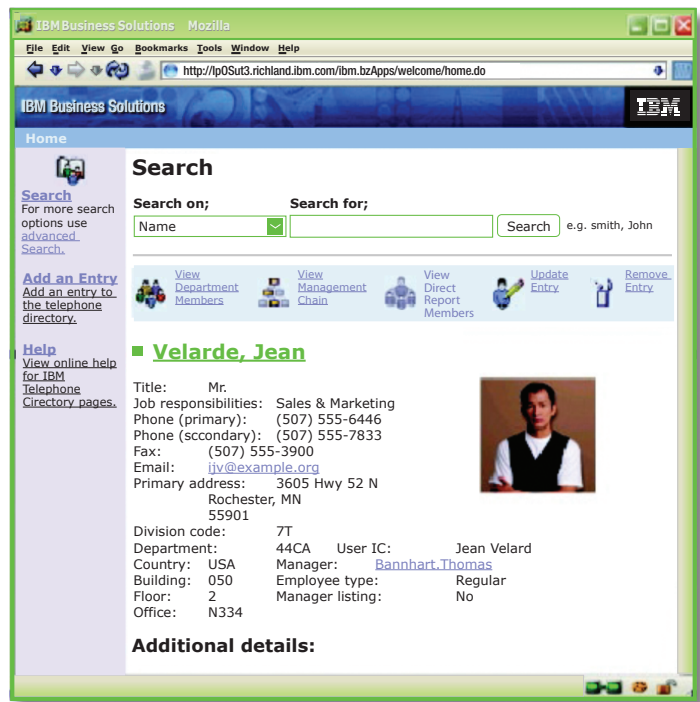


# IBM WebSphere Application Server - Express, Version 6.1

## Highlights

- Offers a quick and affordable solution to help you develop, run, integrate and manage dynamic Web-based applications
- Helps improve time to value with easy-to-use configuration and deployment tools.
- Enables you to take advantage of existing skills with straightforward development and administration tools that help simplify application assembly and deployment, and minimize administration requirements
- Delivers outstanding capabilities for transaction management, security and scalability for thousands of available applications
- Increases flexibility with comprehensive support for Web services, messaging and real-time multimedia elements, enabling you to reuse your assets and extend their usefulness
- Offers a smooth upgrade path to other WebSphere software products when more-advanced development and deployment capabilities are required
- Provides a full J2EE, Version 1.4 and J2SE, Version 5.0 programming model across a broad range of operating environments, including i5/OS, Linux, AIX, Windows, HP-UX and Sun Solaris operating environments

Building dynamic Web sites is an increasingly integral part of business operations. Virtually all companies want to develop and manage Web-based business applications that help streamline business processes and speed time to value. But with short project timelines and limited IT resources, midsized companies often face unique challenges. IBM WebSphere® Application Server - Express, Version 6.1 software is designed to help companies like yours quickly build and deploy dynamic Web sites to help you reduce overall costs, improve customer loyalty and adapt more quickly to new business opportunities.



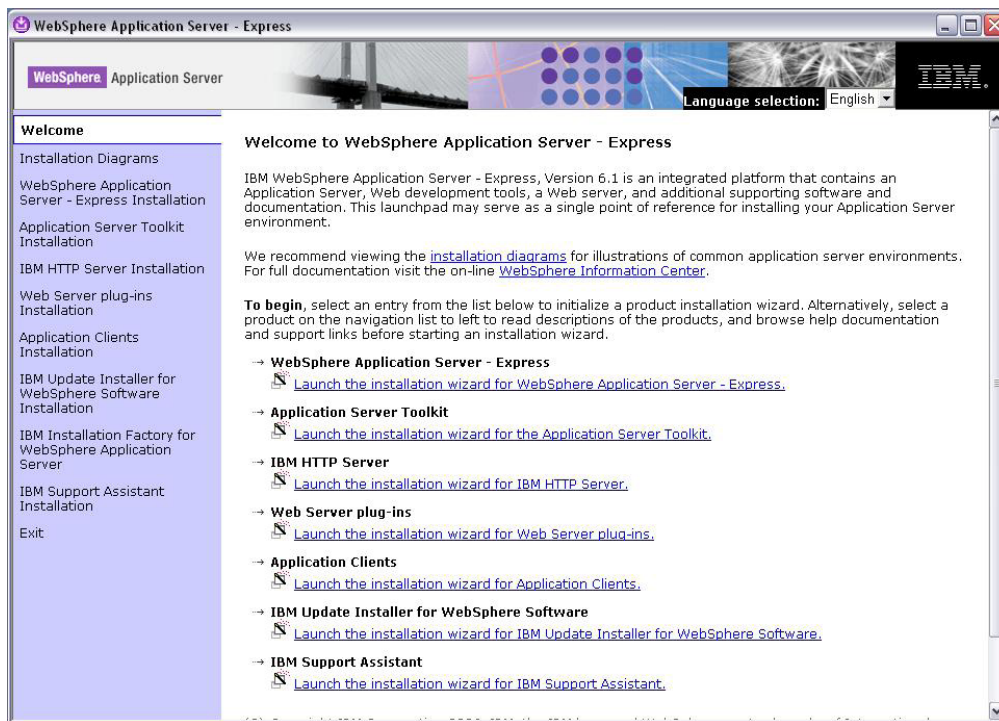
The IBM Telephone Directory business application is a ready-to-go solution that is provided with WebSphere Application Server - Express, Version 6.1.

