



WebSphere Application Server for iSeries  
Installation

*Version 5.0.2*







**@server**

WebSphere Application Server for iSeries  
**Installation**

*Version 5.0.2*

**Note**

Before using this information and the product it supports, be sure to read the information in "Notices," on page 63.

**Fifth Edition (September 2004)**

This edition applies to version 5.0.2 of IBM WebSphere Application Server for iSeries (product number 5733-WS5) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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# Installation of WebSphere Application Server for iSeries

This topic describes what is required to install and start WebSphere<sup>(R)</sup> Application Server for iSeries. It also provides instructions on how to configure your iSeries<sup>(TM)</sup> server, the WebSphere Application Server environment, and your HTTP server and how to verify that the WebSphere Application Server was started successfully.

You can print the information in this topic by using the Installation PDF.

**Note:** For more information on the steps to install WebSphere Application Server, see the “Checklist: WebSphere Application Server installation” on page 3.

The “**Overview of WebSphere Application Server for iSeries**” on page 4 provides a brief description of WebSphere Application Server for iSeries.

Follow these steps to install WebSphere Application Server:

## 1. PLANNING

### “Step 1: Plan the installation” on page 5

This step describes a series of tasks that you should complete before you install WebSphere Application Server for iSeries to ensure that all the prerequisites are met.

## 2. INSTALLING

### “Step 2: Install WebSphere Application Server” on page 13

This step describes how to install the WebSphere Application Server product on your iSeries server.

## 3. CONFIGURING

### “Step 3: Create an initial configuration” on page 37

This step describes how to configure your iSeries server, the WebSphere Application Server environment, and your HTTP Server so that WebSphere Application Server runs correctly.



## **4. STARTING THE ENVIRONMENT**

**“Step 4: Start the WebSphere Application Server environment” on page 47**

This step describes how to start the WebSphere Application Server environment on your iSeries server.



## **5. VERIFYING INSTALLATION**

**“Step 5: Verify the installation” on page 55**

This step describes how to verify that you successfully installed, configured, and started WebSphere Application Server.



## **WHAT'S NEXT?**

**“What's next?” on page 57**

This topic provides links to resources you can use to learn more about WebSphere Application Server. These links include information on configuring and managing WebSphere Application server, application development, and the samples gallery which comes with the product.



## **TROUBLESHOOTING**

**“Troubleshoot the installation” on page 60**

This topic provides links to resources that you can use to diagnose and correct problems that may occur while installing, configuring, and starting WebSphere Application Server.



## **UNINSTALLING**

**“Uninstall WebSphere Application Server” on page 57**


This topic describes how to uninstall WebSphere Application Server.



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## Checklist: WebSphere Application Server installation

### Step 1: Plan the installation

1. \_\_\_ Read the “Overview of WebSphere Application Server for iSeries” on page 4
2. \_\_\_ Read the product Release Notes for the appropriate version of WebSphere Application Server. For more information, see WebSphere Application Server for iSeries Release Notes (<http://publib.boulder.ibm.com/was400/docs/relnotes502.html>) .
3. \_\_\_ Schedule enough time for each step of the process. For more information, see “Time considerations for installing WebSphere Application Server” on page 6.
4. \_\_\_ Evaluate the available installation options and determine which options you require. For more information on the available options, see “WebSphere Application Server for iSeries installation options” on page 7.
5. \_\_\_ Determine if WebSphere Application Server is already installed on your server. For more information, see Plan the installation (page 5).
6. \_\_\_ Determine if WebSphere MQ is already installed on your server. For more information, see Plan the installation (page 5).
7. \_\_\_ Determine if WebSphere MQ classes for Java and JMS is already installed on your server. For more information, see Plan the installation (page 5).
8. \_\_\_ Verify that your systems meet all hardware and software prerequisites.
  - \_\_\_ iSeries hardware requirements. For more information, see “iSeries prerequisites for installing and running WebSphere Application Server” on page 8.
  - \_\_\_ iSeries software requirements. For more information, see “iSeries prerequisites for installing and running WebSphere Application Server” on page 8.
9. \_\_\_ (Optional) Select a workstation on which to install the workstation components of WebSphere Application Server. You can administer the WebSphere Application Server environment from any supported Web browser without installing any workstation components. For more information, see “Install the workstation tools for WebSphere Application Server” on page 34.
10. \_\_\_ Obtain the appropriate base product and current fixes. For more information, see “Obtain WebSphere Application Server and current fixes” on page 12.
  - \_\_\_ WebSphere Application Server
  - \_\_\_ OS/400 cumulative PTFs
  - \_\_\_ WebSphere Application Server Group PTF

### Step 2: Install WebSphere Application Server

1. \_\_\_ Install the correct cumulative PTF package. For more information, see “Install the correct cumulative PTF package” on page 14.
2. \_\_\_ Install prerequisite software. For more information, see “iSeries prerequisites for installing and running WebSphere Application Server” on page 8.
3. \_\_\_ Install the WebSphere Application Server product on your iSeries server. For more information, see “Install WebSphere Application Server on iSeries” on page 14.
4. \_\_\_ Install the WebSphere Application Server Group PTF. For more information, see “Install PTFs” on page 33.
5. \_\_\_ (Optional) Install the workstation tools for WebSphere Application Server. For more information, see “Install the workstation tools for WebSphere Application Server” on page 34.

### Step 3: Create an initial configuration

1. \_\_\_ Configure software license information. For more information, see “Configure software license information” on page 37.
2. \_\_\_ Set SQL server jobs. For more information, see “Set SQL server jobs” on page 38.
3. \_\_\_ Configure TCP/IP. For more information, see “Verify and configure TCP/IP” on page 38.

4. \_\_\_ Configure the HTTP server. For more information, see “Configure an HTTP server instance” on page 40.

#### Step 4: Start the WebSphere Application Server environment

1. \_\_\_ Start the WebSphere Application Server environment. For more information, see “Step 4: Start the WebSphere Application Server environment” on page 47.
2. \_\_\_ Verify that the environment has started. For more information, see “Verify that the WebSphere Application Server environment has started” on page 48.
3. \_\_\_ Start the administrative console. For more information, see “Start the administrative console” on page 49.
4. \_\_\_ Configure the virtual host. For more information, see “Configure the virtual host” on page 50.
5. \_\_\_ Start the HTTP server instance. For more information, see “Start the HTTP server instance” on page 53.

#### Step 5: Verify the installation

1. \_\_\_ Run the verification application. For more information, see “Step 5: Verify the installation” on page 55.

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## Overview of WebSphere Application Server for iSeries

WebSphere Application Server provides a J2EE-compliant environment that allows you to implement and manage server-side Java components. These Java components can add complex business logic and dynamic functions to static HTML Web pages.

WebSphere Application Server consists of these components:

- **The WebSphere Application Server runtime environment**, which is installed on the iSeries server
- **The WebSphere application development environment**, which runs on a graphical workstation
- **Administration tools**, which run on the iSeries server or a workstation
- **WebSphere MQ V5.3 for iSeries and WebSphere MQ classes for Java and JMS V5.3 for iSeries**, which are optional components installed on the iSeries server

The WebSphere Application Server runtime environment consists of the application server job. The application server job manages and runs WebSphere applications. Additionally, if the application server has JMS configured, the application server job manages several WebSphere MQ V5.3 for iSeries jobs that are used by the WebSphere Embedded JMS Server. Except for QEJBMQLSR, which is started in the QEJBAS5 subsystem, all of the JMS jobs run in the QMQM subsystem.

The WebSphere Application Server workstation-based tools allow you to assemble and deploy applications from your workstation. The workstation tools also include tools for problem determination such as the Log Analyzer and the Eclipse-based debugger and distributed trace tools.

The WebSphere Application Server iSeries-based tools allow you to manage WebSphere Application Server instances and perform administrative tasks such as installing applications, modifying the application configuration, compiling JSPs, and regenerating the Web server plugin configuration.

The administrative console is a Web-based application that runs on any browser supported by WebSphere Application Server. For a list of the supported browser, see “Workstation prerequisites for installing and running WebSphere Application Server” on page 10. The administrative console provides a graphical interface that allows you to configure and manage WebSphere Application Server environment and its resources.

See the Introduction to WebSphere Application Server for more information about WebSphere Application Server for iSeries.

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## Step 1: Plan the installation

Before you install WebSphere Application Server for iSeries, complete these tasks to ensure that all the prerequisites are met.

1. Print the “Checklist: WebSphere Application Server installation” on page 3 to use during the installation process.
2. Plan to set aside enough time for each step of the process. For more information, see “Time considerations for installing WebSphere Application Server” on page 6. Depending on your server, the process may take more or less time.


**Note:** The installation of WebSphere Application Server requires at least one initial program load (IPL or restart) of the server (to install PTFs), so plan appropriately.

3. Evaluate the available installation options and determine which options you require. For more information on the available options, see “WebSphere Application Server for iSeries installation options” on page 7.
4. Read the product Release Notes for important information about the product. See the WebSphere Application Server documentation page

(<http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/docs/docws50.html>)  for links to the Release Notes.

5.


Determine if WebSphere Application Server for iSeries is already installed on your server. Perform these steps:

- a. Enter the Display Software Resources (DSPSFWRSC) command on an OS/400 command line.
- b. Look for an entry with the product Resource IDs 5733WS5.
- c. If you do not find the product Resources ID, then this product has not been installed on your iSeries server.
- d. If a previous version of WebSphere Application Server is installed on your server, read the coexistence instructions (<http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/product/coexist50.html>)  before you install version 5.0 of WebSphere Application Server.
- e. If you plan to migrate from the previous version to this version, be sure to read Migration.

6.

Determine if WebSphere MQ for iSeries is already installed on your server. Perform these steps:

- a. Enter the Display Software Resources (DSPSFWRSC) command on an OS/400 command line.
- b. Look for an entry with the product Resource ID 5724B41.
- c. If you do not find the product Resources ID, then this product has not been installed on your iSeries server.
- d. If MQSeries for AS/400 has been installed on your system, then you must migrate it to WebSphere MQ V5.3 for iSeries in order to use JMS with WebSphere Application Server. MQSeries for AS/400 V4.2 (5769MQ2) and MQSeries for AS/400 V5.x (5733A38) are both incompatible for use with WebSphere Application Server. To migrate MQSeries for AS/400 to WebSphere MQ V5.3 for iSeries, see the migration instructions in WebSphere MQ for iSeries Quick Beginnings

(<http://publibfp.boulder.ibm.com/epubs/html/amqwac02/amqwac02tfrm.htm>) . The WebSphere Application Server 5.0 for iSeries CD-ROM contains the WebSphere MQ V5.3 for iSeries product and can be used for the installation described in the migration documentation.

7.

Determine if WebSphere MQ classes for Java and JMS V5.3 for iSeries is already installed on your server. Perform these steps:

- a. Enter the Display Software Resources (DSPSFWRSC) command on an OS/400 command line.

- b. Look for an entry with the product Resource ID 5639C34.
  - c. If you do not find the product Resources ID, then this product has not been installed on your iSeries server.
  - d. If MQSeries classes for Java and JMS (5648C60) has been installed on your system, then you must uninstall it before installing WebSphere MQ classes for Java and JMS (5639C34). To uninstall MQSeries classes for Java and JMS, enter this command:  
`DLTLICPGM LICPGM(5648C60)`
8. Verify that the “iSeries prerequisites for installing and running WebSphere Application Server” on page 8 have been satisfied.  
**Note:** If you are running an iSeries server that does not meet the minimum recommended requirements for WebSphere Application Server, you can still install and run the product. The WebSphere Application Server environment may run slowly, but your applications will run successfully when the environment is running.
  9. (Optional) Select a workstation on which to install the workstation components of WebSphere Application Server. Verify that the workstation meets the WebSphere Application Server “Workstation prerequisites for installing and running WebSphere Application Server” on page 10.
  10. Before you install WebSphere Application Server for iSeries, you need to obtain the base product and current fixes. This can take up to two weeks. For more information, see “Obtain WebSphere Application Server and current fixes” on page 12.



“Time considerations for installing WebSphere Application Server”

## Time considerations for installing WebSphere Application Server

Before you install WebSphere Application Server for iSeries, use this time table to plan enough time for each step of the process.

Task	Estimated time
<b>Planning the installation.</b>	
Reading Release Notes and migration instructions, and verifying hardware and software prerequisites.	1-2 hours
Obtaining the product and current fixes.	up to 2 weeks
<b>Installing WebSphere Application Server for iSeries.</b>	
Installing the application server on your iSeries server. Dependent on the method used. Installing the product from the CD-ROM drive of your iSeries server takes less time than installing it from a remote workstation.	45-120 minutes
Installing any additional products and OS/400 cumulative PTF package.	1-2 hours
Installing WebSphere Application Server Group PTF. Dependent on your system.	Up to 2 hours
Installing workstation-based tools.	15 minutes
<b>Creating an initial configuration.</b>	30 minutes
<b>Starting the WebSphere Application Server environment for the first time.</b>	1-20 minutes
<b>Verifying the installation.</b>	10 minutes

**Continue**



“WebSphere Application Server for iSeries installation options”

## WebSphere Application Server for iSeries installation options

Before you install WebSphere Application Server for iSeries, decide which options you require. By default, all products and all options are installed. You can install a subset of products and options.

### WebSphere Application Server v5.0 for iSeries (5733WS5) options:

- (Option Base) WebSphere Application Server  
This option is required. It contains the Readme file and other common files for the product.
- (Option 1) Client development and run time  
Option 1 provides the client application development and run time portion of the WebSphere Application Server V5.0 product. This option allows you to compile your client application code and run both Java 2 Enterprise Edition (J2EE) client applications and thin applications. It also provides the necessary scripts and runtime for running remote HTTP web servers to access WebSphere Application Server, which is used in multiple-machine topologies. For more information, see the Remote HTTP topic in *Administration*.
- (Option 2) Application server run time  
For Option 2 to function correctly, option 1 must also be installed. Option 2 provides the application server run time for WebSphere Application Server. It allows you to deploy and run J2EE 1.3 compliant enterprise applications.
- (Option 3) Samples  
For Option 3 to function correctly, option 2 must also be installed. Option 3 provides the samples for WebSphere Application Server.
- Language option  
The language option denotes the National Language Support (NLS) option for the product. These languages are available:
  - 2980 - Brazilian Portuguese
  - 2950 - English Uppercase only
  - 2924 - English
  - 2938 - English Uppercase only DBCS
  - 2894 - English DBCS
  - 2928 - French
  - 2940 - French MNCS
  - 2929 - German
  - 2939 - German MNCS
  - 2932 - Italian
  - 2942 - Italian MNCS
  - 2962 - Japanese DBCS
  - 2986 - Korean DBCS
  - 2989 - Simplified Chinese DBCS
  - 2931 - Spanish

- 2987 - Traditional Chinese DBCS

#### **WebSphere MQ V5.3 for iSeries (5724B41) options:**

- (Option Base) WebSphere MQ  
Install this product if you want to use the embedded JMS server component of WebSphere Application Server V5.0.
- (Option 1) WebSphere MQ - Samples  
Option 1 provides the samples for WebSphere MQ.
- Language option  
The language option denotes the (NLS) option for the product. It is installed only for Option \*BASE. These languages are available:
  - 2909 - Belgium English
  - 2966 - Belgium French
  - 2981 - Canadian French MNCS
  - 2950 - English Uppercase only
  - 2924 - English
  - 2938 - English Uppercase only DBCS
  - 2984 - English DBCS
  - 2928 - French
  - 2940 - French MNCS
  - 2932 - Italian
  - 2942 - Italian MNCS
  - 2962 - Japanese DBCS
  - 2986 - Korean DBCS
  - 2989 - Simplified Chinese DBCS
  - 2931 - Spanish

#### **WebSphere MQ classes for Java and JMS V5.3 for iSeries (5639C34) options:**

- (Option Base) WebSphere MQ classes for Java and JMS  
Install this product if you want to use JMS from your applications or the embedded JMS server.
- (Option 1) WebSphere MQ classes for Java and JMS - Samples  
Option 1 provides the samples for WebSphere MQ classes for Java and JMS.
- Language option  
The language option denotes the (NLS) option for the product. It is installed only for Option \*BASE. Only 2924 - English is available.

**Continue**




“Obtain WebSphere Application Server and current fixes” on page 12

## **iSeries prerequisites for installing and running WebSphere Application Server**

Before you install WebSphere Application Server, verify that your hardware and software meet the minimum requirements.

- iSeries and AS/400 hardware requirements (page 9)
- iSeries and AS/400 required software (page 10)
- iSeries and AS/400 optional software (page 10)

### iSeries and AS/400 hardware requirements

Use the IBM Workload Estimator for iSeries (<http://www-912.ibm.com/wle/EstimatorServlet>)  for help with estimating all system configurations.

Systems that do not meet the recommended minimums may be used in environments that support a limited number of users and where longer server initialization times are acceptable.

