Content Server

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Installing Content Server with IBM WebSphere Application Server

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FatWire SOFTWARE

Installing Content Server with IBM WebSphere Application Server
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Chapter 1

Introduction

This document provides guidelines for installing Content Server on IBM WebSphere Application Server 6.1 Network Deployment, connecting to the supported database of your choice.

Note

Anyone using this guide is expected to have experience installing and configuring databases, web servers, and application servers. Selected information regarding the configuration of third-party products is given in this guide. For detailed information about a particular third-party product, refer to that product's documentation.

This chapter provides information that will help you prepare for the Content Server installation. It contains the following sections:

About This Guide

This guide covers the installation, configuration, and maintenance of IBM WebSphere Application Server 6.1 Network Deployment (referred to throughout this guide as WebSphere Application Server and WAS), as required to support Content Server. This includes configuration of one or more WAS instances, backend databases, and integrating WAS with IBM HTTP Server and the Apache web server. Instructions on creating a vertical Content Server cluster are also provided.

How This Guide Is Organized

The content of this guide is organized by function rather than the order in which installation steps are completed. For example, a function such as application deployment is associated with the application server. It is presented in Part II (which covers the application server), even though it is performed, later, when Content Server is installed (Part IV). Each major component of the Content Server installation is covered in its own part. A summary of the installation steps in the required order is given at the end of this chapter (see “Installation Quick Reference,” on page 7).

Graphics in This Guide

Many steps in this guide include screen captures of dialog boxes and similar windows that you interact with in order to complete the steps. The screen captures are presented to help you follow the installation process. They are not intended to be sources of specific information, such as parameter values, options to select, or product version number.

Acronyms and Variables

This guide uses the following acronyms and variables:

Name used by guide	Description
WAS	WebSphere Application Server
DM	Deployment Manager
CS	Content Server
`<DM_host>`	The host name or IP address of the Deployment Manager host.
`<DM_console_port>`	The port number on which the Deployment Manager console is listening for connections.
`<DM_profile>`	The name of the Deployment Manager profile.
`<DM_SOAP_port>`	The number of the Simple Object Access Protocol port of the Deployment Manager.
`<WAS_host>`	The host name of the machine running WAS.

Name used by guide	Description
<server_name>	The name of the WAS server.
<appserv_profile>	The name of the application server profile.
<appserv_cell>	The name of the application server cell.
<appserv_node>	The name of the application server node.

Paths and Directories

This guide uses the following paths and directories:

Name used by guide	Description
<WAS_home>	Path to the directory where WAS is installed. The path includes the name of the directory.
<cs_install_dir>	Path to the directory where Content Server is installed. The path includes the name of the directory.
<cs_shared_dir>	Path to the Content Server shared file system directory. The path includes the name of the shared directory.
<apache_home>	Path to the directory where the Apache web server is installed. The path includes the name of the directory.
<ibm_http_home>	Path to the directory where IBM HTTP Server is installed. The path includes the name of the directory.
<plugin_root>	The path to the plug-in directory of the web server. The path includes the name of the directory.

Installation Quick Reference

After you install and configure the J2EE components that support Content Server, you will run the Content Server installer, which will guide you through the installation process. You will run the installer on each development, delivery, and management system on which you plan to use Content Server. During the Content Server installation, you will have the option to install sample sites and sample content.

Note

The names of the systems in your Content Server environment might differ from the names used in this document. Typically, the management system is also called “staging,” and the delivery system is also called “production.”

The steps below summarize the installation and configuration of Content Server and its supporting software. Keep the steps handy as a quick reference to installation procedures and to chapters that provide detailed instructions.

To install Content Server and its supporting software

Complete the steps below for each development, content management, and production environment.

I. Set Up the Database

Set up your choice of supported databases by installing the database management system, creating a database for Content Server, and configuring the database. For instructions, see our guide *Configuring Third-Party Software.*

II. Set Up the Application Server

Install and configure WebSphere Application Server by following the steps described in Chapter 3, "Installing and Configuring WebSphere Application Server," and summarized below:

1. Install the WebSphere Application Server software, update your installation to the latest version, and modify the WAS start script by following the steps in "Installing WebSphere Application Server," on page 20.
2. Create a WAS instance on which you will install Content Server by following the steps in "Creating a WAS Instance," on page 28.

   If you are creating a Content Server cluster, create a unique WAS instance for each member of the cluster.
3. Configure the WAS instance for database communications, as shown in "Configuring the WAS Instance for Database Communications," on page 37. This step requires you to:
   a. Create a J2C authentication. For instructions, see "Creating a J2C Authentication," on page 37.
   b. Create a JDBC provider. For instructions, see "Creating a JDBC Provider," on page 41.
   c. Create a JDBC data source. For instructions, see "Creating a JDBC Data Source," on page 46.

   If you are creating a Content Server cluster, perform steps b and c for each member of the cluster. Cluster members can share the same J2C authentication.

III. (Optional) Set Up the Web Server

If you plan to integrate WAS with IBM HTTP Server or the Apache web server, follow instructions in Chapter 4, "Setting Up a Web Server."

IV. Install and Configure Content Server

1. Before you run the installer, make sure that:
   - You have created the directory into which you are installing Content Server. The directory name and path cannot contain spaces and the application server must be able to read from and write to that directory.

- For clustered installations, you have created a shared file system directory that all cluster members can read from and write to; the directory name and path cannot contain spaces. Note the following:
  - For delivery systems, the default location of the shared file system directory is the directory containing the directory in which Content Server is installed.
  - For content management and development systems, the default location of the shared file system directory is inside the directory in which Content Server is installed.
- Your system is capable of displaying the CS installer GUI. The installer will not work in text mode.

2. Install Content Server by running the supplied installer. The installer provides online help at each screen, should you need guidance. For more information, see Chapter 5, "Installing and Configuring Content Server."

   Half-way through the installation, the installer will display the "Install Actions" pop-up window. When this window appears, you will have to deploy the CS application. For instructions, see "Deploying the Content Server Application," on page 52.

   If you are using an Oracle database and will require text attributes greater than 2000 characters, you will have to set the `cc.bigtext` property to `CLOB` after the CS application is deployed. For instructions, see step 5 in "Running the Installer," on page 86.

3. Complete the Content Server installation by performing the following steps:

   a. If you installed Content Server on Unix, set the permissions for Content Server binaries by following the steps in "Setting File Permissions (Unix Only)," on page 87.

   b. Verify the Content Server installation by logging in as the administrator. For instructions, see "Verifying the Installation," on page 87.

   c. If you are creating a vertically clustered system, follow instructions in "Setting Up a Content Server Cluster (Optional)," on page 92.

   d. Once the entire installation is completed and verified, set up Content Server for its business purpose. For instructions, see the *Content Server Administrator's Guide* and the *Content Server Developer's Guide*.

Part 1

Database

This part contains a short chapter summarizing the databases that Content Server uses. Instructions on creating and configuring the databases are given in our guide, *Configuring Third-Party Software.*

This part contains the following chapter:

- Chapter 2, “Setting Up a Database”

Chapter 2

Setting Up a Database

Content Server requires access to a database that is specifically configured for Content Server. The list of supported databases (as well as other third-party components) is given in the *Supported Platform Document*, accessible from:

`http://e-docs.fatwire.com/CS`

(Click the Content Server version number, and on the Content Server page, click the **Supported Platform Document** link.)

Before installing any other of Content Server's supporting software, you must complete the following steps:

1. Install the database management system.
   For instructions, refer to the product vendor's documentation.
2. Create and configure a database for Content Server.
   For instructions, consult our guide *Configuring Third-Party Software*. Note that database configuration is identical across different application servers. Refer to the correct chapter to create and configure the database of your choice.

Part 2

Application Server

This part contains information about installing and configuring WebSphere Application Server to support Content Server.

This part contains the following chapter:

- Chapter 3, “Installing and Configuring WebSphere Application Server”

Chapter 3

Installing and Configuring WebSphere Application Server

The chapter shows you how to install and configure WebSphere Application Server for Content Server.

This is not an exhaustive chapter, as it covers the installation of WAS only so far as needed to install and run Content Server. For more details, see the WAS documentation.

This chapter contains the following sections:

Start/Stop Commands

This section lists the commands for starting and stopping WAS components.

Deployment Manager

Note

The default Deployment Manager profile name is `Dmgr01`.

To start:

- On Windows:

  `<WAS_home>\bin\startManager.bat -profileName <DM_profile>`
- On Unix:

  `<WAS_home>/bin/startManager.sh -profileName <DM_profile>`

To stop:

- On Windows:

  `<WAS_home>\bin\stopManager.bat -profileName <DM_profile>`
- On Unix:

  `<WAS_home>/bin/stopManager.sh -profileName <DM_profile>`

Node Agent

Note

The default name of the first application server profile created is `AppSrv01`.

To start:

- On Windows:

  `<WAS_home>\bin\startNode.bat -profileName <appserv_profile>`
- On Unix:

  `<WAS_home>/bin/startNode.sh -profileName <appserv_profile>`

To stop:

- On Windows:

  `<WAS_home>\bin\stopNode.bat -profileName <appserv_profile>`
- On Unix:

  `<WAS_home>/bin/stopNode.sh -profileName <appserv_profile>`

Application Server

Note

The default server name is `server1`.

The default name of the first application server profile created is `AppSrv01`.

To start:

- On Windows:

```
<WAS_home>\bin\startServer.bat <server_name> -profileName
   <appserv_profile>
```

- On Unix:

```
<WAS_home>/bin/startServer.sh <server_name> -profileName
   <appserv_profile>
```

To stop:

- On Windows:

```
<WAS_home>\bin\stopServer.bat <server_name> -profileName
   <appserv_profile>
```

- On Unix:

```
<WAS_home>/bin/stopServer.sh <server_name> -profileName
   <appserv_profile>
```

Installing WebSphere Application Server

This section describes how to install WebSphere Application Server. It contains the following steps:

A. Installing WebSphere Application Server

To install WebSphere Application Server

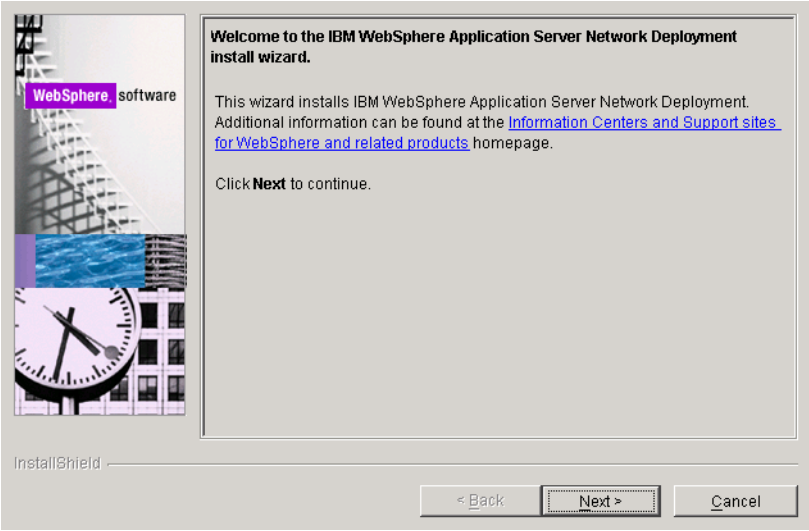
1. Create the directory where WAS will be installed. Make sure the WAS installer can read from and write to this directory.

> **Note**
>
> Throughout this guide, the directory where WAS is installed is referred to as `<WAS_home>`.

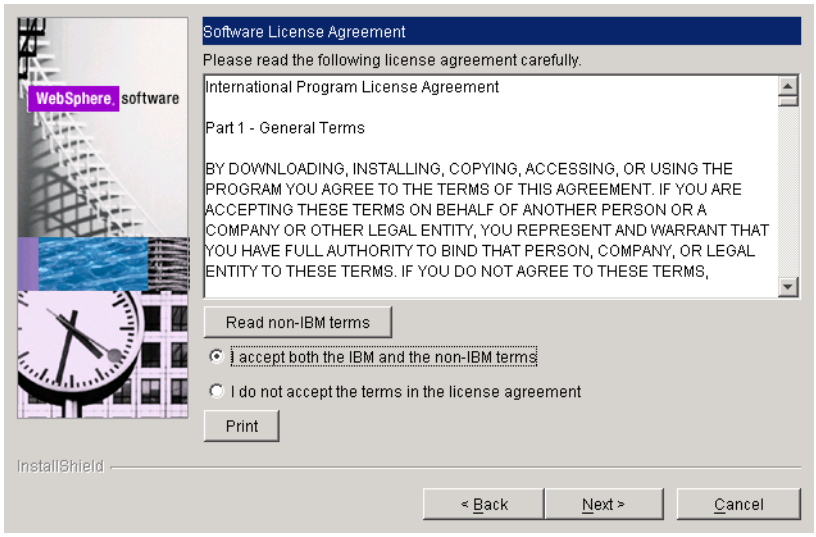
2. Decompress the WAS installation package into a temporary directory.
3. Run the WAS installer located in the `WAS` subdirectory:
   - On Windows: **`<temp_dir>\WAS\install.exe`**
   - On Unix: **`<temp_dir>/WAS/install.sh`**

> **Note**
>
> If you are installing on Unix, make sure the `DISPLAY` variable is set.

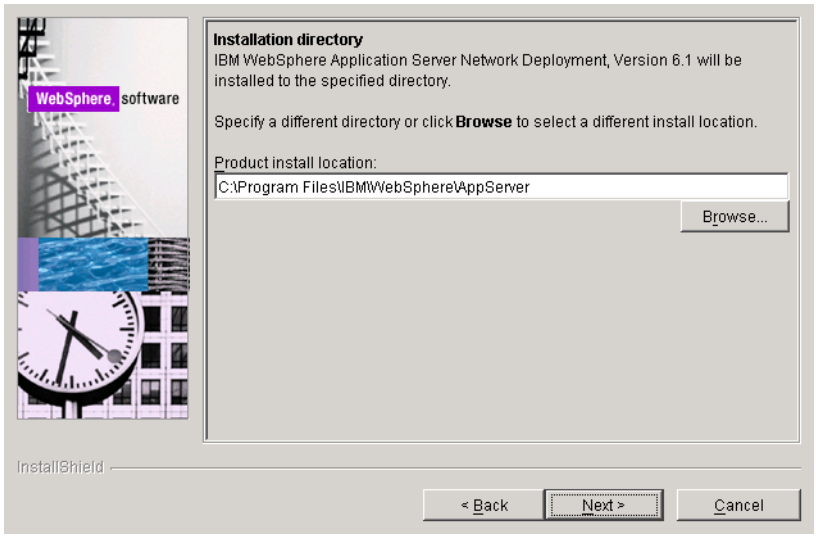
4. In the "Welcome" screen, click **Next**.



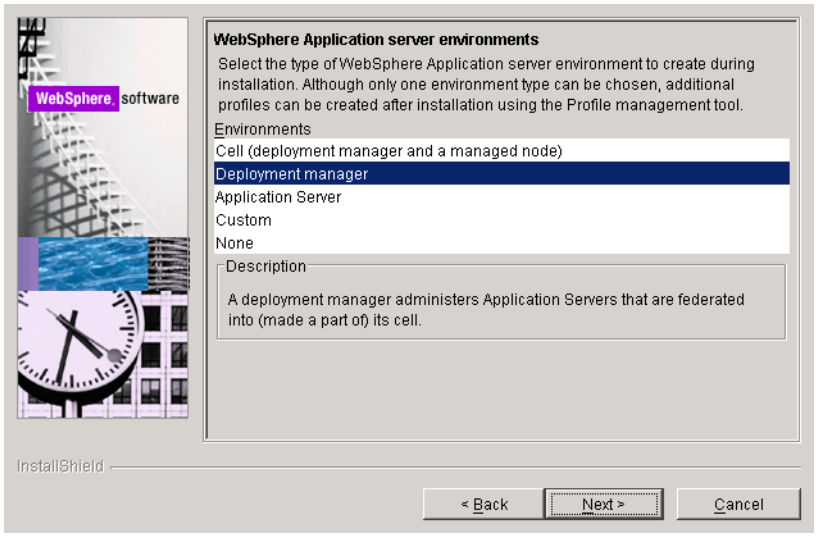
5. In the “Software License Agreement” screen, select **I accept both the IBM and the non-IBM terms** and click **Next**.



6. In the “Install Sample Application” screen, click **Next**.
7. In the “Installation Directory” screen, browse to the `<WAS_home>` directory you created in step 1 and click **Next**.

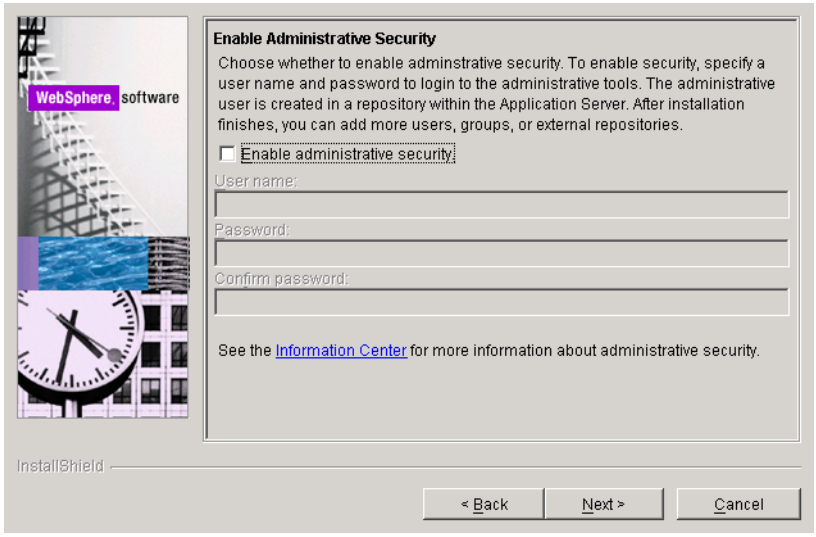


8. In the “WebSphere Application Server environments” screen, select **Deployment manager** and click **Next**.



9. In the “Enable Administrative Security” screen, do one of the following:
   - If you wish to enable administrative security, select the **Enable administrative security** check box and enter a user name and password. (Re-enter the password for verification.)
   - If you do not wish to enable administrative security, leave the **Enable administrative security** check box deselected and click **Next**.

   For more information on the administrative security option, consult the WebSphere documentation.



10. In the “Installation Summary” screen, click **Next**.
11. When the installation completes successfully, click **Finish**.

B. Installing the Update Installer

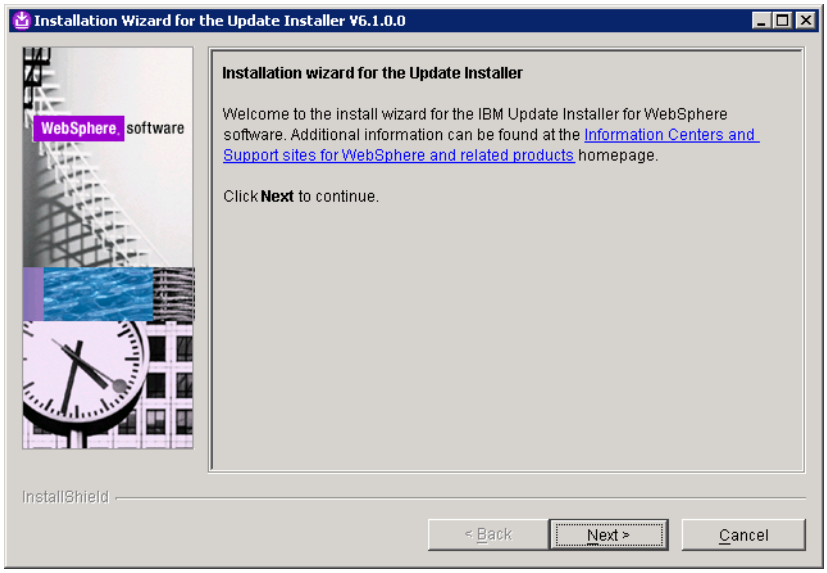
In order to ensure your WAS installation has the latest patches and fixes, you must update it using the IBM Update Installer. This section explains how to install the Update Installer. The next section explains how to update your WAS installation using the Update Installer.