Based on the latest Java™ technology and Web services standards, WebSphere Application Server-Express, Version 6.1 gives you an affordable starting point for service oriented architecture (SOA), providing what you need to start assembling, deploying and managing applications and Web services. This ready-to-go solution includes quick-start application templates and robust development tools so that you can jump-start your way to SOA and start generating return on investment (ROI) quickly.

### Build your business quickly

WebSphere Application Server-Express, Version 6.1 is designed to provide end-to-end ease of use to get your projects up and running quickly. Through IBM Application Server Toolkit, an integrated development environment (IDE) built on Eclipse technology, WebSphere Application Server-Express helps you create, test, deploy and manage dynamic Web sites, applications and Web services. With wizards for quick and simple installation, application assembly and deployment, and very

little maintenance, WebSphere Application Server - Express requires minimal administrative resources. Also, Web browser-based administration enables you to manage WebSphere Application Server - Express remotely — and to separate development and deployment tasks.

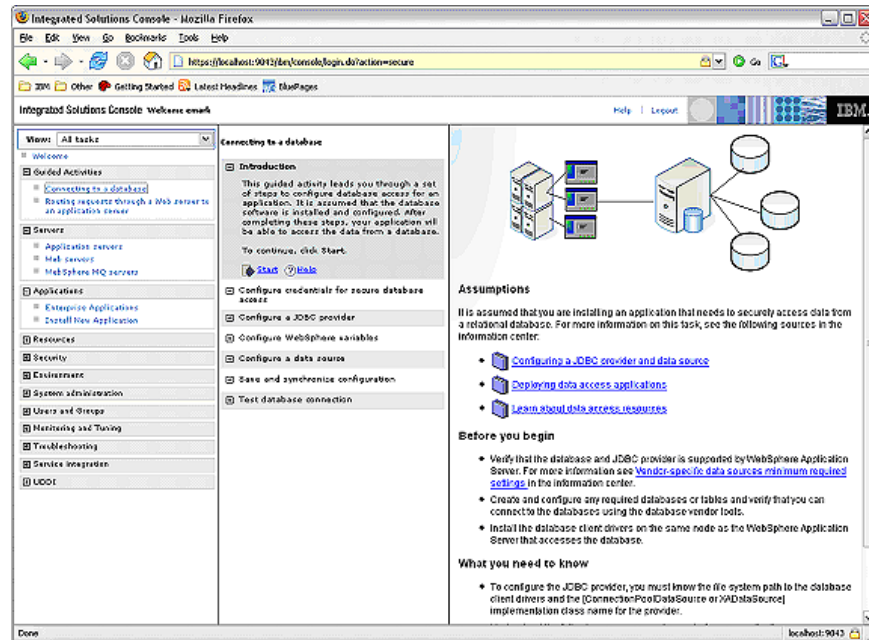


The installation launchpad serves as your single point of reference for installing your WebSphere Application Server environment.

To make installation and deployment easy, reliable and repeatable, WebSphere Application Server-Express, Version 6.1 now includes IBM Installation Factory for WebSphere Application Server, Version 6.1. This tool can help you create customized installation packages for WebSphere Application Server - Express to include updates (like interim fixes and refresh packs), or to run scripts, deploy enterprise applications, import configuration archives or install other user-defined files. By helping to streamline the up-and-running process, IBM Installation Factory for WebSphere Application Server-Express, Version 6.1 can save you valuable time and enable you to become effective faster.

