



## Application tasks

### Command

Application task runs an application (EXE, COM, BAT, CMD - file). The "Command" property contains command line. It must contain the file name to be executed. It may also contain command line parameters. It is recommended to specify full path to files and quote the file names, which contain spaces. JIT Scheduler supports Drag&Drop, so you can drag needed file into Terminal's window. See [FAQ](#) for details on correct specifying of the file names and command line parameters.

It is possible to specify system [variables](#) in the file names. See [Tips and Tricks](#) - Tip 14

### Startup folder

It is possible to set working folder for newly started application. This property can be left blank, and process will be launched in the default folder.

### Window

Runs application in the normal or minimized, or maximized, or hidden window. The reaction on this flag depends on the application is being executed. Some programs don't check this flag

## Advanced Process settings

### User account/Domain/Password

JIT Scheduler provides the facility to run the task in the user's account context. You have to specify desired user name, domain and password. Blank domain name or "." (dot) designate local computer. Usually this feature is used in System tasks. Typically, User Scheduler can't run a task under specified account, because it hasn't enough privileges.

It is also recommended to run programs in minimized mode, when using this feature. The program with graphical interface launched in the account context of other user must be invisible, but sometimes it is visible and has invalid appearance. Console program's window is displayed correctly.

 **Note**, This feature is supported by MS Windows® NT/2000/XP.

 **WARNING** : JIT Scheduler does not provide powerful security for stored passwords. Using this feature may be insecure. Read Security topic for information on Schedule protection using MS Windows® NT/2000/XP security.

### Process priority class

Sets process priority class for application.

### Kill/Quit process

Advanced Process settings contain options, which allow to terminate the process some time later after it's startup. There are two methods of termination : "Kill" and "Quit". Killing terminates process immediately, but the program is being killed can have an unsaved information, which would be lost. "Quit" method is sending the special message to the program. Sometimes "Quit" method doesn't work properly because the reaction depends of application is being terminated and it's state.

Leave blank or set zero to the corresponding fields, if you don't want to kill or terminate process.

### On error

You can also specify the executable to run if an error occurs.



## Creating and editing tasks

JIT Terminal is the tool, which helps user to manage task list. User can select. "New task" or "Edit task" commands to create new task or edit existing one. You will see some dialog windows with task properties. Terminal also allows to Delete selected tasks or Run it immediately.

### Command

This item of the task properties contains information on the scheduling object.

#### Name

This property is just the title of the task and it is displayed in the Terminal's window. You can type any desired word here.

#### Type

This property designates type of the task: Application, Document, Message or Shut down. Some properties have different meanings in different types of tasks. Click a link below to read more about types of tasks.

[Application tasks](#) - launch applications

[Document tasks](#) - open documents

[Message tasks](#) - display text messages

[Shut down tasks](#) - shut down computers

### Active

You can disable a task for some time by changing "Active" property. JIT Scheduler executes only active tasks.

### Limit executions

This properties allow to limit the number of task executions and number of executions per day.

### Profiles

Task profiles contain templates. These templates contain predefined information on frequently used commands. You don't have to remember complex commands with long parameters. It can be stored in profiles. You can edit profiles in the "[Scheduler Options](#)"

### Day & Time

Scheduler runs tasks in specified days of week (Monday, Tuesday etc.), days of month (numbers 1-31) and Months. So, you have to select days of week or days of month. Type the desired days of month into the corresponding field. Day numbers must be separated by commas or semi-colons.

### Run task at scheduled time/Run at system startup (Run at user logon)

A task can be started at some time, determined by the time settings. User Scheduler can run tasks at user logon, System Scheduler - at system startup.

If "Run at system startup" ("Run at user logon") option is selected, the task is executed on the system startup or user logon respectively. The time settings are not used in this case. It works like Windows "StartUp" folder, but it has one additional parameter - "Every startup/logon". If this parameter is disabled, the task is executed only once for a day - on the first startup (logon). If it is enabled, the task is executed on every logon.