- If your applications consist only of servlets and JavaServer(TM) Pages (JSP) files, your server should meet these requirements:
  - Recommended minimum server models:
    - iSeries Model 270 with processor feature 2250
    - iSeries Model 820 with processor feature 2395
  - 750 MB of memory (recommended minimum)

**Note:**

1. These requirements are based on a single WebSphere Application Server instance. Additional instances running concurrently will require additional resources.
2. These requirements represent the recommended minimum requirements. Deployments which must support many users or require shorter response times may require additional resources.

- If your applications contain enterprise beans, your server should meet these requirements:
  - Recommended minimum server models:
    - AS/400e server 170 with processor feature 2385
    - AS/400e server 720 with processor feature 2062
    - iSeries Model 270 with processor feature 2252
    - iSeries Model 820 with processor feature 2396
  - 1 GB of memory (recommended minimum)

**Notes:**

1. These requirements are based on a single WebSphere Application Server instance. Additional instances running concurrently will require additional resources.
2. These requirements represent the recommended minimum requirements. Deployments which must support many users or require shorter response times may require additional resources.


- Disk requirements:

WebSphere Application Server for iSeries		
Installation option	Description	Disk space after installation
*BASE	WebSphere Application Server	15 MB
Option 1	Client development and run time	400 MB
Option 2	Application server run time	200 MB
Option 3	Samples	25 MB
WebSphere MQ V5.3 for iSeries		
Installation option	Description	Disk space after installation
*BASE	WebSphere MQ	100 MB
Option 1	WebSphere MQ - Samples	2 MB

WebSphere MQ classes for Java and JMS V5.3 for iSeries		
Installation option	Description	Disk space after installation
*BASE	WebSphere MQ classes for Java and JMS	15 MB
Option 1	WebSphere MQ classes for Java and JMS - Samples	1 MB

- Communications adapter that supports TCP/IP

#### iSeries and AS/400 required software

- **OS/400 Version 5 Release 1 (V5R1) or Version 5 Release 2 (V5R2)**  
The iSeries server must be in an unrestricted state, and your user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.
- **IBM Developer Kit for Java<sup>(TM)</sup> (5722-JV1), Version 1.3 (option 5).**
- **OS/400 Qshell(5722-SS1 option 30)**  
Required for local installation and to use scripts in WebSphere Application Server.
- **OS/400 Host Servers (5722-SS1 option 12)**  
Required for remote installation.
- All necessary fixes. For a list of current fixes, see  
<http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/>  and click **PTFs**.
- **HTTP server**  
Not needed for installation, but required to support requests for servlets and JSP resources that you want to be handled by an HTTP server residing natively on iSeries. If you plan to deploy only enterprise beans, it is not needed. WebSphere Application Server supports these HTTP server products:
  - **IBM HTTP Server (powered by Apache) (5722-DG1)**
  - **Lotus Domino for AS/400 R5 (5769-LNT)**
  - **Lotus Domino for iSeries 6.0 (5733-LD6)**
  - **Lotus Domino for iSeries 6.5 (5733-L65)**

#### iSeries and AS/400 optional software

- **OS/400 Digital Certificate Manager (5722-SS1 option 34)**  
Not required for installation, but required if you plan to use Secure Sockets Layer (SSL) protocol.
- **A Cryptographic Access Provider**  
Not needed for installation, but required if you plan to use SSL. You can choose one of these options: 5722-AC2 (56-bit), 5722-AC3 (128-bit).
- **DB2<sup>(R)</sup> Query Manager and SQL Development Kit for iSeries (5722-ST1)**  
Can be helpful in developing client applications.

## Workstation prerequisites for installing and running WebSphere Application Server

Before you install the WebSphere Application Server workstation components, verify that your hardware and software meets the minimum requirements.

- Workstation hardware requirements (page 10)
- Workstation software requirements (page 11)

#### Workstation hardware requirements



If you only plan to use your workstation to administer your WebSphere Application Server environment, you can use any workstation capable of running a web browser that supports HTML 4.0 and Cascading Style Sheets (CSS).

These workstation hardware requirements apply to the application development and assembly components.

- Capable workstations:
  - An Intel-based personal computer capable of running any of these operating systems:
    - Windows NT Server V4.0 Service Pack 6 (or later)
    - Windows 2000 Server or Advanced Server Service Pack 2 (or later)
    - RedHat Advanced Server for Intel (x86) 2.1
    - SuSE Linux SLES for Intel (x86) V7 Kernal 2.4
    - SuSE Linux for Intel (x86) V7.3 Kernal 2.4
  - A workstation that is capable of running Solaris V8
  - A pSeries server that is capable of running AIX V4.3.3 or V5.1
- Support for a communications adapter or an appropriate network interface
- 120 MB of free disk space (minimum)
- 256 MB of memory (minimum)
- CD-ROM drive

### Workstation software requirements

If you only plan to use your workstation to administer the WebSphere Application Server environment, you can use any operating system with a web browser that supports HTML 4.0 and CSS.

These workstation software requirements listed below apply to the application development and assembly component.

- Any of these operating systems:
  - Windows NT Server V4.0, Service Pack 6 (or higher)
  - Windows 2000 Server or Advanced Server Service Pack 2 (or higher)
  - SuSE Linux for Intel (x86) V7.3 Kernal 2.4
  - SuSE SLES for Intel (x86) V7 Kernal 2.4
  - Sun Solaris V8 (at the latest available maintenance level)
  - AIX V4.3.3 or V5.1
  - Red Hat Advanced Server for Intel (x86) V2.1
- Any of these IBM development kits for Java:
  - Windows NT IBM Enhanced Java Development Kit, Version 1.3
  - HP-UX IBM Software Development Kit for the Java Platform, Version 1.3
  - IBM Developer Kit for Linux, Java 2 Technology Edition, Version 1.3
  - Solaris IBM Java Development Kit, Version 1.3
  - IBM Developer Kit for AIX, Java 2 Technology Edition, Version 1.3

**Note:** These IBM development kits for Java are included on the WebSphere Application Server workstation CD-ROM and are installed automatically when you install any of the workstation components of WebSphere Application Server.

- TCP/IP installed and running
- Web browser that supports HTML 4.0 and CSS Cascading Style Sheets (CSS).

## Obtain WebSphere Application Server and current fixes

Before you install WebSphere Application Server for iSeries, you need to obtain the base product and current fixes. The list below provides information about how to obtain the necessary products and fixes.


- **WebSphere Application Server for iSeries**

For information on how to order WebSphere Application Server for iSeries, see the **Ordering information** section of the WebSphere Application Server packaging information page ([http://www-](http://www-1.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/news/package.htm)

[1.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/news/package.htm](http://www-1.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/news/package.htm)) .

- **Cumulative PTFs**

WebSphere Application Server for iSeries was tested on a specific OS/400 cumulative PTF package

level. To view the cumulative PTF package tested, see WebSphere Application Server PTFs .

From the PTFs page select the link for your OS/400 release level. On the resulting page, click the **Cumulative Package** link. You may be able to install and run WebSphere Application Server for iSeries successfully on earlier or later cumulative PTF packages. For more information about determining your server's cumulative PTF package level, see "Verify that the correct cumulative PTF package is installed."

- **PTFs**

The WebSphere Application Server for iSeries group PTF includes fixes for WebSphere Application Server and other OS/400 products such as WebSphere MQ, WebSphere MQ classes for Java and JMS V5.3, IBM DB2 Universal Database, IBM Developer Kit for Java, and the IBM HTTP Server. Installing the group PTF requires an IPL of your server, so plan accordingly. To determine which group PTF you must order and install, see WebSphere Application Server for iSeries PTFs

(<http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/services/service.htm>) .

Note that the group PTF numbers differ by WebSphere Application Server product and OS/400 release level.

**You have completed step 1 of 5.  
Continue on to step 2.**



"Step 2: Install WebSphere Application Server" on page 13

### Verify that the correct cumulative PTF package is installed

To determine the prerequisite cumulative PTF package level for the version of WebSphere Application Server you plan to install, see the PTF pages

(<http://www.ibm.com/servers/eserver/iseries/software/websphere/wsappserver/services/service.htm>)

 of the WebSphere product Web site.

From the PTF page, follow these steps:

1. In the WebSphere Application Server 5.0 row, click the link for your OS/400 release level.
2. Click the Cumulative PTF Package link to see the minimum cumulative PTF package that is required.

To determine if the correct OS/400 cumulative PTF package is installed on your server, perform the these steps:

1. Sign onto your server.
2. Enter the Display PTF Status (DSPPTF) command on an OS/400 command line. The Display PTF Status screen is displayed. This screen lists the PTFs that have been applied to your server.

Here is an example of the Display PTF status screen:

```
Display PTF Status                                     System: your.server
Product ID . . . . . : 5722999
IPL source . . . . . : ##MACH#B
Release of base option . . . . . : V5R1M0 L00


Type options, press Enter.
 5=Display PTF details  6=Print cover letter  8=Display cover letter

   PTF
Opt  ID      Status                IPL      Action
   TL02036  Temporarily applied        None
   TL01302  Superseded                      None
   TL01254  Superseded                      None
   TL01226  Superseded                      None
   TL01163  Superseded                      None
   TL01114  Superseded                      None
   TL01086  Superseded                      None
   RE01148  Permanently applied          None
   RE01089  Permanently applied          None

More...
F3=Exit  F11=Display alternate view  F17=Position to  F12=Cancel
```

In the example, the first PTF that is listed, TL02036 (with a status of **Temporarily applied**), correlates to the cumulative PTF that is installed on the server.

You must order and install the prerequisite OS/400 cumulative PTF package before proceeding to the next step in this process.

See the IBM eServer iSeries Support Fixes (<http://www-912.ibm.com/supporthome.nsf/document/17403848>)  for instructions on ordering PTFs.

---

## Step 2: Install WebSphere Application Server

To install WebSphere Application Server on your iSeries server, complete these steps.

1. Install the prerequisite software.
  - “iSeries prerequisites for installing and running WebSphere Application Server” on page 8
  - “Workstation prerequisites for installing and running WebSphere Application Server” on page 10
2. “Install the correct cumulative PTF package” on page 14.
3. “Install WebSphere Application Server on iSeries” on page 14.
4. “Install PTFs” on page 33.
5. “Install the workstation tools for WebSphere Application Server” on page 34.

If you have problems with any part of the installation, see the “Troubleshoot the installation” on page 60.



“Install the correct cumulative PTF package” on page 14

## Install the correct cumulative PTF package

WebSphere Application Server for iSeries requires a minimum OS/400 cumulative PTF package level. If the correct cumulative PTF package is not installed on your iSeries server, you must install it before installing WebSphere Application Server.

**Note:** The cumulative PTF package requires a restart of your iSeries server. If it is not convenient to restart your server, you can simply load and apply the PTF specifying that the PTFs requiring an IPL be applied at the next normal IPL of the server. However, you should not install the WebSphere Application Server product until all of the PTFs have been successfully applied.

For information on verifying your cumulative PTF level, see “Verify that the correct cumulative PTF package is installed” on page 12.

If the correct cumulative PTF is installed, skip this step and continue to “Install WebSphere Application Server on iSeries.”

To install the cumulative PTF, follow your normal PTF installation procedures. For more information on installing cumulative PTFs, see Install cumulative PTF packages.



“Install WebSphere Application Server on iSeries”

## Install WebSphere Application Server on iSeries

You can use one of these installation methods to install WebSphere Application Server on your iSeries server:

- From the CD-ROM drive of your iSeries server. Installing the product from the CD-ROM drive of your iSeries server requires direct physical access to the server. The local installation requires less time to complete than a remote installation. You start the local installation with either the Qshell SETUP script or the Run Java (RUNJVA) command.
- From the CD-ROM drive of a workstation with a Microsoft Windows 32-bit operating system. Installing the product from the CD-ROM drive of a workstation does not require direct physical access to the iSeries server. The remote installation requires more time to complete than a local installation.

Select the appropriate option below for instructions on your chosen method of installation:

**“Install WebSphere Application Server from the CD-ROM drive of your iSeries server” on page 15**

This topic describes how to install WebSphere Application Server on your iSeries server from the CD-ROM drive of your iSeries server.

**“Install WebSphere Application Server for iSeries from a workstation” on page 23**

This topic describes how to install WebSphere Application Server on your iSeries server from a Windows 32-bit operating system workstation.

**Note:** The total installation may take up to 120 minutes to complete.

**Continue**



“Install WebSphere Application Server from the CD-ROM drive of your iSeries server”  
or

**Continue**



“Install WebSphere Application Server for iSeries from a workstation” on page 23

### **Install WebSphere Application Server from the CD-ROM drive of your iSeries server**

You can perform a local installation of WebSphere Application Server with the SETUP script in Qshell or with the Run Java (RUNJVA) command on an OS/400 command line.

To install WebSphere Application Server from the CD-ROM drive of your iSeries server, follow these steps:

1. Signon the iSeries system with a user profile that is user type (user class) \*SECOFR and has a value of \*USRCLS for special authority.
2. Run either the script or the command:

#### **“Use the SETUP script in Qshell”**

Use this option if you prefer a shorter command.

#### **“Use the Run Java (RUNJVA) command from an OS/400 command line” on page 17**

Use this command if you prefer control language (CL) commands.

**Continue**



“Install PTFs” on page 33

**Use the SETUP script in Qshell:** Perform these steps to install WebSphere Application Server from Qshell using the SETUP script.

1. Place the *WebSphere Application Server 5.0 for iSeries* CD-ROM in the CD-ROM drive of your iSeries server. **Notes:**
  - a. Do not use the *IBM WebSphere Application Server Version 5 For Windows NT and Windows 2000* CD-ROM or any other CD-ROM (which was shipped with your WebSphere Application Server for iSeries package) for this set of steps.
  - b. Your user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.
2. Enter STRQSH on an OS/400 command line to start the Qshell.
3. Enter cd /QOPT/WEBSPPHERE to change directories to the root installation directory on the CD-ROM.
4. Run the SETUP script to start the installation program. The default is to install all products (WebSphere Application Server, WebSphere MQ V5.3 for iSeries, and WebSphere MQ classes for Java

and JMS V5.3 for iSeries) with all supported code options, and the primary language of the iSeries server if supported by the corresponding products or English 2924 if the primary language is not supported by the product. If you do not want to install all of the products, or you want to install a different language, you can specify optional parameters on the command. For a list of the available parameters, see Parameters for local installations of WebSphere Application Server. To accept the default settings for the installation program, enter this command:

SETUP

The default is to install all products (WebSphere Application Server, WebSphere MQ V5.3 for iSeries, and WebSphere MQ classes for Java and JMS V5.3 for iSeries) with all supported code options, and the primary language of the iSeries server if supported by the corresponding products or English 2924 if the primary language is not supported by the product.

**Note:** Do not issue any other commands, unless prompted, until the installation is completed. Doing so may cause the installation to stop prematurely.

5. After you enter the SETUP command, messages are displayed that indicate the progress of the installation process. When the setup program has completed, press **F3** to exit.

Here is a partial sample of output from the installation process:

```
> cd /QOPT/WEBSPPHERE
$
> SETUP
Loading installation program. Please wait.
Checking current configuration. Please wait.
Installing selected options. Please wait.
Note: This may take up to 120 minutes to complete.
Product 5724B41: WebSphere MQ V5.3 for iSeries
  (Code: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Language: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Code: Option 1)
    Copying stream file to save file.
    Restoring licensed program.
Product 5639C34: WebSphere MQ classes for Java and JMS V5.3 for iSeries
  (Code: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Language: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Code: Option 1)
    Copying stream file to save file.
    Restoring licensed program.
Product 5733WS5: WebSphere Application Server V5.0 for iSeries
  (Code: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Language: Option Base)
    Copying stream file to save file.
    Restoring licensed program.
  (Code: Option 1)
    Copying file to the iSeries.
```

**Continue**



“Install PTFs” on page 33

**Use the Run Java (RUNJVA) command from an OS/400 command line:** To install WebSphere Application Server to your iSeries using RUNJVA, perform these steps:

1. Place the *WebSphere Application Server 5.0 for iSeries* CD-ROM in the CD-ROM drive of your iSeries server.

**Notes:**

- a. Do not use the *IBM WebSphere Application Server Version 5 For Windows NT and Windows 2000* CD-ROM or any other CD-ROM (which was shipped with your WebSphere Application Server for iSeries package) for this set of steps.
  - b. Your user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.
2. Enter this command to start the installation program. The default is to install all products (WebSphere Application Server, WebSphere MQ V5.3 for iSeries, and WebSphere MQ classes for Java and JMS V5.3 for iSeries) with all supported code options, and the primary language of the iSeries server if supported by the corresponding products or English 2924 if the primary language is not supported by the product. If you do not want to install all of the products, or you want to install a different language, you can specify optional parameters on the command. For a list of the available parameters, see Parameters for local installations of WebSphere Application Server. To accept the default settings for the installation program, enter this command, using the same capitalization as shown:

```
RUNJVA CLASS(SETUP) CLASSPATH('/QIBM/ProdData/OS400/jt400/lib/jt400Native.jar:  
/QOPT/WEBSHERE/OS400:/tmp/WebSphere/WS5INSTALL.JAR') PROP((os400.runtime.exec QSHELL)  
(java.version 1.3))
```

**Note:** This command has been wrapped for display purposes. Enter it as one command.

After you enter the RUNJVA command, messages are displayed that indicate the progress of the installation process. Here is a partial sample of output from the installation process:

```

Loading installation program. Please wait.
Checking current configuration. Please wait.
Installing selected options. Please wait.
Note: This may take up to 120 minutes to complete.
Product 5724B41: WebSphere MQ V5.3 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying stream file to save file.
  Restoring licensed program.
Product 5639C34: WebSphere MQ classes for Java and JMS V5.3 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying stream file to save file.
  Restoring licensed program.
Product 5733WS5: WebSphere Application Server V5.0 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying file to the iSeries.