WebSphere Application Server-Express, Version 6.1 also includes a set of applications that can help boost productivity. These applications (IBM Telephone Directory and IBM Welcome Page) help you increase worker productivity, provide services that any business would find useful, are easy to understand and use, and can be deployed immediately to help you realize value quickly.

As your business requirements evolve, WebSphere Application Server - Express enables you to make the most of your existing financial and development investments. As you upgrade to more-advanced IBM WebSphere Application Server



The WebSphere Application Server administration console offers a clear and responsive interface.

configurations, existing applications can run with virtually no alterations. And the skills you develop by using WebSphere Application Server - Express are applicable to other IBM WebSphere software products, so that you can reuse your skills as well as your code.

### Reuse your existing Eclipse skills

You want fast, efficient application development to help ensure cost-effective investment of your time and resources. WebSphere Application Server - Express, Version 6.1 helps lower your labor costs with an integrated Java-development environment, Application Server Toolkit, which is built on Eclipse

technology. Application Server Toolkit provides basic tools for creating, deploying and debugging Web applications. It also includes tools that enable you to create new Web applications, Web services, portlets and Enterprise JavaBeans (EJB), as well as new automation tools that enable you to take advantage of Eclipse development-tool expertise to develop and debug automation scripts.

### Run your applications in a security-rich, scalable environment

In today's business environment, you have to make sure that your Web sites and applications aren't vulnerable to attack. WebSphere Application Server-

Express, Version 6.1 provides your employees, trading partners and customers with the most comprehensive levels of security through extensive support for industry standards and specifications. To help give you peace of mind right from the start, WebSphere Application Server - Express, Version 6.1 now comes with default security configurations preset to protect implementations as soon as the product is installed and before custom configurations specific to the environment are implemented. An integrated, default user registry provides better identity management. And support for standards like Web Services Security and Web Services Interoperability Basic Security Profile (WS-I BSP) helps ensure that your Web services interactions are as secure as possible.

If you deploy an application to solve a business problem, you have to be confident that it will run when you need it — even under tough workloads. You also need to know that it can grow and scale with your business to support unexpected future requirements. With WebSphere Application Server - Express, Version 6.1, you have a highly secure, scalable, reliable environment for your applications and services to run in. IBM's implementation of Java 2 Standard Edition (J2SE), Version 5.0 enables WebSphere

Application Server - Express, Version 6.1 to deliver substantial performance improvements, while providing a leading-edge development environment that can increase application-programmer productivity. This enhanced development environment continues to be surrounded by IBM's industry-leading Java 2 Platform, Enterprise Edition (J2EE), Version 1.4 technology-compliant runtime environment.

Besides providing support for J2EE, Version 1.4 and J2SE, Version 5.0, all WebSphere Application Server, Version 6.1 configurations are built on a common Java programming model. This consistent foundation across configurations means that as your needs change and grow, you can run your applications unaltered on other WebSphere Application Server, Version 6.1 configurations. This feature offers the flexibility to grow applications without the cost of rebuilding, reprogramming and migrating to different technology bases.

#### **Easy to use and deploy**

WebSphere Application Server - Express, Version 6.1 provides ease-of-use features that can help you make the most of existing resources to enable faster time to value. These features include:

- *JavaServer Faces (JSF) components that enable you to build dynamic Web user interfaces with drag-and-drop development capabilities. A new JSF widget library provides a set of prebuilt functions to help save development time and expense. You can add features like graphs, data grids and calendar date-pickers quickly and with minimum effort to make your Web user interfaces richer.*
- *Service Data Objects (SDOs) that easily connect to multiple back-end data sources through a standard interface.*
- *The WebSphere rapid-deployment component, a framework within WebSphere Application Server - Express that helps reduce the complexity of building J2EE applications by automating the most common and tedious tasks and helping to reduce the number of steps required to deploy your applications.*
- *Eclipse technology-based improvements that can automatically customize key user tasks through progressive disclosure of capabilities.*
- *Samples and tutorials that ease the learning process for new programmers by providing templates for programming techniques and best practices.*

## Maximize ROI with Web services and new communication services

With today's tight budgets and fast pace of change, you need your business to be flexible and to deliver maximum return on investment. With WebSphere Application Server - Express, Version 6.1, you can reuse your existing assets and increase your ROI through support for standards-based messaging and the latest Web services standards. With the tools provided, you can build, publish and manage integration-ready applications that can be used by other internal or external organizations or platforms. You can create new business opportunities and help reduce costs by sharing applications electronically with other organizations.

