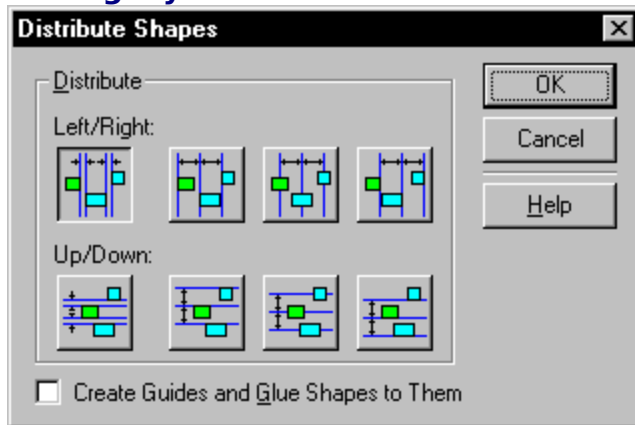
[Setting shapes on a layer to appear in a color](#)

[Viewing layers](#)

## Adding layers

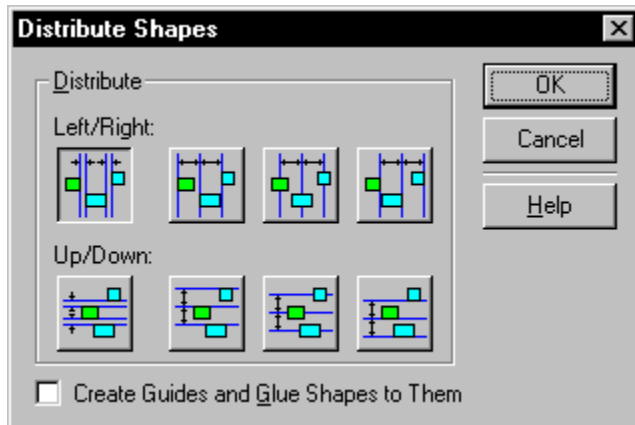


## Adding layers



[Overview](#)

You can add shapes and [layers](#) to a drawing.



**To add a layer:**

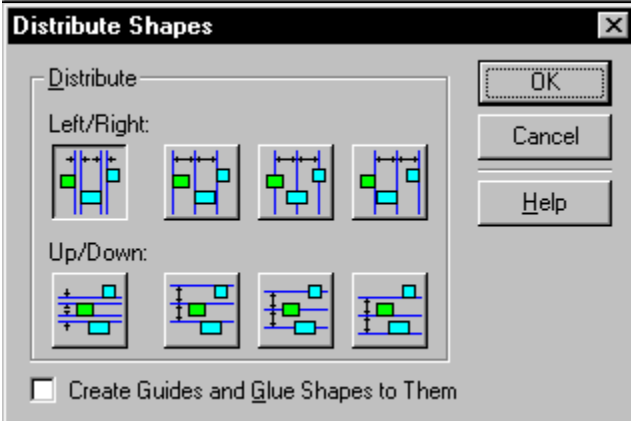
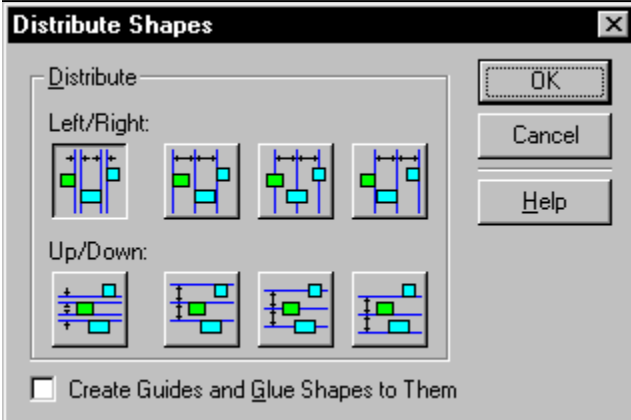
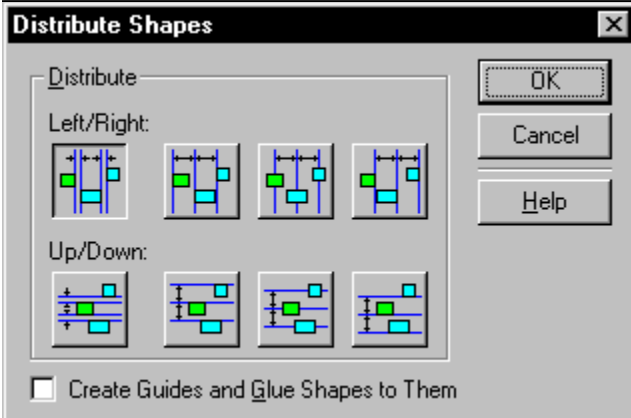
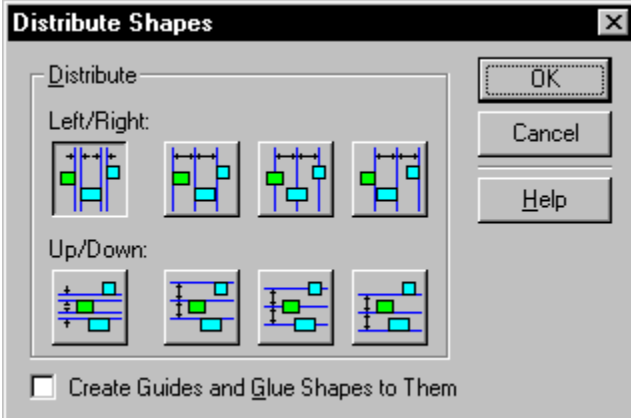
1. From the View menu, choose [Layer Properties](#).
2. In the Layer Properties box, click New.
3. In the New box, type a name for the layer, then click OK.
4. In the Layer Properties box, check the properties you want the layer to have, then click OK.

### See also

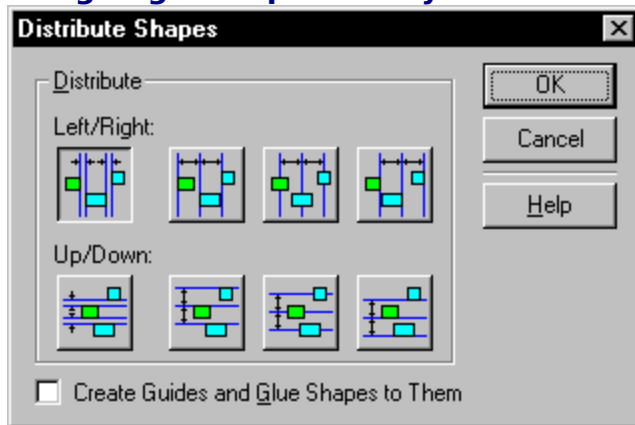
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[Assigning a shape to a layer](#)  
[Creating a background page](#)  
[Creating a new page](#)  
[Deleting layers](#)  
[Printing layers](#)  
[Renaming layers](#)  
[Setting options for layers](#)  
[Viewing layers](#)

## Assigning a shape to a layer

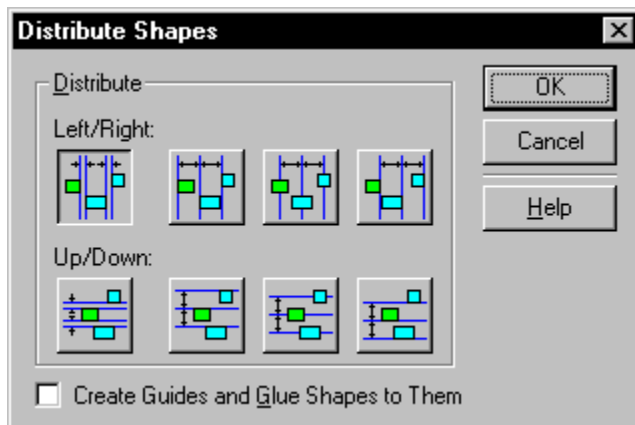


## Assigning a shape to a layer



### [Overview](#)

You can add shapes to a drawing, then assign the shapes to [layers](#). For example, you can add walls and furniture, then assign them to layers.



### To assign a shape to a layer:

1. Select the shape.
2. From the Format menu, choose [Layer](#).
3. In the Layer box, choose the layer you want to assign the shape to, then click OK.

To assign a shape to more than one layer, press the Ctrl key to choose multiple layers.

**Tip:** You can automatically add new shapes to a specific layer by making it active. For example, if you're working on the furniture layer, make that layer Active using the Layer Properties dialog box; as you drag and drop shapes, they are automatically added to the furniture layer. (Shapes with pre-assigned layers are not added to the active layer.)

### See also

[Adding layers](#)

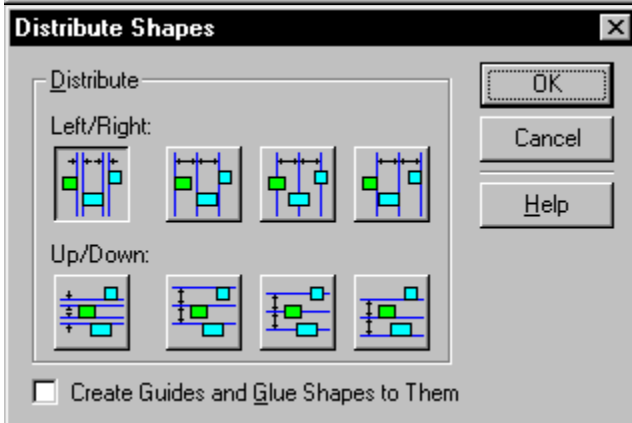
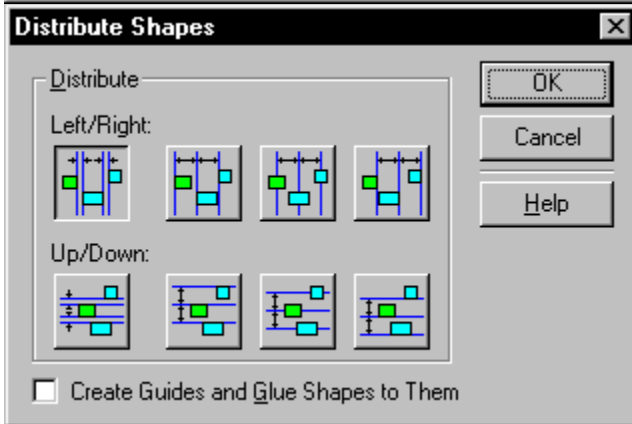
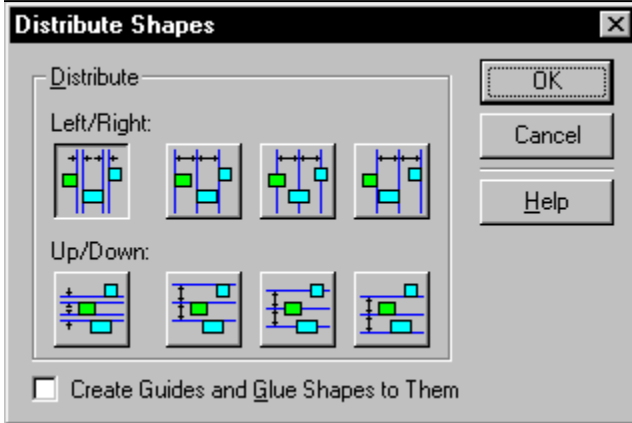
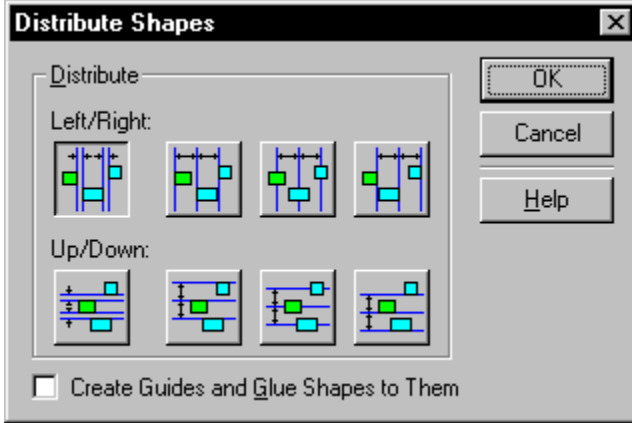
[Creating a background page](#)

[Creating a new page](#)

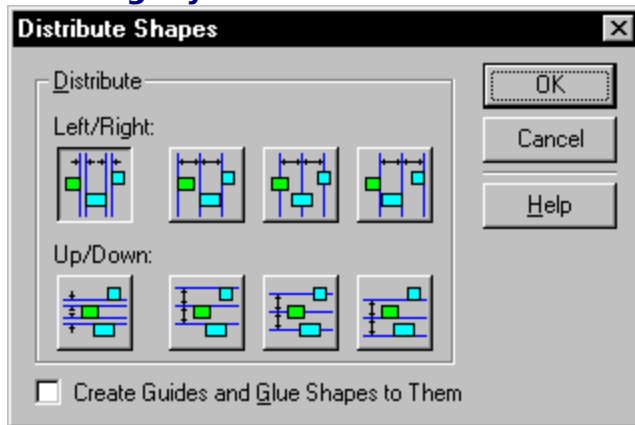
[Viewing layers](#)



## Deleting layers



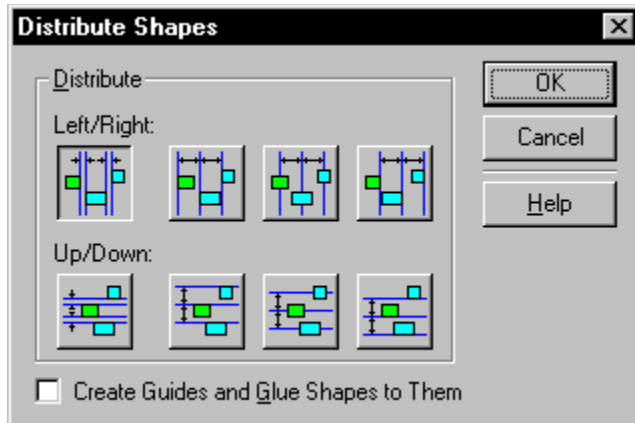
## Deleting layers



[Overview](#)

If you find you don't need a [layer](#), you can delete it.

**Note:** All shapes that are assigned to only the selected layer are deleted.



**To delete a layer:**

1. From the View menu, choose [Layer Properties](#).
2. In the Layer Properties box, select the layer you want to delete, then click Remove.
3. Click OK.

**Tip:** To delete all unused layers, check Remove Unreferenced Layers.

---

### See also

[Adding layers](#)

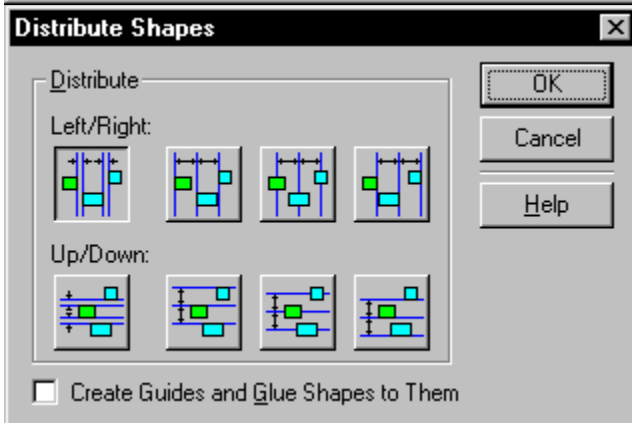
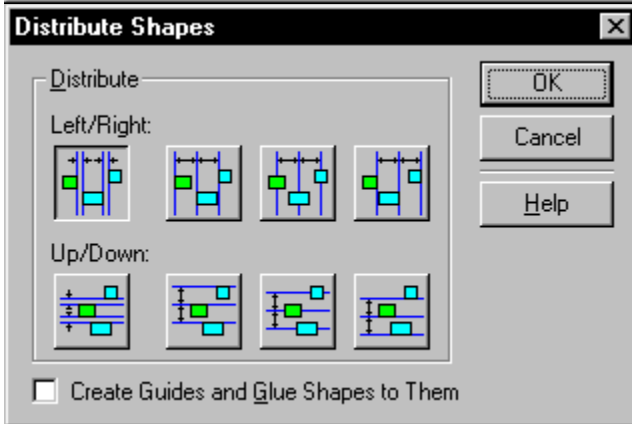
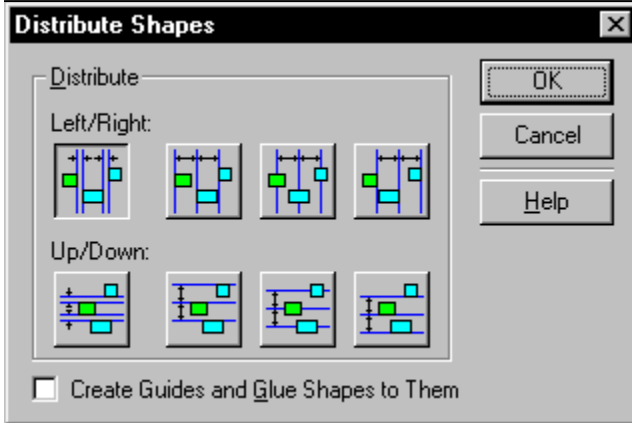
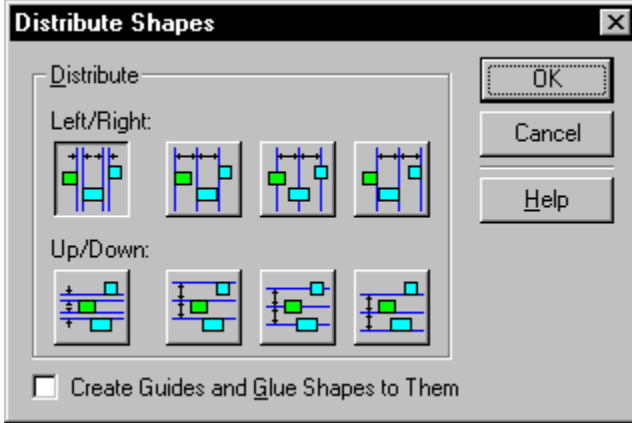
[Printing layers](#)

[Renaming layers](#)

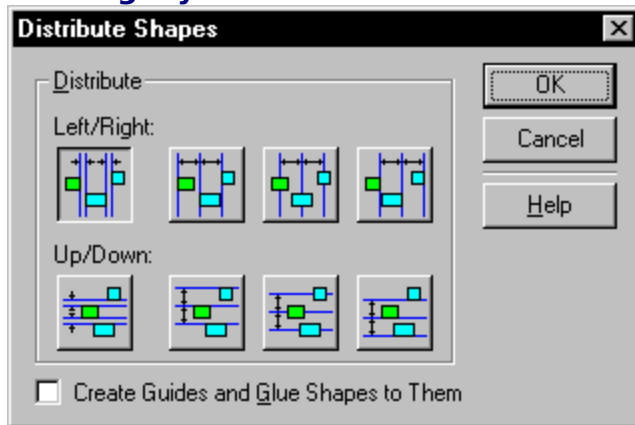
[Setting options for layers](#)

[Viewing layers](#)

## Viewing layers

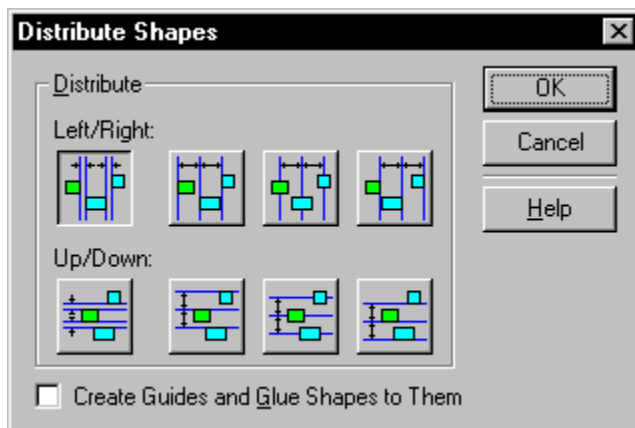


## Viewing layers



### [Overview](#)

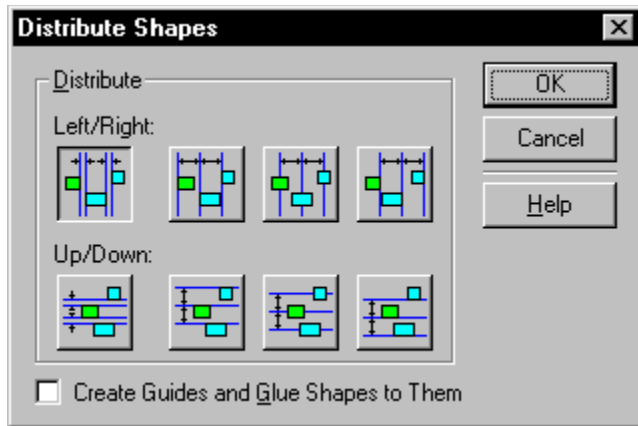
You can view specific [layers](#). For example, you can view just the wall layer to fine-tune it. Or, in a garden diagram, you can view the flowerbed layer and the spring-blooming plants layer to see what will be blooming in the spring. In this case, the summer-blooming plants layer and fall-blooming plants layer would be hidden.



### **To view individual layers:**

1. From the View menu, choose [Layer Properties](#).
2. Under Visible, uncheck the layers you want to hide and ensure that the layers you want to view are checked.
3. Click OK.

Only the layers that are checked under Visible appear on the drawing page.



**To identify shapes on a specific layer:**

1. Ensure that no shapes are selected.
2. From the Edit menu, choose [Select Special](#).
3. Under Layer, select the layer with the shapes you want to select, then click OK.  
All shapes on the specified layer are selected.

### **See also**

---

[Adding layers](#)

[Assigning a shape to a layer](#)

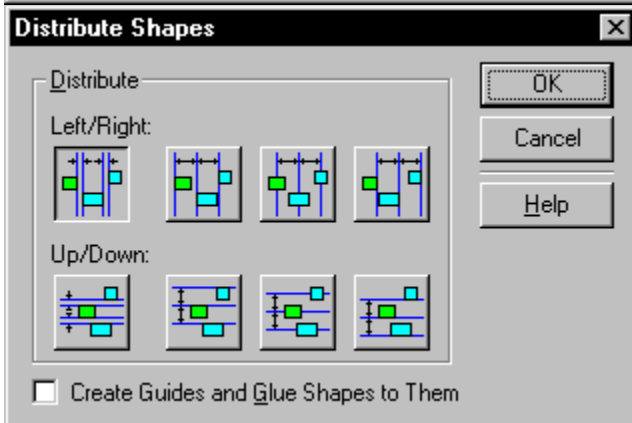
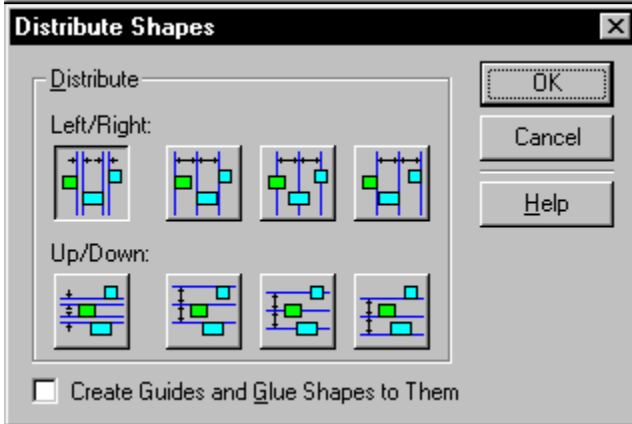
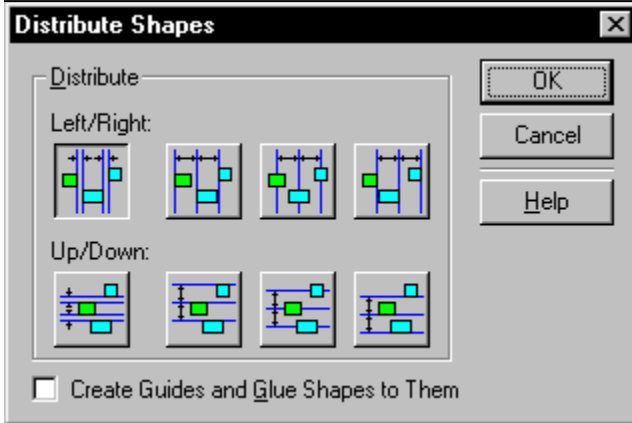
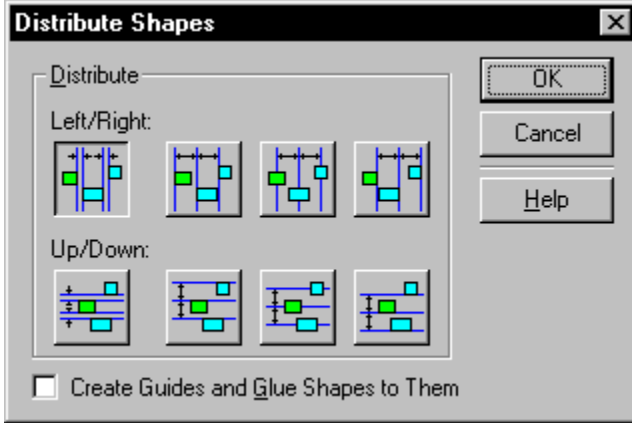
[Printing layers](#)

[Setting options for layers](#)

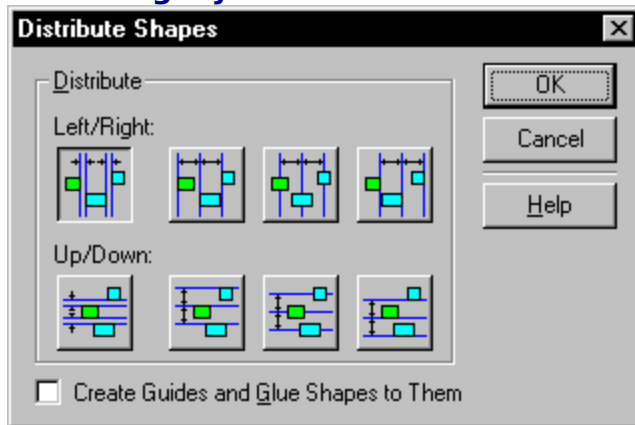
[Setting shapes on a layer to appear in a color](#)

## Renaming layers



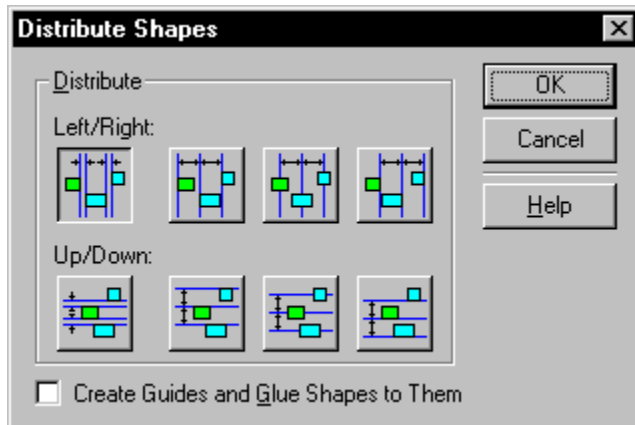


## Renaming layers



[Overview](#)

In some templates, [layers](#) have default names that you can change.



**To rename a layer:**

1. From the View menu, choose [Layer Properties](#).
2. In the Layer Properties box, select the layer you want to rename, then click Rename.
3. Under Layer Name, type a new name, then click OK.
4. Click OK.

### See also

[Adding layers](#)

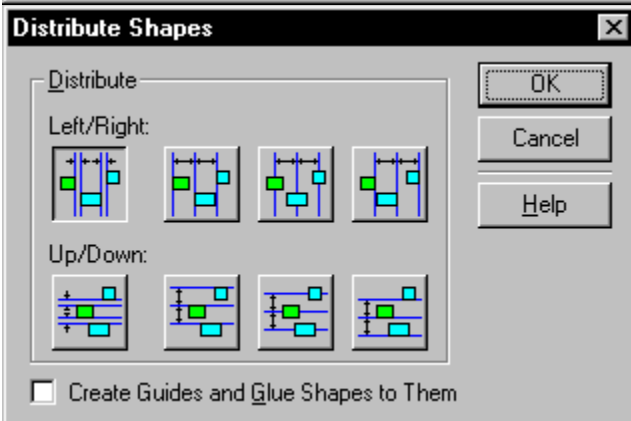
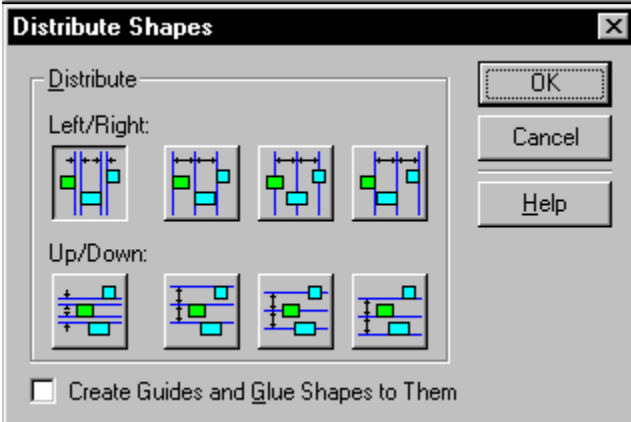
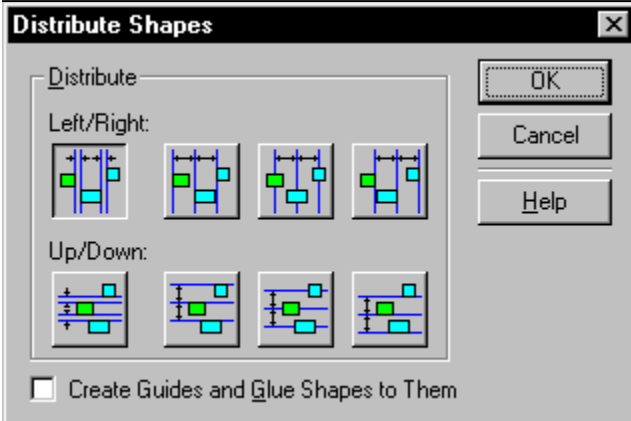
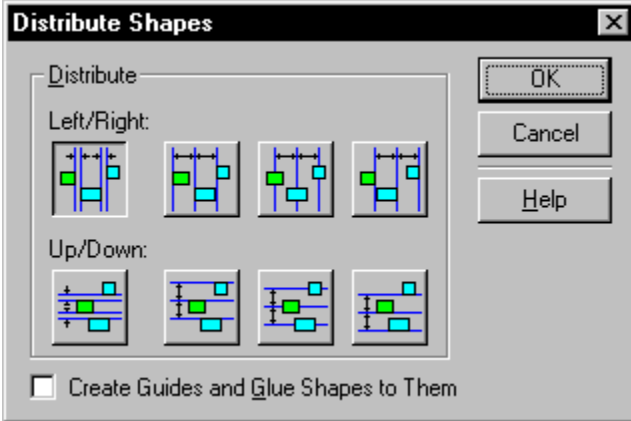
[Assigning a shape to a layer](#)

[Setting options for layers](#)

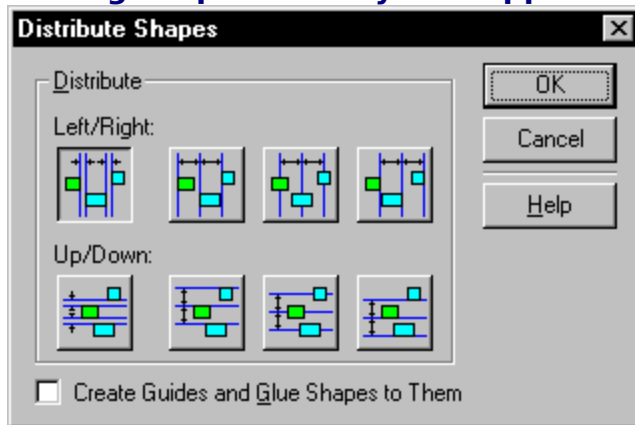
[Setting shapes on a layer to appear in a color](#)

[Viewing layers](#)

**Setting shapes on a layer to appear in a color**



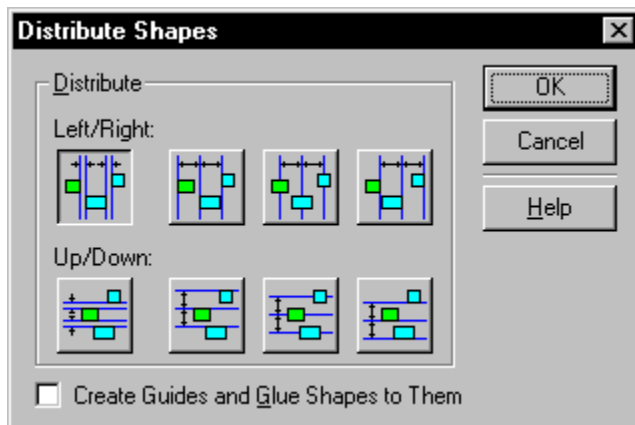
## Setting shapes on a layer to appear in a color



[Overview](#)

You can have all shapes assigned to a specific [layer](#) appear in a specific color. For example, in an organization chart, you could make editing easier by assigning each department to a different layer that has a unique color.

**Note:** The color you assign to shapes on a layer overrides each shape's original color; however, if you turn off the layer color (by unchecking the Color option), the shape returns to its original color.



**To make all shapes on a layer appear**

**in one color:**

1. From the View menu, choose [Layer Properties](#).
2. In the Layer Properties box, select the layer for which you want to set options.
3. Under Color, check or uncheck a layer to have all shapes assigned to a specific layer appear in a specific color. To determine the color, choose a color from the Layer Color box.
4. Click OK.

**Note:** If you have assigned a shape to more than one layer, the shape will not use the layer color but will appear in its original color.

**See also**

[Adding layers](#)

[Assigning a shape to a layer](#)

[Deleting layers](#)

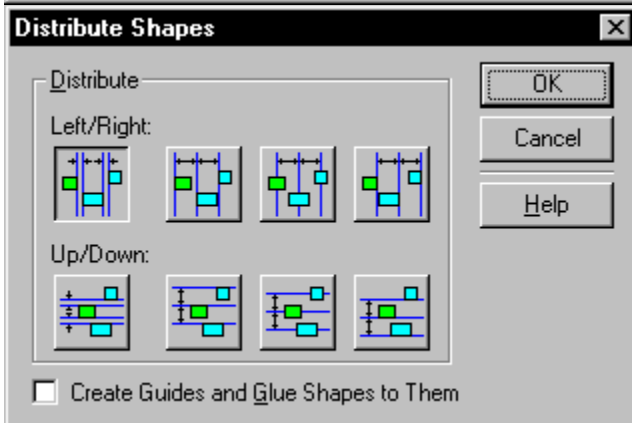
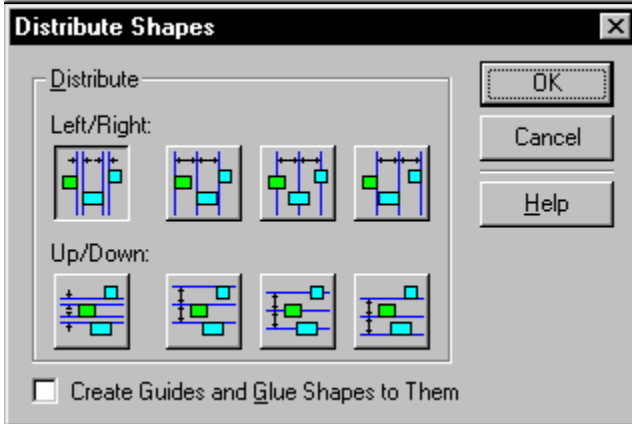
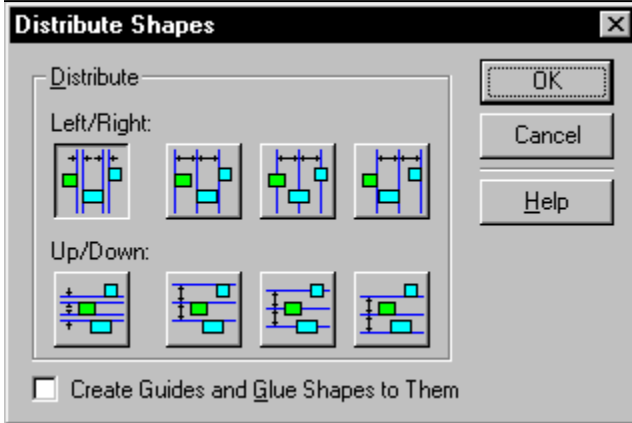
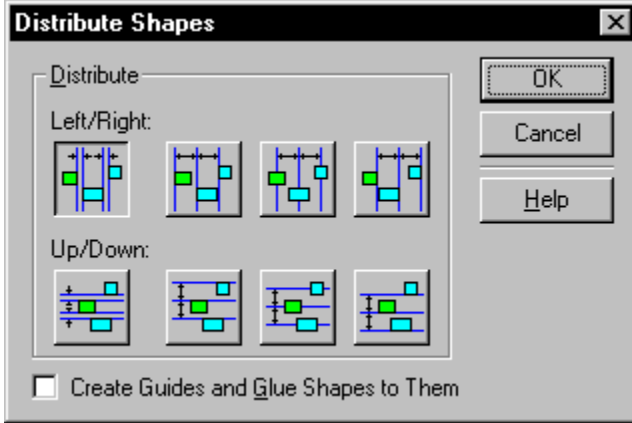
[Printing layers](#)

[Renaming layers](#)

[Setting options for layers](#)

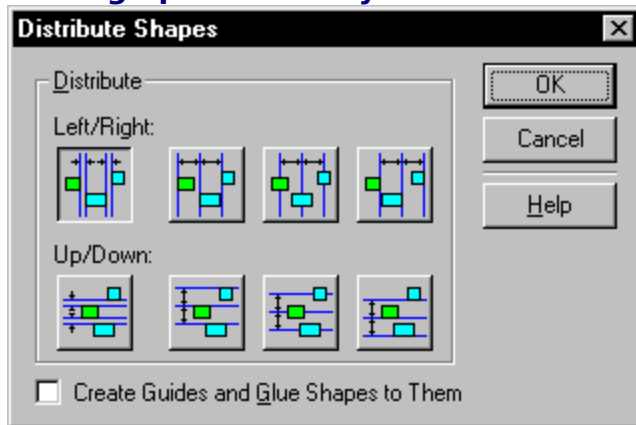
[Viewing layers](#)

## Setting options for layers





## Setting options for layers



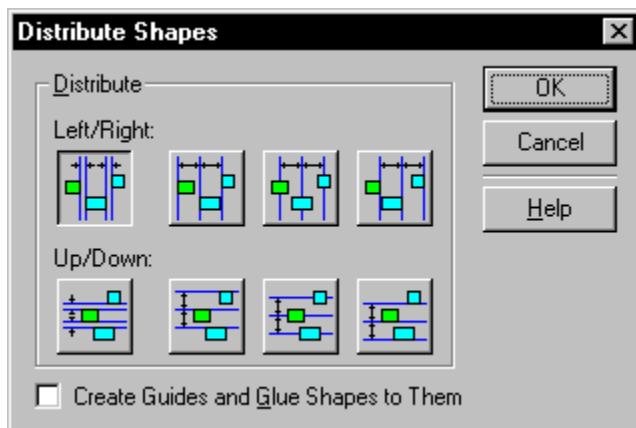
[Overview](#)

To fine-tune [layers](#), you can:

Choose an active layer. All new shapes that don't have pre-defined layers are automatically added to this layer.

Lock shapes on a layer so they cannot be selected or moved.

Specify whether shapes on a layer can be snapped or glued to.



**To set options for a layer:**

1. From the View menu, choose [Layer Properties](#).
2. In the Layer Properties box, select the layer for which you want to set options.
3. Under Active, check a layer to have new shapes automatically added to that layer.  
Under Lock, check a layer so that the shapes on the layer cannot be selected or moved.  
Under Glue, check a layer to set whether shapes on a layer can be glued to.  
Under Snap, check a layer to set whether shapes on a layer can be snapped to.  
To have Visio remove all layers that have no shapes assigned to them, check Remove Unreferenced Layers.
4. Click OK.

---

### See also

[Adding layers](#)

[Assigning a shape to a layer](#)

[Deleting layers](#)

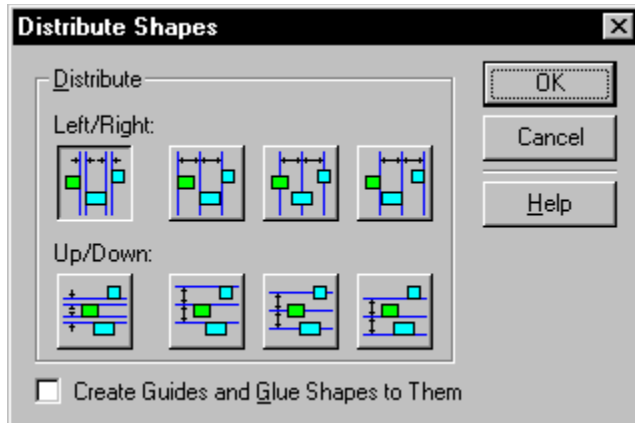
[Printing layers](#)

[Renaming layers](#)

[Setting shapes on a layer to appear in a color](#)

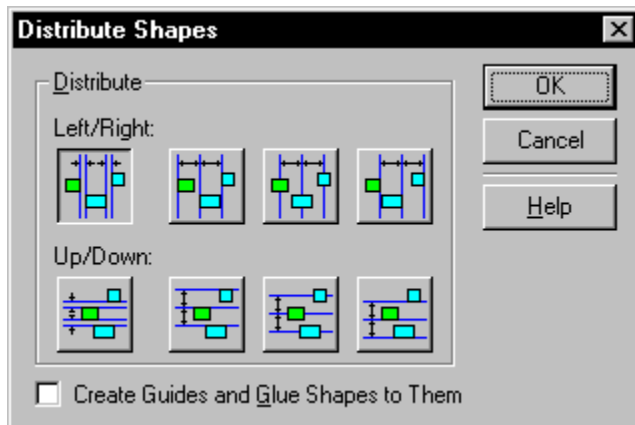
[Viewing layers](#)

## Taking an inventory of your drawing



[Related procedures](#)

Using the [Shape Report](#) command on the Tools menu, you can generate shape information to create an inventory.



**To take an inventory, follow these**

### steps:

1. Associate each shape with data, such as serial numbers or company location numbers.
2. Choose what information to include in the inventory list.
3. Choose whether you want to display the inventory on the screen, place it in the Windows clipboard, or save it as a text file you can export to a spreadsheet or database program.
4. Generate the inventory.

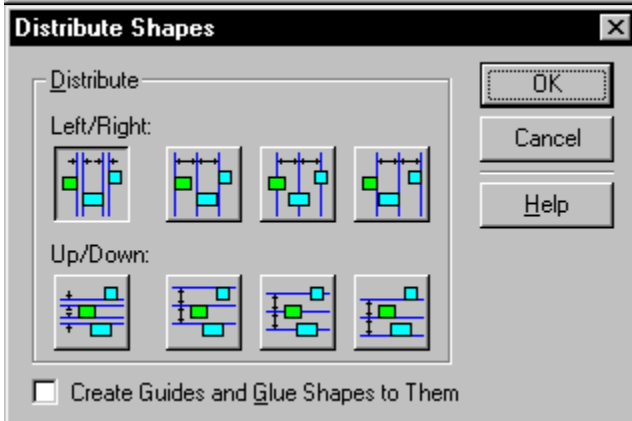
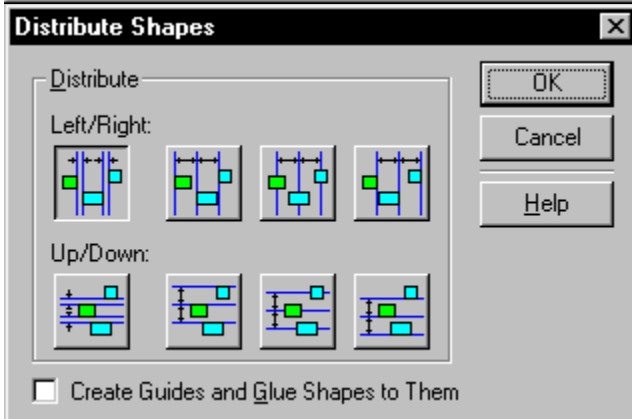
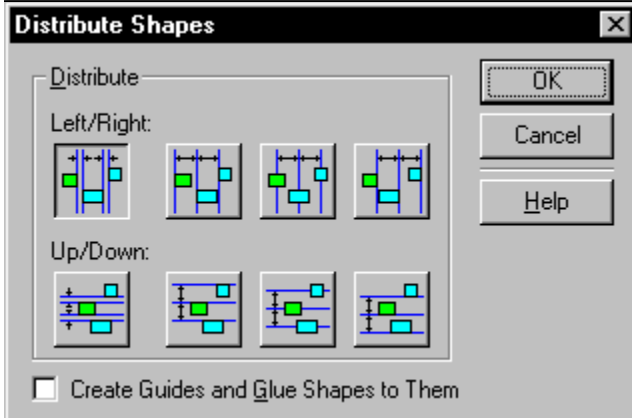
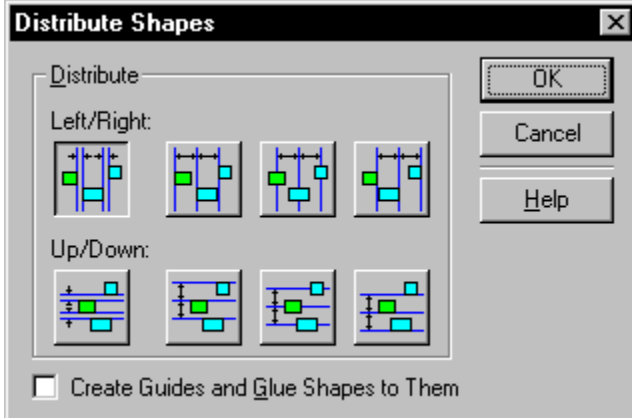
Take an inventory when, for example, you want to develop a bill of materials for a project, keep track of the location of equipment and furniture in an office, or account for every model, printer, computer, and server in a computer network.

In addition, if you add numerical properties (such as cost) to shapes, you can perform calculations using [custom properties](#).

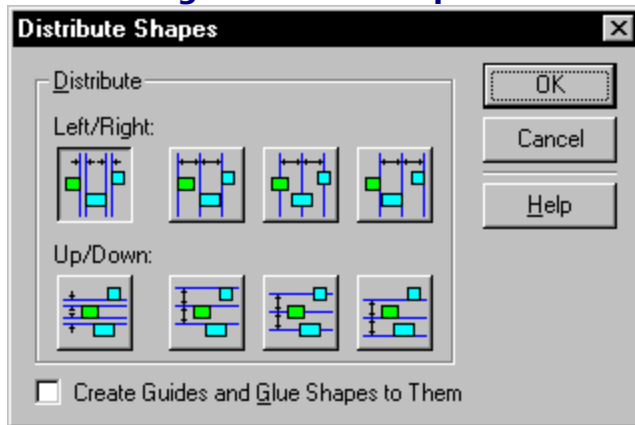
If you have a multi-page diagram, remember that you can generate an inventory for only one page at a time. Even if certain shapes are selected when you generate the inventory, it will include data for all the shapes on a page.

[Adjusting the data format](#)  
[Associating data with shapes](#)  
[Choosing inventory content](#)  
[Generating an inventory](#)  
[Performing calculations on shape properties](#)

## **Associating data with shapes**



## Associating data with shapes

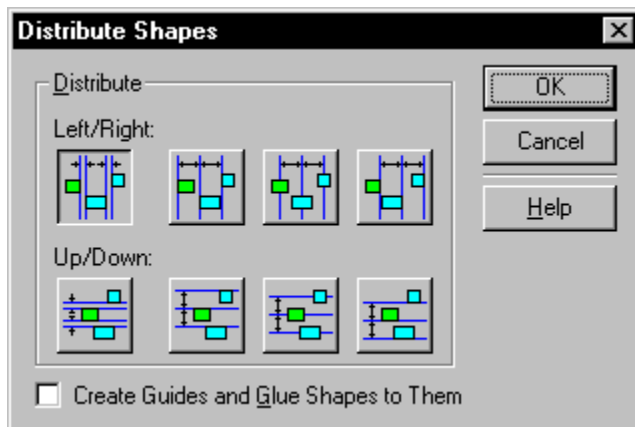


### [Overview](#)

Shapes automatically have some data associated with them. For example, each shape has a name and is a certain height and width. If you want to generate custom reports, you can associate custom data with shapes.

To associate [custom properties](#) with a shape, you need to add a custom properties section to the shape's [ShapeSheet](#). Then, you can enter values for the properties in the Custom Properties box.

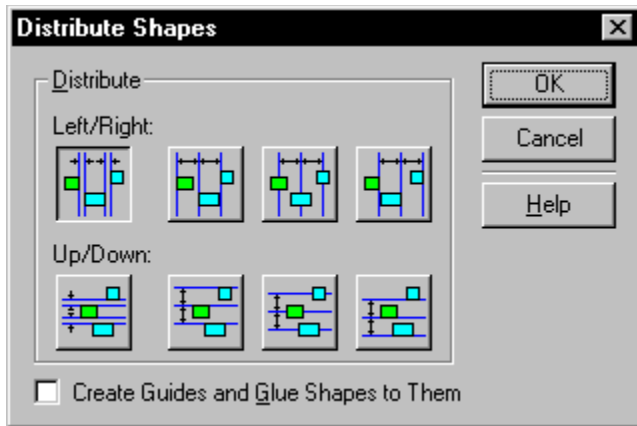
Shapes from some stencils already have custom properties. If those are the properties you want to use to generate a report, all you need to do is enter values for the properties.



### **To associate a shape with custom**

#### **properties:**

1. Open a Visio drawing and select a shape with which you want to associate data.
2. From the Tools menu, choose Run Add-on, then choose [SmartShape Wizard](#) (SHPSMART.EXE).
3. In the Wizard box, choose Custom Properties, then click Change Options.
4. Follow the instructions onscreen to add the properties you want.
5. When the summary screen appears, accept the changes you've made or return to the Wizard to make revisions.



**To assign values to a shape's custom**

**properties:**

1. Select the shape to which you want to assign values.
2. From the Shape menu, choose [Custom Properties](#).
3. In the Custom Properties box, enter values for the properties associated with the shape.

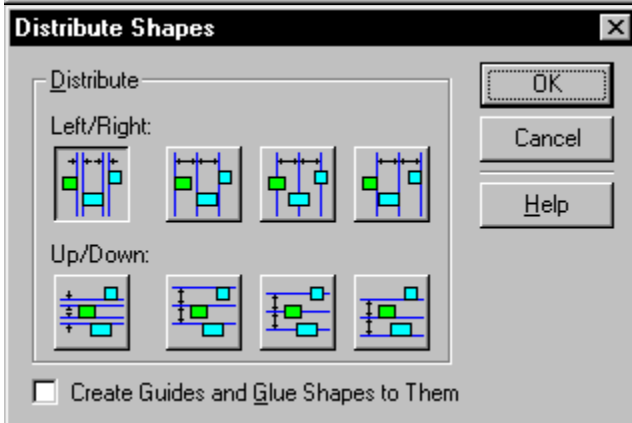
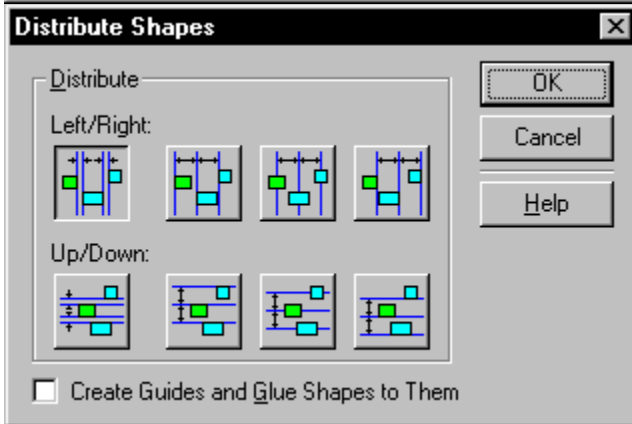
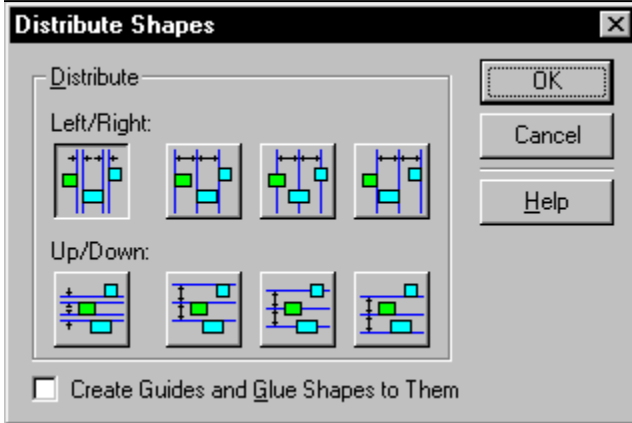
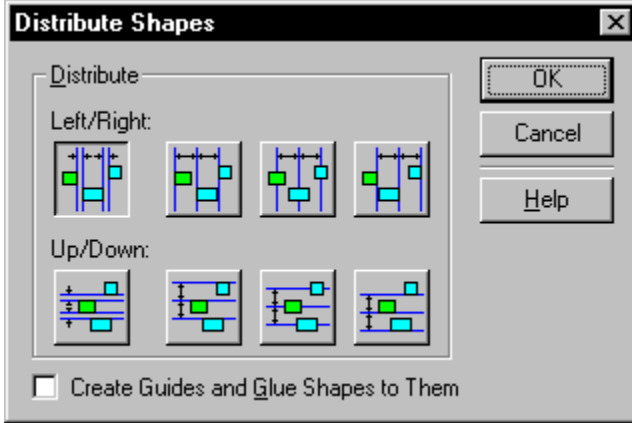
**See also**

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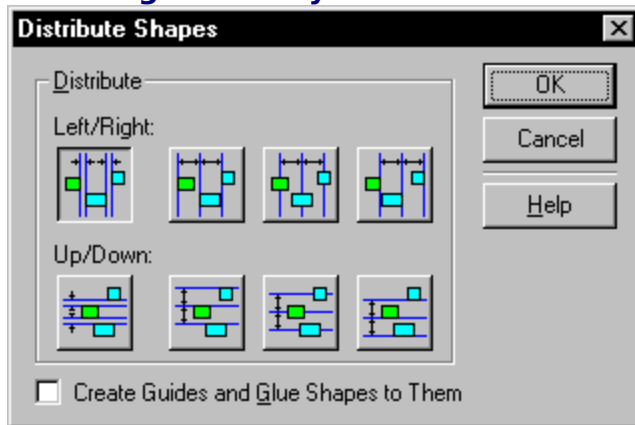
- [Adjusting the data format](#)
- [Choosing inventory content](#)
- [Generating an inventory](#)



## Choosing inventory content



## Choosing inventory content

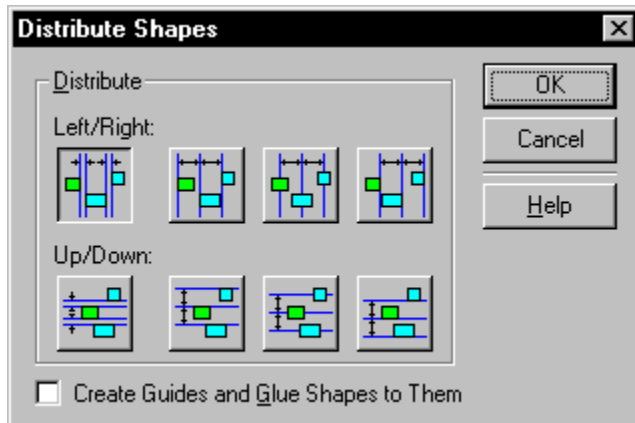


### [Overview](#)

You can choose what data fields to include in an inventory. Unless you add additional fields, an inventory will include only Quantity (Qty) and Master fields. Qty lists the number of times a specific shape appears in a drawing. Master lists the shape names.

Qty and Master data are automatically assigned to Visio shapes. Other data automatically assigned include ID, Name, Height, Width, and Type.

The inventory can also include fields for custom data, such as serial numbers, that you've associated with shapes.



### **To choose inventory content:**

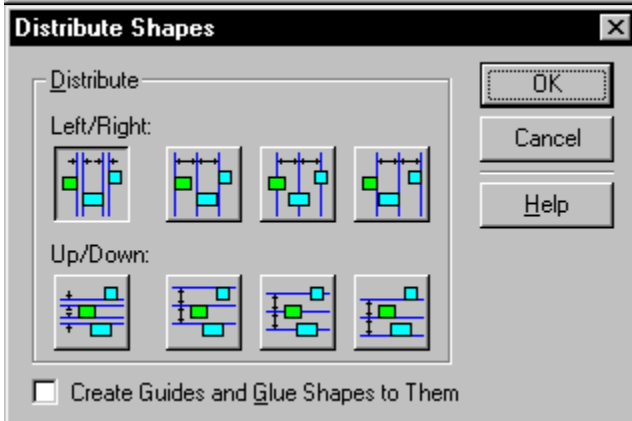
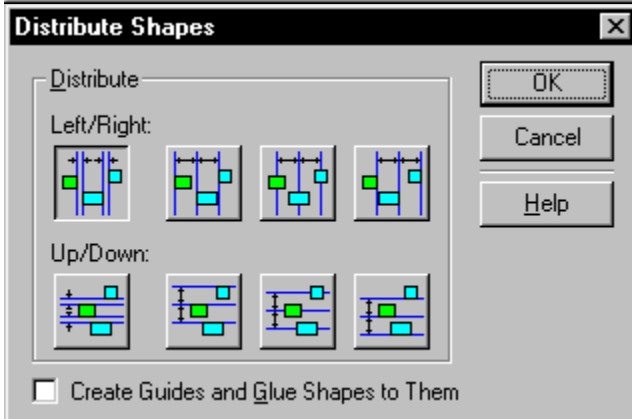
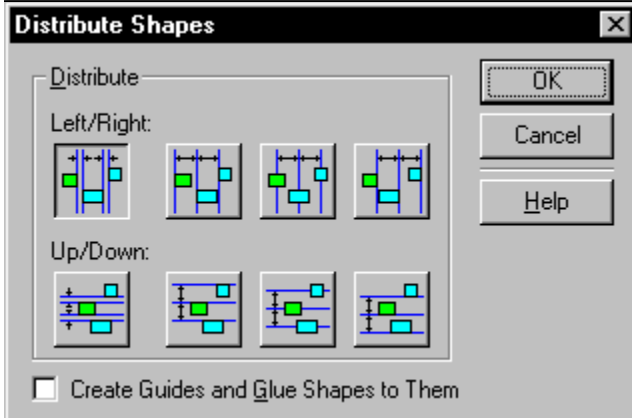
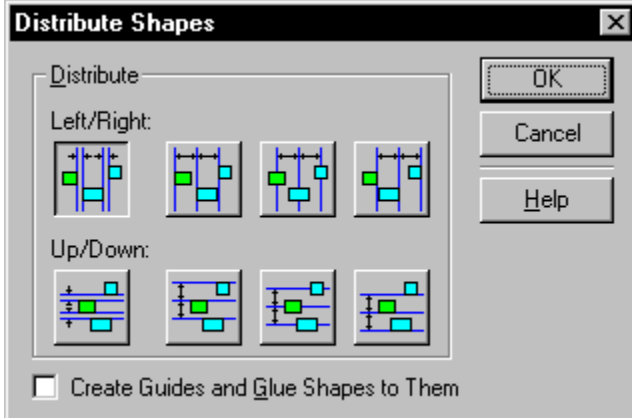
1. If you haven't already, associate shapes with data. For details, see [Associating data with shapes](#).
2. From the Tools menu, choose [Shape Report](#).
3. In the Shape Report box, click [Select](#).
4. In the Select box, select fields in the Available Fields list and click Add to add them to the Inventory Fields list.
5. Select fields in the Inventory Fields list and click Up or Down to determine the order in which they appear in the inventory.
6. For Field, select a field you want to sort on, select the sorting order, then click OK.
7. Generate an inventory. For details, see [Generating an inventory](#).

### **See also**

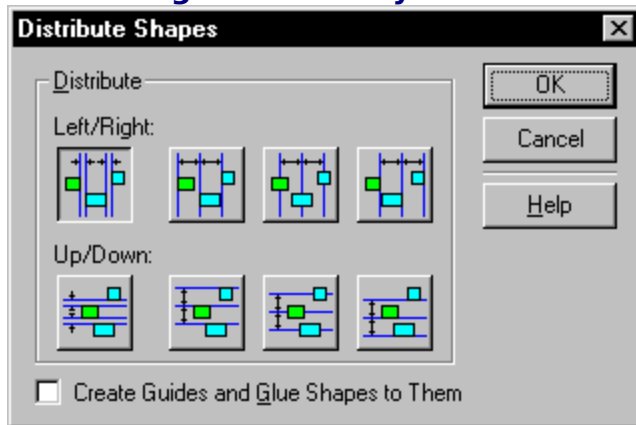
[Adjusting the data format](#)

Associating data with shapes  
Generating an inventory

## Generating an inventory



## Generating an inventory



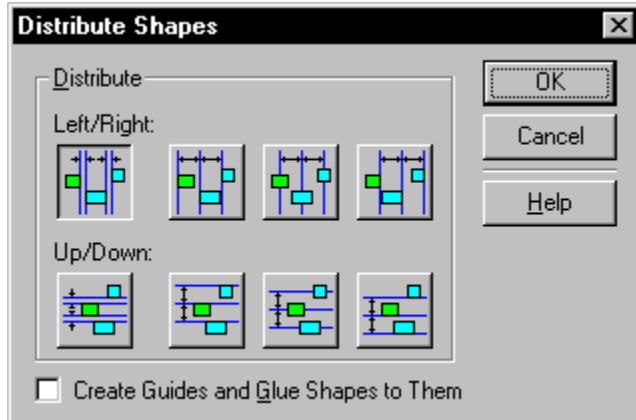
### [Overview](#)

You can generate an inventory in two ways:

- Copy the inventory to the Windows Clipboard so you can paste it into another program.
- Save the inventory as a text file so you can export it to a spreadsheet or database.

If you intend to export an inventory, set text delimiters and field separators for the data so the destination program can read the inventory. For details, see the documentation for the destination program.

Before you generate an inventory, decide how you want it to look. For example, you can choose to display field names at the top of each inventory column. The inventory can list each shape individually, or list all instances of a master shape as one item.



### **To generate an inventory:**

1. If you haven't already, choose the inventory content. For details, see [Choosing inventory content](#).
2. From the Tools menu, choose [Shape Report](#).
3. In the Shape Report box, under Destination, click Screen, Clipboard, or File.
4. If you clicked File, click Browse to choose a location and name for the text file.
5. If you're exporting the inventory, select the Format options appropriate for the destination program.
6. Check the Options you want for displaying the inventory, then click OK.