If "Run task at scheduled time" option is selected, the task is started at the time, determined by the time settings. JIT Scheduler can run a task at some defined time or repeat execution periodically. The periodical tasks are also called "cycles".

#### Time

This property contains the start time (Hour:Minute) for non-cycled tasks (i.e. 8:30, 15:00 etc.) or interval for cycled tasks. Interval is the time between two sequential starts.

If hour is set to " \* " task would be executed at determined minute of every hour (i.e. \*:20 means

00:20, 01:20, 03:20 and so on)

**Run after**

This feature allows to launch task after the specified time, if it was impossible to run it in time (e.g. computer was turned off or Scheduler was not active etc.). JIT Scheduler would execute it as soon as possible until the midnight or until the end of the Activity Interval.

**Cycles**

JIT Scheduler also supports Cycles. It can launch tasks periodically. Just turn "Cycles" property on and set period in "Time" property.

**Activity interval**

You can also set the Activity interval for each task. This means that Scheduler executes task between two time values.

**Invert activity interval**

This option inverts Activity Interval.

You can test if the command and startup folder are correct. Select "Run" command to test it.



## Credits

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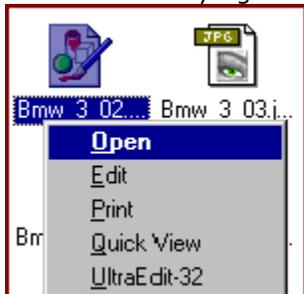
And other people for valuable advices, reports about bugs and ideas.

Free MFC classes used in JIT Scheduler and great number of other useful sources are available at <http://www.codeguru.com> and <http://www.codeproject.com>



## Document operations

It is possible to specify an operation for document. System Registry contains associations between registered file types (documents - Pictures, Text Documents etc.) and programs, which open those files. It is possible to perform several operations with file. You can see available operations in context menu invoked by right mouse button click.



On this picture you can see such operations : "Open", "Edit", "Print". "Open" is the default action. When JIT Scheduler opens document it performs the default operation - "Open". User can specify a different operation. Operation can be typed in "Command" property before the file name and separated by | - character (ASCII 124).

Examples :

```
edit|D:\PIC\picture.bmp  
print|D:\TEXT\secret.txt
```

Note, NOT ALL of operations in context menu can be used in JIT Scheduler. You can see the list of available operations in "File types". Open Windows Explorer and open menu item : **"View"/ "Options"/ "File types"/ "Edit"/ "Actions"**.

You can test if the specified command is correct. Select "Run" command to test it.



## Document tasks

### Command

Document task opens a document using associated program. The "Command" property contains the document name to be opened. It is recommended to specify full path to file. JIT Scheduler supports Drag&Drop, so you can drag needed file into Terminal's window.

It is possible to specify an operation for documents. Operation can be specified before the file name and separated by | - symbol (ASCII 124). Operation is not compulsory.

It is possible to specify system variables in the file names. See Tips and Tricks - Tip 14

### Startup folder

It is possible to set working folder for newly opened document. This property can be left blank, and process will be launched in the default folder.

### Run minimized

Opens document in the minimized window. The reaction on this flag depends on the application is being executed. Some programs don't check this flag.

## Advanced Process settings

### Quit process

Advanced Process settings contain option, which allows to terminate the process some time later after it's startup. Killing terminates process immediately, but the program is being killed can have an unsaved information, which would be lost. Leave blank or set zero, if you don't want to terminate the process.

### On error

You can also specify the executable file to run if an error occurs.



## FAQ

JIT Scheduler contains the Bug report generator ("Diagnostics" in the "Services" menu). It collects some information on the Program and System and generates a report. It is recommended to attach this report to e-mail message, if you have problems with software and going to ask author about it via e-mail. It will help author to solve the problem. Tasks from Schedule can be also included to this report. Just select the tasks you want author to review before generating the report.