```



“Install PTFs” on page 33

**Parameters for local installations of WebSphere Application Server:** The SETUP script in Qshell and the Run Java (RUNJAVA) command include several optional parameters that you can use to customize your installation. If a parameter is not specified, the installation program uses the default value for that parameter. If no parameters are specified, WebSphere Application Server V5.0 for iSeries, WebSphere MQ V5.3 for iSeries, and WebSphere MQ classes for Java and JMS V5.3 for iSeries will be installed with their default options.

For example, you can use parameters to install only the WebSphere Application Server product and not WebSphere MQ V5.3 for iSeries and WebSphere MQ classes for Java and JMS V5.3 for iSeries. To do this, you would enter one of these commands to start the installation program:

- **From Qshell:**

```
SETUP -wmq -skip true -wmqjava -skip true
```

- **From an OS/400 command line:**

```
RUNJAVA CLASS(SETUP) PARM('-wmq' '-skip' 'true' '-wmqjava' '-skip' 'true') CLASSPATH
('/QIBM/ProdData/OS400/jt400/lib/jt400Native.jar:/QOPT/WEBSPPHERE/OS400:
/tmp/WebSphere/WS5INSTALL.JAR') PROPT((os400.runtime.exec QSHELL) (java.version 1.3))
```

where the options specified within PARM() are the installation options. The other parameters are required.



**Note:** This command has been wrapped for display purposes. Enter it as one command.

This table describes all of the configurable parameters for the WebSphere Application Server, WebSphere MQ V5.3 for iSeries, and the WebSphere MQ classes for Java and JMS V5.3 for iSeries installation. Each product is represented by its product parameter name and its possible parameter values are represented by product assigned parameters. Use the -help parameter to display a list of possible parameters and their usage. The table lists the supported national language options, including double-byte character sets (DBCS) and multi-national character sets (MNCS).

**Note:** If you want the default value, you do not need to specify it.

Product parameter name	Product assigned parameters	Possible values	Default	Description
-was	-skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	If set to true, the WebSphere Application Server product is not installed.
-was	-language	<ul style="list-style-type: none"> <li>• 2980 - Brazilian Portuguese</li> <li>• 2950 - English Uppercase only</li> <li>• 2924 - English</li> <li>• 2938 - English Uppercase only DBCS</li> <li>• 2984 - English DBCS</li> <li>• 2928 - French</li> <li>• 2940 - French MNCS</li> <li>• 2929 - German</li> <li>• 2939 - German MNCS</li> <li>• 2932 - Italian</li> <li>• 2942 - Italian MNCS</li> <li>• 2962 - Japanese DBCS</li> <li>• 2986 - Korean DBCS</li> <li>• 2989 - Simplified Chinese DBCS</li> <li>• 2931 - Spanish</li> <li>• 2987 - Traditional Chinese DBCS</li> </ul>	*PRIMARY, if available; otherwise 2924 (English)	Determines the language to install. If the language parameter is not specified, the installation program detects the primary language on the iSeries server. If that language is supported by the WebSphere Application Server product, the program installs it. If the primary language is not supported, the installation program installs 2924 (English).

Product parameter name	Product assigned parameters	Possible values	Default	Description
-was	-component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	<p>Selects which components to install. The code component installs only the code. The language component installs only the language options (29m). The value all includes both the code and language components.</p>
-was	-option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> <li>• 2</li> <li>• 3</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the common code.</li> <li>• Option 1 installs the client code.</li> <li>• Option 2 installs the server code.</li> <li>• Option 3 installs the samples.</li> <li>• The value all includes the options base, 1, 2, and 3.</li> </ul> <p>Installation of options 1, 2, and 3 requires that the base option is also selected or already installed.</p> <p><b>Note:</b> You may specify the option parameter multiple times for more advanced configurations (for example, -option base -option 1 -option 3).</p>
-wmq	-skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	<p>If set to true, the WebSphere MQ product is not installed.</p>

Product parameter name	Product assigned parameters	Possible values	Default	Description
-wmq	-language	<ul style="list-style-type: none"> <li>• 2909 - Belgium English</li> <li>• 2966 - Belgium French</li> <li>• 2981 - Canadian French MNCS</li> <li>• 2950 - English Uppercase only</li> <li>• 2924 - English</li> <li>• 2938 - English Uppercase only DBCS</li> <li>• 2984 - English DBCS</li> <li>• 2928 - French</li> <li>• 2940 - French MNCS</li> <li>• 2932 - Italian</li> <li>• 2942 - Italian MNCS</li> <li>• 2962 - Japanese DBCS</li> <li>• 2986 - Korean DBCS</li> <li>• 2989 - Simplified Chinese DBCS</li> <li>• 2931 - Spanish</li> </ul>	*PRIMARY, if available; otherwise 2924 (English)	Determines the language to install. If the language parameter is not specified, the installation program detects the primary language on the iSeries server. If that language is supported by WebSphere MQ, the program installs it. If the primary language is not supported, the installation program installs 2924 (English). <b>Note:</b> The language parameter only applies to the base option of WebSphere MQ. The other options are in English only.
-wmq	-component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	Selects which components to install. The code component installs only code component. The language component installs only language options (29mm). The value all includes both the code and language components.

Product parameter name	Product assigned parameters	Possible values	Default	Description
-wmq	-option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the server code</li> <li>• Option 1 installs the samples code.</li> <li>• The value all includes the options base and 1.</li> </ul> <p>Installation of option 1 requires that the base option is also selected or already installed.</p>
-wmqjava	-skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	<p>If set to true, the WebSphere MQ classes for Java and JMS product is not installed.</p>
-wmqjava	-component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	<p>Selects which component to install. The code component installs only the code. The language component install only the language option 2924. The value all includes both the code and language components.</p> <p><b>Note:</b> The language parameter only applies to the base option of WebSphere MQ class for Java and JMS. The other options are in English only.</p>

Product parameter name	Product assigned parameters	Possible values	Default	Description
-wmqjava	-option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the server code</li> <li>• Option 1 installs the samples code.</li> <li>• The value all includes the options base and 1.</li> </ul> <p>Installation of option 1 requires that the base option is also selected or already installed.</p>

## Install WebSphere Application Server for iSeries from a workstation

You can perform a remote installation of WebSphere Application Server from a Windows 32-bit operating system workstation. You can choose to install through one of these options:

### “Install WebSphere Application Server from a workstation using AWT mode”

The AWT mode uses a graphical user interface (GUI) to complete the installation. The AWT mode is the default mode when you install WebSphere Application Server from a workstation.

### “Install WebSphere Application Server from a workstation using silent mode” on page 25

The silent mode allows you to enter a single command to start the installation. The silent mode allows you to specify a file which contains the installation option values you want to use. For any option not specified or commented out within the response file, the installer uses the default values.



Next: Parameters for remote silent installations

**Install WebSphere Application Server from a workstation using AWT mode:** To use the abstract windowing toolkit (AWT) mode to install WebSphere Application Server for iSeries from a Windows 32-bit workstation, perform these steps:

1. Verify that the host server jobs have been started on your iSeries server. The host server jobs allow the installation code to run on iSeries.

Enter this command on an OS/400 command line:

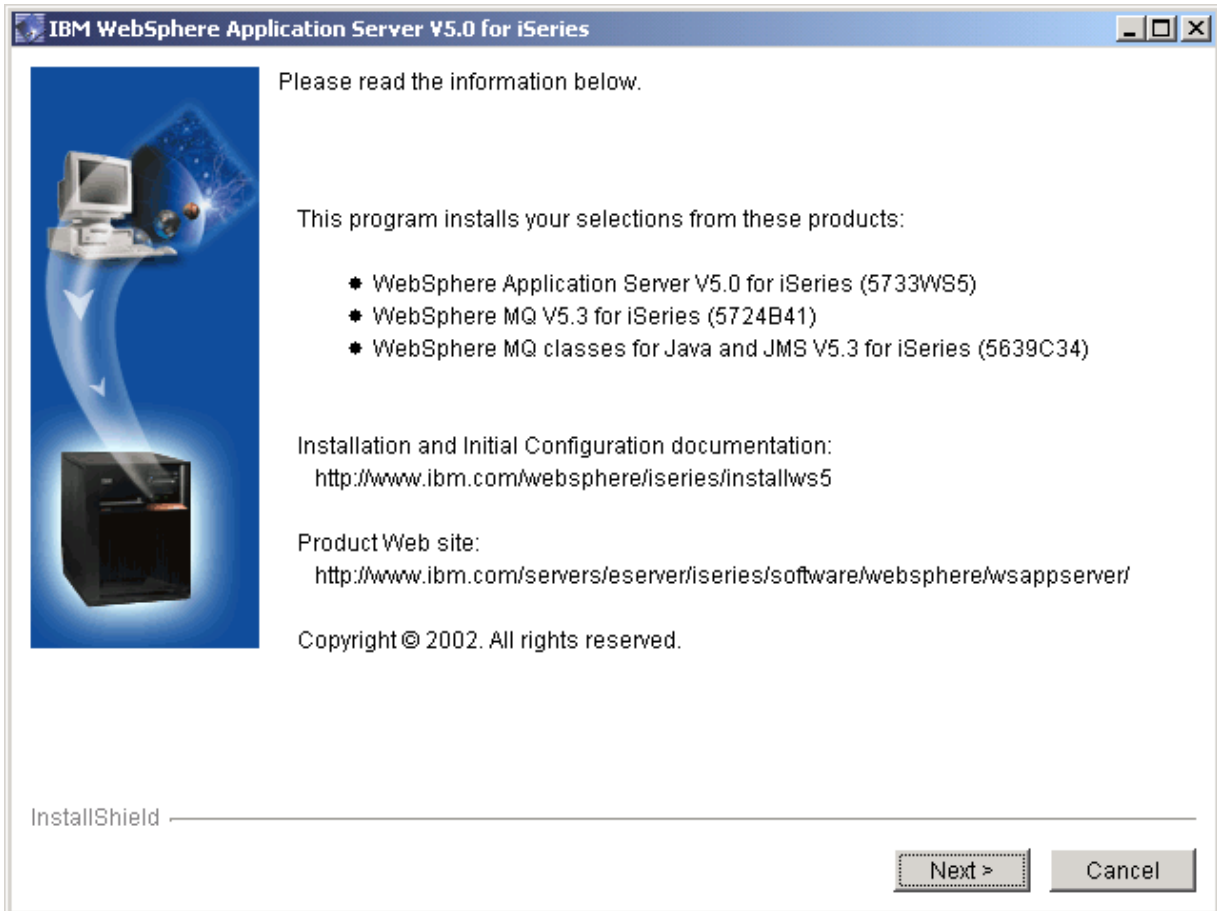
```
STRHOSTSVR SERVER(*ALL)
```

2. If TCP/IP is not started or if you don't know if TCP/IP is started, enter the Start TCP/IP (STRTCP) command on an OS/400 command line.
3. Place the *WebSphere Application Server 5.0 for iSeries* CD-ROM in the CD-ROM drive on the workstation.

**Note:** Do not use the *IBM WebSphere Application Server Version 5 For Windows NT and Windows 2000* CD-ROM or any other CD-ROM (which was shipped with your WebSphere Application Server for iSeries package) for this set of steps.

The InstallShield program should automatically start. If it does not, open Windows Explorer and select your CD-ROM drive. Double-click the SETUP.EXE file to start the InstallShield program.

4. At the first panel, read the information and click **Next**.



5. Enter the name of the iSeries server where you are installing WebSphere Application Server. You also must enter a valid user ID and password for the server. This user ID should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority. Click **Next**.
6. On the next panel, select the options to install for WebSphere Application Server. Click **Next**.

**WebSphere Application Server v5.0 for iSeries (5733WS5) options:**

- (Option Base) WebSphere Application Server  
This option is required for any other option to be installed. It contains the Readme file and other common files for the product.
- (Option 1) Client development and run time  
Option 1 provides the client application development and run time portion of the WebSphere Application Server V5.0 product. This option allows you to compile your client application code and run both Java 2 Enterprise Edition (J2EE) client applications and Java thin applications. It also provides the necessary scripts and runtime for running remote HTTP, which is used in multiple-machine topologies. For more information, see the Remote HTTP topic in *Administration*.
- (Option 2) Application server run time  
Option 2 provides the application server run time for WebSphere Application Server. It allows you to deploy and run J2EE 1.3 compliant enterprise applications. This option requires option 1 to be installed also.
- (Option 3) Samples  
Option 3 provides the samples for WebSphere Application Server.

- Language option  
The language option denotes the National Language Support (NLS) option for the product. The language option is installed only for Option \*Base.
7. On the next panel, select the options to install for WebSphere MQ V5.3 for iSeries. Click **Next**.  
**WebSphere MQ V5.3 for iSeries (5724B41) options:**
    - (Option Base) WebSphere MQ  
Install this product if you want to use the embedded JMS server component of WebSphere Application Server V5.0. This option is required for any other option to be installed.
    - (Option 1) WebSphere MQ - Samples  
Option 1 provides the samples for WebSphere MQ.
    - Language option  
The language option denotes the (NLS) option for the product. The language option is installed only for Option \*Base.
  8. On the next panel, select the options to install for WebSphere MQ classes for Java and JMS V5.3 for iSeries. Click **Next**.  
**WebSphere MQ classes for Java and JMS V5.3 for iSeries (5639C34) options:**
    - (Option Base) WebSphere MQ classes for Java and JMS  
Install this product if you want to use JMS from your applications or the embedded JMS server.
    - (Option 1) WebSphere MQ classes for Java and JMS - Samples  
Option 1 provides the samples for WebSphere MQ classes for Java and JMS.
    - Language option  
The language option denotes the (NLS) option for the product. The language option is installed only for Option \*Base.
  9. The options that you specified are displayed. Verify that they are correct. If they are not, click **Back** to change your installation options. If they are correct, click **Next**.
  10. The InstallShield program displays messages that indicate the status of the installation and a status bar to show the progress of the installation.
  11. After the installation is complete, the summary panel is displayed showing the options that were installed. Click **Finish** to close the InstallShield program.
  12. For security purposes, if the host servers were not running, you should return your iSeries server to its original state with the End Host Server (ENDHOSTSVR) command after the install is complete.



“Install PTFs” on page 33

**Install WebSphere Application Server from a workstation using silent mode:** The silent mode allows you to install the product with a single command. Installation options must be specified in a response file. During the installation, you are unable to change the installation options. The parameters and default values are discussed in Parameters for remote silent installations of WebSphere Application Server.

To use the silent mode to install WebSphere Application Server from a workstation, follow these steps:

1. Verify that the host server jobs have been started on your iSeries server. The host server jobs allow the installation code to run on iSeries.

Enter this command on an OS/400 command line:

```
STRHOSTSVR SERVER(*ALL)
```

2. If TCP/IP is not started or if you don't know if TCP/IP is started, enter the Start TCP/IP (STRTCP) command on an OS/400 command line.
3. Place the *WebSphere Application Server 5.0 for iSeries* CD-ROM in the CD-ROM drive of your workstation. The autorun feature will bring up the GUI, click **Cancel** to exit the GUI.

**Notes:**

- a. Do not use the *IBM WebSphere Application Server Version 5 For Windows NT and Windows 2000* CD-ROM or any other CD-ROM (which was shipped with your WebSphere Application Server for iSeries package) for this set of steps.
  - b. Your user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.
4. On your workstation, open a command prompt.
  5. Access the CD-ROM drive of your workstation by switching to the CD-ROM drive. For example, enter *e:* where *e:* is the letter assigned to your CD-ROM drive.
  6. Copy the RESPONSEFILE file from the CD-ROM directory to a directory on your workstation such as *c:\temp*. For example:  

```
copy RESPONSEFILE c:\temp\RESPONSEFILE
```
  7. Edit the file using an editor of your choice and modify the installation options to suit your installation requirements. You must enter your system name in the DestinationBean.system = "YOURSYSTEM" field. If you do not enter a valid value for the DestinationBean.username and DestinationBean.password fields, a dialog box will prompt you for valid signon information. Note that the user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority. For information on the installation options and values, see Parameters for remote silent installations of WebSphere Application Server.
  8. Enter the SETUP command, specifying the response file to be used during the installation  

```
SETUP -options responsefile
```

where *responsefile* is the name of your modified file.  
For example:  

```
SETUP -options c:\temp\RESPONSEFILE
```



This text illustrates a partial display of the output of this process:

```
Checking current configuration. Please wait.
Installing selected options. Please wait.
Note: This may take up to 120 minutes to complete.
Product 5724B41: WebSphere MQ V5.3 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying stream file to save file.
  Restoring licensed program.
Product 5639C34: WebSphere MQ classes for Java and JMS V5.3 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying stream file to save file.
  Restoring licensed program.
Product 5733WS5: WebSphere Application Server V5.0 for iSeries
(Code: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Language: Option Base)
  Copying stream file to save file.
  Restoring licensed program.
(Code: Option 1)
  Copying file to the iSeries.
```

9. When the installation is complete, press any key to exit the installation program.
10. For security purposes, if the host servers were not running, you should return your iSeries server to its original state with the End Host Server (ENDHOSTSVR) command after the install is complete.



