

## Installing the Advanced Single Server Edition using iPlanet Web Server on AIX

The steps that follow describe how to install a single configuration of WebSphere Application Server Advanced Single Server Edition that uses the following--

- AIX 4.3.3 or AIX 5.1
- IBM Java 2™ Software Developer's Kit (SDK) 1.3.0
- iPlanet Web Server, Enterprise Edition 4.1
- A single node

See the WebSphere Application Server Supported Hardware, Software, and APIs Web site at [www.ibm.com/software/webservers/appserv/doc/latest/prereq.html](http://www.ibm.com/software/webservers/appserv/doc/latest/prereq.html) to learn which products and fix levels are supported for your level of WebSphere Application Server.

### Steps for installation

[Deciding which steps to follow](#)

[Installing iPlanet Web Server, Enterprise Edition 4.1](#)

[Installing WebSphere Application Server 4.0 -- Advanced Single Server Edition](#)

[Testing the installation](#)

[Testing with an enterprise bean](#) (optional)

### Deciding which steps to follow

First, check the WebSphere Application Server Supported Hardware, Software, and APIs Web site at [www.ibm.com/software/webservers/appserv/doc/latest/prereq.html](http://www.ibm.com/software/webservers/appserv/doc/latest/prereq.html) to ensure that you have the correct prerequisites, including operating system patches. WebSphere Application Server comes with the IBM Java 2™ Software Developer's Kit (SDK) and IBM HTTP Server. Instructions for installation follow:

1. [Installing iPlanet Web Server, Enterprise Edition 4.1](#) describes how to install iPlanet Web Server, verify the installation, and stop the Web server.
2. [Installing WebSphere Application Server 4.0 -- Advanced Single Server Edition](#) describes how to install WebSphere Application Server by using the **Custom Installation** option.
3. [Testing the installation](#) describes how to test the installation and configuration of your WebSphere system.
4. [Testing with an enterprise bean](#) describes how to test your WebSphere configuration by using an enterprise bean and the Increment sample.

### Installing iPlanet Web Server, Enterprise Edition 4.1

This article describes how to do the following:

- Install iPlanet Web Server, Enterprise Edition on an AIX machine from files downloaded from the iPlanet Downloads Web site at [www.iplanet.com/downloads/download/](http://www.iplanet.com/downloads/download/).
- Test the installation of iPlanet Web Server.

These instructions assume the following:

- Your machine has enough memory and disk space for the installation. See the iPlanet Documentation Web site at [docs.iplanet.com](http://docs.iplanet.com) for more information.
- You do not have a previous version of iPlanet Web Server already installed on your machine. If you do have a previous version of iPlanet Web Server installed, you must remove it before installing iPlanet Web Server, Enterprise Edition 4.1.

**Note:** It is recommended that you install iPlanet Web Server before installing WebSphere Application Server. The WebSphere Application Server installation process changes a Web server's configuration so that the Web server directs certain requests (such as servlet requests) to WebSphere Application Server. If the Web server is not installed before WebSphere Application Server, WebSphere Application Server could function incorrectly.

### Installing iPlanet Web Server

Perform the following steps to install iPlanet Web Server:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. Download the appropriate tar.gz file from the iPlanet Downloads Web site at [www.iplanet.com/downloads/download/](http://www.iplanet.com/downloads/download/).
3. Uncompress the .tar.gz file you downloaded by using the **gunzip** utility, as follows:

```
# gunzip -d file_name.tar.gz
```

In this command, *file\_name* is the name of the compressed .tar.gz file you downloaded.

4. Untar the compressed .tar file to extract the iPlanet Web Server filesets by using the **tar** command, as follows:

```
# tar -xvf file_name.tar
```

In this command, *file\_name* is the name of the uncompressed .tar file.

5. Ensure that you are in the directory containing the uncompressed and untarred iPlanet Web Server files.
6. Start the iPlanet Web Server Installation/Uninstallation program by typing the following command:

```
# ./setup
```

The Welcome screen appears.

7. Press Return to exit from the Welcome screen and continue installation.
8. Type **Yes** to accept the software licensing agreement and press Return.
9. A warning screen can appear that alerts you to any potential installation problems. If you want to resolve any problems, type **No** and press Return to exit from the installation program. If you want to proceed with the installation, type **Yes** and press Return to close the warning screen.
10. Choose the type of installation you want to perform by typing the appropriate number and pressing Return. For this example, type **2** for **Typical installation**.
11. Type the full pathname of the directory where the server files and directory structure are to be created, or accept the default location `/usr/netscape/server4`, and press Return.
12. Choose the **iPlanet Web Server, Enterprise Edition** option and indicate that you want to select from all of its components by typing **All** and pressing Return.
13. Choose the components you want to install by typing the number of each, separating each entry from the next with a comma. Press Return. To accept the default components selected for installation (all components except **WAI Support**), press Return.
 