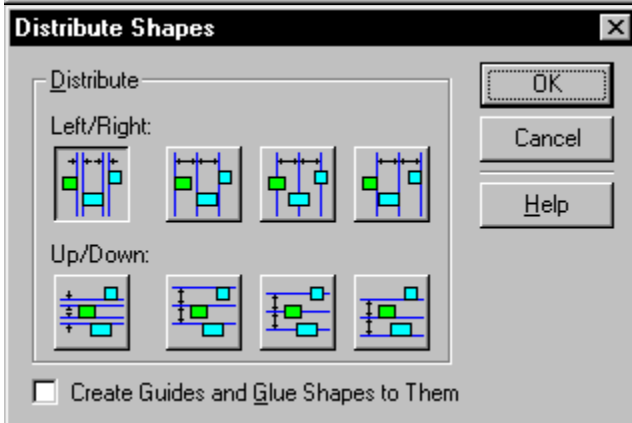
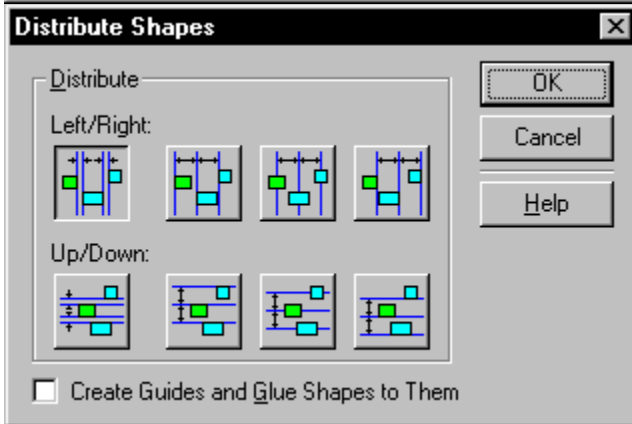
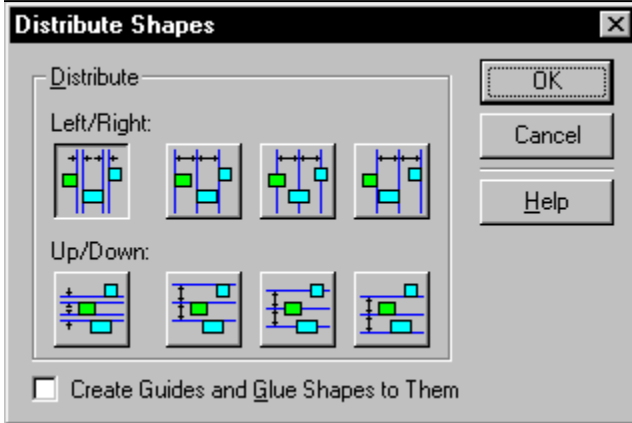
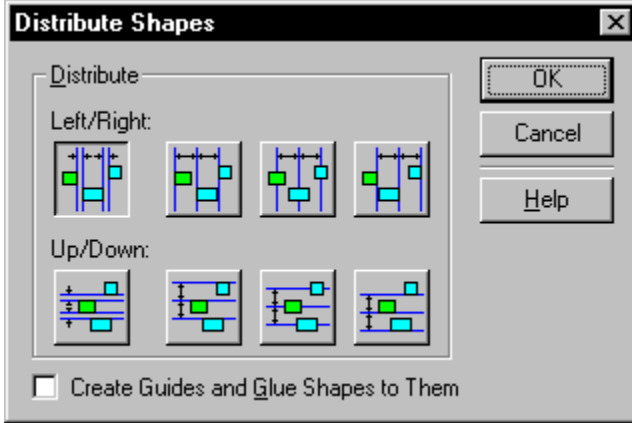
### **See also**

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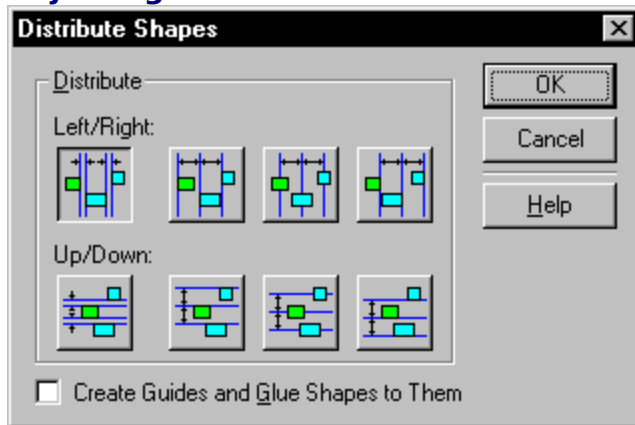
[Adjusting the data format](#)  
[Associating data with shapes](#)  
[Choosing inventory content](#)



## **Adjusting the data format**

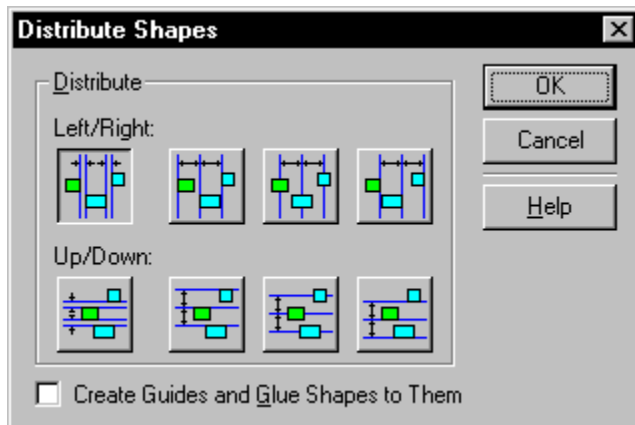


## Adjusting the data format



[Overview](#)

If you plan to export the inventory to another program, you may need to change the text delimiter and field separator characters so that the other program can read the inventory list. For details, see the destination program's documentation.



**To adjust the data format:**

1. From the Tools menu, choose [Shape Report](#).
2. Under Format, choose the text delimiter and field separator you want.

Typically, it's only important to choose a text delimiter character if you plan to export the inventory to a spreadsheet or database program.

If you choose {space} in the Field Separator box, choose double-quote ( " ) or single-quote ( ' ) in the Text Delimiter box. Choose whichever character does not appear within text strings. For example, if text strings contain single-quotes, choose the double-quote character as the text delimiter.

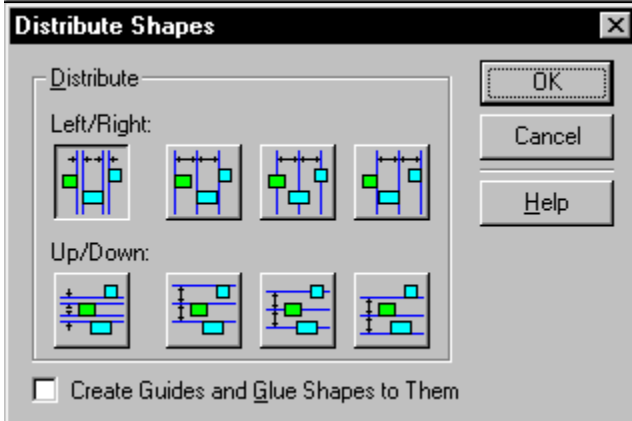
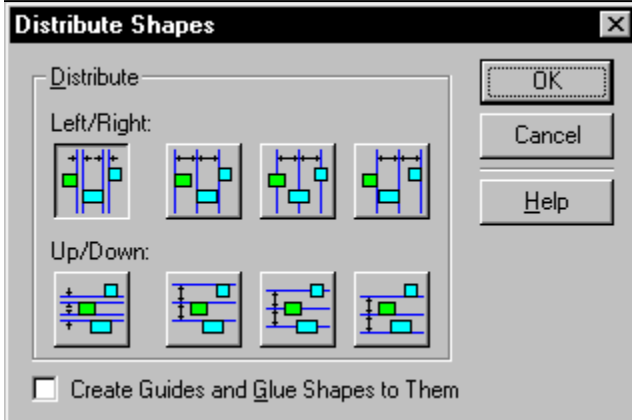
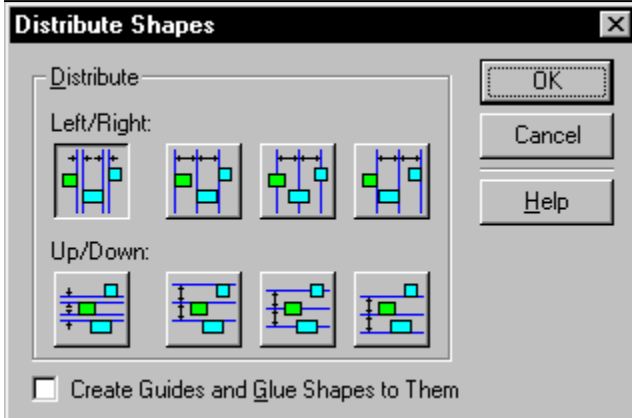
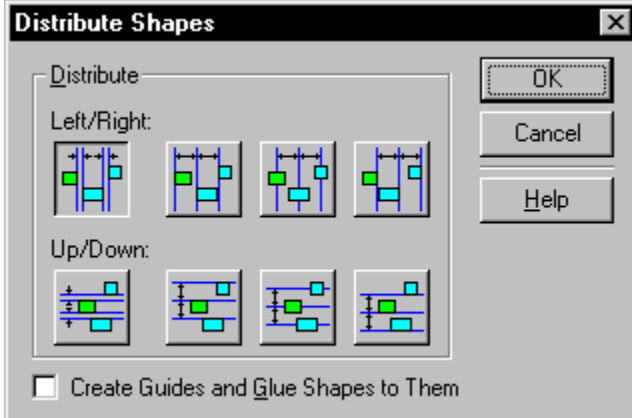
If you choose {tab} in the Field Separator box, you may need to delimit text strings with double or single-quotes. Some programs always interpret spaces as field separators, even if you specify an alternative character for this purpose. See the destination program's documentation for details.

### See also

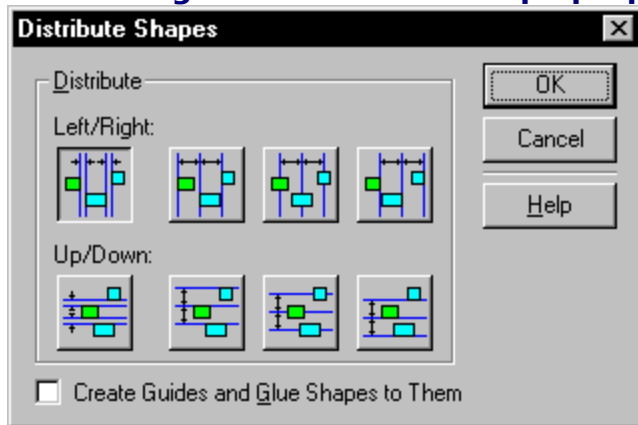
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[Associating data with shapes](#)  
[Choosing inventory content](#)  
[Generating an inventory](#)

## Performing calculations on shape properties



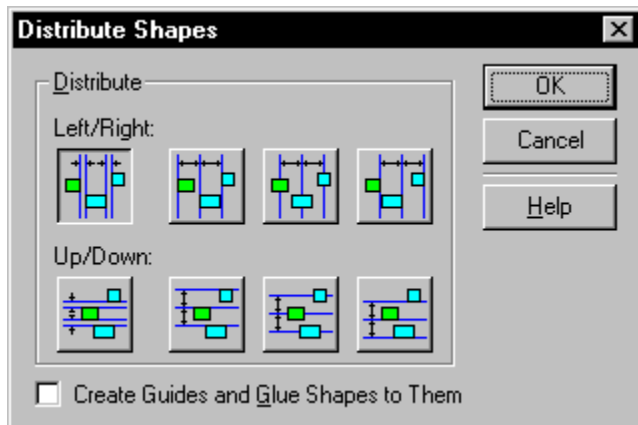
## Performing calculations on shape properties



[Overview](#)

If you add [custom properties](#)—such as cost, duration, or resources (number of people)—to a diagram's shapes, you can use the Property Reporting Wizard (REPORTER.EXE) to perform calculations using those properties. For example, you could calculate the total cost of a computer network.

In addition, you can take an inventory of information associated with shapes. For example, you can generate a bill of materials for a project, keep track of the location of equipment and furniture in an office, or account for every model, printer, computer, and server in a computer network.



**To perform calculations, follow these**

### steps:

1. Create a diagram by dragging and dropping shapes onto the drawing page.
2. Associate the shapes with numerical data on which you want to perform calculations. For details, see [Associating data with shapes](#).
3. Select the shapes you want to calculate.
4. From the Tools menu, choose Run Add-on, then choose REPORTER.EXE.

**Tip:** Some templates (such as Total Quality Management and Flowchart) include a Property Reporting shape on the stencil. Drag and drop the shape, right-click it, then choose Run Property Reporting to run the Property Reporting Wizard.

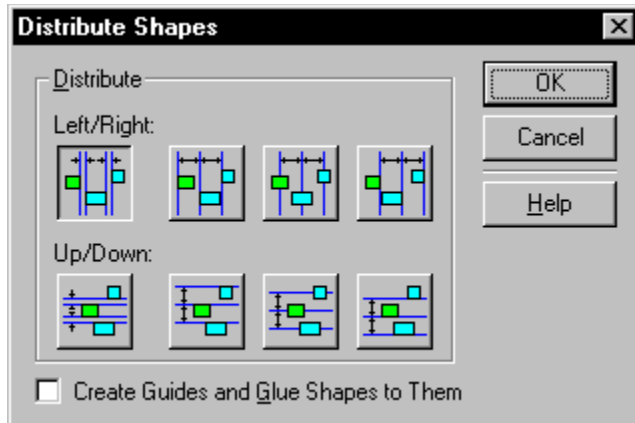
5. Follow the instructions on screen in the Property Reporting Wizard boxes.

### See also

[Generating an inventory](#)



## Changing the page size and drawing scale



[Related procedures](#)

Understanding how to use the drawing page, printed drawing, and paper size is important when you want to adjust the size or scale of a drawing or to change settings that affect how a drawing prints.

### The drawing page and the printed drawing

The drawing page is the page in the drawing window. The rulers indicate its size. The printed drawing is the same size as the drawing page unless you specify a drawing scale other than one to one or you reduce or enlarge the drawing when you print it. The drawing page and printed drawing are the same size as the paper unless you specify a different size for the drawing page.

When you open a new file without a template (or if the template you use doesn't change the drawing scale or page size), the drawing scale is one to one. The drawing page, printed drawing, and paper size reflect the default paper size settings in Windows. These settings are displayed in the Page Setup dialog box.

### Changing the drawing page, printed drawing, and paper size

You can change the size of the drawing page, printed drawing, and paper by changing settings in the Page Setup dialog box.

Three dialog boxes affect these settings:

- Page Setup (on the File menu).
- Properties (on the Edit menu, then Drawing Page submenu).
- Size & Scale (on the Edit menu, then Drawing Page submenu).

To match the drawing page to the paper size specified in the Page Setup dialog box: from the Edit menu, choose Drawing Page, choose Size & Scale dialog box, then check Same As Printer.

When you change the drawing page size in relation to the paper size, keep in mind that:

- Changing the drawing page orientation by changing its size does not change the orientation of the paper. Mismatched orientations can cause the drawing to print incorrectly. To change the orientation, change settings in the Page Setup dialog box.
- Changing the size of a drawing page does not change the size of a background page assigned to it. You must change the size of a background separately.
- The printed drawing is the same size as the drawing page unless you set a drawing scale



other than one to one or reduce or enlarge the drawing for printing.

- If you choose Fit Page To Drawing Contents in the Size & Scale dialog box and then edit the drawing, the page may no longer tightly enclose the shapes.

To resize the page so it fits the shapes again: from the Edit menu, choose Drawing Page, choose Size & Scale, choose Fit Page To Drawing Contents, then click OK to reapply the option.

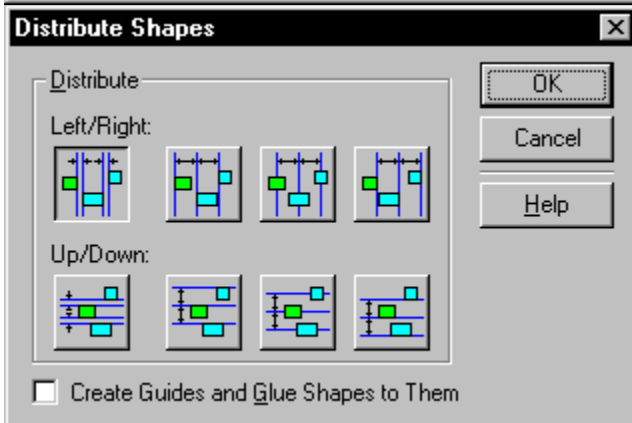
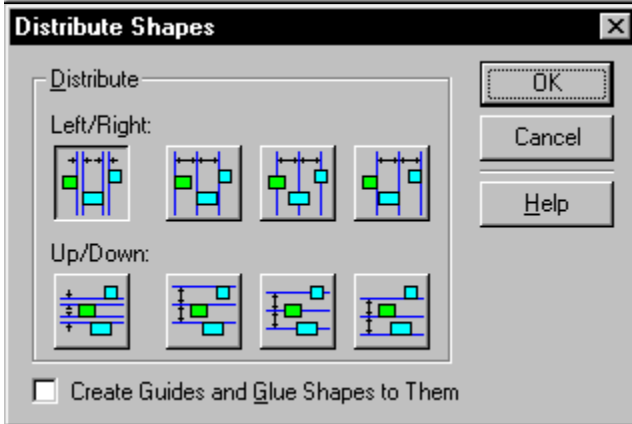
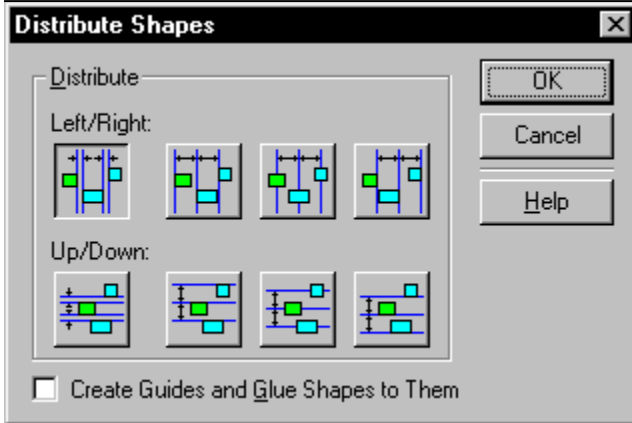
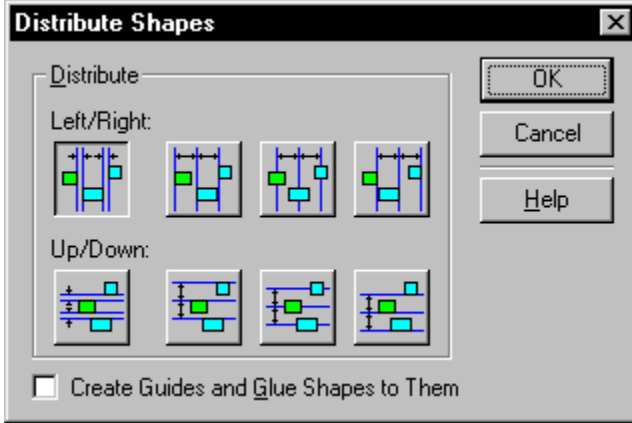
### **Changing the drawing scale**

When you change the drawing scale, keep in mind that:

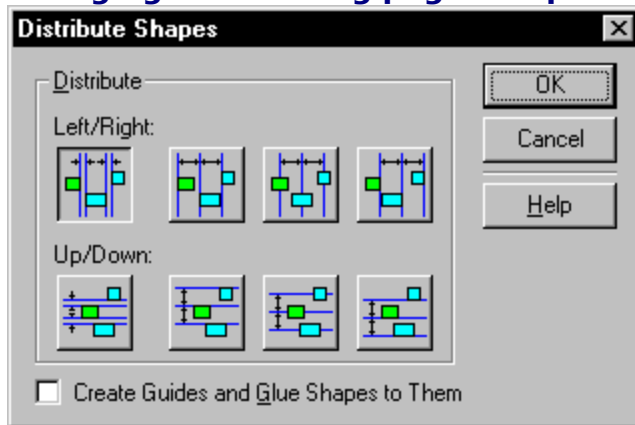
- The units of measure displayed on the ruler are the same as those specified in the drawing scale unless you specify different units in the Measurements list in the [Properties](#) dialog box.
- Changing the scale of a drawing page does not change the scale of a background page assigned to it.
- Most master shapes are designed for drawings with a scale of one to one. Visio compensates for an instance whose scale differs greatly from the scale of the drawing. In some cases, however, if you drag a master into a scaled drawing, an instance (or part of an instance) might be too large or too small.

Changing the drawing page and print settings together  
Changing the size of the drawing page  
Setting a drawing scale

## **Changing the drawing page and print settings together**

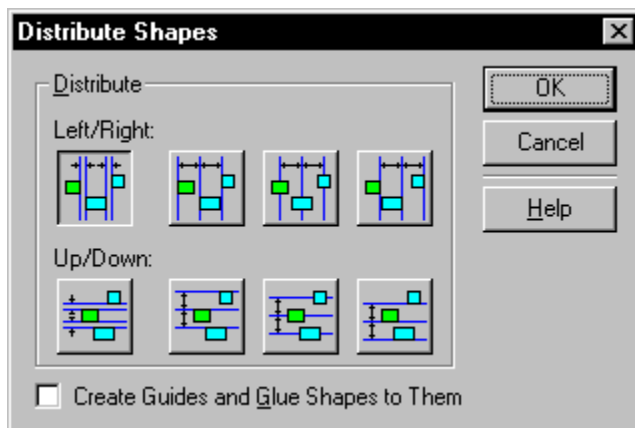


## Changing the drawing page and print settings together



[Overview](#)

Visio saves printer settings with each drawing file. A new drawing file uses the default printer settings or the printer and page settings for the template you used to start the drawing. A drawing page uses the current printer settings unless you specify different settings for the page.

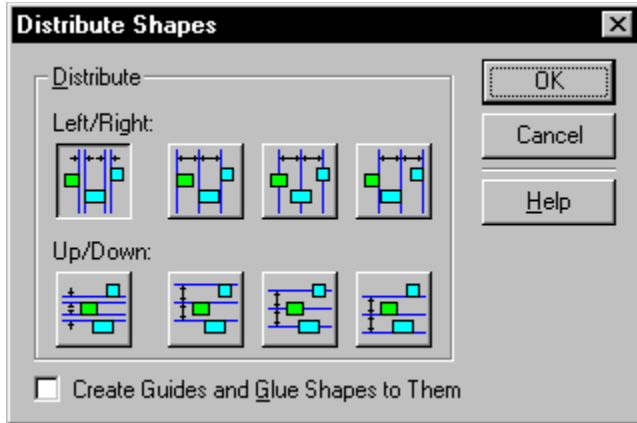


**To change the drawing page, printed**

**page, and paper size:**

1. From the File menu, choose Page Setup.
2. In the Orientation section, choose Portrait or Landscape.
3. From the Paper list, choose a paper size.
4. Click OK.

Changing settings in the Page Setup dialog box affects a drawing page only when Same As Printer is checked in the Size & Scale dialog box. The printed drawing, drawing page, and paper size are the same size if the drawing scale is one to one and if you do not reduce or enlarge the page during printing.



**To match the drawing page and**

**printed drawing with Page Setup settings:**

1. Display the drawing page.
2. From the Edit menu, choose Drawing Page, then choose Size & Scale.
3. In the Page Size section, check Same As Printer.
4. In the Drawing Scale section, check No Scale (1:1).
5. Click OK.

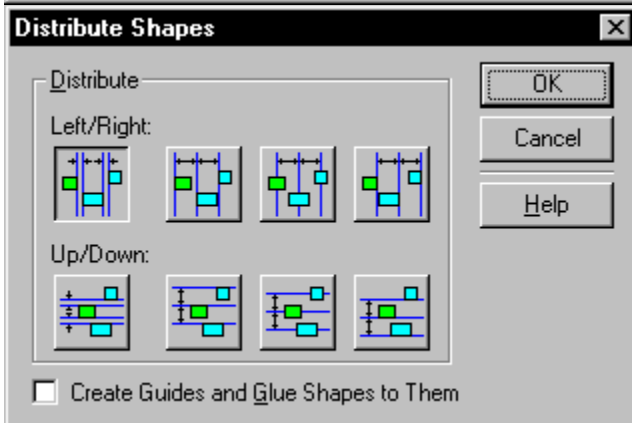
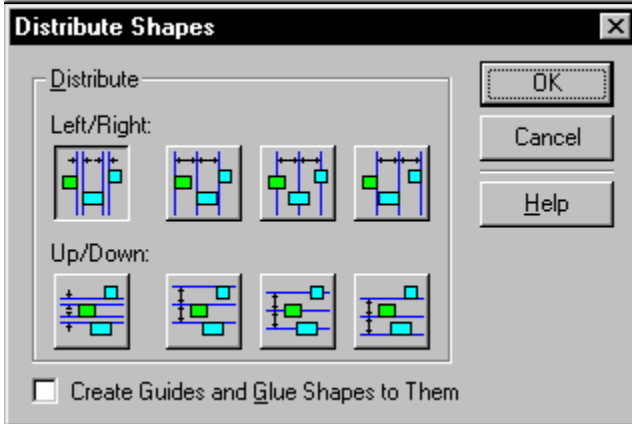
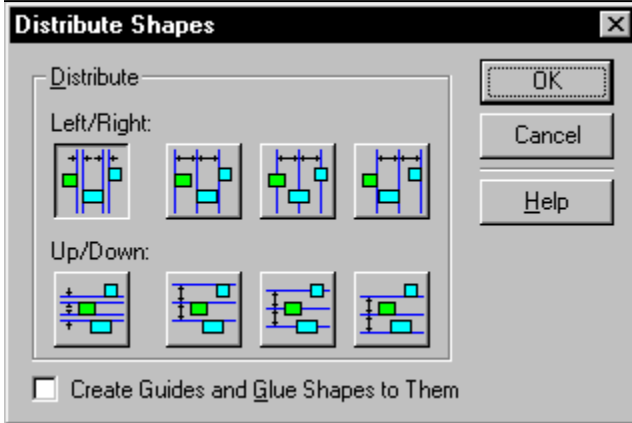
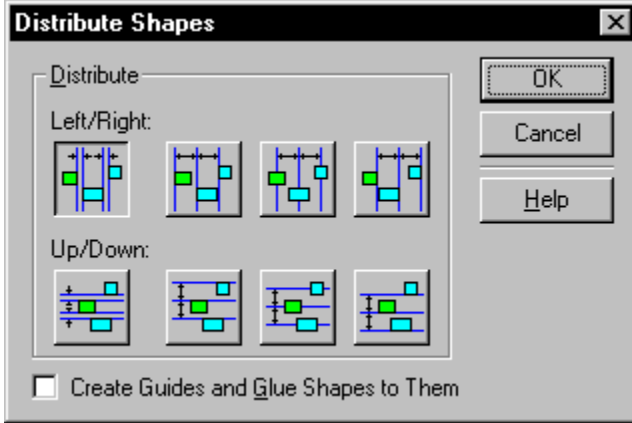
### **See also**

[Changing the size of the drawing page](#)

[Choosing a printer](#)

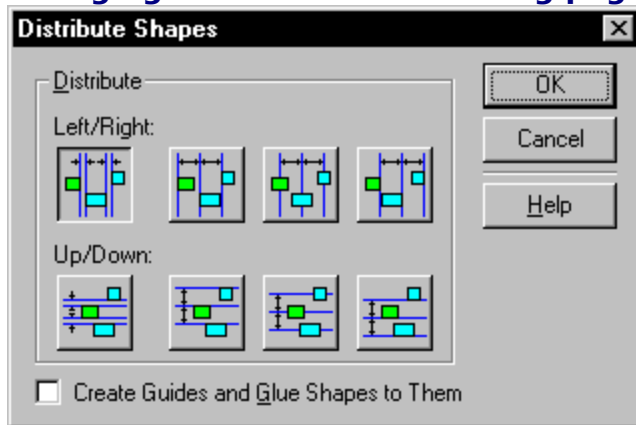
[Reducing or enlarging a drawing for printing](#)

**Changing the size of the drawing page**



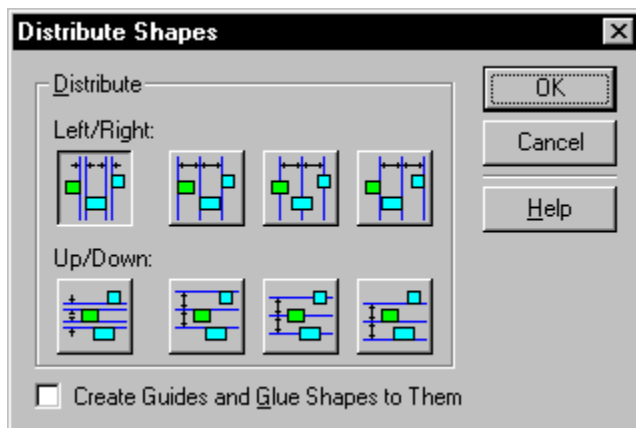


## Changing the size of the drawing page



[Overview](#)

You can create drawing pages that are a different size from the paper size specified in the Page Setup dialog box. When a large drawing page is printed, it is tiled and printed on multiple sheets of paper. A small drawing page prints easily at various locations on a sheet of paper.



**To size a drawing page independently**

### of the paper size:

1. Display the drawing page.
2. From the Edit menu, choose Drawing Page, then choose Size & Scale.
3. In the Page Size section, choose an option other than Same As Printer.
4. Click OK.

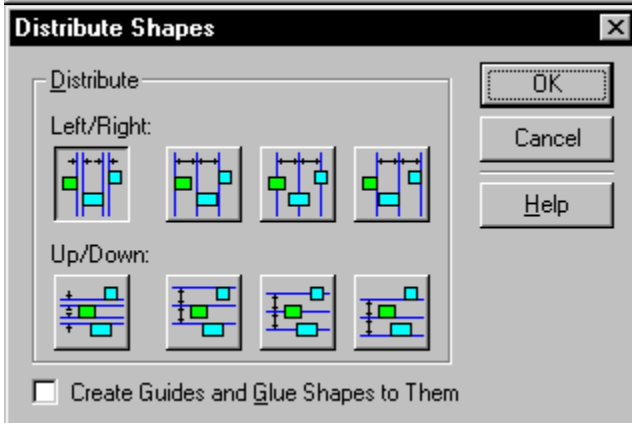
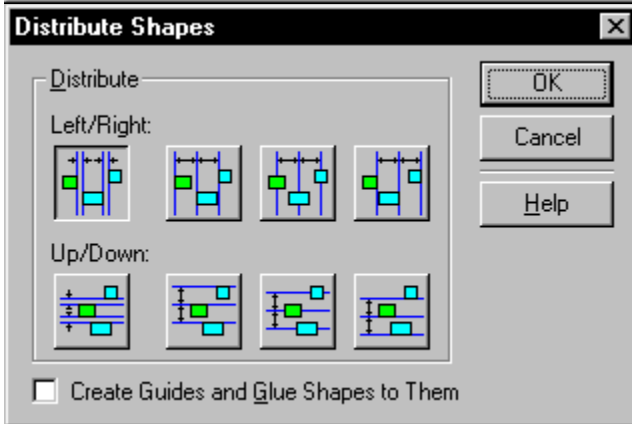
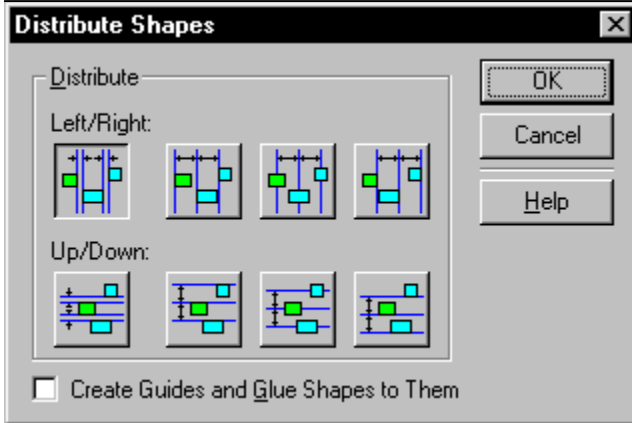
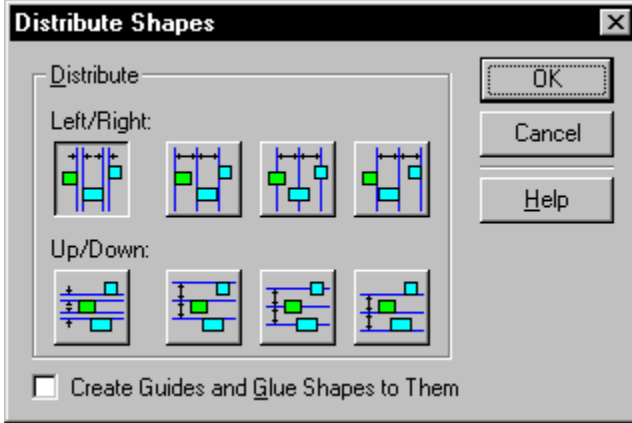
The Standard list reflects page orientation as well as size. The first measurement is the sheet's width and the second is the height. To change a letter-size drawing page from tall to wide, choose Letter Wide (11 in. x 8.5 in.).

### See also

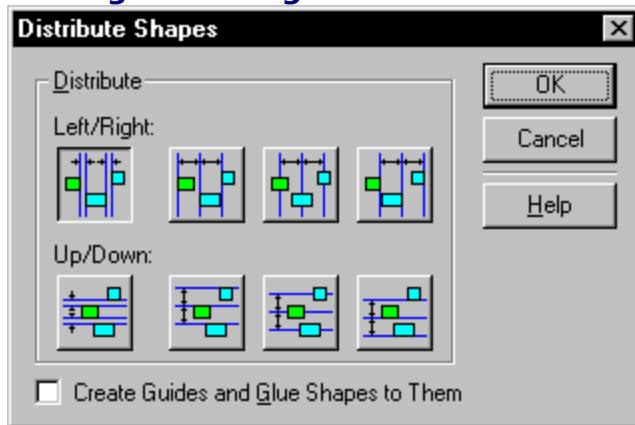
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[Assigning and canceling a background page](#)  
[Printing a drawing](#)  
[Reducing or enlarging a drawing for printing](#)  
[Setting a drawing scale](#)  
[Showing page breaks](#)

## Setting a drawing scale

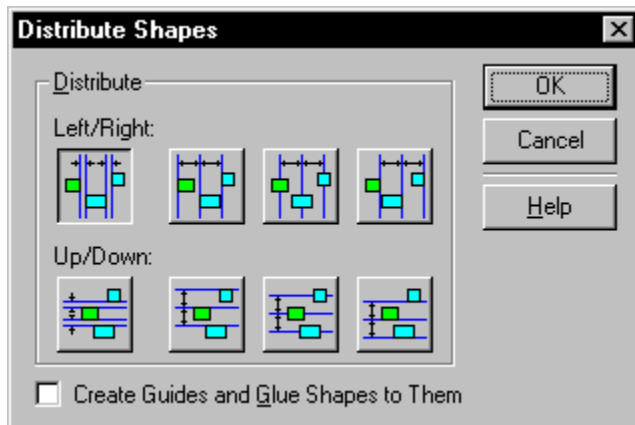


## Setting a drawing scale



### [Overview](#)

To create accurate architectural, engineering, and scientific drawings, you need to draw them to scale. The drawing scale determines the relationship of the drawing page to the printed drawing (unless you also reduce or enlarge the printed drawing).



### **To set a drawing scale:**

1. Display the drawing page.
2. From the Edit menu, choose Drawing Page, then choose Size & Scale.
3. In the Drawing Scale section, choose a standard architectural or engineering scale or enter a custom scale.
4. Click OK.

### **See also**

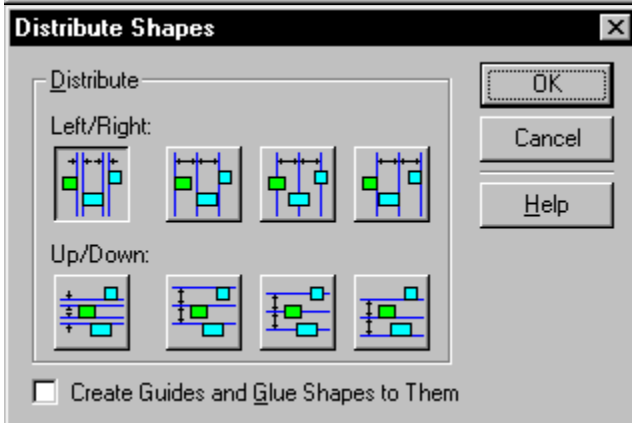
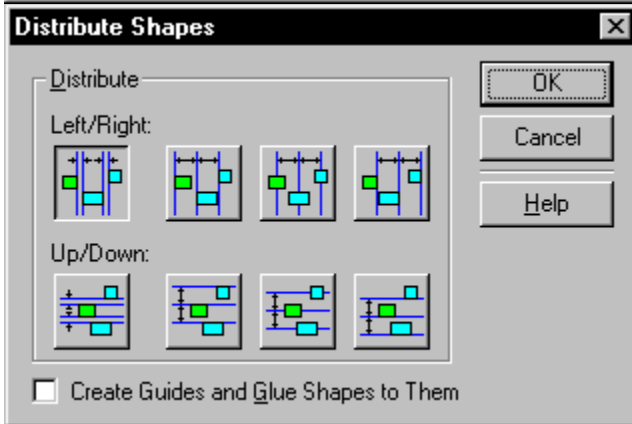
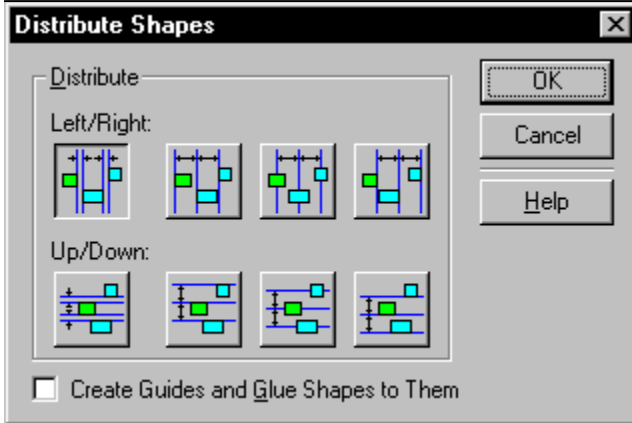
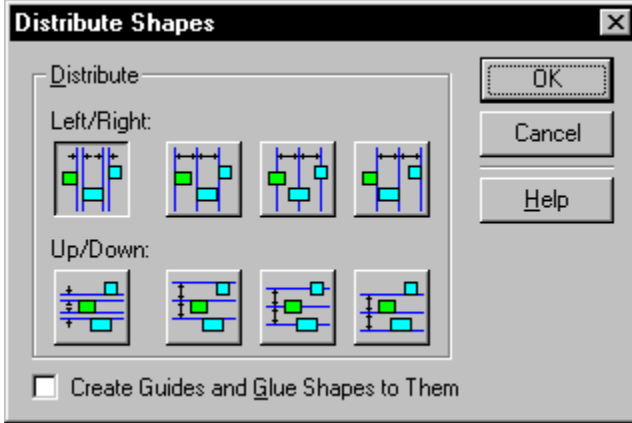
[Assigning and canceling a background page](#)

[Changing the size of the drawing page](#)

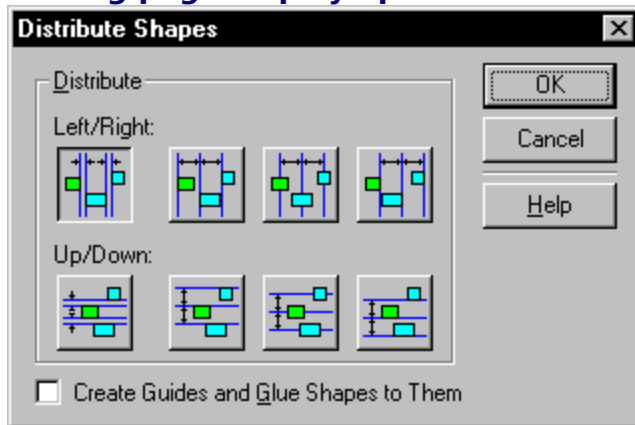
[Printing a drawing](#)

[Reducing or enlarging a drawing for printing](#)

## Setting page display options

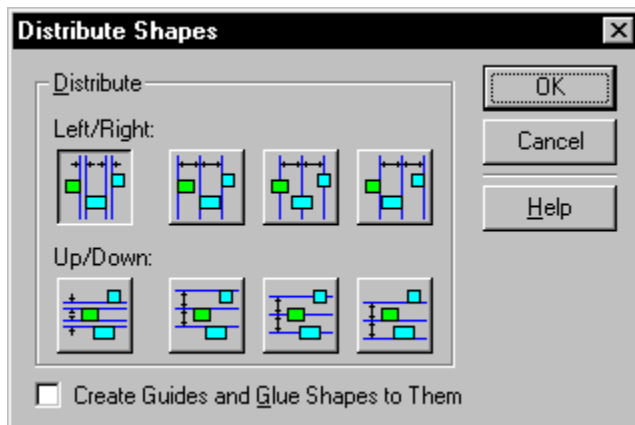


## Setting page display options



### [Overview](#)

You can change the display of the ruler and the grid. For example, you can change the units of measure for rulers and adjust the spacing of subdivisions for rulers and grid lines.



### **To change page display options:**

1. From the Edit menu, choose Drawing Page, then choose [Properties](#).
2. To set the unit of measure, choose an option from the Measurements list.
3. To set grid line and ruler subdivisions, choose [Ruler & Grid](#) from the Tools menu.
4. In the Subdivisions section, choose Fixed, Fine, Normal, or Coarse for grid line and ruler subdivisions.
5. Click OK.

**Important:** Setting a drawing scale often changes the units of measure on the ruler.

### **See also**

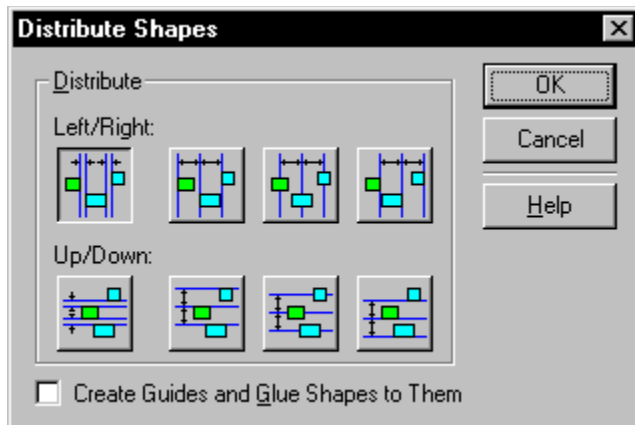
[Aligning shapes to rulers](#)

[Changing the size of the drawing page](#)





## Printing drawings



### [Related procedures](#)

For most [drawings](#), you can use default printer settings or the settings that a [template](#) provides. For other drawings, you may need to adjust margins, set the way color prints on monochrome printers, or reduce or enlarge the drawing.

Before you print a drawing, you can preview it on the screen to see how shapes and other information will be displayed when you print the drawing. When you are working with a large drawing that will print over several pages, you can view page breaks and adjust the drawing so it is arranged on the pages as you want.

You can choose to print an entire drawing, a range of pages, only the page that's displayed in the drawing window, or specific layers in the diagram. You can also print a drawing to a file, which enables you to print the drawing on another computer.

For complete details about printers and printing in Microsoft Windows, see your Windows documentation.

[Choosing a printer](#)

[Editing a drawing while in Print Preview](#)

[Previewing a drawing before you print](#)

[Printing a background page](#)

[Printing a drawing](#)

[Printing a drawing to a file](#)

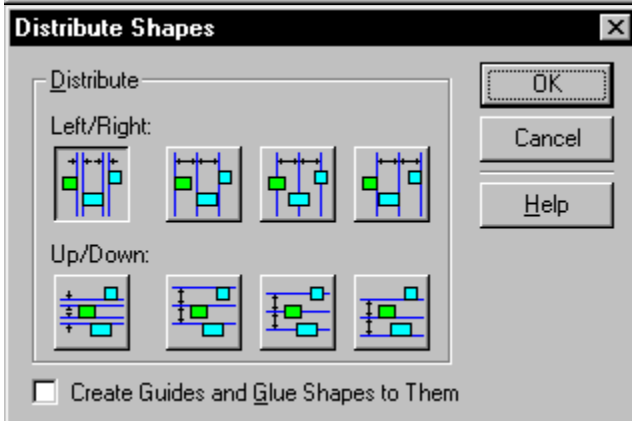
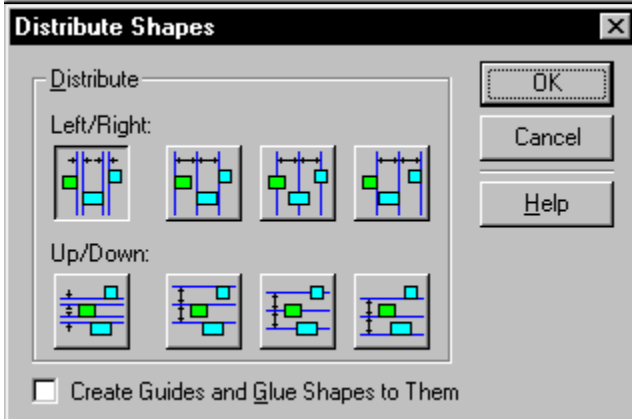
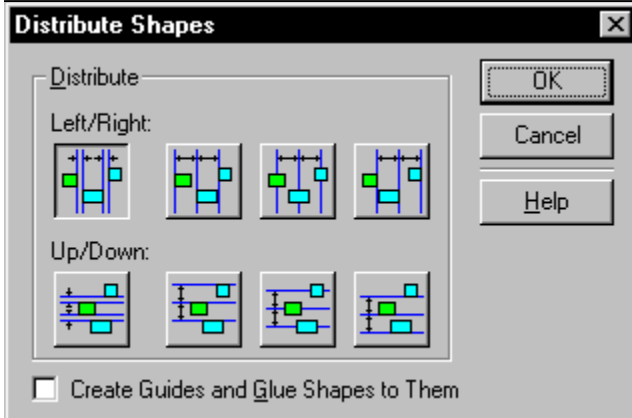
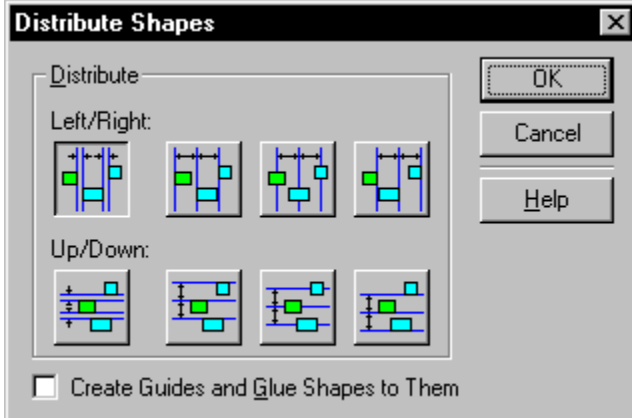
[Printing a page without its background](#)

[Printing color drawings on monochrome printers](#)

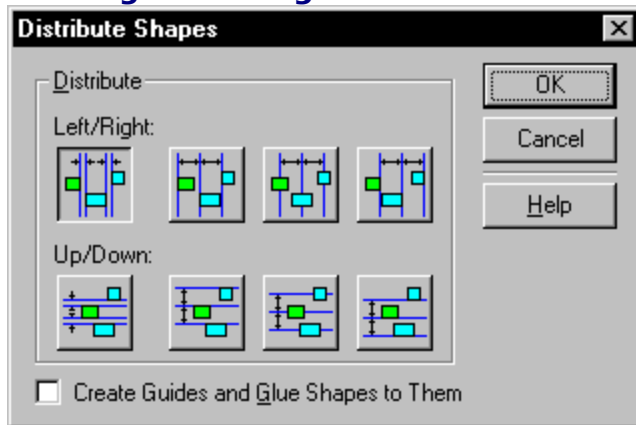
[Printing layers](#)

[Showing page breaks](#)

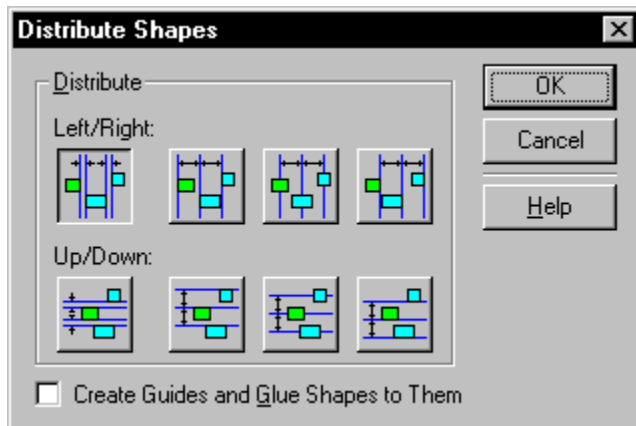
## Printing a drawing



## Printing a drawing

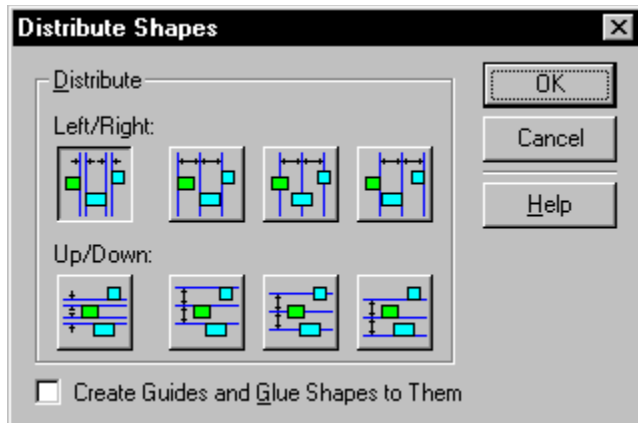


[Overview](#)



### To print a drawing:

1. From the File menu, choose Print.
2. In the Print Range section, choose an option for which pages to print:  
Choose All or Current Page, or specify a range of pages in the Pages From and To boxes.  
  
If a foreground page is displayed, choosing the Current Page option prints the foreground page and any background pages. If a background is displayed, Current Page prints that background page and all other background pages assigned to that background.
3. In the Copies section, enter the number of copies you want.
4. In the Printer section, specify to print to a file, or to print all colors as black.
5. Click OK.



**To print the current page:**

1. Click the Print button on the toolbar.  
Visio prints the page currently displayed.

### **See also**

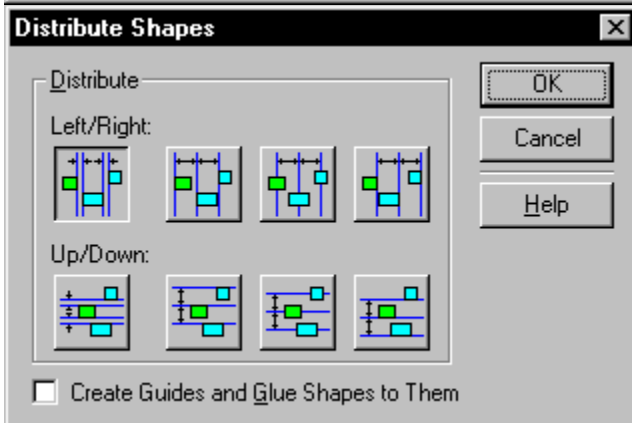
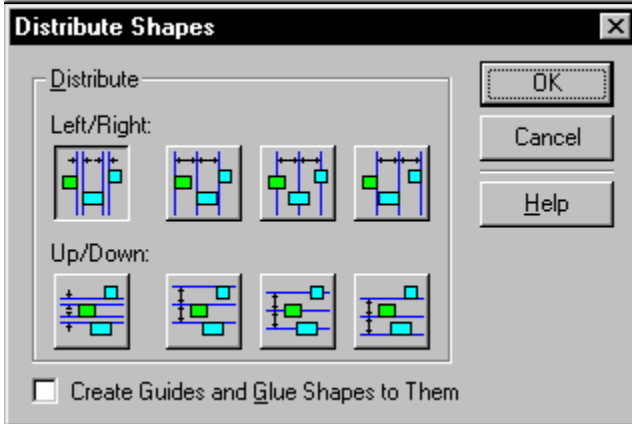
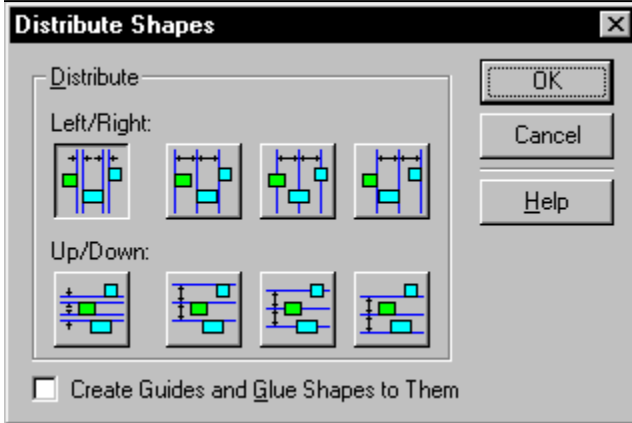
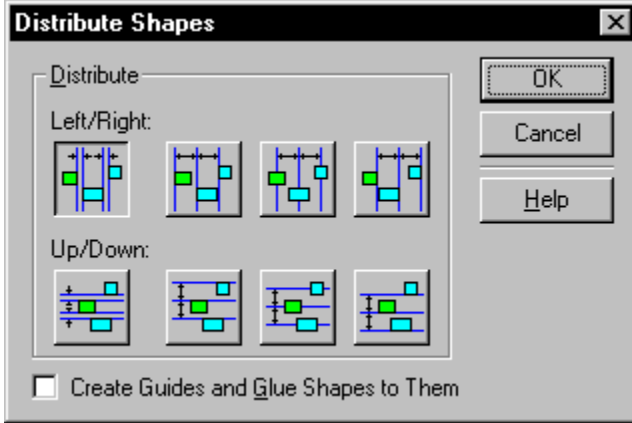
[Choosing a printer](#)

[Previewing a drawing before you print](#)

[Printing a page without its background](#)

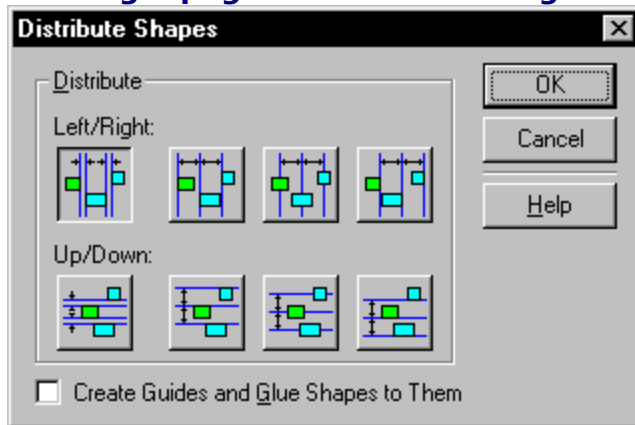
[Reducing or enlarging a drawing for printing](#)

## **Printing a page without its background**



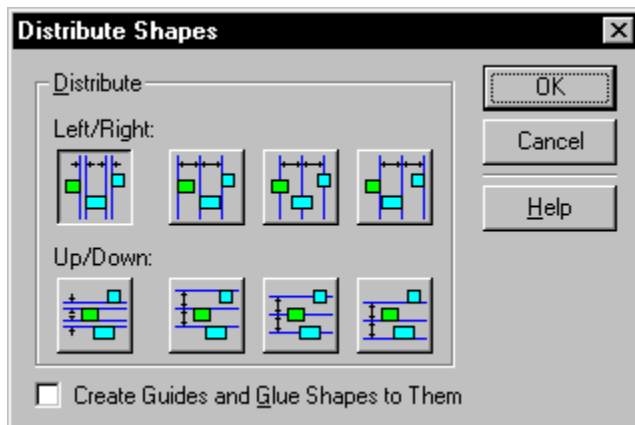


## Printing a page without its background



[Overview](#)

By canceling the assignment of a [background](#) page, you can print a drawing page without its background.



**To print a page without its**

### **background:**

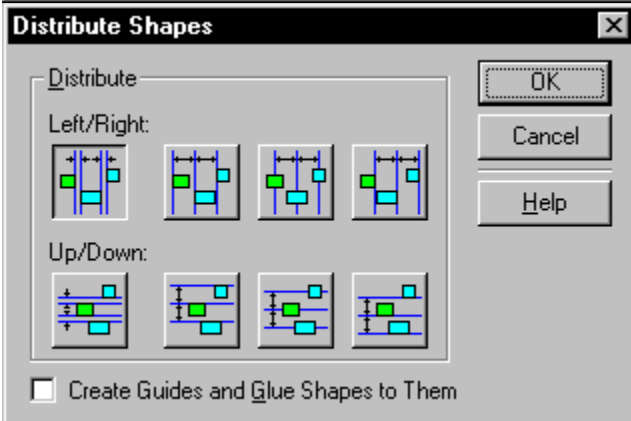
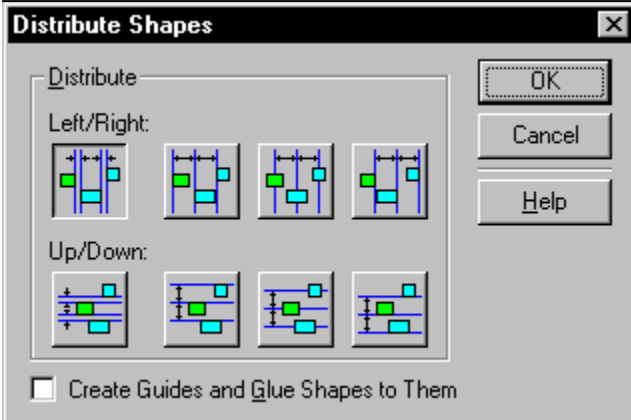
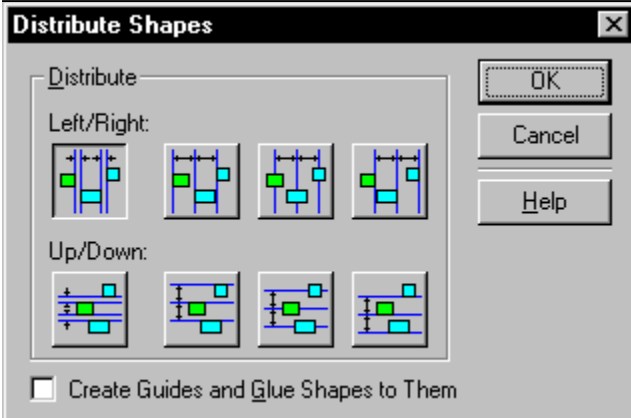
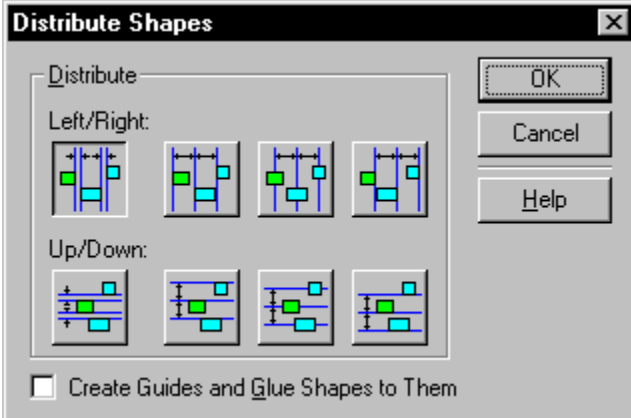
1. Display the page you want to print.
2. From the Edit menu, choose Drawing Page, then choose Properties.
3. From the Background list, choose None.
4. Click OK.
5. From the File menu, choose Print.
6. In the Print dialog box, choose the printing options you want.
7. Click OK.

### **See also**

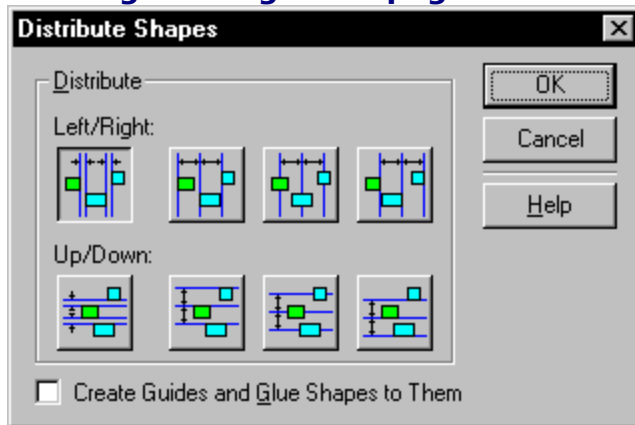
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[Assigning and canceling a background page](#)  
[Previewing a drawing before you print](#)  
[Printing a background page](#)  
[Printing a drawing](#)

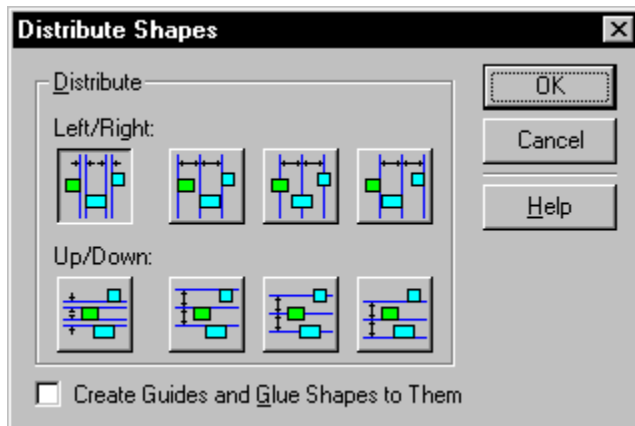
**Printing a background page**



## Printing a background page



[Overview](#)



**To print a background page:**

1. Display the [background](#) page in an open window.
2. From the File menu, choose Print.  
You can also click the Print button.
3. Choose the Current Page option, and then click OK.

**Note:** This prints the background page and any background pages assigned to it.

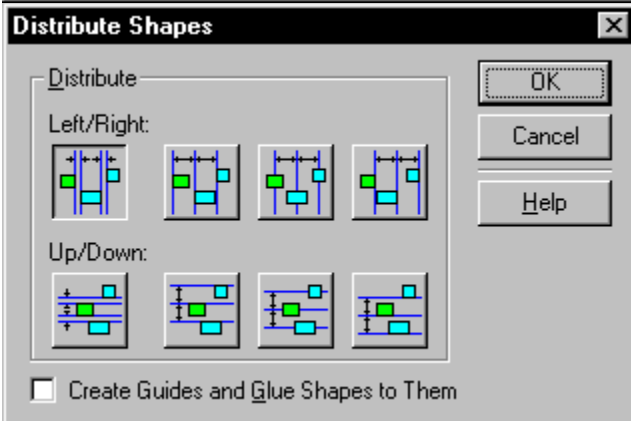
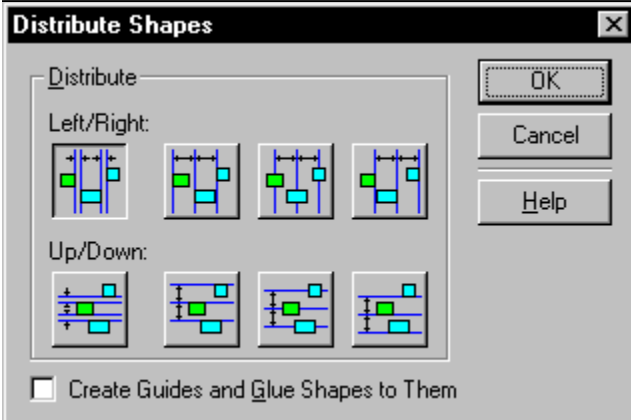
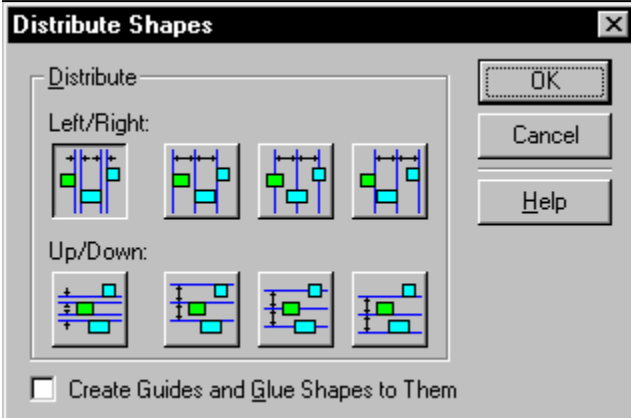
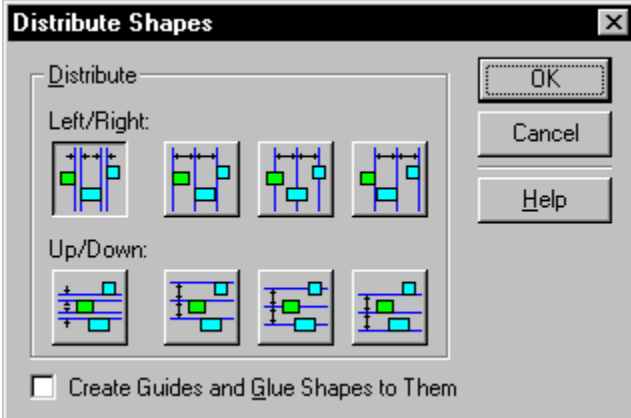
### See also

[Assigning and canceling a background page](#)

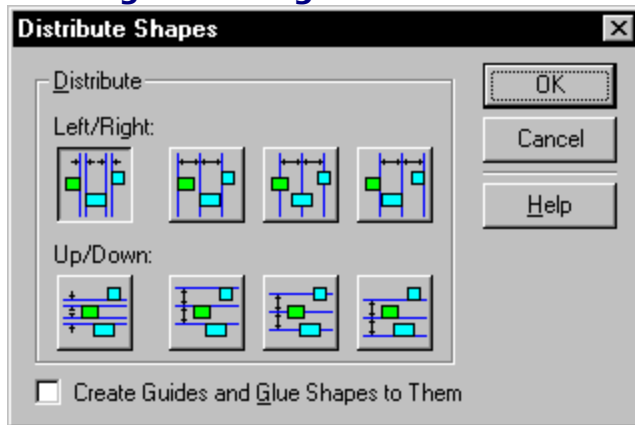
[Printing a drawing](#)

[Printing a page without its background](#)

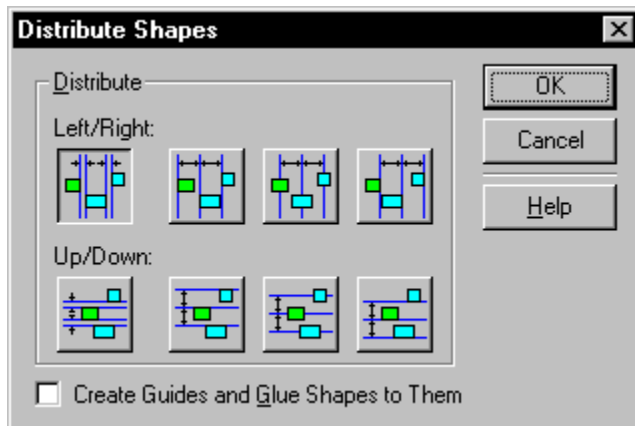
## **Printing a drawing to a file**



## Printing a drawing to a file

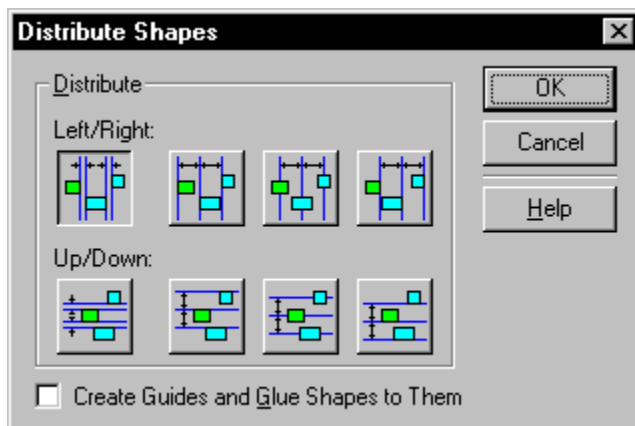


[Overview](#)



**To print to a file:**

1. From the File menu, choose Print.
2. In the Printer section, check Print To File.
3. Click OK.
4. Type a filename and choose a location for the print file.
5. Click OK.