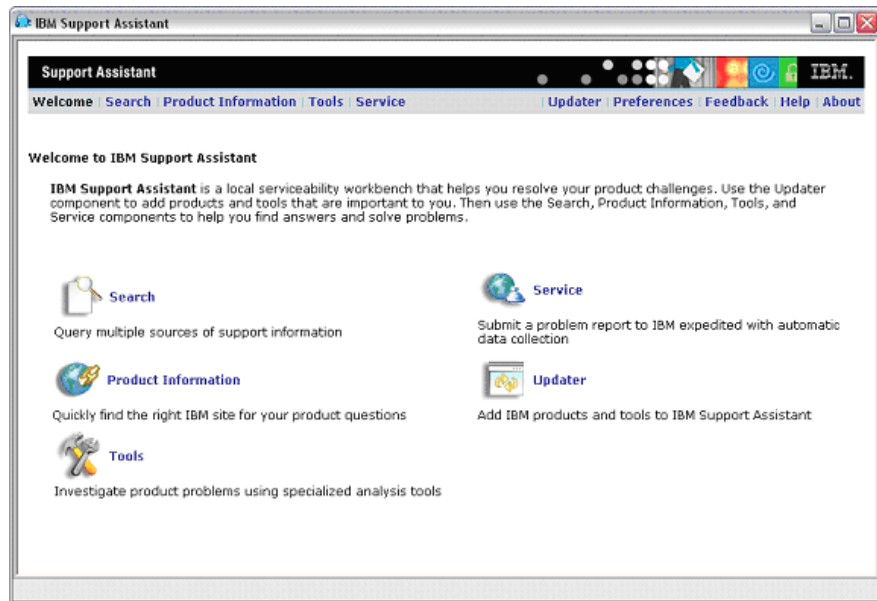
For a new communications experience, you can add interactive user sessions that involve real-time multimedia elements such as voice, video and instant messaging to your applications. For example, through support for Session Initiation Protocol (SIP) servlets in WebSphere Application Server - Express, Version 6.1, you can initiate Voice over Internet Protocol (VoIP) calls to your customers through the click of a button. You can use SIP to make your Web applications more interactive, and to help save valuable time and costs.

## Manage applications easily

WebSphere Application Server - Express, Version 6.1 provides effective, easy-to-use management tools to help you minimize the costs of maintaining your environment. A visual Web-site management option helps you create, import and customize complete Web sites with consistent style and layout, using a tree view of the site structure. Web server administration is now integrated within the management console, and simplified administration features automatically create scripting commands for you, so you can focus resources on innovation, instead of on maintenance. The new stand-alone thin administrative client offers increased flexibility for independent software vendors (ISVs) and companies that want to install an administration client

on remote machines with limited disk capacity, or to create their own custom WebSphere administration programs.

WebSphere Application Server - Express, Version 6.1 also provides improvements for troubleshooting through the IBM Support Assistant. IBM Support Assistant is a serviceability workbench that helps you identify operational problems early and makes self-help and problem reporting more effective. It brings a wide range of IBM support resources to you in a single application that can be enhanced through plug-in modules for many of the IBM products you use. By helping you resolve questions and issues quickly, IBM Support Assistant can help you minimize the business impact of any problem.



*IBM Support Assistant can help you resolve software challenges more quickly.*



You can also benefit from a vast ecosystem of skilled IBM Business Partners who can provide help and guidance. And with thousands of business applications available for WebSphere Application Server - Express, as well as licensing options to fit your needs, you can find a solution to solve practically any business problem.

### **Take the first steps toward SOA**

One of the first ways your organization can get started with SOA is by integrating a Web site with a database. WebSphere Application Server - Express can help you take this step. With support for the latest versions of databases, WebSphere Application Server - Express helps you take advantage of new features and capabilities in leading databases, including IBM DB2® Universal Database™, IBM Informix®, Oracle, Microsoft® SQL Server 2000 and Sybase. Support for Java Database Connectivity (JDBC) helps users write database applications productively, while database connection pooling helps facilitate efficient connections to these databases.