To install the IBM Update Installer

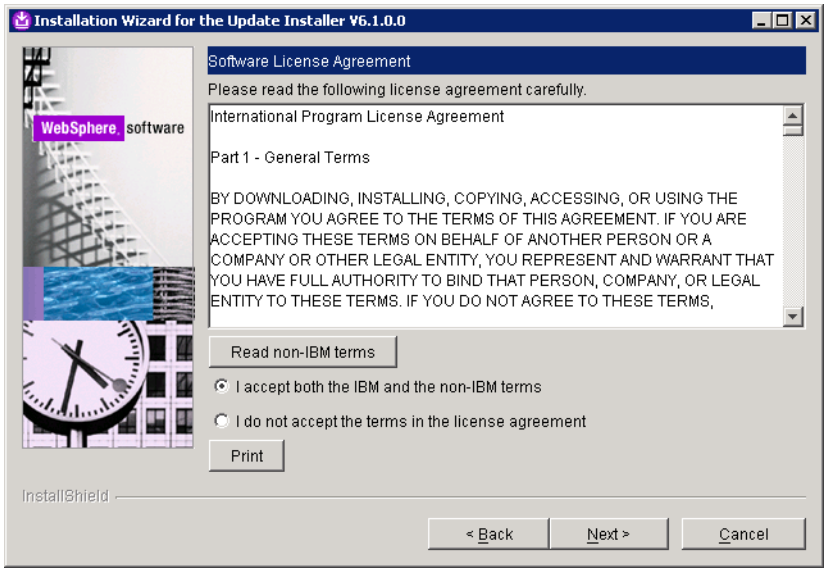
1. Decompress the Update Installer archive into a temporary directory.
2. Start the installation process by executing the following command:
   - On Windows:

     `<temp_dir>\UpdateInstaller\install.exe`
   - On Unix:

     `<temp_dir>/UpdateInstaller/install.sh`
3. In the "Installation Wizard for the Update Installer" screen, click **Next**.

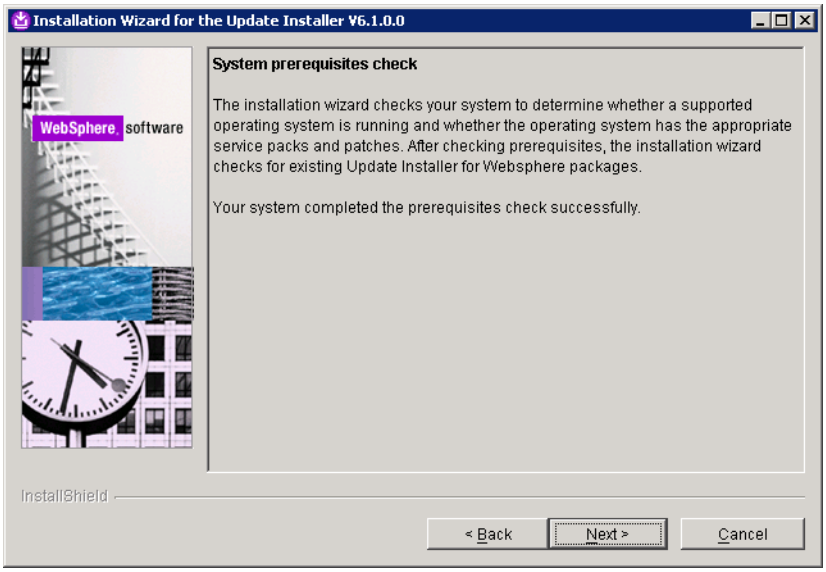


4. In the “Software License Agreement” screen, select **I accept both the IBM and the non-IBM terms** and click **Next**.



5. In the “System prerequisites check” screen, do one of the following:
   - If the system prerequisites check is successful, click **Next**.
   - If the system prerequisites check reports that your JDK version is incorrect, stop and restart the installation. The installer will update your JDK to the latest version and restart.

     When the installer restarts, go back to step 3 of this procedure.

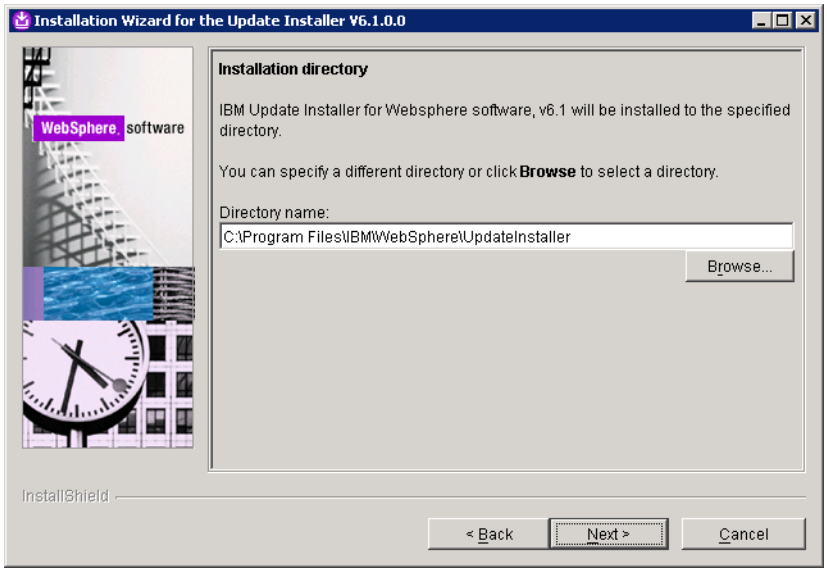


6. In the “Installation directory” screen, specify the directory in which you want to install the Update Installer. This directory must reside inside the `<WAS_home>` directory.

   For example:

   ```
   <WAS_home>/UpdateInstaller
   ```

   When you are finished, click **Next**.



7. In the “Installation Summary” screen, click **Next**.
8. When the installation completes successfully, click **Finish**.

C. Updating the WAS Installation Using the Update Installer

After installing the Update Installer, you must run it to update your WAS installation to the latest version.

> **Note**
>
> Before running the Update Installer, obtain the latest WAS maintenance package (`.pak` file). Maintenance packages are available from the IBM support site.

To update the WAS installation to the latest version

1. Run the Update Installer:
   - On Windows:

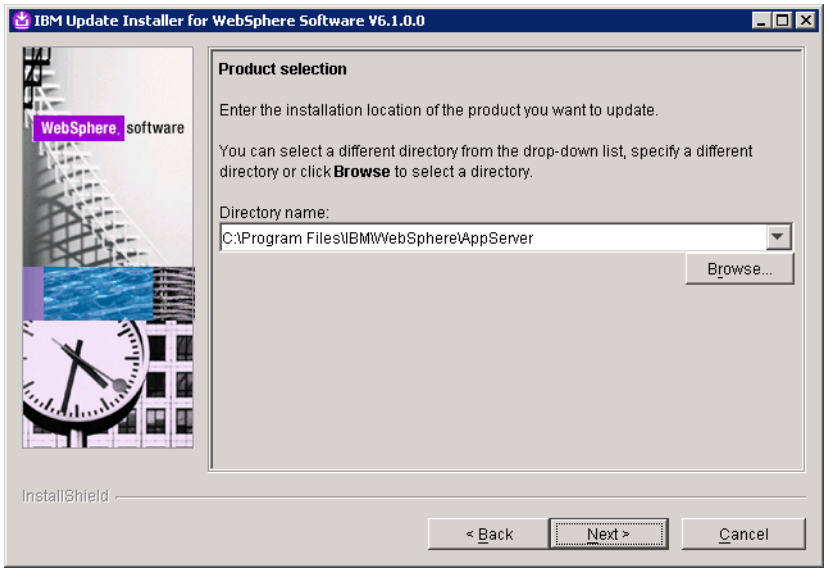
     ```
     <WAS_home>\<update_installer_dir>\update.bat
     ```

   - On Unix:

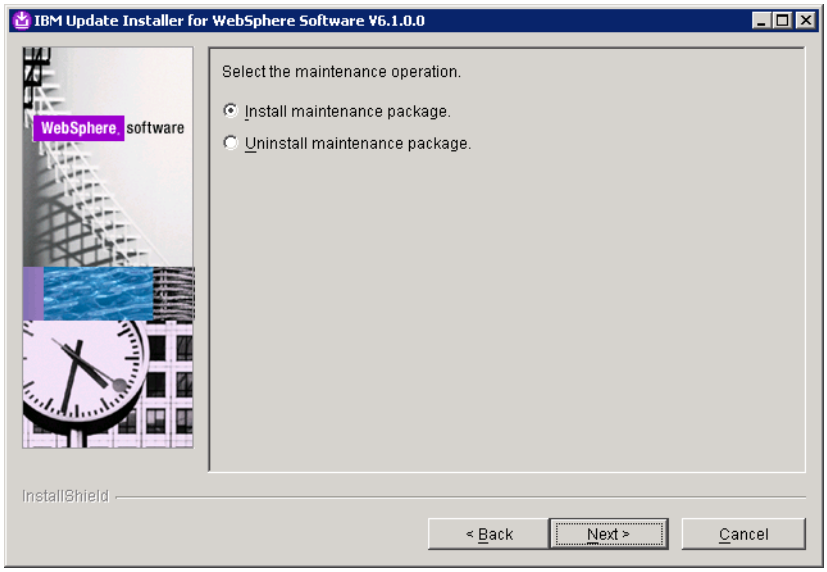
     ```
     <WAS_home>/<update_installer_dir>/update.sh
     ```

2. In the “Before Installing” screen, click **Next**.

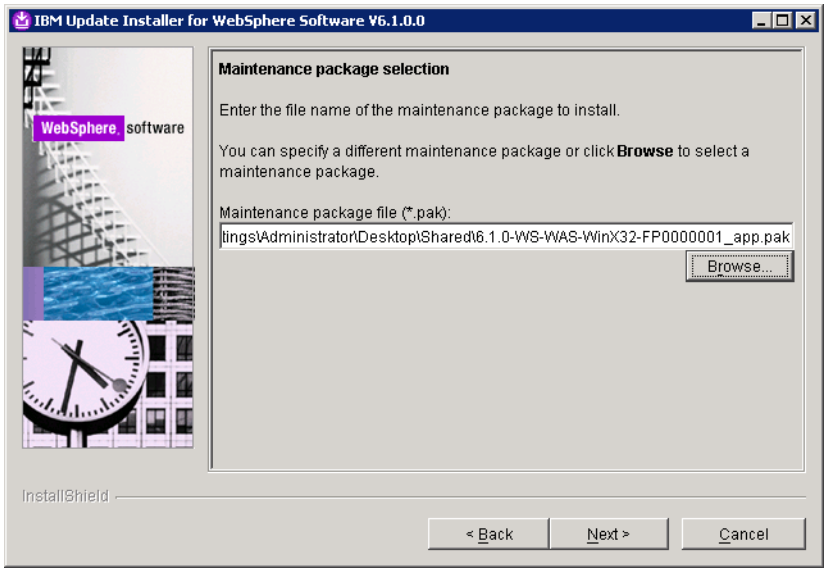
3. In the “Product selection” screen, browse to the `<WAS_home>` directory and click **Next**.



4. In the “Select the maintenance operation” screen, select **Install maintenance package** and click **Next**.



5. In the “Maintenance package selection” screen, browse to the appropriate maintenance package (`.pak` file) and click **Next**.



6. In the “Maintenance packages selected” screen, click **Next**.
7. When the update process completes successfully, click **Finish**.

D. Modifying the WAS Start Script

For WAS to properly support Content Server, you must make the following modifications to the WAS start script:

To modify the WAS start script

1. Open the WAS start script file in a text editor. The location and name of the file are:
   - On Windows: `<WAS_home>\bin\startServer.bat`
   - On Unix: `<WAS_home>/bin/startServer.sh`
2. Locate the line that begins with `set CLASSPATH=` and add the following string at the end of that line:

   ```
   -Dhkr=true -Dfile.encoding=UTF-8
   ```
3. (Unix only) Add the following line after the initial comment section:
   - For Unix:

     ```
     <LIBRARY_PATH>=<cs_install_dir>/bin:<LIBRARY_PATH>
     ```
   - For HP-UX:

     ```
     <SHLIB_PATH>=<cs_install_dir>/bin:<SHLIB_PATH>
     ```
   - For Linux and Solaris:

     ```
     <LD_LIBRARY_PATH>=<cs_install_dir>/bin:<LD_LIBRARY_PATH>
     ```
   - For AIX:

     ```
     <LIBPATH>=<cs_install_dir>/bin:<LIBPATH>
     ```
4. (Windows only) Add `<cs_install_dir>/bin` to your system path variable.

Creating a WAS Instance

This section shows you how to create an application server instance using the Profile Management Tool and the command line.

Note

For 32-bit platforms, we recommend that you use the Profile Management Tool to create the necessary profiles. For 64-bit platforms, you will need to use the command-line tool, `manageprofiles.sh`, as the Profile Management Tool is not available for 64-bit platforms.

This section contains the following procedures:

- Creating a WAS Instance Using the Profile Management Tool
- Creating a WAS Instance Using the Command Line

Creating a WAS Instance Using the Profile Management Tool

This section shows you how to create a WAS instance using the Profile Management Tool.

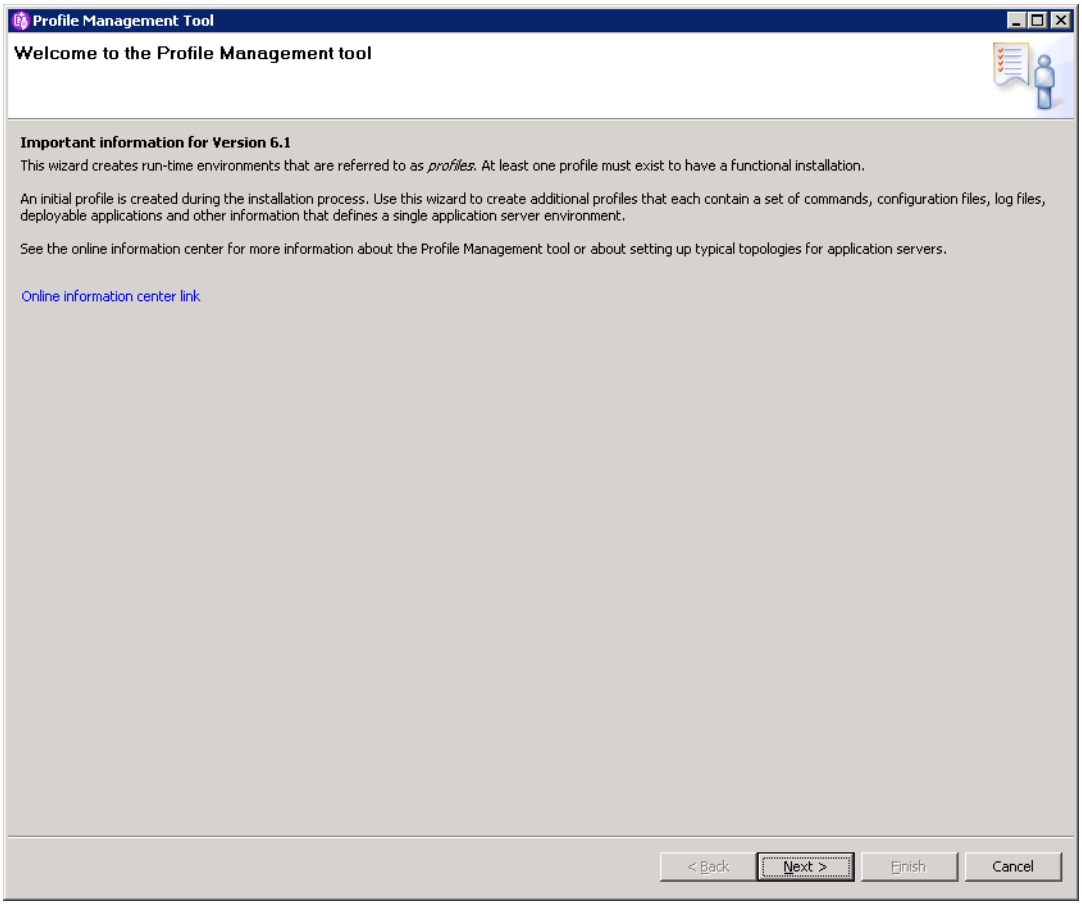
To create a WAS instance using the Profile Management Tool

1. Run the Profile Management Tool:
   - On Windows: **`<WAS_home>\bin\ProfileManagement\pmt.bat`**
   - On Unix: **`<WAS_home>/bin/ProfileCreator/pct<OS_type>.bin`**

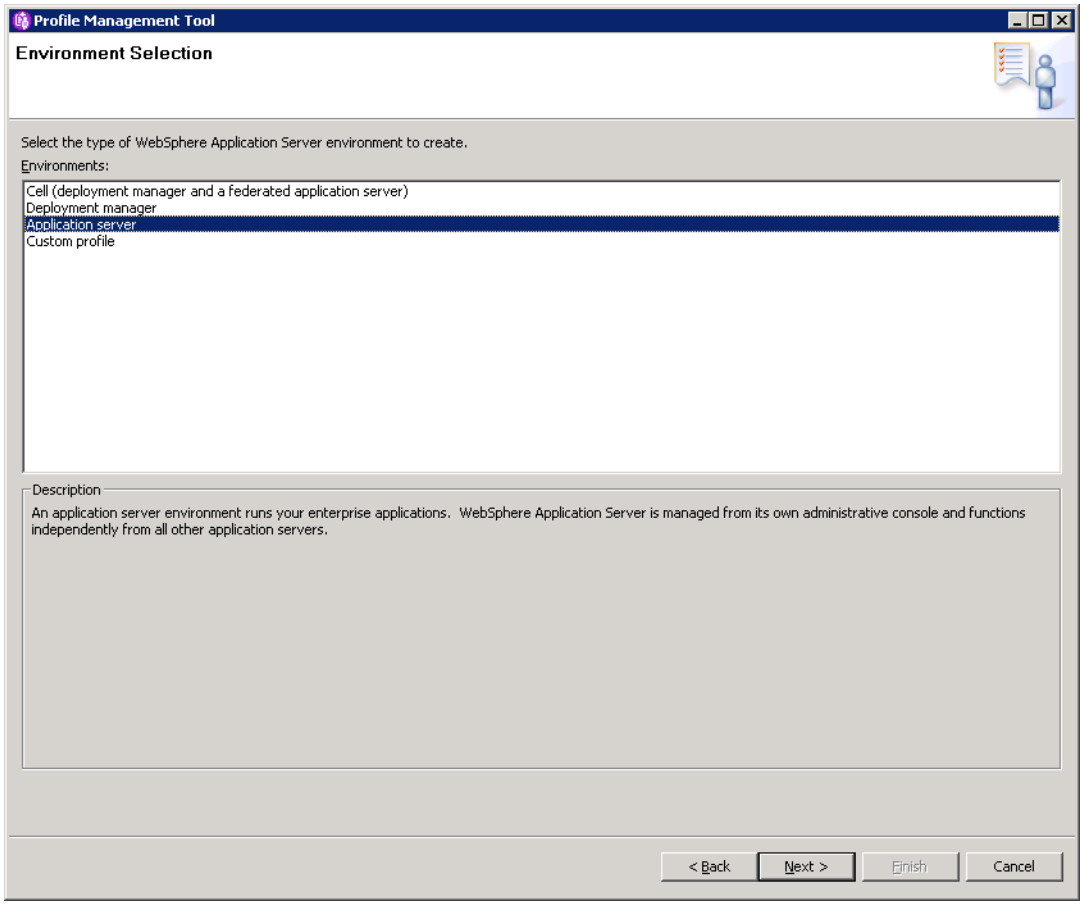
   Note

   If you are running the Profile Management Tool on Unix, run the version of the tool appropriate to your operating system. The `ProfileCreator` directory contains multiple versions of the tool that correspond to different versions of the Unix operating system.