“Install PTFs” on page 33

**Parameters for remote silent installations of WebSphere Application Server:** When you install WebSphere Application Server to your iSeries server from a workstation using the silent mode, you refer to a response file that specifies a silent install. To configure the installation, change the options in this file before you enter the installation command (SETUP). The silent installation mode does not accept interactive installation options. If you want to specify non-default installation options, you must use the response file.

Here is the format of the response file that is shipped on the CD-ROM:

```
#####
#
# ABOUT:           WebSphere Application Server V5.0 for iSeries      #
#                                                         #
# INSTALL TYPE:   Remote workstation silent installation             #
#                                                         #
# DOCUMENTATION:  Please see the WebSphere Application Server        #
#                 for iSeries Installation and Initial Configuration  #
#                 web site for the most up-to-date information:      #
#                                                         #
#                 http://www.ibm.com/websphere/iserries/installws5  #
#                                                         #
# USAGE:         SETUP -options <path>\<responsefile>              #
#                                                         #
# IMPORTANT:     All values must be enclosed in double quotes.     #
#                                                         #
#####

# Specify silent install
-silent

# Bean property assignments for target iSeries system
-W DestinationBean.system = "YOURSYSTEM"
-W DestinationBean.username = "YOURUSER"
-W DestinationBean.password = "YOURPSSWD"

# Bean property assignments for WAS
# Note: Option property can be specified more than once
-W WASSelectBean.skip = "false"
# -W WASSelectBean.language = "29XX"
-W WASSelectBean.component = "all"
-W WASSelectBean.option = "all"

# Bean property assignments for WebSphere MQ
# Note: Option property can be specified more than once
-W WMQSelectBean.skip = "false"
# -W WMQSelectBean.language = "29XX"
-W WMQSelectBean.component = "all"
-W WMQSelectBean.option = "all"

# Bean property assignments for WebSphere MQ Java
-W WMQJavaSelectBean.skip = "false"
-W WMQJavaSelectBean.component = "all"
-W WMQJavaSelectBean.option="all"
```

**Notes:**

1. The response file is in English only.
2. Install options preceded by # are commented out. To enable these options, remove the # and the space.

This table describes all of the possible parameters for the WebSphere Application Server remote silent install response file. The table lists the supported national language options, including double-byte character sets (DBCS) and multi-national character sets (MNCS).

**Notes:**

1. If you want the default value, you do not need to specify it.
2. The DestinationBean property must be edited.

Bean ID	Bean property	Possible values	Default	Description
DestinationBean	system			Determines the destination iSeries server upon which the installation is to be performed.
DestinationBean	username			Determines the user name to be used on the destination iSeries server.
DestinationBean	password			Determines the password to be used on the destination iSeries server.
WASSelectBean	skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	If set to true, the WebSphere Application Server product is not installed.
WASSelectBean	language	<ul style="list-style-type: none"> <li>• 2980 - Brazilian Portuguese</li> <li>• 2950 - English Uppercase only</li> <li>• 2924 - English</li> <li>• 2938 - English Uppercase only DBCS</li> <li>• 2894 - English DBCS</li> <li>• 2928 - French</li> <li>• 2940 - French MNCS</li> <li>• 2929 - German</li> <li>• 2939 - German MNCS</li> <li>• 2932 - Italian</li> <li>• 2942 - Italian MNCS</li> <li>• 2962 - Japanese DBCS</li> <li>• 2986 - Korean DBCS</li> <li>• 2989 - Simplified Chinese DBCS</li> <li>• 2931 - Spanish</li> <li>• 2987 - Traditional Chinese DBCS</li> </ul>	*PRIMARY, if available; otherwise 2924 (English)	Determines the language to install. If the language parameter is not specified, the installation program detects the primary language on the iSeries server. If that language is supported by the WebSphere Application Server product, the program installs it. If the primary language is not supported, the installation program installs 2924 (English).

Bean ID	Bean property	Possible values	Default	Description
WASSelectBean	component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	<p>Selects which components to install. The code component installs only the code. The language component installs only the language options (29nn). The value all includes both the code and language components.</p>
WASSelectBean	option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> <li>• 2</li> <li>• 3</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the common code.</li> <li>• Option 1 installs the client code.</li> <li>• Option 2 installs the server code.</li> <li>• Option 3 installs the samples.</li> <li>• The value all includes the options base, 1, 2, and 3.</li> </ul> <p>Installation of options 1, 2, and 3 requires that the base option is also selected or already installed.</p> <p><b>Note:</b> You may specify the option parameter multiple times for more advanced configurations (for example  -W  WASSelectBean.option = "base"  -W  WASSelectBean.option = "1"  -W  WASSelectBean.option = "3").</p>
WMQSelectBean	skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	<p>If set to true, the WebSphere MQ product is not installed.</p>


Bean ID	Bean property	Possible values	Default	Description
WMQSelectBean	language	<ul style="list-style-type: none"> <li>• 2909 - Belgium English</li> <li>• 2966 - Belgium French</li> <li>• 2981 - Canadian French MNCS</li> <li>• 2950 - English Uppercase only</li> <li>• 2924 - English</li> <li>• 2938 - English Uppercase only DBCS</li> <li>• 2984 - English DBCS</li> <li>• 2928 - French</li> <li>• 2940 - French MNCS</li> <li>• 2932 - Italian</li> <li>• 2942 - Italian MNCS</li> <li>• 2962 - Japanese DBCS</li> <li>• 2986 - Korean DBCS</li> <li>• 2989 - Simplified Chinese DBCS</li> <li>• 2931 - Spanish</li> </ul>	*PRIMARY, if available; otherwise 2924 (English)	Determines the language to install. If the language parameter is not specified, the installation program detects the primary language on the iSeries server. If that language is supported by WebSphere MQ V5.3 for iSeries, the program installs it. If the primary language is not supported, the installation program installs 2924 (English). <b>Note:</b> The language parameter only applies to the base option of WebSphere MQ V5.3 for iSeries. The other options are in English only.
WMQSelectBean	component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	Selects which components to install. The code component installs only the code. The language component installs only the language options (29nn). The value all includes both the code and language components.

Bean ID	Bean property	Possible values	Default	Description
WMQSelectBean	option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the server code.</li> <li>• Option 1 installs the samples code.</li> <li>• The value all includes the options base and 1.</li> </ul> <p>Installation of option 1 requires that the base option is also selected or already installed.</p>
WMQJavaSelectBean	skip	<ul style="list-style-type: none"> <li>• false</li> <li>• true</li> </ul>	false	<p>If set to true, the WebSphere MQ classes for Java and JMS product is not installed.</p>
WMQJavaSelectBean	component	<ul style="list-style-type: none"> <li>• all</li> <li>• code</li> <li>• language</li> </ul>	all	<p>Selects which component to install. The code component installs only the code. The language component installs only the language option 2924. The value all includes both the code and language components.</p> <p><b>Note:</b> The language parameter only applies to the base option of WebSphere MQ class for Java and JMS. The other options are in English only.</p>
WMQJavaSelectBean	option	<ul style="list-style-type: none"> <li>• all</li> <li>• base</li> <li>• 1</li> </ul>	all	<p>Selects which options to install.</p> <ul style="list-style-type: none"> <li>• The base option installs the server code.</li> <li>• Option 1 installs the samples code.</li> <li>• The value all includes the options base and 1.</li> </ul>

## Install PTFs

Fixes for the WebSphere Application Server product are shipped as group PTFs for iSeries. The latest WebSphere Application Server group PTF must be loaded and applied prior to starting WebSphere Application Server for the first time. This group PTF includes the latest WebSphere Application Server PTFs that bring the product up to the latest WebSphere Application Server for iSeries level, as well as, the latest IBM DB2 Universal Database, IBM Developer Kit for Java, and IBM HTTP Server group PTFs. This group PTF also contains miscellaneous PTFs for IBM Developer Kit for Java, DB2 Universal Database for iSeries, WebSphere MQ, the WebSphere MQ classes for Java and JMS, and IBM HTTP Server that are not included in other group PTFs or cumulative PTF packages but must be installed.

See the PTFs page

(<http://www.ibm.com/eserver/iseries/software/websphere/wsappserver/services/service.htm>)  on the WebSphere Application Server Web site to determine which group PTF you must order and install for your WebSphere Application Server edition and for your OS/400 release level.

All product prerequisites must be installed before you install the group PTF package, or WebSphere Application Server may fail when it is started. For example, the Java PTFs contained in the package will not be installed if IBM Developer Kit for Java 1.3 (5722-JV1, Option 5) is not installed on the server.

These instructions describe how to install the WebSphere Application Server for iSeries group PTF:

**Note:** These instructions assume that you are ready to load and apply all PTFs included in the group PTF. Because some of these PTFs may require a restart of your iSeries server, the instructions include steps for placing the server in a restricted state and doing the IPL of the server. If it is not convenient to restart your server, you can simply load and apply the PTFs specifying that the PTFs requiring an IPL be applied at the next normal IPL of the server. However, you should not attempt to start or use the WebSphere Application Server environment until all of the PTFs have been successfully loaded and applied.

1. Verify that all of the prerequisite software (page 10) is installed.
2. Place the *WebSphere for iSeries group PTF* CD-ROM into the CD-ROM drive on your iSeries server.
3. Sign on to your server. Your user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.
4. Enter this command to bring your system into a restricted state:  
ENDSBS SBS(\*ALL)
5. Enter this command from an OS/400 command line when the system is in a restricted state:  
GO PTF
6. Select option 8 (Install program temporary fix package) from the menu.
7. Specify these parameter values and press **Enter**:
  - a. **Device:** (Specify the device name of your CD-ROM drive, for example, OPT01.)
  - b. **Automatic IPL:** Y
  - c. **PTF type:** 1 (All PTFs)


**Note:** If it is not convenient to restart your server, specify **No** for **Automatic IPL**.

```

Install Options for Program Temporary Fixes
System: your.server
Type choices, press Enter.
Device . . . . . OPT01 Name, *SERVICE
Automatic IPL . . . . . Y Y=Yes
N=No
Restart type . . . . . *SYS *SYS, *FULL
PTF type . . . . . 1 1=All PTFs
2=HIPER PTFs and HIPER
LIC fixes only
3=HIPER LIC fixes only
4=Refreshed Licensed Internal Code
Other options . . . . . N Y=Yes
N=No
F3=Exit F12=Cancel

```

After all of the PTFs have been installed, your iSeries server restarts.

- After you have installed the group PTF, see the product release notes for information about the release, including a description of known problems and workarounds. The release notes are available on the WebSphere Application Server documentation page (<http://publib.boulder.ibm.com/was400/docs/relnotes502.html>) .



“Install the workstation tools for WebSphere Application Server”

### Install the workstation tools for WebSphere Application Server

**Note:** Installation of the workstation components is optional. The administrative console for WebSphere Application Server is accessed from a Web browser and does not require installation of any workstation components.

The workstation components of WebSphere Application Server run on any of the supported WebSphere Application Server workstation platforms. For more information about the supported platforms, see Prerequisites for installing WebSphere Application Server (page 10). The workstation components include these tools:

- Administrative scripting tool (wsadmin)
- Application assembly tool (AAT)
- Enterprise bean deployment tool (ejbdeploy)
- ANT utilities (ws\_ant)
- Tivoli Performance Viewer (tperfviewer, formerly known as Resource Analyzer)
- Log analyzer (waslogbr)
- IBM Key Management Tool (iKeyman)

**Note:** If you want to use the Web services security functions in WebSphere Application Server Version 5.0.2, you must also install the Application Server Toolkit. For more information, see “Install the Application Server Toolkit” on page 36.

For more information about development tools, see the Development tools topic in *Programming*. For more information about administration tools, see the administration tools topic in *Administration*.



To install the workstation components, perform these steps:

1. Place the WebSphere Application Server CD-ROM for your workstation's operating system in your workstation CD-ROM drive. For example, if you are using Windows NT, insert the *WebSphere Application Server 5.0 for Windows NT* CD-ROM.  
**Note:** Do not use the *WebSphere Application Server 5.0 for iSeries* CD-ROM (which was shipped with your WebSphere Application Server iSeries package) for this set of steps.
2. The LaunchPad wizard should automatically start. If it does not, run the LaunchPad wizard program by navigating to your CD-ROM drive, and invoking the launchpad.bat (Windows) or launchpad.sh (Unix) program located in the disk1 subdirectory. After the LaunchPad wizard appears, click **Install the product** to start the installation.
3. Select the language version for the installation, and click **OK**. The next panel is displayed.  
**Note:** On Windows NT and Windows 2000 systems, you might have to move the command window that opens, to reveal the language selection dialog box.
4. The installation wizard and a Welcome page opens. Click **Next**.
5. On the Software License Agreement window, read the license agreement. To continue, select **I accept the terms in the license agreement**, and click **Next**.
6. If you have a previous version or another current version of WebSphere Application Server installed on the workstation machine, the Previous Installation Detected panel is displayed. To install a new copy of the product for just the workstation components, do the following:
  - a. Select the **Install a new copy** checkbox.
  - b. Enter a destination directory for the install in the field below the Install a new copy checkbox.
  - c. Click **Next**.
  - d. Clear the **Reconfigure the product to coexist with other versions of itself** checkbox.
  - e. Click **Next**.If this panel is not displayed, you do not have any previous version installed and should continue to the next step.
7. On the Installation Options panel, select **Custom Installation**. Click **Next**.
8. On the Choose Application Server components panel, choose the options you want to install. By default, all options are selected. Clear the options you do not require. On workstations you are using for application development, generally you install the Application Assembly and Deployment Tools options. On workstations from which you wish to monitor an application server, generally you install the Performance and Analysis options, specifically the Tivoli Performance Viewer and Log Analyzer options.  
**Note:** Components that are required by the components you select are automatically selected for you.
9. Type the name of the destination directory, and click **Next**. This is the directory in which the workstation components are installed. This field may already be filled in with a default directory. Click **Next**.
10. If the Node Name window is displayed, click **Next** to accept the default node and host names.
11. If the Run application server as a service window is displayed, clear the checkbox, and click **Next**.
12. Verify the options that you selected. To make changes, click **Back**. To continue with the installation, click **Next**.  
The Installing IBM WebSphere Application Server panel is displayed, indicating the progress of the installation process with a status bar.
13. The installation program copies all files to the workstation and performs any necessary configuration.
14. The Registration panel is displayed when the installation is complete. Click **Next**.
15. Click **Finish** to complete the installation.

**You have completed step 2 of 5.  
Continue on to step 3.**



“Step 3: Create an initial configuration” on page 37

## Install the Application Server Toolkit

The Application Server Toolkit runs on any of the supported WebSphere Application Server workstation platforms. For more information about the supported platforms, see Prerequisites for installing WebSphere Application Server (page 10).

**Note:** Installation of the Application Server Toolkit is optional, but it must be installed if you want to use the Web services security functions in WebSphere Application Server Version 5.0.2.

To install the Application Server Toolkit, perform these steps:

1. Locate the WebSphere Application Server Supplemental CD-ROM bundle in your WebSphere Application Server product package.
2. Two CD-ROMs in the Supplemental CD-ROM bundle are labeled **This CD-ROM contains: Application Server Toolkit**. Select the CD-ROM for your workstation operating system:
  - For Windows: *IBM WebSphere Application Server for Windows NT and Windows 2000*
  - For AIX and Solaris: *IBM WebSphere Application Server for AIX and Solaris*
3. Place the WebSphere Application Server Application Server Toolkit CD-ROM for your workstation's operating system in your workstation CD-ROM drive.
4. The LaunchPad wizard starts. If it does not start automatically, run the LaunchPad wizard program by navigating to your CD-ROM drive, open the directory for your operating system, and double-click the setup.exe file to start the InstallShield program.
5. The installation wizard opens and the Welcome page is displayed. Click **Next**.
6. On the Software License Agreement window, read the license agreement. To continue, select **I accept the terms of the license agreement**, and click **Next**.
7. Type the name of the destination directory or accept the default directory. This is the directory in which the Application Server Toolkit is installed. Click **Next**.
8. The InstallShield program displays messages that indicate the status of the installation and a status bar to show the progress of the installation.
9. Select whether to install the IBM Remote Agent Controller. The IBM Agent Controller (formerly called the Remote Agent Controller, or RAC) is used by the WebSphere Studio tools to interact with (supported) remote servers for such purposes as application publishing and testing, and debugging and profiling Java/WAS applications on remote servers.