### **A flexible infrastructure for SOA**

IBM WebSphere Application Server is the foundation of the IBM WebSphere software platform — a set of integrated, award-winning SOA solutions. No

matter which SOA entry point you choose, the WebSphere software platform enables you to grow at the speed the market demands. Building on this robust platform, you can integrate your current investments and use existing skills with a full range of server solutions from the WebSphere software family.

Along with WebSphere Application Server - Express, the WebSphere Application Server family of products includes:

- **IBM WebSphere Application Server, Version 6.1.** *This core J2EE, Version 1.4 technology-compatible application server is optimized to ease administration in a scalable, single-server deployment environment.*
- **IBM WebSphere Application Server Network Deployment, Version 6.1.** *This configuration adds advanced deployment services such as clustering, edge-of-network services and high availability for critical environments.*
- **IBM WebSphere Application Server for z/OS, Version 6.1.** *This product is the WebSphere Application Server Network Deployment configuration optimized to run on the IBM System z™ platform and to take advantage of the qualities of service of the IBM z/OS® operating system.*

- **IBM WebSphere Application Server Community Edition, Version 1.1.** *This lightweight J2EE application server is based on open-source technology from the Apache Software Foundation and is available free of charge for development and deployment. Optional fee-based support is available, priced per server.*

Development licensing is also available. For more details, refer to the specific WebSphere Application Server product information.

### **For more information**

To learn more about IBM WebSphere Application Server - Express and the IBM Business Partner solutions that support it, contact your IBM representative or IBM Business Partner, or visit:

[ibm.com/software/webservers/appserv/express](http://ibm.com/software/webservers/appserv/express)

To join the Global WebSphere Community, visit:

[www.websphere.org](http://www.websphere.org)

## IBM WebSphere Application Server - Express, Version 6.1 at a glance

	WebSphere Application Server - Express, Version 6.1	WebSphere Application Server, Version 6.1	WebSphere Application Server Network Deployment, Version 6.1
<b>Java programming model</b>			
Full J2EE, Version 1.4 and J2SE, Version 5 support	X	X	X
Programming model extensions	X	X	X
Support for JavaServer Pages, Version 2.0 and Java servlets, Version 2.4	X	X	X
JSF technology support	X	X	X
Full XML support	X	X	X
<b>Web services</b>			
Full Web services support	X	X	X
Support for private Universal Discovery, Description and Integration (UDDI) registries	X	X	X
Web services gateway			X
<b>Database support and connectivity</b>			
JDBC and connection management for access to DB2 Universal Database, Microsoft SQL Server 2000, Oracle, Informix and Sybase <sup>1</sup>	X	X	X
JDBC for access to DB2 Universal Database for i5/OS	X	X	X
Restricted DB2 licenses		X	X
Restricted DB2 Express license	X		
<b>Application development</b>			
Sample applications	X	X	X
Integrated development tool — Application Server Toolkit	X	X	X
<b>Integrated On Demand Business applications</b>			
IBM Telephone Directory	X		
IBM Welcome Page	X		
<b>Web server support</b>			
IBM HTTP server included	X	X	X
Web server plug-ins	X	X	X