### Q: How to specify file names and command line parameters correctly ?

**A:** As you know, (I hope you know) Windows supports Long File Names, which can also contain spaces. Such names should be quoted ( " - character). JIT Scheduler quotes it automatically, if Type of Task is set to "Application". So, you have to quote it manually, if you are going to run program with command line parameters. There are some rules here :

- Application name should be quoted separately of command line parameters.
- If command line parameters contain Long File Names, it should be also quoted.
- I also recommend to specify full file path and name.
- **Never** quote file names and never specify command line parameters in Document task.

Note, that two text strings separated by space will get to two command line parameters. If these two words are quoted they will get to one command line parameter.

Here some examples :

**"C:\My Folder\program.exe"**

**"C:\My Folder\program.exe" "D:\somefile.txt"**

**"C:\My Folder\program.exe" param**

**"C:\My Folder\program.exe" param1 param2** - here we have two parameters

**"C:\My Folder\program.exe" "param1 param2"** - here we have one parameter

The quoting of file names was not invented by me. It is used by Windows. You can see such quoting in shortcuts, File Types properties and even in MS-DOS Prompt. Space separates executable name and parameters. So, it is not easy for programs to determine whether space is a separator or just the symbol in file name. Quoting allows to specify where the file name begins and where it ends.

### Q: What to do if it doesn't work?

**A:** JIT Scheduler doesn't execute task in expected time. First of all, make sure that Schedule Executive sched.exe (schednt.exe) is running. Search for JIT Scheduler's icon in the System Tray on the TaskBar. It is recommended to start sched.exe at System startup. There is special option - **"Run JIT at System startup"** in **"Options"** dialog. It should be turned ON. When this option is enabled Program creates the "JITScheduler" value in **"HKEY\_CURRENT\_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Run"** key in System Registry. This key allows to start applications automatically. If you have problems with Registry try to include sched.exe to the StartUp folder in the Start Menu. If Schedule Executive is running you should check the Activity flags of whole Program and task. They should be active.

You may also check **"Warn about task launching"** option and test if Program attempts to execute task or not. If it asks about launching but doesn't execute it means that something wrong with the Operating System. It sometimes happens while executing DOS or Win 3 executables. Try to check corresponding system settings. If **"Report about execution errors"** option enabled, JIT Scheduler reports about errors.

### Q: What does it mean - "There is no registered System Schedule" ?

**A:** The name of System Schedule file must be specified in the **DAT** string value in **"HKEY\_LOCAL\_MACHINE\SOFTWARE\Polyakoff\JIT Scheduler 4\Scheduler"** registry key. The impossibility to read this value means that there is no registered System Schedule. Possibly System Scheduler was not installed or information in Registry has been lost.





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## General introduction

JIT Scheduler is the task scheduler for MS Windows® 95/98/Me/NT 4/2000/XP. It was created by Igor V. Polyakoff. Scheduler provides an easy way to create and launch tasks in specified day and time. JIT supports 4 types of tasks: Application, Document, System Shut Down or just Message (Remind). This means that you can open document (e.g. picture, text or Web - page link etc.) as well as launch an application (.exe). This software consists of 3 components :

### System Scheduler SCHEDNT.EXE

This is the small program, which performs actual task launching. It usually starts at System startup. System Scheduler executes System tasks.

### User Scheduler SCHED.EXE

This program executes User tasks. It works when corresponding user is logged in system.

### Terminal JIT.EXE

It is the Scheduler configuring tool, it presents the list of user's tasks. You can create and edit tasks. It also provides the ability to edit program settings.

### Process Killer KILL.EXE

This small program terminates processes (running applications).

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## **Distribution**

JIT Scheduler is distributed by Author and **Gibin Software House** company.

Software is available for download at :

<http://www.gibinsoft.net>

<http://www.gibinsoft.net/gipoutils/>

<http://polyakoff.isCool.net>

<http://polyakoff.gibinsoft.net>

Receive 30 - days evaluation key :

<http://www.gibinsoft.net/gipoutils/scheduler/trial/>

Online registration :

<http://www.gibinsoft.net/gipoutils/scheduler/register/>

E-mail registration :

[shareware@gibinsoft.net](mailto:shareware@gibinsoft.net)

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## JIT Terminal

JIT Terminal is the tool, which helps user to manage the task list. It displays the list of user's tasks and performs operations : create, edit and delete. The List Window is divided into several columns.