**To send a print file to a printer:**

1. Click the Windows Start button, choose Programs, then choose MS-DOS prompt.
2. At the DOS prompt, type a command to send the file to the printer. For example:

**copy /b c:\project\pfile lpt1:**

where **copy /b** copies the entire file, **c:\project** is the path where the file is stored, **pfile** is the file you are printing, and **lpt1:** is the port your printer is connected to.

3. Click the X button to close the DOS window.

### **See also**

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[Changing the drawing page and print settings together](#)

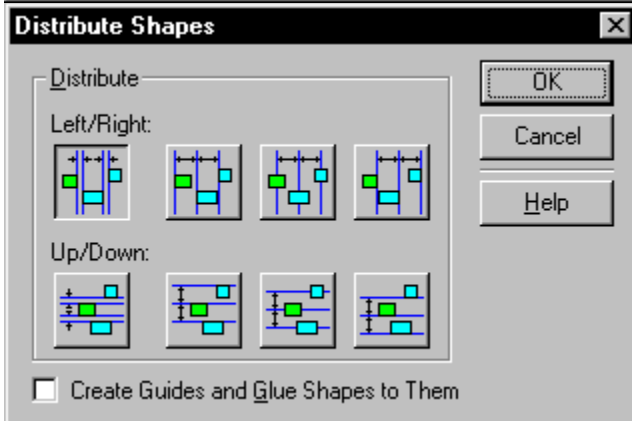
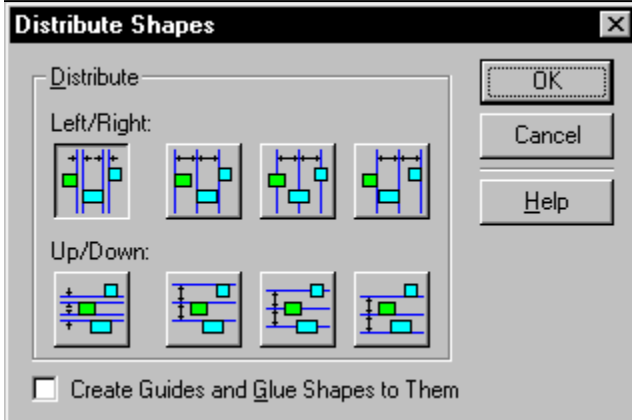
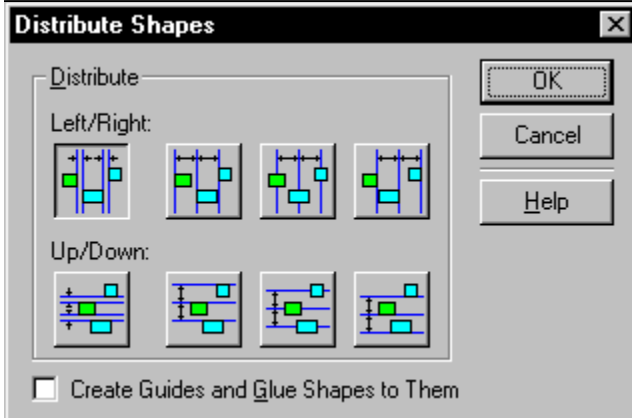
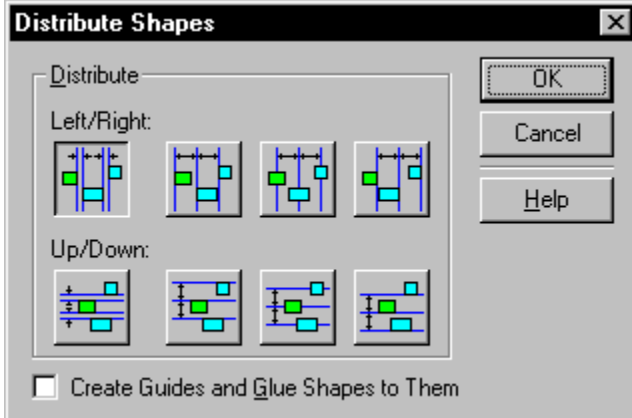
[Choosing a printer](#)

[Previewing a drawing before you print](#)

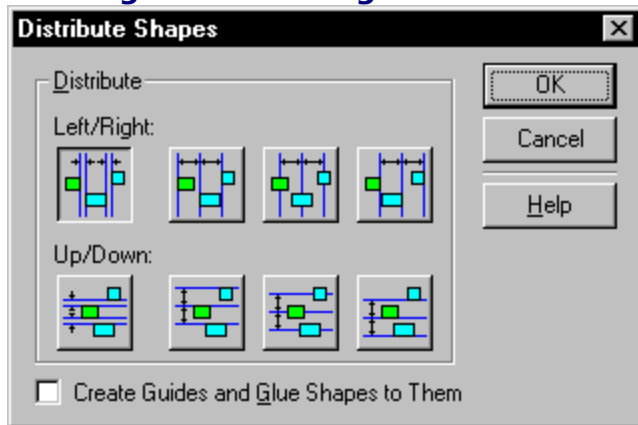
[Printing a drawing](#)



**Printing color drawings on monochrome printers**



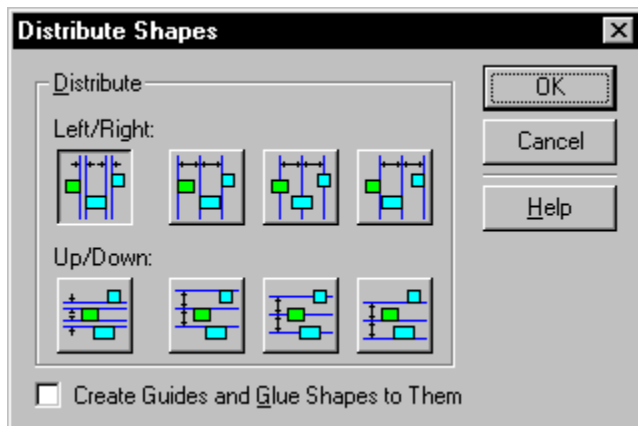
## Printing color drawings on monochrome printers



### [Overview](#)

When you print on a monochrome printer, Visio translates the colors on the screen into gray tones on the printed page. White prints as no color, and black prints as black.

Some printer drivers provide gray-scale options. You can experiment with gray-scale options to find which one works best.



### To specify a gray-scale option:

1. From the File menu, choose Page Setup.
2. In the Page Setup dialog box, click Printer, then click Properties.
3. In the Properties dialog box, set printing options that control the gray scale.  
This dialog box is printer-specific.
4. Click OK, then click OK.
5. In the Page Setup dialog box, click OK.

**Tip:** For the best gray tones in a printed drawing, use the grays in the Visio default color palette. If you use patterned fills, try using a solid color for the fill background and a shade of gray for the foreground. These patterns print better than some other patterns.

If a shape doesn't appear in a printed drawing, Visio may have translated the color of the shape's line and fill as white.

To correct this problem:

- Change the color of the shape's line or fill to a darker color. Visio translates the color as a darker gray, so the shape appears in the printed drawing.

- In the [Print](#) dialog box, check Color As Black. Visio prints the lines and fills of all shapes as black, so shapes are visible in the printed drawing. This is helpful if you can't determine which shapes are missing from the printed drawing.

**See also**

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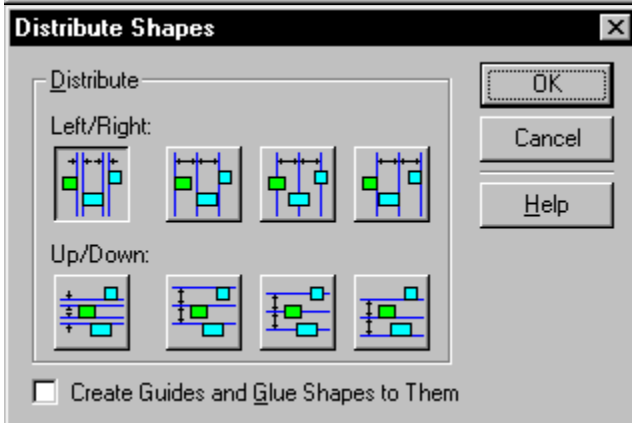
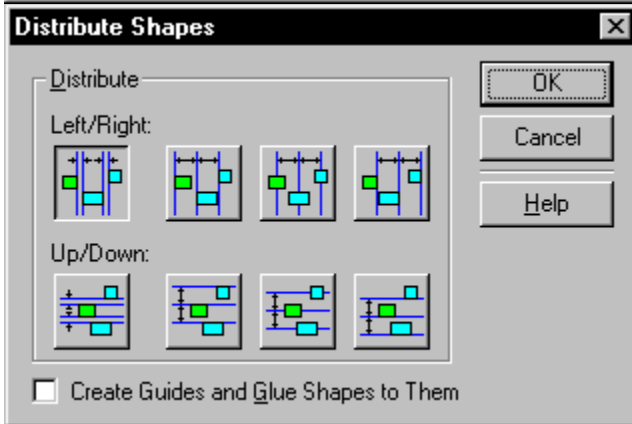
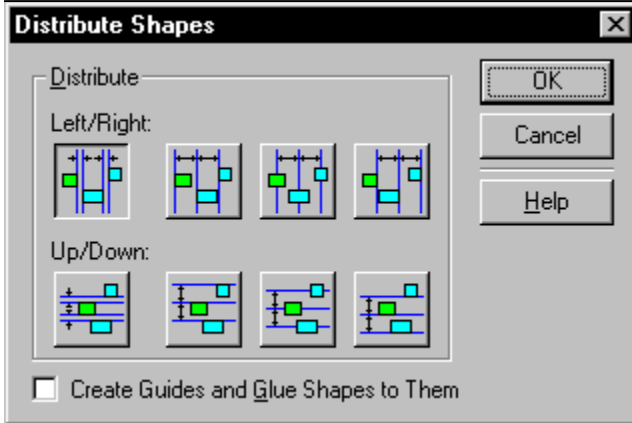
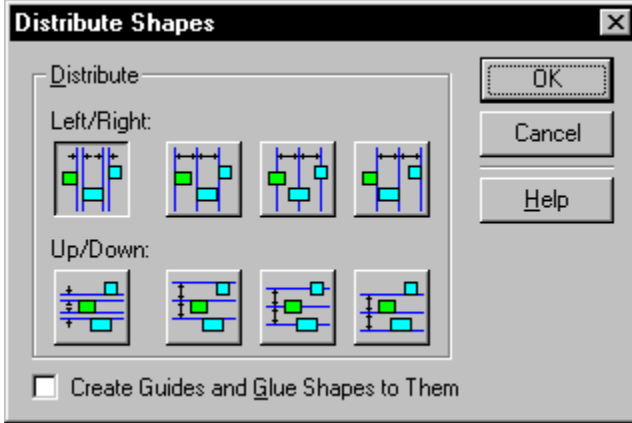
[Choosing a printer](#)

[Formatting fills and shadows](#)

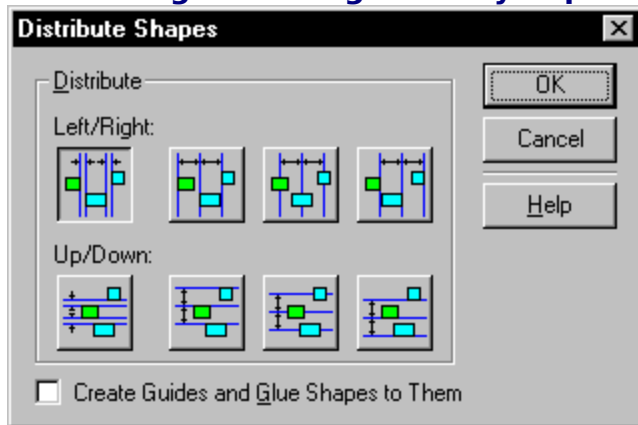
[Printing a drawing](#)

[Printing a drawing to a file](#)

**Previewing a drawing before you print**

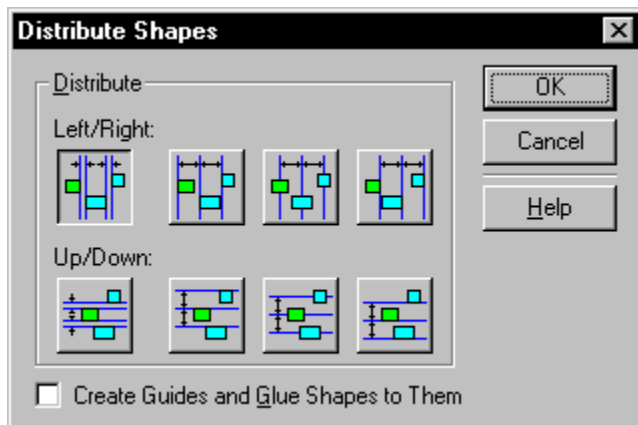


## Previewing a drawing before you print



### [Overview](#)

Before you print a drawing, you can check to see how the drawing will appear on the printed page. Visio uses current settings in the [Page Setup](#) dialog box to create the preview.



### To preview the printed version of a

#### drawing:

1. From the File menu, choose [Print Preview](#).

You can also click the Print Preview button.

Visio displays the [print preview window](#), which contains an image of the printed drawing.

2. To return to the drawing window, click the Close button on the print preview toolbar.

If the drawing is smaller than the specified paper size, the print preview window shows where the drawing will print on the page. If the drawing is larger than the specified paper size, Visio displays the drawing as it will be tiled when printed.

You can move between tiles by choosing the [Next Tile](#) and [Previous Tile](#) commands from the View menu.

#### See also

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[Choosing a printer](#)

[Editing a drawing while in Print Preview](#)

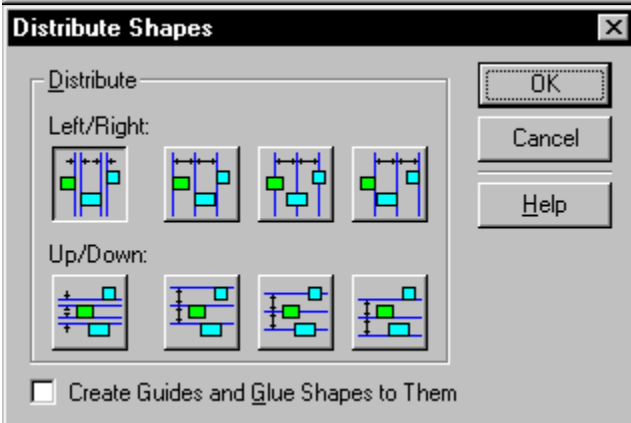
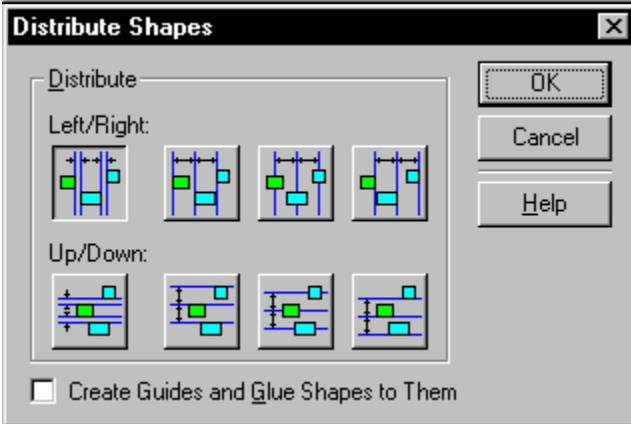
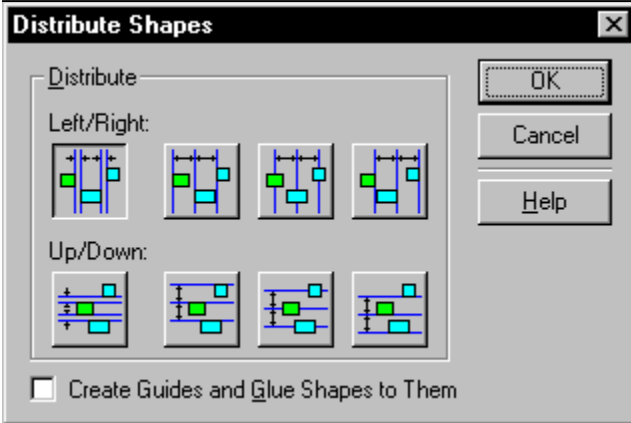
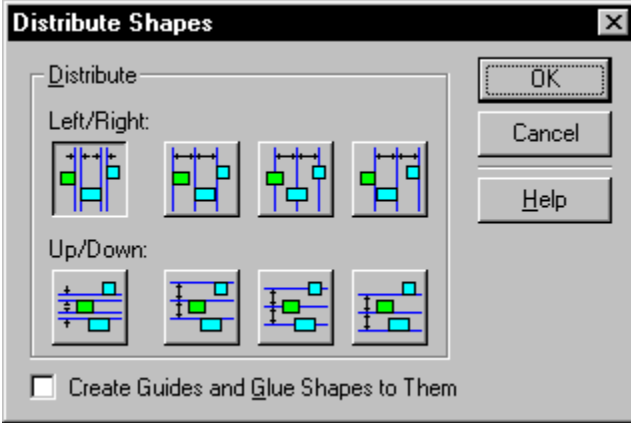
[Printing a drawing](#)

[Showing page breaks](#)

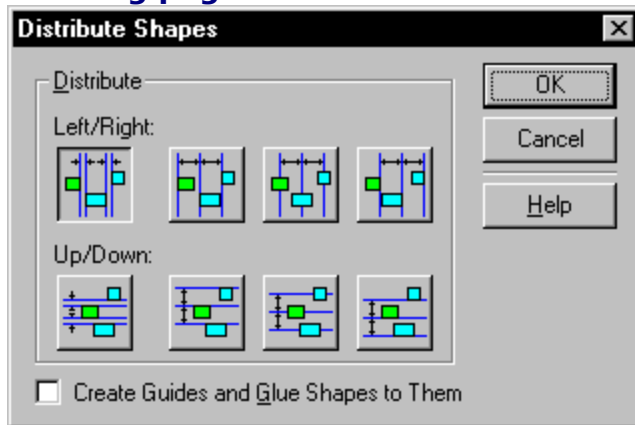
[Tiling a large drawing onto multiple sheets of paper](#)

**Showing page breaks**



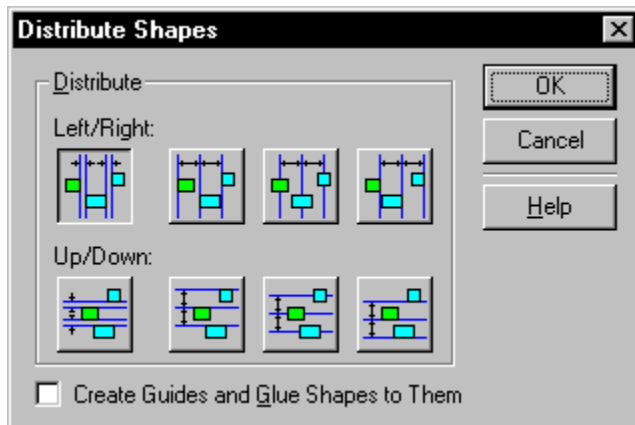


## Showing page breaks



### [Overview](#)

You can quickly determine whether a drawing fits within the printable area. Visio uses the current printer settings in the [Page Setup](#) dialog box to create an outline of the margins in the drawing window.



### **To preview page breaks:**

1. From the View menu, choose [Page Breaks](#).

Visio outlines the margins of the sheets of paper on which the drawing will print.

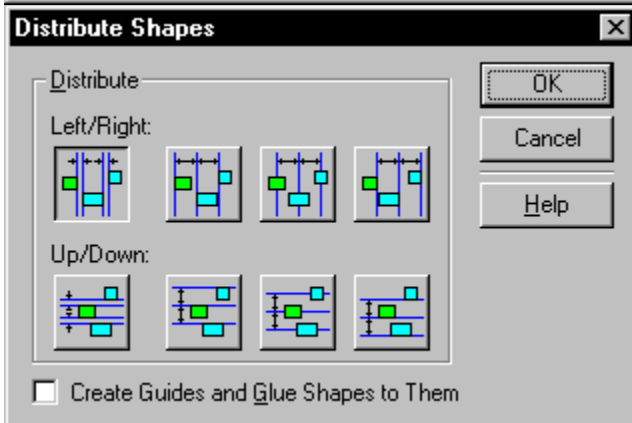
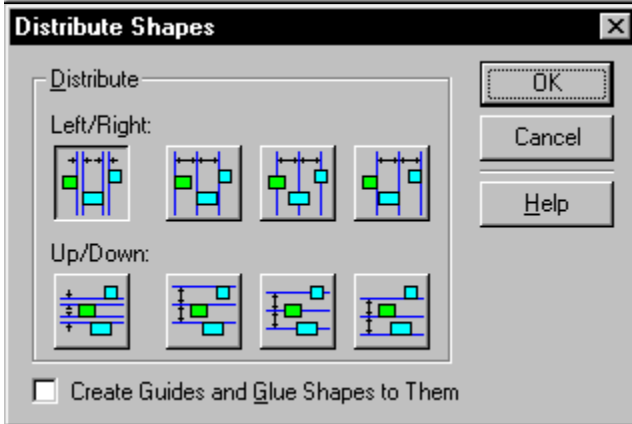
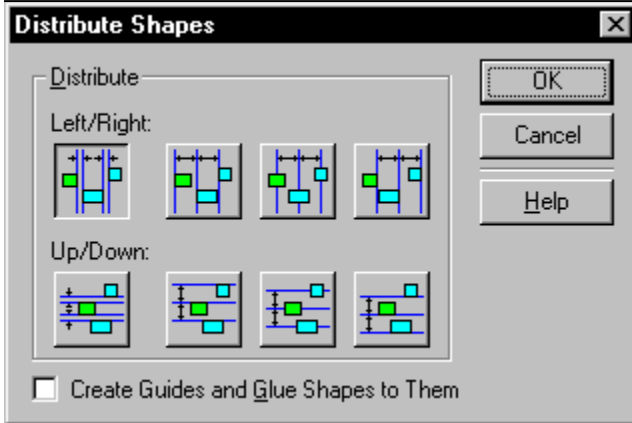
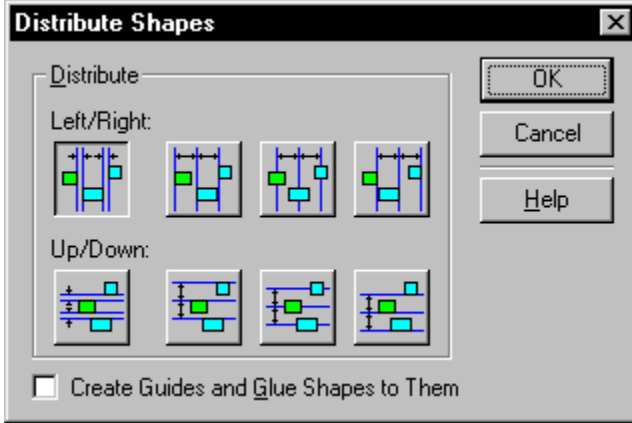
### **See also**

[Previewing a drawing before you print](#)

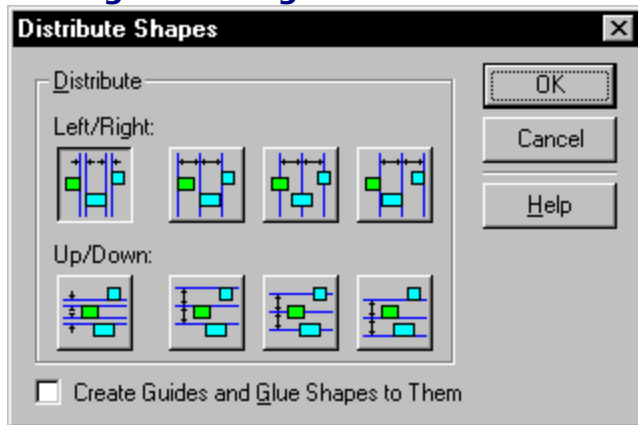
[Printing a drawing](#)

[Tiling a large drawing onto multiple sheets of paper](#)

## **Editing a drawing while in Print Preview**

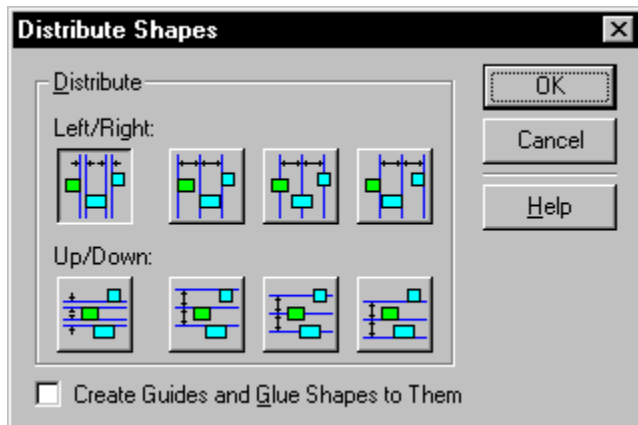


## Editing a drawing while in Print Preview



[Overview](#)

When viewing a drawing in the [print preview window](#), you can also display the [drawing window](#) and edit the drawing. Changes you make to the drawing are reflected in the print preview window.



**To edit a drawing while previewing it:**

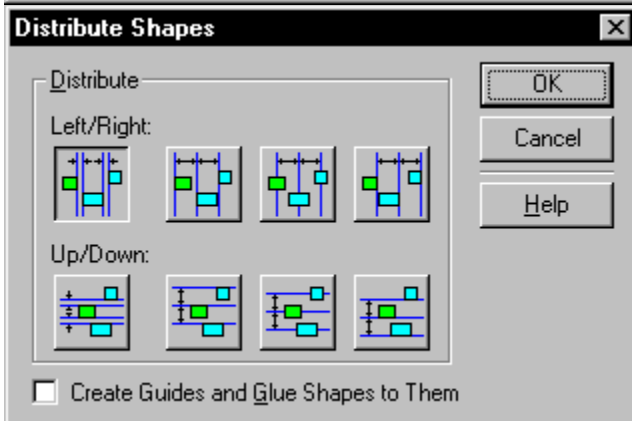
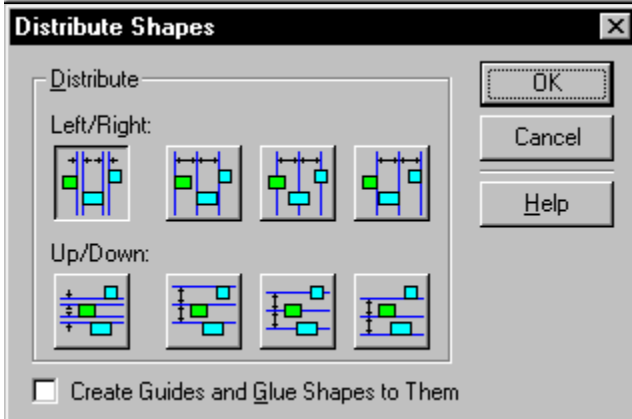
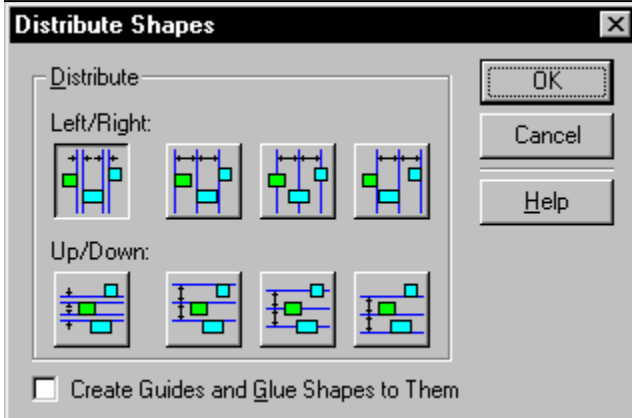
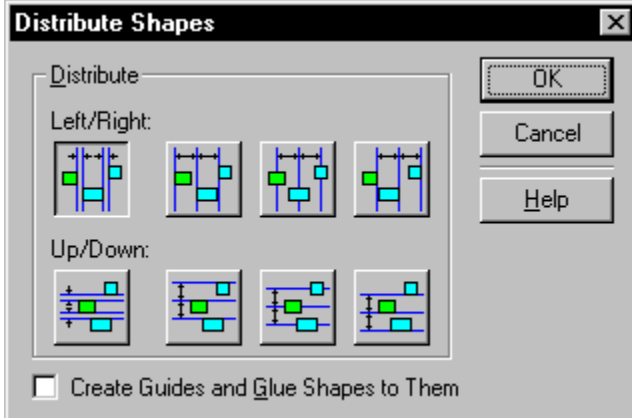
1. In the print preview window, choose [New Window](#) from the Window menu.  
Visio opens a new drawing window and displays the drawing.
2. From the Window menu, choose [Tile](#).  
Visio displays the drawing in the print preview window and the drawing window.
3. In the drawing window, edit the drawing using Visio's tools and commands.  
Changes you make to the drawing are displayed in the print preview window.

### See also

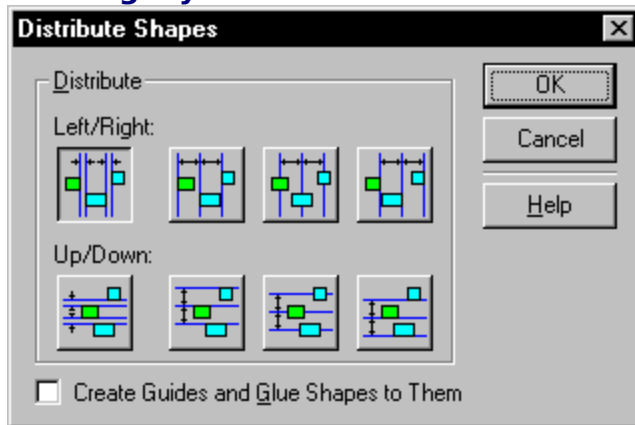
[Previewing a drawing before you print](#)  
[Printing a drawing](#)

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## Printing layers

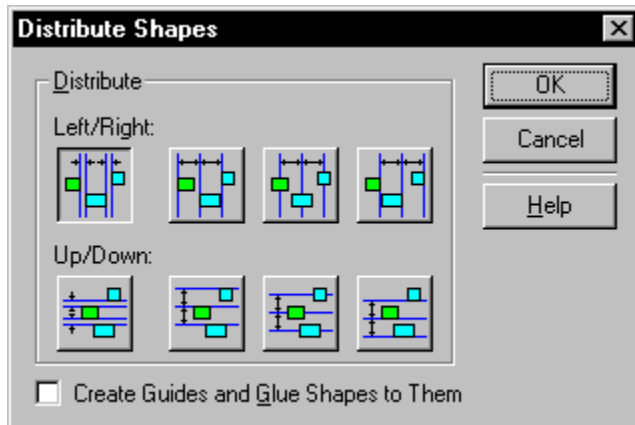


## Printing layers



[Overview](#)

You can print specific layers and not print others.



**To print individual layers:**

1. From the View menu, choose [Layer Properties](#).
2. Under Print, uncheck the layers you do not want to print and ensure that the layers you want to print are checked.
3. Click OK.
4. From the File menu, choose Print, then click OK.

Visio prints only the layers that are checked under Print.

### See also

[Adding layers](#)

[Deleting layers](#)

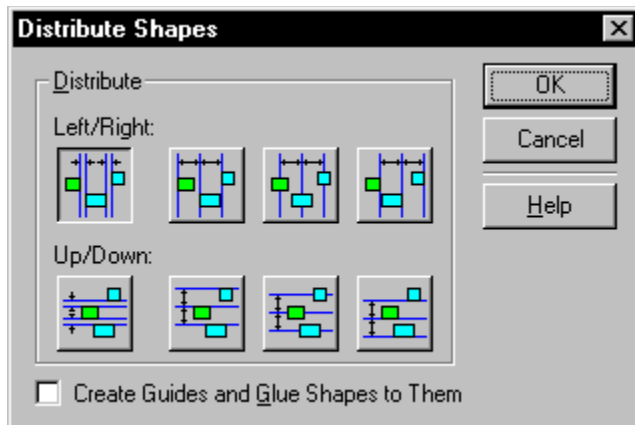
[Renaming layers](#)

[Setting options for layers](#)

[Viewing layers](#)



## Making printing adjustments



### [Related procedures](#)

Before you print, you may need to adjust certain settings. You may want to change the margins for a page or choose a particular printer. When you are working with large drawings, you can view page breaks and adjust the drawing to fit in the printable area.

Since most printers do not print to the edge of the paper, you may need to determine how close to the edge of the paper your printer can print. There are several ways to adjust the drawing to fit in the printable area:

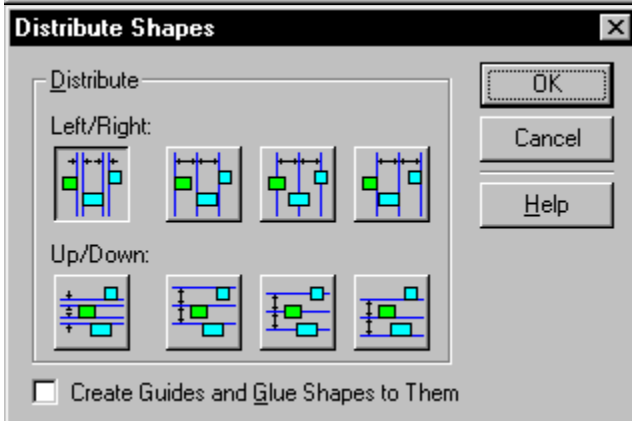
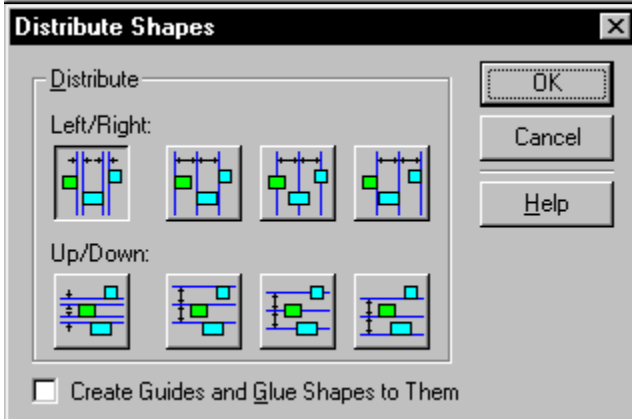
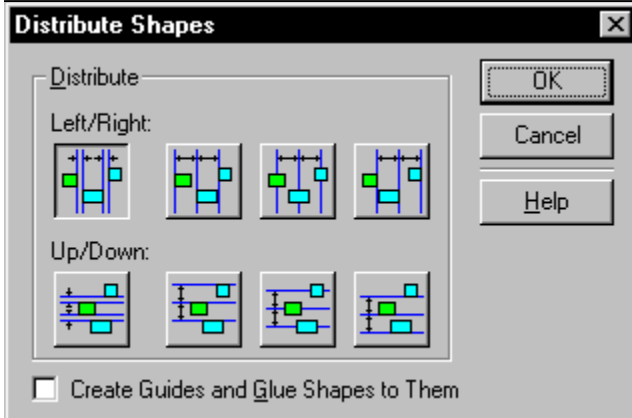
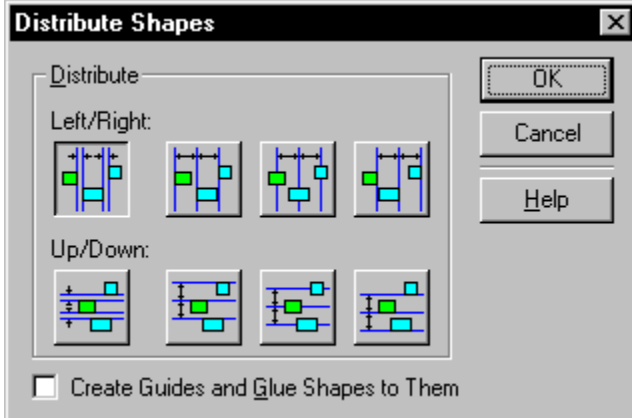
- In the drawing window, move shapes away from the edges of the drawing page.  
Alternatively, choose Center Drawing from the Tools menu to center the drawing on the page.
- Reduce the drawing before you print.
- Set margins, and then specify that you want to fit the printed drawing on one page.

Reducing or enlarging a drawing for printing

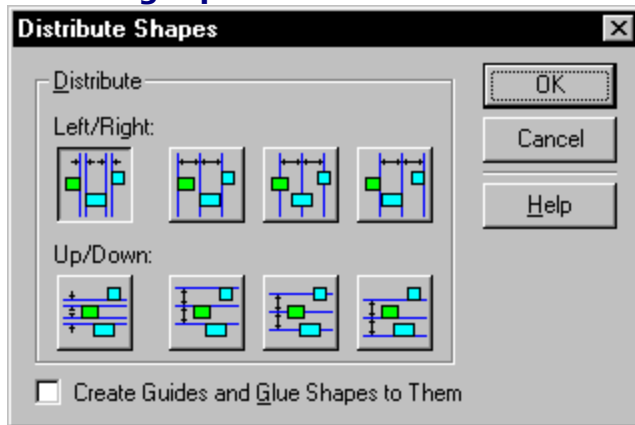
Setting margins

Tiling a large drawing onto multiple sheets of paper

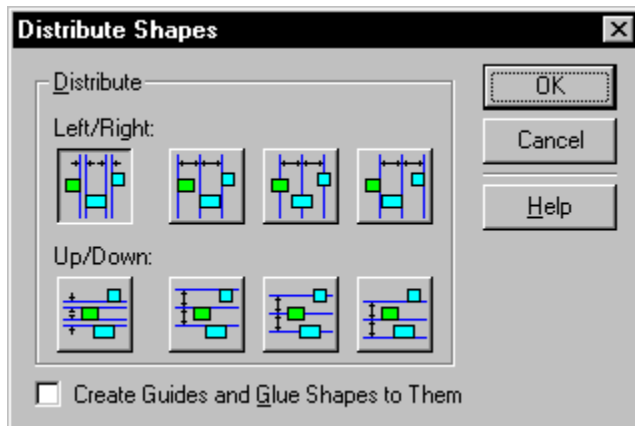
## Choosing a printer



## Choosing a printer



[Overview](#)



**To choose a printer:**

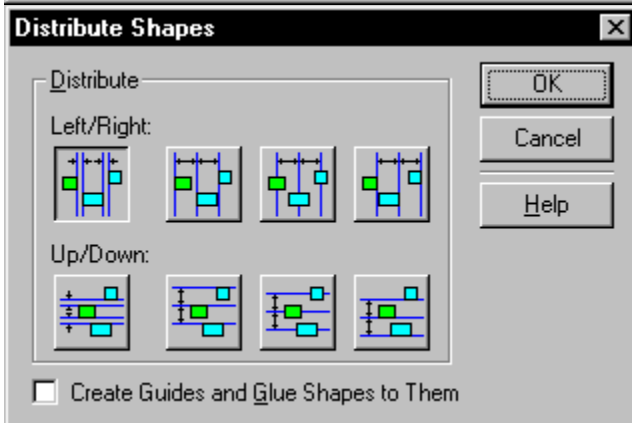
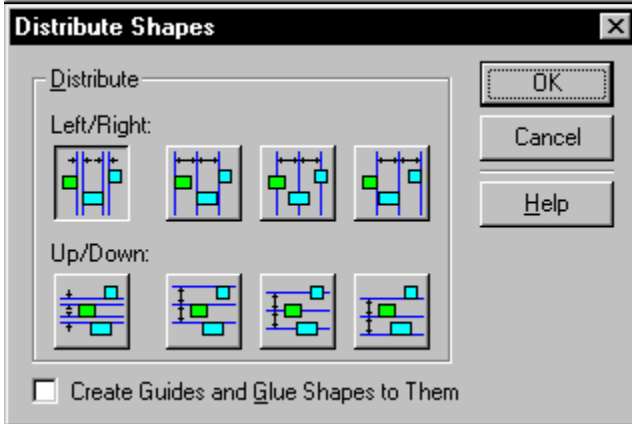
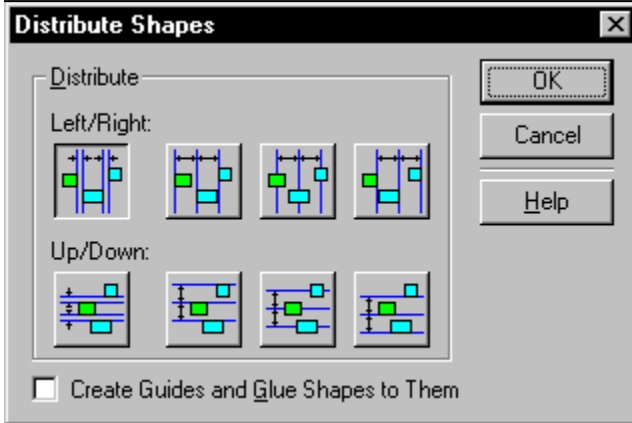
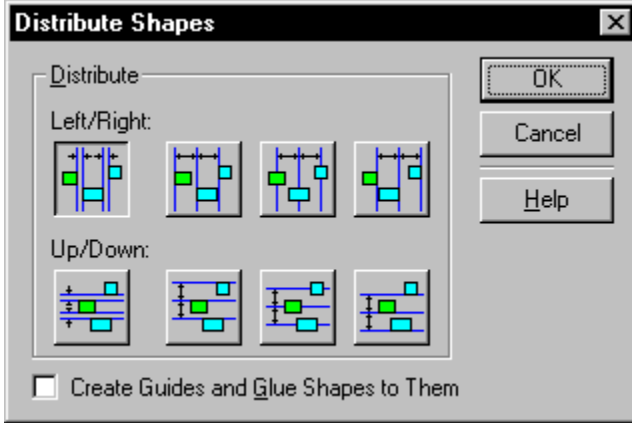
1. From the File menu, choose Page Setup.
2. Click Printer, then choose the default printer, or choose a printer from the list.
3. Click OK, then click OK again.

### See also

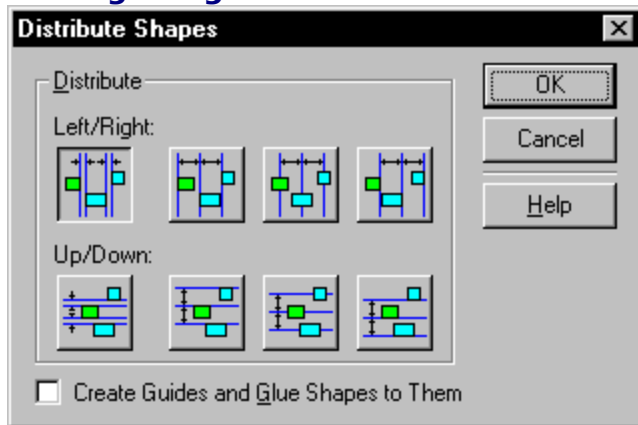
[Changing the drawing page and print settings together](#)  
[Printing a drawing](#)

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## Setting margins

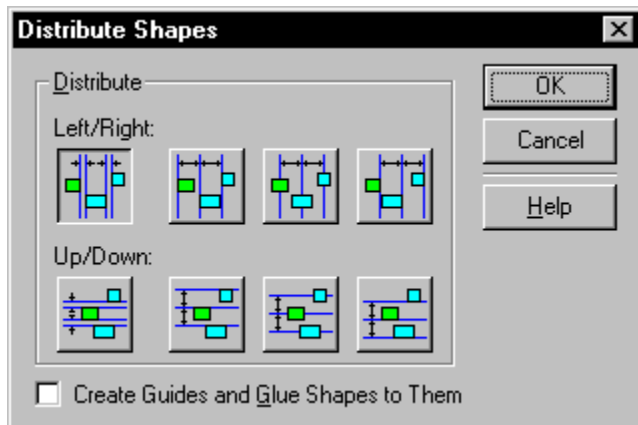


## Setting margins



### [Overview](#)

By setting margins you can create a nonprinting area around a tiled drawing and increase the area where the tiles overlap. You can also create a nonprinting area around a drawing that prints on one sheet of paper, or move a small drawing to various locations on the page.



### To set margins:

1. From the File menu, choose Page Setup.
2. In the Margins section, type a number in the Left, Right, Top, and Bottom boxes to specify the size of each margin.
3. If you are printing a drawing page that is the same size as the paper, type 1 in the Fit On boxes in the Reduce/Enlarge section.
4. Click OK.

**Note:** Visio never clips a drawing at the margins. When you print on a sheet of paper that is the same size as the drawing page, setting margins has no effect unless you also specify to print the drawing on a single sheet of paper. When you specify that you want to print on a single sheet, Visio reduces the drawing (if necessary) to fit within the margins.

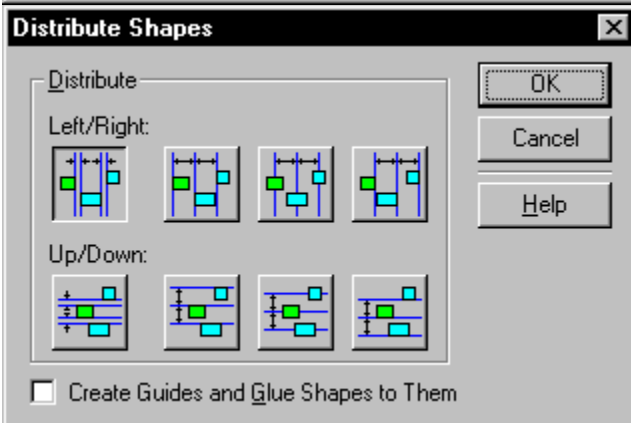
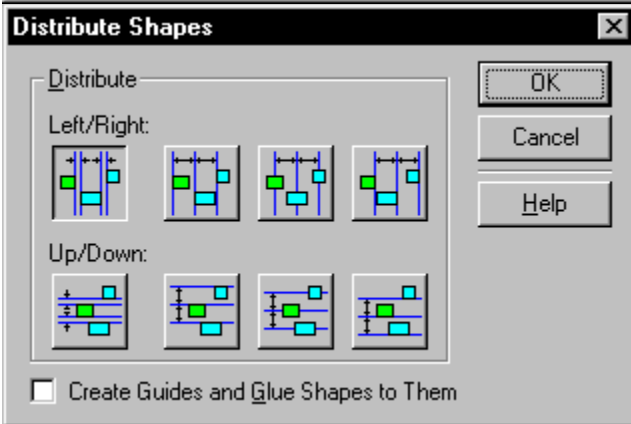
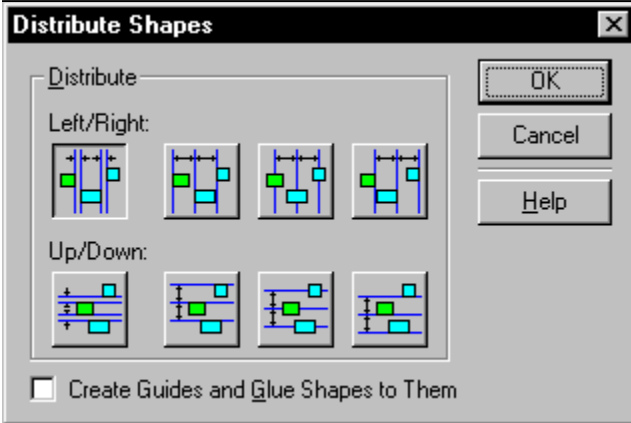
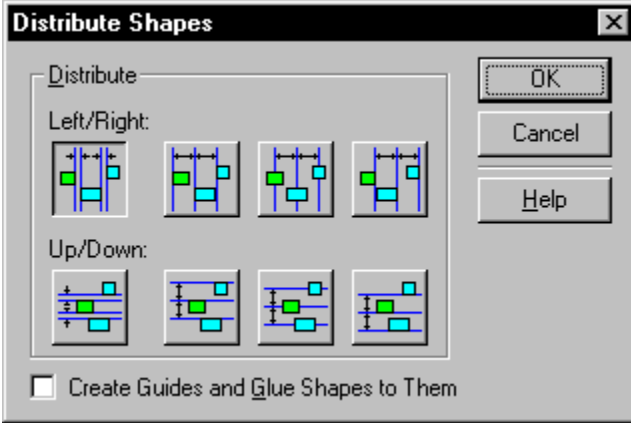
### See also

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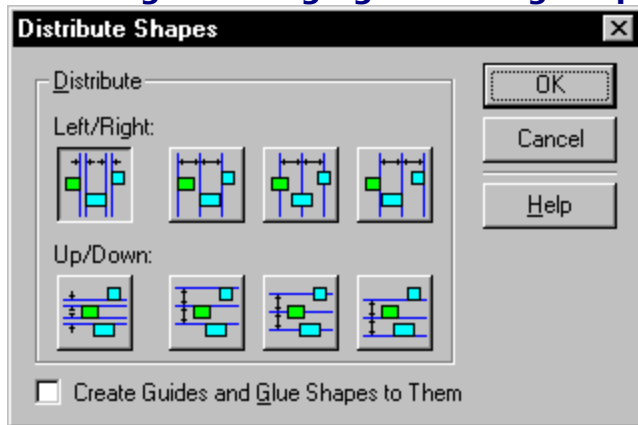
[Changing the drawing page and print settings together](#)  
[Printing a drawing](#)  
[Reducing or enlarging a drawing for printing](#)



## **Reducing or enlarging a drawing for printing**

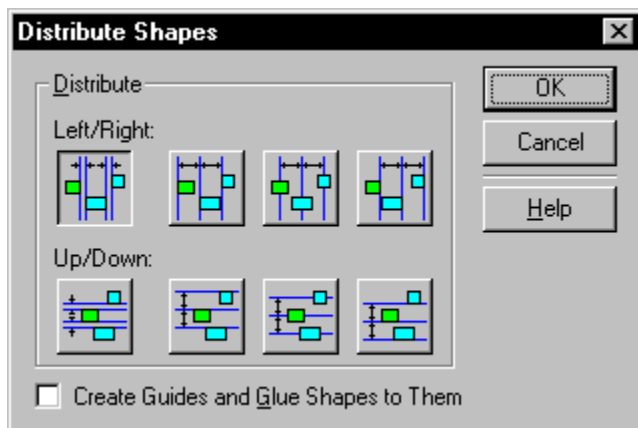


## Reducing or enlarging a drawing for printing



### [Overview](#)

To print a [drawing](#) at various sizes, or to fit a drawing within the printable area of the paper, you can reduce or enlarge a drawing for printing. You can also specify the number of sheets on which to print a drawing, and Visio reduces or enlarges the drawing to fit the number you specify.



### **To reduce or enlarge a drawing:**

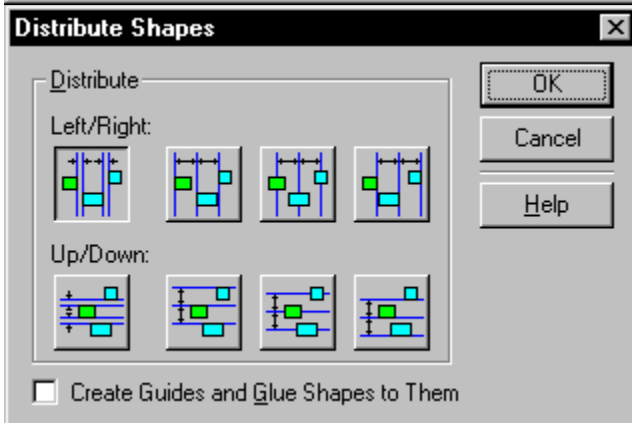
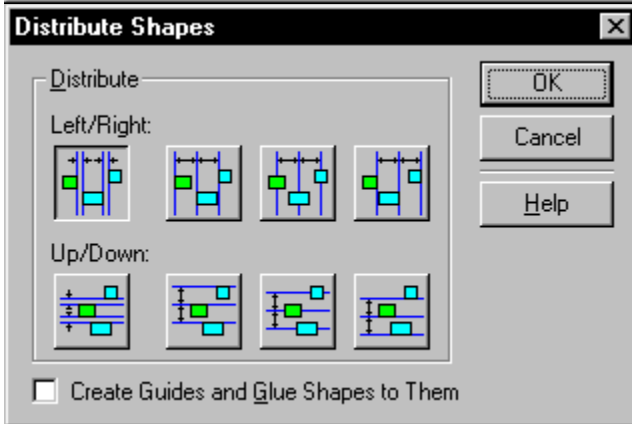
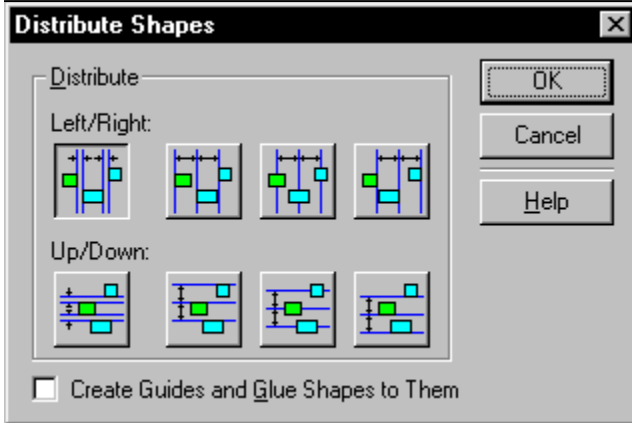
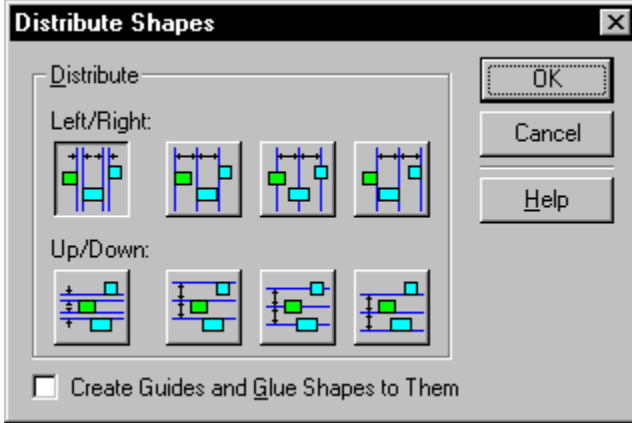
1. From the File menu, choose Page Setup.
2. In the Reduce/Enlarge section, choose one of the following options:
  - To specify a percentage, choose Scale, and then type the percentage by which you want to enlarge or reduce the drawing. To reduce a drawing, type a number less than 100. To enlarge a drawing, type a number greater than 100.
  - To specify the number of pages to print on, choose Fit On, and then specify the number of pages.
3. Click OK.

### **See also**

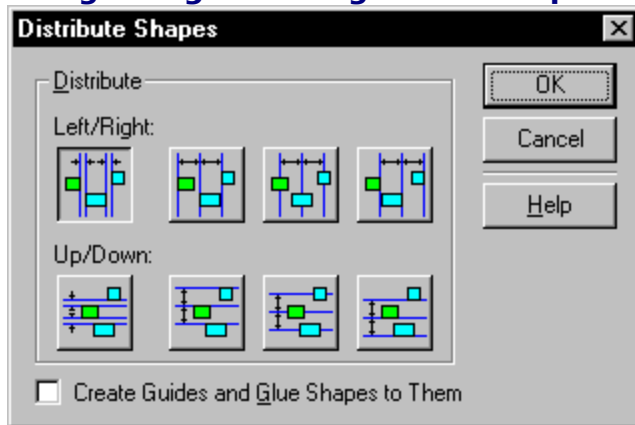
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[Changing the drawing page and print settings together](#)  
[Previewing a drawing before you print](#)  
[Printing a drawing](#)

**Tiling a large drawing onto multiple sheets of paper**

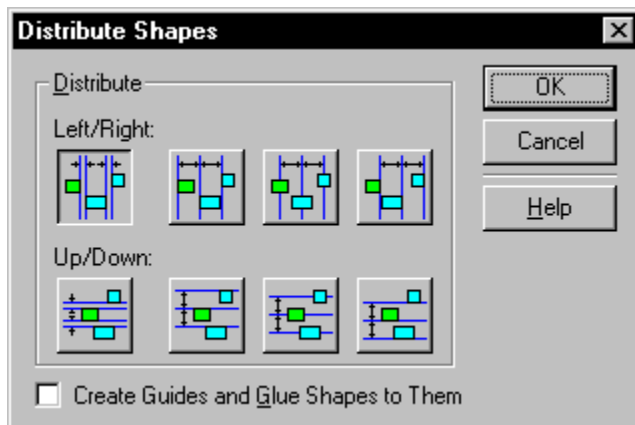


## Tiling a large drawing onto multiple sheets of paper



### [Overview](#)

To print a large [drawing](#), you can specify the number of sheets of paper on which to print. Visio reduces or enlarges the drawing to fit the number of sheets you specify.



### To specify the number of sheets for a

#### tilled drawing:

1. From the File menu, choose Page Setup.
2. In the Reduce/Enlarge section, choose Fit On.
3. In the Fit On boxes, specify the number of sheets across and down.
4. Click OK.

**Note:** The number of sheets down and across must represent an area proportionate to the drawing page. For example, if the drawing is square and you specify two sheets down and four sheets across, Visio reduces or enlarges the drawing to fit an area that is no more than two sheets either way. The drawing does not print on the unnecessary sheets.

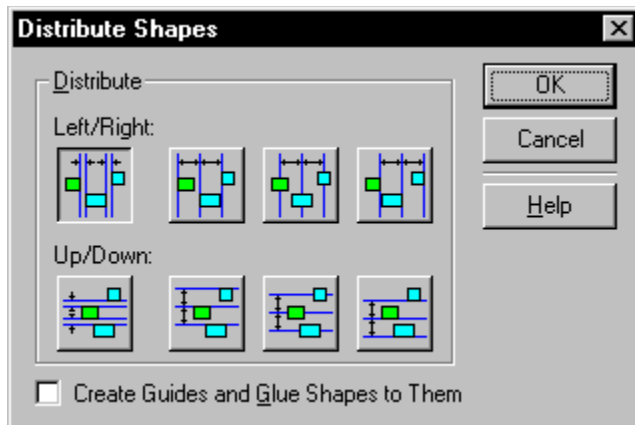
#### See also

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[Changing the drawing page and print settings together](#)  
[Previewing a drawing before you print](#)  
[Reducing or enlarging a drawing for printing](#)



## Importing, exporting, linking, and embedding overview



### [Related procedures](#)

Linking, embedding, importing, and exporting—as well as copying and pasting—are methods of integrating a Visio shape or drawing with another program. You can use these features to put a shape or drawing created in Visio into a document created in another program or to bring objects from another program into a Visio drawing.

The following table summarizes the ways to integrate a Visio shape or drawing with another program. Which method you use depends on the capabilities of the other program and how you want to use the material at its destination.

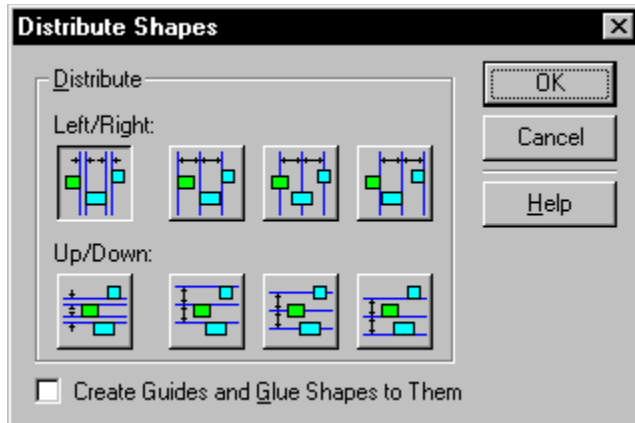
<b>To:</b>	<b>Do this:</b>	<b>Limitations:</b>
Transfer text or graphics to or from a program that supports the Windows <a href="#">Clipboard</a>	Copy and paste	You might not be able to update the pasted information, depending on the other program.
Update multiple instances of an object automatically	Link information	Both programs must support <a href="#">OLE</a> . You need to update a <a href="#">link</a> if a file is renamed, moved, or copied to another folder.
Link to an external file so you can use it with other programs or drawings	Link information	Both programs must support OLE.
Create an object that you want in only one <a href="#">instance</a>	Embed information	Both programs must support OLE. The document is larger because it contains a copy of the embedded information.
Paste an object without maintaining an external file on disk	Embed information	Both programs must support OLE.
Quickly move, copy, or paste an object from one program to another to embed or link the object	Drag and drop	Both programs must support OLE and the drag and drop method.
Send a file to another computer	Mail a file	Works with MAPI and CMC mail systems, such as Microsoft Mail.
Create an OLE object in a	Create an object	Both programs must support



program you start within Visio, or create a Visio shape or drawing from within another program	from another program	OLE.
Bring a file in another format into a Visio drawing	Import a file	You must have the appropriate import filters installed.
Convert a Visio drawing into another file format	Export a file using the Save As command	You must have the appropriate export filters installed.

**Tip:** In Microsoft Office for Windows 95, you can use the use the Microsoft Office Binder program to create a file that combines pages from multiple programs. For example, a single file can include pages from Microsoft Word, Visio, and Microsoft Excel. For details, see your Microsoft Office documentation.

## Understanding linking and embedding



[Related procedures](#)

Both linking and embedding establish an active link between the program that creates the [OLE object](#) and the [OLE container](#). When you embed or link objects, the document contains or refers to data created in different programs. You can edit this data from within the document. For example, say you've created a Visio drawing of an organization chart. By linking or embedding the organization chart into an OLE container program, you can update the chart from within that program.

**Note:** Visio supports OLE 2, which lets you edit an object in Visio [in place](#) and drag and drop objects from one program to another.

### Linking versus embedding

When you link to information in another program, you store a reference to the information, not the information itself. When you embed information in another program, the information itself is stored in the program. For example, if you link a Visio drawing to another program, the program contains only a reference to the Visio drawing file. If you embed a drawing, the drawing is stored in the other program's file. Because linking and embedding differ in where the actual data is stored, whether you choose to link or embed an object depends on how you intend to work with it.

### When to link information

If you need to use the same information in more than one document and it's important that the most current version be used, link the information rather than embed it. Linked information can be updated every time you open the document that contains the reference to the source data. Any changes made to the original file appear in documents that are linked to it.

Linked information can take a little more care to maintain than embedded information because the original file must be available for the container program to update the information. If the original file is renamed or moved to a different folder, the link to the document may need to be updated. This also means that if you copy a linked document to another system, you must also copy the original file, and you may need to update the link. The link may have to be updated the first time the document is opened on that system.

### When to embed information

Documents with embedded information can be easier to work with because there are no links to maintain and the document does not need access to other files. You can copy the document to another system without having to copy additional files. Because the information is not linked, changes to the original file are not reflected in the document.

Embedding information makes the document larger because the document contains a copy of the information itself rather than a reference to another file. You can also edit embedded objects without leaving the [container](#) program.