**IBM WebSphere Application Server - Express, Version 6.1 at a glance (continued)**

	WebSphere Application Server - Express, Version 6.1	WebSphere Application Server, Version 6.1	WebSphere Application Server Network Deployment, Version 6.1
<b>Security</b>			
Basic authentication for secure access to Web resources	X	X	X
Enhanced authentication and authorization through Common Secure Interoperability (CSI), Version 2.0, single sign-on and support for Lightweight Directory Access Protocol (LDAP)	X	X	X
Advanced authentication and authorization, such as Java Authentication and Authorization Service (JAAS) and Java Cryptography Extension (JCE)	X	X	X
<b>Platform support</b>			
Broad platform support for rapid implementation on Microsoft Windows® (Microsoft Windows 2000, <sup>3</sup> Microsoft Windows 2003, and Microsoft Windows XP <sup>3</sup> ), Linux®, IBM i5/OS®, IBM AIX® systems, Sun Solaris Operating Environment and HP-UX	X	X	X
Support for Linux on IBM System z		X	X
Support for selected 64-bit platforms		X	X
Support for servers with more than two processors <sup>4</sup>		X	X
<b>Application connectivity</b>			
Full JMS technology-supported message-driven beans, including embedded JMS transport	X	X	X
Microsoft component object-model architecture to Enterprise ActiveX client and server resources <sup>1</sup>	X	X	X
<b>Performance support</b>			
Enhanced features for performance, such as dynamic caching, IBM Tivoli® Performance Viewer software, integration with vendor tools	X	X	X
<b>Administration and workload management</b>			
Web browser-based remote administration	X	X	X
Convenient administration through embedded administrative console	X	X	X
Java proxy server included			X
Intelligent workload distribution across a cluster			X
Failure bypass			X
Clustering support			X
Simple failover and load balancing		X	X
<b>Migration support</b>			
Migration documentation	X	X	X
Migration tools and assistance	X	X	X



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## IBM WebSphere Application Server - Express, Version 6.1 at a glance (continued)

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### Hardware requirements

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*For AIX operating systems with 32-bit technology-based WebSphere Application Server*

- Any system from the IBM POWER™ family of processors
  - Minimum 1112 MB available disk space for installation (includes software development kit [SDK])
  - Minimum 512 MB physical memory; 1 GB recommended
  - CD-ROM drive
- 

*For HP-UX operating systems with 32-bit WebSphere Application Server*

- PA-RISC processor
  - Minimum 1368 MB available disk space for installation (includes SDK)
  - Minimum 512 MB physical memory; 1 GB recommended
  - CD-ROM drive
- 

*For Linux on x86 operating systems with 32-bit WebSphere Application Server*

- Intel® Pentium® processor at 500 MHz or faster
  - Intel EM64T or AMD Opteron (32-bit kernel support only)
  - Minimum 1226 MB available disk space for installation (includes SDK)
  - Minimum 512 MB of physical memory; 1 GB recommended
  - CD-ROM drive
- 

*For Linux on POWER*

- IBM System i™ with 32-bit WebSphere Application Server
    - System i models that support logical partitioning (LPAR) with minimum of 450 commercial processing workload (CPW) in the Linux partition
    - Minimum 16 GB available disk space for the IBM OS/400® partition; 2.5 GB minimum for the Linux partition
    - Minimum 512 MB physical memory; 1 GB recommended for 32-bit WebSphere Application Server
    - CD-ROM drive
  - IBM System p™, IBM OpenPower™ or IBM BladeCenter® with 32 bit WebSphere Application Server
    - Minimum 1231 MB available disk space for installation (32-bit application server)
    - Minimum 512 MB physical memory; 1 GB recommended for 32-bit WebSphere Application Server
    - CD-ROM drive
- 

*For Sun Solaris Operating Environment with 32 bit WebSphere Application Server*

- Sun Solaris operating environment SPARC workstation at 440 MHz, or faster
  - Minimum 1267 MB available disk space for installation (includes SDK)
  - Minimum 512 MB physical memory; 1 GB recommended
  - CD-ROM drive
-

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**IBM WebSphere Application Server - Express, Version 6.1 at a glance (continued)**

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**Hardware requirements**

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*For Microsoft Windows with 32-bit WebSphere Application Server*

- Intel Pentium processor at 500 MHz or faster
- Intel EM64T or AMD Opteron (32-bit operating-system support only)
- Minimum 1303 MB available disk space for installation (includes SDK)
- Minimum 512 MB physical memory; 1 GB recommended
- CD-ROM drive

*For i5/OS and OS/400 operating systems*

- If your applications contain enterprise beans
  - IBM AS/400e™ model 170 with processor feature 2385
  - AS/400e model 720 with processor feature 2062
  - System i model 270 with processor feature 2250
  - System i model 820 with processor feature 2395
  - Minimum 750 MB of physical memory, in addition to the memory required for any other applications running on your System i server
- If your applications consist solely of servlets and JSP files
  - System i model 270 with processor feature 2250
  - System i model 820 with processor feature 2395
  - Minimum 750 MB of physical memory, in addition to the memory required for any other applications
- Available disk space requirements
  - WebSphere Application Server: 900 MB
  - WebSphere Application Server samples: 80 MB
  - Application client: 160 MB
  - Web server plug-ins: 100 MB

