



WebObjects 4

The flexible, scalable way to develop and deploy high-performance network applications.

Developing and deploying high-performance network applications is easier than ever with WebObjects 4, the latest version of Apple's market-leading application server. WebObjects 4 combines Apple's strength in web content creation with performance, productivity, and integration enhancements, providing the ideal platform for developing dynamic, transactional applications in publishing, branding, e-commerce, client services, and asset management.

To improve performance, WebObjects 4 lets you use a simple recompile to boost application execution by a factor of five. New multithreading and load-balancing capabilities allow you to build fast, reliable applications that can be transparently scaled from small workgroups to millions of users.

Creating network applications becomes simple with WebObjects 4. It provides a fully integrated suite of development tools and deployment capabilities, including tools for building distributed Java applications. The WebObjects 4 Interface Builder supports visual building of Java clients using Java's Swing UI application programming interface, and Project Builder now includes Java debugging. WebObjects 4 also supports drag-and-drop construction and direct connection to existing applications and data resources. With the enhanced Direct to Web feature, you can have applications up and running in minutes. Direct Connect allows you to develop and test applications without a web server.

WebObjects 4 also provides flexible integration with enterprise information systems. It features a highly flexible, distributed architecture with graphical development tools for building component-based applications; an expanded set of prebuilt, reusable components; support for third-party adapters such as SAP and PeopleSoft; and an application server architecture that provides a robust, scalable, and easily maintainable environment in which to deploy applications.

Key Features

Flexible and scalable application server

- Connect applications to any HTTP server and any data source
- Load-balance across any number of machines
- Manage your business objects
- Handle interaction with any thin clients: web browsers or Java applets
- Maintain user profiles with session management capabilities

Easy-to-use development tools

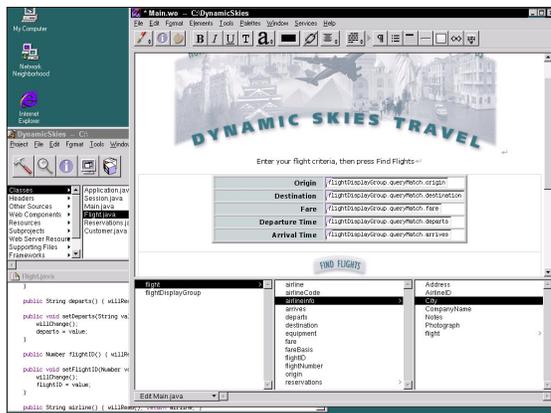
- Integrated development environment
- Visual designers (both HTML and Java)
- Object modeler
- Data integration wizards

Open and extensible frameworks

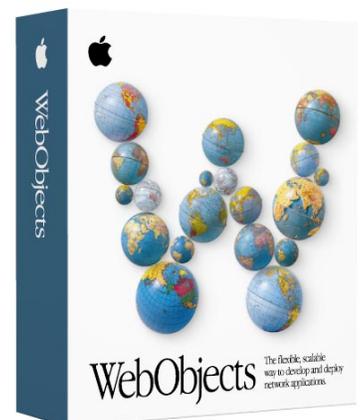
- Application components for managing tasks like e-mail and file uploading
- Presentation components for generating user interfaces on demand
- Data components for caching objects and database connections
- Foundation components for handling Unicode strings and dates beyond the year 2000

Powerful deployment tools

- Application monitor
- Testing manager
- Statistics manager



The heart of the streamlined development approach of WebObjects, Project Builder automatically coordinates every aspect of your project—business objects, source code, visual layouts, HTML, and images. Edit source code, open other tools, and launch and debug applications.