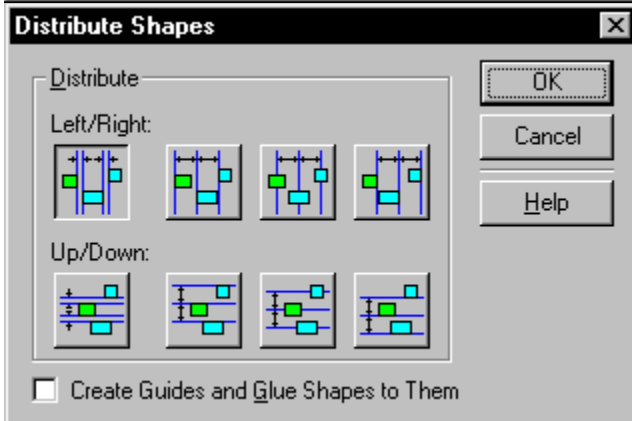
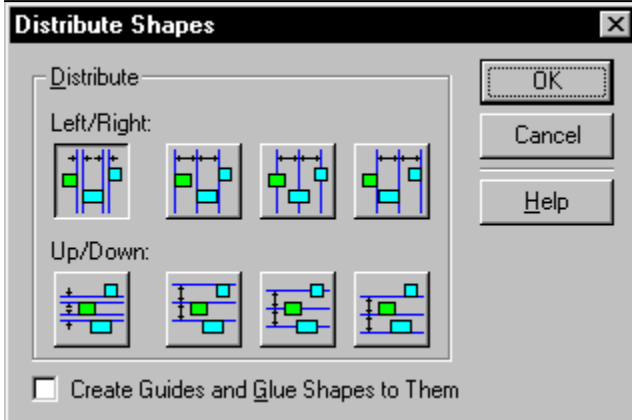
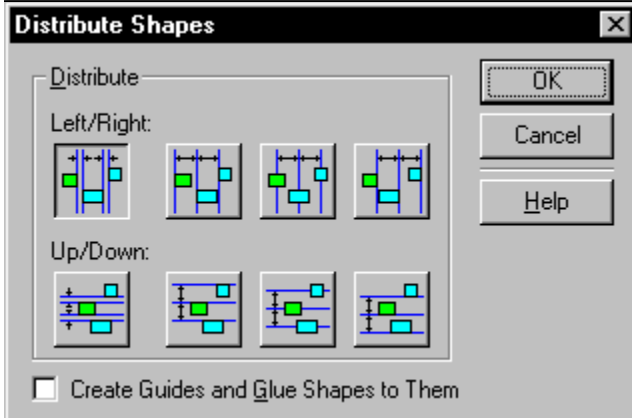
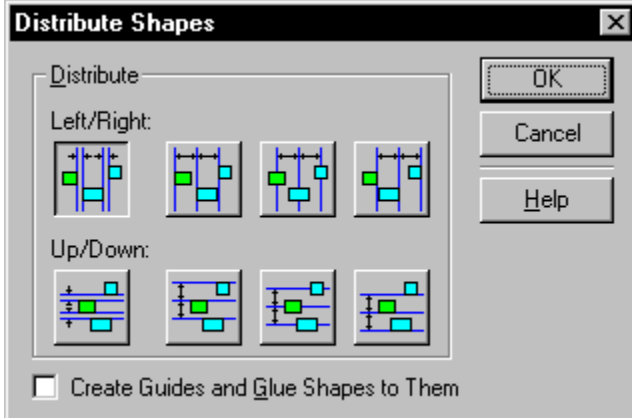
### **What Visio needs to link or embed information**

Visio can link or embed information from any Windows OLE object. Information from Visio can be linked to or embedded in any Windows program that supports OLE. For details about a particular program's capabilities for object linking and embedding, see its documentation.

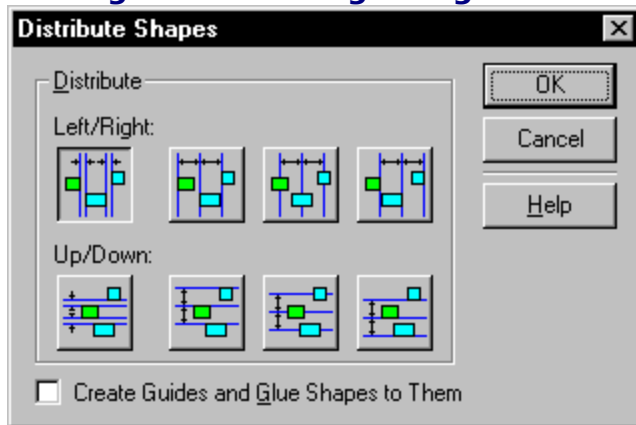
**Tip:** If you want to take advantage of [OLE](#), make sure your system has enough RAM for the OLE object program and the container program to run simultaneously.

Creating objects in another program from within Visio  
Dragging and dropping a Visio object into other programs  
Editing an embedded Visio object in place  
Embedding Visio shapes in another document  
Linking or embedding a drawing into another document  
Linking or embedding a larger area of the drawing  
Linking or embedding an object into a Visio drawing  
Sending Visio drawings through electronic mail

## **Linking or embedding a larger area of the drawing**

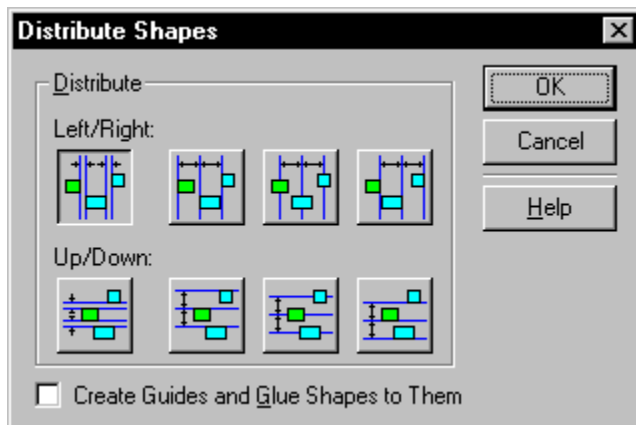


## Linking or embedding a larger area of the drawing



### [Overview](#)

To include a border around the drawing, you can increase the area Visio copies by creating a rectangle that covers the area you want.



### **To link or embed a larger area of the**

#### **drawing:**

1. In Visio, draw a rectangle that encloses the area you want to embed or link.
2. Make the rectangle transparent by applying the fill style None to the rectangle, or move it behind the shapes by choosing Send To Back from the Shape menu.
3. If you don't want the drawing to have a border, make the border transparent by applying the line style None to the rectangle.
4. From the Edit menu, choose Select All, then choose Copy or click the Copy button on the toolbar.

Even if you are finished using Visio, don't close it. In order to embed shapes, the other program needs certain information that is more quickly obtained if Visio is still running.

5. In the other program, display the document in which you want to embed the shapes.
6. Choose the command, usually on the Edit menu, used by that program to embed objects in its documents.

This command is usually Paste, but may be Paste Special, Paste Object, or a command unique to the program. For details, see the OLE documentation for that program.

You can also extend the area around embedded Visio shapes or around the entire drawing:

from the Edit menu, choose Drawing Page, then choose Size & Scale. Type the width and height of the drawing in the Drawing Size boxes.

If you are editing a Visio object [in place](#), you can enlarge the drawing area by dragging a handle on the border.

**Tip:** To link multiple shapes, select the shapes you want (using Shift+click), then link them to the other program.

### **See also**

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[Editing an embedded Visio object in place](#)

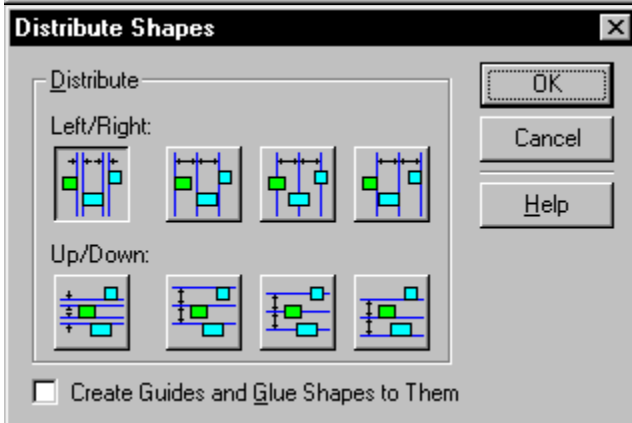
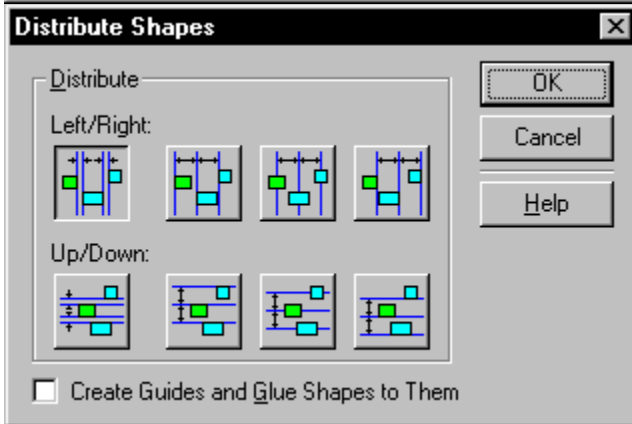
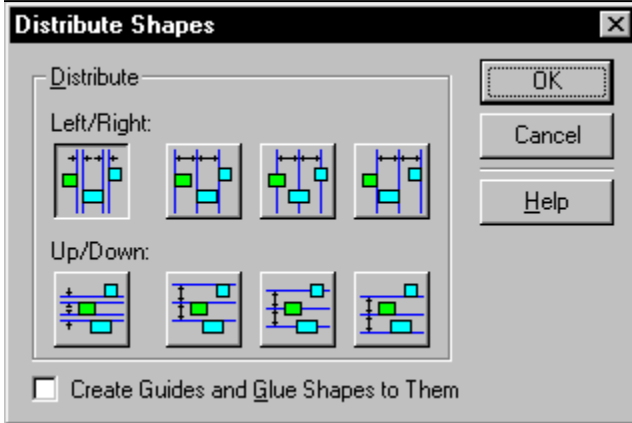
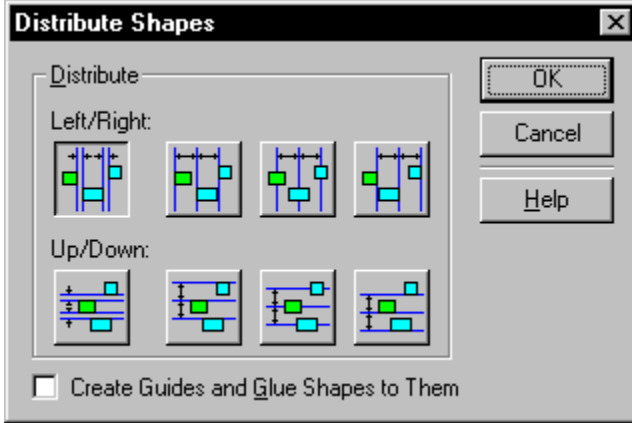
[Embedding Visio shapes in another document](#)

[Exporting a drawing into another file format](#)

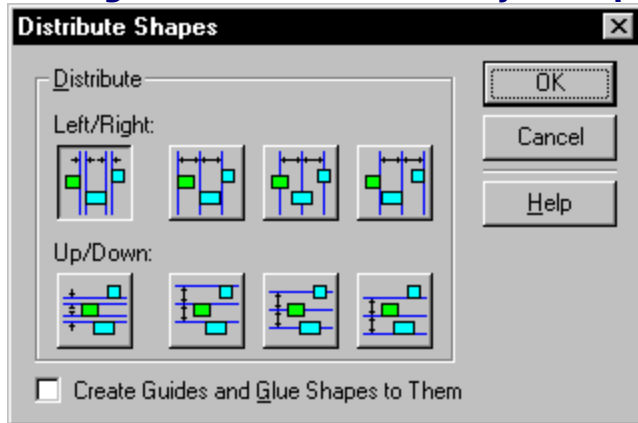
[Linking or embedding a drawing into another document](#)



## **Editing an embedded Visio object in place**

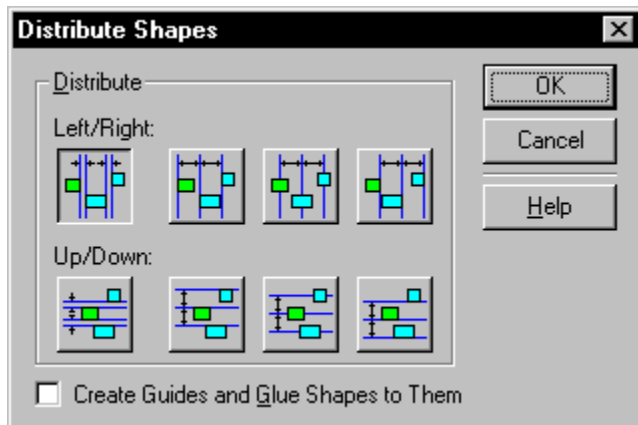


## Editing an embedded Visio object in place



[Overview](#)

You can edit an embedded Visio object without leaving the [OLE 2 container](#) program. A special set of Visio menus and toolbars temporarily replaces most of the menus and controls in the active window while you are editing the Visio object.



**To edit an embedded Visio object in**

**place:**

1. In the container program, double-click the embedded object.  
A special set of Visio menus and controls appears.
2. Edit the object.
3. Click anywhere outside the drawing window to exit the in-place editing controls.

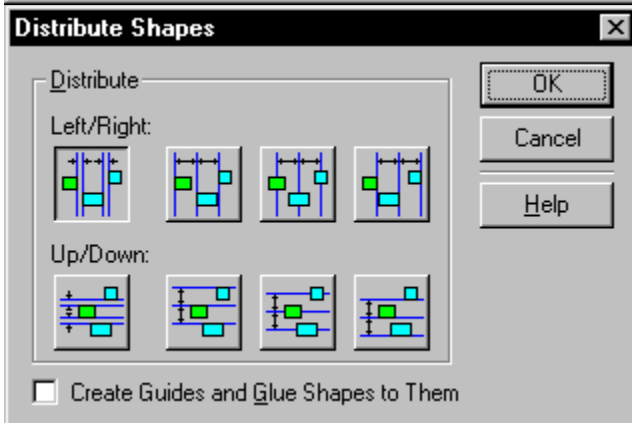
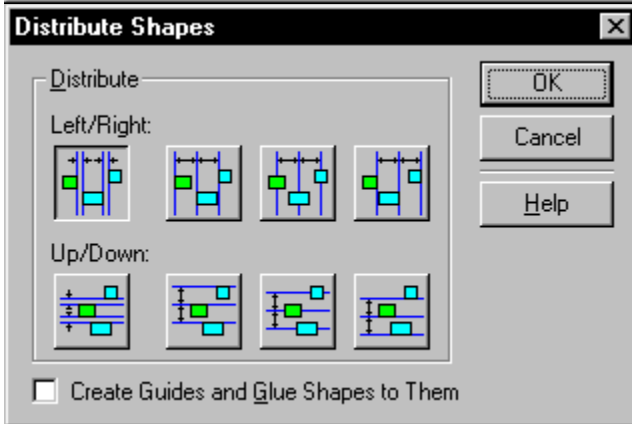
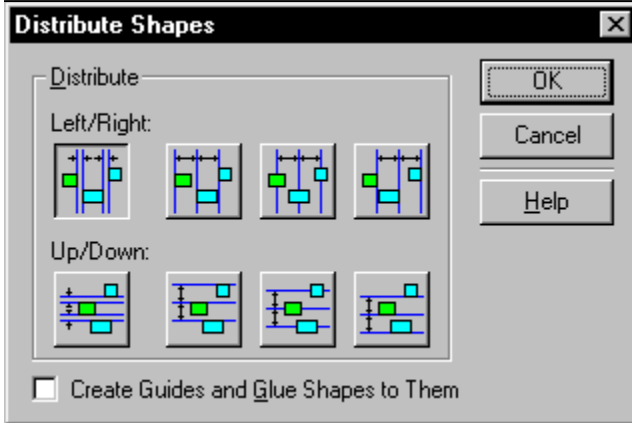
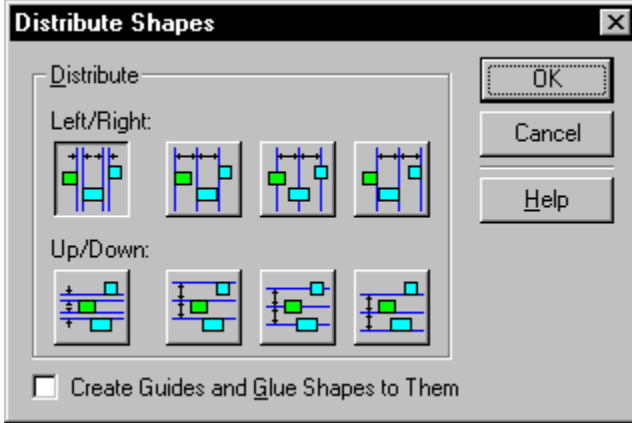
**Note:** You cannot edit an object embedded in Visio [in place](#).

### **See also**

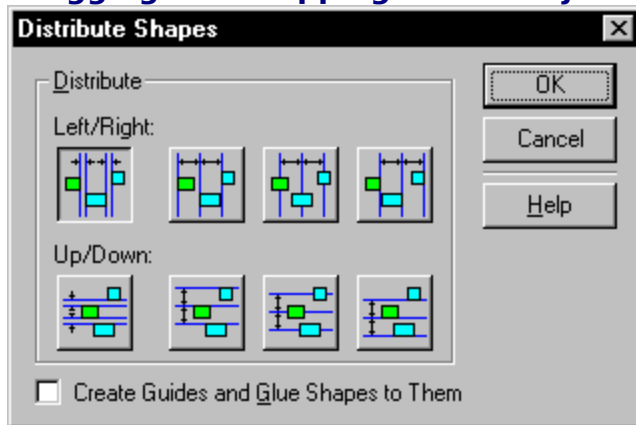
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[Editing an object from another program](#)

## **Dragging and dropping a Visio object into other programs**

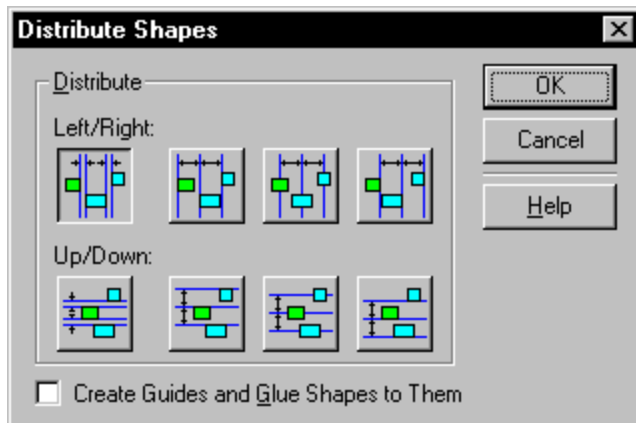


## Dragging and dropping a Visio object into other programs



### [Overview](#)

As an alternative to cutting—or copying—and pasting, you can drag and drop one or more shapes from one program to another. When the Visio shapes are in another program, they are treated as one object. You can use this method only if both the OLE object and OLE container programs support OLE 2. In dragging and dropping an object, you do not use the Clipboard, so information on the Clipboard is not affected. When you drag and drop an object from one program to another it will be embedded, linked, or pasted into the container program depending on what keys you hold down as you move the object and what file formats the other program supports.

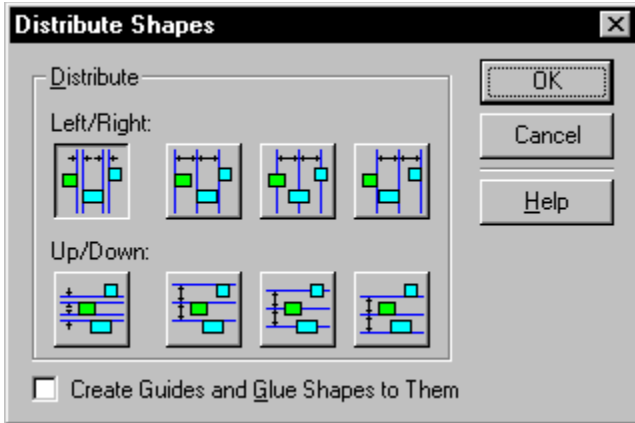


### **To move an object from Visio to**

#### **another program:**

1. Hold down the Shift key as you drag an object from Visio to the container program.

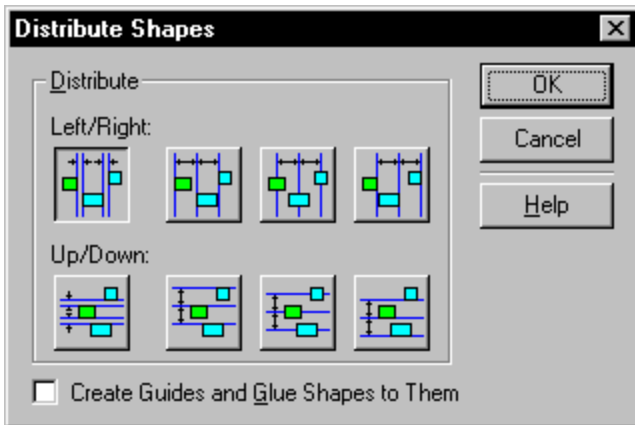
The object will be embedded in the container program and deleted from Visio. If you do not want to delete the object from Visio, choose Undo from the Edit menu after moving the object.



### To copy an object from Visio to

#### another program:

1. Hold down the Ctrl key as you drag an object from Visio to the container program.  
The object will be embedded in the container program but not deleted from Visio.



### To link an object from Visio to another

#### program:

1. Select the object.
2. While pressing the mouse button, hold down the Ctrl and Shift keys as you drag an object from Visio to the container program.

**Note:** You cannot move an object from a read-only Visio file, and you cannot move a master shape from a stencil to another program, removing it from its stencil. However, you can copy a master shape from a stencil to another program.

### Mouse pointer

Depending on whether you are moving, copying, or linking a file, the mouse pointer changes to indicate the action. The mouse pointer will also change to indicate if the program does not support drag and drop embedding or linking.

#### Mouse pointer

#### Action



- Cut and paste
- Copy and paste
- Link
- Unable to link or embed file

**See also**

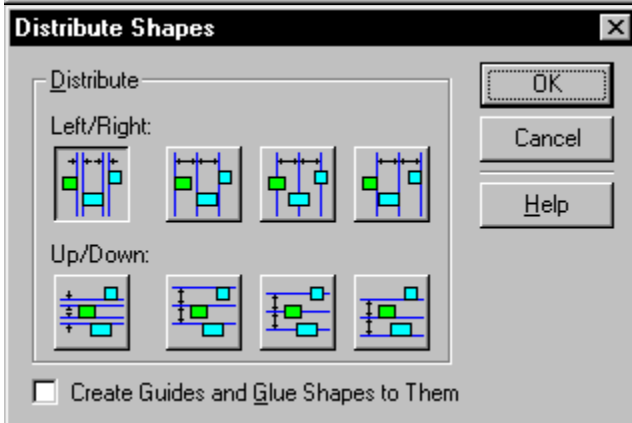
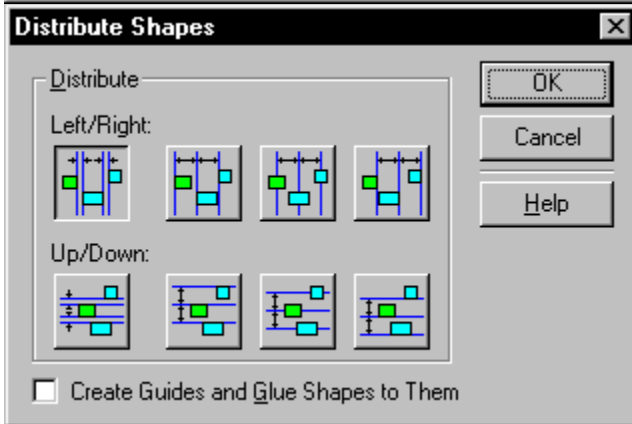
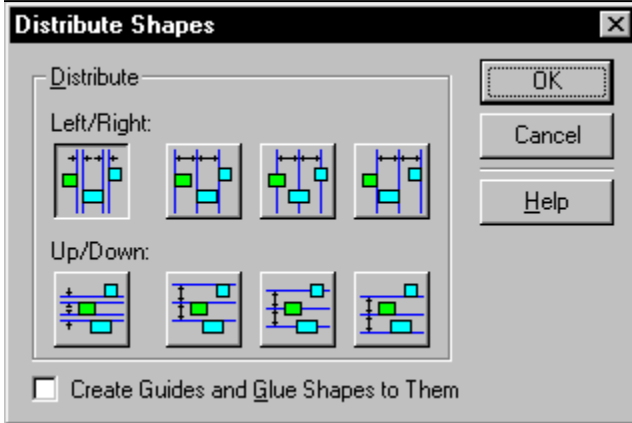
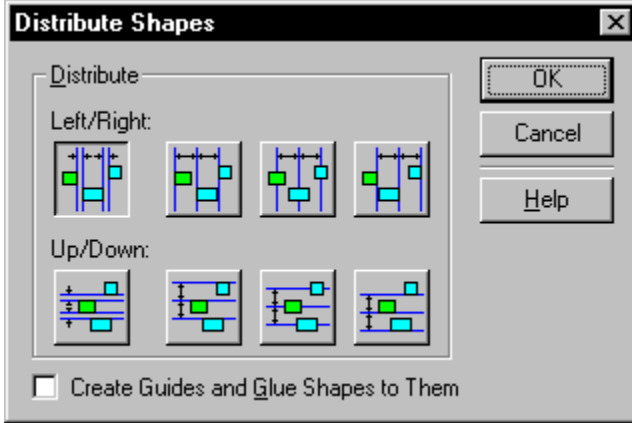
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[Embedding Visio shapes in another document](#)

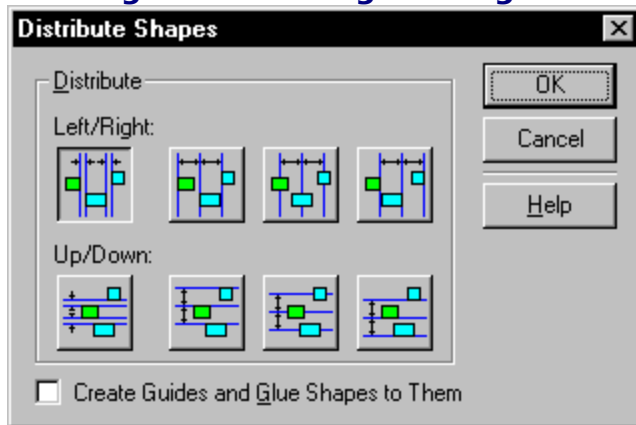
[Linking or embedding a drawing into another document](#)



**Sending Visio drawings through electronic mail**

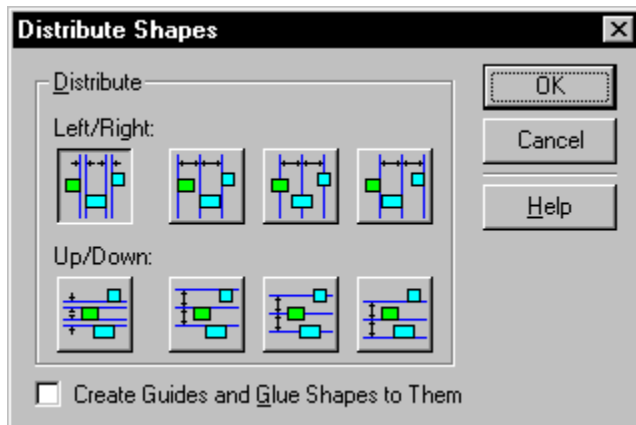


## Sending Visio drawings through electronic mail



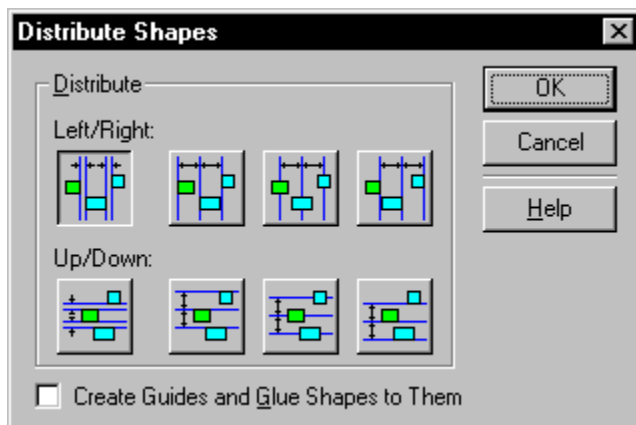
### [Overview](#)

You can quickly send a Visio drawing through an electronic mail program that supports Messaging Application Program Interface (MAPI) or the Common Messaging Call (CMC) protocol.



### **To send a drawing file by mail:**

1. While the drawing file is open, from the File menu, choose Send.  
If your mail program hasn't been running, it starts, then a mail message containing the Visio icon and the filename appears.
2. Address the message, type any accompanying information, and send the mail message as you would any other message.



### **To view a Visio file sent by mail:**

1. Open the mail message, then double-click the Visio icon.

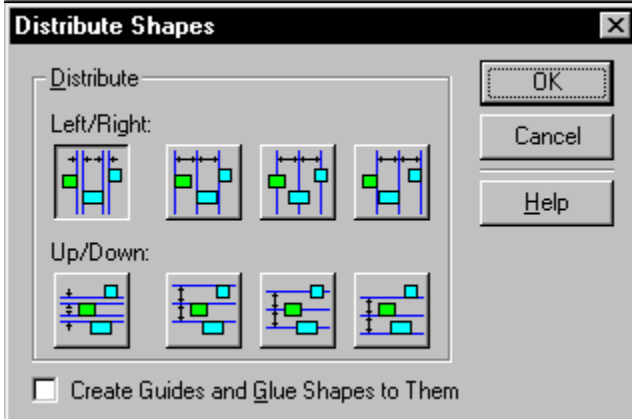
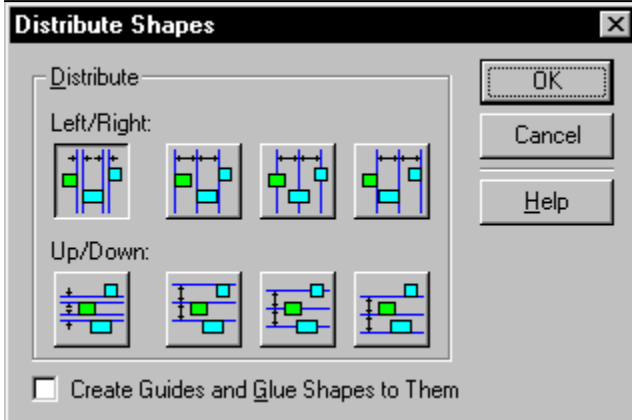
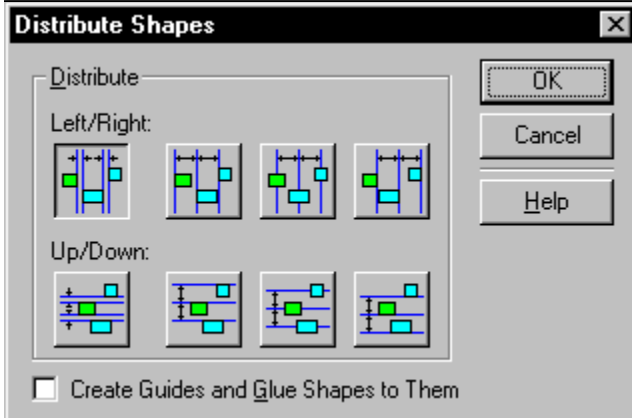
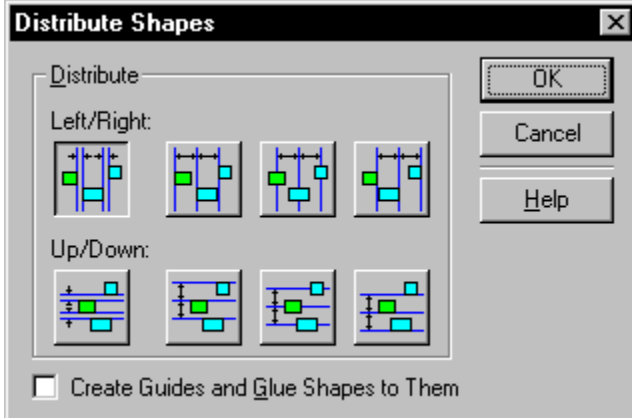
**See also**

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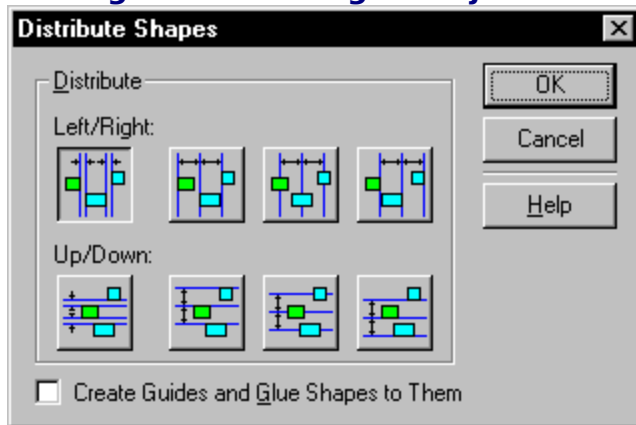
[Embedding Visio shapes in another document](#)

[Linking or embedding a drawing into another document](#)

## **Linking or embedding an object into a Visio drawing**

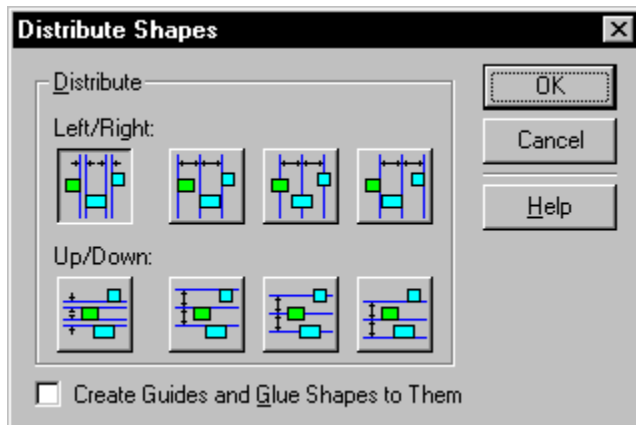


## Linking or embedding an object into a Visio drawing



### [Overview](#)

If a program supports OLE, you can embed the object in Visio. The embedded object doesn't retain an association with its original file, so changes to the original don't affect the embedded object in the Visio drawing.



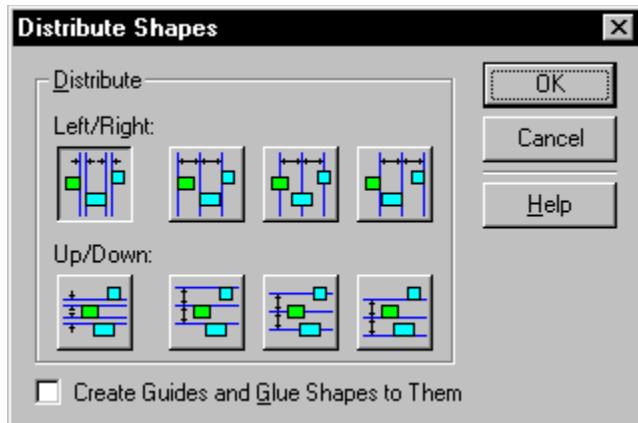
### **To embed an object from another**

#### **program into a Visio drawing:**

1. Display the document that contains the information you want in its program window.
2. In the document, select the information you want to embed in the Visio drawing.
3. Choose the command used by that program to place information on the Clipboard.  
This is usually the Copy command on the Edit menu.
4. Display the drawing in which you want to embed the object in the Visio window.
5. From the Edit menu, choose Paste or click the Paste button on the toolbar.

Visio pastes the information from the Clipboard into the drawing as an object. The object will be placed in the center of the view, but you can select and move the object just like a Visio shape.

A linked OLE object can be updated automatically every time you open the drawing or only when you explicitly request it. Any time a link is updated, changes made to the object in its original file appear in the document that the file is linked to.



**To link a file to a drawing:**

1. Save the original file.  
Because a link consists of a reference to the original file, you must save the file before you can link to it.
2. In the original file, select the information you want in the Visio drawing.
3. Choose the command used by the OLE object program to place information on the Clipboard.  
This is usually the Copy command on the Edit menu.
4. Display the Visio drawing you want to link the file to.
5. From the Edit menu in Visio, choose Paste Special.
6. In the Paste Special dialog box, choose Paste Link.
7. Click OK.

**See also**

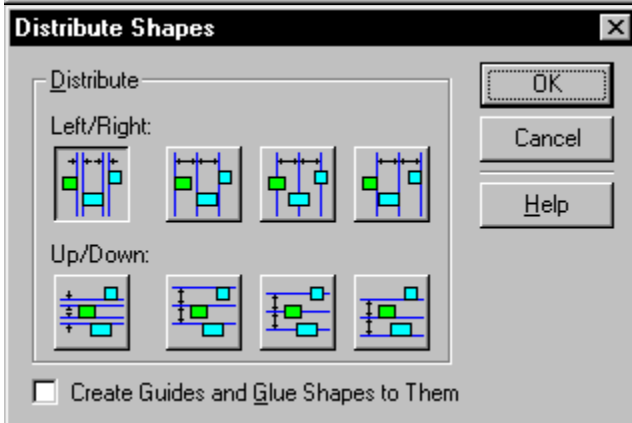
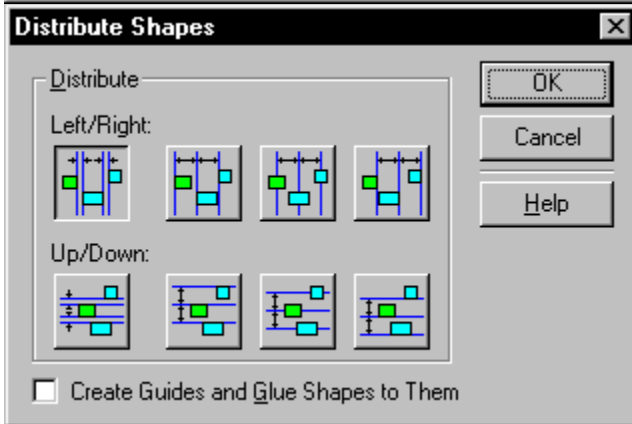
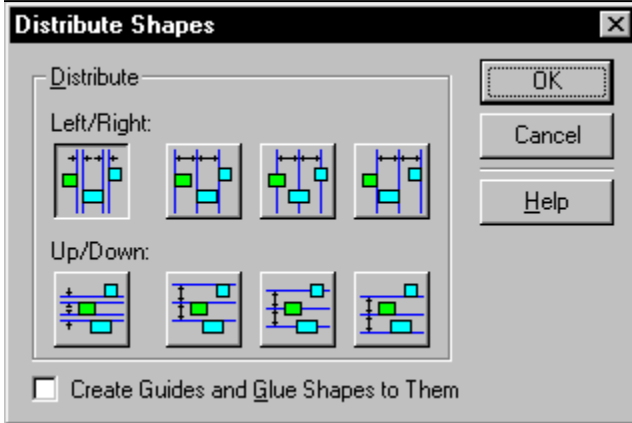
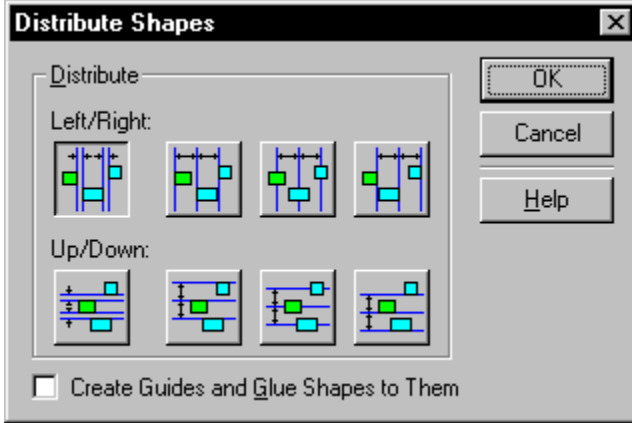
[Converting an object to Visio shapes](#)

[Creating objects in another program from within Visio](#)

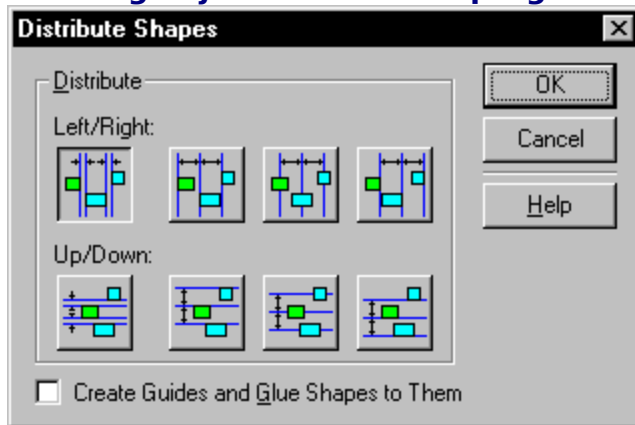
[Editing an object from another program](#)



## **Creating objects in another program from within Visio**

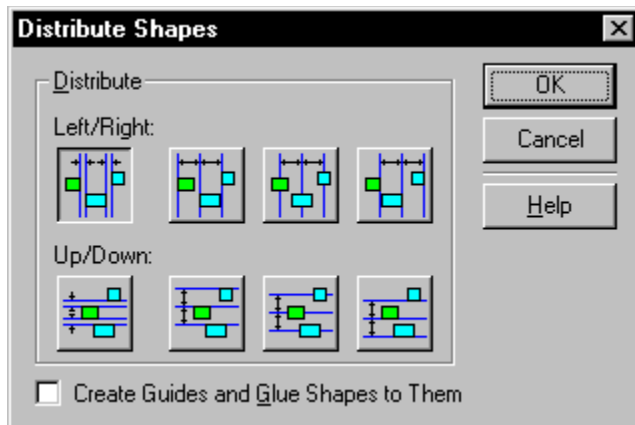


## Creating objects in another program from within Visio



### [Overview](#)

Because Visio supports OLE, you can create objects in other programs from within a Visio drawing. (However, you cannot edit an object embedded in Visio [in place](#).) For example, if you are working in Visio you can open Microsoft Excel and create a spreadsheet without leaving Visio. You can run another program from within Visio and either create a new object or open an existing file. When you create a new Visio object in another program, the Visio object is always embedded. When you use an existing Visio file in another program, you can either link or embed it.



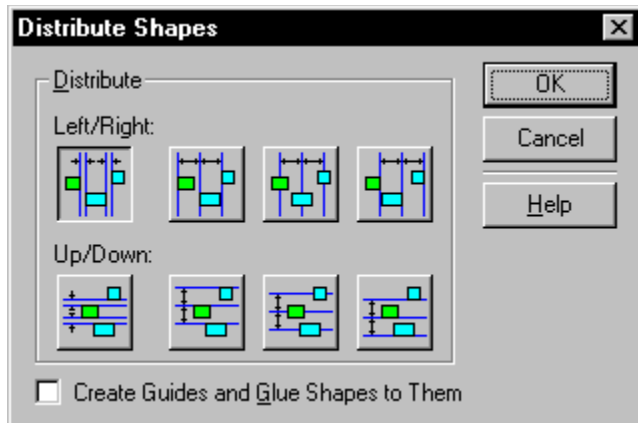
### To create a new object in another

#### program:

1. From the Insert menu, choose Object.
2. In the Insert Object dialog box, choose Create New.
3. From the Object Type list, choose the type of object you want to create, and then click OK.

Visio runs the program for creating that object.

4. Create the object you want.
5. From the File menu in the program, choose Exit.



### To create an object from a file:

1. From the Insert menu, choose Object.
2. In the Insert Object dialog box, choose Create From File.
3. Check Link if you want to link the file to the Visio drawing.
4. Type a path and filename in the text box. Alternatively, click Browse, and then choose the name of the file you want.
5. Click OK.

### Display As Icon

Depending on the OLE object program, objects or files that are linked or embedded through the Object command may appear as icons. You can have a file appear as an icon by selecting Display As Icon in the Object dialog box.

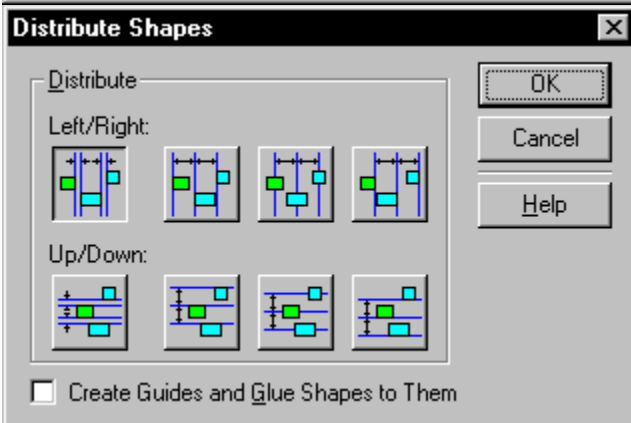
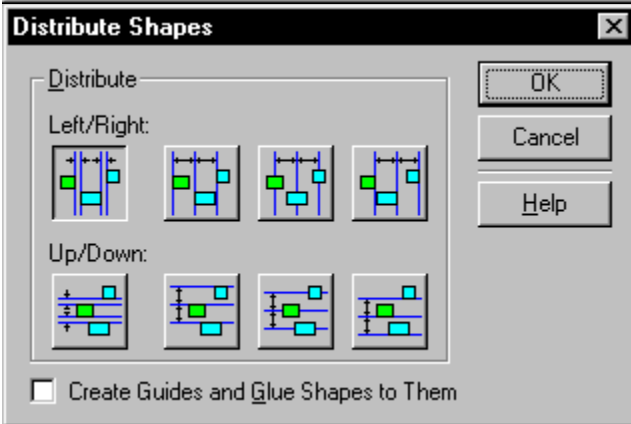
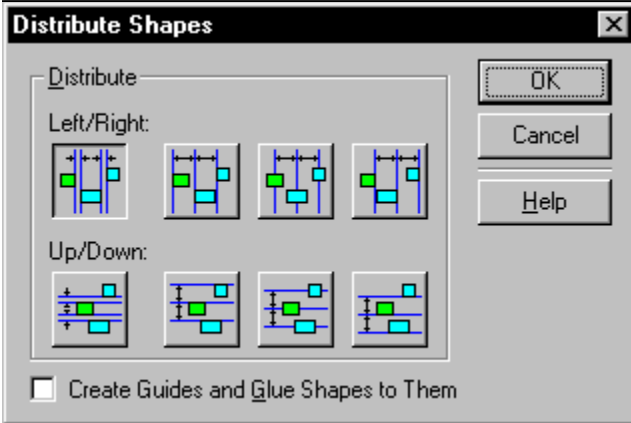
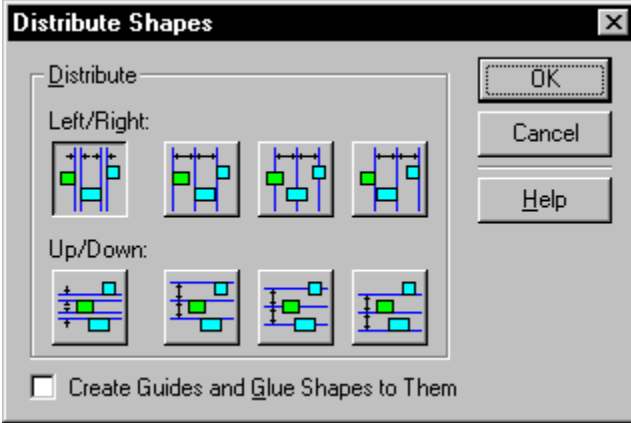
### See also

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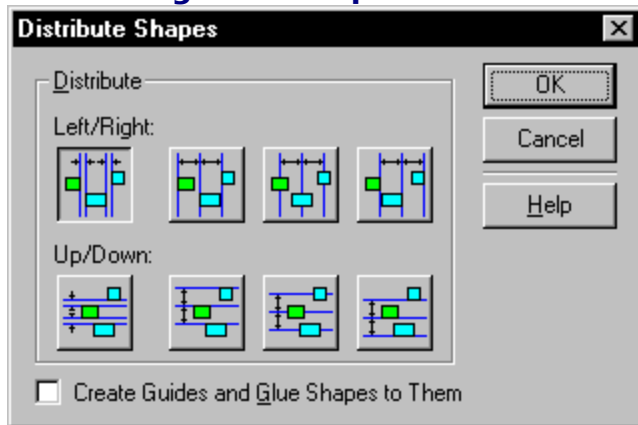
[Converting an object to Visio shapes](#)

[Linking or embedding an object into a Visio drawing](#)

## **Embedding Visio shapes in another document**



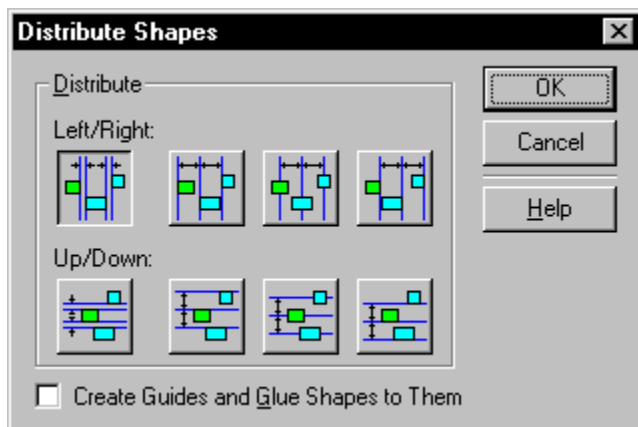
## Embedding Visio shapes in another document



### [Overview](#)

You can embed [shapes](#) from a Visio drawing into another document by copying the shapes to the [Clipboard](#) and then pasting them into the [container](#) program.

You can also embed Visio shapes by dragging and dropping them into another [OLE 2](#) container program. For details, see [Dragging and dropping a Visio object into other programs](#).



### To embed selected shapes into

#### another document:

1. In the drawing, select the shapes you want to embed in the other document.
2. From the Edit menu, choose [Copy](#) or click the Copy button on the toolbar.
3. In the other program, display the document in which you want to embed the shapes.
4. Choose the command used by that program to embed objects in its documents.

Even if you are finished using Visio, don't close it. To embed shapes, the other program needs certain information that is more quickly obtained if Visio is still running.

This command is usually Paste on the Edit menu, but it may be Paste Special, Paste Object, or a command unique to the program. For details, see the OLE documentation for that program.

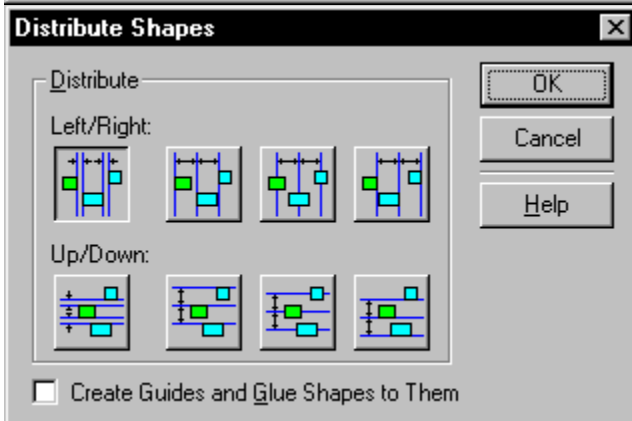
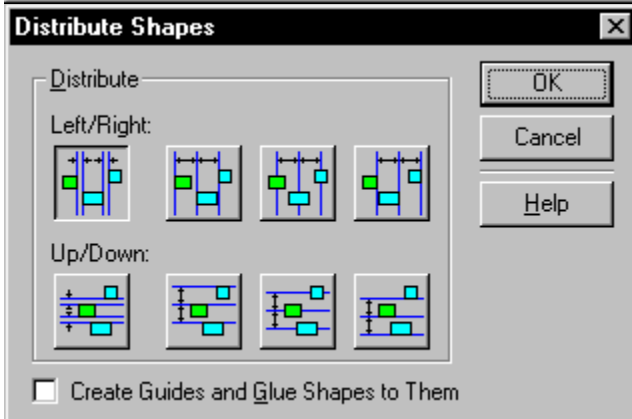
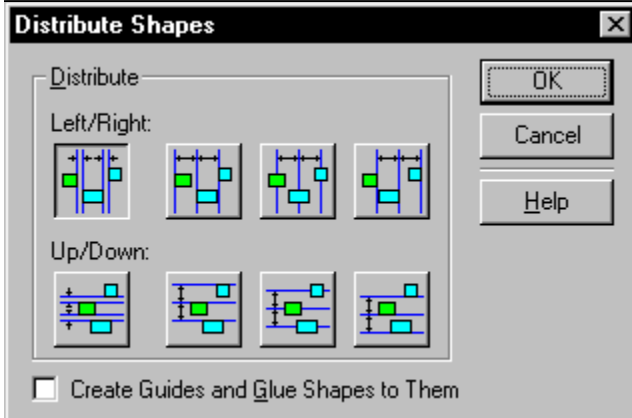
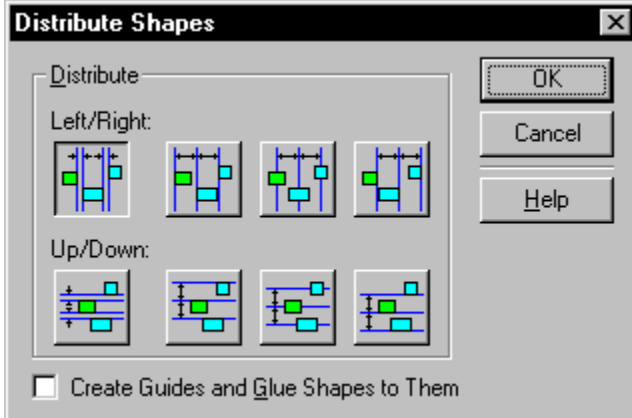
### See also

[Exporting a drawing into another file format](#)

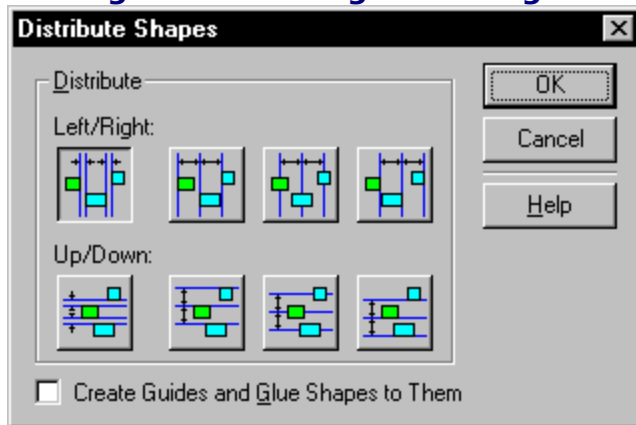
[Linking or embedding a drawing into another document](#)

## **Linking or embedding a drawing into another document**





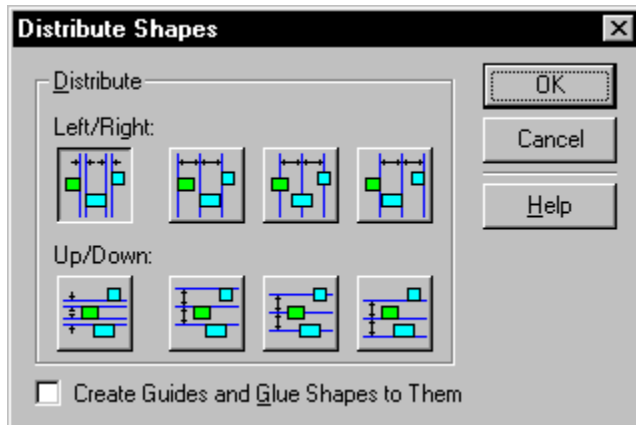
## Linking or embedding a drawing into another document



### [Overview](#)

If you want to use an entire page of a Visio drawing in another document, you can embed the page in much the same way as you embed selected shapes, or you can link the Visio file that contains the page to the other document. When you embed or link an entire page, only an area large enough to hold all the shapes on the page is displayed in the other document.

**Tip:** For details about linking or embedding the page with more space around the shapes, see [Linking or embedding a larger area of the drawing](#).



### **To link or embed a drawing into**

#### **another document:**

1. Make sure nothing is selected in the drawing.

If any shapes are selected, Visio will link or embed only those shapes in the other document, rather than the whole drawing.

2. If you want to create a link to the drawing rather than just embed a copy of it, save the drawing file.

Because a link consists of a reference to the original file, you must save the file before you can link to it.

3. From the Edit menu, choose Copy Drawing.

Even if you are finished using Visio, don't close it. To embed or link the drawing, the other program needs certain information that is more quickly obtained if Visio is still running.

4. Display the document in which you want to embed or link the Visio drawing.
5. Choose the command used by that program to embed or link objects.

For embedding, this command is usually Paste on the Edit menu. For linking, this command may be Paste Special or another command unique to the program. For details, see the OLE and Clipboard documentation for the program.

**See also**

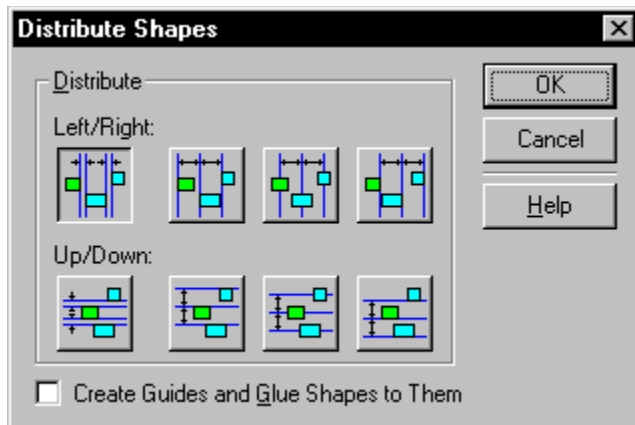
---

[Embedding Visio shapes in another document](#)

[Exporting a drawing into another file format](#)

[Linking or embedding a larger area of the drawing](#)

## Managing links



### [Related procedures](#)

Links refer to other files, so they can take a little work to maintain. A link's file reference consists of the complete folder path to the file on disk. If a file is renamed, deleted, or moved to another folder, Visio can't find the file to update the linked object, and you'll have to change the link to refer to the file in its new location or cancel the link if the file no longer exists.

For example, if you copy a drawing and its linked files to another computer with Visio, Visio will not be able to update the linked objects unless all of the files are copied to the same, or relative, folder path as on your system.

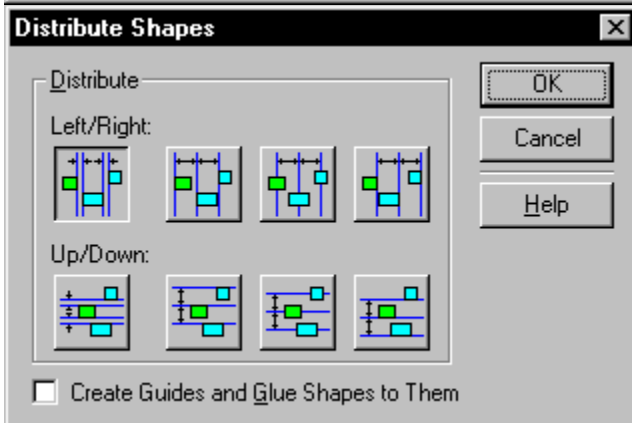
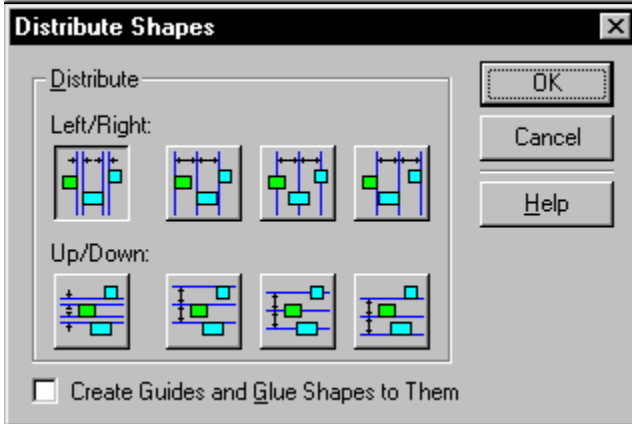
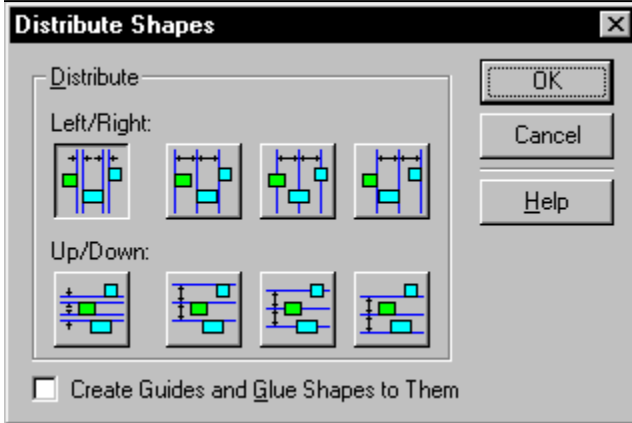
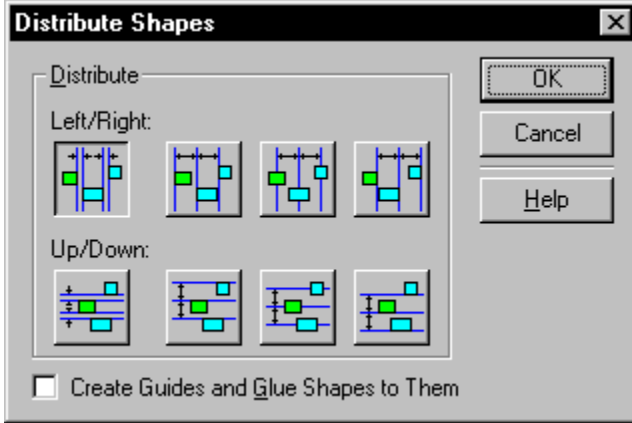
When you open a drawing that contains a linked object, Visio may display a message asking you whether to update links in the document. This message appears when the drawing contains a link and the OLE object program for that linked object is unavailable. If the OLE object program is not available—for example, if you open a drawing on a system that doesn't have that program installed—Visio displays a message to that effect. The visible representation of the object in the drawing is not affected, but you cannot edit the object.

Breaking links

Viewing and updating links

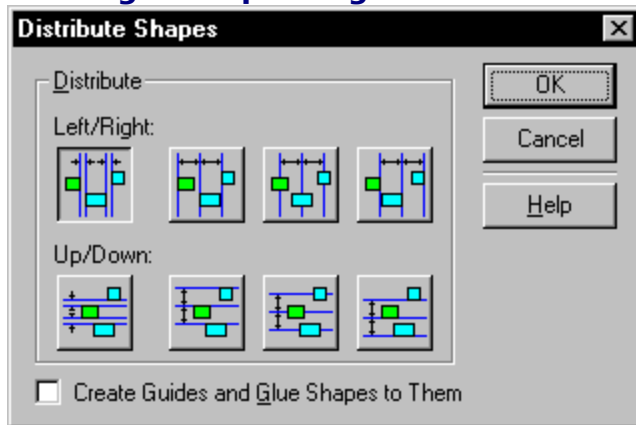
OLE 2 supports relative linking so you can move the linked files between corresponding folder paths. For example, if the original linked files were in c:\projects\homeplan.vsd and c:\budget.xls you can move them to a:\projects\homeplan.vsd and a:\budget.xls.

## Viewing and updating links



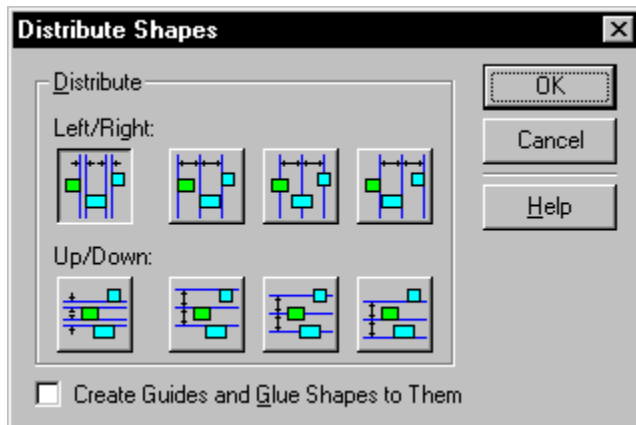


## Viewing and updating links



### [Overview](#)

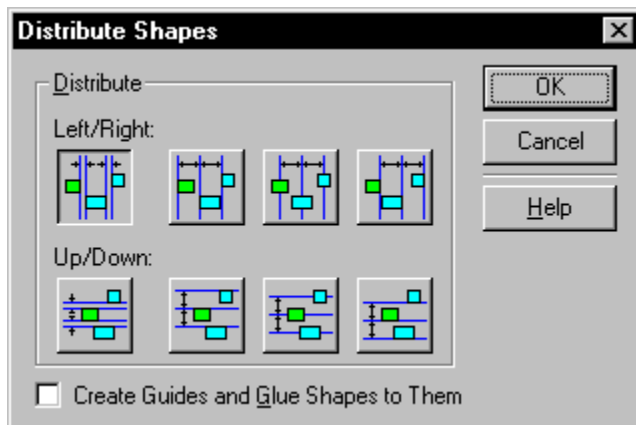
You can view all of the [links](#) for a drawing and set a link to be manually or automatically updated. If Visio cannot find the file to update a link, you can change the file reference to the correct file.



### **To view the links between a drawing**

#### **and other files:**

1. From the Edit menu, choose [Links](#).



### **To change a link:**

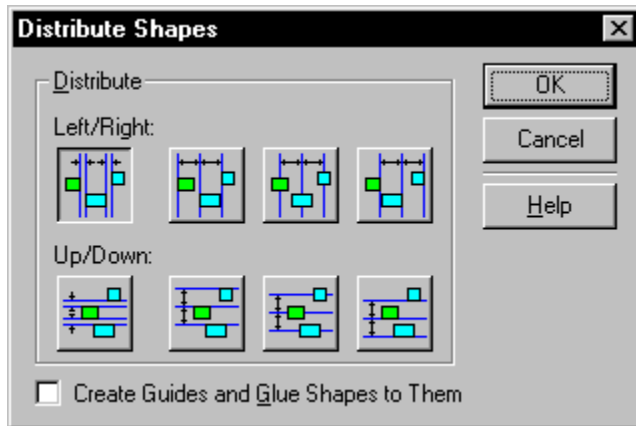
1. In the Links dialog box, choose the link you want to change.
2. If you want Visio to update the link automatically, choose Automatic. If you want to update the link by using the Links command, choose Manual.
3. If you want to change the link, click Change Source and select a new file reference in

the Change Source dialog box.