**Note:** See the iPlanet Web Server documentation for descriptions of each component. If you do not install a component and later decide that you want to install it, you can run the iPlanet Web Server Installation/Uninstallation program again and install just the missing component. However, you cannot uninstall individual components after they are installed.
14. If the default *host\_name* (the name of the machine on which you are installing iPlanet) shown in brackets ([]) is correct, press Return. If the *host\_name* differs from the one shown in brackets, type the correct *host\_name*, and press Return.
15. Type the UNIX user name to use when running the default instance of iPlanet Web Server. For this example, accept the default user name `nobody` and press Return.
16. Type the UNIX group name to use when running the default instance of iPlanet Web Server. For this example, accept the default group name `nobody` and press Return.
17. Type the UNIX user name to use when running the Administration Server. In most cases, this is `root`. Press Return.

18. Type the Administration Server user name to use for authentication. For this example, type the default name `admin` and press Return. This user is not a UNIX user, but a user name created in the Netscape environment.
19. Type the Administration Server password to use for authentication. For this example, type the default name `admin` and press Return. This password is not a UNIX password, but a password created in the Netscape environment.
20. Confirm the Administration Server password by typing `admin` again. Press Return to continue.
21. Type a number between 1024 and 65535 for the port on which to run the Administration Server, or accept the default of 8888 and press Return. Note this number for later reference.  
**Note:** If you want to use a port number lower than 1024, you must be logged in as root to start the
22. Type a number for the port on which to run the iPlanet Web Server and press Return. For this example, accept the default of 80. Note this number for later reference.  
**Note:** If you want to use a port number lower than 1024, you must be logged in as root to start the server. If you choose a port number other than 80, the Uniform Resource Locator (URL) used to gain access to your home page different. For instance, if your host is called `www.host_name.com` and you choose port 9753, your server's URL becomes `http://www.host_name.com:9753/`.
23. Specify whether or not you are using a Lightweight Directory Access Protocol (LDAP)-based directory server. For this example, accept the default `No` and press Return.
24. Type the path for the root directory where your server's content files are to reside or accept the default of `server_root/docs`, where `server_root` refers to the directory path to the location of the server files that you specified in Step 11. Press Return.
25. Type `Yes` to indicate that you want to use your own Java2 Software Development Kit (SDK) and press Return.
26. Type the full pathname of the directory in which the Java2 SDK is installed and press Return.
27. A screen can appear that prompts you specify the full pathname of the SDK libraries if they are not found in the `/jre/lib` subdirectory of the SDK directory. For this example, press Return.
28. A screen can appear that lets you specify a pathname to your SDK library classes if they are not found in the `/lib` subdirectory of the SDK directory. For this example, press Return.
29. After the installation program extracts and installs the iPlanet Web Server components, a message opens, indicating that installation is complete. Press Return to exit from the iPlanet Web Server Installation/Uninstallation program.

### Verifying installation of iPlanet Web Server

Perform the following steps to demonstrate that iPlanet Web Server is operating correctly:

1. Ensure that you are the directory that stores the server files (the directory that you specified in Step 11 in the section Installing iPlanet Web Server, Enterprise Edition 4.1). In this example, the directory is `/usr/netscape/server4`.
2. Start iPlanet Web Server by typing the following command:  
  

```
# ./startconsole
```
3. In the Netscape: Password dialog, type the Administration Server user name and password that you specified in Step 18 and Step 19 in the section Installing iPlanet Web Server, Enterprise Edition 4.1 (in this example, `admin`). Click **OK**.
4. On the iPlanet Web Server Administration Server Web page, select the server to administer by clicking the server name button beside the **Select a Server** field, then click **Manage**.
5. On the iPlanet Web Server 4.1 Server Manager Web page, click **Server On**.
6. The Netscape: Security Warning dialog informs you that the information you are about to submit is insecure and could be observed by a third party while in transit. For this example, click **Continue Submission**.
7. The Netscape:Question dialog confirms that the server has started successfully. Click **OK** to continue.
8. Open a browser window and type the Web address `http://host_name/`, where `host_name` is the host name you specified in Step 14 in the section Installing iPlanet Web Server, Enterprise Edition 4.1.
9. The iPlanet Web Server, Enterprise Edition 4.1 Web page opens. Type the Web address `http://host_name:administration_port_number/`, where `administration_port_number` is the port number that you defined in Step 21 in the section Installing iPlanet Web Server, Enterprise Edition 4.1 (8888, for this example).
10. You can be prompted for the Administration Server user name and password. If so, type the Administration Server user name and password that you specified in Step 18 and Step 19 in the section Installing iPlanet Web Server, Enterprise Edition 4.1 (in this example, `admin`). Click **OK**.
11. The iPlanet Web Server Administration Server Web page opens; iPlanet Web Server is installed and operating correctly.