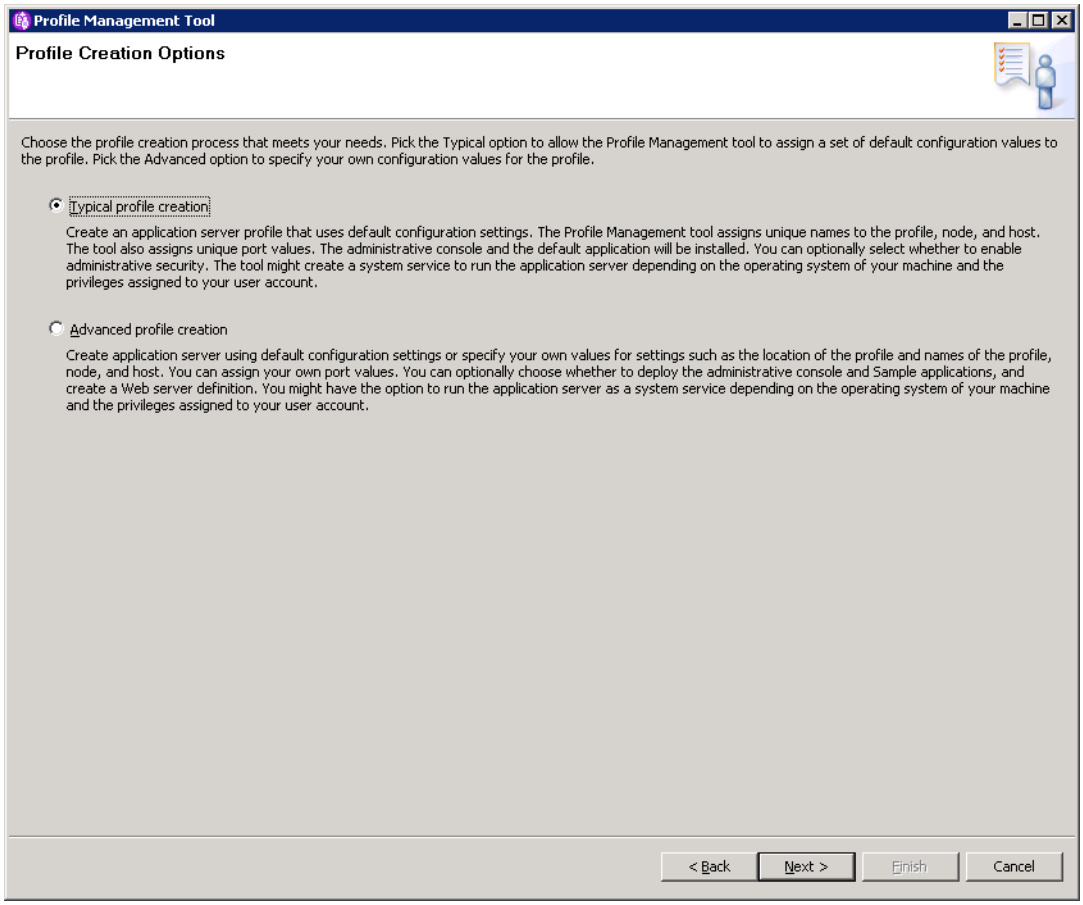
2. In the “Welcome” screen, click **Next**.



3. In the “Environment Selection” screen, select **Application server** and click **Next**.

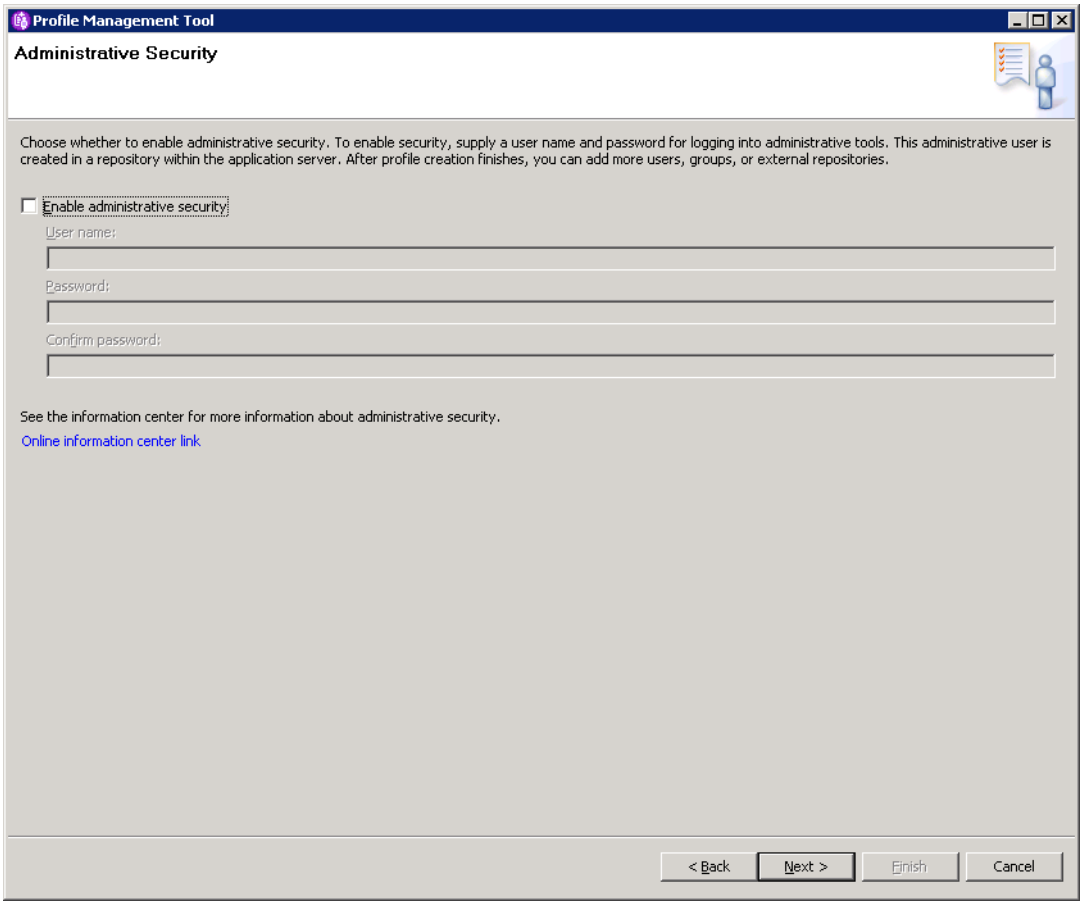


4. In the “Profile Creation Options” screen, do one of the following:
   - To use the default profile name, node name, and port numbers, select **Typical profile creation** and click **Next**.
   - If you wish to specify your own profile name, node name, or port numbers, select **Advanced profile creation** and click **Next**.



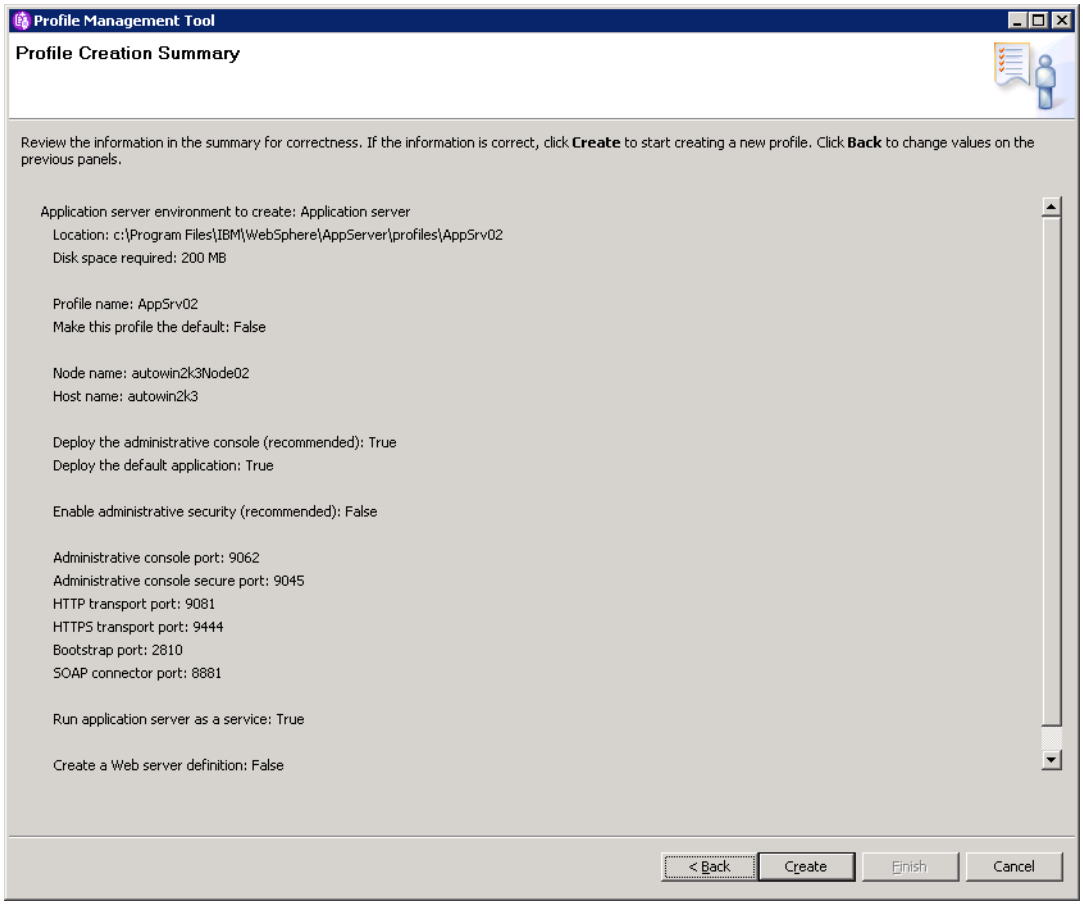
5. In the “Administrative Security” screen, do one of the following:
   - If you wish to enable administrative security, select the **Enable administrative security** check box and enter a user name and password. (Re-enter the password for verification.)
   - If you do not wish to enable administrative security, leave the **Enable administrative security** check box deselected and click **Next.**

   For more information on the administrative security option, consult the WebSphere documentation.

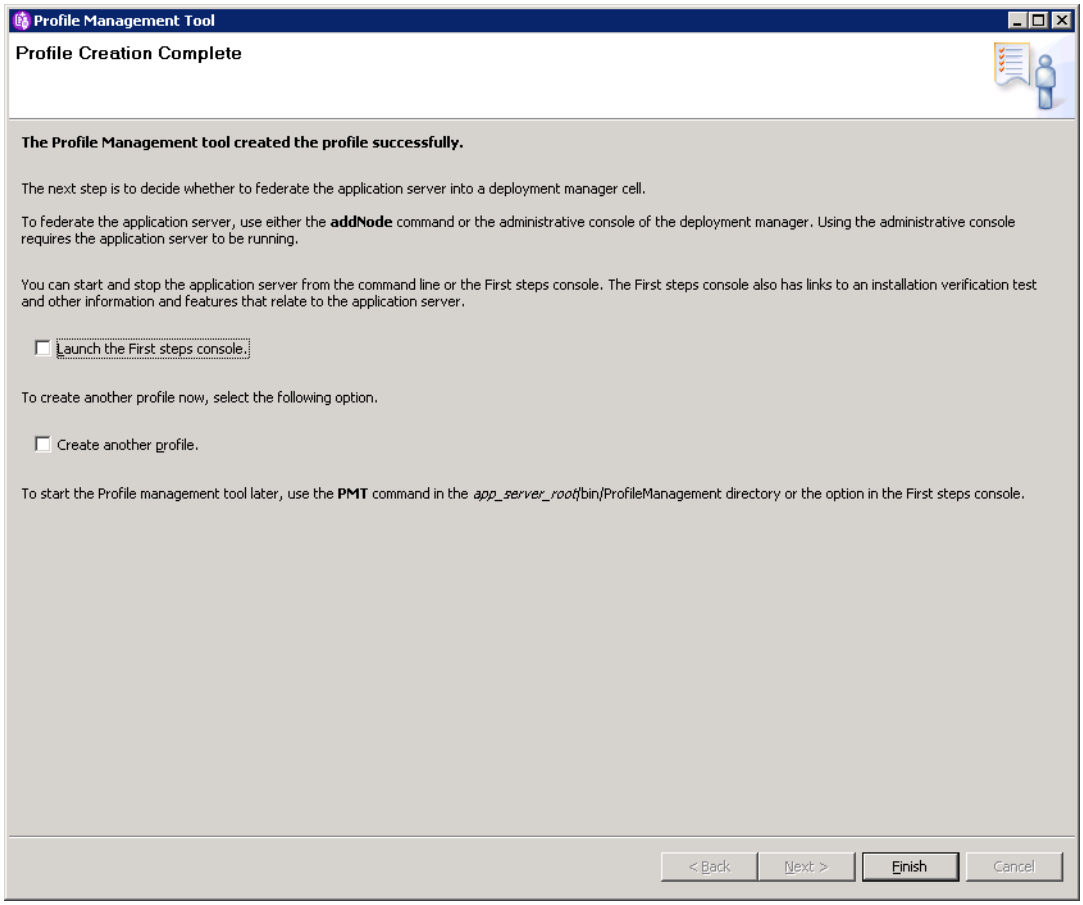


6. In the “Profile Creation Summary” screen, review the settings you have chosen. Write down the values of the following parameters for reference during further configuration:
   - **Profile name**
   - **Node name**
   - **HTTP transport port**
   - **HTTPS transport port**

   When you are finished, click **Create**.



7. In the “Profile Creation Complete” screen, deselect the **Launch the First steps console** check box and click **Finish**.



8. If you are creating a Content Server cluster, repeat this procedure for each member of the cluster.

Creating a WAS Instance Using the Command Line

This section shows you how to create a WAS instance using the command line.

Note

On Windows, the names of the command-line tools used in this section end with `.bat` instead of `.sh`. Remember to make the necessary substitution when executing the commands on a Windows system.

To create a WAS instance using the command line

1. Change to the `<WAS_home>/bin` directory.
2. List existing profiles by executing the following command:

   `./manageprofiles.sh -listProfiles`

   A typical response from this command looks as follows:

   ```
   [Dmgr01]
   [AppSvr01]
   ```

   In this example, there are two existing profiles: a Deployment Manager profile named `Dmgr01`, and an application server profile named `AppSvr01`.
3. (Optional) Delete any unwanted profiles. Do the following:
   a. Stop the unwanted server instances (for instructions, see "Start/Stop Commands," on page 18).
   b. Delete each unwanted profile by executing the following command:

      `./manageprofiles.sh -delete -profileName <profile_name>`

   c. Delete the leftover profile directory, `<WAS_home>/<profile_name>`.
4. Create a Deployment Manager profile by executing the following command:

   Note

   The default parameter values for this command are as follows:

   - `<appserv_cell>` is typically `<WAS_host>Cell01`
   - `<appserv_node>` is typically `<WAS_host>managerNode01`
   - `<DM_profile>` is typically `Dmgr01`
   - `<appserv_profile>` is typically `AppServ01`

   Note the parameter values you specify in this step. You must use them when creating the application server profile in the next step.

   ```
   ./manageprofiles.sh -create \ -templatePath <WAS_home>/
      profileTemplates/dmgr \ -nodeProfilePath /<WAS_home>/
      profiles/<appserv_profile> \ -profileName <DM_profile> \
      -cellName <appserv_cell> \ -nodeName <appserv_node> \
      -isDefault -defaultPorts -validatePorts
   ```

5. Create an application server profile by executing the following command:

> **Note**
>
> The default parameter values for this command are as follows:
>
> - `<appserv_cell>` is typically `<WAS_host>Cell01`
> - `<appserv_node>` is typically `<WAS_host>managerNode01`
> - `<DM_profile>` is typically `Dmgr01`
> - `<appserv_profile>` is typically `AppServ01`
>
> If you are not using the defaults, make sure you are using the parameter values you specified in step 4.

```
./manageprofiles.sh -create \ -templatePath <WAS_home>/
   profileTemplates/default \ -profileName <appserv_profile> \
   -cellName <appserv_cell> \ -nodeName <appserv_node> \
   -isDefault
```

6. Start the Deployment Manager using the Deployment Manager profile you created (for instructions, see "Start/Stop Commands," on page 18).
7. Start the new application server instance (for instructions, see "Start/Stop Commands," on page 18).
8. Federate the WAS instance with the Deployment Manager by executing the following command:

> **Note**
>
> The default Deployment Manager SOAP port is `8879`.

```
./addNode.sh <DM_host> <DM_SOAP_port>
```

9. Stop the Application Server (for instructions, see "Start/Stop Commands," on page 18).
10. Stop the Node Agent (for instructions, see "Start/Stop Commands," on page 18).
11. Stop the Deployment Manager (for instructions, see "Start/Stop Commands," on page 18).
12. (Optional) If you are creating a Content Server cluster, repeat this procedure for each member of the cluster.

Configuring the WAS Instance for Database Communications

This section explains how to configure the WAS instance you created in the previous section to communicate with the database Content Server will be using.

This section contains the following steps:

Note

- Before completing the steps in the rest of this chapter, start the following WAS components, in the order shown. For a list of commands for starting and stopping WAS components, see "Start/Stop Commands," on page 18.
  1. Deployment Manager
  2. Node Agent
  3. Application Server
- If you are using an Oracle database and require text attributes greater than 2000 characters, you will have to set `cc.bigtext` to `CLOB`. To support `CLOB`, use Oracle database 9.2.0.6 (or a higher supported version). Also use Oracle 10g drivers. (`CLOB` is not supported for lower database versions and for Oracle drivers 9x [thin, type 4].)

  You will set `cc.bigtext` to `CLOB` when you run the Content Server installer (as explained in "Running the Installer," on page 86).

A. Creating a J2C Authentication

The J2C authentication contains the login information that WAS will use to connect to the Content Server database.

A J2C authentication is the first of the three components required to set up your WAS instance to connect to your database.

If you are creating a Content Server cluster, the cluster members can share the same J2C authentication.

To create a J2C authentication

1. Log in to the Deployment Manager console:

   Note

   The default Deployment Manager console port is `9060`.

   a. Point your browser to the following URL:

   `http://<DM_host>:<DM_console_port>/admin`

b. Enter your user name and password.

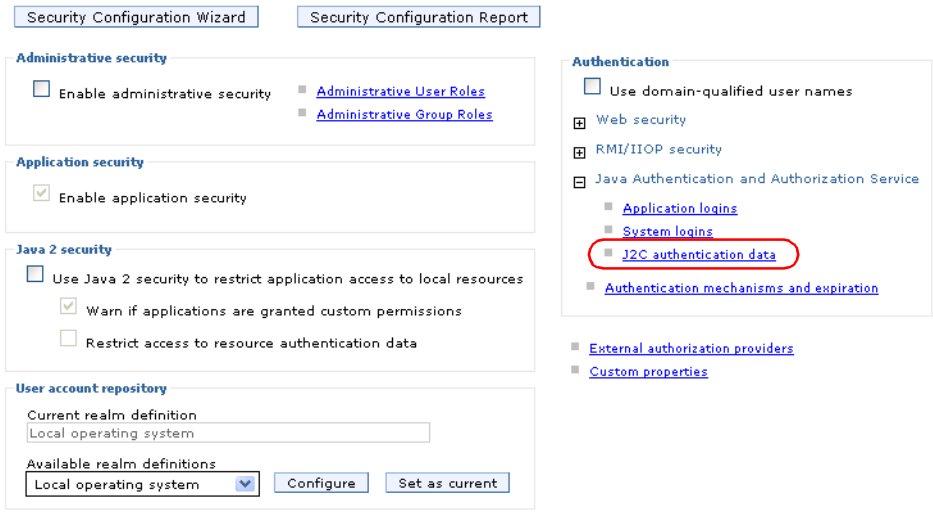
c. Click **Log in**.