**Software requirements**

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*For AIX operating systems with 32-bit WebSphere Application Server*

- IBM AIX 5L™, Version 5.2 with recommended maintenance package 5200-07
- AIX 5L, Version 5.3 with Service Pack (SP) 5300-04-01

*For HP-UX operating systems with 32-bit WebSphere Application Server*

- HP-UX 11i, Version 2 (11.23) with Standard Patch Bundles of March 2006 and Sep 2004 Bundle 11i
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## IBM WebSphere Application Server - Express, Version 6.1 at a glance (continued)

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### Software requirements

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*For Linux operating environments on x86 processor-based systems with 32-bit WebSphere Application Server*

- Red Hat Enterprise Linux AS, Version 3 with Update 5 or 6
- Red Hat Enterprise Linux AS, Version 4 with Update 2
- Red Hat Enterprise Linux ES, Version 3 with Update 5 or 6
- Red Hat Enterprise Linux ES, Version 4 with Update 2
- Red Hat Enterprise Linux WS, Version 3 with Update 5 or 6 (support for application design, development and testing; no support for production use)
- Red Hat Enterprise Linux WS, Version 4 with Update 2 (support for application design, development and testing; no support for production use)
- SUSE Linux Enterprise Server, Version 9 with SP2 or 3

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*For Linux operating environments on POWER servers with 32-bit WebSphere Application Server*

- Red Hat Enterprise Linux AS, Version 3.0 with Update 5 or 6 (supported for application design, development and testing; no support for production use)
- Red Hat Enterprise Linux AS, Version 4 with Update 2 (supported for application design, development and testing; no support for production use)
- SUSE Linux Enterprise Server, Version 9 with SP2 or 3

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*For Sun Solaris Operating Environment with 32-bit WebSphere Application Server*

- Sun Solaris Operating Environment, Version 9 with the latest Patch Cluster
- Sun Solaris Operating Environment, Version 10 with the latest Patch Cluster

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*For Windows operating systems with 32-bit WebSphere Application Server*

- Microsoft Windows 2000 Advanced Server with SP4
- Microsoft Windows 2000 Server with SP4
- Microsoft Windows 2000 Professional Server with SP4 (supported for application design, development and testing only; no support for production use)
- Microsoft Windows Server 2003, Datacenter with SP1
- Microsoft Windows Server 2003, Enterprise with SP1
- Microsoft Windows Server 2003, Standard with SP1
- Microsoft Windows XP Professional with SP2 (supported for application design, development and testing only; no support for production use)

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*For i5/OS and OS/400 operating systems*

- i5/OS and OS/400, Version 5.3
  - i5/OS, Version 5.4
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## IBM WebSphere Application Server - Express, Version 6.1 at a glance (continued)

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### Software requirements

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#### *Supported HTTP server environments<sup>5</sup>*

- Apache Server, Version 2.0.5.4
- IBM HTTP Server, Version 6.0.2
- IBM HTTP Server, Version 6.1
- IBM HTTP Server for System i5™
- Microsoft Internet Information Services, Version 5.0 or Version 6.0
- IBM Lotus® Domino® Enterprise Server 6.5.4 or 7.0
- Sun Java System Web Server, Version 6.0 with SP9
- Sun Java System Web Server, Version 6.1 with SP3 (support provided for the HTTP server functionality of this server only)

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#### *Supported Web browsers*

- Firefox, Version 1.5
  - Microsoft Internet Explorer, Version 6.0 with SP1
  - Mozilla, Version 1.7.8
- 

<sup>1</sup> Not supported for IBM eServer™ i5

<sup>2</sup> Samples integrated with the tool for quick-start development

<sup>3</sup> Supported for application design, development and testing only; no support for production use

<sup>4</sup> WebSphere Application Server -Express is restricted to two processors per server. WebSphere Application Server and WebSphere Application Server Network Deployment are not limited.

<sup>5</sup> For more detailed information about which HTTP server runs on which operating system, visit [ibm.com/support/docview.wss?rs=180&uid=swg27007651](http://ibm.com/support/docview.wss?rs=180&uid=swg27007651).

**Note:** Hardware and software requirements are updated frequently. For the most current requirements, visit [ibm.com/support/docview.wss?rs=180&uid=swg27007651](http://ibm.com/support/docview.wss?rs=180&uid=swg27007651).

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