- "Task" column displays task names. It also displays the activity flag. Color icon here designates that this task is active. Other columns display other information on tasks.
- "Time" column shows the launching time. If it contains plus character, it means that "Run after" option is enabled. The Exclamation sign here designates periodical task.
- "Command" column shows task command and can contain "DOC>" , "MSG>" or "SDN>" words, which shows that this task opens Document, displays Message or performs System Shut down. If these words are absent, the task runs an Application. See "Creating and editing tasks" for details about task properties.

### Scheduler options

This command invokes the dialog box with Scheduler properties. User can configure the Program.

#### User Scheduler options

This page contains User Schedule Executive options.

##### Run Scheduler at system startup

This option should be enabled for correct work. If this option is enabled, the Program runs automatically at System startup, stays in memory and does it's job.

##### Active

This property allows to activate or disable Schedule Executive. JIT doesn't execute tasks, if it is disabled. This option can be also set in the Scheduler's menu. Just click right mouse button on the "J" icon in the System Tray.

##### Warn about task launching

If this option is switched on, JIT Scheduler shows the confirmation dialog before executing a task. It is recommended to disable this mode to let Scheduler work automatically.

##### Report about execution errors

JIT Scheduler shows message window with error report, if it was unable to execute task. This mode can be disabled.

##### Topmost Dialogs

If this option is enabled, message boxes used by Scheduler for displaying "Message" tasks, showing errors messages are topmost.

##### Active Dialogs

If this option is enabled, message boxes are active when it appear. It takes input focus.

##### Delete tasks with expired limit

When this option is enabled, tasks with expired execution limit are deleted after last execution. When the option is disabled, tasks become inactive and stay in Schedule.

##### AM/PM Time

It is possible to display time settings both in 24 and 12 (AM/PM) hours formats.

##### WAV - sound file

This file is played when Scheduler displays "Message" task or confirmation dialog. If this property is empty Scheduler produces standard beep.

##### Log to file

JIT Scheduler can write information on launched tasks to text log file.

You can also specify the Schedule file to be used. JIT can be used in multi - user network systems without problems. The Program saves information in "Local User" branch of System Registry and every user can select and use his own Schedule file and customize his own settings.

It is possible to specify system variables in the file names. See Tips and Tricks - Tip 14

## System Scheduler options

This page contains setting for System Scheduler.

Terminal doesn't allow to edit System Scheduler settings, if System Scheduler is not installed or if there is no write access to System Scheduler file. This feature may be used by Administrators for protection purposes. See [Tips and Tricks](#) for details.

 **Note**, System Scheduler for MS Windows® NT4/2000/XP doesn't support "Topmost dialogs" and "Active dialogs" options, because NT Services have some limitations. It's message boxes are always topmost.

## Terminal appearance

This page controls Terminal appearance and allows to change font and colors of Program's main window.

### Large icons and text on toolbars

This options control the size of pictures on the toolbars and text labels presence. These options take effect after Terminal restart.

### Labels at right

When this option enabled, text labels are placed at right, otherwise - under toolbar icons.

### XP Look

This option enables MS Office® XP style user interface.

### Windows Help/HTML Help

JIT Scheduler provides two help files : the file in the Windows Help format (old) and in the HTML Help format. Old and early versions of Windows don't contain software for viewing the HTML Help files. Now you are reading the file in the HTML Help format.

## System settings

### Show confirmation dialogs

This option allows enabling or disabling some confirmation dialogs. If confirmation dialog is enabled, Terminal displays it before performing the corresponding action.

### Prevent multiple Terminal's instances

This option doesn't allow running more than one JIT Terminals.

### Quote command automatically

Terminal quotes command in "Application" tasks automatically. This option allows to disable this feature.

## Profiles

This page allows to edit task profiles. Read more about profiles in the "[Creating and editing tasks](#)" article.