The Deployment Manager console loads.

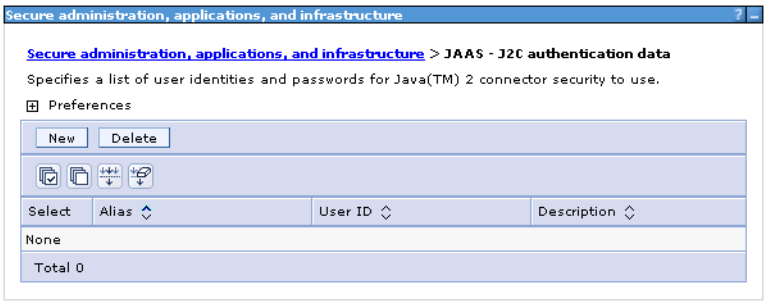
2. In the left-hand pane, expand the **Security** node.

3. Under the **Security** node, select **Secure administration, applications, and infrastructure**.

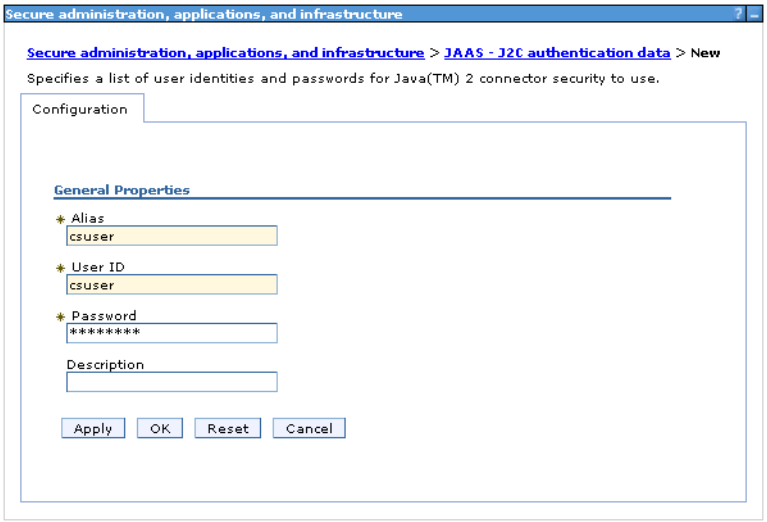
4. In the "Authentication" area in the right-hand pane, expand the **Java Authentication and Authorization Service** node and click **J2C authentication data**.



The console displays the "JAAS – J2C authentication data" screen.

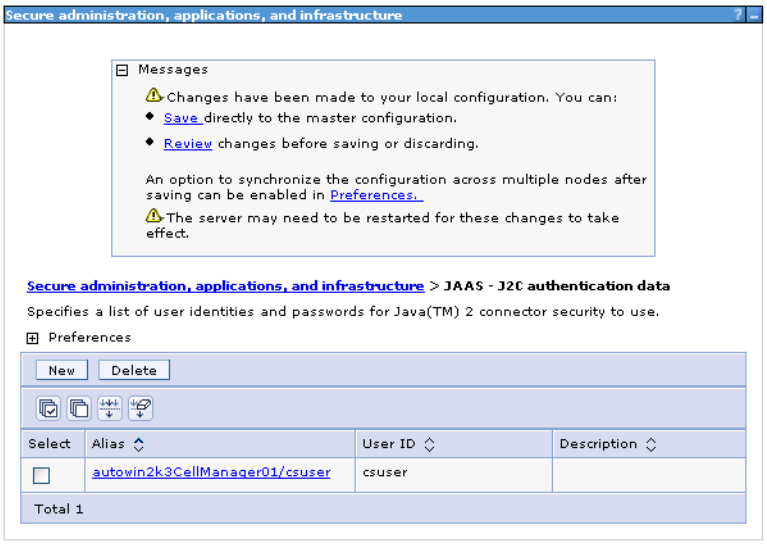


5. In the "JAAS – J2C authentication data" screen, click **New**. The console displays the "Configuration" tab.



6. In the "Configuration" tab, do the following:
   a. In the **Alias** field, enter a unique alias for this J2C authentication.
   b. In the **User ID** and **Password** fields, enter the credentials of the database user account WAS will use to connect to the Content Server database. (Re-enter the password for verification.)

c. When you are finished, click **OK**. The J2C authentication you created appears in the list in the "JAAS – J2C authentication data" screen.

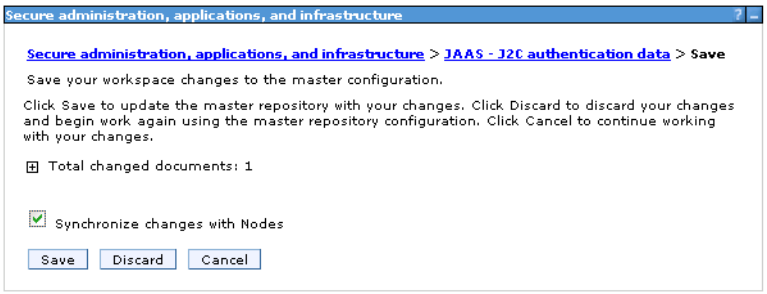


7. In the "Messages" box, click **Save**.

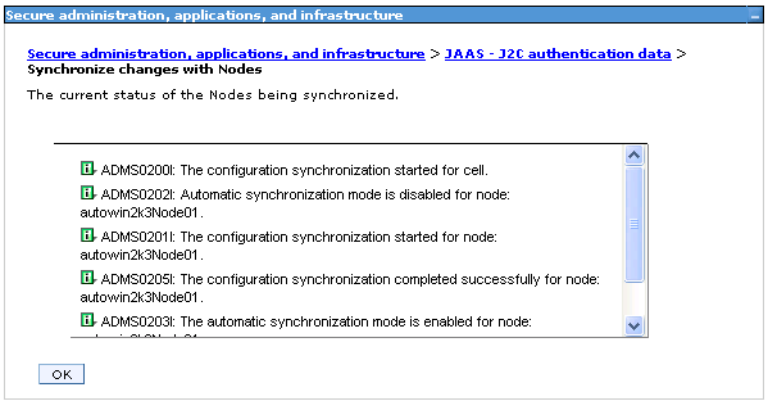
8. In the "Save" screen, do the following:

a. Select the **Synchronize changes with nodes** check box.

b. Click **Save**.



9. In the "Synchronize changes with nodes" screen, click **OK**.



10. Restart the application server for the changes to take effect. For a list of start and stop commands, see "Start/Stop Commands," on page 18.

B. Creating a JDBC Provider

A JDBC provider encapsulates all data sources that use a vendor-specific JDBC driver implementation.

A JDBC provider is the second of the three components required to set up your WAS instance to connect to your database.

If you are creating a Content Server cluster, you must create a separate JDBC provider for each cluster member.

To create a JDBC provider

1. If you are using a DB2 or Oracle database, place the following JAR files in the `<WAS_home>/universalDriver/lib` directory:

   Note

   If you are using SQL Server, skip this step.

   - For DB2:
     - `db2jcc.jar`
     - `db2jcc_license_cu.jar`
   - For Oracle:
     - `ojdbc14.jar`
2. Log in to the Deployment Manager console:

   Note

   The default Deployment Manager console port is `9060`.

   a. Point your browser to the following URL:

      `http://<DM_host>:<DM_console_port>/admin`

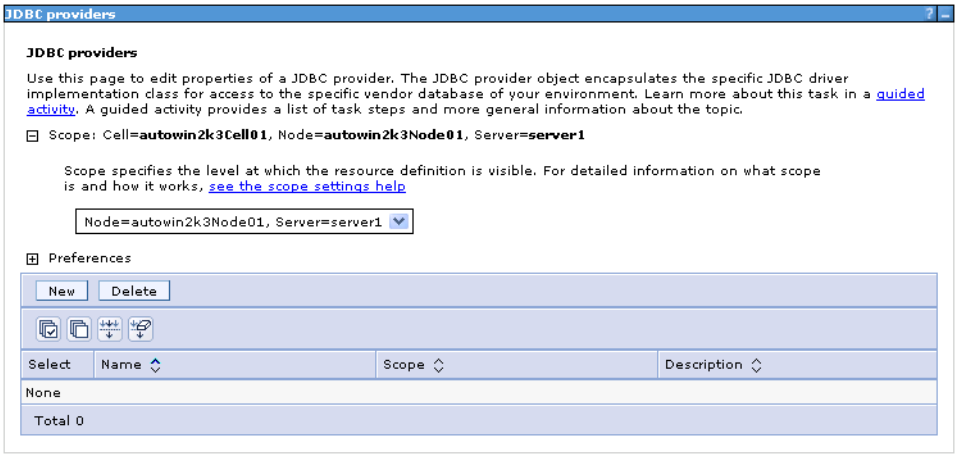
   b. Enter your user name and password.

   c. Click **Log in**.

      The Deployment Manager console loads.

3. In the left-hand pane, expand the **Resources** node.

4. Under the **Resources** node, expand the **JDBC** node and click **JDBC Providers**. The console displays the "JDBC providers" screen.



5. In the "Scope" area of the "JDBC providers" screen, select **Node=`<appserv_node>`, Server=`<server_name>`** from the drop-down list and click **New**.

> **Note**
>
> The default name of the first application server node created is `<WAS_host>Node01`.
>
> The default server name is `server1`.

6. In the "Create a new JDBC provider" screen, do the following:
   a. In the "Database type" drop-down list, select the database Content Server will be using.

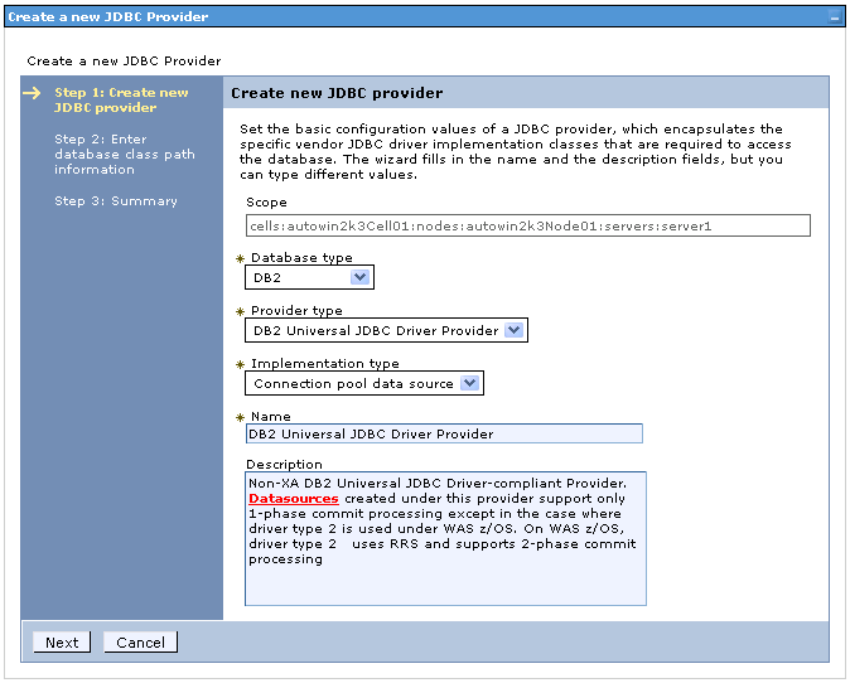
b. In the "Provider type" drop-down list, select the provider corresponding to the database you selected in step a, as shown in the following table:

Database type	Corresponding provider type
DB2	**Universal JDBC Driver Provider**
Oracle	**Oracle JDBC Driver**
SQL Server	**WebSphere embedded ConnectJDBC driver for MS SQL Server**

c. In the "Implementation type" drop-down list, select **Connection pool data source**.

d. In the **Name** field, enter a unique name for this JDBC provider.

e. Click **Next**.



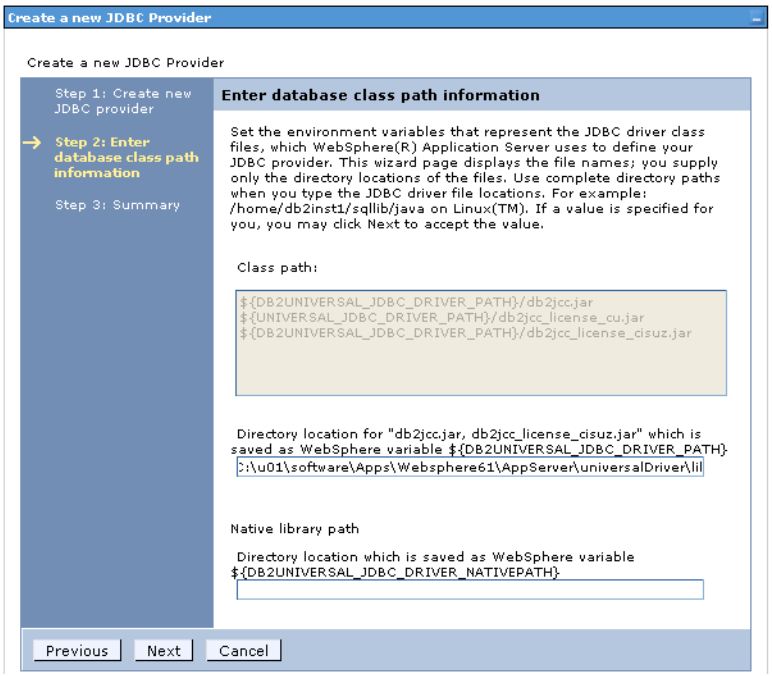
7. In the "Enter database class path information" screen, do one of the following:

- If you selected **DB2** or **Oracle** in step 6, enter the location containing the database-specific JAR files you copied in step 1, that is:

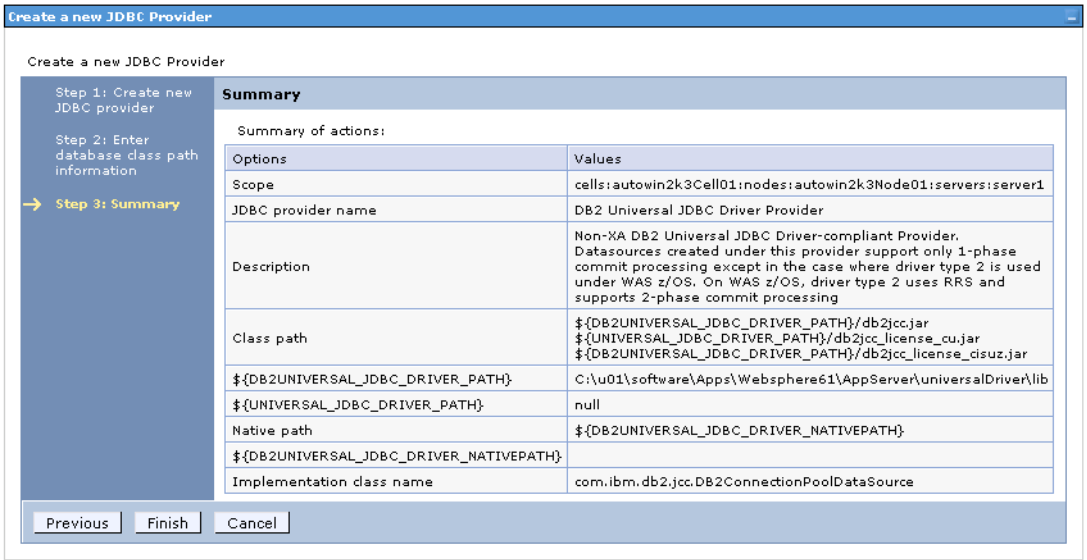
  `<WAS_home>/universalDriver/lib`

  When you are finished, click **Next**.

- If you selected **SQL Server** in step 6, click **Next**.



8. In the “Summary” screen, review the settings you have chosen, then click **Finish**.



9. In the “Messages” box, click **Review**.
10. In the “Save” screen, do the following:
    a. Select the **Synchronize changes with nodes** check box.
    b. Click **Save**.
11. In the “Synchronize changes with nodes” screen, click **OK**.

    The console redisplays the “JDBC Providers” screen. The new JDBC provider appears in the list of providers in the right-hand pane.

12. If you selected **DB2** in step 6, do the following:

> **Note**
>
> If you selected **Oracle** or **SQL Server** in step 6, skip the steps below and proceed to the next section.

a. In the list of JDBC providers in the right-hand pane, select the JDBC provider you created earlier in this section.

b. In the **Class path** field of the "DB2 Universal JDBC driver provider" screen, do the following:

1) Delete the path to the `db2jcc_license_cisuz.jar` file.

2) Change the variable name for the `db2jcc_license_cu.jar` file

from: `${UNIVERSAL_JDBC_DRIVER_PATH}`

to: `${DB2UNIVERSAL_JDBC_DRIVER_PATH}`

c. Click **OK**.

d. In the "Messages" box, click **Review**.

e. In the "Save" screen, do the following:

1) Select the **Synchronize changes with nodes** check box.

2) Click **Save**.

f. In the "Synchronize changes with nodes" screen, click **OK**.

C. Creating a JDBC Data Source

Once you have created the J2C authentication and the JDBC provider, you must create a data source.

A data source is the final component required to set up your WAS instance to connect to your database.

If you are creating a Content Server cluster, each cluster member data source must use:

- The J2C authentication you created in step A. Creating a J2C Authentication.
- The JDBC provider created for the scope of that cluster member.

Note

Before starting this procedure, make sure you have done the following:

1. Created a J2C authentication by following the steps in step A. Creating a J2C Authentication.
2. Created a JDBC provider by following the steps in step B. Creating a JDBC Provider.

To create a JDBC data source

1. Log in to the Deployment Manager console:

   Note

   The default Deployment Manager console port is `9060`.

   a. Point your browser to the following URL:

      `http://<DM_host>:<DM_console_port>/admin`

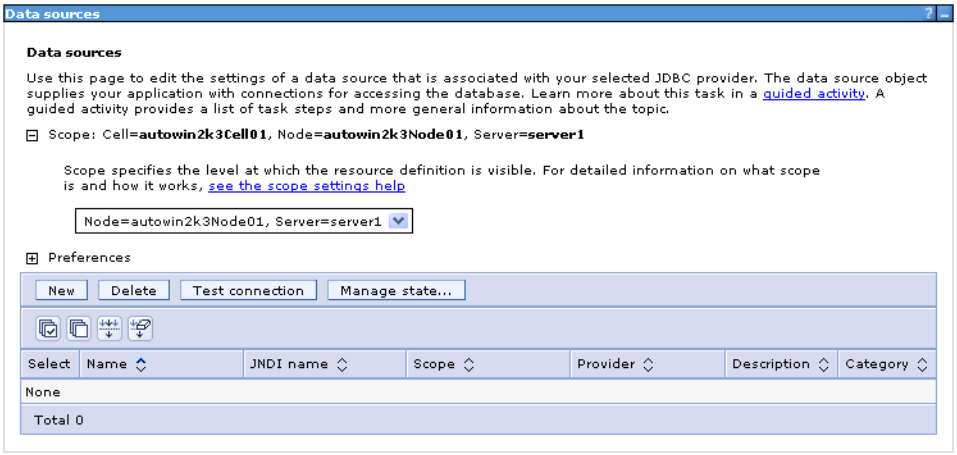
   b. Enter your user name and password.

   c. Click **Log in**.

      The Deployment Manager console loads.

2. In the left-hand pane, expand the **Resources** node.

3. Under the **Resources** node, expand the **JDBC** node, and click **Data sources**. The console displays the "Data sources" screen.



