



## The Fast, Affordable, and Reliable J2EE™ Compatible Application Server

Macromedia JRun 4 provides the speed and reliability required to deploy and manage your standards-based Internet applications. Loaded with features for accelerated deployment and powerful scalability, JRun is an elegantly architected, web-services enabled, approachable platform with full Java™ 2 Enterprise Edition (J2EE) compatibility. Currently used in production at over 10,000 companies worldwide, JRun is the proven solution for reducing the time and cost associated with developing and deploying applications.

### Fast

Macromedia JRun 4 streamlines development, deployment and management of your applications.

**Get up and running quickly:** JRun installs in minutes with a simple graphical installation utility, complete with wizards, to keep the process going smoothly and quickly.

**Enhance productivity:** JRun integrates with your favorite Java IDE to help you work faster and with less effort.

**Simplify deployment:** New hot modification of any application component makes deploying applications in JRun 4 as simple as copying an archive file to the server directory. JRun automatically senses the new file, deploys it, and makes it available. No need to restart the server.

**Manage applications conveniently:** The intuitive, web-based JRun Management Console greatly simplifies common management and administrative tasks. Connecting to data sources, tuning performance, managing server clusters, and accessing online resources is made easier.

### Affordable

Macromedia JRun 4 delivers everything you need to build and deploy J2EE compatible applications on time and on budget.

**Develop for free:** Start building applications today with the free full-featured JRun 4 Developer Version.

**Reduce deployment costs:** JRun gives you full-featured J2EE compatibility plus value-added capabilities, such as web services integration, server clustering, and database drivers. JRun 4 provides everything organizations need to deploy standards-based Internet applications at a fraction of the cost of other J2EE compatible servers.

**Leverage value-added features:** JRun includes support for all major operating systems, databases and web servers. JRun 4 fits seamlessly into your technology infrastructure, and takes full advantage of your current assets. Additionally, JRun has built-in support for web services APIs - SOAP, WSDL, and UDDI, server clustering, and type IV JDBC drivers.

### Reliable

JRun is a proven foundation with superior performance, scalability, and availability.

**Build scalable, high performance applications:** JRun 4 uses a breakthrough Jini™ technology-based peer-to-peer approach for server clustering. This method greatly simplifies clustered application deployment and eliminates a single point of failure.

**Rely on proven experience:** JRun is the choice of leading organizations worldwide - thousands of developers count on the Macromedia JRun platform for building and deploying standards-based applications.

**Certified J2EE compatible:** Develop and deploy your applications with confidence knowing that JRun is fully certified J2EE 1.3 compatible.

**JRun 4 is the fast, affordable, and reliable platform for developing, deploying, and managing your J2EE compatible applications**

### Integration with Macromedia Flash MX

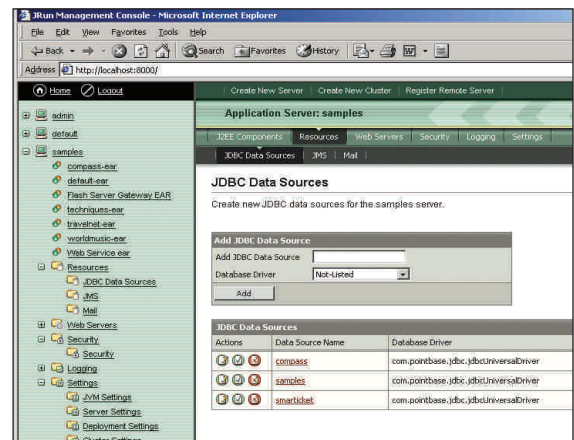
With built-in connectivity to Macromedia Flash Player, it's easy to provide your J2EE applications with high impact user interfaces. Support for Macromedia Flash Remoting allows user interfaces built in Macromedia Flash to connect to EJBs, Java classes, and MBeans deployed in JRun in a simple, fast, and secure manner.