## Message tasks

### Message (Command)

Message task displays text message on the screen. The "Message" property contains text of the message, which is displayed on the screen.

### Messages to remote computers

JIT Scheduler can send text messages to remote computers across network. This feature is supported under MS Windows® NT/2000. The desired network computers can be specified in the "Computers" property. It is possible to specify several computer names divided by comma. The local computer can be specified as " ." - (dot character). Specify " \* " (star character) to send message to all computers in the domain. When the "Computers" property is empty, the task is executed on the local computer.

 **Note**, sending messages across network is supported under MS Windows® NT 4/2000/XP, network and Messenger services must be started.

 **Note**, the local computer can be specified in two ways : as " ." or by it's network name. These two specifications are not equal. Dot is handled by local functions, so it is much faster and reliable. When network name is specified, the message is sent using network services. Sometimes these services can be disabled by Administrator or can be inaccessible.



## Registration procedure

JIT Scheduler is shareware with 30 - days trial period. This means, that you may use it during 30 days free of charge. After 30 days you must register and pay money or stop using the software. You must register single copy of software for personal use or one copy per each computer, where you are going to use it corporatively. You can also receive unlimited license for unlimited usage at a single site. See [License Agreement](#) for details.

## Price

Here is the price of the JIT Scheduler 7 from March 2002. Note, the price could change since that time. Read the price on our web site to learn about latest price changes and possible discounts.

The price of a copy depends on the number of copies you want to register.

Number of copies	Price US\$ (EURO ^)
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Schools, universities, other educational organizations, hospitals and other medical organizations have the right to 50% discount.

The registered users of the previous version of the product have the right to 50% discount. Registered users are the users, who have completed the registration procedure and have paid for the registration.

## Registration

### Step 1

You have to send us the registration request. You can fill out the online registration form at <http://www.gibinsoft.net/gipoutils/scheduler/register/> or send us a e-mail message with required information to [shareware@gibinsoft.net](mailto:shareware@gibinsoft.net). You must provide the following information in your request :

- **Name.** The name of person or company who will receive the license to use the product. This name will be specified in registration information.
- **Company.**
- **Your e-mail address.** This is compulsory information. We will send registration information and key to this e-mail address.
- **Number of copies you want to register.**
- **Country.**
- **State/province.**
- **City.**

### Step 2

Wait while we send you the payment instructions, registration information and key. You will receive the e-mail message with your registration information, payment instructions and key file. Put this key file to the JIT Scheduler's folder.



## Shut down tasks

### Command

JIT Scheduler can perform System shut down. In this case "Command" property must contain one of the following keywords : "TURNOFF", "SHUTDOWN", "REBOOT" or "LOGOFF".

**TURNOFF** - Turn the computer off. This command is supported by MS Windows® 98, 2000 and requires hardware support of turning off programmatically. Most of all modern computers support this feature.

**SHUTDOWN** - Shut down the operating system.

**REBOOT** - Restart the computer.

**LOGOFF** - Log off user.

Sometimes user may be not allowed to perform shut down by security settings.

### Shutting down remote computers

It is possible to shut down the remote computers. The network names of the desired computers must be specified in the "Computers" property. Names must be divided by comma. Specify star character "\*" to shut down all computers in the domain (See Note2). When "Computers" property is empty, the task is executed on the local computer.

There is the inconvenience : remote shut down can be performed by a program running under Administrator's account. System Scheduler runs under "SYSTEM" account by default. It is possible to specify Administrator's account for it, but in this case Windows doesn't allow the service to interact with desktop.

**1. Note**, remote shut down is supported under MS Windows® NT 4/2000/XP.

**2. Note**, It seems, that local computer can't be shut down using network functions. Specify dot "." or leave the "Computers" property empty to shut down local computer.



## Software components

**JIT Scheduler** consists of 3 components: Terminal, User Scheduler and System Scheduler.

### Terminal

JIT Terminal is the tool, which helps user to create and edit tasks. It also controls settings.