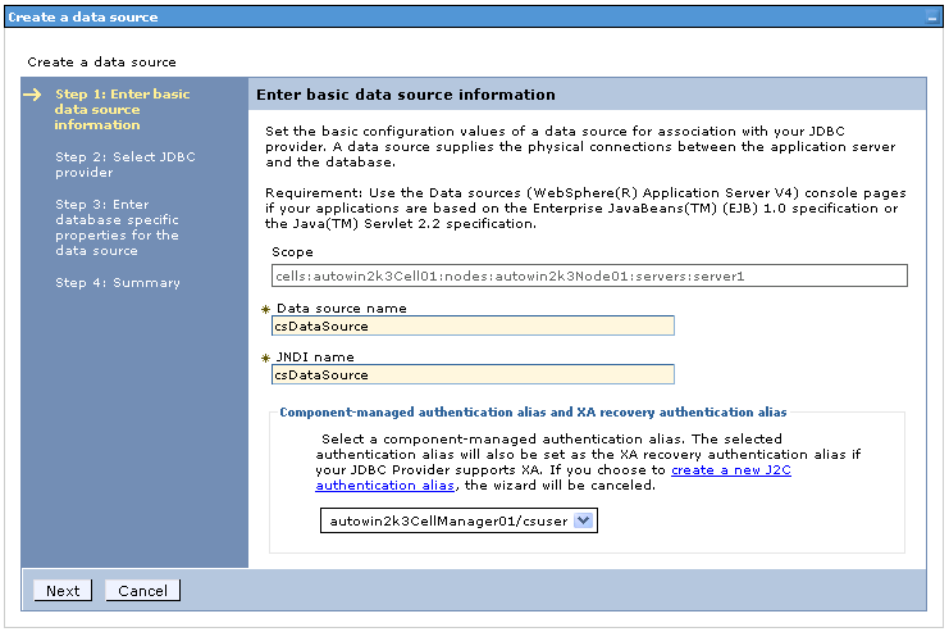
4. In the "Scope" area of the "Data sources" screen, select **Node=`<appserv_node>`, Server=`<server_name>`** from the drop-down list and click **New**.

> **Note**
>
> The default name of the first application server node created is `<WAS_host>Node01`.
>
> The default server name is `server1`.

5. In the "Enter basic data source information" screen, do the following:
   a. In the **Data source name** field, enter a unique name for this data source.
   b. In the **JNDI name** field, enter the JNDI name for this data source.

c. In the "Component-managed authentication alias" drop down list, select the J2C authentication you created in step A. Creating a J2C Authentication.

d. Click **Next**.

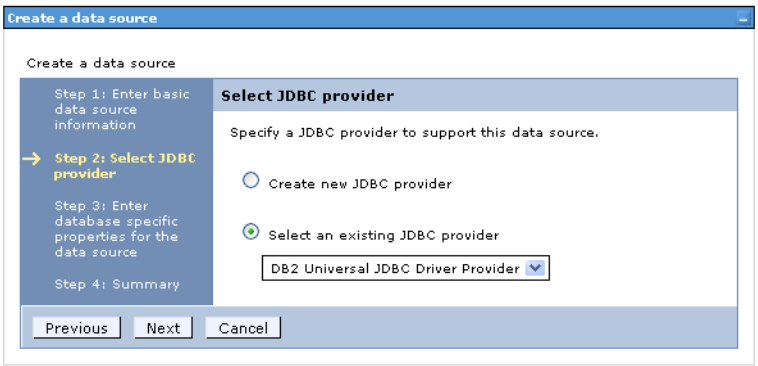


6. In the "Select JDBC provider" screen, do the following:

a. Select **Select an existing JDBC provider**.

b. In the drop-down list, select the JDBC provider you created in step B. Creating a JDBC Provider.

c. When you are finished, click **Next**.



7. In the "Enter database-specific properties for the data source" screen, do one of the following:

- If you selected a DB2 JDBC provider in step 6, do the following:

  1) In the **Database name** field, enter the name of the database Content Server will be using.

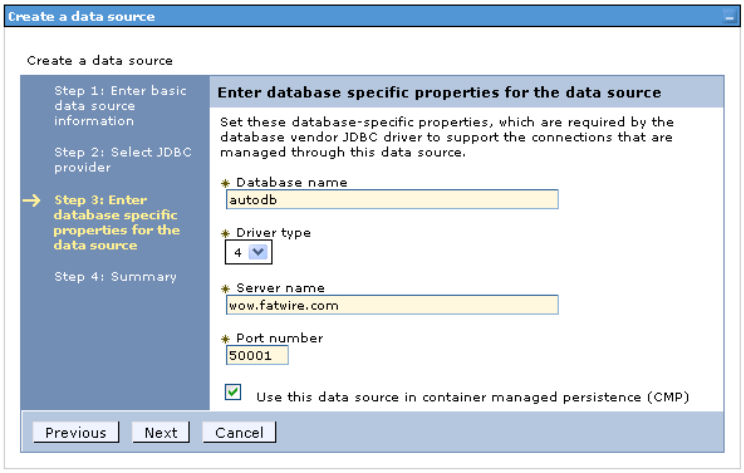
  2) In the "Driver type" drop-down list, select **4**.

3) In the **Server name** field, enter the host name or IP address of the machine running the Content Server database.

4) In the **Port number** field, enter the port number on which the Content Server database is listening for connections.

5) Select the **Use this data source in container managed persistence (CMP)** check box.

6) Click **Next**.



- If you selected an Oracle JDBC provider in step 6, do the following:

  1) In the **URL** field, enter the URL of the database Content Server will be using. The URL you enter must be in the following format:

     `jdbc:oracle:thin:@//<db_host>:<db_port>/<db_name>`

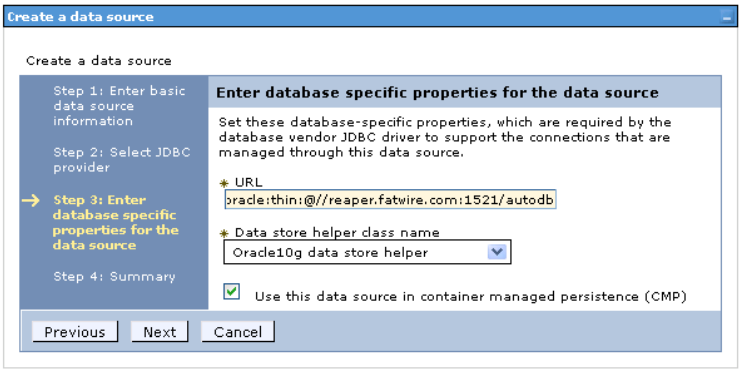
     where:

     - `<db_host>` is the host name or IP address of the machine running the Content Server database.
     - `<db_port>` is the port number on which the Content Server database is listening for connections.
     - `<db_name>` is the name of the Content Server database.

  2) In the "Data store helper class name" drop-down list, select **Oracle10g data store helper**.

  3) Select the **Use this data source in container managed persistence (CMP)** check box.

4) Click **Next**.



- If you selected an SQL Server provider in step 6, do the following:

  1) In the **Database name** field, enter the name of the database Content Server will be using.

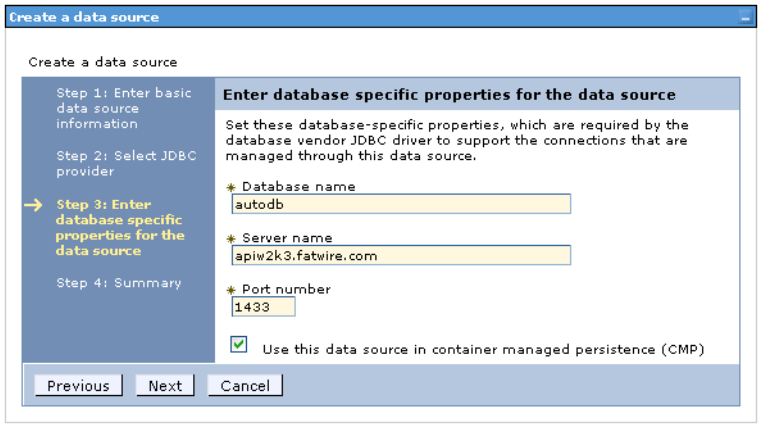
  2) In the "Driver type" drop-down list, select **4**.

  3) In the **Server name** field, enter the host name or IP address of the machine running the Content Server database.

  4) In the **Port number** field, enter the port number on which the Content Server database is listening for connections.

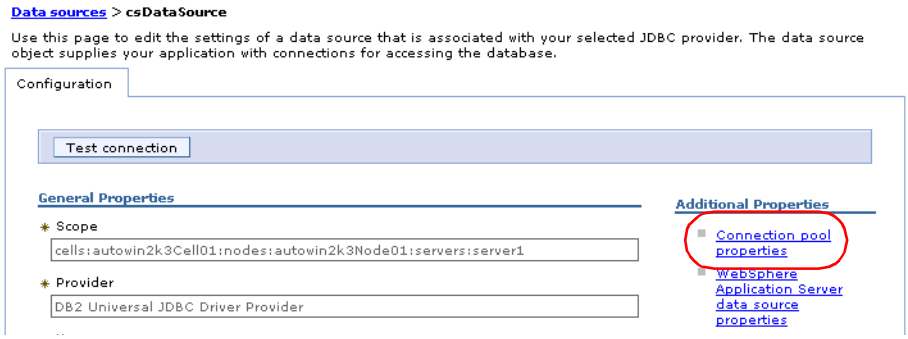
  5) Select the **Use this data source in container managed persistence (CMP)** check box.

  6) Click **Next**.

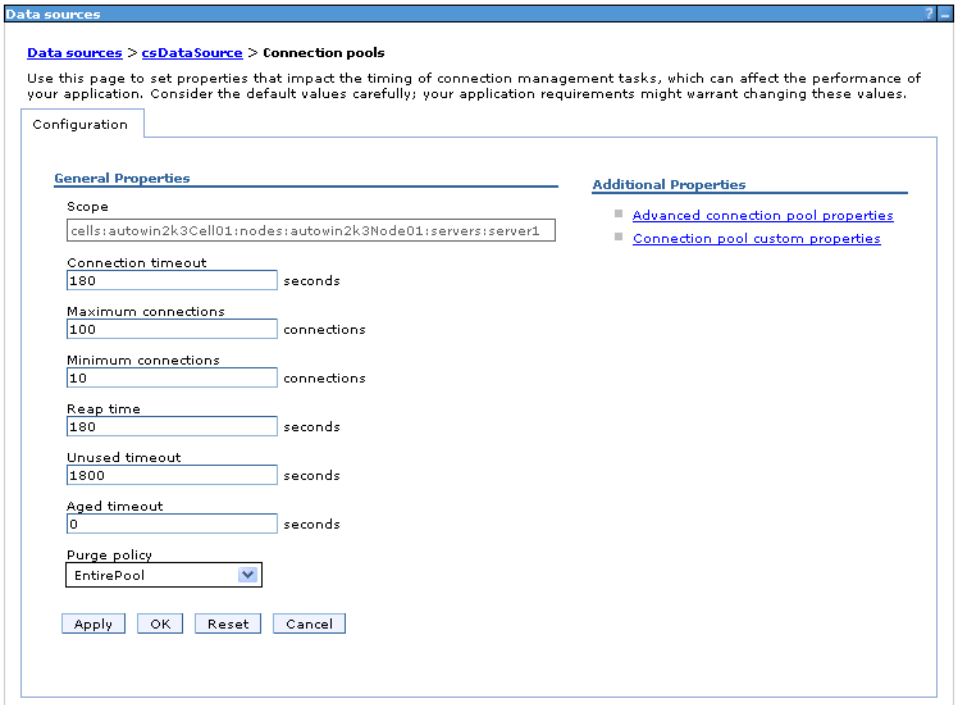


8. In the "Summary" screen, review the settings you have chosen, then click **Finish**.
9. In the "Messages" box, click **Review**.
10. In the "Save" screen, do the following:
    a. Select the **Synchronize changes with nodes** check box.
    b. Click **Save**.
11. In the "Synchronize changes with nodes" screen, click **OK**. The console redisplays the "Data sources" screen showing the data source you just created.
12. In the list of data sources, select the data source you just created.

13. In the “Additional Properties” area of the “Data source” screen, click **Connection pool properties**.



14. In the “Connection pools” screen, do the following:
    a. In the **Maximum connections** field, enter `100` (or a value appropriate to your configuration, if known).
    b. In the **Minimum connections** field, enter `10` (or a value appropriate to your configuration, if known).
    c. Click **OK**.



15. In the “Messages” box, click **Review**.
16. In the “Save” screen, do the following:
    a. Select the **Synchronize changes with nodes** check box.
    b. Click **Save**.
17. In the “Synchronize changes with nodes” screen, click **OK**.
18. If you are creating a Content Server cluster, repeat steps 4–17 of this procedure for each cluster member.

Deploying the Content Server Application

Half-way through the Content Server installation, you will have to deploy the CS application. This section describes how to deploy the Content Server application on WAS using the Deployment Manager console.

If you are creating a Content Server cluster, you must install and deploy a separate CS application for each member of the cluster. Each CS application in the cluster must have a unique name.

Note

Before starting this procedure, make sure you have done the following:

1. Created a WAS instance which will run the CS application by following the steps in "Creating a WAS Instance," on page 28.
2. Set up the WAS instance for database communications by following the steps in "Configuring the WAS Instance for Database Communications," on page 37.
3. Completed the first stage of the Content Server installation process, as described in Chapter 5, "Installing and Configuring Content Server."

To deploy the Content Server application

1. Log in to the Deployment Manager console:

   Note

   The default Deployment Manager console port is `9060`.

   a. Point your browser to the following URL:

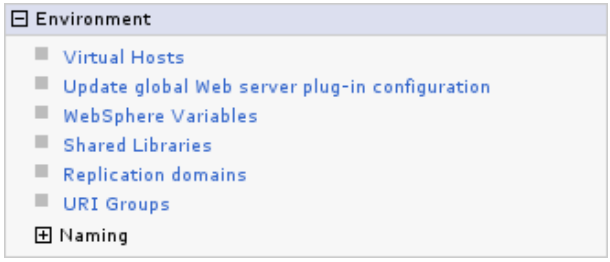
      `http://<DM_host>:<DM_console_port>/admin`

   b. Enter your user name and password.

   c. Click **Log in**.

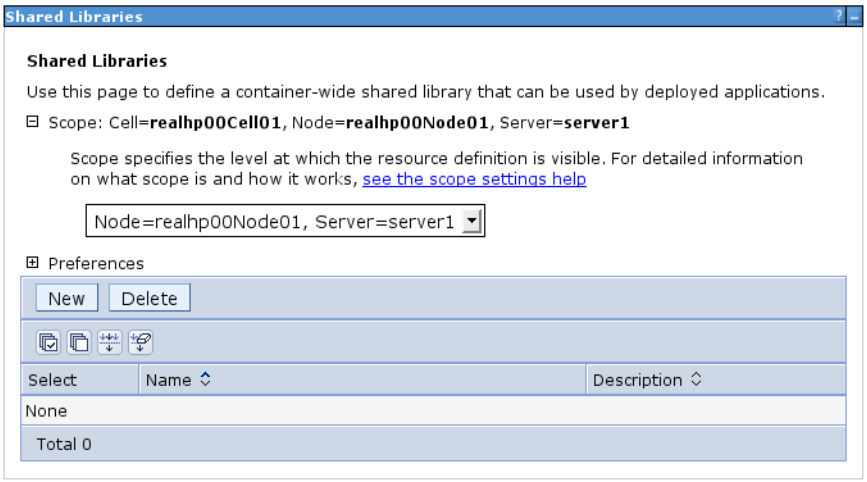
      The Deployment Manager (DM) console loads.

2. In the left-hand pane, expand the **Environment** node.

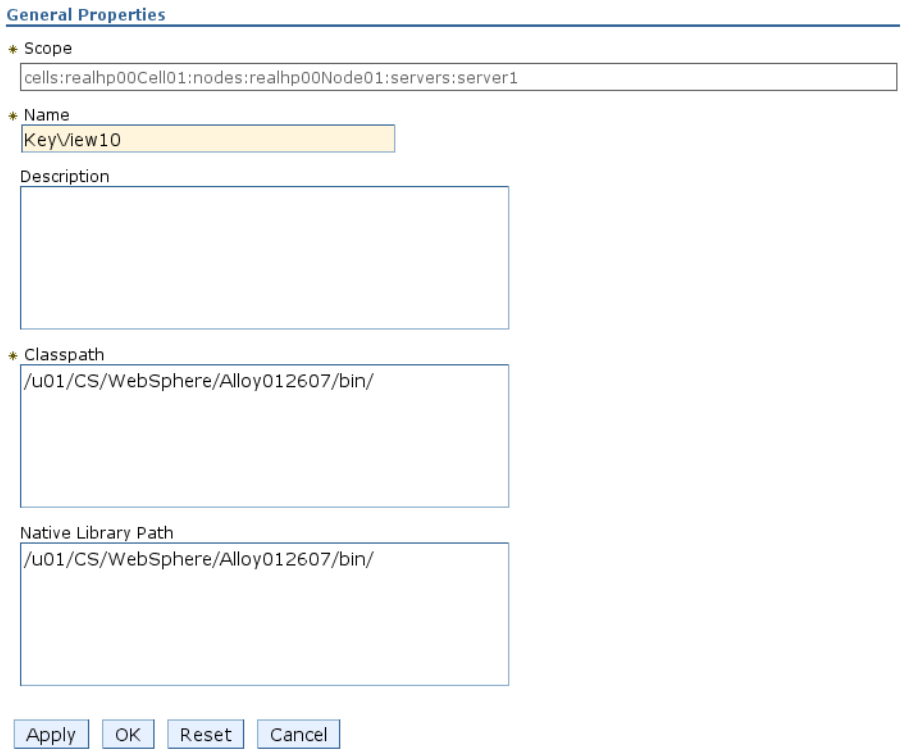


3. Under the **Environment** node, click **Shared Libraries**.

4. In the “Shared Libraries” screen, select the appropriate scope from the drop-down list (typically, **server1**).

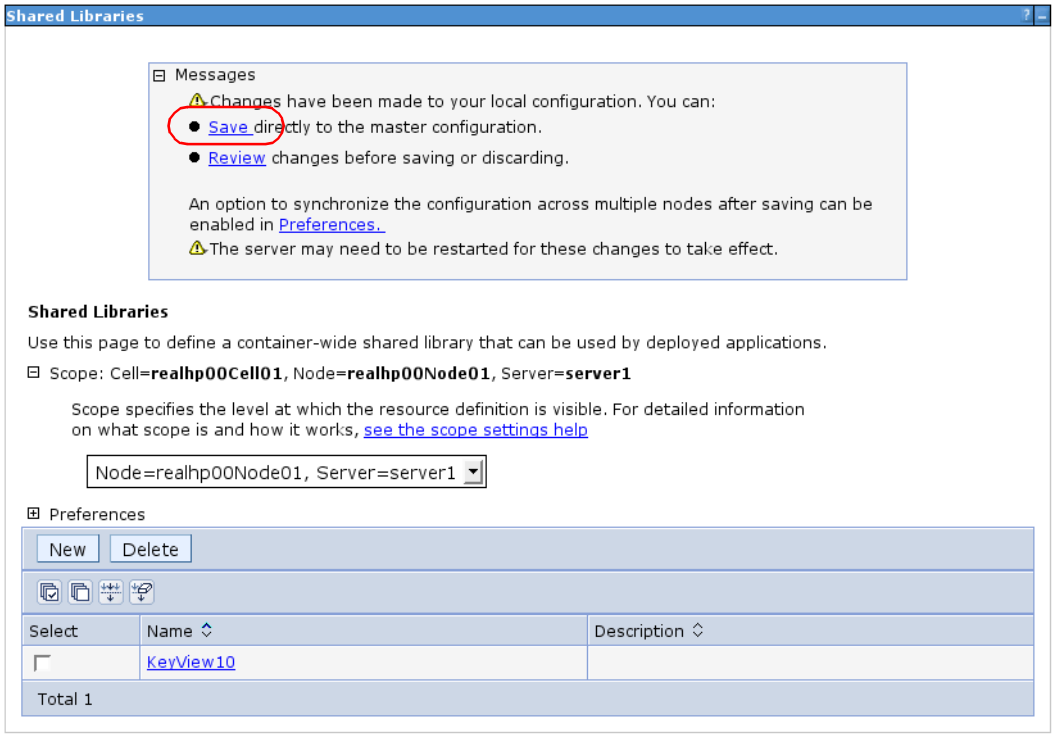


5. Click **New** and complete the configuration form as follows:
   a. In the **Name** field, enter `KeyView10`
   b. In the **Classpath** field, enter the path, `<cs_install_dir>/bin`
   c. In the **Native Library Path** field, enter the path, `<cs_install_dir>/bin`
   d. When you are finished, click **OK**.