4. When you finish viewing and changing links, click OK in the Change Source dialog box, and then click Close in the Links dialog box.

You can change a link's file reference to any other file of the same format as the original file. For example, you can change the link to a .BMP file to a different .BMP file to display its image in a drawing, or change the link for an Excel spreadsheet to display the same range of cells from a completely different spreadsheet file.

You can update manual or automatic links at any time by using the Links command.



**To update a link manually:**

1. From the Edit menu, choose Links.
2. Choose the link you want to update.
3. Click Update Now, then click Close.

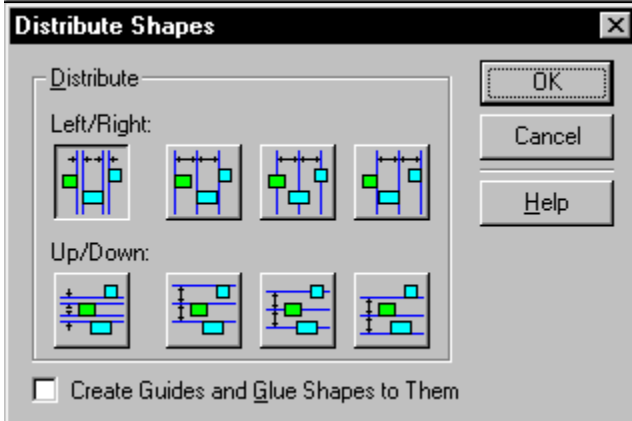
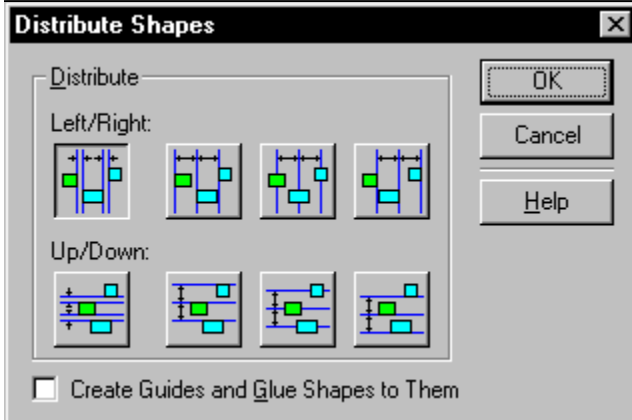
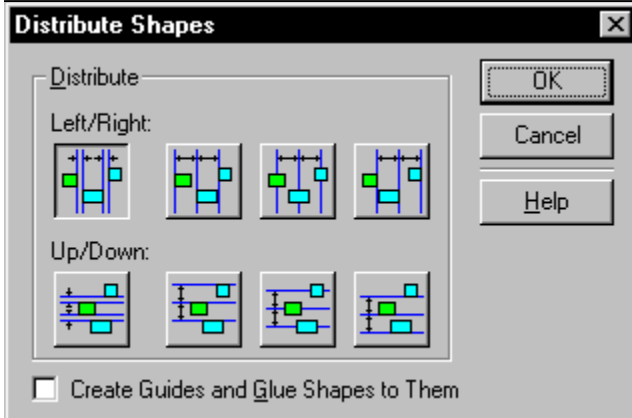
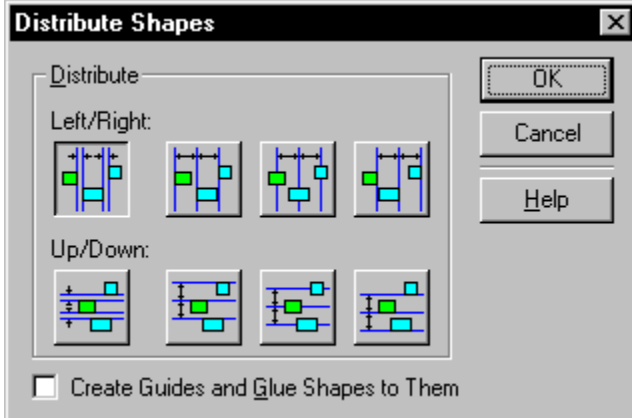
### **See also**

[Breaking links](#)

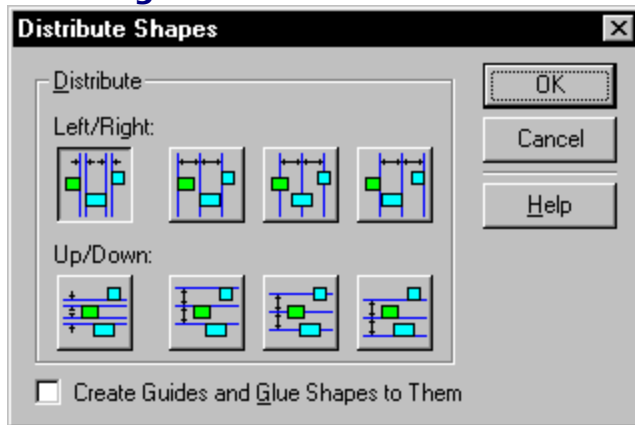
[Converting an object to Visio shapes](#)

[Linking or embedding an object into a Visio drawing](#)

## Breaking links

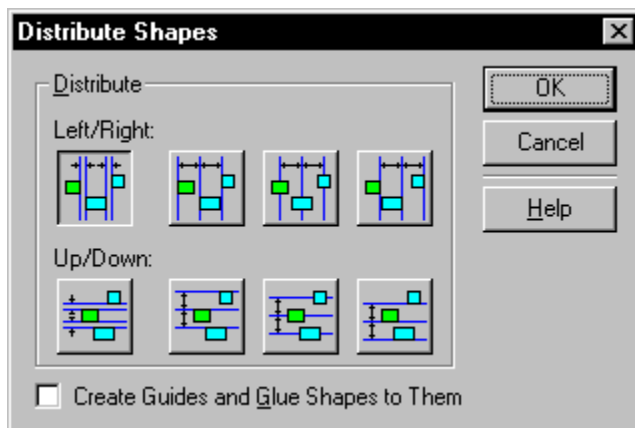


## Breaking links



### [Overview](#)

You may want to break the link between an object in a drawing and another file. Perhaps you want to give the drawing to someone without having to provide the linked files with it, or the information in the linked file has stabilized and you don't need to update the object in the drawing any more. You can break a link between an object and a file by canceling the link.



### **To break a link between a drawing**

#### **and another file:**

1. From the Edit menu, choose Links.
2. In the Links dialog box, choose the link you want to break.
3. Click Break Link.

Visio converts the object to a Windows Metafile in the drawing and discards the reference to its original file.

**Note:** You can also break a link between an object and its original file by converting the object to a Visio group. Usually converting the object to a Windows Metafile reduces the size of the drawing file.

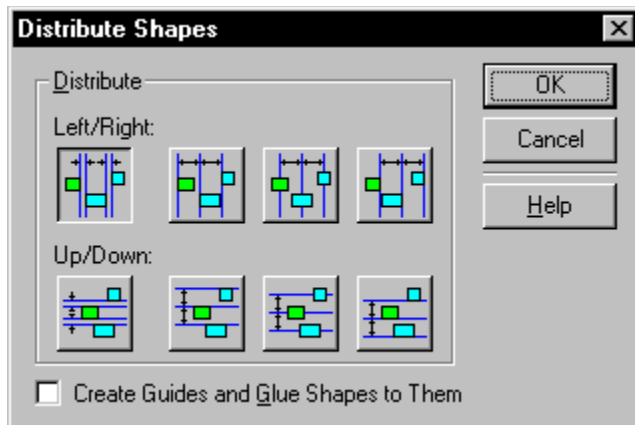
#### **See also**

[Converting an object to Visio shapes](#)

[Linking or embedding an object into a Visio drawing](#)

[Viewing and updating links](#)

## Importing and exporting



[Related procedures](#)

If the program you want to exchange information with doesn't support copying and pasting or linking and embedding, Visio also supports importing and exporting.

Importing brings a file in another format into a Visio drawing. Visio creates a placeholder in the drawing to hold the imported information. You can import an entire file into a Visio drawing.

### Import formats

Visio can import files in these formats:

- Adobe Illustrator File Format (.AI)
- Computer Graphics Metafile (.CGM)
- CorelDraw Drawing File Format, version 3.0, 4.0, and 5.0 (.CDR)
- Encapsulated PostScript (.EPS)
- Initial Graphics Exchange Specification (.IGS)
- Macintosh Picture File Format (.PCT)
- Micrografx Designer Version 3.1 File Format (.DRW)
- Tag Image File Format (.TIF)
- Windows Bitmap (.BMP, .DIB)
- Windows Metafile (.WMF)
- ZSoft PC PaintBrush Bitmap (.PCX)

**Tip:** You can import and convert ABC FlowCharter and CorelFlow files to Visio using the [Open](#) command on the File menu. If you have Visio Technical, you can also convert AutoCAD files into Visio format.

### Export formats

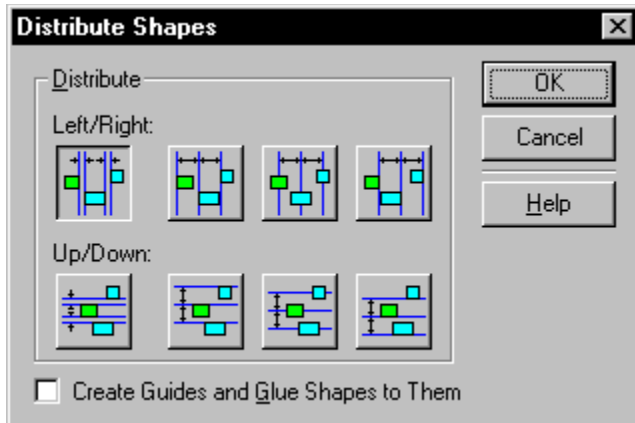
Visio can export files into these formats:

- Adobe Illustrator File Format (.AI)
- Computer Graphics Metafile (.CGM)
- Encapsulated PostScript (.EPS)
- Initial Graphics Exchange Specification (.IGS)

- Macintosh Picture File Format (.PCT)
- Tag Image File Format (.TIF)
- Windows Bitmap (.BMP, .DIB)
- ZSoft PC PaintBrush Bitmap (.PCX).

### How imported files are displayed

For files imported with an import filter, you can control some aspects of the way an imported file is displayed in the drawing. When you import such a file, Visio displays the Graphic Import dialog box.



To specify graphic import options:

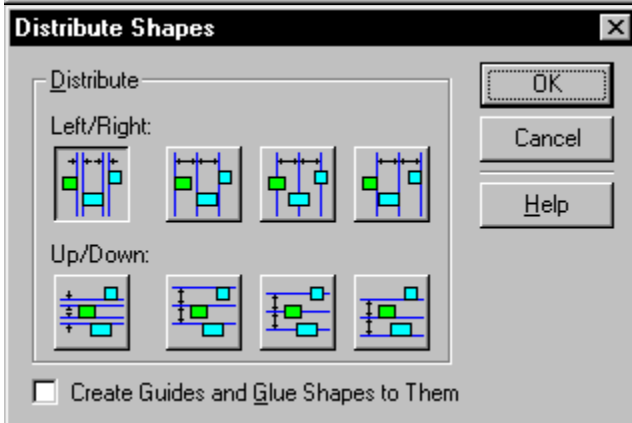
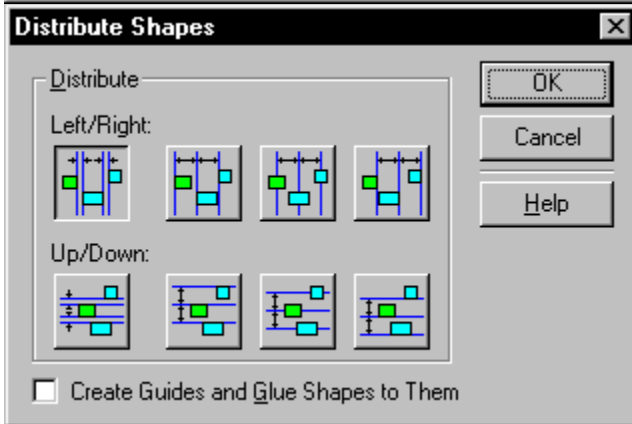
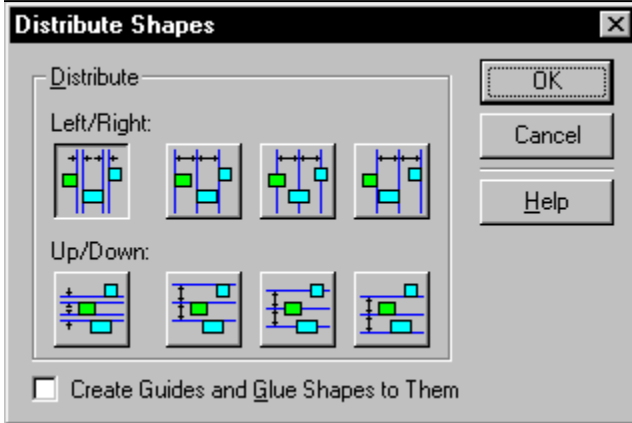
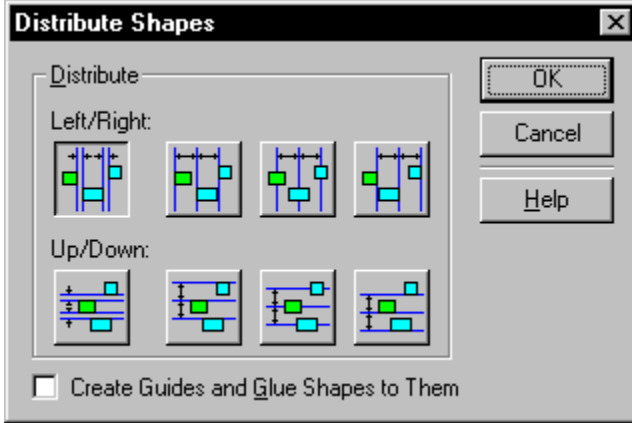
Option	Description
Retain Gradients	Retains gradient fills.
Retain Background	Retains the background specified in the original program by creating a rectangle of that color.
Emulate Line Styles	Draws thick or patterned lines as polygons to more closely represent how they appear in the image, rather than using the line style and width capabilities of the display or printer driver.
Normal	Uses colors exactly as specified in the image file.
Inverse	Inverts all colors. For example, black becomes white and white becomes black to create the effect of a photographic negative.
Inverse Grays Only	Inverts only black, white, and grays; all other colors retain their original color. This is useful for accentuating shading or patterns.
Gray Scale	Converts all colors to shades of gray.
Inverse Gray Scale	Converts all colors to shades of gray and then inverts them to create the effect of a black-and-white photographic negative.

[Converting an object to Visio shapes](#)  
[Editing an object from another program](#)

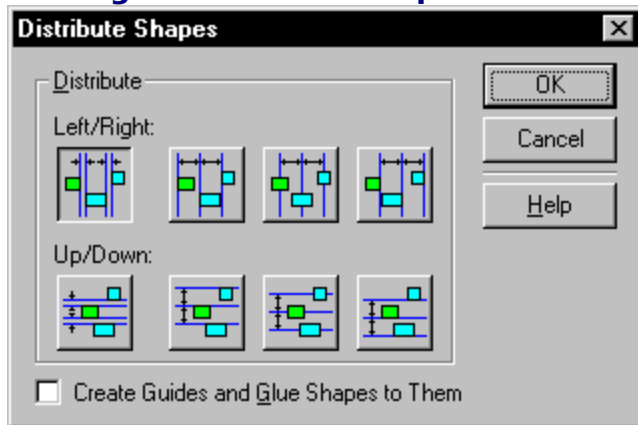
Exporting a drawing into another file format  
Formatting an object from another program  
Importing a file into a Visio drawing  
Pasting information in a particular format  
Scaling, cropping, or panning an object



## **Pasting information in a particular format**



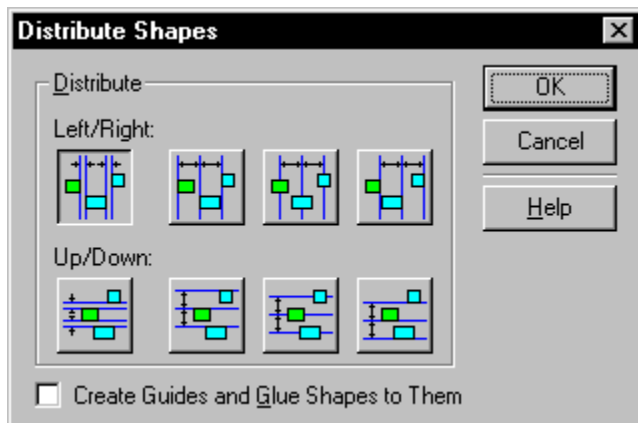
## Pasting information in a particular format



[Overview](#)

Most programs place information on the [Clipboard](#) in more than one format to make the information usable by more programs. When you paste information from the Clipboard into a program, it uses only one of the available formats by default.

However, you may want to use a different format. For example, you may want to paste something as a bitmap or a Windows Metafile, rather than embed it in the drawing. You can paste information from the Clipboard in a particular format by using the Paste Special command instead of Paste.



**To paste information from the**

### **Clipboard in a particular format:**

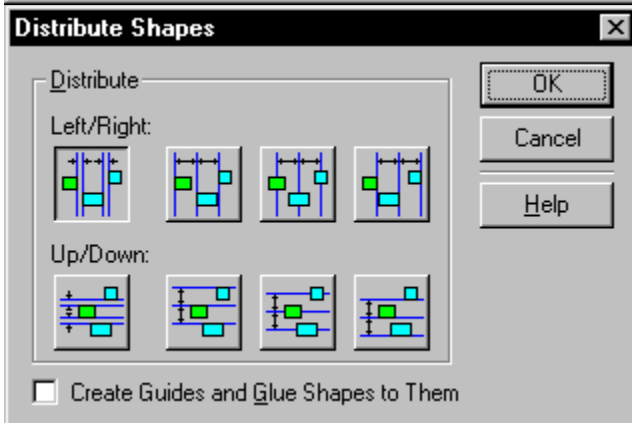
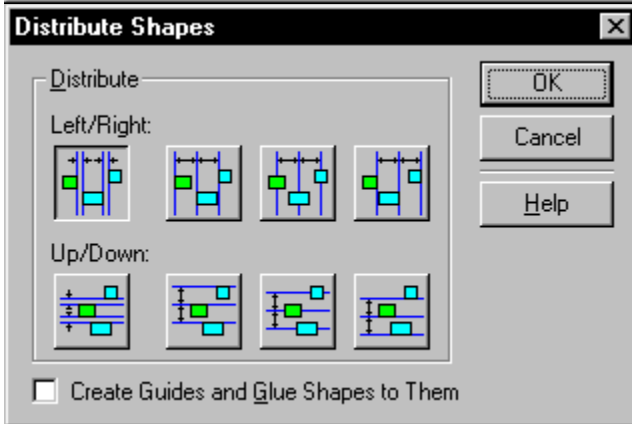
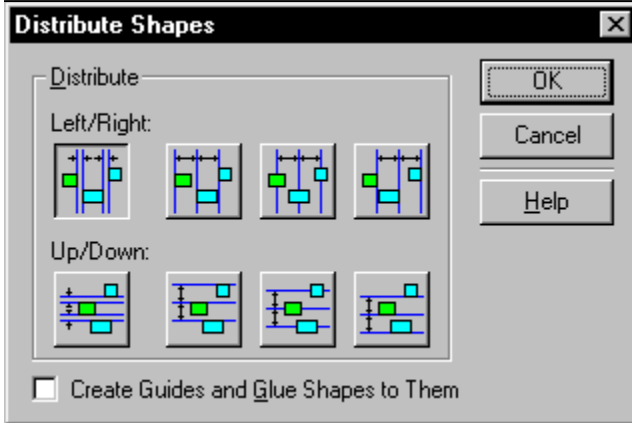
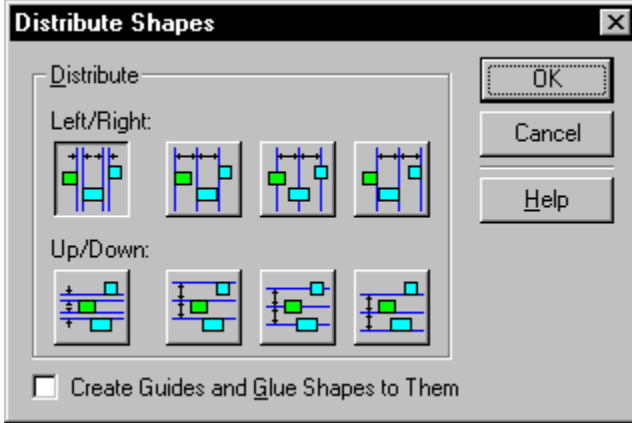
1. Copy the information you want to the Clipboard.
2. Display the Visio drawing into which you want to paste the information.
3. From the Edit menu, choose [Paste Special](#).
4. In the Paste As box, choose the format you want.
5. Click OK.

### **See also**

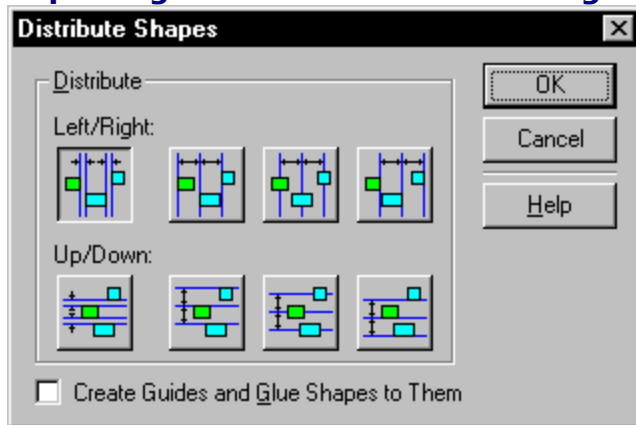
---

[Linking or embedding an object into a Visio drawing](#)

## **Importing a file into a Visio drawing**

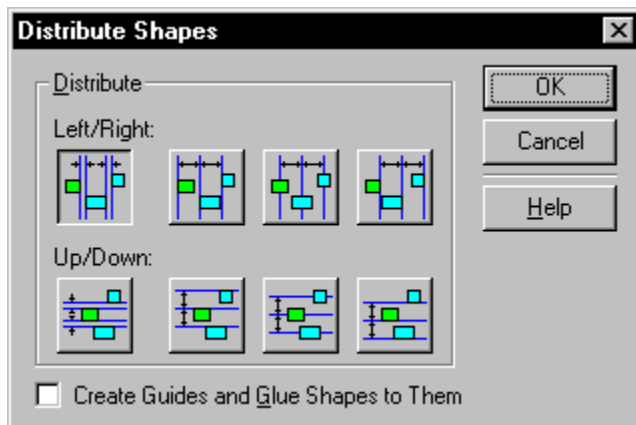


## Importing a file into a Visio drawing



### [Overview](#)

When you import a file, its contents appear in the center of the view. However, you can select and move the object just like any other Visio shape.



### **To import a file into a Visio drawing:**

1. From the Insert menu, choose Picture.

The import filters installed with Visio determine the types of files you can import.

2. In the File Type list, choose the format you want.

Visio lists the files in that format. If the file you want is not in the list, change to the folder that contains the file.

3. In the File Name box, choose the file you want.
4. Click OK.

Depending on the type of file you are importing, Visio may ask you to choose options that affect the file's appearance.

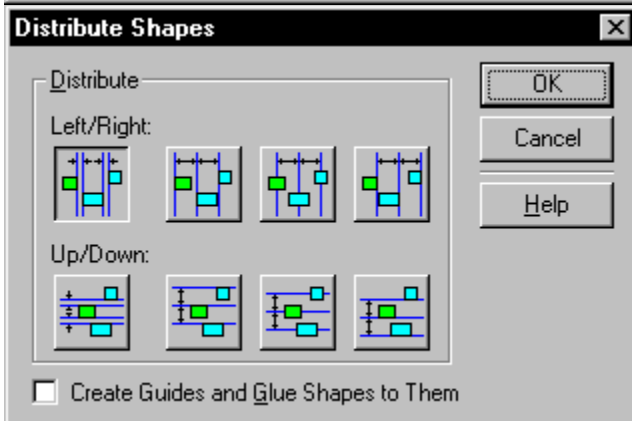
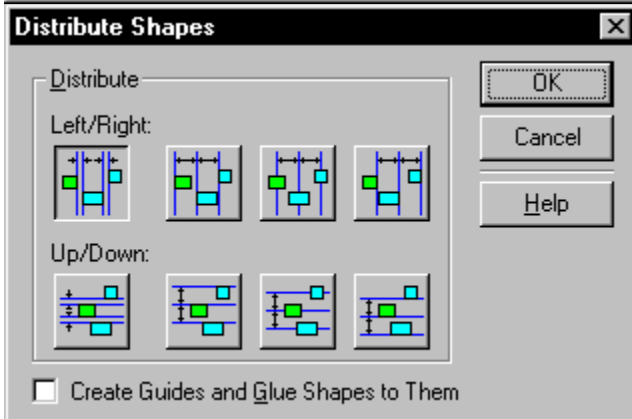
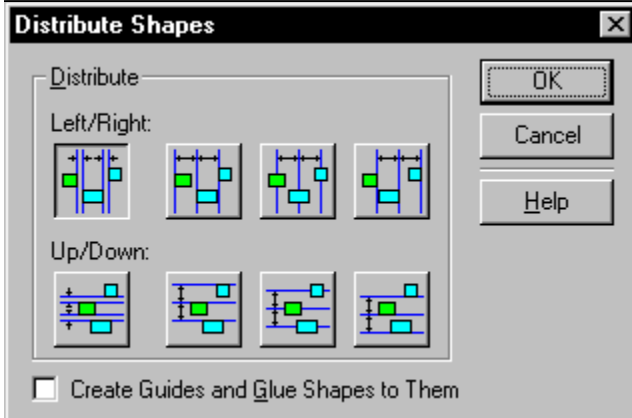
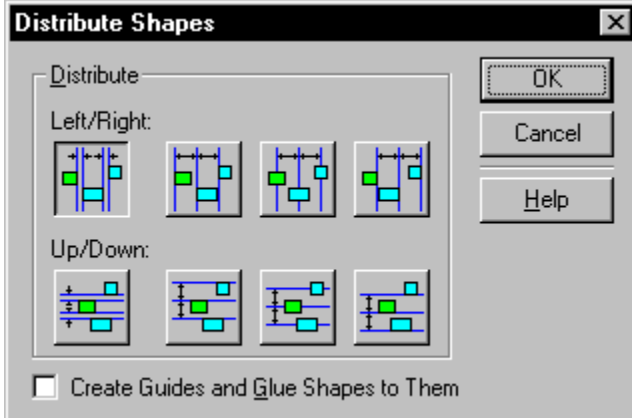
**Tip:** You can also import and convert ABC FlowCharter and CorelFlow files to Visio using the [Open](#) command on the File menu. If you have Visio Technical, you can also convert AutoCAD files into Visio format.

### **See also**

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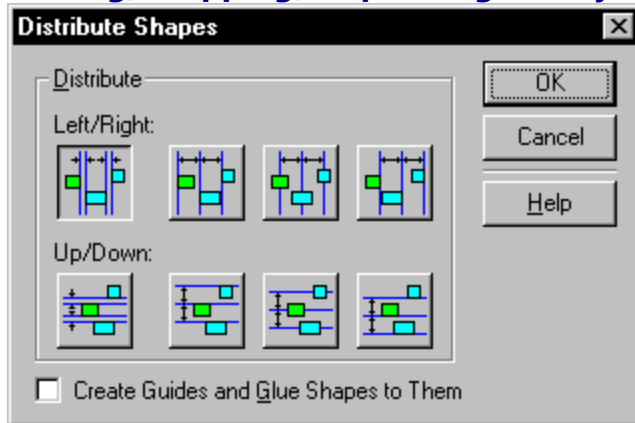
[Converting an object to Visio shapes](#)  
[Pasting information in a particular format](#)  
[Scaling, cropping, or panning an object](#)

## **Scaling, cropping, or panning an object**





## Scaling, cropping, or panning an object

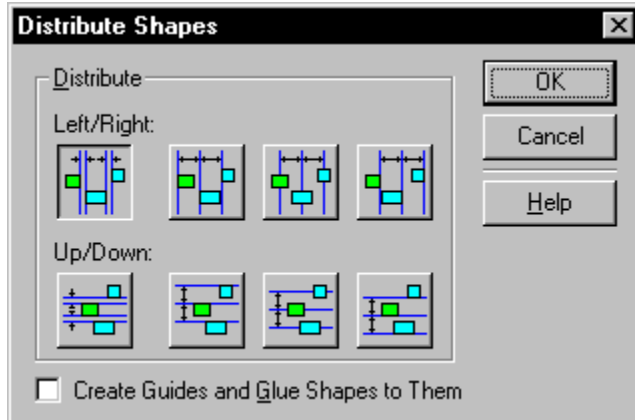


### [Overview](#)

After you paste an OLE object into a Visio drawing or import a picture, you'll probably want to adjust its appearance. You may want to make the object larger or smaller, or you may want to see only part of it. When you paste an object into a Visio drawing, the object initially is the same size as in its original program.

To adjust the object, you can:

- Size the object's dimensions.
- Crop or expand the object's borders without altering its appearance.
- Pan the object to move it within its borders.

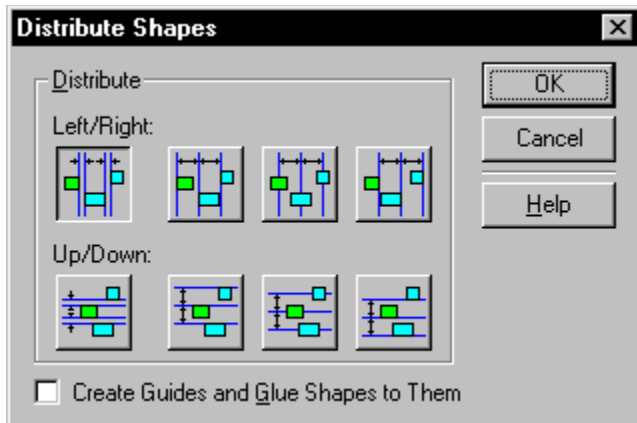


### **To size an object from another**

#### **program:**

1. With the pointer tool, select the object.
2. Drag one of the selection handles until the object is the size you want.

Drag a corner handle to size the object proportionally. Drag a side handle to stretch or shrink the object vertically or horizontally.



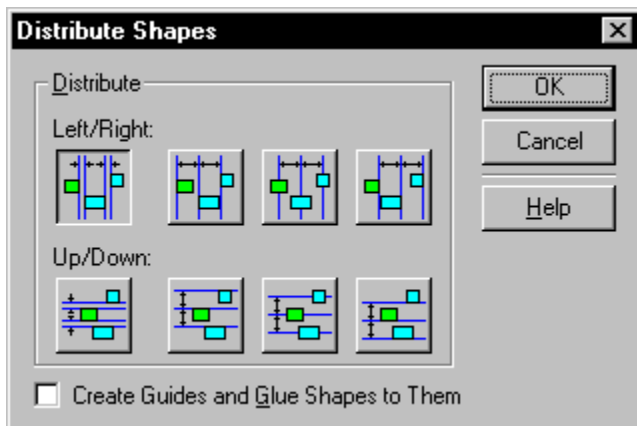
**To crop an object from another**

**program:**

1. From the rotation and crop tool menu, choose the crop tool.
2. Select the object.
3. Drag a selection handle until the object's borders are the size you want.

A smaller portion of the object appears; however, Visio retains the entire object so you can crop it differently if you want.

Although you don't see the cropped parts of an object, they're still present in the drawing and can occupy valuable memory when you print. For more efficient printing, try to bring objects in at approximately the size you want, instead of cropping large areas of the object.



**To pan or scroll an object from**

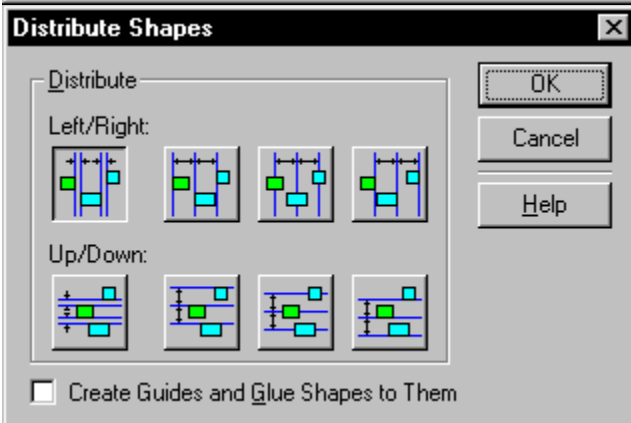
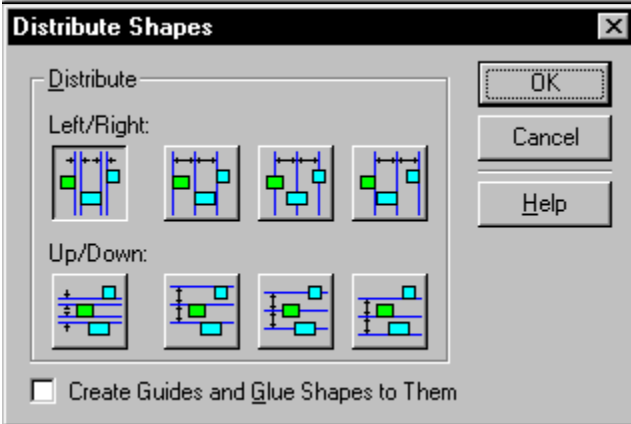
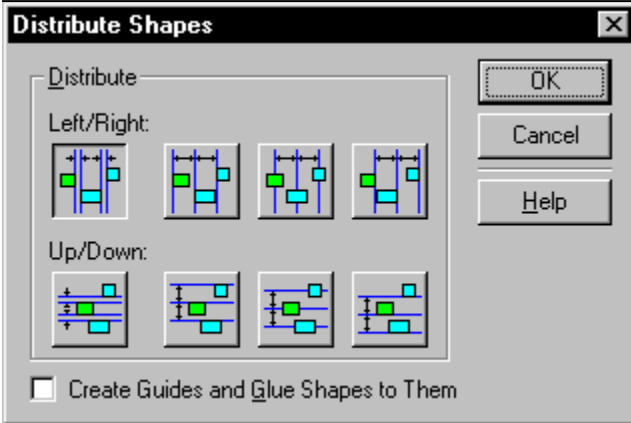
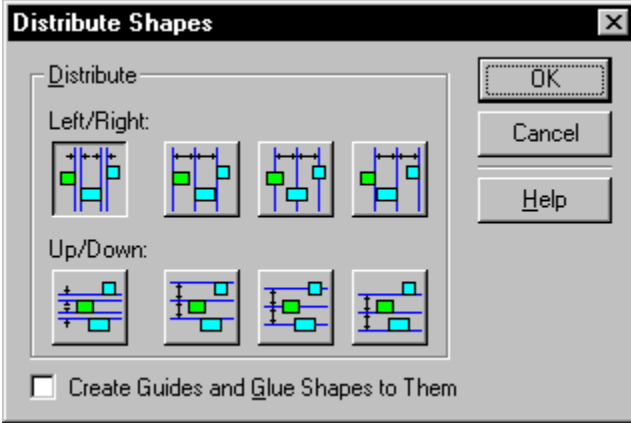
**another program:**

1. From the rotation and crop tool menu, choose the crop tool.
2. Point inside the object and press the left mouse button.
3. Drag until the object is positioned the way you want inside its borders.

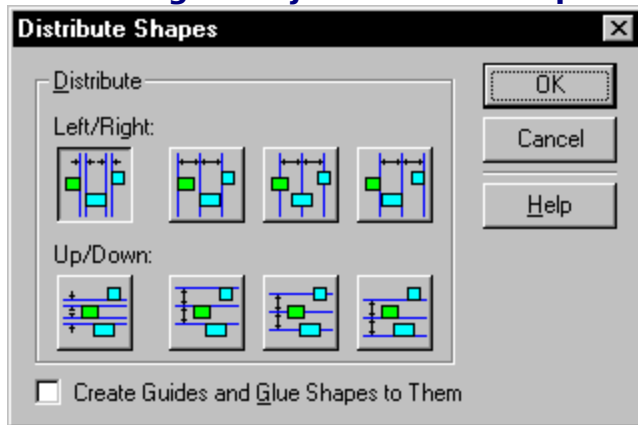
**See also**

- 
- [Linking or embedding an object into a Visio drawing](#)
  - [Moving shapes by dragging](#)
  - [Selecting shapes](#)

## **Converting an object to Visio shapes**

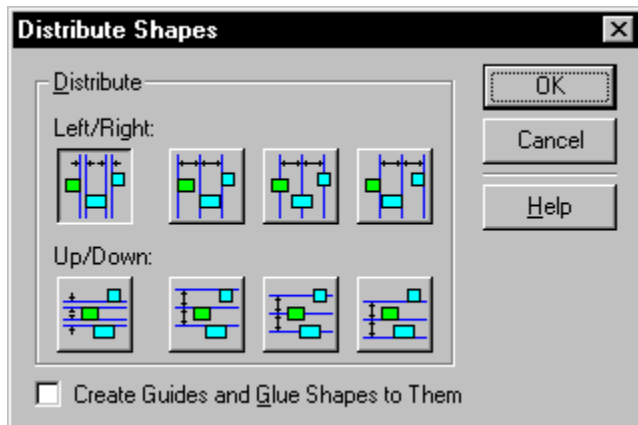


## Converting an object to Visio shapes



### [Overview](#)

You can convert some embedded objects to other file formats if the program of the embedded file supports the other file format. You can also specify that an object appear as an icon by selecting Display As Icon.



### **To convert an embedded object to**

#### **another format:**

1. Select the embedded object you want to convert.
2. From the Edit menu, choose the command to convert the object.

This command will usually be Convert on the <OLE object> submenu.

## **Windows metafiles**

You can convert a pasted or imported Windows metafile into a Visio group or shape. If a linked or embedded object is represented by a metafile, you can also convert the object to a Visio group or shape, although doing so breaks the object's link to its original file and its ability to be edited in its original program.

You can convert a metafile to a Visio group or shape in two ways:

- To preserve the relationship of the shapes to each other, use the Convert To Group command from the Shape menu to change the metafile into a Visio group.
- To separate the metafile into individual shapes, use the Ungroup command. You don't need to convert the metafile to a group first before ungrouping it.

**Note:** A metafile may contain a bitmap as a component, or a metafile may consist solely of a bitmap. Bitmaps cannot be converted to Visio shapes. However, a metafile that consists of

a single bitmap usually stores the bitmap in segments. When you convert such a metafile to Visio shapes, each segment of the metafile becomes an individual bitmap object, and you will probably want to convert the metafile to a group to keep the bitmaps together.

**See also**

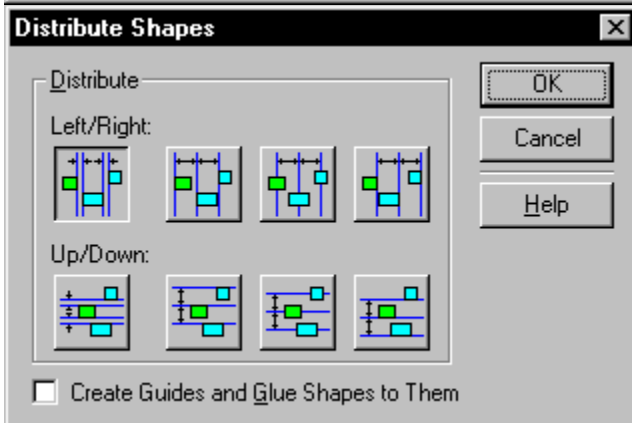
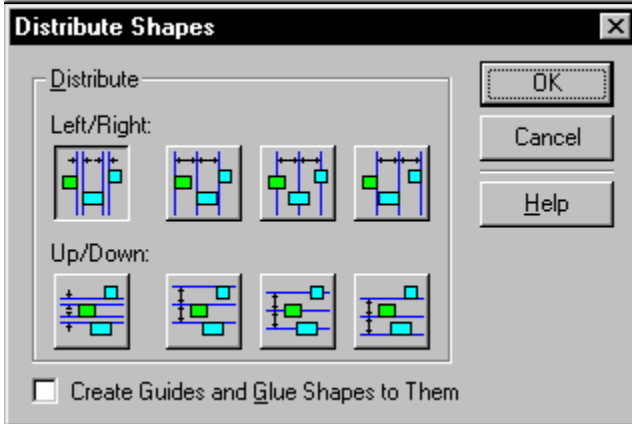
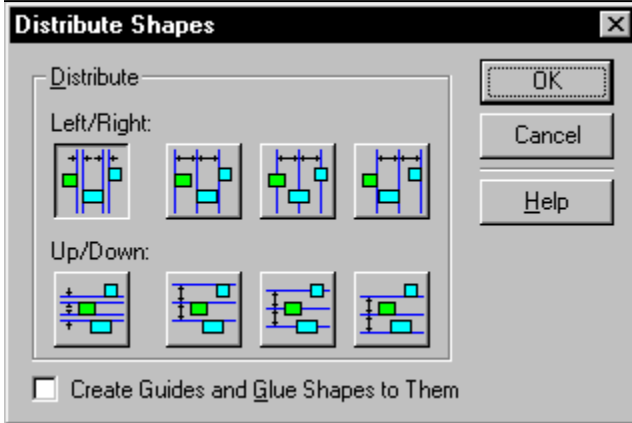
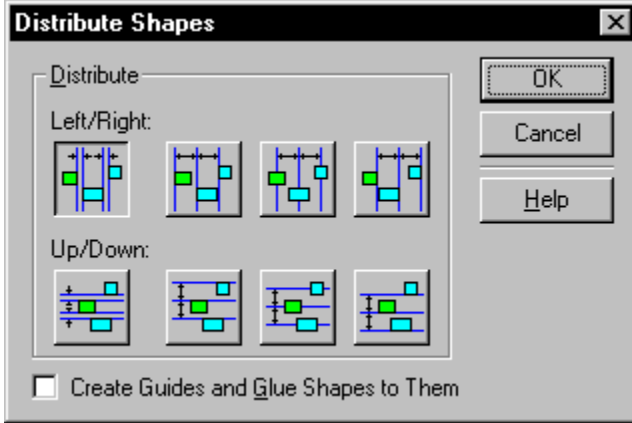
---

[Editing and formatting a group](#)

[Grouping and ungrouping shapes](#)

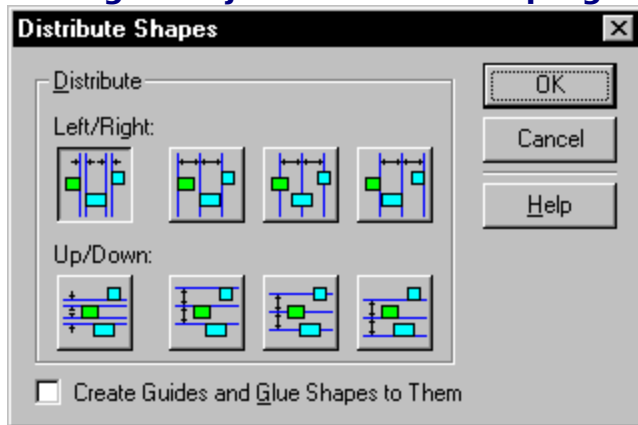
[Linking or embedding an object into a Visio drawing](#)

## **Editing an object from another program**





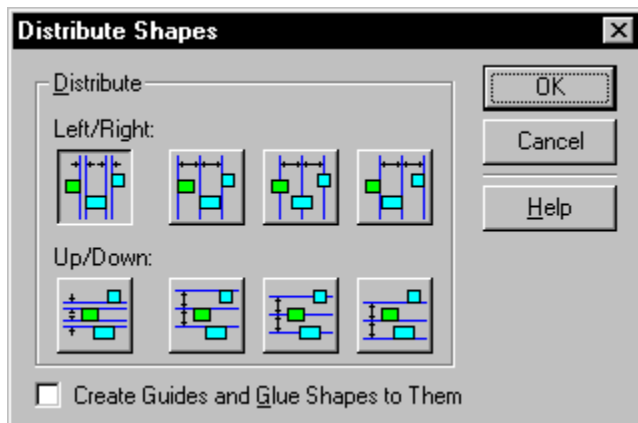
## Editing an object from another program



### [Overview](#)

You can modify an embedded or linked object in its original program from within the Visio drawing. If you modify an embedded file, you are modifying a copy of the original file. If you modify a linked file, you are changing the original file. The OLE object program provides a command on the Visio Edit menu especially for editing its objects.

Most programs provide a submenu of actions you can perform on an OLE object. Usually the command for editing an OLE object is Edit. Whatever the command is, the submenu usually appears below the Links command on the Edit menu in Visio.



### **To edit an embedded or linked object:**

1. Select the object you want to edit.
2. From the Edit menu in Visio, choose the command to edit the object.

This command will usually be <OLE object> Edit.

As a shortcut, you can select and edit the object by double-clicking the object in the drawing.

Windows runs the OLE object program and displays the object in the program window. If the object is linked, the program opens the original file that contains the object.

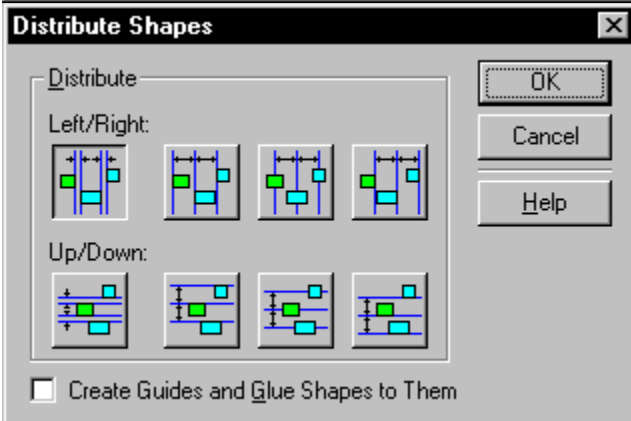
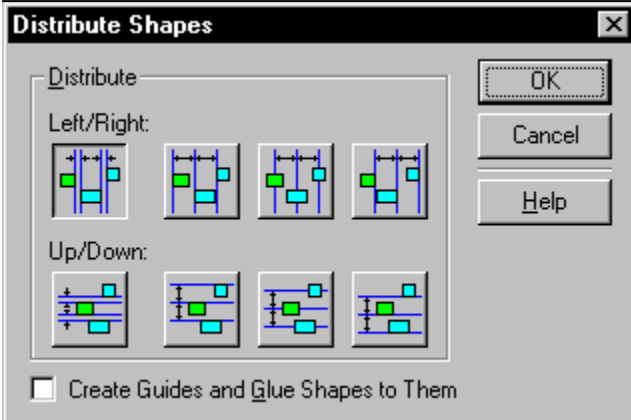
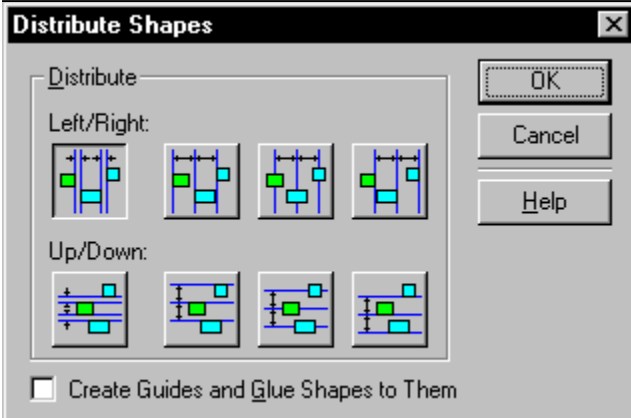
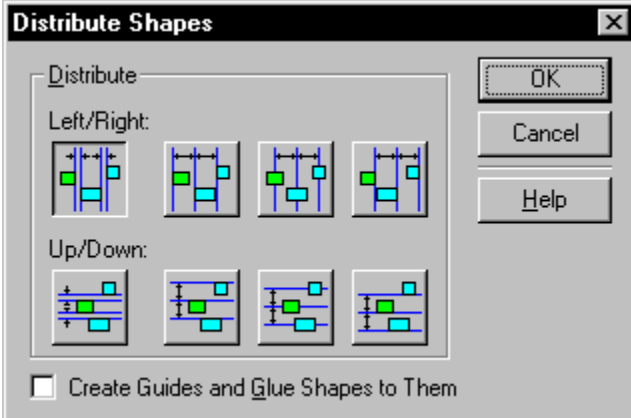
### **See also**

[Converting an object to Visio shapes](#)

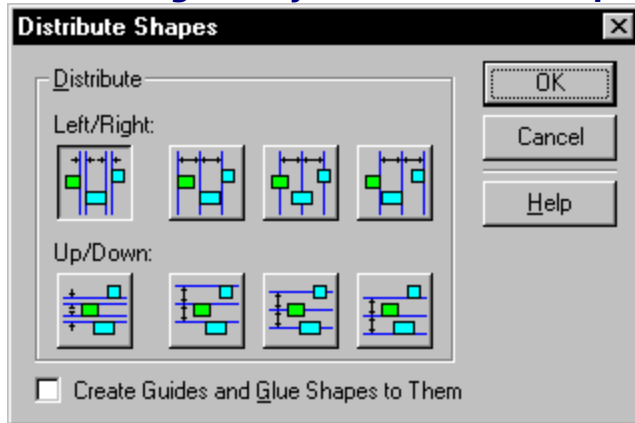
[Editing an embedded Visio object in place](#)

[Linking or embedding an object into a Visio drawing](#)

## **Formatting an object from another program**



## Formatting an object from another program



### [Overview](#)

You can format an object from another program in the following ways:

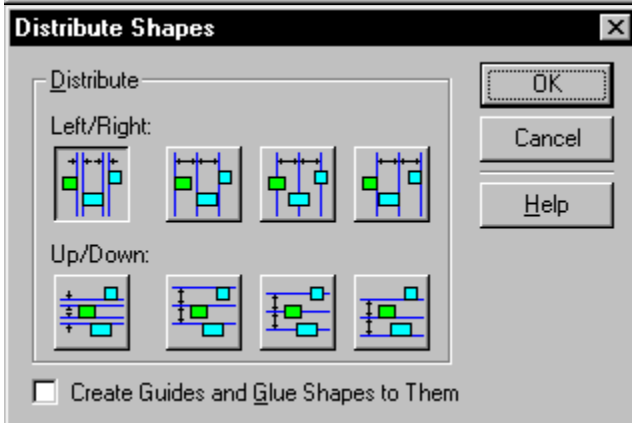
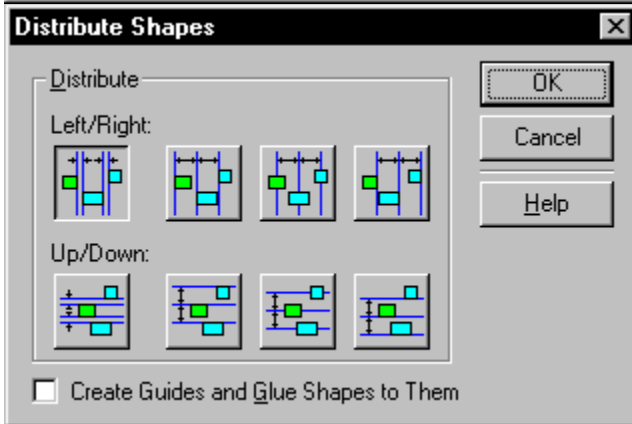
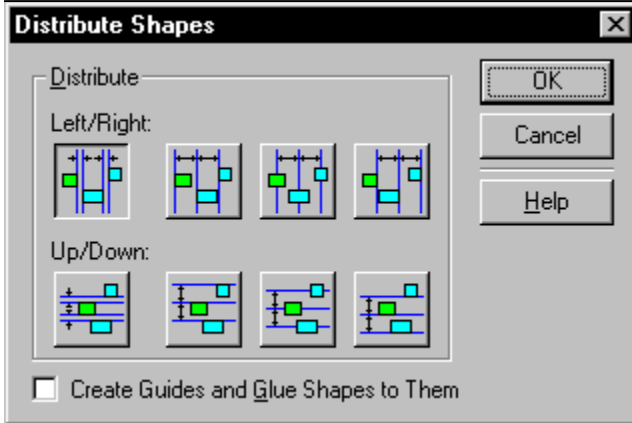
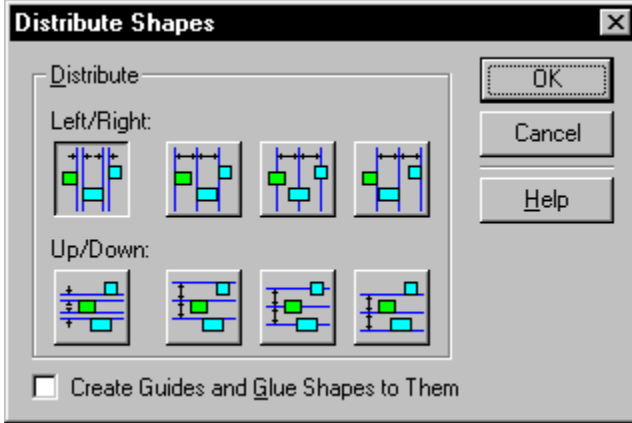
- You can apply a line style or attribute to change the appearance of the object's border. For example, you might choose a distinctive outline for embedded or linked objects to indicate they can be edited from within a drawing.
- You can apply a fill style or attribute to change the fill color and pattern of the object. In order to see the fill color and pattern of an object, there must be some empty space around the object within its border.

### **See also**

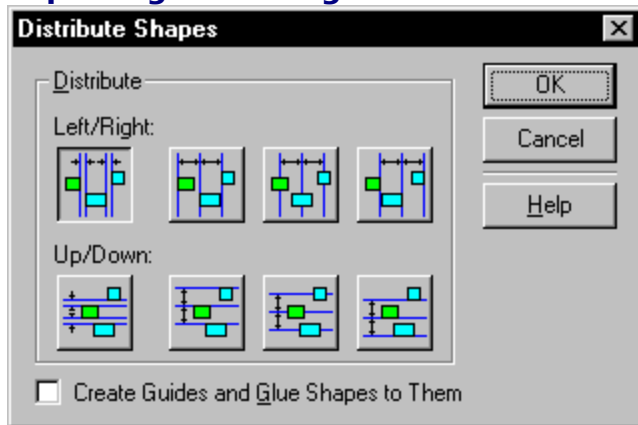
---

[Changing line color, weight, and pattern](#)  
[Converting an object to Visio shapes](#)  
[Editing an embedded Visio object in place](#)  
[Formatting fills and shadows](#)  
[Scaling, cropping, or panning an object](#)

**Exporting a drawing into another file format**

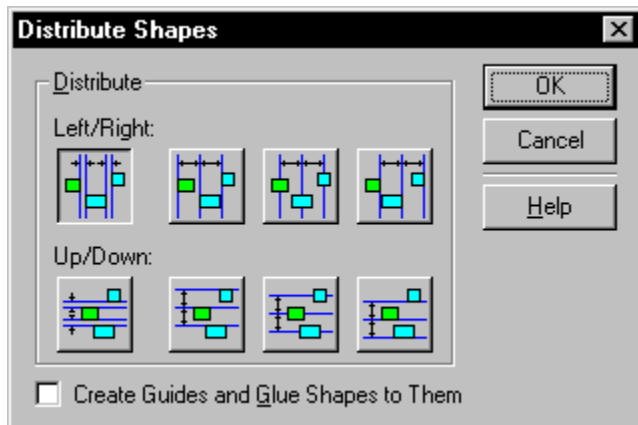


## Exporting a drawing into another file format



### [Overview](#)

You can export specific shapes or a page from a Visio drawing into another document using the Save As command. When you use Save As to export a page, the Save As command does not affect the current document.



### To export shapes or a drawing to

#### another file format:

1. To export a page, display the page you want to export.  
To export specific shapes, select the shapes you want to export. (Use Shift+click to select more than one shape.)
2. From the File menu, choose [Save As](#).
3. Under Save As, choose the format you want.
4. In the File Name box, type a filename for the file.
5. Click Save.

Visio exports the shapes or page in the format you chose. You can use the file in any program that can read files in that format.

**Note:** You can use Visio to convert a file from one format to another by importing the file into Visio and then exporting it to the format you want.

#### See also

[Embedding Visio shapes in another document](#)

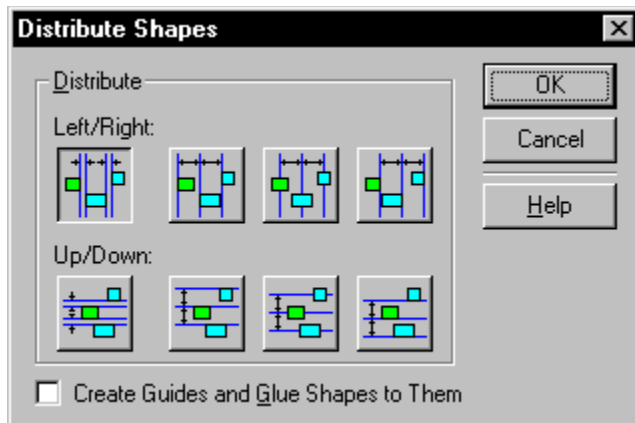
[Importing a file into a Visio drawing](#)

[Linking or embedding a drawing into another document](#)





## About using Lotus Notes with Visio



### [Related procedures](#)

To include a Visio drawing in Lotus Notes, you embed it as a record in the Lotus Notes database.

In addition, when you have a Visio drawing embedded in Lotus Notes, you can use Notes/FX, which allows Visio and Lotus Notes to pass data back and forth. You can:

- Write information from a Visio shape, custom formula, or the [Properties](#) box to a Lotus Notes field.

For example, you can combine Lotus Notes and Visio to keep track of a company's processes, such as writing and prototyping specifications, and so on. To make this as easy to use as possible, in Lotus Notes, you embed a Visio diagram for each process. Then, you create a table that shows just the titles of the processes (which is data you wrote from Visio to Lotus Notes). Anyone who needs to see the process can click the flowchart's title to see the embedded Visio diagram. Then, to edit it, the user can double-click the embedded Visio diagram to start Visio.

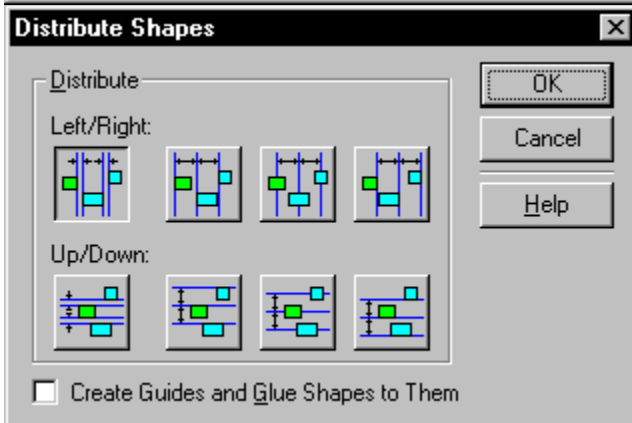
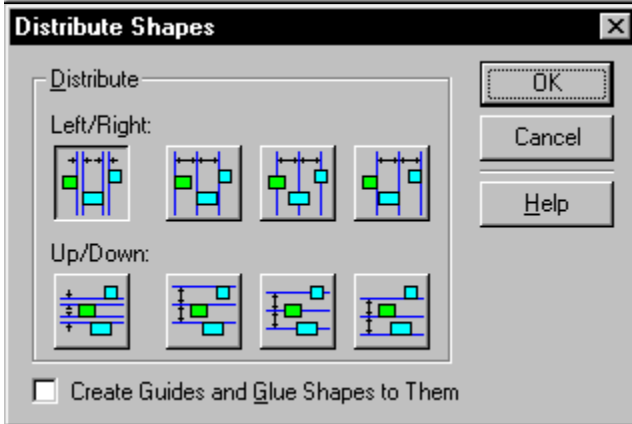
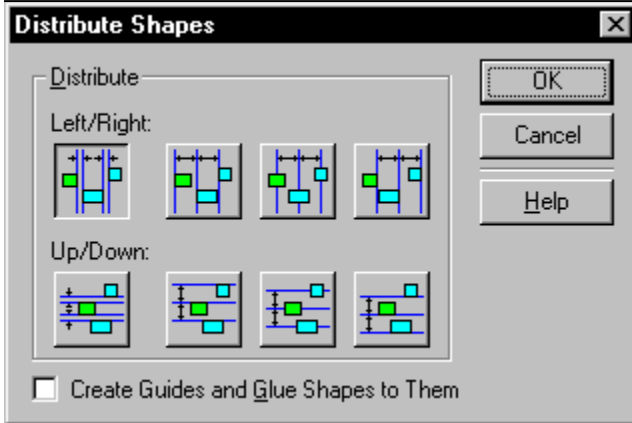
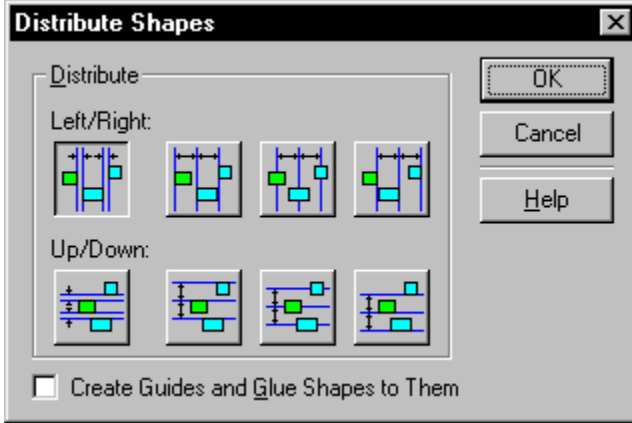
- Read data from a [Lotus Notes Field](#) and display it in Visio.

For example, in a timeline, you can have a Lotus Notes date [field](#) automatically update the Visio timeline.

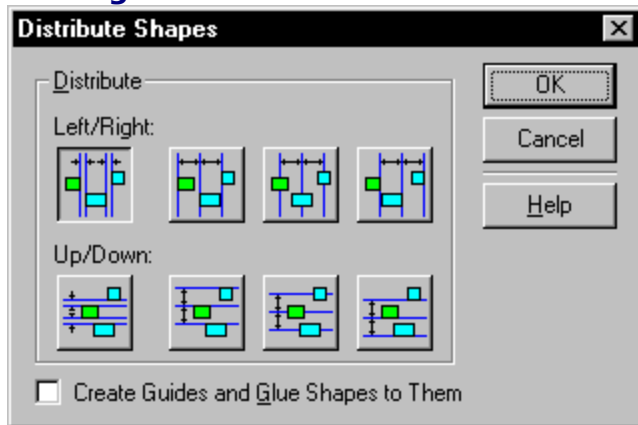
**Note:** Lotus Notes version 3.x uses OLE 1. Therefore, you cannot edit objects in place or dynamically pass data back and forth between Visio and Lotus Notes. In OLE 1, data is passed between programs when a program is exited or when you choose Update from the File menu.

[Reading information from Lotus Notes and displaying it in Visio](#)  
[Tips for using Lotus Notes with Visio](#)  
[Writing information from Visio to Lotus Notes](#)

## **Writing information from Visio to Lotus Notes**



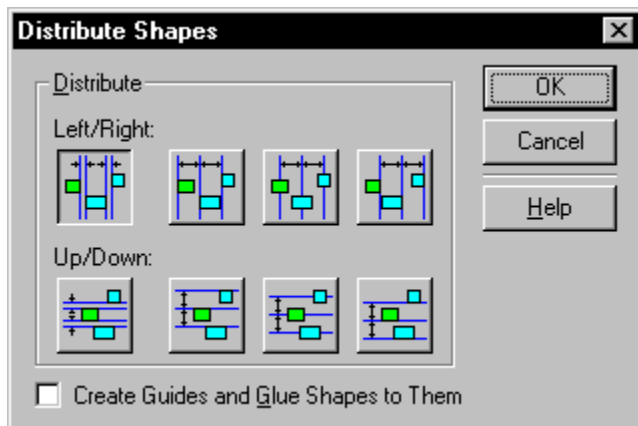
## Writing information from Visio to Lotus Notes



### [Overview](#)

You can pass data from a Visio diagram to a Lotus Notes database field. Each field in Lotus Notes that you want to fill in with Visio data is based on either the Visio diagram's [Properties](#) box, a shape, or a custom formula.