**Notes:**

  - Remote Agent Controller is currently not intended for remote deployment use on production systems, due to security concerns. This is intended for development systems only.
  - Only Remote Agent Controller Version 5.0.2 and higher is recommended for iSeries.Click **Next**.
10. After the installation is complete, a confirmation of a successful installation is displayed. Click **Finish** to close the InstallShield program.

To use the Web services security functions, you must update the Application Server Toolkit to Version 5.0.2. Perform these steps to install the updates:

1. Open the Application Server Toolkit.

2. Click **Help** → **Software Updates** → **New Updates**. This contacts the Web sites associated with the product's features to discover what versions of those features are available. The potential upgrades are presented in the **Available Updates** page.
3. Select the feature versions that you want to upgrade, and click **Next**.
4. Review the license agreements for the upgraded features. If the terms of all these licenses are acceptable, select **I accept the terms in the license agreements**. Click **Finish**.
5. After all the features have been downloaded successfully and their files installed into the product on the local computer, click **Yes** to restart the Application Server Toolkit for the updates to take effect.

---

## Step 3: Create an initial configuration

This topic describes how to configure your iSeries server, the WebSphere Application Server environment, and your HTTP server so that WebSphere Application Server runs correctly.

To create an initial configuration for WebSphere Application Server for iSeries, perform these steps:

1. "Configure software license information"  
This step describes how to configure software license information for WebSphere Application Server.
2. "Set SQL server jobs" on page 38  
This step describes how to set the maximum number of jobs that are allowed for the SQL server jobs.
3. "Verify and configure TCP/IP" on page 38  
This step describes how to configure TCP/IP for WebSphere Application Server.
4. "Configure an HTTP server instance" on page 40  
This step describes how to create an HTTP server instance and configure it to use a WebSphere Application Server instance to serve JavaServer Pages (JSP) files and servlets.



"Configure software license information"

## Configure software license information

After you complete the installation process and before you start the WebSphere Application Server environment, you must set the usage limit from the Proof of Entitlement (POE) or invoice.

To set the usage limit, enter the Work with License Information (WRKLICINF) command on an OS/400 command line, and then follow these steps:

1. On the Work with License Information menu, press **F11** (Display Usage Information).
2. Move the cursor to the line that contains the product 5733WS5, Feature 5050.
3. Select option 2 (Change), and press **Enter**. When the Change License Information display is shown, update the Usage limit prompt (USGLMT) with the usage limit shown on the POE or invoice. Entering any number that exceeds the purchased limit violates the IBM purchase agreement.
4. Still on the Change License Information display, press **F9** (All parameters). Update the Threshold (THRESHOLD) prompt with \*USGLMT, and press **Enter**. Do not leave the threshold set to zero.  
**Note:** If the following message is sent, respond by typing G. CPA9E1B: Usage limit increase must be authorized. Press help before replying (C G).

**Continue**



“Set SQL server jobs”

## Set SQL server jobs

If you are using the IBM Developer Kit for Java JDBC driver to access the OS/400 database from your applications, you may need to change the maximum number of jobs allowed for the SQL server jobs. Each JDBC connection object requires an SQL server job. Generally, it is easiest to account for the number of jobs you need by setting the maximum number of jobs to \*NOMAX. Use the Change Prestart Job Entry (CHGPJE) command to change the prestart job entry for the SQL server jobs. For example:

```
CHGPJE SBSDB(QSYSWRK) PGM(QSQSRVR) MAXJOBS(*NOMAX)
```

If \*NOMAX is not an appropriate setting for your iSeries environment, specify an integer value for the MAXJOBS parameter which will allow your applications to have enough SQL server jobs to handle the maximum number of JDBC connections required at any given time by your applications.

This message is displayed when the maximum number of jobs is successfully changed:

```
Program QSQSRVR found in library QSYS.  
Active subsystem description QSYSWRK in QSYS changed.
```

**Continue**



“Verify and configure TCP/IP”

## Verify and configure TCP/IP

To configure and run WebSphere Application Server on the iSeries, TCP/IP must be configured properly and must be started before you start the WebSphere Application Server environment.

To verify that TCP/IP is configured correctly, enter the Configure TCP/IP (CFGTCP) command on an OS/400 command line, and then follow these steps:

1. **Verify that your TCP/IP address and LOOPBACK interface are active:**
  - a. On the Configure TCP/IP menu, select option 1 (Work with TCP/IP interfaces).
  - b. Press **F11** to display the interface status.
  - c. Verify that the TCP/IP address is active. If it is not active, specify option 9 (Start).
  - d. Verify that the LOOPBACK interface with IP address 127.0.0.1 is active. If it is not active, specify option 9 (Start) next to the entry with IP address **127.0.0.1** and press **Enter**.
  - e. Press **F3** to return to the Configure TCP/IP menu.
2. **Verify your TCP/IP host name:**
  - a. On the Configure TCP/IP menu, select option 12 (Change TCP/IP domain information).
  - b. Verify that the TCP/IP host name is correct. If the host name is not correct, type the correct host name in the **Host name** field and press **Enter**. If the host name is correct, press **F3** to return to the Configure TCP/IP menu.

**Note:** The host name cannot be \*NONE.
  - c. Press **F3** to return to the command line.

### 3. Start TCP/IP:

If TCP/IP is not started or if you don't know if TCP/IP is started, enter the Start TCP/IP (STRTCP) command on an OS/400 command line.

### 4. Verify that the server's IP address is associated with the host name:

Enter this command on an OS/400 command line:

```
ping hostname
```

where *hostname* is the host name displayed in **Verify a TCP/IP host name**. Verify that the ping is successful and the resulting IP address is correct.

Here is sample output from a successful ping command:

```
Verifying connection to host system MYSYSTEM.MYCOMPANY.COM at address
1.2.3.4.
PING reply 1 from 1.2.3.4 took 0 ms. 256 bytes. TTL 64.
PING reply 2 from 1.2.3.4 took 0 ms. 256 bytes. TTL 64.
PING reply 3 from 1.2.3.4 took 0 ms. 256 bytes. TTL 64.
PING reply 4 from 1.2.3.4 took 0 ms. 256 bytes. TTL 64.
PING reply 5 from 1.2.3.4 took 0 ms. 256 bytes. TTL 64.
Round-trip (in milliseconds) min/avg/max = 0/0/0
Connection verification statistics: 5 of 5 successful (100 %).
```

If the ping fails, follow these steps:

- a. Enter the Configure TCP/IP (CFGTCP) command on an OS/400 command line.
- b. On the Configure TCP/IP menu, select Option 10 (Work with TCP/IP host table entries).
- c. Configure the iSeries system short name to the active IP address that was listed in the first step ("Verify that your TCP/IP address and LOOPBACK interface are active"):
  - 1) Select Option 2 (Change), and type your IP address in the **Internet address** field. Press **Enter**.
  - 2) In the Change TCP/IP Host Table Entry (CHGTCPTHTE) menu, edit the **Hostnames: Name field** to match the short name of your iSeries server. Press **Enter**.

**Note:** The \*ADMIN instance of the HTTP server will not start without a host name.

### 5. Verify your system configuration:

The IPTest Java utility is shipped with the WebSphere Application Server product and can be used to debug TCP/IP configuration problems. To run this utility, enter this command on an OS/400 command line:

```
RUNJAVA CLASS(IPTest) CLASSPATH('/QIBM/ProdData/WebAS5/Base/bin')
```

**Note:** The class name parameter that you specify for CLASS (IPTest) is case-sensitive.

This display illustrates the output from this command:

```
Java Shell Display

Local Address: 12.34.56.78
Local Name: MYSYSTEM.MYCOMPANY.COM
All addresses for MYSYSTEM.MYCOMPANY.COM:
 12.34.56.78
Java Program Completed

===> _____
_____
_____

F3=Exit  F6=Print  F9=Retrieve  F12=Exit
F13=Clear F17=Top   F18=Bottom  F21=CL Command Entry
```

The Local Address is the IP address for your iSeries server. This value must not be blank and must match the IP address verified in the first step ("Verify that your TCP/IP address and LOOPBACK

interface are active”). The Local Name is the domain-qualified host name for your iSeries server. If this value is blank, see the instructions in the first step. Press **F3** to exit.

**Note:** If a host name has not been configured for your iSeries server, you will receive an `UnknownHostException` message.



“Configure an HTTP server instance”

## Configure an HTTP server instance

An HTTP server instance is not required to install WebSphere Application Server. However, it is recommended to support requests for servlets and JavaServer Pages (JSP) resources managed by WebSphere Application Server.

### Notes:

1. The IBM HTTP Server (original) is not supported for WebSphere Application Server V5.0. This topic discusses how to configure HTTP Servers native to the iSeries server.
2. You are able to configure remote HTTP Servers residing on other supported platforms which route requests to WebSphere Application Server running on the iSeries server. For more information, see the Remote HTTP topic in *Administration*.

Select the HTTP Server you want to use to serve requests to WebSphere Application Server:

- **Configure IBM HTTP Server for iSeries (powered by Apache) instance**

“Configure IBM HTTP Server (powered by Apache) (V5R1 or V5R2)”

- **Configure Lotus Domino Web server instance**

“Configure Lotus Domino Web server” on page 45



“Configure IBM HTTP Server (powered by Apache) (V5R1 or V5R2)”  
or



“Configure Lotus Domino Web server” on page 45

## Configure IBM HTTP Server (powered by Apache) (V5R1 or V5R2)

To configure a new instance of IBM HTTP Server to communicate with WebSphere Application Server, perform these steps:

1. **“Start the \*ADMIN instance of IBM HTTP Server”**  
This step describes how to start the \*ADMIN server instance so that you can use the IBM HTTP Server for iSeries configuration and administration forms.
2. **“Create a new instance of IBM HTTP Server (powered by Apache)(V5R1 and V5R2)” on page 42.**  
**Note:** If you have an existing instance that you want to use with WebSphere Application Server, skip this step.  
This step describes how to create a new HTTP server instance by using the configuration and administration forms.
3. **“Configure the IBM HTTP Server (powered by Apache) instance (V5R1 and V5R2)” on page 44.**  
This step describes how to configure the HTTP server instance so that the HTTP server and WebSphere Application Server can communicate with each other.



“Start the \*ADMIN instance of IBM HTTP Server”

**Start the \*ADMIN instance of IBM HTTP Server:** Start the \*ADMIN instance of IBM HTTP Server (powered by Apache) to create, change, or display an IBM HTTP Server instance configuration by using the IBM HTTP Server for iSeries Configuration and Administration forms.


You can start the \*ADMIN server instance from an OS/400 command line or from iSeries Navigator.

- **From an OS/400 command line:**

To start the \*ADMIN instance from an OS/400 command line, type:  
`STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)`  
 and press **Enter**.

- **From iSeries Navigator:**

iSeries Navigator is the graphical interface to the iSeries server. iSeries Navigator is part of the iSeries Access for Windows product.

**Note:** For more information on iSeries Access for Windows and iSeries Navigator, see the iSeries Access Family Web site (<http://www.ibm.com/eserver/iseres/access/>) .

To start the \*ADMIN instance from iSeries Navigator, perform these steps:

1. Start iSeries Navigator.
2. Double-click your iSeries server
3. Select **Network** —> **Servers** —> **TCP/IP**.
4. Right-click **HTTP Administration** in the right frame.
5. Select **Start**.

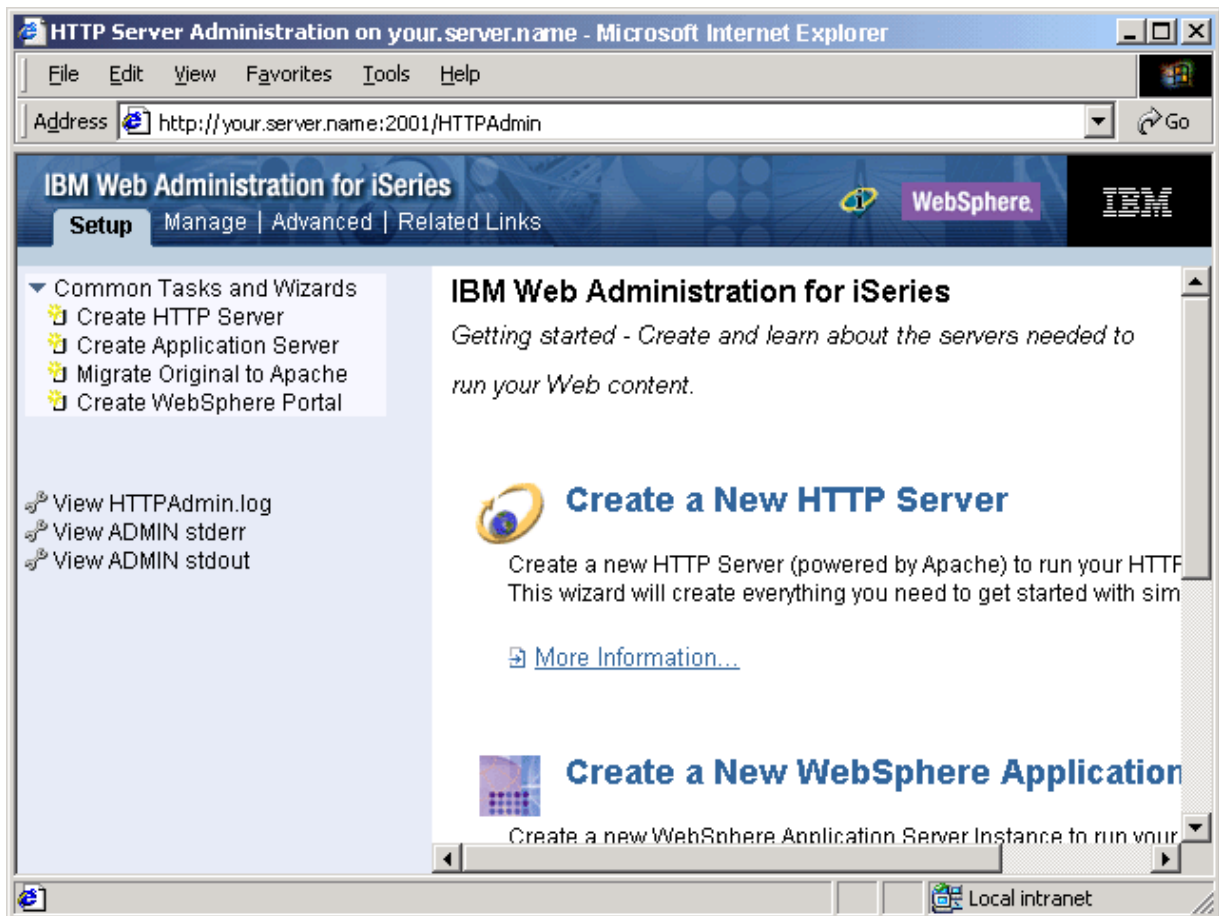
**Note:** Do not select the **Start Instance** option from the menu. If the server is already started, the **Start** option will be disabled on the menu.



“Create a new instance of IBM HTTP Server (powered by Apache)(V5R1 and V5R2)” on page 42

**Create a new instance of IBM HTTP Server (powered by Apache)(V5R1 and V5R2):** To create a new instance of the IBM HTTP Server (powered by Apache) with a basic configuration, use the IBM HTTP Server for iSeries Configuration and Administration forms. Perform the steps below.

1. Using a Web browser, go to the IBM HTTP Server Configuration and Administration forms by performing these steps:
  - a. Open this URL in your browser:  
`http://your.server.name:2001/`  
where *your.server.name* is the name of your iSeries server.
  - b. Enter a valid user ID and password for your iSeries server.
  - c. At the **iSeries Tasks** page, select **IBM HTTP Server for iSeries**.
2. The **HTTP Server for iSeries** page is displayed. To create a new HTTP server, click the **Setup** tab. Expand **Common Tasks and Wizards** and click **Create New HTTP Server**.