The DM console redisplays the “Shared Libraries” screen showing your changes.

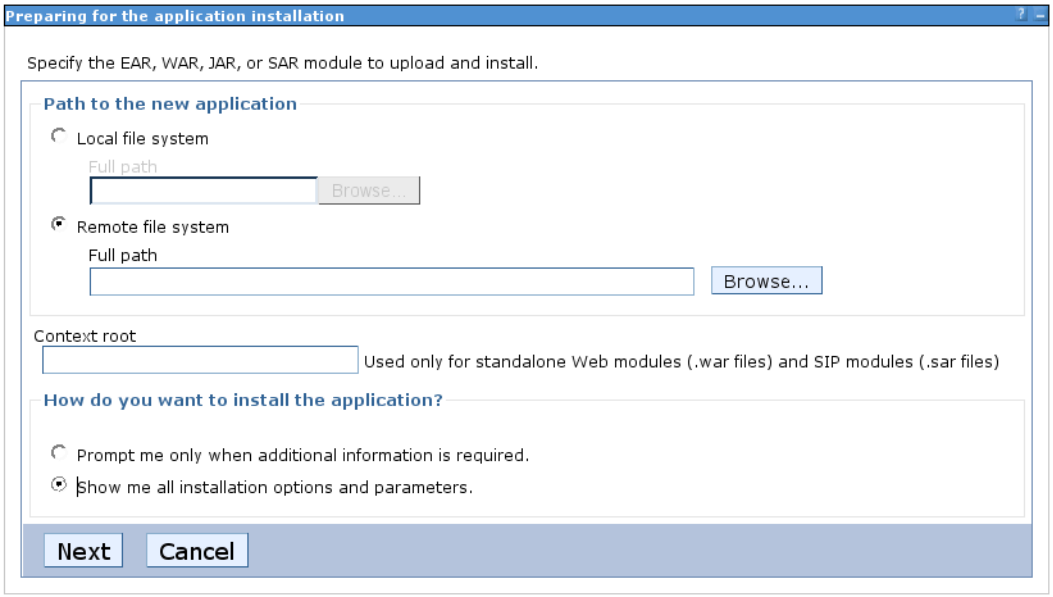
6. In the “Messages” box, click **Save**.



7. In the left-hand pane, expand the **Applications** node.

8. Under the **Applications** node, click **Install New Application**.
9. In the “Preparing for the application installation” screen, do the following:
   a. Select **Show me all installation options and parameters**.

b. Select **Remote file system** and click **Browse**.



10. In the "Browse Remote Filesystems" screen, do the following:

a. Select the application server node on which you are deploying the CS application.

b. Browse to the `<cs_install_dir>/ominstallinfo/app` directory.

c. Select the `ContentServer.ear` file.

d. Click **OK**.

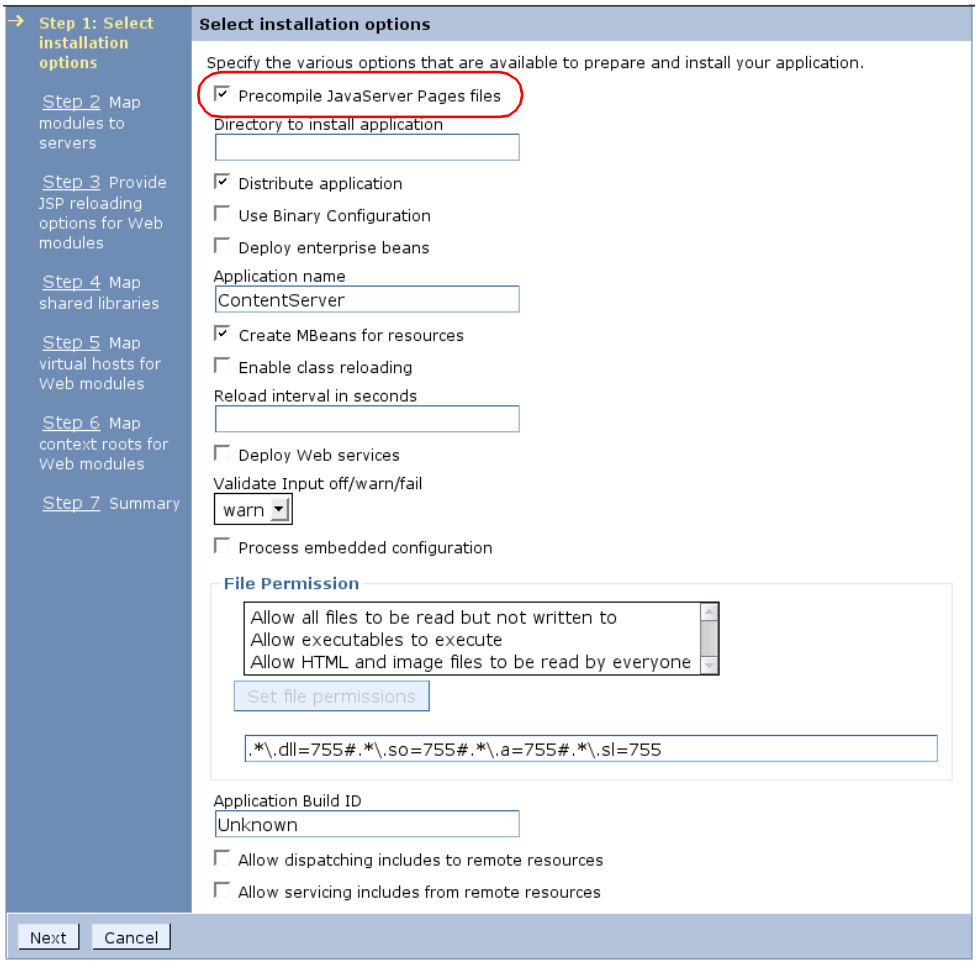
The DM console redisplays the "Preparing for the application installation" screen showing the path to the CS application file you selected.

e. Click **Next**.

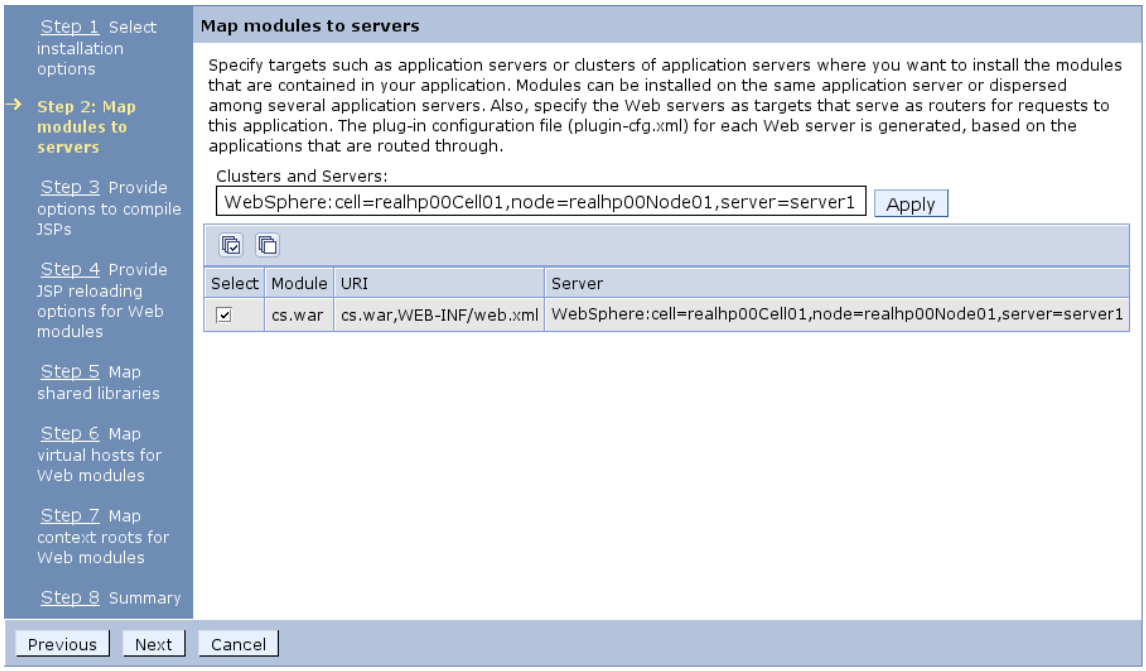
11. In the "Choose to generate mappings and bindings" screen, click **Next**.

12. In the "Application Security Warnings" screen, click **Continue**.

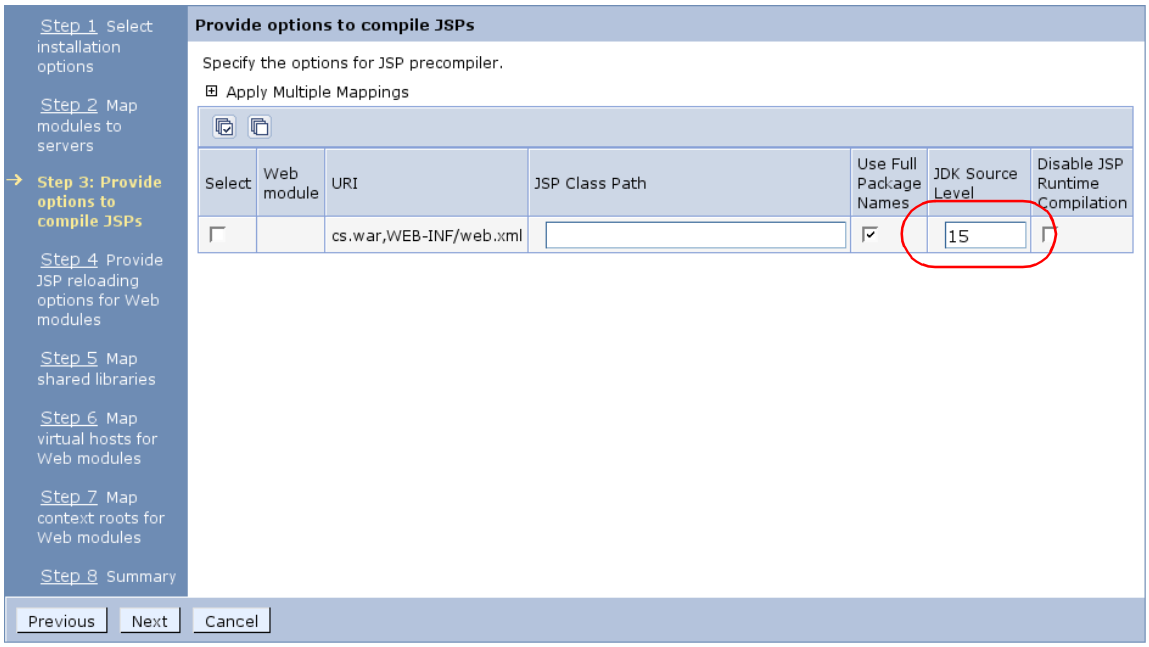
13. In the "Select installation options" screen, select **Precompile JavaServer Pages files** and click **Next**.



14. In the "Map modules to servers" screen, do the following:
    a. Select the check box for the **cs.war** module.
    b. Select the appropriate server in the **Server** column.
    c. Click **Apply**.

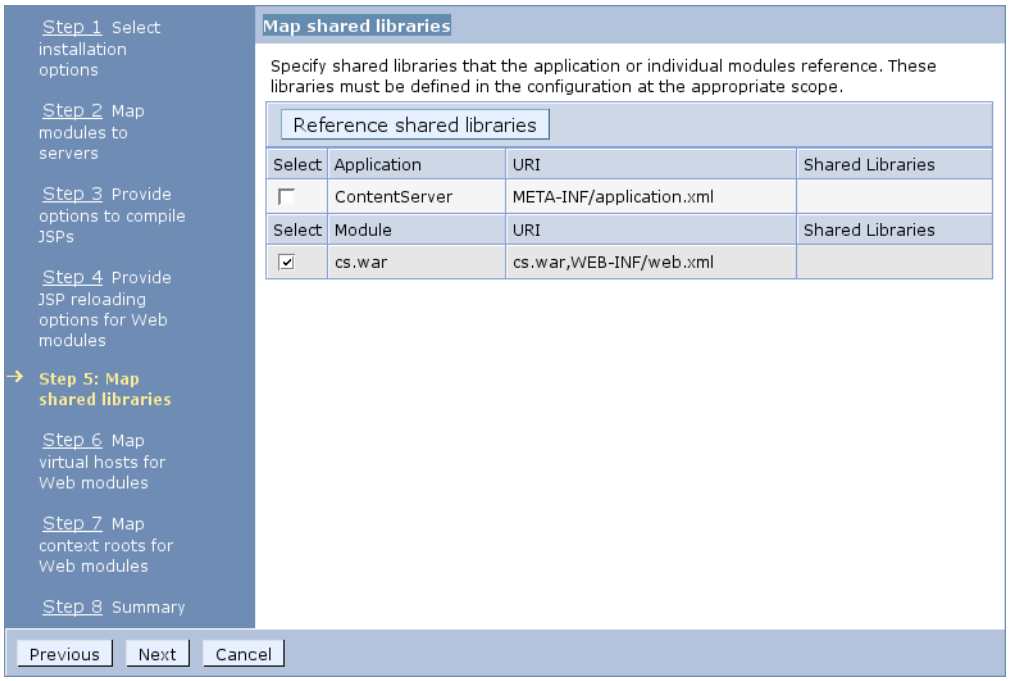


15. In the "Provide options to compile JSPs" screen, change the value of the **JDK Source Level** field to `15`, then click **Next**.

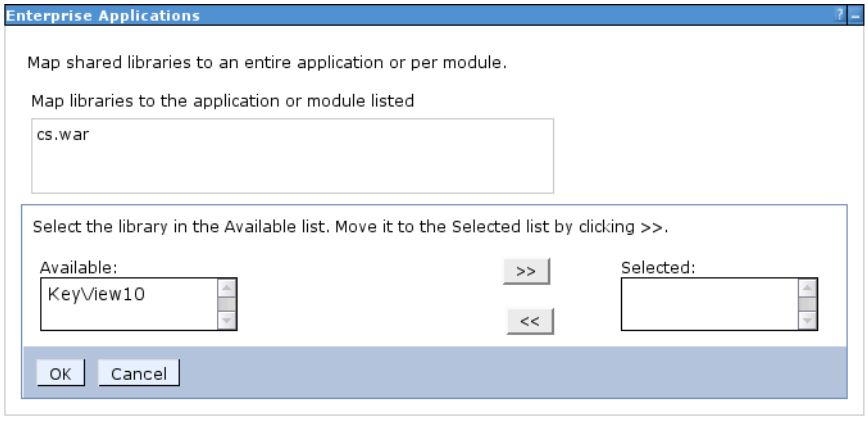


16. In the "Provide JSP reloading options for Web modules" screen, click **Next**.

17. In the “Map shared libraries” screen, do the following:
    a. Select the **cs.war** module check box.
    b. Click **Reference shared libraries**.



18. In the “Enterprise Applications” screen, do the following:
    a. In the **Available** field, select the Keyview library path variable you created in step 5 and click the **Add** (>>) button.
    b. Click **OK**.



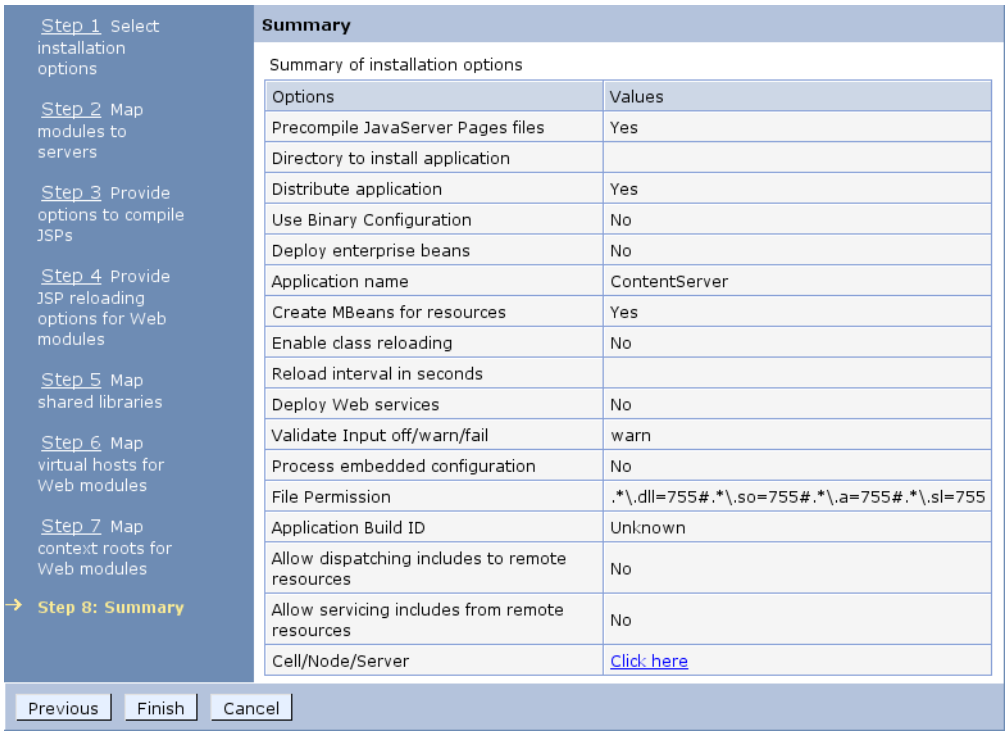
The DM console redisplays the “Map shared libraries” screen showing your changes. When that happens, click **Next**.

19. In the “Map virtual hosts for Web modules” screen, click **Next**.

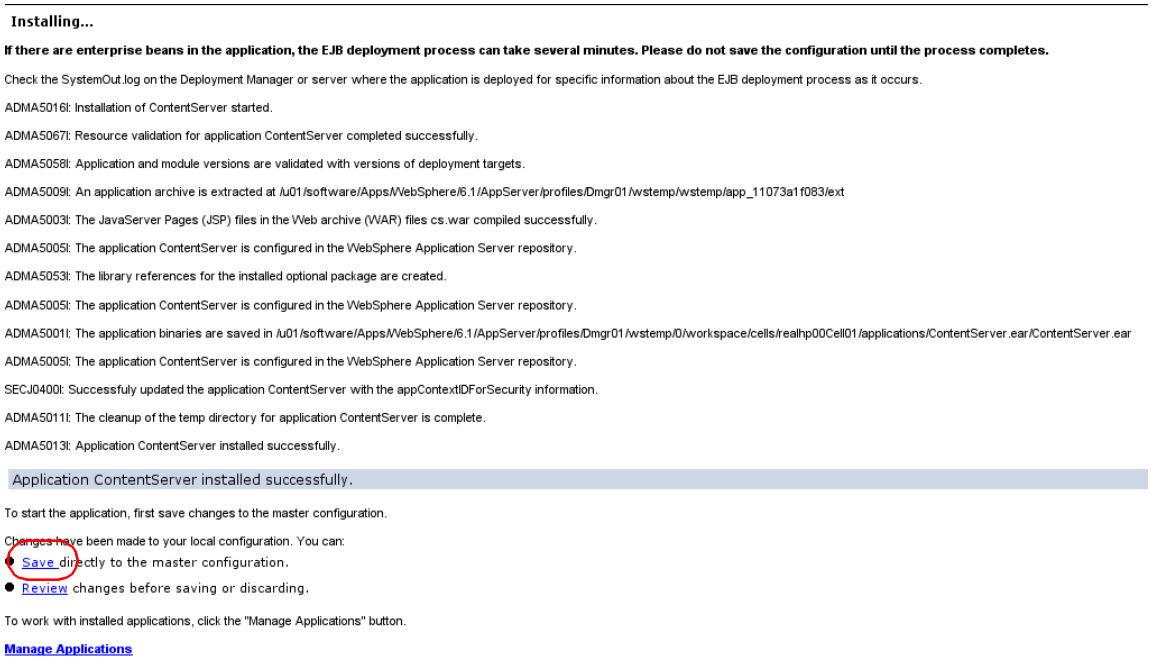
20. In the “Map context roots for Web modules” screen, click **Next**.