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Features

Benefits

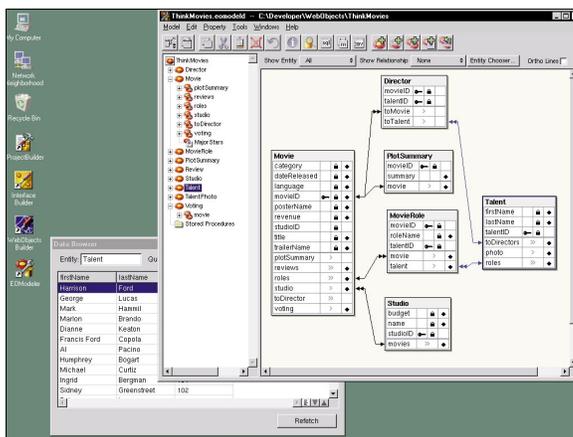
Application server fundamentals

- Scalability**
- Allows developers to create applications for millions of users through its load-balancing and multithreading capabilities
 - Enables administrators to add servers, processors, application instances, and more threads without requiring developers to change their code
- Reliability**
- Provides automatic failover and recovery systems
 - Offers multiapplication server support
 - Provides automatic application restart
- Standards support**
- Integrates with common Internet protocols
 - Supports e-commerce standards such as OpenMarket and CyberCash
 - Connects to network resources via CORBA/IIOP, DCOM/COM, HTTP/S-HTTP, SSL, and other security-based APIs
- Request-handling services**
- Provides a consistent interface for WebObjects applications to handle network requests from users via simple URL requests, form submissions, or Java applets requesting or sending structured data
 - Works directly with scaling and connection services to allow for millions of users to interact with your applications

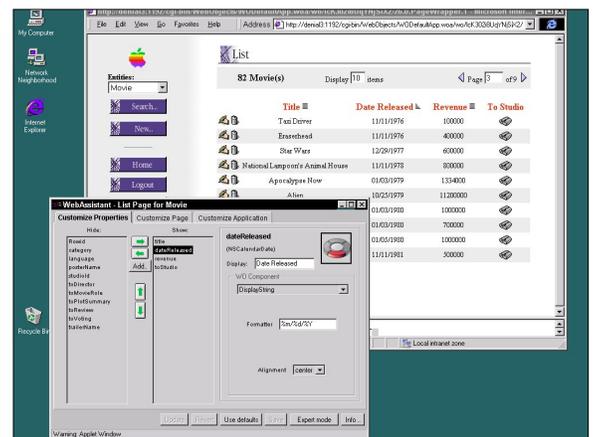
Features

Benefits

- Session management support**
- Supplies an infrastructure to handle common network application tasks
 - Supports parsing form input from URLs and HTTP headers
 - Automatically creates and identifies sessions
 - Supports state storage, including encrypted URLs, hidden fields, cookies, static bookmarks, and RAM
- Database connectivity**
- Provides the most flexible method of mapping business objects to data sources
 - Includes multitier frameworks that give access to Oracle, Sybase, Informix, or any ODBC-supported database
 - Provides access to custom data sources such as mainframes, SAP, and PeopleSoft
 - Gives business objects access to multiple data sources simultaneously



Enterprise Objects Modeler helps developers to quickly create entity-relationship diagrams and object models for data sources in a point-and-click visual environment, and even to incorporate multiple data sources into a given data access object.



Direct to Web gives developers the simplicity of application development wizards in a fully interactive environment. The result: Developers can create full-featured web applications in a matter of minutes.



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Fast, flexible tools

Direct to Web

- Provides a turnkey application that is generated at runtime from object-database models
- Enables modification of the look and function of the application while it's running with the Web Assistant
- Allows extension of an application by choosing the part to be changed and creating a component out of it

Development tool suite

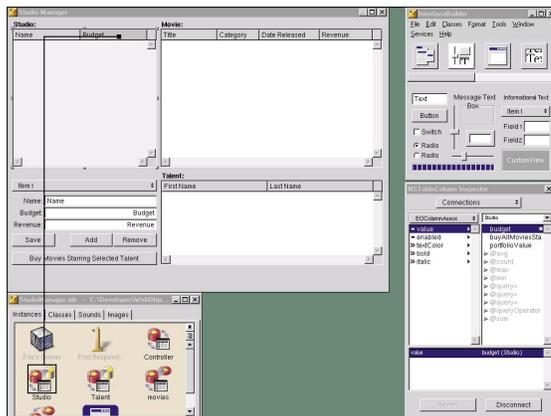
- Includes four visual development tools:
 - Project Builder for code editing, compiling, and visual debugging of Java and C-based languages
 - Enterprise Objects Modeler for modeling the relationship between business objects in the application and data source schema with its new graphical query builder
 - WebObjects Builder for designing HTML interfaces
 - Interface Builder for creating the layout of applets with JavaBeans and Swing UI elements

Versatile language support

- Allows development of applications in Java, Objective-C, or WebScript
- Integrates with industry-standard development environments that support Sun's JDK 1.1.6 and the ANSI C, C++, and Objective-C compiler and debugger

Deployment tool suite

- WebObjects Monitor tool for managing and maintaining application servers
- Playback Manager for recording sessions and playing them back across a network of client machines
- Performance statistics reporting tools with dynamically generated graphs



Interface Builder is the tool of choice for creating highly interactive Java client interfaces. You can drag Swing and JavaBeans components directly into your application, and then connect them to your business objects to create a fully functional, scalable Java application—no code required.