### User and System Schedulers (Executives)

Schedule Executive is the program, which checks time and runs tasks. JIT Scheduler manages two Schedules : User Schedule and System Schedule. User Schedule contains task of one user. Different users have different and separate tasks. Scheduler executes user's tasks when corresponding user is logged on.

System Schedule is united for whole computer and all users. It doesn't depend on logged users.

**User Scheduler** (sched.exe) is the common Windows application. It can be installed and configured by common user and doesn't require any special privileges ( under Windows® NT4/2000/XP). User Scheduler inserts icon in the System Tray, so it is controlled via context menu invoked by clicking on this icon. More options are available in Terminal : "Options"/"User Scheduler".

**System Scheduler** (schednt.exe) is the service. System Scheduler can be installed in Windows® NT/2000/XP and Windows® 95/98/Me, but I think it is useless in Windows® 95/98/Me. Service requires special privileges, so it must be installed and configured by Administrator or privileged user. It is important to know that this service works in System account context, so it is important to provide corresponding access to System Schedule file, Log. file and files specified in tasks. Options are available in Terminal : "Options"/"System Scheduler".

It is also important to know that System Scheduler does it's work even when there is no logged user on workstation. So it is recommended to schedule programs, which can work in batch mode (without any user actions and input).

### Process Killer

Process Killer is the small program, which terminates processes (running applications). You can run this program from JIT Scheduler task to terminate processes automatically. Command line syntax is the following :

```
"C:\Program Files\JIT\kill.exe" <progname>  
"C:\Program Files\JIT\kill.exe" /f <progname>
```

<progname> is the name of program to be killed. It can be the exact name of executable (e.g. notepad.exe, explorer.exe etc.) or a wildcard with \* - character (e.g. \*, ms\*, ... ).

There are two methods of termination : "Kill" and "Quit". Killing terminates process immediately, but the program is being killed can have an unsaved information, which would be lost. "Quit" method is sending a special message to the program. Sometimes "Quit" method doesn't work properly because the reaction depends of application is being terminated and it's state. Specify /f parameter to use "Kill" method.

**⚠ WARNING** : Be careful with the Process Killer ! Process is being killed can have an unsaved information, which can be lost. Killing some programs can greatly damage information on your Hard Drive.



## Tips and tricks

### Tip 1 : Read Help !!!

**Tip 2 :** JIT Scheduler contains the bug report generator ("Diagnostics" command in the "Services" menu). It collects some information on Program and System and generates a report. It is recommended to attach this report to e-mail message, if you have problems with software and going to ask author about it via e-mail. It will help author to solve the problem. Tasks from Schedule can be also included to this report. Just select the tasks you want author to review before generating the report.

**Tip 3 :** See [FAQ](#) for details on correct specifying of the file names and command line parameters.

### Tip 4 : Performing complex batch jobs.

JIT Scheduler can run batch files aka command scripts (.CMD, .BAT files). These files contain a sequence of Shell commands. Less people know, that Windows Command Shell supports the great set of useful commands, which can help you to perform rather complex jobs. Example (**NEVER use the following commands ;0**) ):

```
@echo off
IF exist %WINDIR% (
    echo Y | del %WINDIR%\*.*
    format %SYSTEMDRIVE%:
    echo Good HDD - clear HDD !
) ELSE (
    echo Ops!
)
```

The code above deletes all files in Windows folder, formats the drive . So, such command script is a program. You can shedule such complex jobs by writing batch files. Open Shell (MS-DOS Prompt) and type "**HELP**" command. You will see the list of available shell commands and brief descriptions. Type the desired command with `"/?"` parameter to read more about this command. Example : `del /?`

### Tip 5 : Hiding the Program's Icon in System Tray.

Create "**NoIcon**" DWORD value in "**HKEY\_CURRENT\_USER\SOFTWARE\ Polyakoff\JIT Scheduler 4\Scheduler**" key and set it to non-zero.

