

Installing the Advanced Single Server Edition using iPlanet Web Server Enterprise Edition on Solaris--Custom Installation

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

- Solaris 7 or 8
- Java 2 Software Development Kit (SDK) 1.3 (version supplied with WebSphere Application Server)
- 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 to learn which products and fix levels are supported for your level of WebSphere Application Server.

Steps for installation

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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 to ensure that you have the correct prerequisites, including operating system patches. WebSphere Application Server comes with the Java 2 SDK. If you have not already done so, install the Web server, then obtain the product CD-ROM for WebSphere Application Server or download the product from the Web site www.ibm.com/software/webservers/appserv/download.html. Instructions for installation follow:

1. [Installing iPlanet Web Server Enterprise Edition 4.1](#)
2. [Installing WebSphere Application Server--Custom Installation option](#)
3. [Testing the installation](#)
4. [Testing with an enterprise bean](#)

Installing iPlanet Web Server Enterprise Edition 4.1

This article describes how to perform the following procedures on a Solaris SPARC machine from files downloaded from the iPlanet Web site at www.iplanet.com/downloads/download/:

- Install iPlanet Web Server Enterprise Edition
- Test the installation
- Start and stop the Web server and Servlet Engine

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 might function incorrectly.

These instructions assume the following:

- 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 might need to perform migration tasks based on the version

installed. In this case, do not follow these instructions. Instead, refer to iPlanet product documentation on the iPlanet Web Server Documentation Web site at docs.iplanet.com/docs/manuals/.

- Your machine has enough memory and disk space for your installation. See the iPlanet product documentation on the iPlanet Documentation Web site at docs.iplanet.com/docs/manuals/ for the necessary requirements.
- You have checked the WebSphere Application Server Supported Hardware, Software, and APIs Web site at www.ibm.com/software/webservers/appserv/doc/latest/prereq.html to learn what level of iPlanet Web Server you need to download.
- You have downloaded the appropriate version of iPlanet Web Server and any required patches from the iPlanet Web site at www.iplanet.com/downloads/download/ by following the steps given on that Web site.

Installing iPlanet Web Server Enterprise Edition

To install iPlanet Web Server, perform the following steps:

1. Ensure that you are logged into the host machine with superuser (root) privileges.
2. Move to the directory containing the downloaded file.
3. Unzip and extract the files.
4. Start the installation program by typing the following command:

```
# ./setup
```

A welcome window opens.

5. Press Enter to close the welcome window and continue installation.
6. Type **Yes** to accept the software licensing agreement and press Enter.
7. A warning window might appear that alerts you to any potential installation problems and asks if you want to continue with the installation. If you want to resolve any problems, type **No** and press Enter to exit from the installation program. If you want to proceed with the installation, type **Yes** and press Enter to close the warning window.
8. Choose the type of installation you require by typing the appropriate number and pressing Enter. For this example, type 2 for **Typical installation**.
9. Type the directory path for the location where the server files and directory structure are to be installed or accept the default location `/usr/netscape/server4`, and press Enter.
10. 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 Enter.
11. Choose the components you want to install by typing the number of each, separating each entry from the next with a comma. Press Enter. (To accept the default installation of all components except **WAI Support**, press Enter.)

Note: See the iPlanet Web Server documentation for descriptions of each component. If you do not install a component and later decide that you need it, you can run the installer again and install just the missing component; however, you cannot uninstall individual components after they are installed.
12. If the default *host_name* (the name of your host machine) shown in brackets ([]) is correct, press Enter. If your *host_name* differs from the one shown in brackets, type the correct *host_name* and press Enter.
13. Type the UNIX user name to use when running the default instance of iPlanet Web Server. For this example, accept the default user name of `nobody` and press Enter.
14. Type the UNIX group name to use when running the default instance of iPlanet Web Server. For this example, accept the default group name of `nobody` and press Enter.
15. Type the UNIX user name to use when running the Administration Server. In most cases, this is `root`. Press Enter.
16. Type the Administration Server user name to use for authentication. For this example, type the default name `admin` and press Enter. (This user is not a UNIX user, but a user name set up in the iPlanet environment.)
17. Type the Administration Server password to use for authentication. For this example, type the default name `admin` and press Enter. (This password is not a UNIX password, but a password set up in the iPlanet environment.)
18. Retype the Administration Server password and press Enter.
19. 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 Enter. 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.
20. Type a number for the port on which to run the iPlanet Web Server and press Enter. 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 changes. 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/`.