**Note:** You must stop the iPlanet Web Server before installing WebSphere Application Server.

### Stopping iPlanet Web Server

Perform the following steps to stop the iPlanet Web Server:

1. On the iPlanet Web Server 4.1 Server Manager Web page, click **Server Off**.
2. The Netscape: Security Warning dialog informs you that the information you are about to submit is insecure and could be observed by a third party while in transit. For this example, click **Continue Submission**.
3. The Netscape: Question dialog confirms that the server has stopped successfully. Click **OK** to continue.

### Installing WebSphere Application Server 4.0 -- Advanced Single Server Edition

This article describes how to install WebSphere Application Server Advanced Single Server Edition on an AIX machine by using the Custom Installation option.

These instructions assume the following:

- The machine has enough memory and disk space for your installation. See the WebSphere Application Server Supported Hardware, Software, and APIs Web site at [www.ibm.com/software/webservers/appserv/doc/latest/prereq.html](http://www.ibm.com/software/webservers/appserv/doc/latest/prereq.html) for the requirements.
- If you plan to use IBM HTTP Server, you will select it for installation during the WebSphere Application Server installation process. If you plan to use a different supported Web server with WebSphere, you have already installed it on the same machine that will contain WebSphere Application Server.
- You do not have a previous version of WebSphere Application Server already installed on this machine. If you do have a previous version of WebSphere Application Server already installed, do not follow these instructions. Instead, see the article [Migration overview](#).

**Note:** IBM HTTP Server is provided with WebSphere Application Server. If you want to install and use a different supported Web server, you must purchase and install it separately.

Perform the following steps to install WebSphere Application Server:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. If IBM HTTP Server or another Web server is running on your system, stop the Web server.
3. If you have a version of IBM HTTP Server older than version 1.3.19 installed on your machine, you must uninstall it before using the WebSphere Application Server installation program to install IBM HTTP Server 1.3.19.
4. Insert the WebSphere Application Server CD-ROM into the CD-ROM drive.
5. If necessary, use the **mkdir** command to create a mount point for the CD-ROM. The following command creates a mount point at the directory /cdrom; you can mount the CD-ROM at any location on the machine's local file system.

```
# mkdir /cdrom
```

The commands in these steps assume the CD-ROM is mounted at /cdrom. If you mount the CD-ROM at a different location, use that location when issuing commands.

6. Mount the CD-ROM drive by entering the following command:

```
# mount -o ro -v cdrfs /dev/cdnumber /cdrom
```

In this command, *number* is the CD-ROM number for your system, usually 0 (zero). Note that this command assumes that the CD-ROM is mounted at /cdrom.

7. Ensure that your DISPLAY and TERM environment variables are set properly.
8. If the supported Web server or database you plan to use with WebSphere is newer than the version currently required by WebSphere Application Server, you must update the prereq.properties file or disable the prerequisite checking

functionality before installing WebSphere Application Server.

To obtain an updated `prereq.properties` file, download the latest version from the WebSphere Application Server Tools Web site at [www.ibm.com/software/webservers/appserv/tools.html](http://www.ibm.com/software/webservers/appserv/tools.html). Ensure that the updated `prereq.properties` file is downloaded or copied into the local `/tmp` directory.

To disable prerequisite checking functionality, perform the following steps:

- a. Copy the `prereq.properties` file from the `/cdrom` directory to the `/tmp` directory on the machine on which you plan to install WebSphere Application Server.
  - b. Open the `prereq.properties` file in a text editor and disable prerequisite checking for an individual component by changing the value of the specific key from 1 to 0.
  - c. Save the edited `prereq.properties` file.
9. Navigate to the `/cdrom/aix` directory.
  10. If you have not downloaded an updated `prereq.properties` file or disabled the prerequisite checking functionality, start the WebSphere Application Server installation program by using the **install.sh** command, as follows:

```
# ./install.sh
```

If you have downloaded an updated `prereq.properties` file or disabled the prerequisite checking functionality as detailed in [Step 8](#), start the WebSphere Application Server installation program by using the **install.sh** command, as follows:

```
# ./install.sh -prereqfile /tmp/prereq.properties
```