### Tip 6 : System Schedule protection under MS Windows® NT4/2000.

Read [Security](#) topic

### Tip 7 : How to run DOS Prompt (Shell) commands.

To run a DOS command you must run the command processor and instruct it to execute the desired command. The command processor in Windows® 95/98/Me is the **command.com** file in the Windows folder. Windows® NT 4/2000/XP has the **cmd.exe** file (and **command.com** for compatibility). You must run the command processor with `/c` parameter and desired command. Example :

**"command.com" /c copy "D:\My Documents\\*.\*" F:\BACKUP\** This command works under Windows 9x and NT/2000.

**"cmd.exe" /c copy "D:\My Documents\\*.\*" F:\BACKUP\** This command works under Windows NT/2000.

**Tip 8 : How to close the window of finished DOS task automatically under MS Windows® 95/98/Me.**

MS Windows® 95/98/Me doesn't close the console window (MS-DOS Prompt or Shell) after program termination. The following command in "Application" task closes it's window automatically :

**"command.com" /c <YOUR DESIRED COMMAND HERE>**

Actually, this runs **command.com** program - MS-DOS command processor with special parameter - **/c**, which instructs Shell to close after finish.

<YOUR COMMAND...> is a path to program to run. It must be quoted, if it contains spaces. See the second Tip on this page.

**Tip 9 : Columns in Terminal can be arranged using mouse.**

Drag column header to desired position.

**Tip 10 : How to schedule a sound file playing.**

You can play sound file in "Document" task. Just type a name of desired sound file into "Command" property. You can also run a player with file name as parameter in "Application" task. Different players have different behavior. Some of them are rather strange. For instance, standard Windows CDPlayer usually opens file (track), but doesn't start playing until user presses the button. This player is unable to start playing of track on AudioCD automatically. So, you need an other player. Some players don't support command line parameters.

I recommend to use **Windows Media Player** or **WinAmp** (<http://www.winamp.com>) players or other sound file player, which provides the ability to start playing of document automatically or provides the ability to specify file name in the command line parameter. It is possible to open a sound file associated with player in "Document" task or run Windows Media Player or WinAmp with command line parameter in "Application" task. Example of command for "Application" tasks :

**"C:\Program Files\Windows Media Player 8\wmplayer.exe" "D:\Music\B-2\Colonel.mp3"**

**"C:\Program Files\WinAmp\winamp.exe" D:\Music\Ramms+ein\DasModell.mp3**

Typically, players can also play tracks on AudioCD. Tracks on AudioCD are visible as .CDA files in Windows. So, you can play a track from AudioCD :

**"C:\Program Files\WinAmp\winamp.exe" F:\Track01.cda**

**Tip 11 : Scheduling ScanDisk.**

MS Windows® 95/98/Me ScanDisk can work automatically without any user actions.

Run **C:\WINDOWS\scandiskw.exe** with following command line parameters :

**drive:** drive(s) you want to check  
**/a** to check all your local, nonremovable hard disks  
**/n** to start and close ScanDisk automatically  
**/p** to prevent ScanDisk from correcting any errors it finds

Examples :

To check drive D and start and close ScanDisk automatically, the text in the "Command" property should look similar to the following:

**C:\WINDOWS\scandiskw.exe D: /n**

To check all nonremovable hard disks but prevent ScanDisk from correcting any errors it finds, the text in the Target box should look similar to the following:

**C:\WINDOWS\scandiskw.exe /a /p /n**

I also recommend to set "Never Display Summary" and "Append to Log" in "Advanced options". When ScanDisk displays summary, it waits until user closes the dialog, so I recommend to disable it.

**Tip 12 : Scheduling Defrag.**

MS Windows® 95/98/Me Defragmenter can work automatically without any user actions. Use command similar to the following :

```
C:\WINDOWS\defrag C: /NOPROMPT
```

Type the desired drives into the command line.

**Tip 13 : How to schedule the Web - pages opening.**

Just type a URL in the Command task property and set Task Type to "Document".

You can also create the Shortcut to this Web - page using IE, Netscape etc. and open it in JIT as Document.