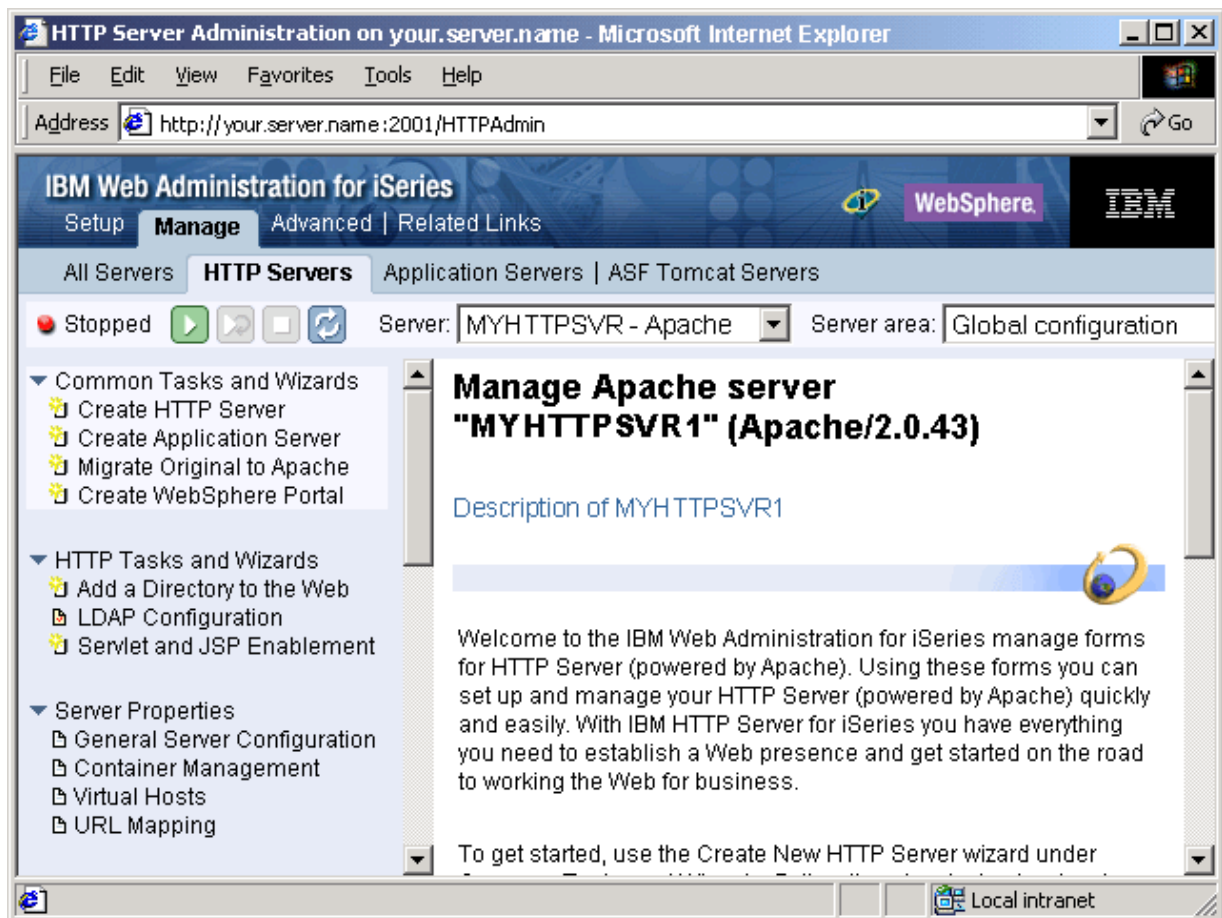
3. Select **HTTP server (powered by Apache)**, and click **Next**.
4. In the right frame, type a name for the HTTP server instance. This name appears in the HTTPSVR subsystem when the job is running. Optionally, you can also enter a description for the HTTP server instance. Click **Next**.  
**Note:** Write down your HTTP server instance name to be used in later steps.
5. Type the server root. You can use the default values, or you can specify another server root or document root directory. Click **Next**.
6. In the next panel, set the document root. Click **Next**.
7. Select the IP address and port.
  - a. In the **IP address** field, select **All addresses**.



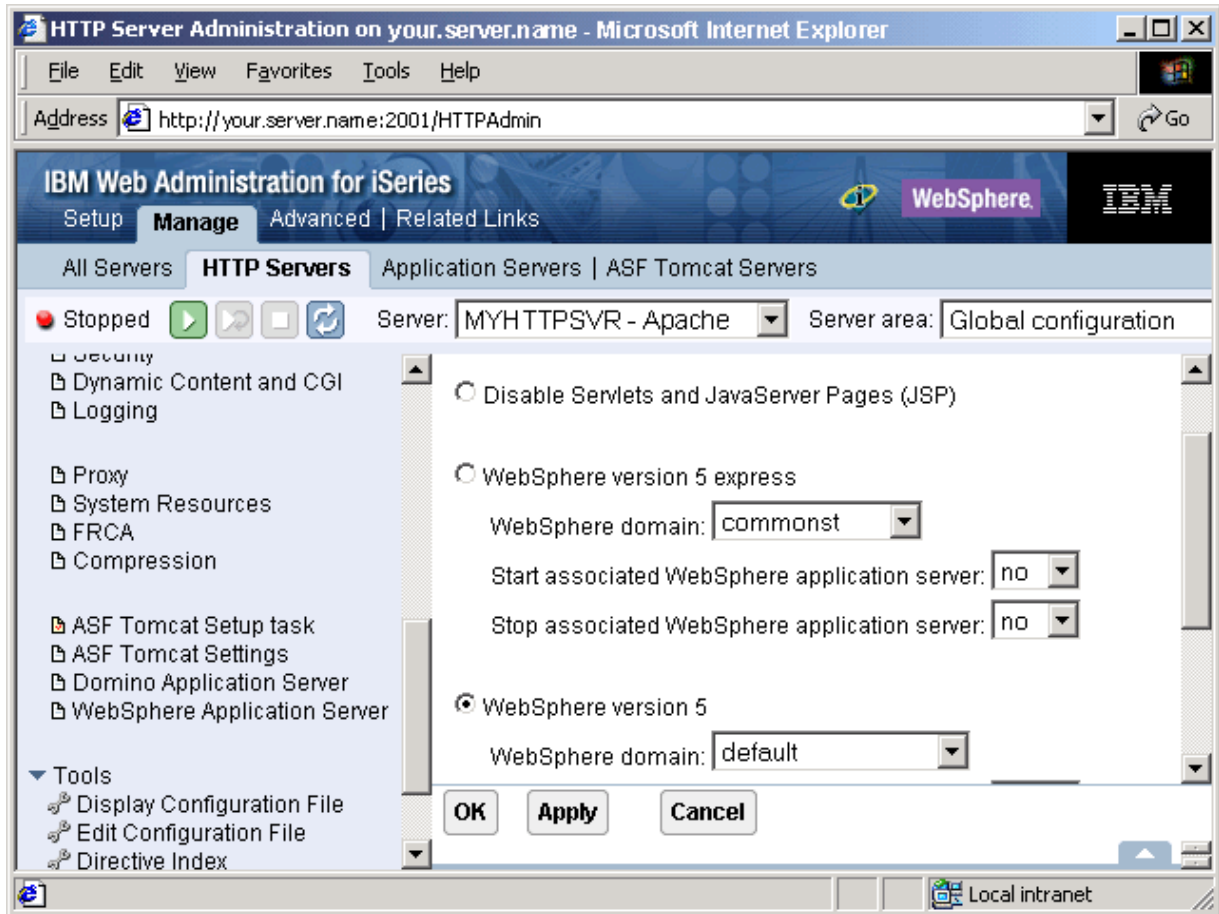
- b. The default port number is 80. You can specify a different port number for the HTTP server to use to process requests. Click **Next**.

**Notes:**

- 1) If you specify a port other than the default port, you must configure your virtual host Domain Name System (DNS) aliases in the administrative console to reflect your port number. For more information, see "Virtual host" on page 52.
  - 2) Write down the number of your internal HTTP port for use in later steps.
8. Select a logging option. It is recommended that you select **Yes**. The logs are stored in the */server\_root/logs* directory, where *server\_root* is the server root that you set in step 6.
  9. Specify how long you want to keep the error and access log files. Click **Next**.
  10. Review your settings. To create the HTTP server instance, click **Finish**. To make changes, click **Back**.
  11. After clicking **Finish**, the configuration is created. The **Manage Apache Server** page appears.



12. With your new HTTP server selected, expand **Server Properties** in the left frame. Click **WebSphere Application Server**. Select the version of WebSphere Application Server to configure, and select the WebSphere Application Server instance. If the instance is not part of a Network Deployment cell, you can configure the HTTP server to start the associated Application Server when the HTTP server is started. Also, you can configure the HTTP server to stop the associated Application Server when the HTTP server is stopped. In this example the HTTP server is configured not to do either of those activities. To write the changes to the configuration file and return to the main configuration page, click **OK**.



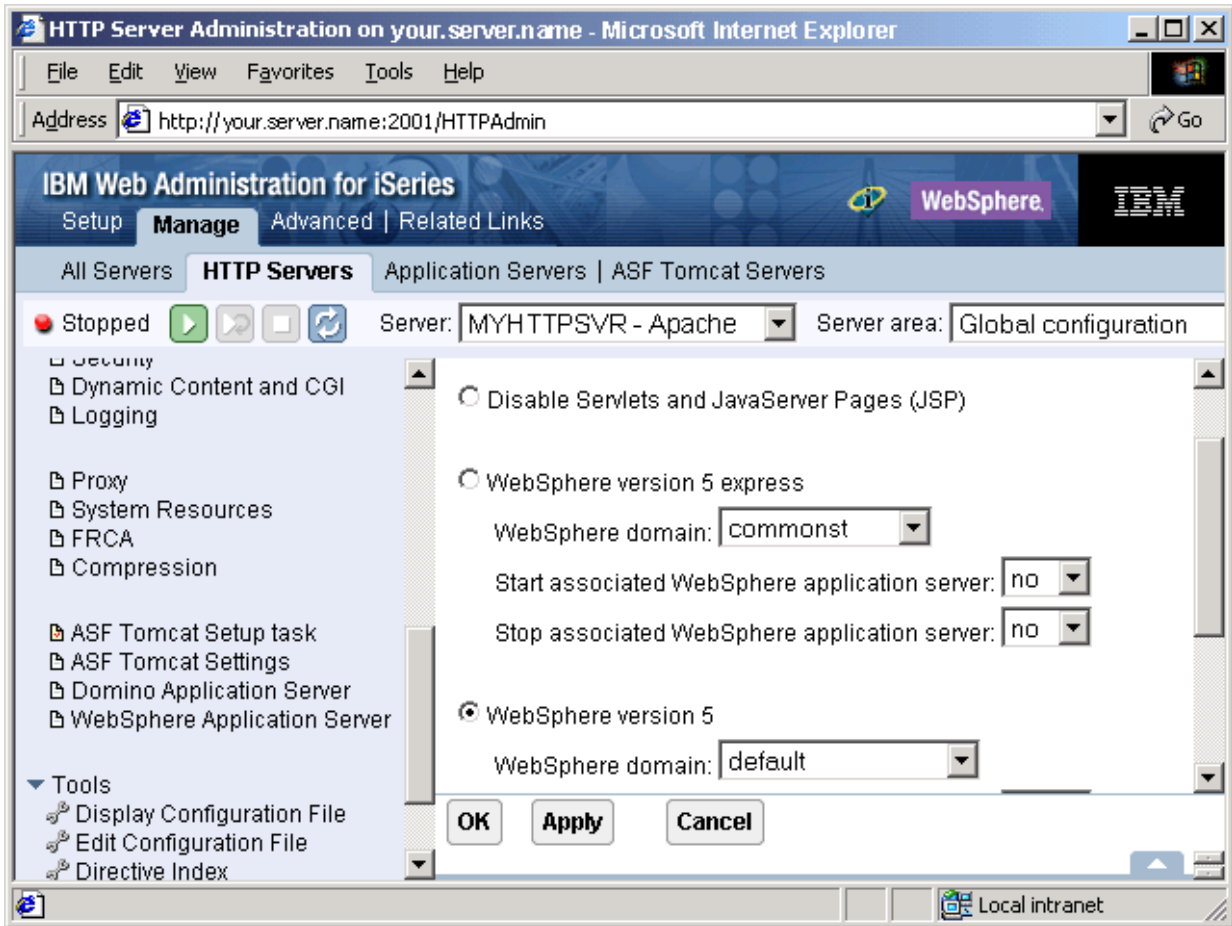
**You have completed step 3 of 5.  
Continue on to step 4.**



“Step 4: Start the WebSphere Application Server environment” on page 47

**Configure the IBM HTTP Server (powered by Apache) instance (V5R1 and V5R2):** After you create the HTTP server instance, you must configure the instance so that it works with WebSphere Application Server.

1. Select the **Manage** tab. In the **Server** drop-down list on the upper-right, select the HTTP server instance that you want to manage.
2. With your HTTP server selected, expand **Server Properties** in the left frame. Click **WebSphere Application Server**. Select the version of WebSphere Application Server to configure, and select the WebSphere Application Server instance. If the instance is not part of a Network Deployment cell, you can configure the HTTP server to start the associated Application Server when the HTTP server is started. Also, you can configure the HTTP server to stop the associated Application Server when the HTTP server is stopped. In this example the HTTP server is configured not to do either of those activities.



3. Click **OK** to write the changes to the configuration file and return to the main configuration page.

**You have completed step 3 of 5.  
Continue on to step 4.**



“Step 4: Start the WebSphere Application Server environment” on page 47

### Configure Lotus Domino Web server

To configure the Lotus<sup>(R)</sup> Domino<sup>(TM)</sup> Web server for use with WebSphere Application Server, you must update the Domino server’s configuration.

Lotus Domino for iSeries Version 5.0.5 (or later) Web server, Lotus Domino for iSeries Version 6.0 Web server, or Lotus Domino for iSeries Version 6.5 Web server can be used as a Web server with WebSphere Application Server.

**Note:** Refer to the Administration Help for your version of Domino for information on installing and setting up Domino servers on OS/400. The help database is shipped with Lotus Domino and is also available in the Notes.net Documentation Library (<http://www.notes.net/notesua.nsf?OpenDatabase>)



To configure each instance of a Domino server on your iSeries server, perform these steps:

1. “Update the Domino server’s notes.ini file” on page 46 to work with WebSphere Application Server.

2. "Start the Domino server."
3. "Update the Domino server document" on page 47 to work with WebSphere Application Server.
4. "Stop and start the Domino server's HTTP task" on page 47 to apply the changes to the server document and to the notes.ini file.



"Update the Domino server's notes.ini file"

**Update the Domino server's notes.ini file:** To update the Domino server's notes.ini file to work with WebSphere Application Server, perform these steps:

1. Enter the Work with Domino Servers (WRKDOMSVR) command on an OS/400 command line.
2. For the appropriate Domino server instance, specify option 13 (Edit NOTES.INI) to edit the server's notes.ini file.
3. Add this line to the end of the notes.ini file:  
`WebSphereInit=/QIBM/UserData/WebAS5/Base/default/config/cells/plugin-cfg.xml`  
**Note:** The line above is for the WebSphere Application Server's default instance. For a nondefault instance, change the line to refer to the directory of the application server instance.
4. Press **F3** twice to save and exit the notes.ini file.



"Start the Domino server"

**Start the Domino server:** To start the Domino server, perform these steps:

Use the Start Domino Server (STRDOMSVR) command to start a Domino server on AS/400. Make sure you have \*JOBCTL special authority.

1. On any AS/400 command line, type:  
`strdomsvr`
2. Press **F4** to have the system prompt you for the server name.
3. Type the server name in the field provided. If you are not sure of the name, press **F4** to display a list of Domino servers on your iSeries server.
4. Press **Enter**.

While the system is starting the Domino server, you see a message that indicates the server is starting. If the message appears for more than 1 or 2 minutes, the server may be waiting for you to enter a password. To determine if the server is waiting for a password, use the WRKDOMCSL command to start a server console session for the server. You can enter the password in this console session.



"Update the Domino server document" on page 47

**Update the Domino server document:** To update the Domino server document to work with WebSphere Application Server, perform these steps:

1. From a Lotus Notes client connected to the appropriate Domino server, edit the Domino document, which can be found in the Domino server's Domino Directory. The name of the file is names.nsf.
2. Within the server document, click the **Internet Protocols** tab and then click the **HTTP** tab.
3. Type this line in the **DSAPI filter file names** field:

```
/QSYS.LIB/QEJBAS5.LIB/LIBDOMINOH.SRVPGM
```

**Note:** Ensure that you do not have a space before or after this command or the filter fails.

4. Save and exit the Domino server document.

**Note:** To use the Lotus Domino Web server with WebSphere Application Server, you do not have to modify the Java servlet support field in the Domino server document.



“Stop and start the Domino server's HTTP task”

**Stop and start the Domino server's HTTP task:** After you update the Domino server document and the server's notes.ini file, you must stop and start the Domino server's HTTP task for those changes to take effect.

To stop and start the Domino server's HTTP task, perform these steps:

1. Enter the Work with Domino Servers (WRKDOMSVR) command on an OS/400 command line.
2. For your Domino server instance, specify option 8 (Work console) to select the Domino server's console.
3. From the Domino server's console, enter this command to stop the Domino server's HTTP task:  
tell http quit

4. From the Domino server's console, enter this command to start the Domino server's HTTP task:  
load http

**You have completed step 3 of 5.  
Continue on to step 4.**



“Step 4: Start the WebSphere Application Server environment”

---

## Step 4: Start the WebSphere Application Server environment

Perform these steps to start WebSphere Application Server on iSeries:

1. Start the WebSphere Application Server default instance.

WebSphere Application Server provides a default instance that contains several example applications and is ready to run after you start the WebSphere Application Server environment. For more information on the default instance, including the TCP/IP ports it uses and how to change them, see Default WebSphere Application Server instance in the *Administration* topic.

When you start the QEJBAS5 subsystem, the default application server instance is started. To start the QEJBAS5 subsystem, enter this command on an OS/400 command line:

```
STRSBS QEJBAS5/QEJBAS5
```

**Note:** Java Message Server (JMS) is not enabled for the default instance. If you plan to use JMS, enable it after you complete the installation verification. For more information, see Administer the embedded JMS server in the *Administration* topic for more information.