11. The Welcome to the IBM WebSphere Application Server Setup program dialog box opens. Click **Next** to continue.
12. The Install Options dialog box opens. Select **Custom Installation**, and click **Next**.
13. The Choose Application Server Components dialog box opens. Select the components you want to install and deselect the components you do not want to install. Note the following information:
  - o The Java 2 Software Developer's Kit (SDK) is installed by default.
  - o The **Server, Samples, Application Assembly and Deployment Tools, IBM HTTP Server 1.3.19**, and **WebServer Plugins** components are selected for installation by default.
  - o If you plan to use WebSphere Application Server with IBM HTTP Server, ensure that the **IBM HTTP Server 1.3.19** and **Web Server Plugins** options are selected.
  - o If you plan to use WebSphere Application Server with a different supported Web server, ensure that the **Web Server Plugins** option is selected.

**Note:** No plug-ins are required to launch the Application Server or the administrative console. However, for production applications, you will not be able to serve servlets without having installed a supported Web server and corresponding Web server plug-in.

For non-production applications, you can use the internal HTTP transport system to serve servlets without installing a Web server plug-in by using the internal HTTP transport port 9080. For example, to serve the sample snoop servlet by using the internal HTTP transport, enter the URL `http://local_host:9080/servlet/snoop`. The internal HTTP transport mechanism is not designed for use in a production environment.

- o If you plan to install the Web server plug-in for IBM HTTP Server, you must select the **IBM HTTP Server 1.3.19** option, or have it already installed on the machine.
- o These instructions assume that you are installing all of the components.

Click **Next** to continue.

14. If you selected the **Web Server Plugins** option, the Choose Application Server Components dialog box opens. Select the appropriate plug-in for your Web server, and click **Next**.
15. The Select Destination Directory dialog opens. Specify the directory in which you want to install WebSphere Application Server. You can either accept the default destination directory or specify a different one by typing the full pathname or by clicking **Browse**. Note that if you've selected IBM HTTP Server for installation, you cannot modify

the destination directory. Click **Next** to continue.

16. The Install Options Selected dialog box opens. Verify that the information is correct and click **Install** to complete the installation.
17. Depending on the machine's configuration, the Location of Configuration files dialog box can open. It prompts you to enter the full pathname of the directory in which you want to store the specified Web server configuration file. Specify the full pathname of the file by typing it in the field or by clicking **Browse**.
18. The Setup Complete dialog box opens. To view the ReadMe file, ensure that **Yes, I want to view the ReadMe File** is selected and click **Finish**; the ReadMe file is displayed in a default browser window. To view the ReadMe file at a later time, deselect **Yes, I want to view the ReadMe File** and click **Finish** to exit from the WebSphere Application Server installation program.
19. The WebSphere Application Server - First Steps dialog box opens. You can use this GUI to access product information in the InfoCenter, start and stop the application server, run the WebSphere samples, launch the administrative console, or launch the application assembly tool. Because you must first start and possibly configure the Web server before using WebSphere, close this dialog for now. You can launch the First Steps GUI at a later time by running the **firststeps.sh** script located in the /usr/WebSphere/AppServer/bin directory.
20. Unmount the CD-ROM before removing it from the CD-ROM drive by using the **umount** command, as follows:

```
# umount /cdrom
```

21. If you are using a Web server other than IBM HTTP Server, start the server. If you are using IBM HTTP Server and have installed it during the WebSphere Application Server installation, you may need to configure the Web Server to run it successfully.

Perform the following steps to verify that IBM HTTP Server is installed and configured correctly:

- a. Ensure that the Web server is running. If not, start it by entering the following command:

```
# /usr/HTTPServer/bin/apachectl start
```

- b. Start a browser and enter the name of the local machine as the URL. If you see the IBM HTTP Server Web page, the server is installed and configured correctly.

See the IBM HTTP Server documentation Web site at [www.ibm.com/software/webservers/httpservers/library.html](http://www.ibm.com/software/webservers/httpservers/library.html) for more information about configuring IBM HTTP Server.

To enable the Secure Sockets Layer (SSL) for IBM HTTP Server, see the IBM HTTP Server documentation Web site at [www.ibm.com/software/webservers/httpservers/doc/v1319/index.html](http://www.ibm.com/software/webservers/httpservers/doc/v1319/index.html) for more information.

22. Proceed to the article [Testing the installation](#).

## Testing the installation

This article describes how to test the installation and configuration of your WebSphere Application Server system. These instructions assume that you have installed a supported Web server and the WebSphere Application Server component.