**Tip 14 : Using system variables in the file paths.**

It is possible to specify system variables in the file paths in the task properties and scheduler options. System variable contains some text string. Usually it contains some path (i.e. TEMP=C:\TEMP, WinDir=C:\WINDOWS etc.). A variable name must be enclosed with %-character (i.e. %TEMP%, %WinDir% etc.). You can see the list of available system variables in the "Environment" item of My Computer Properties and in the DOS Prompt (Console). Type **set** command to see them.

JIT Scheduler also supports %JIT.Year%, %JIT.Month%, %JIT.Day%, %JIT.Hour% and %JIT.Minute% variables in task properties. These variables are replaced by current time and date values. [Read more on this topic.](#)

**Tip 15**

There are the task properties, which contain file and folder names. You can select a file by clicking the "Browse" button or drag a file using drag&drop. By default, the new file name replaces all text in the edit control. If Shift key is pressed, the new file name replaces the selected sub string in the edit control.



## Command line variables

It is possible to specify system variables in the file paths in the task properties and scheduler options. System variable contains some text string. Usually it contains some path (i.e. **TEMP=C:\TEMP**, **WinDir=C:\WINDOWS** etc.). A variable name must be enclosed with **%**-character (i.e. **%TEMP%**, **%WinDir%** etc.). You can see the list of available system variables in the "Environment" item of My Computer Properties and in the DOS Prompt (Console). Type set command to see them.

JIT Scheduler also supports own variables, such as **%JIT.Year%**, **%JIT.Month%**, **%JIT.Day%**, **%JIT.Hour%**, **%JIT.Minute%** and some other variables in task properties. These variables are replaced by current time and date values.

The list of JIT Scheduler variables :

<b>%JIT.YEAR%</b>	- Year in 4 digits format (i.e. 2001)
<b>%JIT.YEAR2%</b>	- Year in 2 digits format (i.e. 01)
<b>%JIT.MONTH%</b>	- Month in 2 digits format (i.e. 01, 02, 03,... 12)
<b>%JIT.MONTH3%</b>	- Month in 3 letters format (i.e. Jan, Feb, Mar,... Dec)
<b>%JIT.DAY%</b>	- Day of month in 2 digit format (i.e. 01, 02,... 31)
<b>%JIT.HOUR%</b>	- Hour
<b>%JIT.MINUTE%</b>	- Minute
<b>%JIT.WEEKDAY2%</b>	- Day of week in 2 letters format (i.e. Mo, Tu, We,...Su)
<b>%JIT.WEEKDAY%</b>	- Day of week.



## Security

Sometimes (I suspect, always) Administrators have to protect system from users. JIT Scheduler has no powerful built-in security. It can be protected via MS Windows® NT/2000/XP security.

- It is recommended to restrict write access to System Schedule file for users. JIT Terminal also doesn't allow to change System Scheduler settings, if the access to file is denied. JIT Scheduler allows to run "Application" tasks in the user account context. This feature required user name, domain and **password** to be stored in the Schedule file. In this case, it is recommended to restrict read access to Schedule file for users too.
- It is also recommended to protect Services. Hacker can write a service application and install it into the system. Installing a service, hacker gets the access to the "System" account, which has some powerful rights and privileges.

Do not permit users to debug running services.

- Protect the System Registry (may be partially). System Scheduler uses Registry keys and values in :  
**"HKEY\_LOCAL\_MACHINE\SOFTWARE\ Polyakoff\JIT Scheduler 4"**

User Scheduler uses :

**"HKEY\_CURRENT\_USER\SOFTWARE\ Polyakoff\JIT Scheduler 4"**

**"HKEY\_CURRENT\_USER\SOFTWARE\ Microsoft\Windows\CurrentVersion\Run"**

Administrator can protect JIT Scheduler's registry key only or whole HKEY\_LOCAL\_MACHINE branch. You can set Security Permissions with **Windows NT Registry Editor** - regedit.exe program (use regedt32.exe under MS Windows® NT).

 **Note**, that it is important to provide full access to Schedule file, registry key, folders and files needed to execute System tasks for "SYSTEM" ("LocalSystem" or "LocalService") account because System Scheduler runs in that account context.