**Note:** Make sure the fields in both programs have exactly the same name.



### To write information from Visio to

#### Lotus Notes:

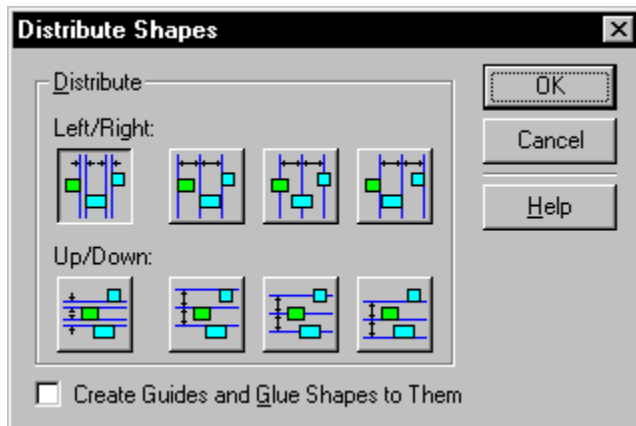
1. In Lotus Notes, set up the fields you want to fill in with Visio data. Note the names of these fields, because you will use them in Visio.
2. In Visio, set up the drawing template.
3. If the Lotus Notes fields are not based on the diagram's Properties box, add the shapes that will be associated with the Lotus Notes fields.
4. Select one of the shapes that will be associated with a Lotus Notes field, then choose Special from the Format menu and note the shape's ID (you'll use it in step 9).  
Complete this step for each shape that will be associated with a Lotus Notes field.
5. From the Insert menu, choose [Lotus Notes Fields](#).
6. In the Field Name and Direction section, type a name for the field that exactly matches the name of the field you defined in Lotus Notes.
7. Check Write To Notes.
8. In the Data Type section, select the type of data you want to exchange: Text, Time, or Number.

9. If you selected Text under Data Type, type the ID you got from step 4 in the Shape ID box. The data you write to Lotus Notes can be the shape's name, text entered in the shape, or data you entered for the shape in the Special box (on the Format menu).

If you selected Time or Number, enter a custom formula in the Custom Formula box. For details, see [Using a custom formula in a field](#).

10. Click Add, then click OK.

To view the information in Lotus Notes, choose Exit from the Visio File menu.



**To write the Properties box**

#### **information from Visio to Lotus Notes:**

1. In Lotus Notes, use the field names from the Visio [Properties](#) box in the Lotus Notes database to automatically include that Visio information.

The Properties box fields are Title, Subject, Creator, Keywords, and Descriptions.

#### **See also**

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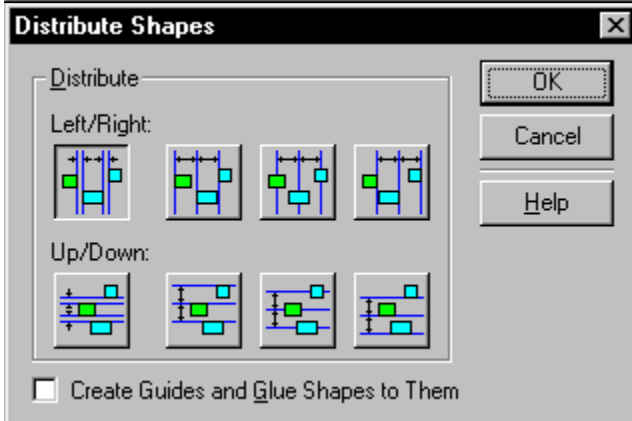
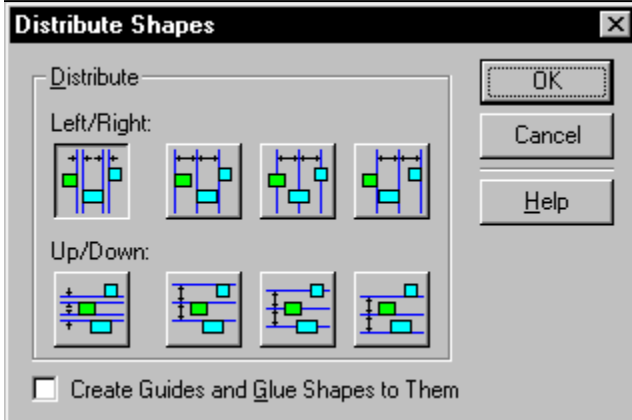
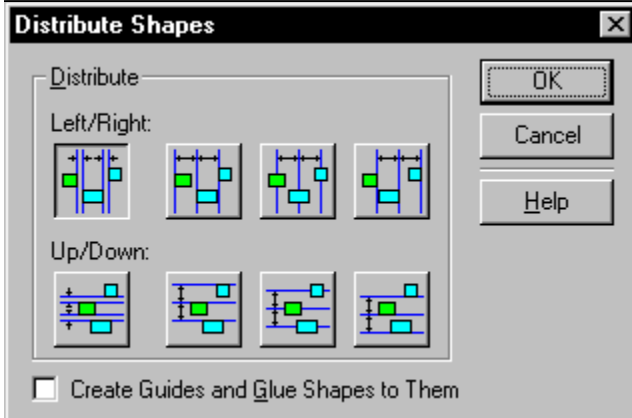
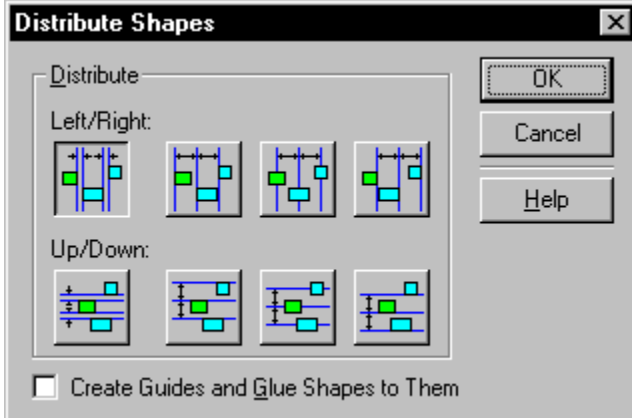
[Creating objects in another program from within Visio](#)

[Inserting fields into text](#)

[Reading information from Lotus Notes and displaying it in Visio](#)

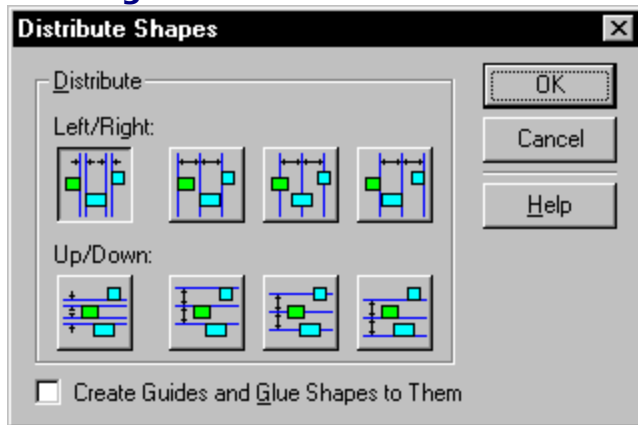
[Tips for using Lotus Notes with Visio](#)

## **Reading information from Lotus Notes and displaying it in Visio**





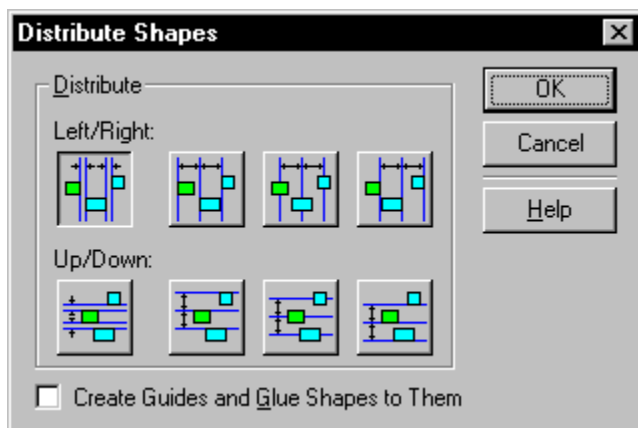
## Reading information from Lotus Notes and displaying it in Visio



### [Overview](#)

You can read information from a Lotus Notes database field, then display it in a Visio diagram. You can also use the Lotus Notes field data in formulas.

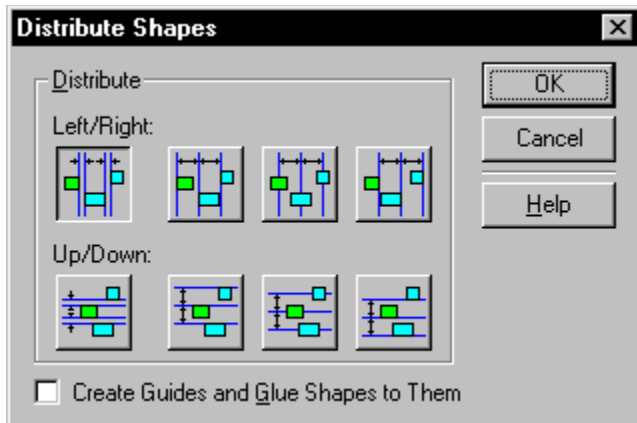
**Tip:** You may want to lock the Visio shape in which you place information from Lotus Notes so that users cannot edit it.



### To read information from Lotus Notes

#### and display it in Visio:

1. In Lotus Notes, set up the fields you will read into Visio. Make sure you note the names of these fields, because you will use them in Visio.
2. In Visio, set up the drawing template.
3. From the Insert menu, choose [Lotus Notes Fields](#).
4. In the Field Name and Direction section, type a name for the field that exactly matches the name of the field you defined in Lotus Notes.
5. Check Read From Notes.
6. In the Data Type section, select the type of data you want to exchange: Text, Time, or Number.  
For Number, choose the units for the number (such as inches) so that the user knows how to interpret the number. For example, a number might represent inches or centimeters; the distinction for the user may be very significant.
7. Click Add, then click OK.
8. Follow one of the next procedures to either insert the Lotus Notes field in a shape as a field or insert it in a shape's ShapeSheet.

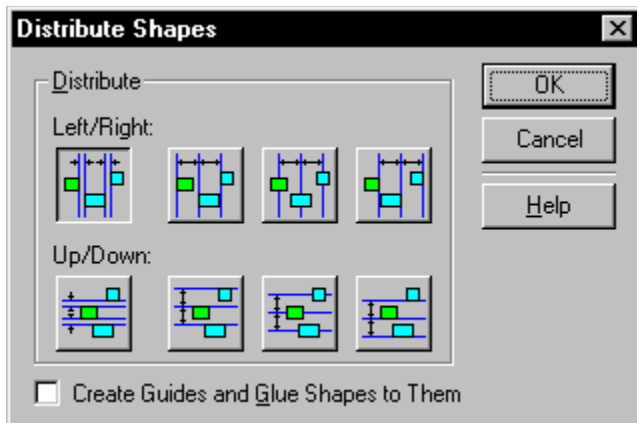


**To insert a Lotus Notes field in a**

**shape as a text field:**

1. Add the shape in which you will insert the Lotus Notes data.
2. Select the shape.
3. Double-click the shape to open its text block, then place the insertion point where you want to insert the information.
4. From the Insert menu, choose Field.
5. Under Category, select Lotus Notes Field. Under Field, select the specific Lotus Notes field. Under Format, select the way you want to view the data, then click OK.

Data is passed between Visio and Lotus Notes when the programs are started, so the next time you open this Visio drawing file, these fields will include data from the Lotus Notes fields you inserted.



**To insert a Lotus Notes field into a**

**shape's ShapeSheet:**

1. From the Window menu, choose [Show ShapeSheet](#).
2. Select the cell in which you want to insert the Lotus Notes field.
3. Place the insertion point in the formula bar, then choose [Function](#) from the Insert menu.
4. Under Select Function, choose LOTUSNOTES, then click OK.
5. In the edit area, for "notename" type the name of the Lotus Notes field.

Data is passed between Visio and Lotus Notes when the programs are started, so the next time you open this Visio drawing file, the ShapeSheet will include data from Lotus Notes.

**See also**

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[Creating objects in another program from within Visio](#)

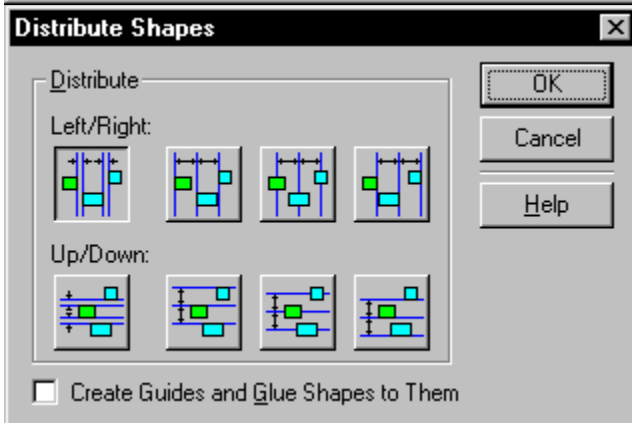
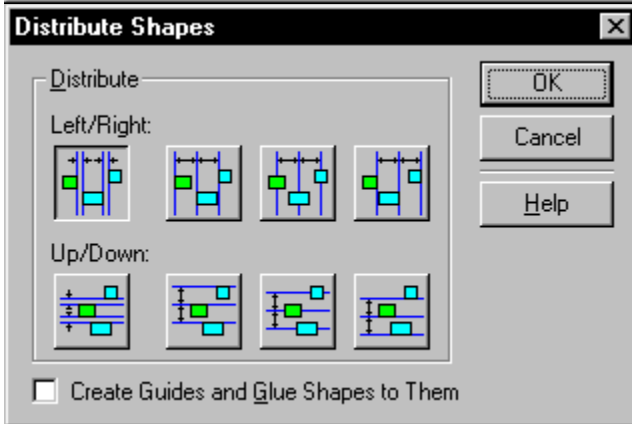
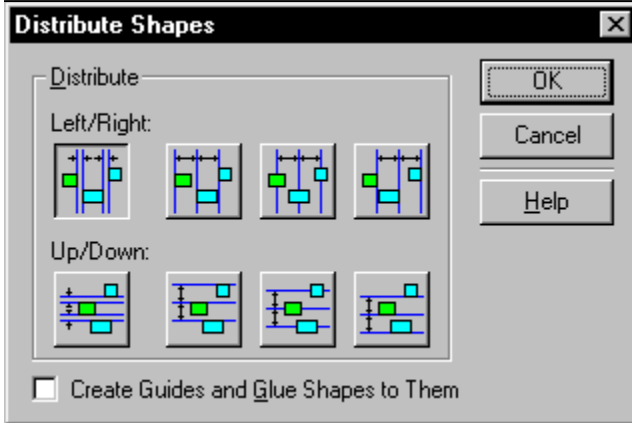
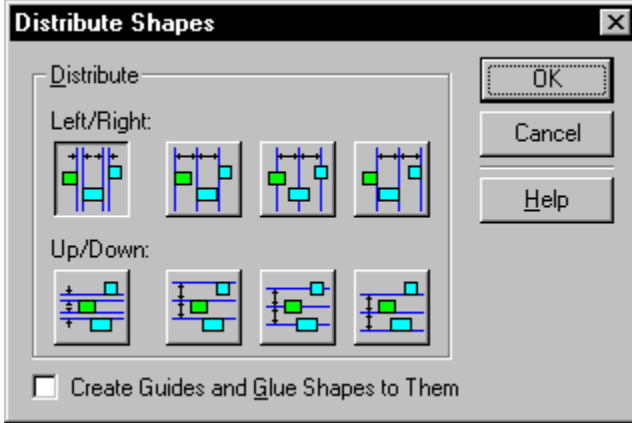
[Inserting fields into text](#)

[Protecting shapes](#)

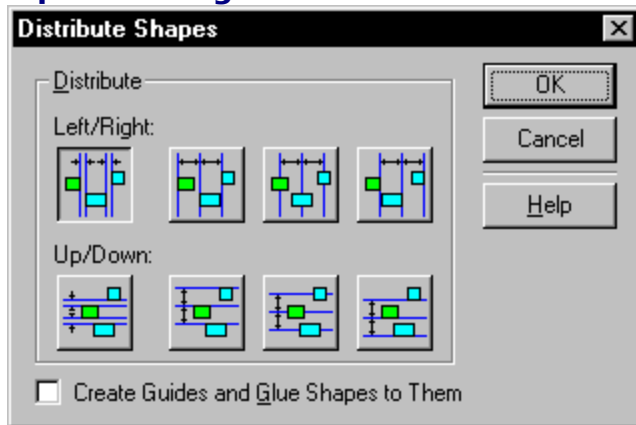
[Tips for using Lotus Notes with Visio](#)

[Writing information from Visio to Lotus Notes](#)

## **Tips for using Lotus Notes with Visio**



## Tips for using Lotus Notes with Visio



[Overview](#)

### Tips for writing information from Visio to Lotus Notes

Any "Write To Notes" field can send back calculations. If you choose Number, then enter a formula in Custom Formula. In the following example, "sheet.1" is a office plan's walls. The office plan is set up in inches. The formula multiplies the width and height of the walls, then divides by 144 to get the square footage of the office.

```
=sheet.1!Width*sheet.1!Height/144"
```

### Tips for reading information from Lotus Notes and displaying it in Visio

Any "Read From Notes" field can be used in a formula. For example, in an office planning Lotus Notes database, you can include the dimensions of each person's office. Then, in Visio, you can include the Lotus Notes data in the walls shape formula to automatically size them to the exact dimensions entered in Lotus Notes.

In this example, the walls ShapeSheet would include the following information, where "width" and "height" are the names of the Lotus Notes fields.

**Width** LOTUSNOTES("width")

**Height** LOTUSNOTES("height")

When you do this, it's a good idea to protect the shape so that the user cannot resize it and erase the formula.

### See also

[Creating objects in another program from within Visio](#)

[Inserting fields into text](#)

[Protecting shapes](#)

[Reading information from Lotus Notes and displaying it in Visio](#)

[Writing information from Visio to Lotus Notes](#)



## Visio Help Topics



### Using Visio

Overviews and step-by-step procedures to help you complete tasks.



### Drawing help

Step-by-step procedures for creating specific drawing types.



### Reference

Commands and tools, keyboard shortcuts, and ShapeSheet reference.



### Technical support

Customer service and technical support information.

## Using Visio

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[Modifying shapes](#)

[Arranging shapes](#)

[Formatting shapes](#)

[Working with text](#)

[Working with drawing pages](#)

[Printing](#)

[Using Visio with other programs](#)

[Creating master shapes, stencils, and templates](#)

[Working with the ShapeSheet](#)

[Using programs to control Visio](#)



## Using Visio

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#### Starting, quitting, and setting up Visio

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##### Making room on your hard disk

##### Quitting Visio

##### Starting Visio

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##### Starting a new drawing with a template

##### Starting a new drawing without a template

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##### Creating a file summary

##### Displaying a drawing file stencil

##### Opening a stencil

##### Opening a template to modify or copy it

##### Opening an existing drawing file

##### Protecting a file

##### Saving a file as read-only

##### Saving a file with the Workspace option

##### Saving a new drawing file

##### Saving changes to an open file

#### Arranging the Visio workplace

##### Arranging stencils

##### Arranging Visio windows

##### Displaying and arranging master shape icons

##### Getting quick access to common commands

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[Dragging and dropping connector shapes](#)

[Dragging and dropping master shapes](#)

[Drawing shapes](#)

[Closing a shape](#)

[Drawing ellipses and circles](#)

[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing rectangles and squares](#)

[Drawing shapes with several segments](#)

[Undoing segments while drawing](#)

[What is a shape?](#)

[Copying, duplicating, and deleting shapes](#)

[Copying shapes in the current drawing](#)

[Copying shapes to another drawing](#)

[Deleting shapes](#)

[Dragging shapes to another drawing](#)

[Stamping master shapes](#)

[Joining and fragmenting shapes](#)

[Combining shapes](#)

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[Working with the ShapeSheet](#)

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[Adding segments to shapes](#)

[Changing an arc's eccentricity](#)

[Changing shape angles by dragging a vertex](#)

[Changing the size of a 1-D shape](#)

[Changing the size of a 2-D shape](#)

[Deleting segments from shapes](#)

[Reshaping arcs](#)

[Grouping shapes](#)

[Adding and removing shapes in groups](#)

[Editing and formatting a group](#)

[Editing the shapes in a group](#)

[Formatting and adding text to a shape in a group](#)

[Grouping and ungrouping shapes](#)

[Setting a group's sizing behavior](#)

[Updating a group's selection rectangle](#)

[Changing shape behavior](#)

[Changing 1-D and 2-D behavior](#)

[Creating a nonprinting shape](#)

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[Setting shape display options](#)

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[Working with control handles](#)

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[Changing the snap strength](#)

[Changing the stacking order of shapes](#)

[Flipping and reversing shapes](#)

[Moving a 2-D shape's center of rotation](#)

[Moving shapes by dragging](#)

[Rotating shapes by 90-degree increments](#)

[Rotating shapes with the rotation tool](#)

[Selecting shapes](#)

[Snapping shapes into place](#)

[Aligning and distributing shapes](#)

[Aligning shapes to guides](#)

[Aligning shapes to other shapes](#)

[Aligning shapes to rulers](#)

[Aligning the centers of shapes](#)

[Centering a drawing on the page](#)

[Creating guide points](#)

[Creating guides](#)

[Distributing shapes](#)

[Techniques for connecting shapes](#)

[Connecting a series of shapes automatically](#)

[Connecting shapes quickly in a flowchart](#)

[Connecting shapes with the stamp tool](#)

[Gluing shapes to guides](#)

[Moving shapes after you glue them](#)

[Quickly creating an organization chart and similar drawings](#)

[Using the connector tool to connect two shapes](#)

[Adjusting connectors and glue settings](#)

[Adjusting the bends in a Universal connector](#)

[Converting the glue](#)

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[Determining a 1-D shape's size and location](#)

[Determining a 2-D shape's size and location](#)

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[Working with drawing pages](#)

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[Creating master shapes, stencils, and templates](#)

[Working with the ShapeSheet](#)

[Using programs to control Visio](#)

## Using Visio

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Arranging shapes

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## Reference

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## Using Visio Help

To display the Contents for the Visio online Help, click the Contents button. For information about accessing help on specific shapes, see [Getting help on shapes](#).

### Help windows

Visio online Help contains these windows (each window has the bold name below in its title bar):

- **Visio 4.0 Online Help**, the main help window, displays contents, alphabetical lists, and reference topics.
- **Step-by-step procedures** displays procedures in a window designed to stay on top of the Visio window, so you can follow the numbered steps while working in Visio.
- **Glossary** includes a list of terms that display a definition when clicked. The glossary terms are also defined throughout the help.

### ToolTips

When you pause with the pointer (without the mouse button pressed) over either an item on the toolbar or a master shape icon when the stencil window is set to display icons only, a ToolTip appears.

Shapes with control handles have control handle help: select the shape, then place the pointer over the control handles to display the handle's ToolTips.

To turn off ToolTips, choose the Toolbars command on the View menu, and then uncheck the Show ToolTips option.

### Searching

To search for a particular term:

- In the help Contents tab, click the Index tab and follow the instructions.

### Scrolling

Some help topics contain more information than can fit in the help window at one time. To see more information, scroll through the topic in the help window.

To scroll in the help window:

- Press the Up Arrow (↑) or Down Arrow (↓) key  
or
- Use the scroll bars with the mouse.

To return to the previous topic:

- Click the Back button or press the B key.

To browse through topics:

- Click the << and >> buttons or press the < and > keys.

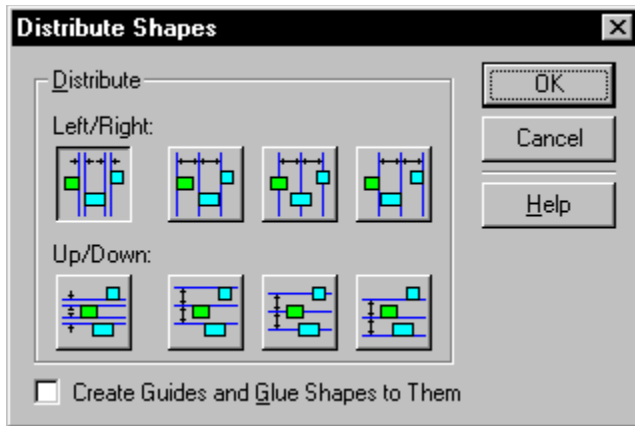
### Exiting help

To close the help window:

- From the help window's File menu (not Visio's), choose Exit.

## Context-sensitive help

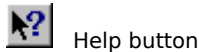
While working in Visio, you can access help at your fingertips for menu commands, dialog boxes, toolbar buttons, and other screen elements.



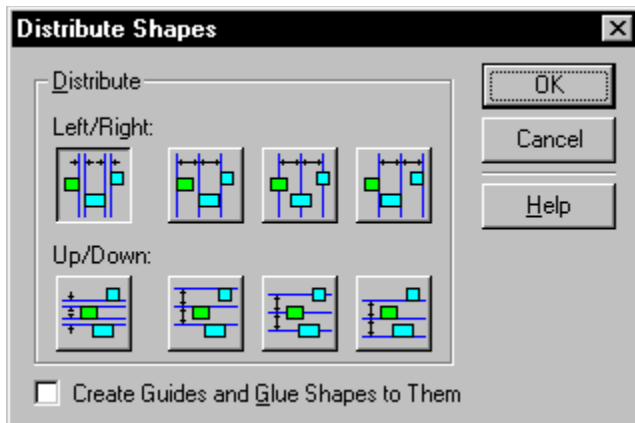
**To display help for a toolbar button or**

### **other screen element:**

1. Choose the Help button on the toolbar and click anywhere on the screen.

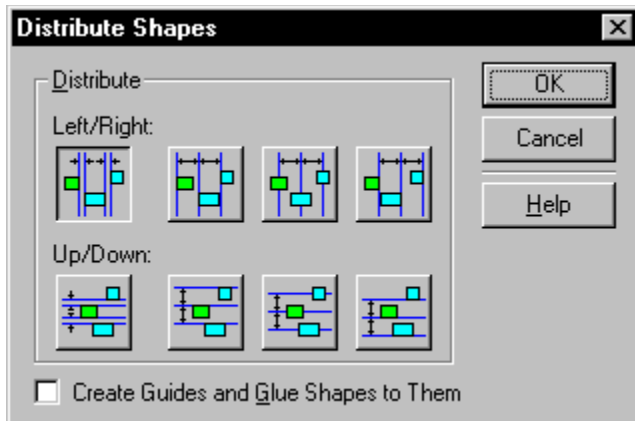


Help button



**To display help for a menu command:**

1. Highlight the menu command using the keyboard (press the Alt key followed by the underlined letter in the menu name, and then press the arrow keys to highlight the command).
2. Press F1.



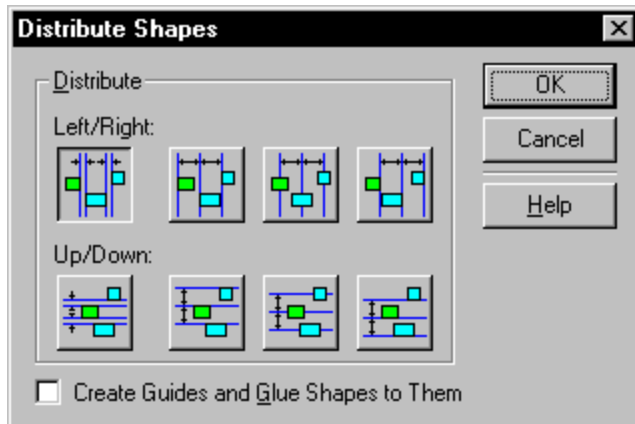
**To display help for a dialog box:**

1. Choose a menu command that opens a dialog box.
2. Press F1 or choose the Help button.

For additional instructions on how to use help, press F1, or choose How To Use Help from the Help menu (while the help window is active).

## Getting help on shapes

You can quickly find out what a shape does and how you can use it.



### To get help on shapes:

1. Right-click the shape (on the stencil or on the drawing page).
2. Choose Shape Help from the shortcut menu.  
A popup window appears containing information about the shape.
3. To close Shape Help, click away from the popup window.
4. To print or copy the information, right-click inside the popup window, then choose Copy or Print Topic from the shortcut menu.

**Tip:** Shapes with control handles have control handle help: select the shape, then place the pointer over the control handles to display the handle's ToolTips.

These topics were added as a workaround for the Aftermarket Shapes product help. They're duplicates of topics found in us\_prsx.doc. See the @ comment to see the procedure name if it's different than the one in this file.

## Getting started with Visio

### Starting Visio

To start Visio:

- In Windows 95, click Start, choose Programs, then choose Visio.
- In Windows 3.1, double-click the Visio icon in Program Manager to start Visio.

The New dialog box appears, where you can choose to start with either a template or a Wizard. When you start with a template, Visio opens a stencil and a new drawing file and copies styles and other settings to the file.

### Quitting Visio

When you finish working in Visio, quit Visio before you quit Windows. If an unsaved file is open when you quit Visio, Visio prompts you to save the file before quitting.

### Changing the Visio setup

After you install Visio, you might need to change the way Visio is set up on the computer.

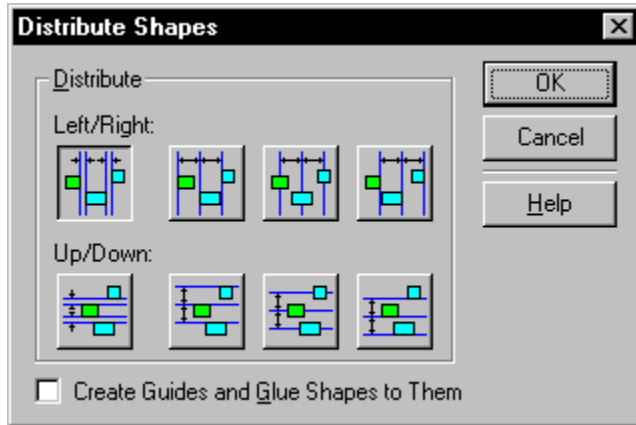
You can use the Visio setup to:

- Install Visio files that you have not installed previously.
- Reinstall files that you have deleted.
- Restore template and stencil files that have been changed accidentally.

If you need to make room on your hard disk, you can also remove some Visio files to increase disk space.

## Starting a new drawing based on a template

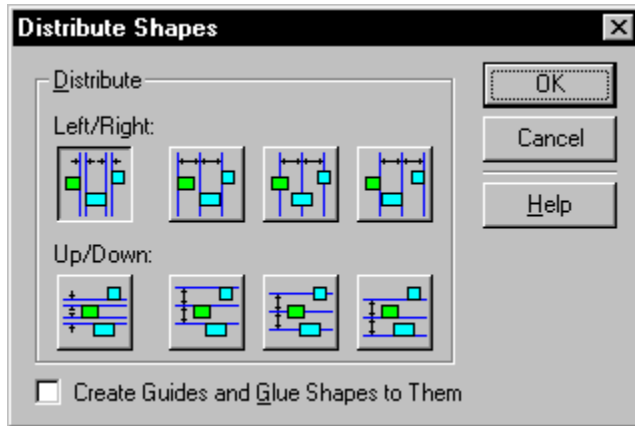
You can start Visio and open a new [drawing file](#) based on a [template](#) provided with Visio. When Visio is running, you can open new drawing files by using the New command on the File menu.



**To open a new drawing file based on a template:**

1. From the File menu, choose New.  
You can also use the New button.
2. In the New section, make sure Drawing is checked.
3. From the Based On list, choose a template or a Wizard.
4. If the template file you need is not listed, choose the Open button and locate the file.
5. Click OK.

## Starting a new drawing without a template



To create a drawing without a

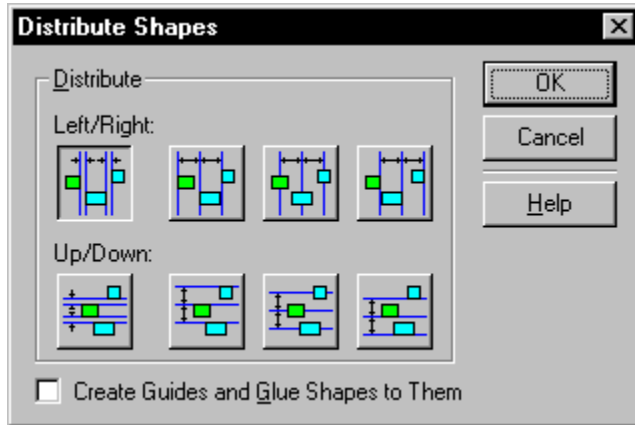
### template:

1. From the File menu, choose New.  
You can also use the New button.
2. In the New section, make sure Drawing is checked.
3. From the Based On list, choose No Template.
4. Click OK.



## Opening a template

You can open an original [template](#) file to make changes to the template settings. If you want to make changes to a template and preserve the original settings, you can open and edit a copy of a template.

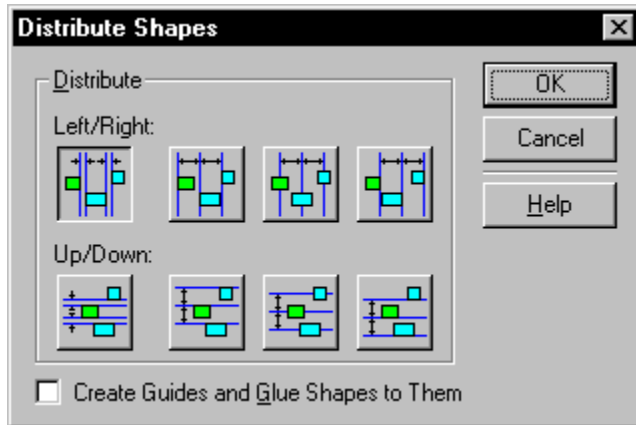


### To edit a template file:

1. From the File menu, choose Open.
2. In the File Name box, type or choose the template file you want to open.  
If you don't see the filename, choose Templates (.VST) from the Save As list, or choose a different folder.
3. In the Open section, choose Original to open the original template, or choose Copy to open a copy of the template.
4. Click OK.
5. Change settings and options for the template, such as [styles](#), drawing [scale](#), and page display options.
6. From the File menu, choose [S](#)ave.  
You can also click the Save button.

## Opening a stencil

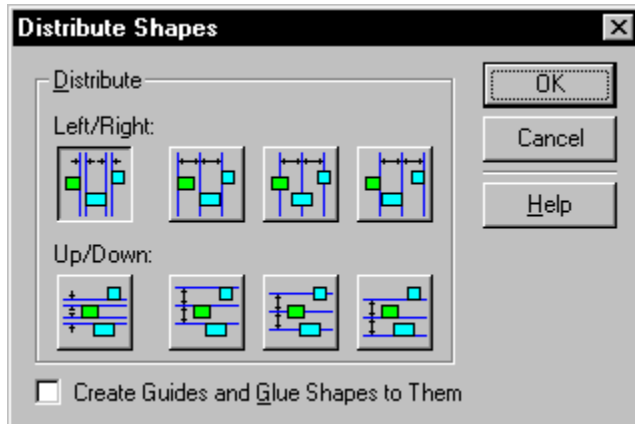
If you want to use shapes from several [stencils](#) in a [drawing](#), you can open stencil files without opening a [template](#).



### To open a stencil:

1. From the File menu, choose [Stencils](#).  
You can also use the Stencils button.
2. From the Select Stencil list, choose the name of the stencil you want to open.  
If you don't see the stencil name, click Browse and locate the stencil file you need.  
(You may need to open the Stencils folder.)
3. When you've located the file, click OK.

## Saving a drawing file



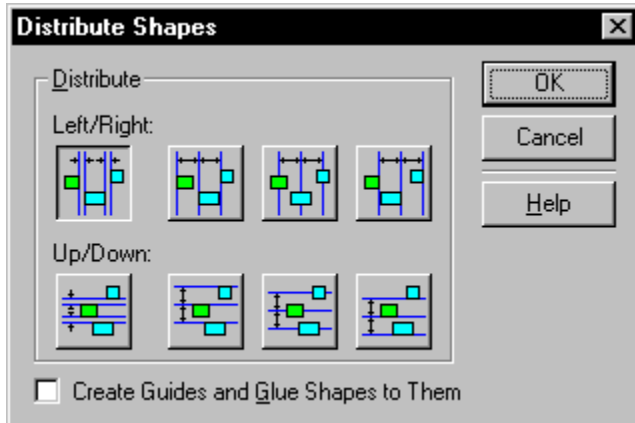
### To save a new file:

1. From the File menu, choose Save or Save As.
2. In the File Name box, type a filename for the [drawing file](#).
3. Under Save In, open the folder where you want to save the file.
4. If you want to save a [workspace](#), make sure Workspace is checked in the Save section.
5. If necessary, choose a file format from the Save As list.  
For example, you can save a Visio 4.0 drawing file in Visio 3.0 or 2.0 format by choosing Visio 3 or 2 drawing (\*.VSD) from the List.
6. Click Save.
7. If necessary, enter property information, then click OK to close the [Properties](#) dialog box.

## Arranging Visio windows

By default, the Visio main window usually contains a drawing page and one or more stencils. You can undock stencils to make them float.

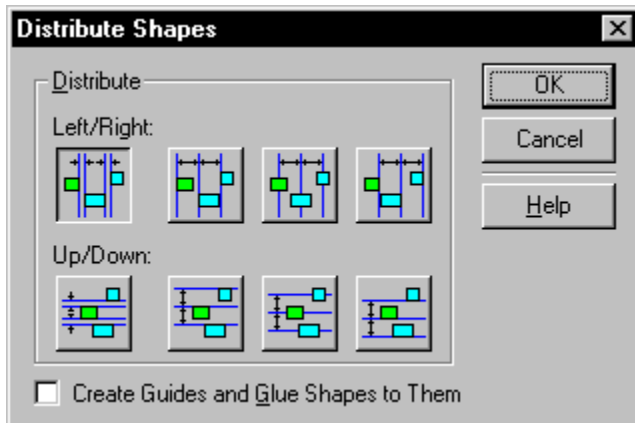
If you have more than one drawing open, you can arrange and resize the windows to see them all.



**To arrange windows so each window**

**is visible:**

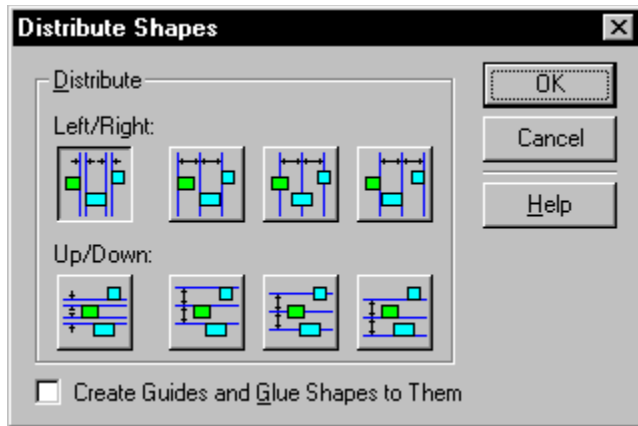
1. From the Window menu, choose Tile.



**To arrange windows to see the title**

**bar of each window:**

1. From the Window menu, choose Cascade.



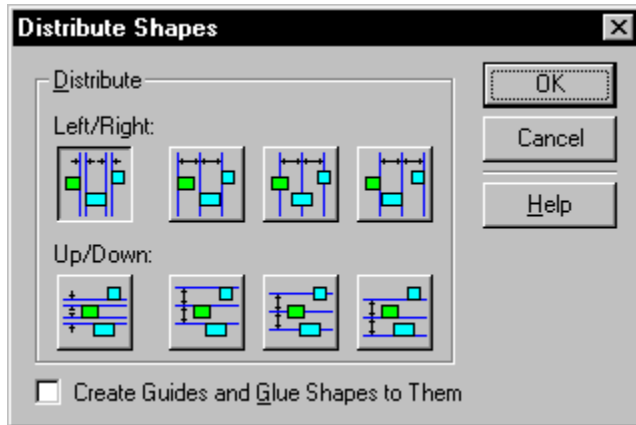
**To size a window:**

1. Drag a window border.

**Tip:** For details about other ways to arrange windows, see your Windows documentation.

## Dragging and dropping master shapes

The easiest way to create a [drawing](#) is to drag [master shapes](#) from stencils and drop them into drawings.



**To drag a master shape into a**

**drawing:**

1. From the toolbar, choose the [pointer tool](#).
2. In the stencil window, point to the icon for the master shape.
3. Hold down the left mouse button and drag the master shape from the stencil to the drawing page.
4. Release the mouse button to drop an [instance](#) of the master shape in the drawing.



## Functions

Alphabetical list of functions

### **Mathematical functions**

ABS(number)  
CEILING(number,multiple)  
FLOOR(number,multiple)  
INT(number)  
INTUP(number)  
LN(number)  
LOG10(number)  
MOD(number,divisor)  
MODULUS(number,divisor)  
PI( )  
POW(number,exponent)  
RAND( )  
ROUND(number,number-of-digits)  
SIGN(number,fuzz)  
SQRT(number)  
SUM(number1,number2...number14)  
TRUNC(number,number-of-digits)

### **Trigonometric functions**

ACOS(number)  
ANG360(angle)  
ASIN(number)  
ATAN(number)  
ATAN2(y,x)  
COS(angle)  
COSH(angle)  
DEG(angle)  
LOC(point)  
PAR(point)  
PNT(x,y)  
PNTX(point)  
PNTY(point)  
RAD(angle)  
SIN(angle)  
SINH(angle)  
TAN(angle)  
TANH(angle)

### **Window management functions**

GOTOPAGE("pagename")  
OPENFILE("filename")  
OPENGROUPTWIN( )  
OPENPAGE("pagename")  
OPENSHEETWIN( )  
OPENTEXTWIN( )

### **Logical functions**

AND(logical-expression1,logical-expression2,...)  
BITAND(binary-number1,binary-number2)  
BITNOT(binary-number)  
BITOR(binary-number1,binary-number2)



BITXOR(binary-number1,binary-number2)  
IF(logical-expression,value-if-true,value-if-false)  
ISERR  
ISERRNA  
ISERROR  
ISERRVALUE  
NOT(logical-expression)  
OR(logical-expression1,logical-expression2,...)

### **Date and time functions**

DATE(year,month,day)  
NOW( )  
TIME(hour,minute,second)

### **Statistical functions**

MAX(number1,number2,...)  
MIN(number1,number2,...)

### **Text functions**

CHAR(number)  
EVALTEXT(shapename!TheText)  
FORMAT(expression,"format")  
TEXTHEIGHT(theText,maximum-width)  
TEXTWIDTH(theText,maximum-width)

### **Miscellaneous functions**

DEFAULTEVENT( )  
DEPENDSON(cellref[,cellref2,...])  
DOOLEVERB("verb")  
GRAVITY(angle,limit1,limit2)  
GUARD(expression)  
HELP("filename.hlp!keyword")  
INDEX(index,list[,delimiter][,error-value]])  
LOOKUP(key,list[,delimiter])  
LOTUSNOTES(field)  
MAGNITUDE(constantA,A,constantB,B)  
NA( )  
PLAYSOUND("filename"|"alias",isAlias,doBeepOnFail,synch)  
RECTSECT(width,height,x,y,option)  
REF( )  
RUNADDON("filename")  
RUNADDONWARGS("filename",ARG1[,ARG2])  
SETF("cell",formula)  
USERUI(state,default-expression,user-expression)

## Alphabetical list of functions

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

### A

ABS(number)  
ACOS(number)  
AND(logical-expression1,logical-expression2,...)  
ANG360(angle)  
ASIN(number)  
ATAN(number)  
ATAN2(y,x)

### B

BITAND(binary-number1,binary-number2)  
BITNOT(binary-number)  
BITOR(binary-number1,binary-number2)  
BITXOR(binary-number1,binary-number2)

### C

CEILING(number,multiple)  
CHAR(number)  
COS(angle)  
COSH(angle)

### D

DATE(year,month,day)  
DEFAULTEVENT( )  
DEG(angle)  
DEPENDSON(cellref,cellref2,...)  
DOOLEVERB("verb")

### E

EVALTEXT(shape!TheText)

### F

FLOOR(number,multiple)  
FORMAT(expression,"format")

### G

GOTOPAGE("pagename")  
GRAVITY(angle,limit1,limit2)  
GUARD(expression)

### H

HELP("filename.hlp!keyword")

### I

IF(logical-expression,value-if-true,value-if-false)  
INDEX(index,list[,delimiter][,error-value]])  
INT(number)

INTUP(number)  
ISERR(cellref)  
ISERRNA(cellref)  
ISERROR(cellref)  
ISERRVALUE(cellref)

## **L**

LN(number)  
LOC(point)  
LOG10(number)  
LOOKUP(key,list[,delimiter])  
LOTUSNOTES(field)

## **M**

MAGNITUDE(constantA,A,constantB,B)  
MAX(number1,number2,...)  
MIN(number1,number2,...)  
MOD(number,divisor)  
MODULUS(number,divisor)

## **N**

NA( )  
NOT(logical-expression)  
NOW( )

## **O**

OPENFILE("filename")  
OPENGROUPWIN( )  
OPENPAGE("pagename")  
OPENSHEETWIN( )  
OPENTEXTWIN( )  
OR(logical-expression1,logical-expression2,...)

## **P**

PAR(point)  
PI( )  
PLAYSOUND("filename"|"alias",isAlias,beep,synch)  
PNT(x,y)  
PNTX(point)  
PNTY(point)  
POW(number,exponent)

## **R**

RAD(angle)  
RAND( )  
RECTSECT(width,height,x,y,option)  
REF( )  
ROUND(number,number-of-digits)  
RUNADDON("filename")  
RUNADDONWARGS("filename",ARG1,ARG2)

## **S**

SETF("cell",formula)  
SIGN(number,fuzz)

SIN(angle)  
SINH(angle)  
SQRT(number)  
SUM(number1,number2,...number14)

## **T**

TAN(angle)  
TANH(angle)  
TEXTHEIGHT(theText,maximum-width)  
TEXTWIDTH(theText,maximum-width)  
TIME(hour,minute,second)  
TRUNC(number,number-of-digits)

## **U**

[USERUI\(state,default-expression,user-expression\)](#)

## ABS

**Syntax**      ABS(number)

Returns the absolute value of **number**.

**Example**      ABS(-1.24)

Returns 1.24.

**See also**

---

INT

## AND

**Syntax**      AND(logical-expression1,logical-expression2,...,logical expression14)

Returns 1 if all of the **logical expressions** supplied are true. (Any expression that evaluates to a non-zero value is considered to be true.) If any of the logical expressions are false or equal 0, AND returns 0.

**Example**      AND(Height > 1,PinX > 1)

Returns 1 if both expressions are true. Returns 0 if either expression is false.

**See also**

---

NOT

OR

## ANG360

**Syntax**      ANG360(angle)

Normalizes an angle's range to be  $0 \leq \text{result} < 2\text{PI}$  radians ( $0 \leq \text{result} < 360$  deg.). If **angle** is not specified using angular units, it is interpreted as radians. If **angle** cannot be converted to a value, a #VALUE! error is returned.

**Examples**    ANG360(395 deg.) equals 35 deg.  
                  ANG360(-9.8 rad.) equals 2.7664 rad.  
                  ANG360(45) equals 58.31 deg. (1.0177 rad.)

**See also**

MODULUS

ROUND

---

## ACOS

**Syntax**      ACOS(number)

Returns the arccosine of **number**; for example, the angle whose cosine is **number**. The input value must be in the range  $-1 \leq \text{number} \leq 1$ , or a #NUM! error is returned. The resulting angle is in the range  $0 \leq \text{angle} \leq \text{PI}$  radians ( $0 \leq \text{angle} \leq 180$  degrees).

**Example**      ACOS(0) equals 90 deg.

### See also

---

[ASIN](#)

[ATAN](#)

[ATAN2](#)

[COS](#)

[PI](#)



## ASIN

**Syntax**      ASIN(number)

Returns the arcsine of **number**; for example, the angle whose sine is **number**. The input value must be in the range  $-1 \leq \text{number} \leq 1$ , or a #NUM! error is returned. The resulting angle is in the range  $-\pi/2 \leq \text{angle} \leq \pi/2$  radians ( $-90 \leq \text{angle} \leq 90$  degrees).

**Example**      ASIN(1) equals 90 deg.

### See also

---

[ACOS](#)

[ATAN](#)

[ATAN2](#)

[PI](#)

[SIN](#)

## ATAN

**Syntax**      ATAN(number)

Returns the arctangent of **number**; for example, the angle whose tangent is **number**. The resulting angle is in the range  $-\pi/2 \leq \text{angle} \leq \pi/2$  radians ( $-90 \leq \text{angle} \leq 90$  degrees).

**Example**      ATAN(1) equals 45 deg.

### See also

---

[ACOS](#)

[ASIN](#)

[ATAN2](#)

[PI](#)

[TAN](#)

## ATAN2

**Syntax**      ATAN2(y,x)

Returns the arctangent of the point represented by **x** and **y**. The result is a number in the current unit of measure for angles.

The arctangent is the angle measured counterclockwise from the positive **x**-axis to a line that intersects the origin (0,0) and the point represented by **x** and **y**. In Visio, ATAN2(0,0) returns 0. To force the result of ATAN2 into a different angular measurement, use DEG or RAD.

The ATAN2 function is the antifunction of the TAN function. ATAN2 returns the angle whose angle is equal to **y** divided by **x**. If ATAN2(y,x) represents an angle in a right triangle, then **y** is the proverbial "opposite side" and **x** is the "adjacent side," so the function could be written as ATAN2(opposite,adjacent).

**Example 1**    ATAN2(1.25,2.25)

Returns 29.0456 degrees.

**Example 2**    ATAN2(1,SQRT(3))

Returns 30 degrees.

**Example 3**    ATAN2(1,1)

Returns 45 degrees.

### See also

---

[ATAN](#)

[PI](#)

[TAN](#)

## BITAND

**Syntax**      BITAND(binary-number1,binary-number2)

Returns a binary number in which each bit is set to 1 only if the corresponding bit in both **binary-number1** and **binary-number2** is 1. Otherwise the bit is set to 0. This function can be used to test and change properties of a shape that are stored as bit masks, for example, the shape's text format.

**Example**      BITAND(12,6)

Returns 4. The 12 = 0...01100. The 6 = 0...00110. Therefore BITAND(12,6) = 0...00100.

### See also

---

[BITNOT](#)

[BITOR](#)

[BITXOR](#)

## BITNOT

**Syntax**      BITNOT(binary-number)

Returns a binary number in which each bit is set to 1 only if the corresponding bit in **binary-number** is 0; otherwise the bit is set to 0.

**Example**      BITNOT(6)

Returns 65529. The 6 = 0...00110. Therefore BITNOT(6) = 1...11001.

**See also**

---

[BITAND](#)

[BITOR](#)

[BITXOR](#)

## BITOR

**Syntax**      BITOR(binary-number1,binary-number2)

Returns a binary number in which each bit is set to 1 if the corresponding bit in either **binary-number1** or **binary-number2** is 1. The bit is set to 0 only if the corresponding bit is 0 in both **binary-number1** and **binary-number2**.

**Example**      BITOR(12,6)

Returns 14. The 12 = 0...011100. The 6 = 0...001110. Therefore BITOR(12,6) = 0...011110.

### See also

---

BITAND

BITNOT

BITXOR

## BITXOR

**Syntax**      BITXOR(binary-number1,binary-number2)

Returns a binary number in which each bit is set to 1 if the corresponding bit in either but not both **binary-number1** and **binary-number2** is 1. Otherwise the bit is set to 0.

**Example**      BITXOR(12,6)

Returns 10. The 12 = 0...01100. The 6 = 0...00110. Therefore BITXOR(12,6) = 0...01010.

**See also**

---

[BITAND](#)

[BITNOT](#)

[BITXOR](#)

## CEILING

**Syntax**      CEILING(number,multiple)

Rounds **number** away from zero or to the next instance of **multiple**. If **multiple** is not specified, the number rounds away from zero to the next integer.

**Number** and **multiple** must have the same signs or a #NUM! error is returned. If either **number** or **multiple** cannot be converted to a value, a #VALUE! error is returned. If either **number** or **multiple** is zero, the result is zero.

**Examples**      CEILING(3.7) equals 4.  
                    CEILING(-3.7) equals -4.  
                    CEILING(3.7, 0.5) equals 4.

### See also

---

[FLOOR](#)

[INT](#)

[INTUP](#)

[ROUND](#)



## CHAR

**Syntax** CHAR(number)

Returns the ANSI character for **number**.

The resulting string is one character in length. The **number** must be an integer between 1 and 255 (inclusive), or the function returns an error.

**Example** CHAR(9)

Returns the tab character.

**See also**

---

FORMAT

## COS

**Syntax**      COS(angle)

Returns the cosine of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      COS(45 degrees)

Returns 0.7071.

**See also**

---

ACOS

COSH

PI

SIN

## COSH

**Syntax**      COSH(angle)

Returns the hyperbolic cosine of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      COSH(45 degrees)

Returns 1.3246.

**See also**

---

COS

PI

SINH

## DATE

**Syntax**      DATE(year,month,day)

Returns the date represented by **year**, **month**, and **day** as a single numeric value.

**Example**      DATE(1995,6,7)

Returns 34857.

**See also**

---

NOW

TIME

## DEFAULTEVENT

**Syntax**        DEFAULTEVENT( )

Performs the default event associated with the object.

**Object**        **Default event**

Shape            Edit text

Group            Open group editing window

OLE              Do primary verb

Other             Do nothing

In earlier versions of Visio, this function appears as `_DEFAULTEVENT`. Visio 4.0 accepts either style.

## DEG

**Syntax**      DEG(angle)

Converts the value of **angle** from radians to degrees.

**Example**      DEG(PI( )/4)

Returns 45.

**See also**

RAD

---

## DEPENDSON

**Syntax**      `DEPENDSON(cellref[,cellref2,...])`

Creates a cell reference dependency. This function always returns FALSE. DEPENDSON has no effect when used in an Event row or an Action cell.

**Example**      `OpenTextWin() + DependsOn(PinX,PinY)`

Opens the text block for a shape whenever the shape is moved.

## DOOLEVERB

**Syntax** DOOLEVERB("verb")

Executes a **verb** for the OLE object.

**Example** DOOLEVERB("edit")

Runs the OLE object program and displays the linked or embedded object so that it can be edited.

In earlier versions of Visio, this function appears as `_DOOLEVERB`. Visio 4.0 accepts either style.



## EVALTEXT

**Syntax**      EVALTEXT(shapename!theText)

Evaluates the text in **shapename** as if it were a formula and returns the result. If there is no text, the result is zero. If the text cannot be evaluated, returns an error.

TheText is a cell that refers to all of the text contained in a shape's text block. Shapename! can be used to refer to the text of a shape other than the current shape.

**Example**      EVALTEXT(Line.2!theText)

Evaluates the text contained in the shape Line.2. For example, if Line.2 contains "4 ft. + 0.5 ft.", returns the value 4.5 ft.

**See also**

---

TEXTHEIGHT

TEXTWIDTH

## FLOOR

**Syntax** FLOOR(number,multiple)

Rounds **number** toward zero or to the next instance of **multiple**. If **multiple** is not specified, the number rounds toward zero to the next integer.

**Number** and **multiple** must have the same signs or a #NUM! error is returned. If either **number** or **multiple** cannot be converted to a value, a #VALUE! error is returned. If either **number** or **multiple** is zero, the result is zero.

**Examples** FLOOR(3.7) equals 3.  
FLOOR(-3.7) equals -3.  
FLOOR(3.7, 0.5) equals 3.5.

### See also

---

[CEILING](#)

[INT](#)

[INTUP](#)

[ROUND](#)

## FORMAT

**Syntax**      FORMAT(expression,"format")

Returns the result of **expression** as a string formatted according to **format**. The type of the expression and the type specified in the format code govern the behavior of the returned string. The **format** must be appropriate for the type of expression.

Returns an error if the result of **expression** and the type expected in **format** are of a different kind or if there are syntax errors in format.

The following codes are valid for **format**:

#	<u>0</u> (zero)	<u>.</u> (period)
<u>,</u> (comma)	<u>E- E+ e- e+</u>	<u>"text"</u>
<u>'text'</u>	<u>/</u> (fraction)	<u>/</u> (date)
<u>u</u> or <u>U</u>	<u>uu</u> or <u>UU</u>	<u>uuu</u> or <u>UUU</u>
<u>\$</u>	<u>space</u>	<u>\</u> (backslash)
<u>:</u> (colon)	<u>@</u>	<u>d</u>
<u>dd</u>	<u>ddd</u> or <u>w</u>	<u>dddd</u> or <u>ww</u>
<u>dddd</u>	<u>dddddd</u>	<u>M</u>
<u>MM</u>	<u>MMM</u>	<u>MMMM</u>
<u>yy</u>	<u>yyyy</u>	<u>h</u>
<u>hh</u>	<u>H</u>	<u>HH</u>
<u>m</u>	<u>mm</u>	<u>s</u>
<u>ss</u>	<u>t</u>	<u>tt</u>
<u>I</u>		

**Example**      FORMAT(1 deg. 2 min. 3.2 sec.,"0.## u") displays 1 ° 2 ' 3 ".  
                  FORMAT(0ft. 8.67in.," # #/#") displays 8 2/3.  
                  FORMAT(0ft. 11.25in.,"0.000 UU") displays 0 FEET 11.250 INCHES.

## GOTOPAGE

**Syntax**      GOTOPAGE("pagename")

Displays **pagename** in the currently active window. If a window is already displaying **pagename**, that window becomes active. If **pagename** does not exist, or if Visio is acting as an in-place server, GOTOPAGE has no effect.

In earlier versions of Visio, this function appears as `_GOTOPAGE`. Visio 4.0 accepts either style.

**See also**

---

[OPENPAGE](#)

## GRAVITY

**Syntax**      GRAVITY(angle,limit1,limit2)

Calculates the text block's correct angle of rotation for the indicated shape rotation—it prevents the text from turning upside-down. GRAVITY is usually used in the TxtAngle cell in the ShapeSheet. The value returned is 180 degrees if **angle** is between the angles specified by **limit1** and **limit2**; otherwise the value returned is 0 degrees. The arguments **limit1** and **limit2** are optional, and the default limits are 90 and 270 degrees.

All of the arguments are automatically normalized between zero and 360 degrees by the function. If an argument does not specify units, radians are assumed.

**Examples**      GRAVITY(Angle) returns 180 degrees if Angle is between 90 and 270 degrees; otherwise, returns 0 degrees.

GRAVITY(2) returns 180 degrees, since 2 radians is between 90 and 270 degrees.

GRAVITY(100 deg., 110 deg., 290 deg.) returns 0 deg.

GRAVITY(100 deg., 290 deg., 110 deg.) returns 0 deg.

## GUARD

**Syntax**      `GUARD(expression)`

Protects **expression** from deletion and change by actions performed in the drawing window, for example, moving, sizing, grouping, or ungrouping shapes. The cells most often affected are Width, Height, PinX, and PinY.

Guarding a formula in any cell prevents that cell's value from being changed by actions in the drawing window. However, one action in the drawing window can affect several cells, and each of these cells must be guarded if you want to prevent unexpected changes to the shape's appearance. This function cannot protect an expression in a formatting cell such as Char.Size from change when a user applies a style.

**Example**      `GUARD(TEXTWIDTH(theText) + 0.5 in)`

This expression in the Width cell of a shape's Geometry section prevents the expression (TEXTWIDTH(theText) + 0.5 in) from being replaced with another value when the shape's width is changed in the drawing window. TheText is a Visio page formula that refers to all of the text contained in a shape's text block.

## HELP

**Syntax**       HELP("filename.hlp!keyword")  
                  HELP("filename.hlp!#number")

Opens the help file **filename.hlp** and displays the Search dialog box with the selected **keyword**. Or displays the help topic associated with **number**, a numeric ID referenced in the MAP section of the help project file (.HPJ). For information on developing Microsoft Windows online Help, see the Microsoft Windows Software Development Kit (SDK) documentation.

If no **keyword** or **ID** is specified, opens the contents page of the help file.

**Example 1**   HELP("visio.hlp!shapesheet")

Opens the file VISIO.HLP and displays the topic whose keyword is shapesheet.

**Example 2**   HELP("shape.hlp!#9000")

Opens the file SHAPE.HLP and displays the topic associated with the ID 9000.

## IF

**Syntax** IF(logical-expression,value-if-true,value-if-false)

Returns value-if-true if logical-expression is true. Otherwise, returns value-if-false.

**Example** IF(Height > 1.25 in.,5,7)

Returns 5 if the shape's height is greater than 1.25 inches. Returns 7 if the shape's height is less than or equal to 1.25 inches.

**See also**

---

NOT

OR



## INDEX

**Syntax** INDEX(index,"list"[,[delimiter]][,[error-value]])

Returns the substring at the zero-based location **index** in the **list** delimited by **delimiter**. Or returns -1 if not found.

Delimiters can be more than one character in length and include multibyte characters. The default is a semicolon. If the list begins or ends with a delimiter, a null string is assumed to exist before or after the list. Consecutive delimiters imply a null string in between.

If the index is out of range, Visio returns an empty string or the optional token provided as the **error-value** argument.

**Example 1** INDEX(3,"cat;rat;;goat")

Returns "goat".

**Example 2** INDEX(4,";1;2;3;",,"ERROR")

Returns ERROR.

**See also**

---

[LOOKUP](#)

## INTUP

**Syntax**      INTUP(number)

Rounds **number** up to the next integer.

**Examples**    INTUP(3.2) equals 4.

                  INTUP(-3.2) equals -3.

                  INTUP(3) equals 3.

**See also**

---

CEILING

FLOOR

INT

ROUND

## INT

**Syntax**      INT(number)

Rounds **number** down to the next integer.

**Example 1**    INT(7.2)

Returns 7.

**Example 2**    INT(-7.2)

Returns -8.

**See also**

---

ABS

CEILING

FLOOR

INTUP

ROUND

## ISERR

**Syntax** ISERR(cellref)

Returns TRUE if the value of **cellref** is any error type except #N/A; otherwise returns FALSE. The ISERR function is used in formulas that refer to another cell.

### Example 1

Cell	Formula	Value Returned
Scratch.A1	=NA( )	#N/A!
Scratch.B1	=ISERR(Scratch.A1)	FALSE

Returns FALSE because the #N/A! error is not recognized by the ISERR function. Use ISERROR to find all error types.

### Example 2

Cell	Formula	Value Returned
Scratch.X1	="House"	#VALUE!
Scratch.A1	=ISERR(Scratch.X1)	TRUE

Returns TRUE because the #VALUE! error is recognized by the ISERR function.

### See also

[Cell reference syntax](#)

[Error values](#)

[ISERRNA](#)

[ISERROR](#)

[ISERRVALUE](#)

## ISERRNA

**Syntax** ISERRNA(cellref)

Returns TRUE if the value of **cellref** is error type #N/A! (not available); otherwise returns FALSE.

The ISERRNA function is used in formulas that refer to another cell.

### Example

Cell	Formula	Value Returned
Scratch.A1	= "5 + 3"	"8"
Scratch.B1	=ISERRNA(Scratch.A1)	FALSE

Returns FALSE because the value returned is available.

Cell	Formula	Value Returned
Scratch.A1	=NA( )	#N/A!
Scratch.B1	=ISERRNA(Scratch.A1)	TRUE

Returns TRUE because the value returned is error type #N/A!

### See also

---

[Cell reference syntax](#)

[Error values](#)

[ISERR](#)

[ISERROR](#)

[ISERRVALUE](#)

## ISERROR

**Syntax** ISERROR(cellref)

Returns TRUE if the value of **cellref** is any error type; otherwise returns FALSE.

The ISERROR function is used in formulas that refer to another cell.

### Example 1

Cell	Formula	Value Returned
Scratch.A1	=NA( )	#N/A!
Scratch.B1	=ISERROR(Scratch.A1)	TRUE

Returns TRUE because the #N/A! error is recognized by the ISERROR function. You can use ISERR to find all types but the #N/A! error.

### Example 2

Cell	Formula	Value Returned
Scratch.X1	="House"	#VALUE!
Scratch.B1	=ISERR(Scratch.X1)	TRUE

Returns TRUE because the #VALUE! error is recognized by the ISERROR function. To build an expression based on the #VALUE! error, use the ISERRVALUE function.

### See also

---

[Cell reference syntax](#)

[Error values](#)

[ISERR](#)

[ISERRNA](#)

[ISERRVALUE](#)

## ISERRVALUE

**Syntax** ISERRVALUE(cellref)

Returns TRUE if the value of **cellref** is error type #VALUE, where an argument in the formula is the wrong type.

The ISERRVALUE function is used in logical expressions that refer to another cell.

### Example 1

Cell	Formula	Value Returned
Scratch.X1	="House"	#VALUE!
Scratch.A1	=If (ISERRVALUE(Scratch.X1),2,Scratch.X1)	2

**Note:** Scratch cells A through D won't return a #VALUE! error because the formula can contain numbers and letters in the same string. Cells X and Y must contain numbers only.

Returns 2 because the value returned is a #VALUE! error, and the expression instructs Visio to return a 2 in place of the error.

### Example 2

Cell	Formula	Value Returned
Scratch.A1	="5 + 7"	5 + 7
Scratch.B1	=If (ISERRVALUE(Scratch.A1),2,Scratch.A1)	5 + 7

Returns 12 because the value returned is not a #VALUE! error, and the expression instructs Visio to return the value of the original cell.

### See also

---

[Cell reference syntax](#)

[Error values](#)

[ISERR](#)

[ISERRNA](#)

[ISERROR](#)

## LN

**Syntax** LN(number)

Returns the natural logarithm of **number**. **Number** must be positive or LN returns the error value #NUM.

**Example** LN(42)

Returns 3.7377.

**See also**

---

LOG10



## LOC

**Syntax**      LOC(point)

Returns the **x,y** coordinates of **point** measured from the lower-left corner of the shape's selection rectangle. In Visio, a point is a single value that embodies a pair of x- and y-coordinates.