### Browser-based Management Console

JRun 4 server and application management is accomplished through the JRun Management Console, a web-enabled user interface that keeps everyday tasks simple and fast. Wizards and dialog boxes walk you through the steps you need to take to create servers, define clusters, manage applications, and implement security.



Rich user interfaces designed with Macromedia Flash MX can add robust presentation elements to your applications, such as drag-and-drop components and interactive controls.



The redesigned, JMX-enabled JRun Management Console provides an easy-to-use, intuitive graphical user interface to manage your local and remote JRun servers.

## Standards Support

JRun implements the complete J2EE platform specification, including Java Server Pages, Java Servlets, Enterprise JavaBeans, Java Message Services, and other Java and web services APIs

**Certified J2EE 1.3 compatible:** JRun 4 is certified J2EE 1.3 compatible, implementing the latest standards support for the complete Java 2 platform APIs

**Advanced EJB 2.0 support:** The JRun 4 EJB container has been rearchitected to provide superior support for the new EJB 2.0 features, including local interfaces, message-driven beans, EJB-QL, and container managed persistence (CMP) 2.0

**Web services integration:** Building web services in JRun 4 is as simple as editing a deployment descriptor to expose your regular Java classes or Enterprise JavaBeans as web services. Consuming web services is equally easy: JRun 4 automatically generates Java proxies for web services based on their WSDL files. JRun has integrated support for open web services protocols such as SOAP, WSDL, and UDDI

## Development and Deployment Services

In addition to the core J2EE services, JRun includes features to simplify and speed the development and deployment process. Using the power of the new development and deployment features of JRun, you can deliver your applications faster in a non-stop server environment

**Auto deployment:** Deploying an application is as simple as copying an EAR, JAR, WAR, or RAR file to the server directory. JRun automatically senses the new file, deploys it, and makes it available in the target server: No need to restart the server

**Hot Modification:** During development, you can hot modify any application component (servlets, JavaServer Pages,™ Enterprise JavaBeans, Java Classes, deployment descriptors). The changes take effect immediately without the need to restart the server

**XDoclet integration:** XDoclet is tightly integrated into JRun 4. When modifications are made to the source file, JRun will automatically generate the necessary auxiliary files, such as interfaces and deployment descriptors

**EJB development and deployment tool:** The Enterprise Deployment Wizard streamlines developing and deploying Enterprise JavaBeans. With new O/R mapping capabilities for CMP 1.1 and CMP 2.0, you can generate and deploy a fully-functional entity bean in minutes

**IDE integration:** JRun 4 integrates with industry-leading development tools, such as JBuilder, IntelliJ, Forte and WebGain

## Presentation Services

**Macromedia Flash MX remoting services:** With the built-in Macromedia Flash MX player connectivity, it's easy to provide your J2EE applications with a high impact user interface. Macromedia Flash remoting allows user interfaces built in Macromedia Flash to connect to EJBs, Java classes, and MBeans in a simple, fast and secure manner

**JRun server tags technology:** JRun Server Tags (JST) allow you to write custom tags using JavaServer Pages instead of the more complex custom tag handler. Custom tag development is faster and more approachable

**Built-in web server:** JRun ships with a built-in, high-performance HTTP server. Additionally, JRun provides connectors for support of other leading HTTP servers

**High performance web server connectors:** High performance and clustering-enabled web server connectors also allow you to use JRun with all the major web servers including Apache, Microsoft IIS, Netscape Enterprise Server, IPPlanet, and Zeus

## Data Access Services

**Bundled type IV JDBC drivers:** JRun 4 comes with high performance JDBC drivers for the leading databases: Oracle®, Microsoft® SQL Server, Sybase, DB2, and Informix

**Java API for XML parsing (JAXP):** JRun integrates a JAXP-compliant XML parser and an eXtensible Stylesheet Language Transformation (XSLT) engine

## Open and Extensible Architecture

Built on an elegant JMX service-oriented architecture with a small footprint, the JRun Server is easily customized, extended, or embedded to meet your unique business requirements.