21. Specify whether you are using a Lightweight Directory Access Protocol (LDAP)-based directory server. For this example, accept the default **No** and press Enter.
22. 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 for the location of the server files that you specified in Step 9. Press Enter.
23. Type **Yes** to indicate that you want to use your own Java 2 Software Development Kit (SDK) and press Enter.
24. Type the absolute path to the directory on your system where the SDK is installed and press Enter.
25. A window might appear that prompts you to specify a path name to your SDK libraries if they are not found in the `/jre/lib` subdirectory of the SDK directory. For this example, press Enter.
26. A window might appear that prompts you to specify a path name to your SDK library classes if they are not found in the `/lib` subdirectory of the SDK directory. For this example, press Enter.
27. After the installation program extracts and installs the iPlanet Web Server components, a message is displayed, indicating that installation is complete. Press Enter.

Testing installation of iPlanet Web Server Enterprise Edition and starting the server

To demonstrate that iPlanet Web Server is operating correctly, perform the following steps:

1. Go to the directory that stores the server files (the directory that you specified in Step 9 in the previous section. In this example, the directory is `/usr/netscape/server4`).
2. Start iPlanet Web Server Enterprise Edition by entering the following command:

```
# ./startconsole
```

The **startconsole** command starts the iPlanet Web Server processes and starts a Netscape Navigator session to the Enterprise Administration Server administration page. **Note:** The **startconsole** command requires that Netscape Navigator is installed on the host machine and that the **netscape** executable file is accessible via the `PATH` environment variable. For Netscape Navigator to run, the `TERM` and `DISPLAY` environment variables must be set to the correct values for your terminal type and display name, respectively.

3. In the Netscape:Password window, type the Administration Server user name and password that you specified in Step 16 and Step 17 in the previous section (in this example, `admin`). Click **OK**.
4. In the iPlanet Web Server Administration Server window, select the server by clicking the server name button beside the field **Select a Server**.
5. Click **Manage** beside the server name button.
6. In the iPlanet Web Server Server Manager window, click **Server On**.
7. The Netscape:Security Warning window 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**.
8. The Netscape:Question window confirms that the server has started successfully. Click **OK**.
9. Open a browser window and type the Web address `http://host_name/`, where `host_name` is the host name that you specified in Step 12 in the previous section. A default page provided by the iPlanet installation is displayed.
10. Type the Web address `http://host_name:administration_port_number/`, where `administration_port_number` is the port number that you defined in Step 19 in the previous section. You might be prompted for the Administration Server user name and password.

When these steps are complete, iPlanet Web Server is installed and operating correctly. If you are going to install WebSphere Application Server, you must stop iPlanet Web Server and the iPlanet Servlet Engine.

Stopping iPlanet Web Server Enterprise Edition and the iPlanet Servlet Engine

Before installing WebSphere Application Server, stop the Web Server and Servlet Engine by performing the following steps. (At several points in this process, the Netscape:Security window might open to inform you that the information you are about to submit is insecure and might be observed by a third party while in transit. For this example, click **Continue Submission** in each case.)

1. In the iPlanet Web Server Server Manager window, click **Server Off**.

2. The Netscape:Question window confirms that the server has stopped successfully. Click **OK**.
3. In the iPlanet Web Server Server Manager window, click the **Servlets** tab. The Enable Servlets window opens.
4. Under the **Activate the Servlet Engine?** field, click the radio button beside the **No** option and then click **OK**.
5. The Save and Apply Changes window appears. Click **Save and Apply**.
6. The Netscape:Question window confirms that your changes are saved and applied. Click **OK**.

Installing WebSphere Application Server 4.0--Custom Installation option

This article describes how to install WebSphere Application Server on a local Solaris SPARC machine. These instructions assume the following:

- Your 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 for the requirements.
- You do not have a previous version of WebSphere Application Server already installed. If you do have a previous version of WebSphere Application Server installed, do not follow these instructions. Instead, refer to the article "[Migration overview](#)."
- If you are using IBM HTTP Server as your Web server, you will install it at the same time and onto the same node as you install WebSphere Application Server. If you are using another supported Web server with WebSphere Application Server, you have already installed it onto the same node as WebSphere Application Server.