**Example**      LOC(PNT(Sheet.5!LocPinX, Sheet.5!LocPinY))

In this expression, PNT converts a set of coordinates in the ShapeSheet of Sheet.5 to a point. (Sheet.5 is another shape on the same drawing page.) LOC then converts the point to a set of coordinates in relation to the lower-left corner of the selection rectangle of the current shape.

The 5 in Sheet.5 is the ID number for the shape, which is displayed in the Special dialog box.

### See also

---

PAR  
PNT  
PNTX  
PNTY

## LOG10

**Syntax**      LOG10(number)

Returns the base 10 logarithm of **number**. **Number** must be positive or LOG10 returns the error value #NUM.

**Example**      LOG10(42)

Returns 1.6232.

**See also**

---

LN

## LOOKUP

**Syntax**      LOOKUP("key","list"[,"delimiter"])

Returns a zero-based index that indicates the location of the substring **key** in a **list**, or returns -1 if the target string contains the **delimiter**. Uses a case-insensitive search. If the list begins or ends with a delimiter, a null string is assumed to exist before or after the list. Consecutive delimiters imply a null string in between.

Delimiters may be more than one character in length and may include multibyte characters. The default delimiter is the semicolon. All the arguments must be strings or able to be converted to strings. If they are not, an empty string is substituted for the offending argument.

**Example 1**    LOOKUP("rat","cat;rat;;goat")

Returns 1.

**Example 2**    LOOKUP("",";cat;rat;;goat")

Returns 0.

**Example 3**    LOOKUP("t","cat;rat;;goat","a")

Returns 3.

**See also**

---

[INDEX](#)

## LOTUSNOTES

**Syntax**      LOTUSNOTES(field)

Returns the most recent information read from Lotus Notes.

If you create a [field](#) in Lotus Notes, you need to create a corresponding field in the [Lotus Notes Fields](#) dialog box. In order for Visio to read this value, you need to define the field in a Lotus Notes document and check Read From Lotus Notes in the Lotus Notes Fields dialog box.

**Example**      LOTUSNOTES ("BoxWidth") returns the value of the Lotus Notes field "BoxWidth"

Returns 12 inches.

## MAGNITUDE

**Syntax**      MAGNITUDE(constantA,A,constantB,B)

Returns the magnitude of the vector whose rise is **A** and whose run is **B**, multiplied by the respective constants **constantA** and **constantB**. MAGNITUDE is calculated according to the following formula:

$$\text{SQRT}((\text{constantA} * A)^2 + (\text{constantB} * B)^2)$$

**Example**      MAGNITUDE(1, 3, 1, 4)

Returns 5.

## MAX

**Syntax**      MAX(number1,number2,...,number14)

Returns the largest **number** from a list of up to 14 numbers.

**Example**      MAX(13 in.,1 ft, 20 cm)

Returns 13 in.

**See also**

---

MIN

## MIN

**Syntax**      MIN(number1,number2,...,number14)

Returns the smallest **number** from a list of up to 14 numbers.

**Example**      MIN(13 in.,1 ft, 20 cm)

Returns 20 cm.

**See also**

---

MAX

## MODULUS

**Syntax**      MODULUS(number,divisor)

Returns the remainder (modulus) resulting when **number** is divided by **divisor**. The result has the same sign as **divisor**. A #DIV/0! error is returned if **divisor** is zero.

In almost all situations, the MODULUS function should be used rather than the MOD function.

**Examples**      MODULUS(5, 1.4) returns 0.8  
                  MODULUS(5, -1.4) returns -0.6  
                  MODULUS(-5, 1.4) returns 0.6  
                  MODULUS(-5, -1.4) returns -0.8

### See also

---

[ANG360](#)

[MOD](#)



## MOD

**Syntax**      MOD(number,divisor)

Returns the remainder that results when **number** is divided by **divisor**. The MOD function supplied with earlier versions of Visio is supported for backward compatibility. The MODULUS function should be used in new formulas.

**See also**

---

ANG360

MODULUS

## NA

**Syntax**      NA( )

Returns the error value #NA!. NA is the error value that means "no value available." Use the NA function in a ShapeSheet cell where information is missing, so that the cell's default value is not used in calculations.

**See also**

---

[Cell reference syntax](#)

[Error values](#)

[ISERR](#)

[ISERRNA](#)

[ISERROR](#)

[ISERRVALUE](#)

## NOT

**Syntax** NOT(logical-expression)

Returns 1 if **logical-expression** is false. Otherwise, NOT returns 0.

**Example** NOT(Height > 0.75 in.)

Returns 1 if Height is less than or equal to 0.75 inches. Returns 0 if Height is greater than 0.75 inches.

**See also**

---

AND

OR

## NOW

**Syntax**      NOW( )

Returns today's date and time as a single numeric value. The integer portion of the result represents the date and the decimal portion represents the time.

**Example**      NOW( )

Returns 34880.6337 if the current date and time is 6/30/95 3:13:00 PM.

**See also**

---

DATE

TIME

## OPENFILE

**Syntax**      OPENFILE("filename")

Opens the specified Visio document if not already open. Transfers focus to and activates the target document window at the completion of the command.

Multiple OpenFile requests are queued and executed in order of evaluation at the completion of a command, with the last named document receiving final focus. If the current Visio document is activated for visual (in-place) editing, a new instance of Visio is launched with the requested filename. This function always returns FALSE.

In earlier versions of Visio, this function appears as `_OPENFILE`. Visio 4.0 accepts either style.

**Example**      OPENFILE("basic.vss")

Opens the specified stencil file BASIC.VSS in a new window and gives that window the focus.

### See also

---

[OPENGROUPWIN](#)

[OPENPAGE](#)

[OPENSHEETWIN](#)

[OPENTEXTWIN](#)

## OPENGROUPWIN

**Syntax**      OPENGROUPWIN( )

Opens the group in the group editing window. If the object is not a group, OPENGROUPWIN does nothing.

In earlier versions of Visio, this function appears as `_OPENGROUPWIN`. Visio 4.0 accepts either style.

### **See also**

---

OPENFILE

OPENPAGE

OPENSHEETWIN

OPENTEXTWIN

## OPENPAGE

**Syntax**      OPENPAGE("pagename")

Displays **pagename** in new window. If a window is already displaying **pagename**, that window becomes active. If the **pagename** does not exist, or if Visio is acting as an in-place server, OPENPAGE has no effect.

In earlier versions of Visio, this function appears as `_OPENPAGE`. Visio 4.0 accepts either style.

### See also

---

GOTOPAGE

OPENFILE

OPENGROUPWIN

OPENSHEETWIN

OPENTEXTWIN

## OPENSHEETWIN

**Syntax**      OPENSHEETWIN( )

Opens the ShapeSheet in a new window.

In earlier versions of Visio, this function appears as `_OPENSHEETWIN`. Visio 4.0 accepts either style.

### **See also**

---

OPENFILE

OPENGROUPWIN

OPENPAGE

OPENTEXTWIN



## OPENTEXTWIN

**Syntax**      OPENTEXTWIN( )

Opens the shape's text block so that the text can be edited.

In earlier versions of Visio, this function appears as `_OPENTEXTWIN`. Visio 4.0 accepts either style.

### See also

---

OPENFILE

OPENGROUPWIN

OPENPAGE

OPENSHEETWIN

## OR

**Syntax**      OR(logical-expression1,logical-expression2,...,logical-expression14)

Returns 1 if any of the **logical expressions** is true. Any expression that evaluates to a non-zero value is considered true. If all of the logical expressions are false or equal 0, OR returns 0.

**Example**      OR(Height > 1,PinX > 1)

Returns 1 if either expression is true. Returns 0 only if both expressions are false.

**See also**

---

AND

NOT

## PAR

**Syntax**      PAR(point)

Returns the **x,y** coordinates of **point** in the coordinate system of the shape's parent. In Visio, a **point** is a single value that embodies a pair of **x**- and **y**-coordinates. If the shape is in a group, its parent is the group. If the shape is not in a group, its parent is the page the shape is on.

**Example**      PAR(PNT(PinX,PinY))

In this expression, PNT converts a pair of coordinates in the ShapeSheet of the current shape into a point. PAR then converts the point into a pair of coordinates in relation to the lower-left corner of the page that contains the current shape.

### **See also**

---

LOC

PNT

PNTX

PNTY

## PI

**Syntax**      PI ( )

Returns the mathematical constant **pi** which is 3.1415926535898.

**Example**      (14 in. / 2)^2 \* PI ( )

Returns 153.9380 in., the area of a circle whose diameter is 14 inches.

**See also**

---

COS

SIN

TAN

## PLAYSOUND

**Syntax**      PLAYSOUND("filename"|"alias",isAlias,beep,synch)

On systems with a sound card, plays the sound recorded in **filename**, or plays the system sound identified by **alias** if **isAlias** is nonzero. If the sound cannot be played, Visio beeps if **beep** is a nonzero number.

Sounds should usually be played asynchronously (**synch**=0) so Visio can continue processing while the sound is being played. To string several sounds together, play them synchronously (**synch** = nonzero number), or some might fail to play.

**Example 1**    PLAYSOUND("chord.wav", 0, 0, 0)

Plays the wave audio file chord.wav asynchronously with no warning beep.

**Example 2**    PLAYSOUND("SystemExclamation", 1, 0, 0)

Plays the system exclamation sound asynchronously with no warning beep.

## PNT

**Syntax**      PNT(x,y)

Returns the point represented by the coordinates **x** and **y** as a single value. Converting coordinates to points allows you to change a shape's geometry without having to manipulate x- and y-coordinates separately.

**Example**      PNT(PinX,PinY)

Returns the point represented by PinX and PinY.

**See also**

---

LOC

PAR

PNTX

PNTY

## PNTX

**Syntax**      PNTX(point)

Returns the **x**-coordinate of **point** measured from the lower-left corner of the shape's selection rectangle.

**Example**      PNTX(PNT(7,12))

Returns 7.

**See also**

---

LOC

PAR

PNT

PNTY

## PNTY

**Syntax**      PNTY(point)

Returns the **y**-coordinate of **point** measured from the lower-left corner of the shape's selection rectangle.

**Example**      PNTY(PNT(7,12))

Returns 12.

**See also**

---

LOC

PAR

PNT

PNTX



## POW

**Syntax**      POW(number,exponent)

Returns **number** raised to the power of **exponent**. Both **number** and **exponent** may be non-integers, and they may be negative. If **number** is not zero and **exponent** is zero, POW returns 1. If **number** is zero and **exponent** is negative, POW returns 0.0. If both **number** and **exponent** are zero, or if **number** is negative and **exponent** is not an integer, POW returns 0.0.

**Example**      POW(5,2)

Returns 25.

## RAD

**Syntax**      RAD(angle)

Converts the value of **angle** from degrees to radians.

**Example**      RAD(45)

Returns 0.7854.

**See also**

---

DEG

## RAND

**Syntax**      RAND( )

Returns a random number from 0 to 1 (inclusive) with 15 digits of precision. Returns a different number each time the function is evaluated, which is once per minute according to the system clock. Use RAND to create animation effects by setting shapes' properties to random values.

**Example**      RAND( )

Returns a decimal fraction such as 0.3503.

## RECTSECT

**Syntax**      RECTSECT(width,height,x,y,option)

Calculates the sector of a rectangle associated with **x** and **y** and returns an integer 0 to 4, indicating the sector.

Consider a rectangle that has a **width** and a **height**, and a point (**x,y**) from the center point of the rectangle. Draw diagonal lines through the corners of the rectangle to divide it into four sectors and a center point. The sectors are:

- 0 = the center point of the rectangle
- 1 = the sector containing the right side of the rectangle
- 2 = the sector containing the top side of the rectangle
- 3 = the sector containing the left side of the rectangle
- 4 = the sector containing the bottom side of the rectangle

**Option** is used to specify how points that fall on the diagonals are treated.

<b>Option</b>	<b>Treatment</b>
---------------	------------------

- |   |   |
|---|---|
| 0 | Use the left and right sectors for points on a diagonal |
| 1 | Use the top and bottom sectors for points on a diagonal |

**Example**      RECTSECT(1 in., 2 in., 1 in., -7 in., 0)

Returns 4.

## REF

**Syntax**      REF( )

Returns the error value #REF!

**Example**      REF( )

Returns #REF!

## ROUND

**Syntax**      ROUND(number,number-of-digits)

Rounds **number** to the precision represented by **number-of-digits**. If **number-of-digits** is greater than 0, **number** is rounded by **number-of-digits** to the right of the decimal. If **number-of-digits** is 0, **number** is rounded to the integer. If **number-of-digits** is less than 0, **number** is rounded by **number-of-digits** to the left of the decimal.

**Example 1**    ROUND(123.654,2)

Returns 123.65.

**Example 2**    ROUND(123.654,0)

Returns 124.

**Example 3**    ROUND(123.654,-1)

Returns 120.

### See also

---

INT

TRUNC

## RUNADDON

**Syntax**      RUNADDON("filename")

Runs the **filename** add-on program. Use the RUNADDON function to bind a program, such as an add-on, to an [Actions](#) or [Events](#) cell.

In earlier versions of Visio, this function appears as `_RUNADDON`. Visio 4.0 accepts either style.

**Example**      RUNADDON("calendar.exe")

Launches the CALENDAR.EXE add-on.

### **See also**

---

[RUNADDONWARGS](#)

## RUNADDONWARGS

**Syntax**      RUNADDONWARGS("filename","argument")

Runs the **filename** add-on program and passes the command line **arguments** to the program as a string. In practice, **argument** should be 50 characters or less. Use the RUNADDONWARGS function to bind a program, such as an add-on, to an [Actions](#) or [Events](#) cell.

In earlier versions of Visio, this function appears as `_RUNADDONWARGS`. Visio 4.0 accepts either style.

**Example**      RUNADDONWARGS("GRAPHMKR.EXE","/GraphMaker=Stack")

Launches the add-on GRAPHMKR.EXE and pass it the argument /GraphMaker=Stack.

**See also**

---

[RUNADDON](#)



## SETF

**Syntax**        SETF("cell",formula)  
                  SETF("cell","formula")  
                  SETF("cell","""formula""")

When evaluated, the result of the expression in **formula** becomes the new formula in **cell**. If formula is enclosed in quotation marks, the quoted expression is written to **cell**. To set **cell** to a string, enclose **formula** in three sets of quotation marks.

If **cell** is not a string, the function returns an error, and no cell's formula is changed. If **formula** contains a syntax error, the function returns an error, and the formula in **cell** is not changed.

**Example 1**    SETF("Scratch.A1", 1.5in.\*6+1ft.)

Sets the formula of Scratch.A1 to 21 in.

**Example 2**    SETF("Scratch.A1", "1.5in.\*6+1ft.")

Sets the formula of Scratch. A1 to the expression 1.5 in.\*6+1ft.

**Example 3**    SETF("Scratch.A1", """"Say """"ahh""""""")

Sets the formula of Scratch.A1 to the string "Say ""ahh""" which evaluates to Say "ahh".

## SIGN

**Syntax**      SIGN(number,fuzz)

Returns 1, 0, or -1 depending on if **number** is positive, zero, or negative. **Fuzz** is an optional argument that specifies how close to zero **number** must be in order to be considered equal to zero. **Fuzz** helps avoid floating-point roundoff errors when a calculation is almost zero. If you do not specify a fuzz value, Visio uses 1E-9 (0.000000001). You may want to supply a different value when you scale drawings or when you want an exact comparison.

**Examples**      SIGN(-5) equals -1  
                    SIGN(0) equals 0  
                    SIGN(0.0000000001) equals 0  
                    SIGN(0.0000000001,0) equals 1

## SIN

**Syntax**      SIN(angle)

Returns the sine of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      SIN(45 degrees)

Returns 0.7071.

**See also**

---

ASIN

COS

PI

SINH

## SINH

**Syntax**      SINH(angle)

Returns the hyperbolic sine of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      SINH(45 degrees)

Returns 0.8687.

**See also**

---

COSH

PI

SIN

## SQRT

**Syntax**      SQRT(number)

Returns the square root of **number**. If **number** is negative, SQRT returns the error value #NUM!

**Example**      SQRT(2)

Returns 1.4142.

## SUM

**Syntax**      SUM(number1,number2,...,number14)

Returns the sum of a list of up to 14 numbers.

**Example**      SUM(5,7,12)

Returns 24.

## TAN

**Syntax**      TAN(angle)

Returns the tangent of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      TAN(45 degrees)

Returns 1.

**See also**

---

COS

PI

SIN

## TANH

**Syntax**      TANH(angle)

Returns the hyperbolic tangent of **angle**. Uses radians unless a unit of measure is specified with **angle**.

**Example**      TANH(45)

Returns -.6558.

**See also**

---

ATAN

COSH

PI

SINH



## TEXTHEIGHT

**Syntax**      TEXTHEIGHT(shapename!theText,maximum-width)

Returns the height of the composed text in a shape where no text line exceeds **maximum-width**. The returned value includes the height of the text including the space before and after text, the line spacing in text, and the top and bottom text block margins. TEXTHEIGHT is commonly used to adjust the height of a shape to fit the text it contains.

TheText is a Visio page formula that refers to all of the text contained in a shape's text block. Shapename! can be used to refer to the text of a shape other than the current shape.

**Example**      TEXTHEIGHT(theText,(Width - 0.5 in.))

Returns the height of the text when wrapped to the width of the shape minus 0.5 inches.

**See also**

---

TEXTWIDTH

## TEXTWIDTH

**Syntax**      TEXTWIDTH(shapeName!theText,maximum-width)

Returns the width of the composed text in a shape. TEXTWIDTH is commonly used to adjust the width of a shape to fit the text it contains.

TheText is a Visio page formula that refers to all of the text contained in a shape's text block. If **maximum-width** is specified, the result is the longest line of text that fits within **maximum-width**. If **maximum-width** is omitted, the result is the total width of the text. ShapeName! can be used to refer to the text of a shape other than the current shape.

**Example**      TEXTWIDTH(theText)

Returns the total length of the text in the current shape.

### **See also**

---

TEXTHEIGHT

## TIME

**Syntax**      TIME(hour,minute,second)

Returns the time represented by **hour**, **minute**, and **second** as a single numeric value.

**Example**      TIME(15,30,30)

Returns 0.6462.

**See also**

---

DATE

NOW

## TRUNC

**Syntax**      TRUNC(number,number-of-digits)

Returns **number** truncated by **number-of-digits**.

**Example 1**    TRUNC(123.654,2)

Returns 123.65.

**Example 2**    TRUNC(123.654,0)

Returns 123.

**Example 3**    TRUNC(123.654,-1)

Returns 120.

**See also**

---

INT

ROUND

## USERUI

**Syntax**      USERUI(state,default-expression,user-expression)

Evaluates one of the two expressions depending on the value of **state**. If **state** is 0, evaluates the **default-expression**. Otherwise, if **state** is 1, evaluates the **user-expression**.

**Example**      USERUI(1,if(Width>6in.,6in.,Width),Width\*0.75)

Evaluates the expression Width\*.075 and returns the result.

## #

Digit placeholder. Displays either a digit or nothing. Leading and trailing zeroes are not displayed. If more digits than placeholders are to the left of the decimal, all digits are displayed. If more digits than placeholders are to the right of the decimal, the fraction is rounded to the number of placeholders. For a dimension, if the placeholder is the leftmost digit, subunits that are zero are not displayed. For example, `FORMAT(0ft. 11.25in., "#.###u")` displays 11.25in.

## 0 (zero)

Digit placeholder. Displays either a digit or nothing. Leading and trailing zeroes are displayed. If more digits than placeholders are to the left of the decimal, all digits are displayed. If more digits than placeholders are to the right of the decimal, the fraction is rounded to the number of placeholders. For a dimension, subunits that are zero are displayed. For example, `FORMAT(2ft. 11.33in., "0.## u")` displays 2 ft. 11.33 in.

## .

Decimal placeholder. Determines how many digits are displayed to the left and right of the decimal position. In a multipart unit, the decimal is used in the smallest (rightmost) subunit. Displays the decimal character defined under the International options of the control panel. For example, `FORMAT(250 cm., "0.000 u")` displays 250.000cm.

## ,

Thousands separator. If surrounded by digit placeholders (# or 0), the separator separates thousands from hundreds within a number that has four or more digits to the left of the decimal. Displays the thousands separator defined under the International options of the control panel.

## E- E+ e- e+

Scientific format. If the format contains at least one digit placeholder to the right of these symbols, the number is displayed in scientific format. Inserts the E or e between the number and its exponent. For E+ or e+, displays the + sign before positive exponents and the - sign before negative exponents. For E- or e-, displays the - sign only when the exponent is negative. For example, `FORMAT(12345.67, "###.##e+#")` results in .123.5e+2.

### **"text" or 'text'**

Displays the text enclosed in quotes as is. See also [\ \(backslash\)](#).

**\**

Display the next character as is. To display the backslash character, type `\\`. See also ["text"](#).

### **u or U**

Short label placeholder. Inserts abbreviated unit labels after each subunit. For example: in., ft., deg. The u placeholder inserts lowercase labels, and U inserts uppercase labels. Inserts the same number of spaces before the label as before the placeholder. For example, `FORMAT(12ciceros 13 didots,"#u")` displays 12c13.

### **uu or UU**

Long label placeholder. Inserts unit labels after each subunit. For example: inches, feet, degrees. The u placeholder inserts lowercase labels, and U inserts uppercase labels. Inserts the same number of spaces before the label as before the placeholder. For example, `FORMAT(12.43in.,"# #/4 UU")` displays 12 2/4 INCHES.

### **uuu or UUU**

Universal label placeholder. Inserts the universal (internal to Visio) form of unit labels after each subunit. The u placeholder inserts lowercase labels, and U inserts uppercase labels. Inserts the same number of spaces before the label as before the placeholder.

### **/ (fraction)**

Fraction placeholder. Displays expression as a whole number with fraction if a leading digit placeholder is present. Otherwise, displays only the whole number in the numerator. If a number follows the digit placeholder in the denominator, rounds the fraction to the nearest fraction whose numerator is 1 and simplifies it. If a number is specified in the denominator without the digit placeholder, rounds to the nearest fraction but does not simplify it. For example, `FORMAT(12.43,"# #/4")` displays 12 2/4.

### **/ (date)**

Date separator. If the expression is a date, separates the date components. Displays the date separator defined in the International options of the control panel.

**\$**

Currency symbol. Displays the currency symbol defined in the International options of the control panel.

### **space**

Displays a space character in the formatted output. To display another character, use the \ (backslash) character.

### **@**

Text placeholder. Replaces a string if the value of expression is a string. For example, `FORMAT("Hello", "You entered (@)'" )` results in "You entered (Hello)".

### **:**

Time separator. Displays the time defined in the International options of the control panel.

### **d**

Day placeholder. Displays the day as a number (1-31) without a leading zero.

### **dd**

Day placeholder. Displays the day as a number (01-31) with a leading zero.

### **ddd or w**

Short day of week placeholder. Displays the day as an abbreviation (Sun-Sat).

### **dddd or ww**

Long day of week placeholder. Displays the day as a full name (Sunday-Saturday)

### **dddd**

Short date placeholder. Displays a date in the short form defined in the International options of the control panel.

### **dddddd**

Long date placeholder. Displays a date in the long form defined under the International options of the control panel.

### **M**

Month placeholder. Displays the month as a number (1-12) without a leading zero. See also [m](#) (minute placeholder).

### **MM**

Month placeholder. Displays the month as a number (01-12) with a leading zero. See also [mm](#)



(minute placeholder).

### **MMM**

Month placeholder. Displays the month in abbreviated form (Jan-Dec).

### **MMMM**

Month placeholder. Displays the full name of the month (January-December).

### **yy**

Year placeholder. Displays the year as a two-digit number (00-99).

### **yyyy**

Year placeholder. Displays the year as a four-digit number (1900-2078).

### **h**

Hour placeholder. Displays the hour without a leading zero in 12-hour form (0-12).

### **hh**

Hour placeholder. Displays the hour with a leading zero in 12-hour form (00-12).

### **H**

Hour placeholder. Displays the hour without a leading zero in 24-hour form (0-24).

### **HH**

Hour placeholder. Displays the hour with a leading zero in 24-hour form (00-24).

### **m**

Minute placeholder. Displays the minutes without a leading zero (0-59).

### **mm**

Minute placeholder. Displays the minutes with a leading zero (00-59).

### **s**

Seconds placeholder. Displays the seconds without a leading zero (0-59).

### **SS**

Seconds placeholder. Displays the seconds with a leading zero (00-59).

### **t**

AM/PM abbreviation. Displays the abbreviation defined in the International options of the control

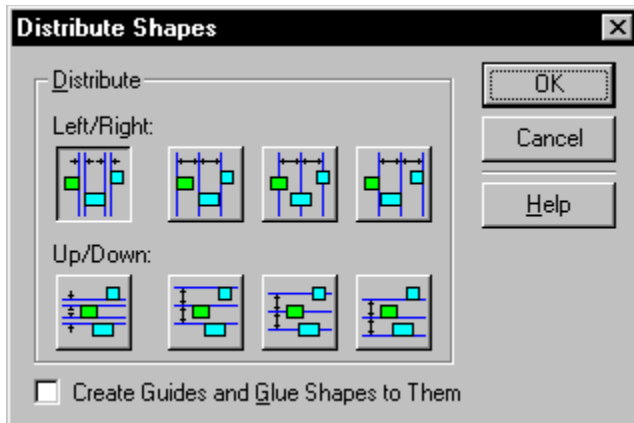
panel.

**tt**

AM/PM designator. Displays the full designator defined in the International options of the control panel.

**T**

General time format.



Click a letter to search for a term



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**Alignment box**

The rectangle that appears around shapes and objects from other applications as you move them. See also [selection rectangle](#).

**Attribute**

Individual formatting elements, such as line color, fill color, and line weight, that you can apply to shapes. A style can have several attributes. See also [format](#), [style](#).

**Background**

A page that you can assign to another page to create multiple layers in a drawing. You can see shapes on a background when the page it is assigned to is displayed, but you can't select or edit the background's shapes without displaying the background. See also [foreground page](#), [layer](#).

**Bitmap**

An image stored as a pattern of dots. A scanned photograph or graphic that you create in a paint program is usually stored as a bitmap.

**Center of rotation**

The point around which a shape or text block rotates. When you select a 2-D shape with the rotation tool, its center of rotation is marked by a circle with a plus sign inside it. By default, the center of rotation is at the center of the shape. You can move the center of rotation by dragging it with the rotation tool.

**Clipboard**

A temporary storage area in Windows that is used to transfer data between documents and applications. You can use the Clipboard to copy shapes and text and to copy shapes between drawings in Visio or between Visio and other Windows applications.

**Connection point**

A point on a shape where a connector can be glued to a shape. You can create new connection points inside, outside, or on the perimeter of a shape by using the connection point tool. Each of a shape's connection points is marked with a blue X when Connection Points is checked on the View menu.

**Connector**

Any one-dimensional shape that can be glued between two shapes in a drawing to connect the shapes. Some master shapes are connectors. You can also use lines and other shapes you draw as

connectors. See also [SmartConnector](#).

**Container**

An OLE application in which you embed or link information. For example, if you insert a Visio drawing into a Microsoft Word document, Microsoft Word is the container application. A container application is also known as a client. See also [OLE](#).

**Control handle**

A handle that makes shapes behave in special ways. For example, you might use a control handle to adjust the roundness of a shape's corners, to reshape an arrow, or to drag a connector directly out of another shape.

**Control point**

The circle that appears on a line or an arc (or a line or an arc segment) when the line or arc is selected with the pencil tool. You can drag a control point to change the curvature of an arc or ellipse.

**Coordinates**

A pair of numbers that indicates the position of a point in relation to the origin of a shape, a group, or the page. The x-coordinate indicates the horizontal distance and the y-coordinate indicates the vertical distance of the point. See also [origin](#).

**Crop**

To reduce or expand an object from another application used in a Visio drawing. Although cropping appears to clip off parts of the object, Visio retains the clipped portions of the object in memory. You crop an object by selecting it with the crop tool and dragging one of its handles.

**Drag and drop drawing**

Creating an instance of a master shape in a drawing by dragging the master shape from a stencil to the drawing. To drag a master shape, point to it with the mouse and hold down the left mouse button. Move the mouse until the shape is where you want it in the drawing, and then release the mouse button to drop the shape.

**Drawing**

All the shapes on the foreground page together with all the shapes on optional background pages.

**Drawing file**

A Visio file that contains Visio drawings. A drawing file can be based on a template. You can create a new drawing file by opening a Visio template or by using the New command on the File menu. Every drawing file has its own stencil, which contains an inventory of all the master shapes used in all of the drawings in the file.

### **Drawing file stencil**

A stencil stored in a drawing file, which contains an inventory of the master shapes used in all of the drawings in the file. Master shapes on the drawing file stencil are linked to their instances in the drawings. To display the drawing file stencil for the current drawing file, choose Show Master Shapes from the Window menu. See also [stand-alone stencil](#).

### **Dynamic glue**

A type of glue that allows the endpoint of a connector shape to move from one connection point to another as the connected shapes are moved. (When shapes are connected without dynamic glue, the endpoints of the connector are attached to specific connection points; in that case, instead of jumping to a new connection point, the connector will change shape to avoid crossing over the shapes when they're moved.)

### **Eccentricity handle**

The circle that appears at each end of a dotted line when a control point of an elliptical arc is selected with the pencil tool. Eccentricity handles are dragged to change the angle and magnitude of an arc's eccentricity.

### **Endpoint**

Either of the square handles that appear at the beginning or end of a selected line, arc, or other one-dimensional shape. The endpoint at the beginning of the shape (beginning point) is marked by an X. The endpoint at the end of the shape (ending point) is marked by a plus sign (+). See also [vertex](#), [vertexes](#).

### **Expression**

A combination of values, operators, functions, and sheet references that results in a value. A logical expression compares two values and yields a true or false result.

### **Field**

A placeholder in text that displays information such as dimensions, dates, and times. A field might display the date and time a drawing is



printed, a shape's angle of rotation, or the result of a formula you write. Fields are automatically updated when you change a drawing. A field can also read information from Lotus Notes.

### **Fill**

The color and pattern inside a closed shape. Visio's default fill is solid white.

### **Foreground**

The top page of a drawing. Shapes on the foreground page appear in front of shapes on the background page and are not visible when you edit the background of the drawing. See also [background](#).

### **Format**

To affect the visual appearance of a shape (such as the thickness and color of its lines, the color and pattern inside the shape, and its font) either by using a style or by applying individual attributes. See also [attribute](#), [style](#).

### **Gesture recognition**

A feature of the pencil tool. As you begin to move the mouse, Visio quickly calculates the path the mouse pointer travels. If the path of the mouse is straight, the pencil tool draws a straight line segment. If the path curves, the pencil tool draws an arc.

### **Glue**

A property of shapes that causes them to stay connected even when one of the shapes is moved. When you attach a connector to a shape, you are gluing the connector. If you move the shape, Visio adjusts the connector as needed. If you move the connector, the glue is broken and the shapes are no longer connected. See also [dynamic glue](#).

### **Grid**

Grids are non-printing horizontal and vertical lines displayed at regular intervals on the page.

### **Grid lines**

The faint vertical and horizontal lines that appear in the drawing window when the grid is turned on. You can use grid lines to help position shapes precisely.

### **Group**

A shape that is composed of two or more shapes. A group can also include other groups and objects from other applications. A group can be

moved and sized as a single shape, but its members retain their original appearance and properties.

### **Guide, guide point**

A reference line that can be dragged into the drawing window to help position shapes precisely. A horizontal guide is dragged from the horizontal ruler, a vertical guide from the vertical ruler, and a guide point from the upper-left corner of the drawing window, where the horizontal and vertical rulers meet.

### **Handle**

A control that appears when you select a shape. You can use handles to alter a shape. Handles vary with the type of shape and the tool you use to select it. For example, when you select a shape with the pointer tool, it displays selection handles that you can drag to change the shape's size and proportions. When you select a shape with the rotation tool, the shape displays rotation handles that you can drag to rotate the shape. See also [control handle](#), [eccentricity handle](#), [rotation handle](#).

### **In place**

Visio opens in place when you run it from within a [container](#) application. When you work in place, Visio menus and toolbars appear and replace some of the container's menus and toolbars.

### **Insertion point**

The blinking vertical line that appears in text when you select a shape with the text tool and click the text with the mouse. Text you type appears at the insertion point. You can move the insertion point by clicking another location with the mouse or by pressing the arrow keys.

### **Instance**

A copy of a master shape, which you create by dragging the master shape from a stencil to a drawing.

### **Link**

To establish a dynamic connection between an object in a Visio drawing and another application's file through the object linking and embedding (OLE) protocol. When changes are made to the original file, you can update the link so that the most current version of the object appears in the linked file. See also [OLE](#).

### **Master shape**

A shape in a stencil. You drag and drop a master shape from a stencil into a drawing to create an instance of the master shape. Many of the master shapes in the stencils provided with Visio are SmartShapes—shapes with programming that controls how the shape behaves when it is moved or sized.

### **Object**

Information created in another application and imported, embedded, or linked in a Visio drawing. The term object is used to refer to objects from other applications and OLE objects. The application that the object is created in is known as the server application. See also [OLE](#).

### **Object linking and embedding (OLE)**

A Windows protocol that makes it possible to embed an object created in one Windows application into a document created in a different Windows application, or to link an object to a file that contains the original object.

### **One-dimensional (1-D) shape**

A straight line or arc you draw in Visio, a connector on a stencil, or any shape you define as a one-dimensional shape. A one-dimensional shape has a beginning point and an ending point and can be glued between two shapes to connect them. See also [two-dimensional \(2-D\) shape](#).

### **Origin**

The lower-left corner of the selection rectangle of a shape, of a group, or of the drawing page. The x- and y-coordinates of the origin are always 0,0. Dimensions of a shape, such as its width and height, and the center of rotation are measured from its origin. The location of a shape in relation to its parent (a group or the page) is measured from the parent's origin. See also [coordinates](#).

### **Page**

The printable area in a drawing window that contains a drawing. A page can be either a foreground or a background page. Each page has a size, which usually corresponds to a standard paper size, and it has a scale. See also [background](#), [foreground](#), [layer](#)

### **Pan**

To move an OLE object with the crop tool by holding down the left mouse button and shifting the object within the object's border. See also [handle](#), [object linking and embedding \(OLE\)](#).

**Parent**

The group that contains a shape is the shape's parent. If the shape is not in a group, its parent is the page.

**Paste**

To insert information from the Windows Clipboard into a Visio drawing or another Windows application.

**Pasteboard**

The area that surrounds a page in the drawing window. You can store shapes on the pasteboard. Each page has its own pasteboard.

**Path**

A series of contiguous line or arc segments in a shape. A shape can have more than one path. See also [segment](#).

**Pixel**

An individual block of display information. The term pixel is derived from the phrase "picture element."

**Point**

A single value that embodies a set of x- and y-coordinates for greater convenience in calculations.

**Rotation handle**

One of the round handles that appear at a corner of a shape's selection rectangle when you select the shape with the rotation tool.

**Scale**

A measure of the relationship between actual distances and distances represented in a Visio drawing. For example, a floor plan might have a scale of one foot of actual distance to one inch in the drawing.

**Segment**

A straight line or curve that is part of a more complex shape.

**Selection**

Shapes in a drawing that are the focus of your next action. Selected shapes display handles. Selection also refers to text selected in a text block. Selected text is highlighted.

**Selection handle**

A square handle that appears on a shape

selected with the pointer tool. Selection handles indicate that you can size or move the shape.

### **Selection net**

A means of selecting more than one shape at a time by dragging the pointer tool to define a rectangular area that encloses all the shapes to be selected.

### **Selection rectangle**

The dotted line that surrounds selected shapes or objects from other applications. See also [alignment box](#).

### **Shape**

A line, arc, ellipse, freeform, or rectangle; a closed or open series of line and arc segments; or a group. You create a shape in Visio by dragging and dropping a master shape from a stencil into a drawing, by using Visio's drawing tools, by grouping other shapes, or by converting an object from another application into a Visio shape.

### **ShapeSheet**

The spreadsheet that contains information about a shape—for example its dimensions, its angle and center of rotation, and the styles that determine the shape's appearance. ShapeSheets can contain formulas that define how the shape behaves when it is moved or sized.

### **Size**

To change the dimensions of a shape by dragging one of its handles after it has been selected with the pointer tool.

### **SmartConnector**

A 1-D shape that behaves intelligently when it's used to connect other shapes. For example, if you use a SmartConnector to connect two shapes and you move one of the shapes, the SmartConnector repositions itself and in some cases can change its shape to avoid crossing over the shapes it connects. See also [one-dimensional \(1-D\) shape](#), [Universal connector](#).

### **SmartShape**

A shape that is programmed to behave predictably when you move or size it.

### **Snap**

The ability of shapes, guides, grid lines, and other elements in Visio to pull shapes and other elements into position when they are moved and

sized.

### **Stacking order**

Determines how shapes overlap other shapes on the page and the order in which shapes are selected. You can change the stacking order of shapes by using the Bring To Front, Bring Forward, Send To Back, and Send Backward commands on the Shape menu.

### **Stamp**

To create an instance of a master shape with the stamp tool. To stamp a master shape, select the master shape in the stencil, choose the stamp tool, and click to where you want the instance to appear. To glue a connector with the stamp tool, select the connector in the stencil, and then drag between connection points on the shapes you want to connect.

### **Stand-alone stencil**

A Visio file with a .vss filename extension that contains a collection of master shapes and is usually referred to simply as a stencil. Unlike a drawing file stencil, a stand-alone stencil usually does not have an accompanying drawing. See [drawing file stencil](#), [stencil](#).

### **Stencil**

A collection of master shapes that you can drag and drop into a drawing. Stencils are stored in stencil files, which are opened when you create a new drawing based on the stencil's associated template. By default, stencils appear docked on the right-side of the drawing window. You can also open a stencil file independently of a template. See also [template](#).

### **Style**

A collection of attributes that has a name and is saved with a template or drawing file. You can use a style to apply a set of attributes to a shape with a single action. Many of Visio's templates have styles that are included in the new drawings you create from a template. See also [attribute](#).

### **Subdivision**

The division between grid lines and between intervals of the ruler. This option is set using the Ruler & Grid command. The choices are Fine, Normal, and Coarse.

### **Template**

A Visio file that opens one or more stencils and

can contain styles and settings for a particular kind of drawing, for example, the appropriate scale and grid. You can create a new drawing with a template's styles and settings by opening the template. See also [stencil](#).

### **Text block**

The text area associated with a shape that appears when you click the shape with the text tool or select the shape and start typing. You can size a text block and move a text block in relation to its shape.

### **Tile**

A printing technique whereby oversized drawing pages are printed on multiple sheets of paper. Also, a command on the Window menu that arranges open windows side by side in the Visio main window.

### **Toolbar**

The row of boxes, buttons, and tools that appears below the menu bar in the Visio window. On the toolbar, you can choose styles from lists, options such as snap and glue on or off, and tools to create and modify shapes.

### **ToolTip**

When you pause with the pointer (without the mouse button pressed) over either an item on the toolbar or a master shape icon when the stencil window is set to display icons only, a ToolTip appears. To turn off ToolTips, choose the Toolbars command on the View menu, and then uncheck the Show ToolTips option.

### **Two-dimensional (2-D) shape**

A shape that has corner selection handles that you can use to size the shape proportionally. Most rectangles, ellipses, and freeform shapes are defined as two-dimensional. See also [one-dimensional \(1-D\) shape](#).

### **Units of measure**

The type of measurement system used in a drawing. You specify a unit of measure (inches, feet, miles, points, meters, and so on) in the Options box.

### **Universal connector**

A master shape that is programmed to connect any two points without crossing over the shapes it connects. By default, an instance of the Universal Connector is created when you use the connector tool and the Connect Shapes command. See also [connector](#), [SmartConnector](#).

**Vertex, vertexes**

One of the diamond-shaped handles that appears between two segments on a multiple-segment shape or at the end of a segment when you select a shape with the pencil tool. You can reshape a shape by dragging its vertexes. See also [endpoint](#).

**Workspace**

A Visio file that contains information about the size and position of drawings and stencils at the time you save the workspace. When you open a workspace, Visio recreates the arrangement of stencil and drawing windows for you. You can store a workspace with a drawing file or save a workspace as a workspace (.vsw) file.

**Zoom**

To increase or decrease the display size of a drawing in the drawing window. A display size of 100% (or Actual Size) displays the drawing at the same size it will be when it is printed, unless you reduce or enlarge the printed output in the Page Setup dialog box.

**Docked stencil**

A stencil that is attached to the side of the drawing window. By default, stencils are docked on the left side of the window. You can make stencils float, or you can dock them on the right side of the drawing window. See also [floating stencil](#).

**Floating stencil**

A stencil that appears in the size and location you choose. By default, stencils are docked on the left side of the window. You can make stencils float, or you can dock them on the right side of the drawing window. See also [docked stencil](#).

**Custom property**

A method of associating data with an individual shape. Some stencil masters have predefined custom properties.

To add custom properties to a shape, use the Custom Properties section of the ShapeSheet and the Custom Properties command on the Tools menu. See also [ShapeSheet](#).

**Drawing unit**

Drawing units are sizes in the real world, and page units are sizes on the printed page. For example, in an architectural drawing that uses the scale 1/4 inch = 1 foot, 1 foot is the drawing



unit and 1/4 inch is the page unit. The ratio of page units to drawing units is the drawing scale.

### **Page unit**

Page units are sizes on the printed page, and drawing units are sizes in the real world. For example, in an architectural drawing that uses the scale 1/4 inch = 1 foot, 1 foot is the drawing unit and 1/4 inch is the page unit. The ratio of page units to drawing units is the drawing scale.

### **Wizard**

A Visio tool that automates common tasks. For example, you can use the Org Chart Wizard to automate creating an organization chart.

To view Wizards, choose New from the File menu, or choose Run Add-on from the Tools menu.

### **Layer**

A named category of shapes. You can organize shapes in your drawing by assigning them to layers. You can selectively view, edit, print, or lock layers, as well as control whether shapes on a layer can be snapped to or glued to. See also [background](#).

## Command shortcuts

Keyboard shortcuts for some [commands](#) are listed on Visio's menus.

<b>To choose this command:</b>	<b>Press:</b>
Actual Size	Ctrl+I
Align Shapes	F8
Bring To Front	Ctrl+F
Cascade	Alt+F7
Connect Shapes	Ctrl+K
Copy	Ctrl+C
Cut	Ctrl+X
Duplicate	Ctrl+D
Field	Ctrl+F9
Fill	F3
Flip Horizontal	Ctrl+H
Flip Vertical	Ctrl+J
Font	F11
Glue (toggles on or off)	F9
Group	Ctrl+G
Help, display online Help	F1
Line	Shift+F3
New	Ctrl+N
Open	Ctrl+O
Page	F5
Paragraph	Shift+F11
Paste	Ctrl+V
Print	Ctrl+P
Properties (Page)	Shift+F5
Redo	Ctrl+Y
Repeat	F4
Rotate Left	Ctrl+L
Rotate Right	Ctrl+R
Save	Ctrl+S
Save As	F12
Save Workspace	Alt+F12
Select All	Ctrl+A
Send To Back	Ctrl+B
Snap (toggles on or off)	Shift+F9
Snap & Glue	Alt+F9
Spelling	F7
Tabs	Ctrl+F11
Text Block	Alt+F11
Tile Horizontally	Shift+F7
Tile Vertically	Ctrl+Shift+F7

Undo	Ctrl+Z
Ungroup	Ctrl+U
Whole Page	Ctrl+W
Zoom	F6

**Tip:** To activate the menu bar, press Alt or F10.

You can use these shortcuts with text:

**To insert a field in text: Press:**

Height field	Ctrl+Shift+H
Rotation angle field	Ctrl+Shift+A
Width field	Ctrl+Shift+W

**Tip:** To select a shape's [text block](#) if the text tool is selected or to toggle between text edit and shape selection mode, press F2.

## Drawing tools

Keyboard shortcuts for Visio's drawing tools are as follows:

**To choose this tool: Press:**

Arc	Ctrl+4
Connection point	Ctrl+8
Connector	Ctrl+7
Ellipse	Ctrl+6
Line	Ctrl+3
Pencil	Ctrl+2
Pointer	Ctrl+1
Rectangle	Ctrl+5
Rotation	Ctrl+Ø
Text	Ctrl+9

**See also**

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[Drawing ellipses and circles](#)

[Drawing freeform shapes](#)

[Drawing lines and arcs](#)

[Drawing rectangles and squares](#)

## Special characters

Use these key combinations to type commonly used special characters in text:

<b>To type:</b>	<b>Press:</b>
Beginning single-quote	Ctrl+[
Ending single-quote	Ctrl+]
Beginning double-quote	Ctrl+Shift+[
Ending double-quote	Ctrl+Shift+]
Bullet	Ctrl+Shift+8
En dash	Ctrl+=
Em dash	Ctrl+Shift+=
Discretionary hyphen	Ctrl+hyphen
Non-breaking hyphen	Ctrl+Shift+hyphen
Non-breaking slash	Ctrl+Shift+/ backslash
Section marker	Ctrl+Shift+6
Paragraph marker	Ctrl+Shift+7
Copyright symbol	Ctrl+Shift+C
Registered trademark	Ctrl+Shift+R

### See also

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[Typing special characters](#)

[Typing text into shapes](#)

## ANSI extended characters

You can type characters from the ANSI extended character set by using the numeric keypad on the keyboard. To type ANSI characters, hold down the Alt key, then using the keys on the numeric keypad, type 0 and the ANSI code for the character you want.

The following table lists codes for extended characters from the ANSI character set:

Character	ANSI code	Character	ANSI code
,	130	Ë	203
f	131	ì	204
”	132	í	205
...	133	î	206
†	134	ï	207
‡	135	Ð	208
^	136	Ñ	209
‰	137	Ò	210
Š	138	Ó	211
<	139	Ô	212
Œ	140	Õ	213
·	149	Ö	214
ı	161	×	215
ϕ	162	Ø	216
£	163	Ù	217
¤	164	Ú	218
¥	165	Û	219
	166	Ü	220
§	167	Ý	221
¨	168	Þ	222
©	169	ß	223
ª	170	à	224
«	171	á	225
¬	172	â	226
	173	ã	227
®	174	ä	228
¯	175	å	229
°	176	æ	230
±	177	ç	231
²	178	è	232
³	179	é	233
´	180	ê	234
µ	181	ë	235
¶	182	ì	236
·	184	í	237
¸	185	î	238
º	186	ï	239
»	187	ð	240
¼	188	ñ	241
½	189	ò	242

¾	190	ó	243
¿	191	ô	244
À	192	õ	245
Á	193	ö	246
Â	194	÷	247
Ã	195	ø	248
Ä	196	ù	249
Å	197	ú	250
Æ	198	û	251
Ç	199	ü	252
È	200	ý	253
É	201	þ	254
Ê	202	ÿ	255

### See also

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[Typing special characters](#)

[Typing text into shapes](#)





## ShapeSheets

Alphabetical list of ShapeSheet cells  
Sections overview

### **ShapeSheet sections**

1-D Endpoints section  
Actions section  
Alignment section  
Character section  
Connection Points section  
Controls section  
Custom Properties section  
Events section  
Fill Format section  
Geometry section  
Glue Info section  
Guide Info section  
Image Info section  
Layer Membership section  
Layer Properties section  
Line Format section  
Miscellaneous section  
Object Transform section  
Page Properties section  
Paragraph section  
Protection section  
Ruler & Grid section  
Scratch section  
Text Block Format section  
Text Fields section  
Text Transform section  
User-Defined Cells section

### **ShapeSheet formulas**

Cell reference syntax  
Error values  
Formulas overview  
Functions  
Local and inherited formulas  
Operators  
Units of measure

## Alphabetical list of ShapeSheet cells

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

### A

[Action](#)

[Active](#)

[AlignBottom](#)

[AlignCenter](#)

[AlignLeft](#)

[AlignMiddle](#)

[AlignRight](#)

[AlignTop](#)

[Angle](#)

[ArcTo](#)

[ArrowSize](#)

[Ask](#)

### B

[BegTrigger](#)

[BeginArrow](#)

[BeginX](#)

[BeginY](#)

[BottomMargin](#)

### C

[Can Glue](#)

[Case](#)

[Color \(Character\)](#)

[Color \(Layer Properties\)](#)

### D

[DrawingScale](#)

[DynFeedback](#)

### E

[EllipticalArcTo](#)

[EndArrow](#)

[EndTrigger](#)

[EndX](#)

[EndY](#)

[EventDbIClick](#)

[EventDrop](#)

[EventXFMod](#)

### F

[FillBkgnd](#)

[FillForegnd](#)

[FillPattern](#)

[FlipX](#)

[FlipY](#)

[Font](#)

## [Format](#)

### **G**

#### [Glue](#)

[GlueType](#)

[GuideFlags](#)

[GuidePosX](#)

[GuidePosY](#)

### **H**

[HAlign](#)

[Height](#)

[HelpTopic](#)

[HideText](#)

### **I**

[ImgHeight](#)

[ImgOffsetX](#)

[ImgOffsetY](#)

[ImgWidth](#)

[IndFirst](#)

[IndLeft](#)

[IndRight](#)

[Invisible](#)

### **L**

[Label](#)

[Layer Properties](#)

[LeftMargin](#)

[LineCap](#)

[LineColor](#)

[LinePattern](#)

[LineTo](#)

[LineWeight](#)

[Lock](#)

[LockAspect](#)

[LockBegin](#)

[LockCalcWH](#)

[LockCrop](#)

[LockDelete](#)

[LockEnd](#)

[LockFormat](#)

[LockGroup](#)

[LockHeight](#)

[LockMoveX](#)

[LockMoveY](#)

[LockRotate](#)

[LockSelect](#)

[LockTextEdit](#)

[LockVtxEdit](#)

[LockWidth](#)

[LocPinX](#)

[LocPinY](#)

## **M**

[Menu](#)

## **N**

[NoAlignBox](#)

[NoCtrlHandles](#)

[NoFill](#)

[NoObjHandles](#)

[NonPrinting](#)

[NoShow](#)

## **P**

[PageHeight](#)

[PageScale](#)

[PageWidth](#)

[PinX](#)

[PinY](#)

[Pos.](#)

[Print](#)

[Prompt \(Actions\)](#)

[Prompt \(Custom Properties\)](#)

[Prompt \(User-Defined Cells\)](#)

[Prop.Row](#)

## **R**

[ResizeMode](#)

[RightMargin](#)

[Rounding](#)

## **S**

[ShdwBkgnd](#)

[ShdwForegnd](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

[ShdwPattern](#)

[Size](#)

[Snap](#)

[SortKey](#)

[SpAfter](#)

[SpBefore](#)

[SpLine](#)

[SplineKnot](#)

[SplineStart](#)

[Start](#)

[Style](#)

## **T**

[TextBkgnd](#)

[TheData](#)

[TheText](#)

[TopMargin](#)

[TxtAngle](#)

[TxtHeight](#)

[TxtLocPinX](#)

TxtLocPinY

TxtPinX

TxtPinY

TxtWidth

Type

## **U**

UpdateAlignBox

User.Row

## **V**

Value (Custom Properties)

Value (User-Defined Cells)

VerticalAlign

Visible

## **W**

WalkPreference

Width

## **X**

X

X Behavior

X Dynamics

XGridDensity

XGridOrigin

XGridSpacing

XRulerDensity

XRulerOrigin

## **Y**

Y

Y Behavior

Y Dynamics

YGridDensity

YGridOrigin

YGridSpacing

YRulerDensity

YRulerOrigin

## Sections overview

Each ShapeSheet is divided into sections that control a particular aspect of a shape's behavior or appearance—for example, its geometry or its formatting.

The sections that appear in a ShapeSheet depend on the shape itself and the sections you choose to display. Most ShapeSheets have an Object Transform section, which contains general positioning information for the shape. (Guides and guide points have a Guide Info section.) Visio builds in other sections required for the shape as it is drawn. A ShapeSheet for a particular shape may not have every possible section. For example, a 2-D shape doesn't have a 1-D Endpoints section, and only an object from another program has an Image Info section.

### Cells and formulas

Each section consists of cells that contain formulas, which can be default formulas created by Visio or formulas you create. You change a shape's behavior by editing formulas in cells. Editing formulas in a ShapeSheet provides a way to change a shape with greater precision than is possible in the drawing window. This is how you turn ordinary shapes into SmartShapes.

### See also

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[Adding and deleting sections](#)

[Creating formulas](#)

[Editing formulas](#)

[Understanding ShapeSheets](#)

## Formulas overview

A formula in a cell can be Visio's default formula, one that is inherited from a master shape, or one you create by entering it in a ShapeSheet cell. Cells are used in much the same way as in a spreadsheet program. Editing a cell's formula changes the way the value of the cell is calculated, so it changes a particular behavior of the shape. A formula always starts with an equal sign, which Visio inserts automatically.

### Default formulas

When you create a shape, Visio automatically creates default formulas. To see what the default formulas are, draw a simple shape (such as a rectangle, ellipse, or straight line) and take a look at its ShapeSheet.

### Automatic updates

Visio automatically updates certain cells whenever you change a shape in a drawing. This means that under some circumstances formulas you enter can be replaced with formulas from Visio. For example, if you drag a corner handle to resize the shape, Visio resets formulas in the PinX, PinY, Width, and Height cells.

If necessary, you can protect formulas against changes using the GUARD function.

### Elements

A formula can contain the following elements:

**Coordinates:** Used to refer to positions of vertexes with respect to the origin of a shape and to the origin of the group or page that contains the shape. Most formulas are expressed as coordinates for controlling the position and size of a shape.

**Numbers:** Used in formulas to specify a wide range of values, such as measurements, angles, styles, and colors. A number can include a plus or a minus sign and can be entered in exponential notation (for example, 1.2E-6) or as a fraction (for example, 5 <sup>9</sup>/<sub>16</sub>).

Units of measure: Used after a number to specify the unit of measure that the number represents. If you don't specify a unit of measure, Visio uses default units of measure in cells that require a unit of measure.

Cell references: Used in formulas to calculate the value of one cell on the basis of the value of another cell.

Functions: Used for a variety of purposes in formulas. Visio includes mathematical, trigonometric, logical, date and time, statistical, and miscellaneous functions.

Operators and parentheses: Used to create mathematical expressions in formulas.

Inherited formulas: Used when an instance of a shape inherits formulas from its master rather than making local copies of them.

Local formulas: Used when an inherited formula has been edited or overwritten by actions in the drawing page.

### See also

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Creating formulas

Editing formulas

## Units of measure

When you insert [fields](#) into text or build formulas in ShapeSheets, you'll often specify units of measure for the values you type. Units of measure affect how a value is displayed, not how it is stored.

### Values

Visio stores all values internally in a single format and converts the value to the specified unit of measure for display. This allows you to easily convert a value from one system of measurement to another by typing the units you want.

If you don't specify a unit of measure, Visio uses the default unit for that cell. If you have already specified units of measure for a cell, Visio displays values in those units until you change them.

You can type units of measure in full or use these abbreviations:

To specify units	You can type an abbreviation
centimeters	centimeters, cm., or cm
ciceros	ciceros, cicero, ci., ci, or c
ciceros and didots	cicero/didot
degrees	degrees, degree, deg., deg, or °
degrees, minutes, and seconds	dms, degrees, deg, or °
didots	didots, didot, di., di, or d
feet	feet, foot, ft., ft, f, or '
feet and inches	feet/inch
inches	inches, inch, in., in, i, or "
kilometers	kilometers, km., or km
meters	meters, meter, metres, metre, m., or m
miles	miles, mile, mi., or mi
millimeters	millimeters, mm., or mm
minutes	minutes, minute, min., min, or '
percent	%
picas	picas, pica, or p
picas and points	picapoints
points	points, point, pt., or pt
radians	radians, radian, rad., or rad
seconds	seconds, second, sec., sec, or "
yards	yards, yard, yds., yds, yd., or yd

To enter units implicitly, use this syntax when specifying a number and unit of measure:

number [**unit, flag**]

where:

number	The original value, such as 3.7, 1.7E-4, or 5 1/2
unit	The units in which <b>number</b> is originally expressed
flag	A letter (either uppercase or lowercase) indicating the measurement system that should be used when the implicit value-unit is displayed: d Drawing measurements p Page measurements



- t Type measurements
- a Angular measurements

**See also**

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[Creating formulas](#)

## Operators

You can use Visio's operators in expressions in formulas to perform arithmetic operations or logical comparisons. You can also alter the order of evaluation in a formula by enclosing expressions in parentheses. Use the ampersand operator to combine character strings.

## Ampersand operator

The ampersand operator returns a new character string. You can create compound words and phrases.

**Syntax**        "string1" & "string2"

**Example**       "dog" & "house"

Returns "doghouse".

## Arithmetic operators

Arithmetic operators perform operations on numbers. The + and - operators can be used alone as unary operators to establish the sign of a number. The % operator is also a unary operator that identifies the number as a percentage.

Operator	Action	Example	Result
+	Positive	+37	+37
-	Negative	-37	-37
%	Percentage	37%	37%
^	Exponentiation	5^2	25
*	Multiplication	5*2	10
/	Division	5/2	2.5
+	Addition	5+2	7
-	Subtraction	5-2	3

## Comparison operators

Comparison operators are used to construct logical expressions. A logical expression evaluates to either TRUE or FALSE.

Operator	Alternative	Action	Example	Result
>	_GT_	Greater than	5 > 2	TRUE
<	_LT_	Less than	5 < 2	FALSE
>=	_GE_	Greater than or equal to	5 >= 2	TRUE
<=	_LE_	Less than or equal to	5 <= 2	FALSE
=	_EQ_	Equal to	5 = 2	FALSE
<>	_NE_	Not equal to	5 <> 2	TRUE

The symbolic comparison operators (>, <, and so forth) are the best choice for most comparisons. The alternative operators (\_GT\_, \_LT\_, and so forth) perform an exact comparison to the full 15 digits of precision that Visio uses to store values internally.

When you compare rounded or calculated values by using the alternative operators, Visio might return FALSE when for all practical purposes the expression should evaluate to TRUE.

When you compare text strings, Visio converts the string to a value. Text strings that cannot be converted return a value of zero, therefore comparisons vary and may not produce the results you expect.

## Order of evaluation

When a formula contains more than one expression, the expressions are evaluated in order according to the operation being performed. In Visio, the order of evaluation of operators is:

<b>Order</b>	<b>Action</b>	<b>Operator</b>
First	Positive	+
	Negative	-
	Percent	%
Second	Exponentiation	^
Third	Multiplication	*
	Division	/
Fourth	Addition	+
	Subtraction	-
Fifth	String concatenation	&
	Greater than	>
Sixth	Greater than or equal to	=>
	Less than	<
	Less than or equal to	<=
	Equal	=
Seventh	Not equal	<>

You can change the order of evaluation by enclosing expressions in parentheses. Visio evaluates expressions within parentheses first, from left to right. For example:

$$4+5*6 = 4+30 = 34$$

$$(4+5)*6 = 9*6 = 54$$

If expressions in parentheses are nested, Visio evaluates the expression in the innermost set of parentheses first.

## Cell reference syntax

In a cell's formula, you can refer to a ShapeSheet cells of either the current shape or another shape on the same page so that Visio calculates a value for one cell based on another cell's value.

Cell references can include shape IDs or names. You can always refer to any shape on the page by its ID, whether the shape is named or not. If a shape hasn't been named, its default name is Sheet.n, where n is the shape ID. The ID is assigned by Visio when the shape is created and does not change unless you move the shape to another page or document.

If more than one shape on a page has the same name, you must include the ID assigned by Visio. To display the ID or enter a name, use the Special command.

Whether you can refer to a shape by name, and the exact syntax you'll use, depends on where the shape is in relation to the shape whose formula contains the reference. These general rules apply:

- If a shape is a peer of the shape whose formula you are editing, you can refer to that shape by name. If the peer shape is a group, you can refer by name to the group, but not its members. Neither can you refer by name to a shape's parent or its parent's peers.
- You can use Sheet.ID syntax to refer to any shape on the page, whether the shape is in a group or is a parent of the shape.

<b>ShapeSheet</b>	<b>Cell reference</b>	<b>Example</b>
Same shape	Cellname	Width
Named shape, group, or guide	Shapename!Cellname	Star!Angle
Named shape, group, or guide in which more than one shape at the same level has the same name	Shapename.ID!Cellname	Executive.2!TheText
Any shape on the page	Sheet.ID!Cellname	Sheet.8!FillForegnd
A cell in a particular column and row of a section	Section.ColumnRow	Scratch.A5
A cell in a section with indexed rows	Section.Column[index]	Char.Font[3]
A cell in the ShapeSheet of the page	ThePage!Cellreference	ThePage! User.Vanishing_Point

### Sections, columns, and rows

Visio identifies rows with numbers and columns with letters. Unlike a conventional spreadsheet, however, the first two columns are X and Y. Visio identifies columns with A starting with the third column through W. Visio skips X and Y. Columns after Z are identified as in a conventional spreadsheet: AA, AB, through AZ, and so forth, but these cells can be accessed only programmatically, not through the ShapeSheet.

## Local and inherited formulas

The formula you see in a cell can be one that is inherited from a master or a style, or a local formula that you enter in the cell. Visio uses inherited formulas whenever possible.

Rather than make a local copy of every formula in the ShapeSheet, an instance inherits formulas from its master on the local stencil and inherits formatting from the style definition stored with the drawing. This behavior results in smaller files, but also allows changes to the masters formulas or the style definition to be propagated to all instances.

### Cells

Black text in a cell indicates an inherited formula. Blue text indicates a local formula, either the result of editing the formula in the ShapeSheet or some change to the shape that caused Visio to reset the formula for that cell.

### Local formulas

When you write a local formula in the ShapeSheet of an instance, you are replacing the inherited formula in the cell, which then no longer inherits its value from the master. An exception is when you apply a style, which always writes new values into the ShapeSheet and so can overwrite even locally edited cells.

### See also

---

[Using inherited formulas](#)

## Error values

Visio displays error values in cells that have incorrect formulas for that cell.

If a formula references a cell that contains an error value, that formula also displays an error value. You can use the functions [ISERR](#), [ISERRNA](#), [ISERROR](#), or [ISERRVALUE](#) to look for error values.

### Error values

<b>If the cell displays</b>	<b>The formula includes</b>	<b>Example</b>
#DIV/0!	Division by zero	10/0
#VALUE!	An argument or operand of the wrong type	5 + "House"
#REF!	A reference to a cell that does not exist	A cell that refers to another cell that no longer exists
#NUM!	An invalid number	Square root of a negative number
#N/A!	Not available value	NA( ) function

### See also

---

[Cell reference syntax](#)



## Object Transform section

The Object Transform section contains general positioning information about a shape, for example, its width, height, angle, and center of rotation (pin); whether the shape has been flipped; and how the shape should behave when resized within a group.

The Object Transform section includes these cells:

Angle

FlipX

FlipY

Height

LocPinX

LocPinY

PinX

PinY

ResizeMode

Width

## Width (Object Transform section)

Contains the width of the selected shape in [drawing units](#). Visio's default formula for determining the width of a 1-D shape is:

$$=\text{SQRT}((\text{EndX}-\text{BeginX})^2+(\text{EndY}-\text{BeginY})^2)$$

## Height (Object Transform section)

The height of the shape in [drawing units](#).

## Angle (Object Transform section)

The shape's current angle of rotation in relation to its [parent](#). Visio's default formula for determining the rotation angle of a 1-D shape is:

=ATAN2(EndY-BeginY,EndX-BeginX)

## FlipX (Object Transform section)

Indicates whether the shape has been flipped horizontally.

non-0 The shape has been flipped

0 The shape has not been flipped

## FlipY (Object Transform section)

Indicates whether the shape has been flipped vertically.

non-0 The shape has been flipped

0 The shape has not been flipped

## PinX (Object Transform section)

The x-coordinate of the shape's pin (center of rotation) in relation to the origin of its parent.

## PinY (Object Transform section)

The y-coordinate of the shape's pin (center of rotation) in relation to the origin of its parent.



## LocPinX (Object Transform section)

The x-coordinate of the shape's pin (center of rotation) in relation to the origin of the shape. Visio's default formula for determining LocPinX is:

$$=\text{Width} * 0.5$$

## LocPinY (Object Transform section)

The y-coordinate of the shape's pin (center of rotation) in relation to the origin of the shape. Visio's default formula for determining LocPinY is:

$$=\text{Height} * 0.5$$

## ResizeMode (Object Transform section)

Shows the current resize behavior setting for the shape. For details, see the [Behavior](#) command.

- 0 Use Group's Setting
- 1 Reposition Only
- 2 Scale With Group

## Geometry section

The ShapeSheet's Geometry section lists the coordinates of the vertexes for the lines and arcs that make up the shape. If the shape has more than one path, the ShapeSheet contains a Geometry section for each path. To add this section to a ShapeSheet, use the Section command.

The Geometry section can include these cells:

ArcTo

EllipticalArcTo

LineTo

NoFill

NoShow

SplineKnot

SplineStart

Start

## Start (Geometry section)

The x- and y-coordinates of the first vertex for the shape. Usually this is the first vertex placed when the shape was drawn, and it does not necessarily correspond to the beginning point of a 1-D shape.

## LineTo (Geometry section)

The x-and y-coordinates of the ending vertex of a straight line segment.

## EllipticalArcTo (Geometry section)

The x- and y-coordinates, control points, angle of eccentricity, and ratio of major and minor axes of an elliptical arc.