> **Caution**
>
> Do not change the context root displayed in this screen. Doing so will render your Content Server installation inoperable.

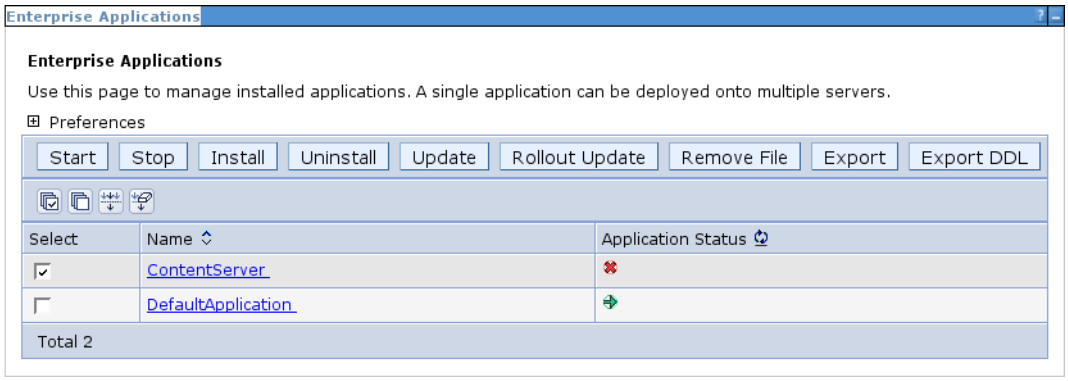
21. In the “Summary” screen, review the options you have chosen and click **Finish**.



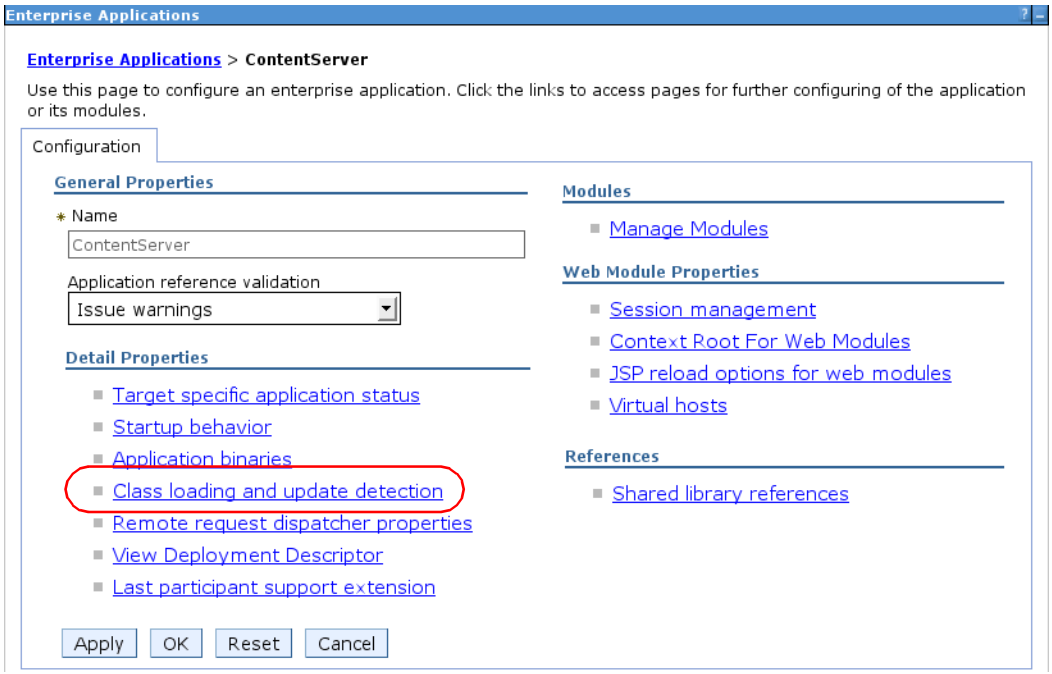
22. In the “Installing...” screen, wait until all stages complete successfully. When the message, “Application ContentServer has installed successfully” appears, click **Save**.



23. In the “Enterprise Applications” screen, click the **ContentServer** application.



24. In the screen that follows, click **Class loading and update detection**.



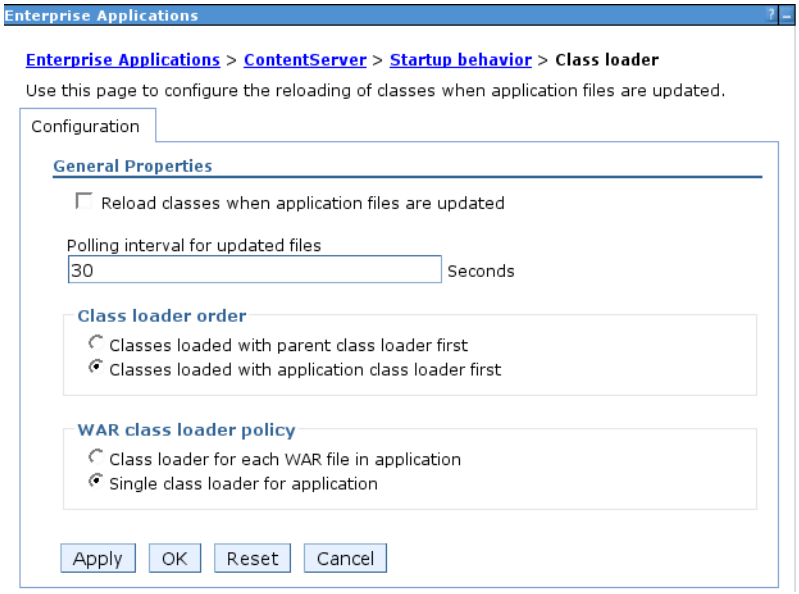
25. In the screen that appears, do the following:

a. In the **Polling interval for updated files** field, enter `30`.

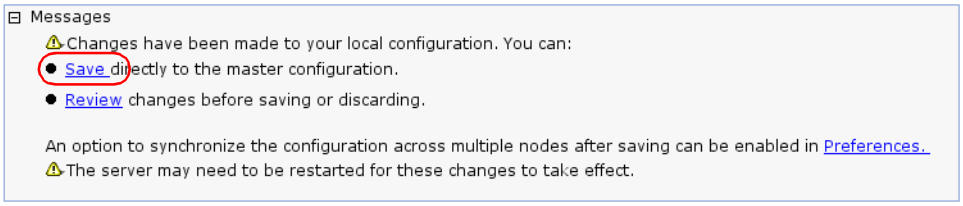
b. In the "Class load order" section, select **Classes loaded with application class loader first**.

c. In the "WAR class loader policy" section, select **Single class loader for application**.

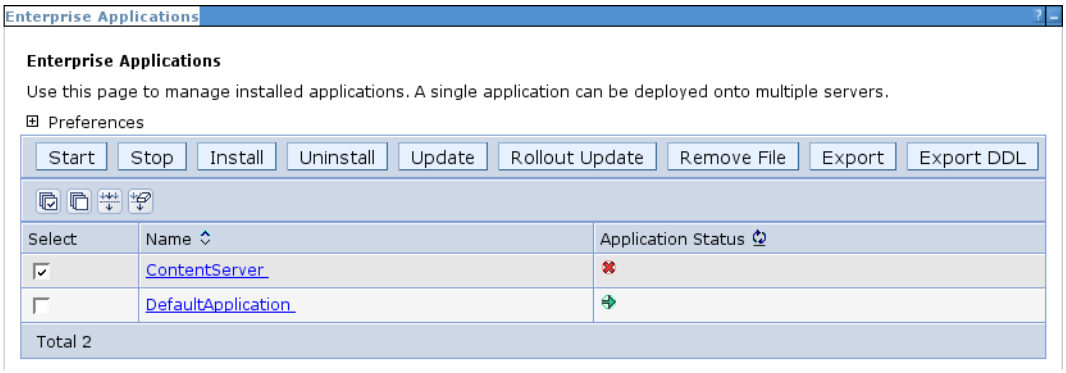
d. Click **OK**.



26. In the "Messages" box, click **Save**.



27. In the "Enterprise Applications" screen, select the check box next to the **ContentServer** application and click **Start**.



28. If you are creating a Content Server cluster, repeat steps 3–27 of this procedure for each additional member of the cluster.

Restarting the Content Server Application

If you made changes to Content Server property files after the CS application has been deployed (for example, to configure CS as a cluster member), you will need to restart the CS application for the changes to take effect. This section shows you how to restart the CS application using the Deployment Manager console.

To restart the Content Server application

1. Log in to the Deployment Manager console:

   Note

   The default Deployment Manager console port is `9060`.

   a. Point your browser to the following URL:

      `http://<DM_host>:<DM_console_port>/admin`

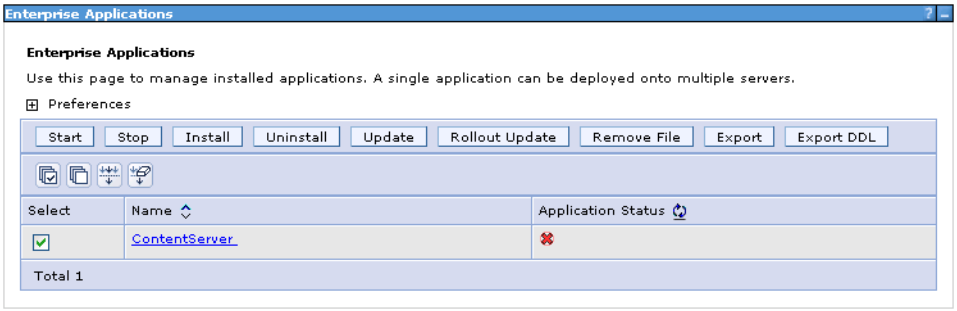
   b. Enter your user name and password.

   c. Click **Log in**.

      The Deployment Manager console loads.

2. In the left-hand pane, expand the **Applications** node.

3. Under the **Applications** node, click **Enterprise Applications**.
4. In the "Enterprise Applications" screen, select the check box next to the CS application you want to restart.



5. Click **Stop**, then click **OK**.
6. Click **Start**, then click **OK**.

Part 3

Web Server

This part explains how to install and configure a supported web server. It also explains how to integrate WAS with a supported web server using the WAS web server plug-in.

This part contains the following chapter:

- Chapter 4, “Setting Up a Web Server”

Chapter 4

Setting Up a Web Server

This chapter explains how to install IBM HTTP Server, and how to integrate WAS with a local or remote installation of IBM HTTP Server or the Apache 2.0.x web server, using the WebSphere web server plug-in.

This chapter contains the following sections:

Installing IBM HTTP Server

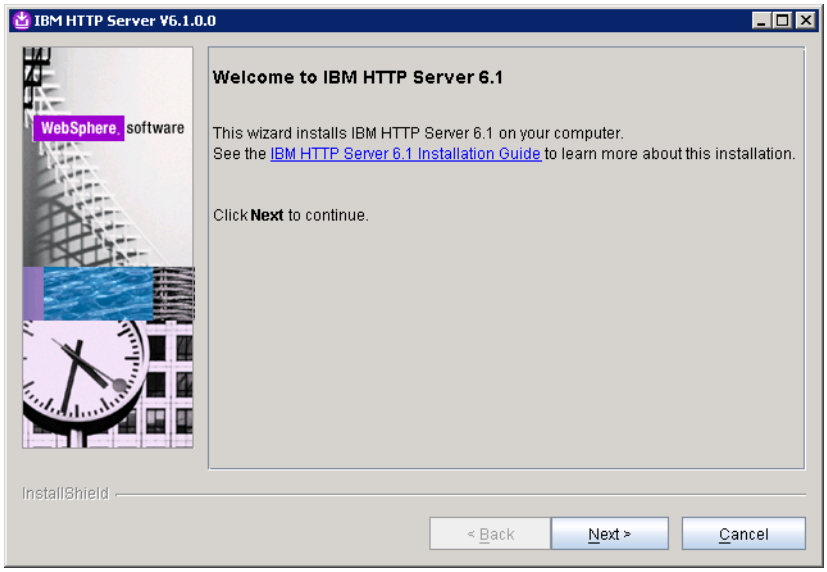
This section explains how to install IBM HTTP Server for integration with WAS.

To install IBM HTTP Server

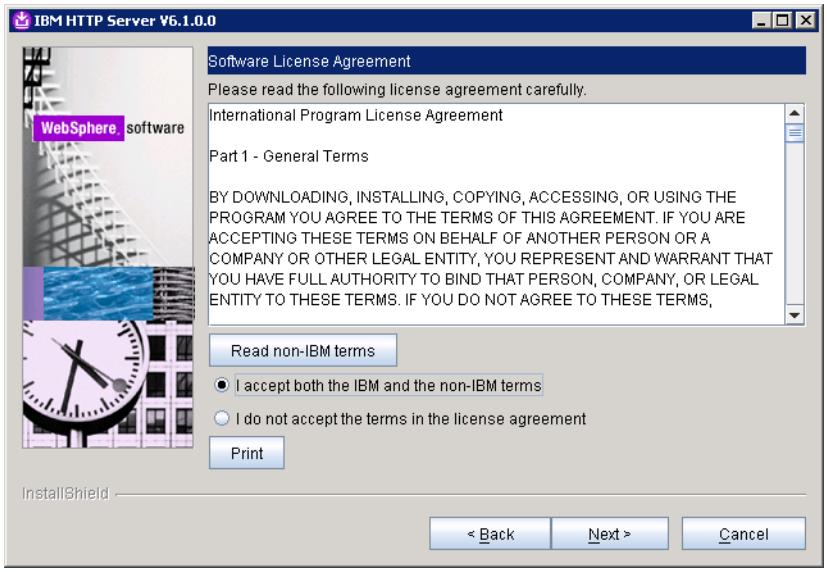
1. Create the directory where IBM HTTP Server will be installed. Make sure the installer can read from and write to this directory.

> **Note**
>
> Throughout this guide, the directory where IBM HTTP Server is installed is referred to as `<ibm_http_home>`.

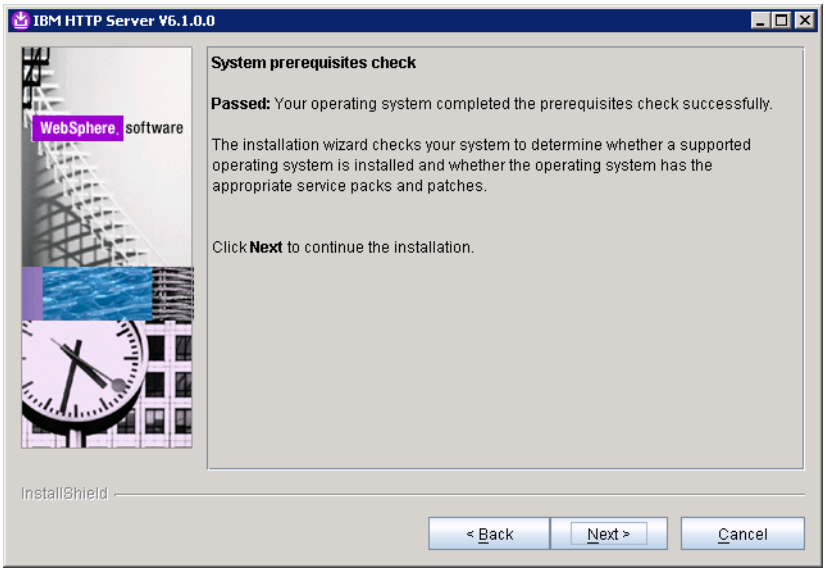
2. Decompress the IBM HTTP Server installer archive into a temporary directory.
3. Run the IBM HTTP Server installer:
   - On Windows: **`install.exe`**
   - On Unix: **`install.sh`**
4. In the “Welcome” screen, click **Next**.



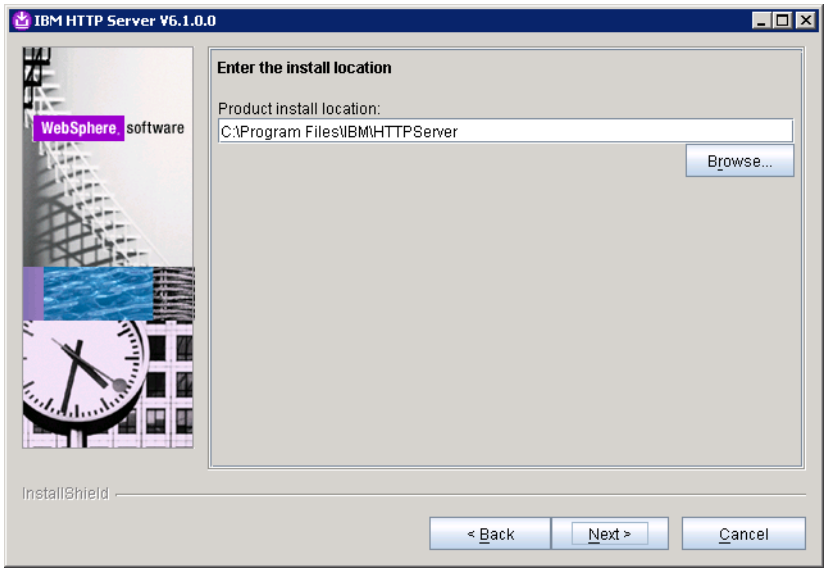
5. In the “Software License Agreement” screen, select **I accept both the IBM and the non-IBM terms** and click **Next**.



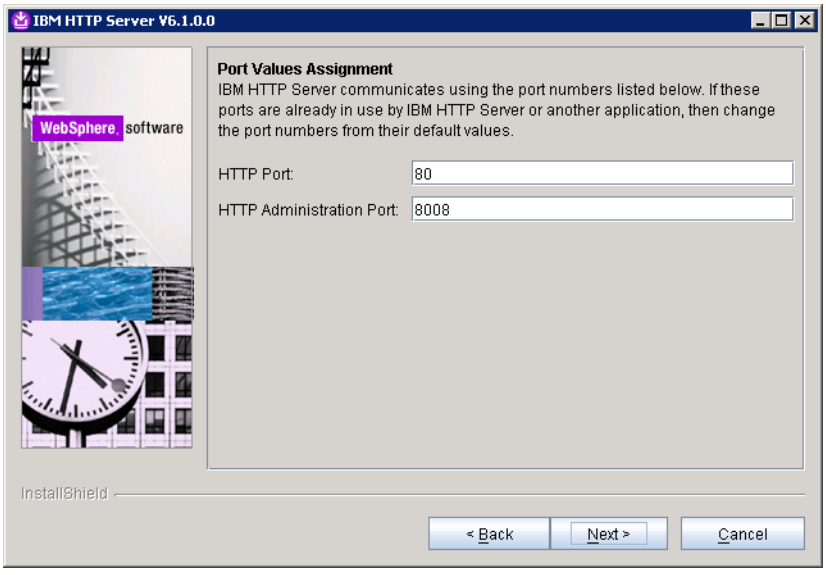
6. In the “System prerequisites check” screen, do one of the following:
   - If the system prerequisites check is successful, click **Next**.
   - If your system does not pass the prerequisites check, stop the installation, correct the problems indicated by the installer, and restart the installation.



7. In the “Enter the install location” screen, enter the path to the `<ibm_http_home>` directory you created in step 1, then click **Next**.



8. In the “Port Values Assignment” screen, do one of the following:
   - If you want to keep the default port numbers, click **Next**.
   - If you want to specify your own port numbers, enter them into the appropriate fields and click **Next**.