Note: You must purchase and install any Web server except IBM HTTP Server *before* you install WebSphere Application Server. IBM HTTP Server is supplied with WebSphere Application Server and can be installed automatically during installation of WebSphere Application Server.

To install WebSphere Application Server, do the following:

1. Ensure that you are logged onto the host machine with superuser (root) privileges.
2. If a preexisting Web server on your system is running, stop the Web server. If you plan to install IBM HTTP Server 1.3.19 as part of the WebSphere Application Server installation and a version of IBM HTTP Server prior to 1.3.19 is already installed on your system, you must uninstall it in order for the WebSphere Application Server installation program to successfully install IBM HTTP Server 1.3.19.
3. Insert the WebSphere Application Server CD-ROM and, if necessary, mount the CD-ROM drive. (On most Solaris systems, the Volume Management daemon (**vol**) mounts the CD-ROM automatically and immediately, as well as each time the machine is restarted. If the **vol** process is not running on the local machine, see your Solaris documentation for instructions on how to mount the CD-ROM drive.) The following steps assume that the CD-ROM drive is mounted at /cdrom.
4. Navigate to the correct directory on the WebSphere Application Server CD-ROM by entering the following command:

```
# cd /cdrom/cdrom0/sun
```

5. Ensure that the directory /usr/ucb exists in the PATH environment variable for the *root* login. If it does not, you must edit the **install.sh** script. To edit this script, do the following:
 - a. Copy the **install.sh** script from the /cdrom/cdrom0/sun directory to the /tmp directory on the machine on which you will install WebSphere Application Server.
 - b. Open this script in a text editor and find the line `USERNAME=`/usr/ucb/whoami``.
 - c. Add the following line *before* the line `USERNAME=`/usr/ucb/whoami``:

```
export PATH = $PATH:/usr/ucb
```

- d. Save the edited **install.sh** script.
6. If the supported Web server you plan to use with WebSphere Application Server 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. Ensure that the updated prereq.properties

file is downloaded or copied into the local /tmp directory.

To disable the prerequisite checking functionality, perform the following steps:

- a. Copy the prereq.properties file from the /cdrom/cdrom0/sun 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.

7. Run the installation script in one of following ways depending on the actions you have taken in Step 5 and Step 6:
 - o If you *have* edited the **install.sh** script as detailed in Step 5 but have *not* downloaded a new prereq.properties file or disabled prerequisite checking functionality as detailed in Step 6, run the installation script file by entering the following command:

```
# cd /cdrom/cdrom0/sun
# /tmp/install.sh
```

- o If you *have* edited the **install.sh** script as detailed in Step 5 and *have* downloaded a new prereq.properties file or disabled the prerequisite checking functionality as detailed in Step 6, run the installation script file by entering the following command:

```
# cd /cdrom/cdrom0/sun
# /tmp/install.sh -prereqfile /tmp/prereq.properties
```

- o If you have *not* edited the **install.sh** script as detailed in Step 5 and have *not* downloaded a new prereq.properties file or disabled the prerequisite checking functionality as detailed in Step 6, run the installation script file by entering the following command:

```
# /cdrom/cdrom0/sun/install.sh
```

- o If you have *not* edited the **install.sh** script as detailed in Step 5 and *have* downloaded a new prereq.properties file or disabled the prerequisite checking functionality as detailed in Step 6, run the installation script file by entering the following command:

```
# /cdrom/cdrom0/sun/install.sh -prereqfile /tmp/prereq.properties
```

8. Click **Next** to pass the introductory page.
9. The Install Options window opens. Select **Custom Installation** and then click **Next**.
10. The Choose Application Server Components window 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 Development 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. 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://machine_name:9080/servlet/snoop
```

In this command, *machine_name* represents the name of the machine on which WebSphere Application Server is running. 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.

11. A window opens that lets you select the plug-in. In this window, do the following:
 - a. Select the plug-in option for your Web server.
 - b. Click **Next**.

Only IBM HTTP Server 1.3.19 is provided with WebSphere Application Server. You must separately purchase and install the other supported Web servers.

12. The Select Destination Directory window opens. Specify the directory into 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 its destination directory. Click **Next** to continue.
13. A window opens that lists the options you have selected to install. Click **Install** to begin the installation.
14. If you are installing IBM HTTP Server automatically at the same time as you install WebSphere Application Server, a window opens, prompting you for the full pathname and file name of the configuration file for the IBM HTTP Server, `httpd.conf`. Type the location of this file and click **OK**.
15. The Setup Complete window 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.
16. The WebSphere Application Server - First Steps window opens. You can use the GUI to access product information in the InfoCenter, start or stop the application server, run samples within your application server environment, launch the administrative console, or launch the application assembly tool. Because you must first start and possibly configure your Web server, close this window for now. If you later want to access the First Steps window, do the following:
 - a. Navigate to the directory containing the **firststeps.sh** script (by default, `/opt/WebSphere/AppServer/bin`) by using the **cd** command, as follows:

```
# cd /opt/WebSphere/AppServer/bin
```

- b. Execute the **firststeps.sh** script, as follows:

```
# ./firststeps.sh
```

17. Unmount the CD-ROM by entering the following command:

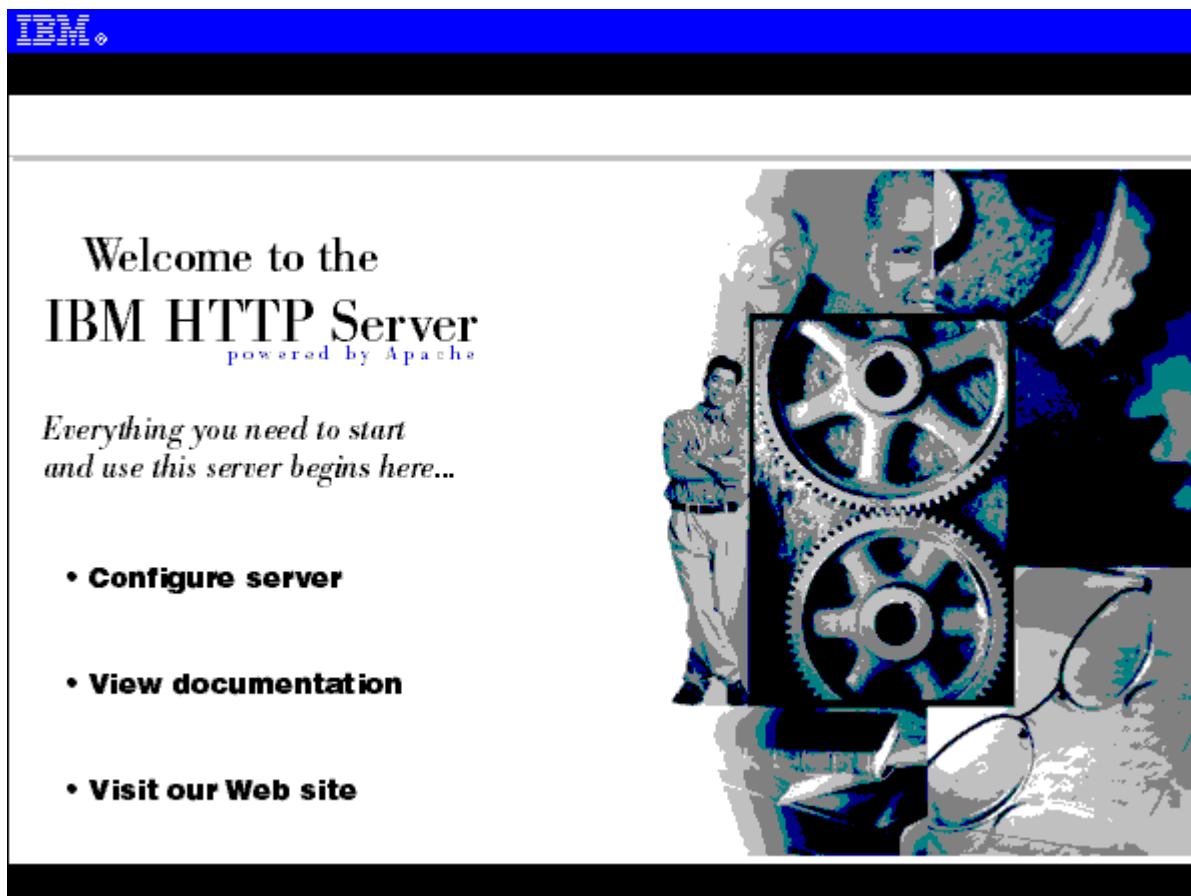
```
# umount cdrom/cdrom0
```

You can now eject the CD-ROM.

18. If you are using a Web server other than IBM HTTP Server, start the server. If you installed IBM HTTP Server as part of the WebSphere Application Server installation, you might need to configure it. Perform the following steps to verify that the IBM HTTP Server is installed correctly:
 - a. Ensure that the Web server is running or start it by entering the following command:

```
# /opt/IBMHTTPD/bin/apachectl start
```

- b. Open a Web browser window and type the name of the host machine as the Universal Resource Locator (URL) (`http://host_machine` or `localhost`). If you see the Welcome to the IBM HTTP Server page, the server has been installed correctly.



Note that you might need to make configuration adjustments to the server in order to run it successfully on your system. See the IBM HTTP Web Server documentation at www.ibm.com/software/webservers/htpservers/library.html for more information.

To enable the Secure Sockets Layer (SSL) on IBM HTTP Server, see the IBM HTTP Server documentation at www.ibm.com/software/webservers/htpservers/doc/v1319/9atstart.htm for more information.

Testing the installation

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

1. Ensure that you are logged into the host machine with superuser (root) privileges.
2. Navigate to the directory containing the **startServer.sh** script (located by default in the /opt/WebSphere/AppServer/bin directory) by using the **cd** command, as follows:

```
# cd /opt/WebSphere/AppServer/bin
```

3. Start the server by entering the following command:

```
# ./startServer.sh
```

Ensure that the server has started successfully by checking the file named default_server_stdout.log located in the /opt/WebSphere/AppServer/logs directory. The message ...open for e-business appears in this file when the server has started successfully.

4. Open a Web browser window and enter the following URL:

```
http://localhost:9090/admin
```

5. The Login window opens and prompts you to enter a user ID to which your configuration 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 an ID and your changes will be saved using the default user ID `User`.

If the user ID you choose 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.
6. Administer the application server by doing the following:
 - a. When the console opens, a tree view is displayed. Click the plus sign (+) next to the **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 and view the information displayed in the right panel. If the value for the **Execution State** field is `STOP`, click the drop-down 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**.
7. Test the server by doing the following:
 - a. Ensure that the Web Server is running. If the Web server is not running, start it.
 - b. Open a Web browser window and enter the URL for the snoop servlet, which is a standard sample servlet installed by default, as follows:

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

In this command, *machine_name* represents the name of the machine on which WebSphere Application Server is running. Information on `/servlet/snoop` is displayed.

8. To stop the console, close the browser. Ensure that you save any changes that you want to keep. Unless you save the changes, they will be lost when you close the browser.

Testing with an enterprise bean

This article describes how to test your WebSphere Application Server installation by using an enterprise bean and the Increment sample. These instructions assume that you have installed and tested your WebSphere Application Server system. Perform the following steps:

1. Ensure that you are logged into the host machine with superuser (root) privileges.
2. Navigate to the directory containing the **startServer.sh** script (located by default in the `/opt/WebSphere/AppServer/bin` directory) by using the **cd** command, as follows:

```
# cd /opt/WebSphere/AppServer/bin
```

3. Start the server by entering the following command:

```
# ./startServer.sh
```

Ensure that the server has started successfully by checking the file named `default_server_stdout.log` located in the `/opt/WebSphere/AppServer/logs` directory. The message `...open for e-business` appears in this file when the server has started successfully.

4. Open a Web browser window and enter the following URL:

```
http://localhost:9090/admin
```

5. The Login window opens and prompts you to enter a user ID to which your configuration 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 an ID and your changes will be saved using the default user ID `User`.

If the user ID you choose 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.
6. Ensure that the **Default Server** is started by doing the following:
 - a. When the console opens, a tree view is displayed. Click the plus sign (+) next to the **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 and view the information displayed in the right panel. If the value for the **Execution State** field is `STOP`, click the drop-down 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**.
7. Ensure that the Web Server is running. If the Web server is not running, start it.
8. 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 Application Server is running. When the Web page opens, several selection options are displayed.

9. Under the heading **Generate hit count using**, click the radio button beside the option **Enterprise Java Bean**.
10. Under the heading **Transaction Type**, click the radio button beside the option **None**.
11. Click **Increment**.

If the number of hits is displayed, WebSphere Application Server is operating 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 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.