- X The x-coordinate of the ending vertex on the arc.
- Y The y-coordinate of the ending vertex on the arc.
- A The x-coordinate of the arc's control point—the point through which the curve of the arc passes. The control point is best located between the beginning and ending vertexes of the arc. Otherwise, the arc may grow to an extreme size in order to pass through the control point, with unpredictable results.
- B The y-coordinate of the arc's control point.
- C The angle of the arc's major axis relative to the drawing page. If the arc has not been rotated, this value is 0.
- D The ratio of the arc's major axis to its minor axis. Ordinarily this value is greater than 1, representing a major axis that is longer than the minor axis. If this value is less than 1, the major axis is shorter than the minor axis. Setting this cell to a value less than or equal to zero or greater than 1000 can lead to unpredictable results.

## ArcTo (Geometry section)

The x- and y-coordinates and bow of a circular arc. When you first draw an arc in Visio, it is an elliptical arc, even if it is based on a circle. In the ShapeSheet the arc is indicated by an EllipticalArcTo row. The eccentricity handles of an elliptical arc are based on its height and width, so the arc changes shape when you drag the eccentricity handle.

To convert an elliptical arc to a circular arc, change the EllipticalArcTo to an ArcTo row using the Change Row Type command. When you drag the beginning or ending vertex of a circular arc, the arc changes size, but always remains the same portion of a circle.

- X The x-coordinate of the ending vertex of the arc.
- Y The y-coordinate of the ending vertex of the arc.
- A The distance from the arc's bisector to the bow point, which is the point on the arc halfway between the arc's beginning vertex and ending vertex.



## NoFill (Geometry section)

The third cell in the Start row of a Geometry section. The NoFill cell indicates whether or not a shape can be filled. If TRUE, the shape's paths are open, so it cannot be filled. If FALSE, its paths are closed, so it can be filled.

The cell that appears to be GeometryN.A1 is actually GeometryN.NoFill (formerly GeometryN.X0). For compatibility with earlier versions of Visio, you can refer to this cell by either name (GeometryN.NoFill or GeometryN.X0.)

## NoShow (Geometry section)

The fourth cell in the Start row of a Geometry section. The NoShow cell indicates whether or not a shape is displayed on the drawing page. If TRUE, the shape is hidden. If FALSE, the shape is shown.

The cell that appears to be GeometryN.B1 is actually GeometryN.NoShow (formerly GeometryN.A0). For compatibility with earlier versions of Visio, you can refer to this cell by either name (GeometryN.NoShow or GeometryN.A0.)

## SplineKnot (Geometry section)

The x- and y-coordinates of the spline knots.

X The x-coordinate of a control point.

Y The y-coordinate of a control point.

A The location of the third or greater spline knot.

### **See also**

SplineStart

---

## SplineStart (Geometry section)

The x- and y-coordinates of the second control point of a spline.

The SplineStart row must be preceded by another kind of row, such as a Start row, to indicate the first control point of the spline. The preceding row can be a LineTo, ArcTo, or EllipticalArcTo row if the spline follows a segment of that type.

- X The x-coordinate of the spline's second control point.
- Y The y-coordinate of the spline's second control point.
- A The second knot of the spline.
- B The first knot of the spline.
- C The last knot of the spline.
- D The degree of the spline (an integer from 1 to 9).

### **See also**

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[SplineKnot](#)

## Protection section

The Protection section shows the current lock settings set with the Protection command plus a few additional locks that can be set only in the ShapeSheet. Locking helps prevent inadvertent changes to the shape but does not prevent Visio from resetting values in other circumstances. It also does not protect against changes made in the ShapeSheet.

To protect a formula from being changed by Visio under any circumstances, use the GUARD() function.

The Protection section includes these cells:

LockAspect

LockBegin

LockCalcWH

LockCrop

LockDelete

LockEnd

LockFormat

LockGroup

LockHeight

LockMoveX

LockMoveY

LockRotate

LockSelect

LockTextEdit

LockVtxEdit

LockWidth

## LockWidth (Protection section)

Locks the width of the shape so that its width remains unchanged when the shape is sized.

non-0 Width is locked

0 Width is not locked

## LockHeight (Protection section)

Locks the height of the shape so that its height remains unchanged when the shape is sized.

non-0 Height is locked

0 Height is not locked

## LockMoveX (Protection section)

Locks the horizontal position of the shape so it cannot be moved horizontally.

non-0 Horizontal position is locked

0 Horizontal position is not locked



## LockMoveY (Protection section)

Locks the vertical position of the shape so it cannot be moved vertically.

non-0 Vertical position is locked

0 Vertical position is not locked

## LockAspect (Protection section)

Locks the aspect ratio of the shape so the shape can only be sized proportionally; it cannot be sized in a single dimension.

non-0 Aspect ratio is locked

0 Aspect ratio is not locked

## LockDelete (Protection section)

Locks the shape against being deleted.

non-0 Shape cannot be deleted

0 Shape can be deleted

## LockBegin (Protection section)

Locks the beginning point (BeginX and BeginY) of a 1-D shape to a specific location.

non-0 Beginning point is locked

0 Beginning is not locked

## LockEnd (Protection section)

Locks the ending point (EndX and EndY) of a 1-D shape to a specific location.

non-0 Ending point is locked

0 Ending point is not locked

## LockRotate (Protection section)

Locks the shape against being rotated with the rotation tool or the Rotate Left or Rotate Right command.

non-0 Shape cannot be rotated

0 Shape can be rotated

LockRotate does not prevent a 1-D shape from being rotated by dragging an endpoint. To lock a 1-D shape against rotation, set LockWidth to a non-zero value.

## LockCrop (Protection section)

Locks an object from another program against being cropped with the crop tool.

non-0 Shape cannot be cropped

0 Shape can be cropped

## LockVtxEdit (Protection section)

Locks the vertexes of a shape so they cannot be edited with any tools on the toolbar.

non-0 Vertexes cannot be edited

0 Vertexes can be edited



## LockTextEdit (Protection section)

Locks the text of a shape so it cannot be edited. However, the text may still be formatted by applying a style using the Font style list.

non-0 Text cannot be edited

0 Text can be edited

## LockFormat (Protection section)

Locks the formatting of a shape so it cannot be changed.

non-0 Formatting cannot be changed

0 Formatting can be changed

## LockGroup (Protection section)

Locks a group against editing.

non-0 Group cannot be edited

0 Group can be edited

## LockCalcWH (Protection section)

Locks a shape's selection rectangle so it cannot be recalculated when a vertex is edited or a row type is changed in the Geometry section.

non-0 Width and height cannot be recalculated

0 Width and height can be recalculated

## LockSelect (Protection section)

Prevents a shape from being selected. In order for LockSelect to take effect, the Objects option must be checked in the Protect Document dialog box.

non-0 Shape cannot be selected

0 Shape can be selected

## Line Format section

The Line Format section shows the current line formatting attributes for the shape, including pattern, weight, and color; whether the line ends are formatted (for example, with an arrowhead); the size of line end formats; the radius of the rounding circle applied to the line; and line cap style (round or square). Line formats can be set with the Line command, by applying a line style, or by entering a formula in a Line Format cell.

The Line Format section includes these cells:

ArrowSize

BeginArrow

EndArrow

LineCap

LineColor

LinePattern

LineWeight

Rounding

## LineCap (Line Format section)

Indicates whether a line has rounded or square line caps. To set the line caps, type one of these numbers or use the Line command.

- 0      Rounded ends
- 1      Square ends

## LinePattern (Line Format section)

The line pattern of the shape. To set the line pattern, type one of these numbers or use the Line command.

- |   |                   |
|---|-------------------|
| 0 | None              |
| 1 | Solid             |
| 2 | Dashed            |
| 3 | Dotted            |
| 4 | Dash-dot-dash     |
| 5 | Dash-dot-dot-dash |



## LineWeight (Line Format section)

The line weight of the shape. To set the line weight, enter a number with valid units of measure or use the Line command. If the unit of measure is not entered, then the unit of measure for text specified in the Options dialog box is used. The line weight is independent of the scale of the drawing. If the drawing is scaled, the line weight remains the same.

## LineColor (Line Format section)

The line color of the shape, identified by the number assigned to that color in the Color Palette dialog box. To set the line color, enter a number from 0 to 23 or use the Line command. To switch to a different color palette, use the Color Palette command.

## BeginArrow (Line Format section)

Indicates whether a line has an arrowhead or other line end format at its first vertex. Enter a number from 0 to 11, or use the Line command. The size of the arrowhead is set in the ArrowSize cell.

- |       |                           |
|-------|---------------------------|
| 0     | No arrowhead              |
| 1 - 8 | Assorted arrowhead styles |
| 9     | Slash                     |
| 10    | Ball                      |
| 11    | Square                    |

## EndArrow (Line Format section)

Indicates whether a line has an arrowhead or other line end format at its last vertex. Enter a number from 0 to 11, or use the Line command. The size of the arrowhead is set in the ArrowSize cell.

- |       |                           |
|-------|---------------------------|
| 0     | No arrowhead              |
| 1 - 8 | Assorted arrowhead styles |
| 9     | Slash                     |
| 10    | Ball                      |
| 11    | Square                    |

## ArrowSize (Line Format section)

Indicates the size of the arrowhead set in BeginArrow and EndArrow. Enter a number from 0 to 4, or use the Line command.

- |   |             |
|---|-------------|
| 0 | Very small  |
| 1 | Small       |
| 2 | Medium      |
| 3 | Large       |
| 4 | Extra large |

## **Rounding (Line Format section)**

Indicates the radius of the rounding circle applied where two straight segments of a shape meet. For example, rounding can be used to give a rectangle rounded corners. To set rounding, enter a value with units of measure, or use the Line command.

## Fill Format section

The Fill Format section shows the current fill formatting attributes for the shape and the shape's drop shadow, including pattern, foreground color, and background color. Fill formats can be set with the Fill command, by applying a fill style, or by making an entry in a Fill Format cell.

The Fill Format section includes these cells:

FillBkgnd

FillForegnd

FillPattern

ShdwBkgnd

ShdwForegnd

ShdwPattern

## FillPattern (Fill Format section)

The fill pattern for the shape. To set the fill pattern, type one of these numbers or use the Fill command.

- 0 None (transparent fill)
- 1 Solid foreground color
- 2 - 24 Assorted patterns



## FillForegnd (Fill Format section)

The color used for the foreground (stroke) of the shape's fill pattern. To set the color, enter a number from 0 to 23. The number corresponds to a color in the current color palette, which is set with the Color Palette command.

## FillBkgnd (Fill Format section)

The color used for the background (fill) of the shape's fill pattern. To set the color, enter a number from 0 to 23. The number corresponds to a color in the current color palette, which is set with the Color Palette command.

## ShdwPattern (Fill Format section)

The fill pattern for the shape's drop shadow. To set the fill pattern, type one of these numbers or use the Fill command.

- 0 None (transparent fill)
- 1 Solid foreground color
- 2 - 24 Assorted patterns

## **ShdwForegnd (Fill Format section)**

The color used for the foreground (stroke) of the shape's drop shadow fill pattern. To set the color, enter a number from 0 to 23. The number corresponds to a color in the current color palette, which is set with the Color Palette command.

## ShdwBkgnd (Fill Format section)

The color used for the background (fill) of the shape's drop shadow fill pattern. To set the color, enter a number from 0 to 23. The number corresponds to a color in the current color palette, which is set with the Color Palette command.

## Character section

The Character section shows the formatting attributes for the shape's text, including font, color, text style, case, position relative to the baseline, and point size. Text formats can be set with the Font command, by applying a text style, or by making an entry in a Character section cell.

The Character section includes these cells:

Case

Color

Font

Pos

Size

Style

## Font (Character section)

The number of the font used to format the text. Font numbers vary according to the fonts installed on your system. The number 0 represents Visio's default font, which is Arial, unless you change the default font in the VISIO.INI file.

## Color (Character section)

The color used for the shape's text. To set the color, enter a number from 0 to 23. The number corresponds to a color in the current color palette, which is set with the Color Palette command.



## Style (Character section)

Shows the character formatting applied to the text in the shape's text block. The value represents a binary number in which each bit indicates a character style.

<b>Bit:</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>1</b>
Style:	Small caps	Underline	Italic	Bold

For example, a value of 3 represents text formatted in both italic and bold. If the value of Style is 0, the text is plain, or unformatted.

To test for a particular format, use the Boolean functions BITAND(), BITNOT(), BITOR(), or BITXOR().

## Case (Character section)

The case of a shape's text. All capitals (1) and initial capitals (2) do not change the appearance of text that was entered in all capital letters. The text must be entered in lowercase letters for these options to show an effect.

- 0 Normal case
- 1 All capital (uppercase) letters
- 2 Initial capital letters only

## Pos (Character section)

The position of the shape's text relative to the baseline.

- 0 Normal position
- 1 Superscript
- 2 Subscript

## Size (Character section)

The size of the text in the shape's text block, in the default units for text set in the Options dialog box. The text's size is independent of the scale of the drawing. If the drawing is scaled, the text size remains the same.

## Paragraph section

The Paragraph section shows the paragraph formatting attributes for the shape's text, including indents, line spacing, and horizontal alignment of paragraphs. Paragraph formats can be set with the Paragraph command, by applying a text style, or by making an entry in a Paragraph section cell.

The Paragraph section includes these cells:

HAlign

IndFirst

IndLeft

IndRight

SpAfter

SpBefore

SpLine

The Paragraph section does not include cells for tab settings. To set tabs for a shape's text, use the Tabs command.

## IndFirst (Paragraph section)

The distance the first line of each paragraph in the shape's text block is indented from the left indent of the paragraph. This value is independent of the scale of the drawing. If the drawing is scaled, the first line indent remains the same.

## **IndLeft (Paragraph section)**

The distance all lines of text in each paragraph are indented from the left margin of the text block. This value is independent of the scale of the drawing. If the drawing is scaled, the left indent remains the same.

## **IndRight (Paragraph section)**

The distance all lines of text in each paragraph are indented from the right margin of the text block. This value is independent of the scale of the drawing. If the drawing is scaled, the right indent remains the same.



## SpLine (Paragraph section)

The distance between one line of text and the next, expressed as a percentage, where 100% is the height of a text line. SpLine can have these values:

- >0 Absolute spacing, regardless of type size
- =0 Set solid (spacing = 100% of type size)
- <0 A percentage of type size (for example, -120% yields 120% spacing)

If SpLine is less than 100%, lines of text overlap. This value is independent of the scale of the drawing. If the drawing is scaled, the line spacing remains the same.

## SpBefore (Paragraph section)

The amount of space inserted before each paragraph in the shape's text block, in addition to any space from SpLine and, if it is the first paragraph in a text block, TopMargin. This value is independent of the scale of the drawing. If the drawing is scaled, the Space Before setting remains the same.

## SpAfter (Paragraph section)

The amount of space inserted after each paragraph in the shape's text block, in addition to any space from SpLine and, if it is the first paragraph in a text block, BottomMargin. This value is independent of the scale of the drawing. If the drawing is scaled, the Space After setting remains the same.

## HAlign (Paragraph section)

The horizontal alignment of text in the shape's text block. HAlign can have these values:

- 0 Left align
- 1 Center
- 2 Right align
- 3 Justify
- 4 Force justify

Justify adds spaces between words in every line of the paragraph except the last line to make both the left and right sides of text flush with the margins. Force justify justifies every line in the paragraph, including the last.

## Text Block Format section

The Text Block Format section shows the alignment and margins of text in a shape's text block and includes these cells:

BottomMargin

LeftMargin

RightMargin

TextBkgnd

TopMargin

VerticalAlign

## VerticalAlign (Text Block Format section)

The vertical alignment of text within the text block. VerticalAlign can have these values:

- 0 Top
- 1 Middle
- 2 Bottom

## TopMargin (Text Block Format section)

The distance between the top border of the text block and the first line of text it contains. The default is 0.1 inches. This value is independent of the scale of the drawing. If the drawing is scaled, the top margin remains the same.

## **BottomMargin (Text Block Format section)**

The distance between the bottom border of the text block and the last line of text it contains. The default is 0.1 inches. This value is independent of the scale of the drawing. If the drawing is scaled, the bottom margin remains the same.



## **LeftMargin (Text Block Format section)**

The distance between the left border of the text block and the text it contains. The default is 0.1 inch. This value is independent of the scale of the drawing. If the drawing is scaled, the left margin remains the same.

## RightMargin (Text Block Format section)

The distance between the right border of the text block and the text it contains. Visio's default is 0.1 inch. This value is independent of the scale of the drawing. If the drawing is scaled, the right margin remains the same.

## **TextBkgnd (Text Block Format Section)**

The text background color for a shape. TextBkgnd can have any value between 0 and 255, or 255. (0 and 255 indicate a transparent text background.) To select a color value, add 1 to the value displayed in the Color Palette dialog box.

## Text Fields section

The Text Fields section displays custom formulas inserted in the shape's text using the Text Field command. Formulas appear in the Text Fields section in the order they were created, not the order they appear in the text. To add this section in the ShapeSheet, use the Section command.

## Text Transform section

The Text Transform section contains positioning information about a shape's text block. To add this section in the ShapeSheet, use the Section command.

The Text Transform section includes these cells:

TxtAngle  
TxtHeight  
TxtLocPinX  
TxtLocPinY  
TxtPinX  
TxtPinY  
TxtWidth

## **TxtWidth (Text Transform section)**

The width of the text block. Visio's default formula is:

$$= \text{Width} * 1$$

which evaluates to the width of the shape.

## **TxtHeight (Text Transform section)**

The height of the text block. Visio's default formula is:

$$= \text{Height} * 1$$

which evaluates to the height of the shape.

## **TxtAngle (Text Transform section)**

The text block's current angle of rotation in relation to the x-axis of the shape. The default is 0 degrees.



## TxtPinX (Text Transform section)

The x-coordinate of the text block's center of rotation in relation to the origin of the shape. Visio's default formula is:

$$= \text{Width} * 0.5$$

which evaluates to the horizontal center of the shape.

### See also

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[LocPinX](#)

[PinX](#)

[TxtLocPinX](#)

## TxtPinY (Text Transform section)

The y-coordinate of the text block's center of rotation in relation to the origin of the shape. Visio's default formula is:

$$= \text{Height} * 0.5$$

which evaluates to the vertical center of the shape.

### See also

---

LocPinY

PinY

TxtLocPinY

## TxtLocPinX (Text Transform section)

The x-coordinate of the text block's center of rotation in relation to the origin of the text block. Visio's default formula is:

$$= \text{TxtWidth} * 0.5$$

which evaluates to the horizontal center of the text block.

### See also

---

[LocPinX](#)

[PinX](#)

[TxtLocPinY](#)

## TxtLocPinY (Text Transform section)

The y-coordinate of the text block's center of rotation relative to the origin of the text block. Visio's default formula is:

$$= \text{TxtHeight} * 0.5$$

which evaluates to the vertical center of the text block.

### See also

---

[LocPinY](#)

[PinY](#)

[TxtLocPinX](#)

## Scratch section

The Scratch section is a work area for entering and testing formulas that are referred to by other cells. To add this section in the ShapeSheet, use the Section command.

Cells in the Scratch section use units in two different ways. X and Y cells use drawing units; A through D cells are unitless. (In C programmers' jargon, X and Y cells are "typed" and cells A through D are "void.") The Scratch X and Y cells are often used for deriving x- and y-coordinates, such as PinX and PinY, or the X and Y cells found in a Geometry section cell. Scratch cells A through D can display whatever units you specify.

A further difference is the way these cells store point values. A point in Visio is a single data package for an (x,y) coordinate. When a formula returns a point value, that value is interpreted in one of three ways, depending on the ShapeSheet cell the formula is in. Cells that relate to x-coordinates (for example, PinX, or cells in the X column of a Geometry section) extract just the x-coordinate part of a point value. Cells that relate to y-coordinates extract just the y-coordinate part of a point value. A cell that is unitless extracts the distance from (0,0) to the point.

For example, Visio extracts the formula PNT(3,4) in these three ways:

<b>Cell</b>	<b>If you enter</b>	<b>Visio treats it like</b>	<b>Result</b>
X	PNT(3,4)	PNTX(PNT(3,4))	3
Y	PNT(3,4)	PNTY(PNT(3,4))	4
A-D	PNT(3,4)	SQRT(3 <sup>2</sup> +4 <sup>2</sup> )	5

## Connection Points section

The Connection Points section contains cells for the x- and y-coordinates of each connection point defined for the shape. Coordinates of connection points are measured from the origin of the shape. To add this section in the ShapeSheet, use the Section command.

## Controls section

The Controls section contains cells for the x- and y-coordinates of each control handle defined for a shape and cells that specify the way the control handle should behave.

The Controls section includes these cells:

Can Glue

X

X Behavior

X Dynamics

Y

Y Behavior

Y Dynamics

## X (Controls section)

The x-coordinate that indicates the location of a shape's control handle.

## Y (Controls section)

The y-coordinate that indicates the location of a shape's control handle.



## X Dynamics (Controls section)

The x-coordinate for a control handle's anchor point. The anchor point is used for rubber-banding during dynamics.

### See also

---

X Behavior  
Y Behavior  
Y Dynamics

## Y Dynamics (Controls section)

The y-coordinate for a control handle's anchor point. The anchor point is used for rubber-banding during dynamics.

### **See also**

---

X Behavior

X Dynamics

Y Behavior

## X Behavior (Controls section)

Controls the type of behavior the x-coordinate of the control handle will exhibit after the handle is moved. These formulas are available:

<b>Value</b>	<b>Behavior</b>	<b>Example formula</b>	<b>Definition</b>
0	Proportional	=Width * .33	The control handle can be moved, and it also moves in proportion with the shape when it is stretched.
1	Proportional locked	=Width * .33	The control handle moves in proportion with the shape but the control handle itself cannot be moved.
2	Offset from left edge	=.3	The control handle is offset a constant distance from the left side of the shape.
3	Offset from center	Width/2 + .2	The control handle is offset a constant distance from the center of the shape.
4	Offset from right edge	Width - .4	The control handle is offset a constant distance from the right side of the shape.

---

### **See also**

[Y Behavior](#)

## Y Behavior (Controls section)

Controls the type of behavior the y-coordinate of the control handle will exhibit after the handle is moved. These formulas are available:

Value	Behavior	Sample formula	Definition
0	Proportional	=Height*.33	The control handle can be moved, and it also moves in proportion with the shape when it is stretched.
1	Proportional locked	=Height*.33	The control handle moves in proportion with the shape but the control handle itself cannot be moved.
2	Offset from bottom edge	=.3	The control handle is offset a constant distance from the bottom side of the shape.
3	Offset from center	Height/2 + .2	The control handle is offset a constant distance from the center of the shape.
4	Offset from top edge	Height - .4	The control handle is offset a constant distance from the top of the shape.

---

### See also

X Behavior

## Can Glue (Controls section)

Controls whether or not a control handle can be glued to other shapes.

non-0 Control handle can be glued

0 Control handle cannot be glued

## 1-D Endpoints section

The 1-D Endpoints section contains x- and y-coordinates of the beginning point and ending point of a 1-D shape. This section appears in the ShapeSheet for 1-D shapes only.

BeginX

BeginY

EndX

EndY

## BeginX (1-D Endpoints section)

The x-coordinate of the beginning point of the 1-D shape, in relation to the origin of its parent.

### **See also**

---

Start

## BeginY (1-D Endpoints section)

The y-coordinate of the beginning point of the 1-D shape, in relation to the origin of its parent.

### **See also**

---

Start



## **EndX (1-D Endpoints section)**

The x-coordinate of the ending point of the 1-D shape, in relation to the origin of its parent.

## **EndY (1-D Endpoints section)**

The y-coordinate of the ending point of the 1-D shape, in relation to the origin of its parent.

## Alignment section

The Alignment section indicates the alignment of a shape with respect to the guide or guide point to which the shape is glued. The Alignment section appears only in the ShapeSheets of shapes that are glued to guides.

Formulas in this section refer to the Guide Info section of the ShapeSheet for the guide to which the shape is glued.

The Alignment section includes these cells:

AlignBottom

AlignCenter

AlignLeft

AlignMiddle

AlignRight

AlignTop

## **AlignLeft (Alignment section)**

The horizontal position, relative to the origin of its parent, of a vertical guide or guide point to which the shape's left border is aligned.

## **AlignCenter (Alignment section)**

The horizontal position, relative to the origin of its parent, of a vertical guide or guide point to which the shape's horizontal center is aligned.

## **AlignRight (Alignment section)**

The horizontal position, relative to the origin of its parent, of a vertical guide or guide point to which the shape's right border is aligned.

## **AlignTop (Alignment section)**

The vertical position, relative to the origin of its parent, of a horizontal guide or guide point to which the shape's top border is aligned.

## **AlignMiddle (Alignment section)**

The vertical position, relative to the origin of its parent, of a horizontal guide or guide point to which the shape's vertical center is aligned.



## **AlignBottom (Alignment section)**

The vertical position, relative to the origin of its parent, of a horizontal guide or guide point to which the shape's bottom border is aligned.

## Guide Info section

The Guide Info section contains the x- and y-coordinates of a guide or guide point. Shapes that are aligned to the guide or guide point refer to its Guide Info section for their values.

The Guide Info section includes these cells:

GuideFlags

GuidePosX

GuidePosY

## **GuidePosX (Guide Info section)**

The x-coordinate of a vertical guide or guide point relative to the origin of its parent. For a horizontal guide, this value is ignored.

## GuidePosY (Guide Info section)

The y-coordinate of a horizontal guide or guide point relative to the origin of its parent. For a vertical guide, this value is ignored.

## GuideFlags (Guide Info section)

Indicates whether the guide is vertical, horizontal, or a guide point. To change the guide's orientation, enter one of these values:

- 1024 Vertical guide
- 2048 Horizontal guide
- 3072 Guide point

## Image Info section

The Image Info section contains the width and height of an object from another program used in a Visio drawing and appears only in the ShapeSheet for such objects. It also indicates the distance the object's image is offset within its borders.

The Image Info section includes these cells:

ImgHeight

ImgOffsetX

ImgOffsetY

ImgWidth

## ImgWidth (Image Info section)

The width of the object's image within its border. Visio's default formula is:

$$= \text{Width} * 1.$$

Cropping the object changes the factor by which Width is multiplied.

## ImgHeight (Image Info section)

The height of the object's image within its border. Visio's default formula is:

$$= \text{Height} * 1.$$

Cropping the object changes the factor by which Height is multiplied.



## ImgOffsetX (Image Info section)

The distance the object is offset horizontally from the origin of the object's border. The default is 0. Panning the object with the crop tool changes this value.

## ImgOffsetY (Image Info section)

The distance the object is offset vertically from the origin of the object's border. The default is 0. Panning the object with the crop tool changes this value.

## Events section

The Events section contains formulas that control shape events. Event cells are evaluated only when the event occurs, not upon formula entry.

The Events section includes these cells:

EventDbIClick

EventDrop

EventXFMod

TheData

TheText

## TheText (Events section)

An event cell associated with changes to a shape's text. The cell refers to the current shape unless it is preceded by a reference to another shape on the page.

TheText is reevaluated whenever the shape's text changes and can be used to trigger recalculations (for example, to recalculate the text width and height with the TEXTWIDTH() and TEXTHEIGHT() functions).

**Note:** Event cells are evaluated only when the event occurs, not upon formula entry.

### See also

---

[EventDbClick](#)

[EventDrop](#)

[EventXFMod](#)

[TheData](#)

## EventDbClick (Events section)

An event cell associated with a shape being double-clicked. The cell refers to the current shape unless it is preceded by a reference to another shape on the page.

**Note:** Event cells are evaluated only when the event occurs, not upon formula entry.

### See also

---

[EventDrop](#)

[EventXFMod](#)

[TheData](#)

[TheText](#)

## EventXFMod (Events section)

An event cell associated with a change in a shape's position or orientation on the page. The cell refers to the current shape unless it is preceded by a reference to another shape on the page.

**Note:** Event cells are evaluated only when the event occurs, not upon formula entry.

### See also

---

[EventDbfClick](#)

[EventDrop](#)

[TheData](#)

[TheText](#)

## EventDrop (Events section)

An event cell associated with a shape being dropped on the drawing page, either as an [instance](#) or when a shape is duplicated or pasted. The cell refers to the current shape unless it is preceded by a [reference](#) to another shape on the page.

**Note:** Event cells are evaluated only when the event occurs, not upon formula entry.

### See also

---

[EventDbClick](#)

[EventXFMod](#)

[TheData](#)

[TheText](#)

## TheData (Events section)

TheData is reserved for future use.

### See also

---

[EventDbClick](#)

[EventDrop](#)

[EventXMod](#)

[TheText](#)



## Miscellaneous section

The Miscellaneous section contains object properties for the selected shape, including selection highlighting and visibility.

The Miscellaneous section includes these cells:

DynFeedback

HideText

NoAlignBox

NoCtrlHandles

NoObjHandles

NonPrinting

UpdateAlignBox

## **DynFeedback (Miscellaneous section)**

Indicates the type of connector to display as you drag, showing the connector as it will appear when the mouse button is released.

- 0 Any connector other than a Universal Connector
- 1 The 3-legged Universal connector
- 2 The 5-legged Universal connector

## NoObjHandles (Miscellaneous section)

Toggles the display of selection handles on and off for the selected shape. Upon setting this cell to a non-zero value (TRUE), the selection handles will not be displayed when the shape is selected.

non-0 Selection handles not displayed

0 Selection handles displayed

## NoCtrlHandles (Miscellaneous section)

Toggles the display of control handles on and off for the selected shape. Upon setting this cell to a non-zero value (TRUE), the control handles will not be displayed when the shape is selected.

non-0 Control handles not displayed

0 Control handles displayed

## NoAlignBox (Miscellaneous section)

Toggles the display of the selection rectangle on and off for the selected shape. Upon setting this cell to a non-zero value (TRUE), the selection rectangle will not be displayed when the shape is selected.

non-0 Selection rectangle not displayed

0 Selection rectangle displayed

## NonPrinting (Miscellaneous section)

Toggles printing on and off for the selected shape. Upon setting this cell to a non-zero value (TRUE), the shape will be displayed in the drawing window but will not print.

non-0 Printing disabled

0 Printing enabled

## UpdateAlignBox (Miscellaneous section)

Recalculates the selection rectangle whenever a control handle is moved.

### **See also**

---

NoAlignBox

## HideText (Miscellaneous section)

Hides the text for a shape. Upon setting this cell to a non-zero value (TRUE), the text does not appear on the screen and does not print. You can view text, edit properties, and apply styles to the text in the text block, although the changes will not appear until you reset HideText to 0 (FALSE).

non-0 Text is hidden

0 Text is not hidden

### See also

---

TEXTHEIGHT()

TEXTWIDTH()





## Glue Info section

The Glue Info section contains formulas generated for a 1-D shape by Visio when the 1-D shape is glued to other shapes. The section contains the following cells:

BegTrigger

EndTrigger

GlueType

WalkPreference

## GlueType (Glue Info section)

Determines whether a [1-D](#) shape uses static (point-to-point) or dynamic (shape-to-shape) glue when it is glued to another shape.

- |   |  |
|---|--|
| 0 | Uses static glue.  |
| 1 | Unassigned.  |
| 2 | Unassigned.  |
| 3 | Uses dynamic glue. Visio writes default formulas in the BegTrigger and EndTrigger cells. |

### See also

---

[BegTrigger](#)

[EndTrigger](#)

## WalkPreference (Glue Info section)

Determines whether an endpoint of a 1-D shape moves to a horizontal or vertical connection point on the shape it is glued to, using dynamic glue, when the shape is moved to an ambiguous position.

- 0 Both endpoints of the 1-D shape move to horizontal connection points (side-to-side connections).
- 1 The begin point of the 1-D shape moves to a vertical connection point, and the end point moves to a horizontal connection point (top-to-side or bottom-to-side connections).
- 2 The begin point of the 1-D shape moves to a horizontal connection point, and the end point moves to a vertical connection point (side-to-top or side-to-bottom connections).
- 3 Both endpoints of the 1-D shape move to vertical connection points (top-to-bottom connections).

## BegTrigger (Glue Info section)

Contains a trigger formula generated by Visio that determines whether to move the begin point of a [1-D](#) shape to maintain its connection to another shape.

When you glue a 1-D shape to another shape using [dynamic glue](#), Visio generates a formula that refers to the EventXFMod cell of the other shape. When that shape is changed, Visio recalculates any formula that refers to its EventXFMod cell, including the formula in the BegTrigger cell. Other formulas in the ShapeSheet for the 1-D shape refer to the BegTrigger cell and move the begin point of the 1-D shape or alter the shape as needed.

### **See also**

---

[End Trigger](#)

## EndTrigger (Glue Info section)

Contains a trigger formula generated by Visio that determines whether to move the end point of a [1-D](#) shape to maintain its connection to another shape.

When you glue a 1-D shape to another shape using [dynamic glue](#), Visio generates a formula that refers to the EventXFMod cell of the other shape. When that shape is changed, Visio recalculates any formula that refers to its EventXFMod cell, including the formula in the EndTrigger cell. Other formulas in the ShapeSheet of the 1-D shape refer to the EndTrigger cell and move the end point of the 1-D shape or alter the shape as needed.

### See also

---

[Beg Trigger](#)

## Actions section

The Actions section defines a custom command name that appears on a shape's or page's shortcut menu and specifies the action that the command takes.

The section contains the following cells:

[Action](#)  
[HelpTopic](#)  
[Menu](#)  
[Prompt](#)

## Action (Actions section)

Contains the formula to be executed when a user chooses the command name defined in the corresponding Menu cell.

**Note:** Action cells are evaluated only when the action occurs, not upon formula entry.

### See also

---

[HelpTopic](#)

[Menu](#)

[Prompt](#)



## HelpTopic (Actions section)

Determines the help topic to be displayed for the shortcut menu command. To display help, enter a formula using one of the following syntaxes:

```
filename.hlp!keyword  
filename.hlp!#number
```

**Filename** is the Windows help file, **keyword** is the index term associated with the help topic, and **number** is a numeric ID that is referenced in the MAP section of the help project file (HPJ).

For information on developing Microsoft Windows online Help, see the Microsoft Software Development Kit (SDK) documentation.

**Note:** Action cells are evaluated only when the action occurs, not upon formula entry.

### See also

---

[Action](#)

[Menu](#)

[Prompt](#)

## Menu (Actions section)

Defines the name of the command that appears on a shape's or page's shortcut menu. Prefix the command name with an underscore character (\_) to display a divider bar above the command in the menu. Prefix the name with a percent character (%) to display the command at the bottom of the shortcut menu.

**Note:** Action cells are evaluated only when the action occurs, not upon formula entry.

### See also

---

[Action](#)

[HelpTopic](#)

[Prompt](#)

## Prompt (Actions section)

Specifies a descriptive prompt that appears in the status bar when a user selects the corresponding shortcut command.

**Note:** Action cells are evaluated only when the action occurs, not upon formula entry.

### See also

---

[Action](#)

[HelpTopic](#)

[Menu](#)

## Custom Properties section

The Custom Properties section contains cells for associating data with a shape.

The section contains the following cells:

[Ask](#)

[Format](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)

## Ask (Custom Properties section)

Determines whether a user is queried to enter custom property information for a shape when an [instance](#) is created or the shape is duplicated or copied. If true, Visio displays the [Custom Properties](#) dialog box every time any of these events is triggered.

non-0 Ask user to enter custom property data

0 Do not ask user to enter data

### See also

---

[Format](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)

## Format (Custom Properties section)

Specifies the formatting of custom property whose data type is string (Type = 0), number (Type = 2), fixed list (Type = 1), or variable list (Type = 4).

"format" If the value of the Type cell is 0 or 2 (string or number), specify any formatting code that is valid syntax for the [FORMAT function](#).

"item;...;item" If the value of the Type cell is 1 or 4 (fixed or variable list), specify the items to appear in the list, separated by semicolons.

### See also

---

[Ask](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)

## Invisible (Custom Properties section)

Specifies whether the custom property is visible in the [Custom Properties](#) dialog box.

non-0 Custom property is not visible

0 Custom property is visible

### See also

---

[Ask](#)

[Format](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)

## Label (Custom Properties section)

Specifies the label that appears to users in the [Custom Properties](#) dialog box. A label consists of alphanumeric characters, including the underscore (\_) character.

Visio automatically encloses the Label string in quotation marks in the ShapeSheet, but the quotation marks are not displayed in the dialog box.

If no label text is found, Visio displays the row name (Prop.Row) in the dialog box.

### See also

---

[Ask](#)

[Format](#)

[Invisible](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)



## Prompt (Custom Properties section)

Specifies descriptive or instructional text that appears to users in the [Custom Properties](#) dialog box when the property is selected.

### See also

---

[Ask](#)

[Format](#)

[Invisible](#)

[Label](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

[Value](#)

## Prop.Row (Custom Properties section)

Specifies the row label, which appears in the ShapeSheet window in red text. For example, type Price in the formula bar to create the custom property Prop.Price.

You can use this name in cell references to refer to the value in the Value cell of the corresponding row. You can also use this name to reference other cells in the same row by including their column name, for example, Prop.Price.Prompt.

### See also

---

[Ask](#)

[Format](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[SortKey](#)

[Type](#)

[Value](#)

## SortKey (Custom Properties section)

Specifies a key by which items in the [Custom Properties](#) dialog box are listed. The sort is locale specific, case insensitive and descending. The sort key is a string, which Visio automatically encloses in quotation marks.

For example, enter the following sort keys to display the custom properties in the dialog box in the order Item Number, Quantity, Price:

Row	Label	SortKey
Prop.Item	Item Number	1
Prop.Price	Price	3
Prop.Quan	Quantity	2

### See also

---

[Ask](#)

[Format](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[Type](#)

[Value](#)

## Type (Custom Properties section)

Specifies a data type for the custom property value.

- 0 String. This is the default.
- 1 Fixed list. Visio displays the list items in a dropdown combo box in the [Custom Properties](#) dialog box. Specify the list items in the [Format](#) cell. Users can select only one item from the list.
- 2 Number. Specify a number format in the Format cell.
- 3 Boolean. Visio displays FALSE and TRUE as items users can select from a dropdown list box in the Custom Properties dialog box.
- 4 Variable list. Visio displays the list items in a dropdown combo box in the Custom Properties dialog box. Specify the list items in the Format cell. Users can select a list item or enter a new item that will be added to the current list in the Format cell.

### See also

---

[Ask](#)  
[Format](#)  
[Invisible](#)  
[Label](#)  
[Prompt](#)  
[SortKey](#)  
[Value](#)

## Value (Custom Properties section)

Contains the property's value as entered in the [Custom Properties](#) dialog box.

You can enter a formula in this cell, but its value will be overwritten by the value entered in the Custom Properties dialog box, even if you use the [GUARD](#) function to protect the formula.

### See also

---

[Ask](#)

[Format](#)

[Invisible](#)

[Label](#)

[Prompt](#)

[Prop.Row](#)

[SortKey](#)

[Type](#)

## Layer Membership section

The Layer Membership section contains one row that lists each layer to which the shape is assigned.

The layer assignment is shown as an index to the list of layers on the page. The layer index corresponds to a layer name in the Layers dialog box. The first name in the dialog box is layer 0, the second is layer 1, and so forth.

If a shape is assigned to more than one layer, each layer index appears in the Layer Membership cell separated by a semicolon.

### **See also**

---

[Layer Properties](#)

## Layer Properties section

The Layer Properties section shows all layers defined for the page and the properties set for each layer. This section is a page property that can be viewed only in the ShapeSheet of a page. It contains the following cells, which correspond to the options in the [Layer Properties](#) dialog box:

[Active](#)

[Color](#)

[Glue](#)

[Lock](#)

[Print](#)

[Snap](#)

[Visible](#)

## Active (Layer Properties section)

Specifies whether the layer is the default active layer. Shapes without preassigned layers are assigned to the active layer when dropped on the drawing page. Corresponds to the Active option in the [Layer Properties](#) dialog box.

non-0 Active layer

0 Not an active layer

### See also

---

[Color](#)

[Glue](#)

[Lock](#)

[Print](#)

[Snap](#)

[Visible](#)



## Color (Layer Properties section)

Specifies the index of the color used to display the layer. Corresponds to the Layer Color option in the [Layer Properties](#) dialog box.

### See also

---

[Active](#)

[Glue](#)

[Lock](#)

[Print](#)

[Snap](#)

[Visible](#)

## Glue (Layer Properties section)

Specifies whether shapes belonging to the layer can be glued. Corresponds to the Glue option in the [Layer Properties](#) dialog box.

non-0 Glue is enabled

0 Glue is disabled

### See also

---

[Active](#)

[Color](#)

[Lock](#)

[Print](#)

[Snap](#)

[Visible](#)

## Lock (Layer Properties section)

Specifies whether shapes belonging to the layer are locked against being selected or edited. Corresponds to the Lock option in the [Layer Properties](#) dialog box.

non-0 Shapes are locked

0 Shapes are not locked

### See also

---

[Active](#)

[Color](#)

[Glue](#)

[Print](#)

[Snap](#)

[Visible](#)

## Print (Layer Properties section)

Specifies whether shapes belonging to the layer can be printed. Corresponds to the Print option in the [Layer Properties](#) dialog box.

non-0 Shapes can be printed

0 Shapes cannot be printed

### See also

---

[Active](#)

[Color](#)

[Glue](#)

[Lock](#)

[Snap](#)

[Visible](#)

## Snap (Layer Properties section)

Specifies whether shapes belonging to the layer snap to the grid. Corresponds to the Snap option in the [Layer Properties](#) dialog box.

non-0 Shapes snap to grid

0 Shapes do not snap to grid

### See also

---

[Active](#)

[Color](#)

[Glue](#)

[Lock](#)

[Print](#)

[Visible](#)

## Visible (Layer Properties section)

Specifies whether shapes belonging to the layer are visible on the drawing page. Corresponds to the Visible option in the [Layer Properties](#) dialog box.

non-0 Shapes are visible

0 Shapes are hidden

### See also

---

[Active](#)

[Color](#)

[Glue](#)

[Lock](#)

[Print](#)

[Snap](#)

## Ruler & Grid section

The Ruler & Grid section shows the current settings of the page's rulers and grid. This section is a page property that can be viewed only in the ShapeSheet of a page. It contains the following cells, which correspond to the settings in the [Ruler & Grid](#) dialog box:

[XGridDensity](#)  
[XGridOrigin](#)  
[XGridSpacing](#)  
[XRulerDensity](#)  
[XRulerOrigin](#)  
[YGridDensity](#)  
[YGridOrigin](#)  
[YGridSpacing](#)  
[YRulerDensity](#)  
[YRulerOrigin](#)

## XGridDensity (Ruler & Grid section)

Specifies the type of horizontal grid to use. Corresponds to the Horizontal Grid Spacing option in the [Ruler & Grid](#) dialog box.

2	Coarse
4	Normal (default)
8	Fine
0	Fixed

**Note:** If an invalid value is entered, it functions the same as 4.

### See also

---

[XGridOrigin](#)

[XGridSpacing](#)

[XRulerDensity](#)

[XRulerOrigin](#)

[YGridDensity](#)

[YGridOrigin](#)

[YGridSpacing](#)

[YRulerDensity](#)

[YRulerOrigin](#)



## XGridSpacing (Ruler & Grid section)

Specifies the distance between horizontal lines in a fixed grid ( $XGridDensity = 0$ ).  
Corresponds to the Horizontal Minimum Spacing option in the [Ruler & Grid](#) dialog box.

### See also

---

[XGridDensity](#)

[XGridOrigin](#)

[XRulerDensity](#)

[XRulerOrigin](#)

[YGridDensity](#)

[YGridOrigin](#)

[YGridSpacing](#)

[YRulerDensity](#)

[YRulerOrigin](#)

## XGridOrigin (Ruler & Grid section)

Specifies the horizontal coordinate of the grid origin. Corresponds to the Horizontal Grid Origin option in the [Ruler & Grid](#) dialog box.

### See also

---

[XGridDensity](#)

[XGridSpacing](#)

[XRulerDensity](#)

[XRulerOrigin](#)

[YGridDensity](#)

[YGridOrigin](#)

[YGridSpacing](#)

[YRulerDensity](#)

[YRulerOrigin](#)

## **XRulerDensity (Ruler & Grid section)**

Specifies the horizontal subdivisions on the ruler for the page. Corresponds to the Horizontal Subdivision option in the [Ruler & Grid](#) dialog box.

32	Fine
16	Normal
8	Coarse

**Note:** If an invalid value or no value is entered, it functions the same as 16.

### **See also**

---

[XGridDensity](#)  
[XGridOrigin](#)  
[XGridSpacing](#)  
[XRulerOrigin](#)  
[YGridDensity](#)  
[YGridOrigin](#)  
[YGridSpacing](#)  
[YRulerDensity](#)  
[YRulerOrigin](#)

## **XRulerOrigin (Ruler & Grid section)**

Specifies the zero point on the x-axis ruler for the page. Corresponds to the Horizontal Ruler Zero option in the [Ruler & Grid](#) dialog box.

### **See also**

---

[XGridDensity](#)

[XGridOrigin](#)

[XGridSpacing](#)

[XRulerDensity](#)

[YGridDensity](#)

[YGridOrigin](#)

[YGridSpacing](#)

[YRulerDensity](#)

[YRulerOrigin](#)

## YGridDensity (Ruler & Grid section)

Specifies the type of vertical grid to use. Corresponds to the Vertical Grid Spacing option in the [Ruler & Grid](#) dialog box.

2	Coarse
4	Normal
8	Fine
0	Fixed

**Note:** If an invalid value is entered, it functions the same as 4.

### See also

---

[XGridDensity](#)  
[XGridOrigin](#)  
[XGridSpacing](#)  
[XRulerDensity](#)  
[XRulerOrigin](#)  
[YGridOrigin](#)  
[YGridSpacing](#)  
[YRulerDensity](#)  
[YRulerOrigin](#)

## YGridOrigin (Ruler & Grid section)

Specifies the vertical origin of the grid. Corresponds to the Vertical Grid option in the [Ruler & Grid](#) dialog box.

### See also

---

[XGridDensity](#)

[XGridOrigin](#)

[XGridSpacing](#)

[XRulerDensity](#)

[XRulerOrigin](#)

[YGridDensity](#)

[YGridSpacing](#)

[YRulerDensity](#)

[YRulerOrigin](#)

## YGridSpacing (Ruler & Grid section)

Specifies the distance between vertical lines in a fixed grid ( $YGridDensity = 0$ ). Corresponds to the Vertical Minimum Spacing option in the [Ruler & Grid](#) dialog box.

### See also

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[XGridDensity](#)

[XGridOrigin](#)

[XGridSpacing](#)

[XRulerDensity](#)

[XRulerOrigin](#)

[YGridDensity](#)

[YGridOrigin](#)

[YRulerDensity](#)

[YRulerOrigin](#)

## YRulerDensity (Ruler & Grid section)

Specifies the vertical subdivisions on the ruler for the page. Corresponds to the Vertical Subdivision option in the [Ruler & Grid](#) dialog box.

32	Fine
16	Normal
8	Coarse

**Note:** If an invalid value or no value is entered, it functions the same as 16.

### See also

---

[XGridDensity](#)  
[XGridOrigin](#)  
[XGridSpacing](#)  
[XRulerDensity](#)  
[XRulerOrigin](#)  
[YGridDensity](#)  
[YGridOrigin](#)  
[YGridSpacing](#)  
[YRulerOrigin](#)



## YRulerOrigin (Ruler & Grid section)

Specifies the zero point on the y-axis ruler for the page. Corresponds to the Vertical Ruler Zero option in the [Ruler & Grid](#) dialog box.

### See also

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[XGridDensity](#)  
[XGridOrigin](#)  
[XGridSpacing](#)  
[XRulerDensity](#)  
[XRulerOrigin](#)  
[YGridDensity](#)  
[YGridOrigin](#)  
[YGridSpacing](#)  
[YRulerDensity](#)

## Page Properties section

The Page Properties section describes page attributes.

The section contains the following cells:

[DrawingScale](#)

[PageHeight](#)

[PageScale](#)

[PageWidth](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

## DrawingScale (Page Properties section)

The value of the [drawing unit](#) in the current drawing scale. The drawing scale for the page is the ratio of the [page unit](#) shown in the PageScale cell to the drawing unit. This cell corresponds to the settings in the [Size & Scale](#) dialog box.

### See also

---

[PageHeight](#)

[PageScale](#)

[PageWidth](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

## PageHeight (Page Properties section)

The height of the printed page in [drawing units](#) as set in the [Size & Scale](#) dialog box.

### See also

---

[DrawingScale](#)

[PageScale](#)

[PageWidth](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

## PageScale (Page Properties section)

The value of the [page unit](#) in the current drawing scale. The drawing scale for the page is the ratio of the page unit to the [drawing unit](#) shown in the DrawingScale cell. This cell corresponds to the settings in the [Size & Scale](#) dialog box.

### See also

---

[DrawingScale](#)

[PageHeight](#)

[PageWidth](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

## PageWidth (Page Properties section)

The width of the printed page [drawing units](#) as set in the [Size & Scale](#) dialog box.

### See also

---

[DrawingScale](#)

[PageHeight](#)

[PageScale](#)

[ShdwOffsetX](#)

[ShdwOffsetY](#)

## ShdwOffsetX (Page Properties section)

The distance in [page units](#) that a shape's drop shadow is offset horizontally from the shape. This value is set in the [Page Properties](#) dialog box.

### See also

---

[DrawingScale](#)

[PageHeight](#)

[PageScale](#)

[PageWidth](#)

[ShdwOffsetY](#)

## ShdwOffsetY (Page Properties section)

The distance in [page units](#) that a shape's drop shadow is offset vertically from the shape. This value is set in the [Page Properties](#) dialog box.

### See also

---

[DrawingScale](#)

[PageHeight](#)

[PageScale](#)

[PageWidth](#)

[ShdwOffsetX](#)



## User-Defined Cells section

The User-Defined Cells section is a work area for entering and testing formulas that are referred to by other cells and add-ons. The section contains the following cells:

Prompt

User.Row

Value

## Value (User-Defined Cells section)

Specifies a value for the corresponding user-defined cell. To refer to this value in another cell, specify the user-defined name entered in the row label User.Row.

### See also

---

[Prompt](#)

[User.Row](#)

## Prompt (User-Defined Cells section)

Specifies a descriptive prompt or comment for the user-defined cell. Visio automatically encloses the prompt text in quotation marks (" ") to indicate that it is a text string.

If you type an equal sign (=) and omit the quotation marks, you can enter a formula in this cell that Visio evaluates.

### See also

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[User.Row](#)

[Value](#)

## User.Row (User-Defined Cells section)

Specifies the user-defined cell name for the value contained in the Value cell of the same row. The cell name you enter must be unique within the section. For example, type Offset in the formula bar to create the cell name User.Offset.

### See also

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[Prompt](#)

[Value](#)

## The Visio main window

When you start Visio, the Visio main window appears.

- If you started Visio from the Visio 4.0 command on the Start menu, Visio also displays the New dialog box, in which you can choose options to create a drawing or stencil file or open an existing file. If you choose to create a drawing based on a template, the drawing window contains a stencil and a drawing page.
- If you started Visio from a template on the Start menu, the drawing window contains a stencil and a drawing page.

### Menu bar and toolbar

The menu bar contains menus of commands that you can use to create and change drawings. The toolbar contains buttons that set and change Visio options and tools you can use to create and format shapes and text.

The toolbar and menu bar vary depending on the currently active window (drawing, ShapeSheet, stencil, edit icon, or print preview). In addition, the toolbar can vary depending on the display resolution of your monitor, which tools you are using, the size of the main window, and which toolbar you are using (Microsoft Office, Lotus SmartSuite, or Novell PerfectOffice).

### ToolTips

A ToolTip appears when you pause with the pointer over items on the toolbar, status bar, control handles on a shape, or master shapes on a stencil window when the stencil is set to display icons only.

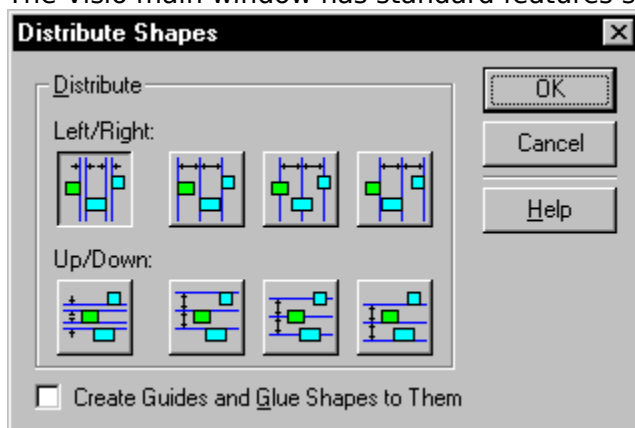
You can turn the display of ToolTips on and off by using the Toolbars command on the View menu.

### Status bar

The status bar at the bottom of the main window displays a status prompt. When the pointer is over the stencil window or when a menu is open, the status bar suggests possible actions that you can perform in Visio and displays information about what you are doing. Check the status bar frequently for helpful messages, such as information about a shape's position and angle.

### Standard Windows features

The Visio main window has standard features such as the Close button



and the Minimize/Maximize button at the

upper-right corner. You can also use scroll bars to scroll through a large drawing in the drawing window. For details about these and other standard Windows features, see your Windows documentation.

**See also**

---

[Arranging Visio windows](#)

[Quitting Visio](#)

[Starting Visio](#)

## Drawing window

You create a drawing in the drawing window. The drawing window displays a single drawing page on a blue background called the pasteboard.

### Drawing tools

You create a drawing by dragging and dropping master shapes from stencils or by using the drawing tools on the toolbar to create your own shapes.

### Toolbars

You can format text and graphics quickly by using tools on Visio's toolbars. The content of the toolbar varies depending on whether a drawing or stencil window is active, the display resolution of your monitor, which tools you are using, the size of the main window, and whether you're using the Microsoft Office, Lotus SmartSuite, or Novell PerfectOffice toolbar.

### Rulers and grids

The drawing window has rulers that show measurements at the scale of the drawing. You can also use the rulers as a source for guides and guide points. The drawing page displays the grid like those on traditional quadrille paper.

You can turn the display of rulers and the grid on and off with the Rulers and Grid commands on the View menu. Intervals on the grid correspond to the unit of measure you set with the Options command on the Tools menu. You control the size of the intervals using the Ruler & Grid command on the Tools menu.

### See also

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[Arranging Visio windows](#)

[Dragging and dropping master shapes](#)

[Opening a stencil](#)

[Stamping master shapes](#)

[Starting a new drawing with a template](#)

[Starting a new drawing without a template](#)

## Stencil window

The stencil looks much like a traditional stencil. Master shape icons—small representations of master shapes that you drag and drop into the drawing—are displayed in rows on the stencil's characteristic green background. By default, stencils open as read-only and docked. You can view stencils as docked (on the right or left side of the drawing window) or as floating.

### Modifying stencils

If you want to modify master shapes, you need to open a copy or original stencil. To open an original stencil, choose the Stencils command from the File menu and choose Original in the Open option. To open a copy, choose Open from the File menu, then choose Copy in the Open option. When you open an original or a copy of a stencil file and activate the stencil window, commands for the stencil window are available.

### Closing stencils

To close a stencil, right-click the stencil title bar, then choose Close from the menu.

### Master shapes and icons

Many of the master shapes in Visio stencils are SmartShapes. To find out how to use a shape, right-click it (on the drawing page or the stencil), then choose Shape Help from the shortcut menu.

Master shape icons provide clues about how to use the shape:

- A yellow background identifies a connector—a 1-D shape that is designed for connecting two 2-D shapes.

### Menu commands

View menu

[Icons And Names](#)

[Icons Only](#)

[Names Only](#)

[Auto Arrange](#)

Master menu

[New Master](#)

[Edit Master](#)

[Properties](#)

[Edit Icon](#)

[Update Icon](#)

Window menu

[Arrange Icons](#)

[Show Drawing Page](#)

### See also

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[Arranging master shapes in a stencil](#)

[Arranging stencils](#)

[Arranging Visio windows](#)

[Creating a master shape from a shape in a drawing](#)

[Creating a new stencil](#)

[Dragging and dropping master shapes](#)

[Opening a stencil](#)

[Opening an original stencil](#)



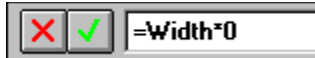
Specifying a shape's double-click behavior

## ShapeSheet window

When you select a shape or an object from another program and choose [Show ShapeSheet](#) from the Window menu, Visio opens the [ShapeSheet](#) window.

When the ShapeSheet window is active, menus display commands for programming shape behavior and controlling formulas that the ShapeSheet displays.

What you see in the ShapeSheet window depends on the shape itself and what you have set to display. When a ShapeSheet cell is selected, a formula bar appears, which you use to enter and edit ShapeSheet formulas.



ShapeSheet formula bar

Every [shape](#) you draw with Visio and [object](#) you insert from another program has a ShapeSheet. When you create a group, Visio retains the ShapeSheet for each shape or object in the group and creates a separate ShapeSheet for the [group](#). In the ShapeSheet you can change Visio's default formulas and set other properties to control the way the shape or object behaves.

### Menu commands

Edit menu

[Delete Section](#)

[Delete Row](#)

[Change Row Type](#)

[Action](#)

View menu

[Values](#)

[Formulas](#)

[Sections](#)

Insert menu

[Section](#)

[Row](#)

[Row After](#)

[Name](#)

[Function](#)

Shape menu

[Custom Properties](#)

### See also

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[Arranging Visio windows](#)

[Creating formulas](#)

[Displaying a ShapeSheet](#)

[Understanding ShapeSheets](#)

The Enter box accepts changes you make to a formula.

The Cancel box cancels changes you make to a formula.

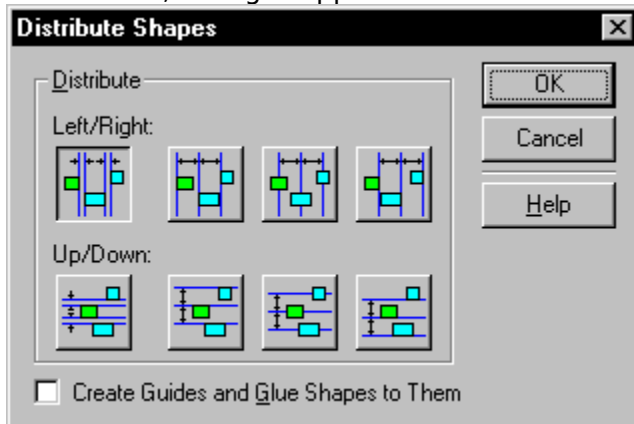
Visio displays formulas in the formula bar. To change a formula, click a cell and type.

## Edit icon window

When you choose Edit Icon from the Master menu, Visio opens a window where you can edit the icon for the master shape selected in the stencil window. The window's title bar identifies the stencil and master shape.

### Icon bitmaps

The window displays the master shape icon as a bitmap that you can edit pixel by pixel. As you edit the icon, changes appear in the stencil window. When you finish editing the icon,



click  to close the window.

### Window details and tools

The edit icon window displays the solid colors defined in Visio's default color palette plus the stencil background color. (The stencil background color is green unless you change it in the VISIO.INI file.) To edit an icon, use these tools:

[Left Color box](#)

[Right Color box](#)

[Icon pencil tool](#)

[Paint bucket tool](#)

[Lasso tool](#)

[Selection net tool](#)

### See also

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[Changing the colors for a master shape icon](#)

[Creating a master shape icon](#)

## Group window

When you select a group and choose the Open Group command from the Edit menu, Visio displays the group in the group window. The group is displayed as if it were an entire drawing of independent shapes. The shapes appear without rotation applied to the group so you can use the grid, guides, and rulers.

You can select and edit the shapes individually by using the same menus and tools as in the drawing window. Changes you make in the group window appear in the drawing window.

To readjust the width and height of the group so its selection rectangle contains all the group's shapes, choose Update Alignment Box from the Tools menu.

### **See also**

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[Editing and formatting a group](#)

[Editing the shapes in a group](#)

[Formatting and adding text to a shape in a group](#)

[Grouping and ungrouping shapes](#)

## Print preview window

When you choose [Print Preview](#) from the File menu, Visio displays the active drawing page in the print preview window. Visio displays the drawing within the margins you set in the [Page Setup](#) dialog box.

If the drawing size is larger than the page size, the drawing is [tiled](#) and page breaks are displayed at the tile borders. To view a single tile, click the tile you want to see.

You can use the [First Tile](#), [Previous Tile](#), [Next Tile](#), and [Last Tile](#) commands to move from tile to tile or page to page.

To exit the print preview window, click the Close button or press the Esc key.

### Toolbars

When the print preview window is active, the [toolbar](#) displays buttons you can use to change the display of the window.

For details about the toolbar buttons and tools, pause with the pointer over a button to display a [ToolTip](#).

Or, click the Help button on the toolbar, then click the toolbar button you want.



Help button

### Menu commands

View menu

[Single Tile](#)

[Zoom In](#)

[Zoom Out](#)

[Previous Tile](#)

[Next Tile](#)

### See also

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[Arranging Visio windows](#)

[Previewing a drawing before you print](#)

[Setting margins](#)

[Showing page breaks](#)



## Toolbar

The toolbar provides buttons you can use as shortcuts for choosing menu commands. To switch between the Microsoft Office, Lotus SmartSuite, and Novell PerfectOffice toolbars, right-click anywhere on the toolbar.

To display help about a specific button, choose the Help button, and then click a toolbar button.

### **See also**

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[Switching toolbar sets](#)

## Status Bar

The status bar displays information about shapes and a status prompt. When you select a shape, the status bar displays its dimensions. When you pause the pointer over a shape on the stencil, the status bar displays a description about the shape.

For additional information about how to use a shape, right-click a shape (on the drawing page or a stencil), then choose Shape Help from the shortcut menu.

### **See also**

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[Setting display options](#)

## Scroll bars

Use scroll bars to scroll through a large drawing or to display more shapes in a stencil. The box on the scroll bars tells you where you are in the drawing.

### **See also**

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[Zooming in and out of a drawing](#)

## Drawing page

You create a drawing on the drawing page, which is contained in the [drawing window](#). The drawing page is surrounded by a blue background called the pasteboard. The drawing page can display a grid, which consists of grid lines like those on traditional quadrille paper.

The drawing page titlebar is located at the top of the drawing window. The title bar lists the page name and number. If you maximize the drawing window, the page name and number are displayed in the [Visio main window](#).

### See also

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[Setting page display options](#)

[Starting a new drawing with a template](#)

## Rulers

The rulers show measurements at the scale of the drawing. You can also use the rulers as a source for guides and guide points.

### See also

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[Ruler & Grid](#)

[Setting display options](#)

## Stencil

Stencils contain master shapes. You create drawings in Visio by dragging shapes from a stencil and dropping them onto the drawing page.

Many of the master shapes in Visio stencils are SmartShapes. These shapes are designed to act the way you need them to in a particular context.



SmartShapes

By default, stencils open as read-only and docked. You can view stencils as docked or floating.

To close a stencil, right-click the stencil title bar, then choose Close from the menu.

**Tip:** To find out how to use a shape on a stencil, right-click it, then choose Shape Help from the shortcut menu.

If you open a copy or original stencil, Visio opens it in the [stencil window](#).

### See also

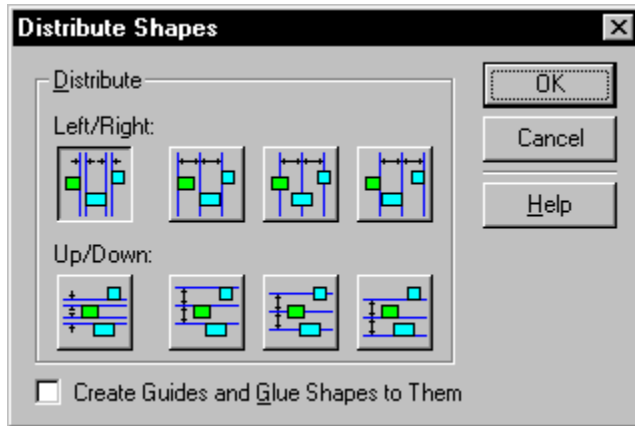
---

[Opening an original stencil](#)

[Opening stencils](#)

## Visio title bar

The title bar has standard features such as the Close button



and the Minimize/Maximize button at the upper-right corner.

### See also

[Arranging Visio windows](#)

[Quitting Visio](#)

## Pasteboard

The pasteboard is the blue background located behind a drawing page in the drawing window. You can use the pasteboard to store shapes. Each page has its own pasteboard.

### See also

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[Dragging shapes to another drawing](#)

[Drawing window](#)



## Text block

The box with a dashed line and a flashing I-beam cursor indicates the shape's text block is open. To close the text block, click away from the shape or press the Esc key.

You can add text to any shape (including lines and connectors). To add text to a shape, select the shape and type. If the shape contains text, the existing text is replaced by the text you type.

You can also select, edit, copy, and paste text from one shape to another, check the spelling of text, and search for and replace text much as you do with many word-processing programs.

### **See also**

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[Aligning text in the text block](#)

[Typing text into shapes](#)

## Drawing placeholder

When you have no drawings open, the gray area is a placeholder for a new or existing drawing.

### **See also**

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[Starting a new drawing with a template](#)

[Starting a new drawing without a template](#)