2. “Verify that the WebSphere Application Server environment has started.” This step describes how to verify that the WebSphere Application Server environment has started.
3. “Start the administrative console” on page 49. This step describes how to start the administrative console on your workstation.
4. “Configure the virtual host” on page 50. This step describes how to verify that the virtual host uses the correct HTTP port.
5. “Start the HTTP server instance” on page 53. This step describes how to start the HTTP server instance from an OS/400 command line or from the browser-based interface.

If you have problems with any part of the installation, see the “Troubleshoot the installation” on page 60.



“Verify that the WebSphere Application Server environment has started”

## Verify that the WebSphere Application Server environment has started

Before you start the administrative console, you should verify that the environment has started successfully. When the WebSphere Application Server environment is ready for use, a message is written to the job log of the application server job indicating that the WebSphere Application Server environment is ready.

To determine if the WebSphere Application Server environment is ready, perform these steps from an OS/400 command line:

1. Run the Work with Active Jobs (WRKACTJOB) command, specifying the QEJBAS5 subsystem on the subsystem (SBS) parameter:  
`WRKACTJOB SBS(QEJBAS5)`
2. Find your application server job. The application server job for the default WebSphere Application Server instance is named SERVER1.
3. Specify option 5 (Work with Job) on the option line next to the job, and press **Enter**.
4. On the command line of the Work with Job display, specify option 10 (Display job log, if active), and press **Enter**.
5. Press **F10** to display all messages.

Look for this message:

WebSphere application server *application\_server* ready.

where *application\_server* is the name of your application server. The default application server is named SERVER1.

If the message is not displayed, press **F5** to refresh the job log messages until the message is displayed.

When the message is displayed, the WebSphere Application Server environment has successfully started. It may take up to 20 minutes for the message to be displayed, depending on your iSeries server. If the message is not displayed, see the Troubleshooting topic.

6. To display the port number on which the application server is listening for the administrative console, position the cursor on the last line of the message and press **F1**. This message is displayed:

WebSphere application server *application\_server*  
in job *app\_server\_job* is ready to handle administrative requests  
on port *port\_number*.

where *application\_server* is the name of your application server, *app\_server\_job* is the OS/400 job name for your application server, and *port\_number* is the number of the port used by the administrative console.

Press **F3** twice to exit.



“Start the administrative console”

## Start the administrative console

The administrative console is a Web-based application that runs on any browser supported by WebSphere Application Server.

The browser-based administrative console for WebSphere Application Server requires that cookies be enabled in the browser. Therefore, before you start the administrative console on your workstation, you must ensure that cookies are enabled.

- In Netscape Navigator, perform these steps:
  1. Click the **Edit** pull-down menu and choose **Preferences....**
  2. In the left pane, click **Advanced**.
  3. The right pane shows the settings for cookies. Ensure that cookies are not disabled.
- In Microsoft Internet Explorer 4.0, 5.0, and 5.5 perform these steps:
  1. Click the **Tools** pull-down menu and choose **Internet Options....**
  2. Click the **Security** tab.
  3. Click **Custom Level**. Under **Cookies**, select **Enable**.
  4. Click **OK**.
- In Microsoft Internet Explorer 6.0, perform these steps:
  1. Click the **Tools** pull-down menu and choose **Internet Options....**
  2. Click the **Privacy** tab.
  3. Click **Advanced**. Select **Accept** to accept first-party and third-party cookies.
  4. Click **OK**.

To start the administrative console on a workstation, perform these steps:

1. Open this URL in your browser:  
`http://your.server.name:port/admin`

where *your.server.name* is the host name of the iSeries server on which your application server is running, and *port* is the administration console port as noted in the ready message in the joblog of your application server. For the default WebSphere Application Server instance, the administration console port is 9090. For more information about the ready message, see “Verify that the WebSphere Application Server environment has started” on page 48.

2. When prompted, enter a user ID. The administrative console is displayed in the browser window.  
**Note:** The user ID does not need to be an OS/400 user profile. This user ID is used only to track which users make changes to the application server configuration.

**Continue**



“Configure the virtual host”

## Configure the virtual host

A “Virtual host” on page 52 is a configuration entity that allows WebSphere Application Server to treat multiple host machines or port numbers as a single logical host (virtual host) for configuration purposes. Each virtual host can be associated with multiple aliases. Each alias is a particular host name and port number. By combining multiple host machines into a single virtual host or by assigning host machines to different virtual hosts, you can separate and control which WebSphere Application Server resources are available for client requests.

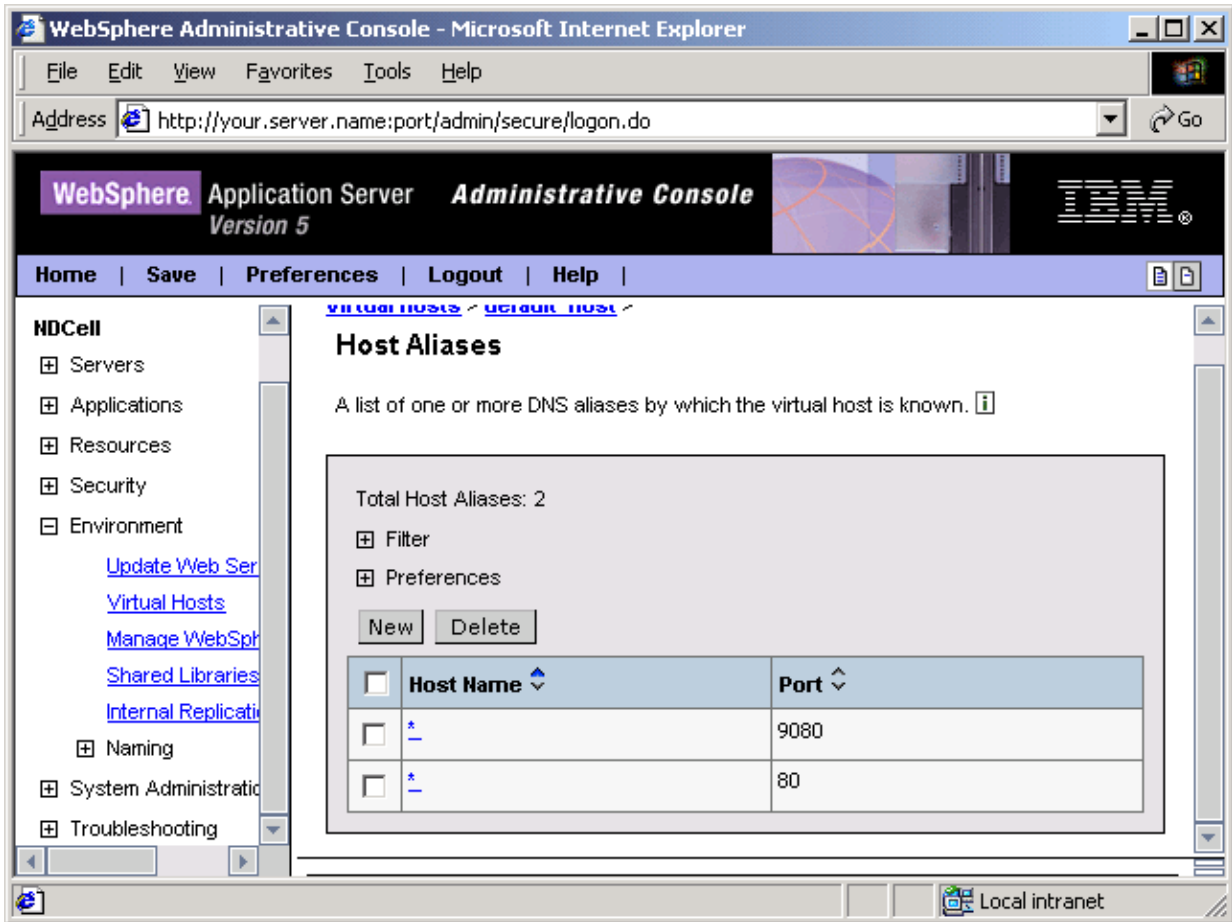
If your external HTTP server configuration uses ports other than the default ports, you must update the Host Aliases table under the virtual host to reflect the correct HTTP port number.

**Note:** If your external HTTP server configuration uses the default port (80), skip these steps and continue to “Start the HTTP server instance” on page 53.

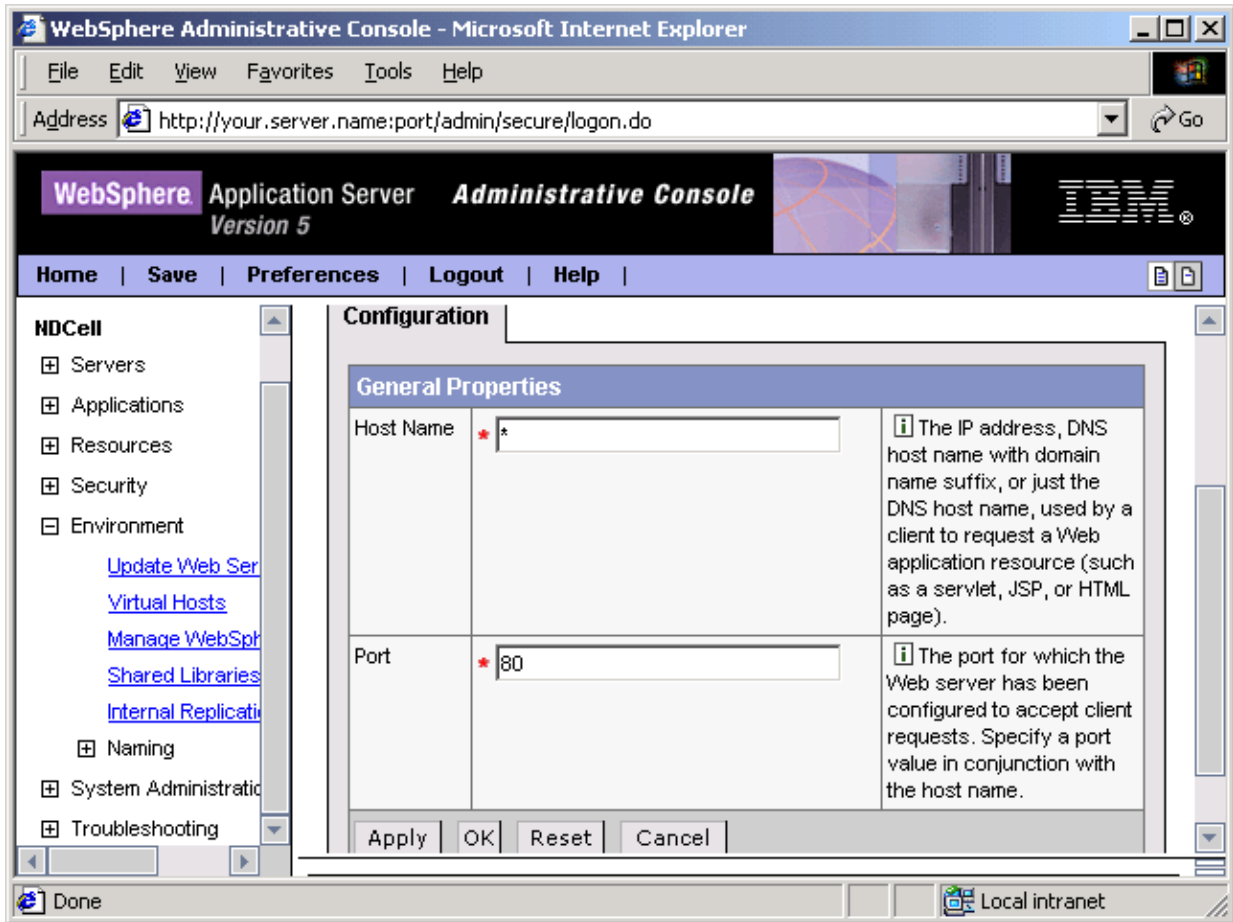
To update the Host Aliases table for the default\_host virtual host from the administrative console, use these steps:

1. Expand **Environment** -> **Manage Virtual Hosts** in the left frame of the administrative console.
2. Click **default\_host** in the right frame.
3. Click **Host Aliases**. The settings for default\_host are displayed.





4. In the **Host Name** list, click on the asterisk in the row that has a **Port** of 80.  
**Note:** The host names are set to "\*" when you install WebSphere Application Server.
5. Specify the correct port number for your HTTP server in the **Port** field.



6. Click **OK** and click **Save** to save your configuration.
7. After you specify a new port number, you must regenerate the plug-in configuration. In the left pane, expand the **Environment** list item and click **Update Web Server Plugin**. When the right frame appears with a prompt, click **OK**.



“Start the HTTP server instance” on page 53

## Virtual host

When you configure WebSphere Application Server, you can associate a virtual host to one or more Web Modules. Each Web Module can be associated with one and only one virtual host. Each virtual host represents a virtual configuration that can have one or more Domain Name System (DNS) aliases. A DNS alias consists of a TCP/IP host name and port number used to request the servlet (for example, yourhost:8000). A virtual host can be associated with any number of DNS aliases.

A client request for a servlet, JavaServer Pages (JSP) file, or related resource contains a DNS alias and a Uniform Resource Indicator (URI) that is unique to that resource. When a client request for a servlet, JSP file, or related resource is received, the DNS alias is compared to the list of all known virtual host groups to locate the correct virtual host, and the URI is compared to the list of all known URI groups to locate the correct URI group.

If a matching virtual host group or URI group is not found, an error is returned to the browser. If the virtual host group and URI group are found, the request is sent to the corresponding server group for processing and a response is returned to browser.

The first time that you start the WebSphere Application Server application server, a default virtual host (named default\_host) is configured. The DNS aliases for the default virtual host are configured as \*:80 and \*:9080, where port 80 is the HTTP server port and port 9080 is the port for the default server's servlet engine. Because the transport type used to communicate to the WebSphere Application Server is HTTP, WebSphere Application Server is capable of accepting requests directly from the browser.

Use the administrative console to add or change DNS aliases if you want to use ports other than the default ports listed above. If you do make a change to the DNS aliases, also regenerate the plug-in configuration, which can also be done from the administrative console. These are some situations in which you need to make additions or changes:

- The HTTP server instance is running on a port other than 80. Add the correct port number to each of the aliases. For example, change yourhost to yourhost:8000.
- If you want to make HTTPS requests, which use Secure Sockets Layer (SSL), add port 443 to each of the aliases. Port 443 is the default port for SSL requests. If your Web server (HTTP server) instance is listening for SSL requests on a port other than 443, add that port number to each of the aliases.
- You want to use a port for the application server other than default port (9080).
- You want to use other aliases that are not listed.

The virtual host also maintains a list of Multipurpose Internet Mail Extensions (MIME) types that it processes. MIME is an Internet standard for multimedia e-mail, including graphics, audio, and fax.

## Start the HTTP server instance

To start the HTTP server instance, perform the steps for the HTTP server you are using:

### **"Start IBM HTTP Server for iSeries"**

Perform these steps if you are using IBM HTTP Server (powered by Apache).

### **"Start the Domino server's HTTP task" on page 54**

Perform these steps if you are using Lotus Domino as an HTTP server.



"Start IBM HTTP Server for iSeries"  
or



"Start the Domino server's HTTP task" on page 54

## Start IBM HTTP Server for iSeries

IBM HTTP Server for iSeries runs in the QHTTSPSVR subsystem, and each HTTP server instance starts multiple jobs. The WebSphere Application Server code that plugs into IBM HTTP Server for iSeries runs in the HTTP server job that communicates with one or more application servers.

If you have not yet created an HTTP server instance, see “Configure IBM HTTP Server (powered by Apache) (V5R1 or V5R2)” on page 40 for instructions.

**To start the HTTP server instance that you created, perform these steps:**

Enter this command on an OS/400 command line:

```
STRTCPSVR SERVER(*HTTP) HTTPSVR(myinst)
```

where *myinst* is the name of your HTTP server instance. This is the HTTP instance you configured in Step 3: Configure an HTTP Server instance.

If you change your HTTP server instance configuration, stop and then start your HTTP server instance.

**To stop your HTTP server instance, enter this command from an OS/400 command line:**

```
ENDTCPSVR SERVER(*HTTP) HTTPSVR(myinst)
```

where *myinst* is the of name your HTTP server instance. This is the HTTP instance you configured in Step 3: Configure an HTTP Server instance.

**Note:** You can also stop and start your HTTP server instance from the IBM HTTP Server for iSeries Configuration and Administration forms in the browser-based interface. For instructions on using the browser-based interface, see “Configure an HTTP server instance” on page 40.

The Configuration and Administration forms also allow you the option of restarting, as opposed to starting and stopping, your HTTP server instance. When restarting, the HTTP server will recognize all configuration changes except changes to the Basic and Security configuration forms.

**You have completed step 4 of 5.  
Continue on to step 5.**



“Step 5: Verify the installation” on page 55

### **Start the Domino server’s HTTP task**

If you have not yet configured the Lotus Domino Web server, see “Configure Lotus Domino Web server” on page 45 for instructions.