Perform the following steps to test your WebSphere installation:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. Start the server by executing the **startServer** script, as follows:

```
# cd /usr/WebSphere/AppServer/bin
# ./startServer.sh
```

Ensure that the server has started successfully by checking the file named Default\_Server\_stdout.log located in the /usr/WebSphere/AppServer/logs directory. The message `Server open for e-business` appears in this file when the server has started successfully.

3. Start a Web browser and enter the following URL:

```
http://machine_name:9090/admin
```

In this command, *machine\_name* represents the name of the machine on which WebSphere is running.

4. The Login dialog opens, and prompts you to enter a user ID to which your configuraton changes will be saved. Enter a user ID and click **Submit**. If you do not care to save changes using your user ID, click **Submit** without entering a user ID and your changes will be saved using the default user ID *User*.

If the user ID you have entered is already in use and in session, you are prompted to do one of the following:

- o Force the existing user ID out of session. The configuration file that was being used by the existing user ID will be saved in a temporary storage area. You will be prompted to load the saved file; choosing not to do so will delete it from the temporary storage area.
  - o Wait for the existing user ID to log out or time out of the session.
  - o Select a different user ID.
5. Administer the application server by performing the following steps:
    - a. When the console opens, a tree view is displayed. Click the plus sign (+) next to **Nodes** entry to expand the view.
    - b. Identify the name of your host machine and expand the view of that entry.
    - c. Click the plus sign (+) next to the **Application Servers** entry to expand the view.
    - d. Select the **Default Server** entry. If the value of the **Execution State** field is **STOP**, click the dropdown menu and select **START**.

After the default server is started initially, it will start automatically if it stops or if you restart the machine.

- e. Click **OK**.
6. Ensure that the Web server is running. If the Web server is not running, start it.
7. Start a Web browser and enter the URL for the snoop servlet, which is a sample servlet that is installed by default, as follows:

```
http://machine_name/servlet/snoop
```

In this command, *machine\_name* represents the name of the machine on which WebSphere is running. Information about /servlet/snoop is displayed.

8. Ensure that you save any changes you want to keep. If you do not save the changes, they will be lost when you close the Web browser.
9. To stop the console, close the Web browser.
10. Proceed to the article [Testing with an enterprise bean](#).

## Testing with an enterprise bean

This article describes how to test your WebSphere configuration by using an enterprise bean and the Increment sample. These instructions assume that you have installed your WebSphere Application Server system and have tested the installation by using the instructions in the article [Testing the installation](#).

Perform the following steps to test your WebSphere configuration using an enterprise bean:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. Ensure that the administrative console is running.
3. Ensure that the default server (located under **WebSphere Administrative Domain > Nodes > node\_name > Application Servers**) is running.
4. Start a Web browser and specify the following URL:

```
http://machine_name/webapp/examples/HitCount
```

In this command, *machine\_name* represents the name of the machine on which WebSphere is running. When the Web page opens, several selection options are displayed.

5. Under the heading **Generate hit count using**, click the radio button for the **Enterprise Java Bean** option.
6. Under the heading **Transaction Type**, click the radio button for the **None** option.
7. Click **Increment**.

If the number of hits is displayed, WebSphere is functioning properly.

## Uninstalling WebSphere Application Server

Perform the following steps to uninstall WebSphere Application Server from a UNIX machine:

1. Ensure that you are logged into the machine with superuser (root) privileges.
2. If IBM HTTP Server or another Web server is running on your system, stop the Web server.

**Note:** Although IBM HTTP Server can be installed using the WebSphere Application Server installation program, it is not uninstalled when you uninstall WebSphere Application Server. It must be uninstalled separately. See the IBM HTTP Server Library Web site at [www.ibm.com/software/webservers/htpservers/library.html](http://www.ibm.com/software/webservers/htpservers/library.html) for more information.

3. Ensure that your DISPLAY and TERM environment variables are set properly.
4. Navigate to the root installation directory (/opt/WebSphere/AppServer on HP-UX, Linux, and Solaris; /usr/WebSphere/AppServer on AIX) and execute the **uninstall.sh** script as follows:

```
# ./uninstall.sh
```

5. The uninstallation program starts and the Uninstall dialog box opens. Click **Uninstall** to remove WebSphere Application Server from the machine.
6. To ensure that subsequent installations of WebSphere Application Server do not conflict with files left on the machine from a previous installation, use the **rm -r** command to remove the WebSphere directory structure. Use caution when executing this command to prevent the unintentional removal of portions of the file system.