Features

Benefits

Open, extensible architecture

Stratified application architecture

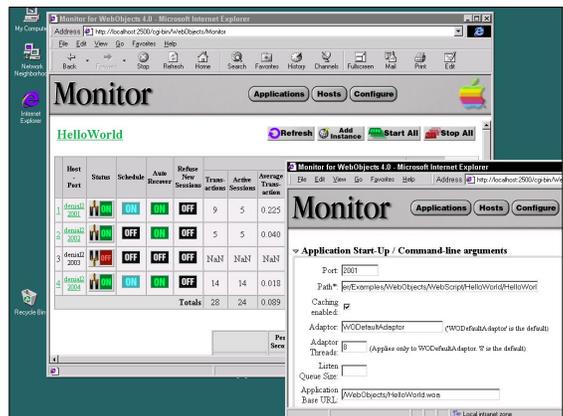
- Separates applications into multiple tiers: the client-based graphical presentation layer, the business logic layers, and the data-access layer
- Allows sharing of a piece of application logic or data with other existing applications to take advantage of enterprise-wide application servers while continuing to make use of the existing business infrastructure

Reusable components

- Dramatically shortens the development process by allowing the reuse of elements such as log-in panels, report layouts, file uploading, and other recurring functional elements
- Enables development of reusable components, or integrates components available from Apple and others

Browser and client technology independent

- Works with any standard HTML browser and Java-enabled clients
- Interfaces with specific client-side technologies including QuickTime, AppleScript, JavaScript, and JavaBeans
- Provides plug-ins to work with any web server, whether it uses CGI, ISAPI, NSAPI, WAI, or Apache
- Provides source code to make the application work on any operating system platform



Once you've developed the applications, you can use Monitor to manage collections of applications across all of your application servers. You can access Monitor from anywhere on your network, because it's a WebObjects application itself!



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Who Should Buy WebObjects?

- Corporate developers who need to develop and maintain high-performance, cross-platform network applications that are scalable to meet the needs of a large user base
- Software integrators who want an easy way to extend their technology to the web and through Java clients
- Software developers who want to create solutions for the up-and-coming application server market
- Educational institutions that want a platform for teaching students how to develop object-oriented and network-based applications

Product Features

Development Tools

- Project Builder
 - Manages the edit, compile, and debug process
 - Provides project indexing
 - Builds Java, ANSI C, C++, and Objective-C projects
- Enterprise Objects Modeler
 - Provides a graphical environment for development of business objects
 - Graphically builds queries without writing or maintaining code
 - Easily manages databases and their schema
- WebObjects Builder
 - Gives drag-and-drop control over HTML layout
 - Graphically manages tables, graphics, and frames
 - Connects HTML elements to business objects
- Interface Builder
 - Drag-and-drop control over Java client applets
 - Supports the Swing user interface set
 - Connects visual JavaBeans with business objects

Deployment Tools

- Monitor and Statistics
 - Create and manage the configurations of application servers
 - Start, stop, restart individual or groups of applications
 - View statistics of application performance
 - Accessible from any web browser
- Record and Playback Manager
 - Record web sessions and store for testing purposes
 - Schedule single or groups of playbacks for testing across many clients
 - View graphical display of results
 - Gain access from any web browser

Data Sources

- Included data sources:
 - Oracle
 - Sybase
 - Informix
 - ODBC
- Third-party tools supported:
 - PeopleSoft and SAP
 - Mainframe applications

System Requirements

Supported Operating System for Development Tools

- Windows NT 4.0

Supported Operating Systems for Deployment

- Windows NT 4.0
- Solaris 2.6
- HP-UX 10.x

Supported HTTP Servers

- Any HTTP server with a CGI, ISAPI, NSAPI, or WAI interface

Supported Databases*

- Oracle, Sybase, Informix, and ODBC (mainframe host application and database support is available from third-party providers)

**Database support varies for each platform.*

Ordering Information

For technical or sales information, call 1-800-879-6398 or visit <http://www.apple.com/webobjects>.