To start the Domino server’s Web task, perform these steps:

1. Enter the Work with Domino Servers (WRKDOMSVR) command on an OS/400 command line.
2. For your Domino server instance, specify option 8 to select the Domino server’s console.
3. From the Domino server’s console, enter this command to restart the Domino server’s HTTP task:

```
tell http restart
```

**You have completed step 4 of 5.  
Continue on to step 5.**



“Step 5: Verify the installation” on page 55

---

## Step 5: Verify the installation

You can verify your WebSphere Application Server installation by invoking a verification script or by invoking example browser-based applications.

Select a verification method.

- “Invoke the install verification script”
- “Invoke an example browser-based application”



“Invoke the install verification script”  
or



“Invoke an example browser-based application”

### Invoke the install verification script

To verify the installation of WebSphere Application Server, invoke the ivt script from Qshell with these steps:

1. Start Qshell.  
STRQSH
2. Invoke the ivt script to verify the internal HTTP instance  
/QIBM/ProdData/WebAS5/Base/bin/ivt

This output is displayed if the install verification is successful:

```
IVT0006I: Connecting to the WebSphere Server yourserver on Port:9080
IVT0007I: WebSphere Server yourserver is running on Port:9080

IVT0060I: Servlet Engine Verification: Passed
IVT0065I: JSP Verification: Passed
IVT0066I: EJB Verification: Passed
IVT00100I: IVT Verification Succeeded
```

**You have completed the  
installation and initial  
configuration.**

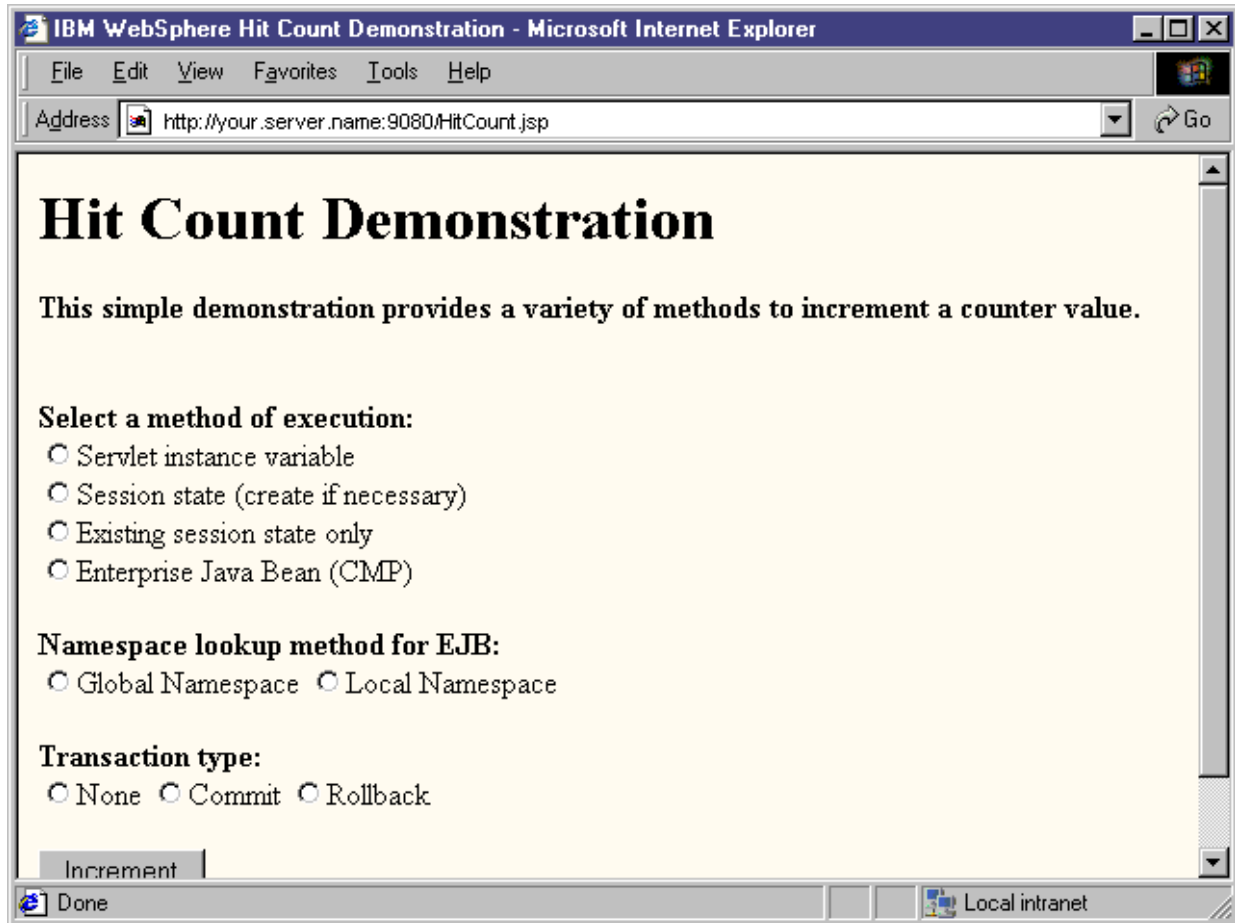


“What’s next?” on page 57

### Invoke an example browser-based application

To invoke an example browser-based application to verify the installation, perform these steps:

1. If your WebSphere Application Server environment is not already running, see “Step 4: Start the WebSphere Application Server environment” on page 47.
  2. Open this URL in your browser (the URL is case-sensitive; the capitalization must be consistent):  
<http://your.server.name:9080/hitcount>  
 where *your.server.name* is the name of your iSeries server. Port 9080 is the default internal HTTP port.
  3. If you see something similar to the image below, WebSphere Application Server has been set up successfully to run using the internal HTTP server.
- Note:** The hitcount sample works for the first 3 checkboxes. The CMP bean option requires additional setup.



4. Open this URL in your browser (the URL is case-sensitive; the capitalization must be consistent):  
<http://your.server.name:80/HitCount.jsp>  
 where *your.server.name* is the name of your iSeries server. Port 80 is the default port for the application server’s external HTTP server. If your application server’s internal HTTP server uses a different port, specify the port number that your Web server uses.
  5. If you see something similar to the image above, WebSphere Application Server has been set up successfully to run using the configured Web server.
- Note:** The hitcount sample works for the first 3 checkboxes. The CMP bean option requires additional setup.

You may want to try the other sample Web applications that are included with the WebSphere Application Server. For information on running these sample applications, see the WebSphere samples gallery.

**You have completed the installation and initial configuration.**



“What’s next?”

---

## What’s next?

After you have completed installing WebSphere Application Server, use these resources in the iSeries Information Center to learn more about WebSphere Application Server.

### **Samples and applications**

This topic describes how to use the WebSphere Application Server samples gallery. The samples gallery provides a set of small, generic samples that show how to perform common enterprise application tasks.

### **Basic configuration scenarios**

This topic continues where the Installation guide stops. It uses scenarios to show you how to configure the WebSphere Application product and deploy a sample application.

### **Configure and manage WebSphere Application Server**

This topic describes how to configure and manage the WebSphere Application Server product.

### **Application Development**

This topic includes information about how to program server-side Java(TM) components that run in WebSphere Application Server.

For your iSeries server to achieve good performance with WebSphere applications, you should tune your iSeries server. OS/400, Java, and WebSphere Application Server tuning techniques and tips can be found in the Redbook “Java and WebSphere Performance on IBM eServer iSeries Servers,” SG24-6256-00. Although this Redbook is based on WebSphere Application Server V4.0, many Java and WebSphere tuning knobs are similar to WebSphere Application Server V5.0. For more information, see [Java and WebSphere Performance on IBM eServer iSeries Servers](#) .

---

## Uninstall WebSphere Application Server

This topic discusses the tasks required to uninstall WebSphere Application Server.

Uninstalling WebSphere Application Server involves these tasks:

1. “Delete the licensed program”
2. “Clean up product UserData files” on page 59

**Continue**



“Delete the licensed program”

### **Delete the licensed program**

If you need to uninstall WebSphere Application Server you can remove the entire WebSphere Application Server or just portions of the WebSphere Application Server product. If you installed the WebSphere MQ

for iSeries and WebSphere MQ classes for Java and JMS products as part of the WebSphere Application Server installation, then you must uninstall these products if you uninstall WebSphere Application Server. For more information, see *Deleting the WebSphere MQ for iSeries and WebSphere MQ classes for Java and JMS licensed programs* (page 58).

- To remove the entire WebSphere Application Server product, perform these steps from an OS/400 command line on the iSeries server on which the product is installed:  
**Note:** If you have installed both WebSphere Application Server V5.0 and WebSphere Application Server Network Deployment V5.0, this process removes both products.
  1. Ensure that your user profile is user type (user class) \*SECOFR and has a value of \*USRCLS for special authority.
  2. Stop the WebSphere Application Server environment. For more information, see the Shut down the WebSphere Application Server environment topic in *Administration*.
  3. When the QEJBAS5 subsystem has ended, use the Delete Licensed Program (DLTLICPGM) command to delete the product.
    - To delete both the WebSphere Application Server product and the Network Deployment product:  
DLTLICPGM LICPGM(5733WS5)  
The QEJBAS5 library and the /QIBM/ProdData/WebAS5 directory structure are removed from the system when the complete product is removed.
- To remove just a portion of the WebSphere Application Server product, such as option 3, from your iSeries server, specify the optional part to delete.
  - This example removes the components specific to option 3 (the samples gallery) of the product from your iSeries server.  
DLTLICPGM LICPGM(5733WS5) OPTION(3)
  - To delete the WebSphere Application Server product only:  
DLTLICPGM LICPGM(5733WS5) OPTION(1)  
DLTLICPGM LICPGM(5733WS5) OPTION(2)  
DLTLICPGM LICPGM(5733WS5) OPTION(3)

### **Deleting the WebSphere MQ for iSeries and WebSphere MQ classes for Java and JMS licensed programs**

The WebSphere MQ for iSeries and WebSphere MQ classes for Java and JMS products shipped with WebSphere Application Server have a restricted license; these products can only be used with WebSphere Application Server. If you have purchased a full license for these products, they do not have to be uninstalled.

To uninstall the WebSphere MQ for iSeries and WebSphere MQ classes for Java and JMS products, perform these steps after you have uninstalled WebSphere Application Server:

1. Execute the WRKMQM command from an OS/400 command-line.
2. Select option 4 to delete all queue managers that are defined on the system.
3. End the WebSphere MQ for iSeries subsystem:  
ENDSBS SBS(QMQM)
4. Delete the WebSphere MQ classes for Java and JMS licensed program:  
DLTLICPGM LICPGM(5639C34)
5. Delete the WebSphere MQ licensed program:  
DLTLICPGM LICPGM(5724B41)
6. Delete the directory /QIBM/UserData/mqm and all of its subdirectories.



**Continue**



“Clean up product UserData files”

## Clean up product UserData files

Uninstalling WebSphere Application Server from the iSeries server removes all the product libraries and directories. User-defined information is not removed and can be reused if you reinstall the product. You can remove the user data manually. User data consists of these items:

- All directories and files under the /QIBM/UserData/WebAS5/Base directory. You should manually delete any files or directories you no longer need.
- Any HTTP server directives (such as LoadModule or Alias) that were added to an HTTP Server Configuration file to enable WebSphere Application Server for that configuration. You can remove these directives either manually or automatically using the instructions below.

These topics describe how to remove the directives for your HTTP server:

- IBM HTTP Server powered by Apache (V5R1) (page 59)
- IBM HTTP Server powered by Apache (V5R2) (page 59)
- Lotus Domino Web Server (page 60)

### IBM HTTP Server powered by Apache (V5R1)

To remove HTTP Server powered by Apache directives, perform these steps:

1. Start your JavaScript-enabled browser.
2. In the URL location or address window, type  
`http://your.server.name:2001`  
where *your.server.name* is the host name of your iSeries server. Press **Enter**.
3. Enter your iSeries user ID and password. Your iSeries user profile should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority. The **AS/400 Tasks** page is displayed.
4. Click **IBM HTTP Server for AS/400**. The **IBM HTTP Server for iSeries** page is displayed.
5. Select **Configuration and Administration**. The HTTP Administration graphical user interface (GUI) interface is displayed.
6. At the top left, select **Configuration**. The main configuration page is displayed.
7. From the selection box on the left, select your Apache server configuration.
8. Under **Dynamic Content**, select **WebSphere Application Server**. The **Servlets and JavaServer Pages (JSP)** page is displayed.
9. Select **Disable Servlets and JSPs**.
10. Click **OK**.

### IBM HTTP Server (V5R2)

To remove HTTP Server directives, perform these steps:

1. Start your JavaScript-enabled browser.
2. In the URL location or address window, type  
`http://your.server.name:2001`  
where *your.server.name* is the host name of your iSeries server. Press **Enter**.

3. Enter your iSeries user ID and password. Your iSeries user ID should be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority. The **AS/400 Tasks** page is displayed.
4. Click **IBM HTTP Server for AS/400**. The **IBM HTTP Server for iSeries** page is displayed.
5. Select the **Manage** tab. In the **Server** drop-down list on the upper right, select the HTTP server instance you want to change.
6. Expand **Server Properties** in the left navigation bar.
7. Scroll down and select **WebSphere Application Server**.
8. Select **Disable Servlets and JSPs**.
9. Click **OK**. This removes the Websphere directives from the Apache configuration file and returns to the main configuration page.

### Lotus Domino Web server

To remove Lotus Domino Web server directives, perform these steps:




1. Remove the DSAPI filter configuration from the Domino server document:
  - a. From a Lotus Notes client connected to the Domino server, edit the Domino document, which is found in the Domino server's Domino Directory (names.nsf).
  - b. Within the server document, click the **Internet Protocols** tab and then click the **HTTP** tab.
  - c. Remove from the **DSAPI filter file names** field:  
/QSYS.LIB/QEJBAS5.LIB/LIBDOMINOH.SRVPGM.
  - d. Save and exit the Domino Server document.
2. Remove the WebSphereInit directive from the notes.ini file.
  - a. Enter the Work with Domino Servers (WRKDOMSVR) command on an OS/400 command line.
  - b. For the appropriate Domino server instance, specify option 13 (Edit NOTES.INI) to edit the server's notes.ini file.
  - c. Remove the WebSphereInit directive from the notes.ini file.
3. Restart the Lotus Domino Web server.

---

## Troubleshoot the installation

WebSphere Application Server offers several methods you can use to troubleshoot problems. Which method you use depends on the nature of the problem. Generally, you use a combination of these methods to determine the cause of a problem and then decide on an appropriate method for its resolution.

These resources provide general troubleshooting assistance.

- See the Troubleshooting section of the WebSphere Application Server iSeries Information Center.
- Read the WebSphere Application Server Release Notes  
(<http://publib.boulder.ibm.com/was400/docs/relnotes502.html>) .
- Check the WebSphere Application Server FAQ database  
(<http://www.ibm.com/eserver/series/software/websphere/wsappserver/docs/faq.htm>) .
- Refer to the WebSphere Application Server for iSeries newsgroup  
(<news://news.software.ibm.com/ibm.software.websphere.application-server.as400>) . This iSeries Technical Support Web-based forum is dedicated to WebSphere Application Server for iSeries.

### Troubleshoot Step 2: Install WebSphere Application Server for iSeries

- **Wrong version of OS/400 installed on your server.**  
WebSphere Application Server runs on OS/400 versions V5R1 or V5R2. The product can not be installed on OS/400 version prior to V5R1.

- **IBM Development Kit for Java V1.3 is not installed.**  
Local installation from Qshell or using the RUNJVA command requires JDK 1.3. Install product 5722-JV1, option 5 to obtain JDK 1.3. After installing option 5, you should re-install the cumulative PTF package and Java group PTF to pick up any JDK 1.3 specific fixes.
- **Host servers are not started, or failed to start correctly.**  
Remote installation from a Windows workstation requires that the OS/400 host servers be running. To start the host servers, run this command from the OS/400 command line.  
STRHOSTSVR SERVER(\*ALL)  
If errors other than “Host server daemon jobs unable to communicate using IPX.” occur when starting the host servers, follow the instructions in the error message to fix the problem. Once the problem is fixed, start the host servers and attempt to install WebSphere Application Server again.
- **Installation fails due to “Object not found” or “Not authorized” errors.**  
The user profile of the user installing the product must be user type (user class) \*SECOFR and have a value of \*USRCLS for special authority.

#### **Troubleshoot Step 4: Start the WebSphere Application Server environment**

- **Not authorized to user profile QEJBSVR.**  
The user profile invoking STRSBS QEJBAS5/QEJBAS5 must have \*USE authority to user profile QEJBSVR.
- **Server does not start.**  
Prerequisite software may not be installed. See Verify product prerequisites in the *Troubleshooting* topic for more information.
- **Port conflicts**  
Port conflicts may exist if you have a previous version of WebSphere Application Server installed and running. See Check for port conflicts in the *Troubleshooting* topic for information on how to determine if port conflicts exist.



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