**Service oriented architecture:** JRun services-EJB container, Web container, logging, and others—are implemented as MBeans plugged into the JMX based JRun kernel. This plug-in architecture provides a highly customizable and easily extensible deployment platform.

**Java Message Service (JMS):** JRun 4 includes a durable and transactable JMS 1.02b-compliant provider that supports both point-to-point and publish/subscribe synchronous and asynchronous messaging. JRun 4 can also be used in conjunction with an external JMS provider, such as SonicMQ

**Small Disk Footprint:** JRun is a lean and efficient application server that does not carry the excess overhead that goes along with legacy technology. JRun lets you control the components you install and activate to optimize memory resources at runtime.

## Performance and Scalability

Superior performance and breakthrough Jini™ technology-based server cluster management capabilities allow your applications to scale in a reliable and highly optimized runtime environment

**Superior servlet and JSP performance:** The elegant and small footprint architecture in JRun is optimized for performance. Since its introduction in 1997, JRun is recognized as the fastest web container in the application server market

**Advanced Jini technology-based server clustering:** JRun 4 provides enterprise-class server clustering, allowing load balancing and automatic failover at all levels—web server, web connector and component. JRun servers use Jini technology to dynamically locate their peers in the cluster, eliminating the risk inherent to a single point of failure

**Performance tracing:** Instrumentation allows you to identify and resolve performance bottlenecks in your code by tracing and timing each method invocation in your application. Instrumentation is supported for JSPs, servlets, and EJBs

## Application and Server Management

**JRun management console:** The redesigned, JMX-enabled JRun Management Console (JMC) provides an easy-to-use, web-based graphical user interface to manage your local and remote JRun servers. Using the JMC, you easily create servers, define clusters, manage applications, and implement JAAS-based security

**Point-and-Click server cluster administration:** Installing and managing a cluster of JRun servers is straightforward. Using the JRun Management Console (JMC), you define and administer a cluster in a point-and-click environment. JRun also simplifies the deployment of applications into a clustered environment. The JRun Management Console (JMC) provides a one-step deployment option to all the servers in the cluster

**JRun 4 is J2EE 1.3 compatible and implements the following versions of the Java 2 platform APIs:**

JSP 1.2	JCA 1.0
Servlet 2.3	JAXP 1.1
EJB 2.0	JavaMail 1.1
JMS 1.0.2	JDBC 2.0
JTA 1.0	JNDI 1.2
JAAS 1.0	RMI/IIOP 1.0



**Java Compatible™  
Enterprise Edition**

**Getting Started**

Developers can obtain a free developer version of JRun4 by visiting Macromedia online at [www.macromedia.com/downloads](http://www.macromedia.com/downloads)

Complete examples and tutorials in JRun 4 introduce you to new features and help reduce your learning curve. Check out JRun 4 resources online at [www.macromedia.com/software/jrun](http://www.macromedia.com/software/jrun)

For information or to purchase in the U.S. and Canada visit

[www.macromedia.com/software/jrun](http://www.macromedia.com/software/jrun) or call **800 457 1774**. Outside the U.S. and Canada visit [www.macromedia.com/intl](http://www.macromedia.com/intl)

**System Requirements**

**Operating System Support**

Windows® 98, ME, 2000, XP and Windows NT®

Solaris 7, 8

Red Hat® Linux® 6.2, 7.X

IBM® AIX® 4.3, 5L v5.1

HP-UX® 11.0, 11i

Compaq® Tru64 Unix 5.1

Turbolinux® 6.5

SuSE® Linux 7.2, 7.3

**Java Virtual Machine (JVM) Support**

Sun™ Java Virtual Machine 1.3.1 or higher

IBM Java Virtual Machine 1.3.1 or higher

BEA® JRockit 3.1

**Web Server Support**

Apache™ HTTP Server

Microsoft IIS

Netscape® Enterprise Server

iPlanet™

Zeus™ Web Server

**Database Support**

JRun 4 includes high performance type IV JDBC drivers from DataDirect Technologies for the following databases:

Oracle®

Microsoft SQL Server

Sybase®

DB2

Informix®