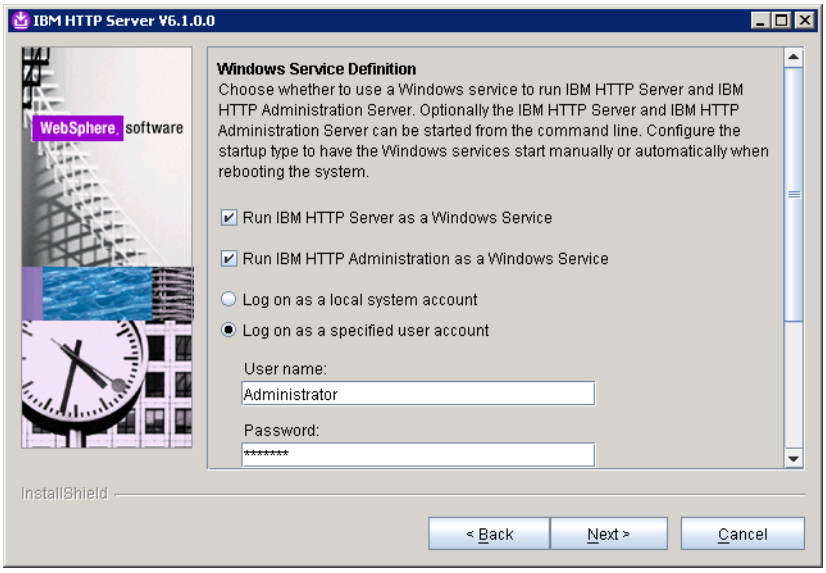
9. If you are installing on Windows, do the following in the “Windows Service Definition” screen:

> **Note**
>
> If you are installing on Unix, skip this step.

   a. Select the **Run the IBM HTTP Server as a Windows Service** and **Run IBM HTTP Administration as a Windows Service** check boxes.

   b. If you want the IBM HTTP Windows services to run under a specific user account, select the **Log on as a specified user account** check box and enter the desired user name and password into the appropriate fields.

   c. Click **Next**.

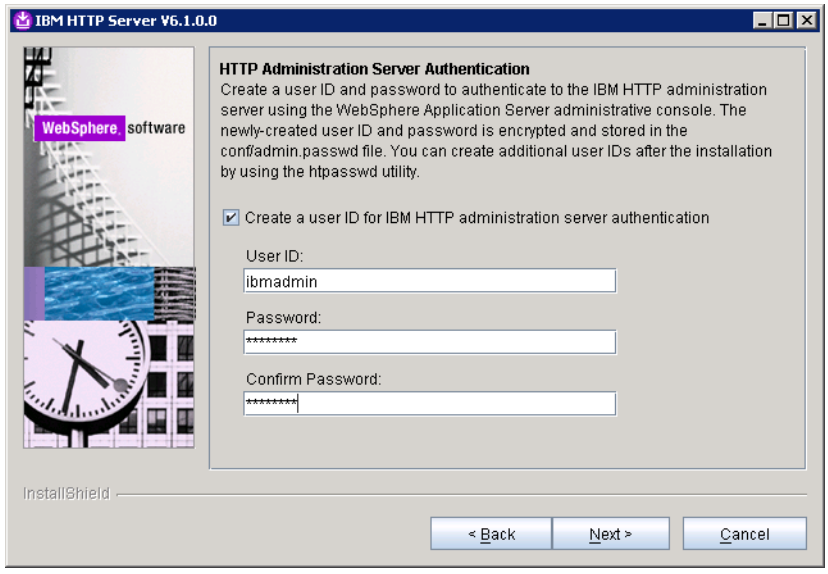


10. In the “HTTP Administration Server Authentication” screen, do the following:

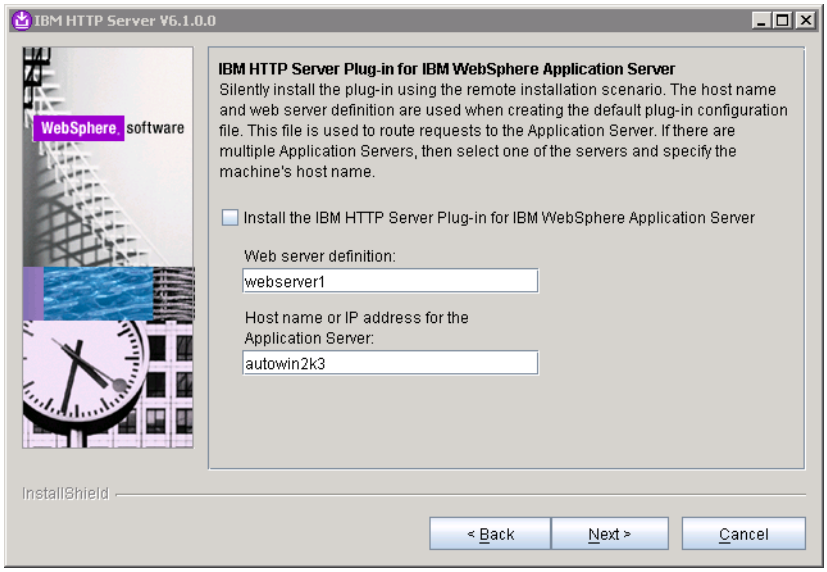
   a. Select the **Create a user ID for IBM HTTP administration server authentication** check box. You will use this user account to log in to the IBM HTTP administration server.

   b. In the **User ID** and **Password** fields, enter the desired credentials. (Re-enter the password for verification.)

c. Click **Next**.



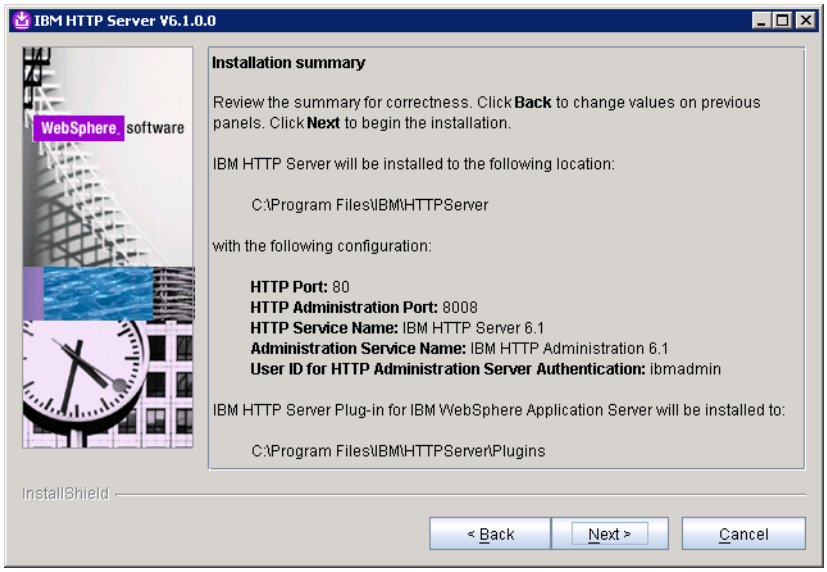
11. In the "IBM HTTP Server Plug-in for WebSphere Application Server" screen, deselect the **Install the IBM HTTP Server Plug-in for WebSphere Application Server** check box and click **Next**.



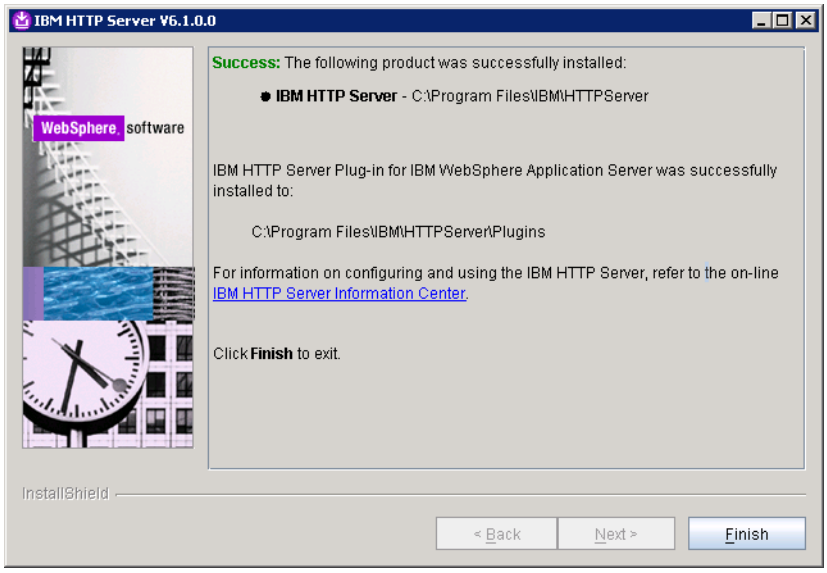
Note

If you leave the **Install the IBM HTTP Server Plug-in for WebSphere Application Server** check box selected, the plug-in will be installed only for the default WAS application server profile. To set up the plug-in on all desired WAS instances, you must use the separate plug-in installer, as described in "Integrating WAS with a Supported Web Server," on page 74.

12. In the "Installation Summary" screen, review the settings you have chosen, then click **Next**.



13. When the installation completes successfully, click **Finish**.



Installing the Apache 2.0.x Web Server

The procedure to set up the Apache 2.0.x web server (beyond the steps necessary to integrate with WAS) is not covered in this guide. For information on setting up the Apache 2.0.x web server, consult one of the following sources:

- If you are installing an Apache web server on Linux or Solaris, consult our guide *Configuring Third-Party Software* for instructions.
- If you are using an operating system other than Linux or Solaris, consult the Apache documentation.

Integrating WAS with a Supported Web Server

This section explains how to integrate WAS with IBM HTTP Server or the Apache 2.0.x web server using the WAS web server plug-in.

Note

Before starting this procedure, make sure of the following:

- You have installed and configured a web server of your choice.
- The web server is not running.

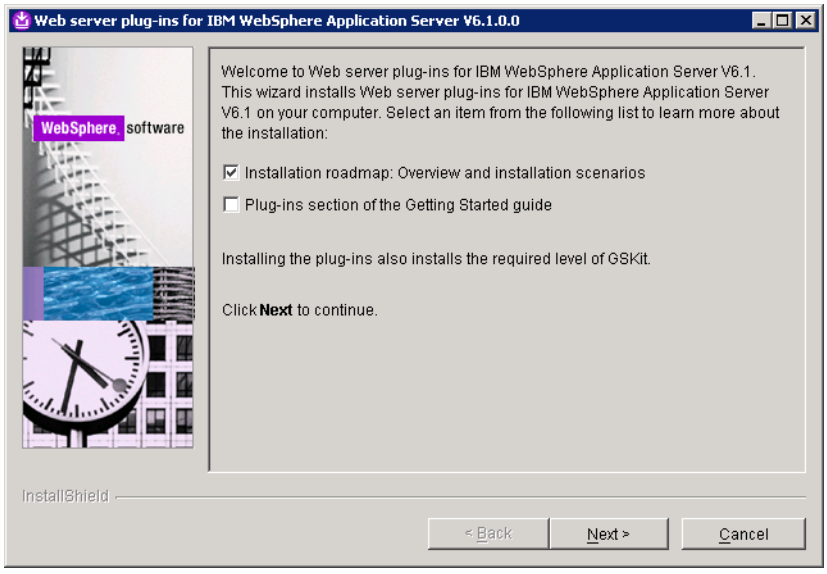
To set up the WAS web server plug-in

1. On the machine on which the web server is installed, decompress the WebSphere Supplements archive into a temporary directory.
2. Run the WAS web server plug-in installer:
   - On Windows:

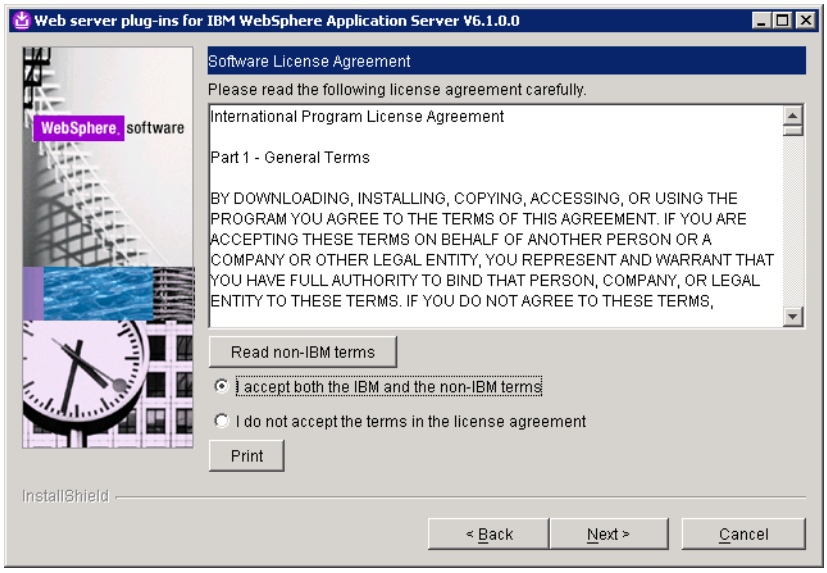
     ```
     <temp_dir>\plugin\install.exe
     ```
   - On Unix:

     ```
     <temp_dir>/plugin/install.sh
     ```

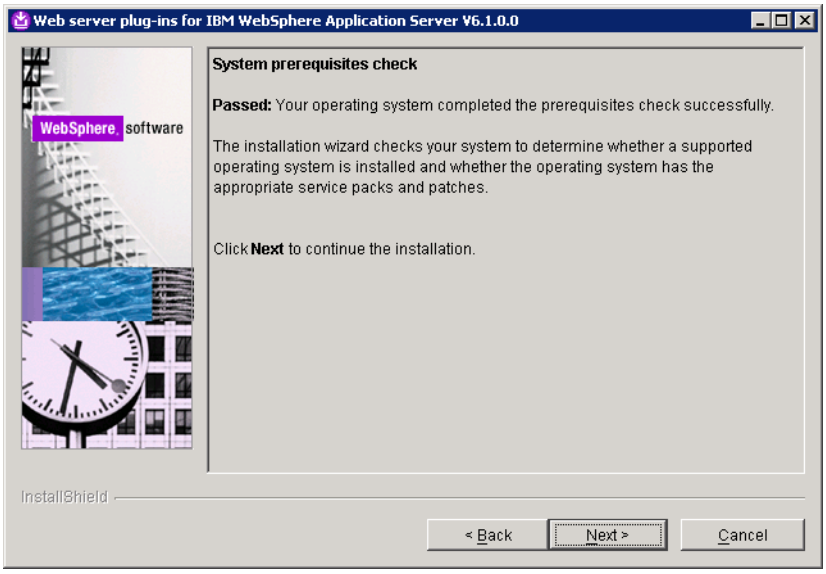
3. In the “Welcome” screen, click **Next**.



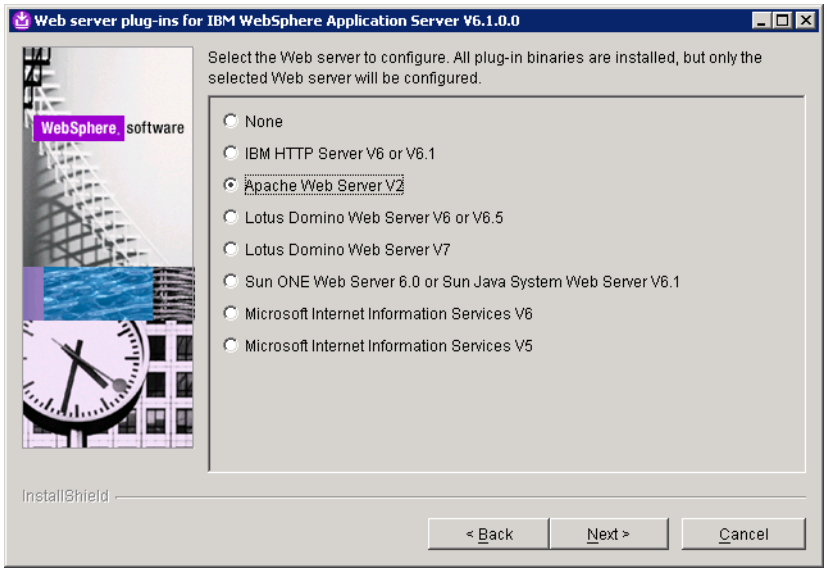
4. In the “Software License Agreement” screen, select **I accept both the IBM and the non-IBM terms**, and click **Next**.



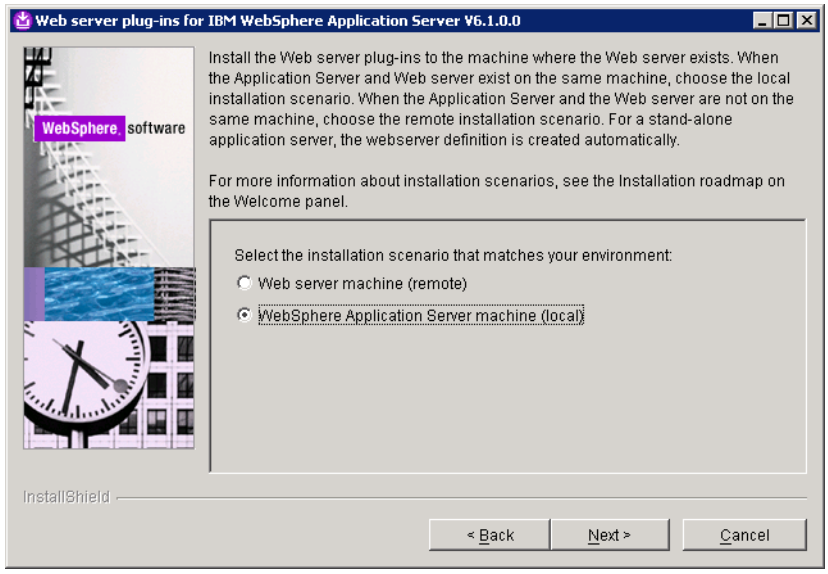
5. In the “System prerequisites check” screen, do one of the following:
   - If the system prerequisites check is successful, click **Next**.
   - If your system does not pass the prerequisites check, stop the installation, correct the problems indicated by the installer, and restart the installation.



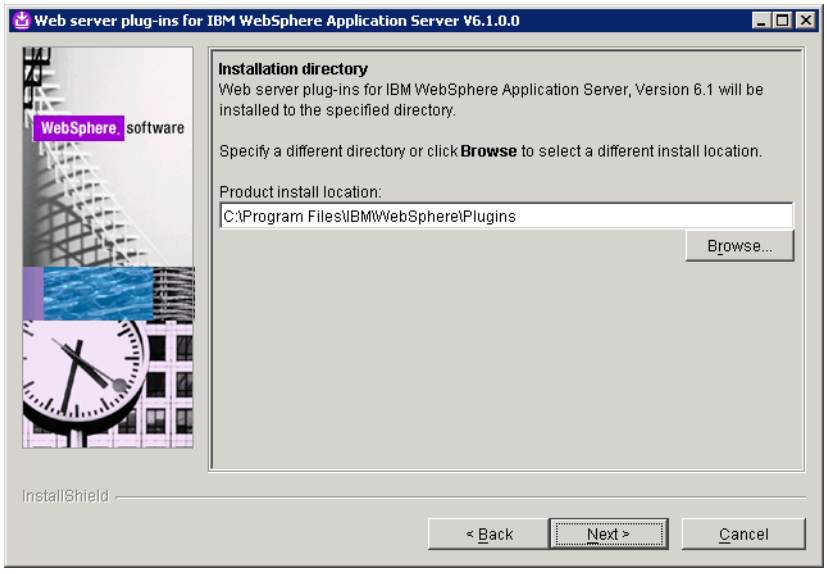
6. In the “Select the web server to configure” screen, select the web server you are using (either **IBM HTTP Server V6 or V6.1** or **Apache Web Server V2**) and click **Next**.



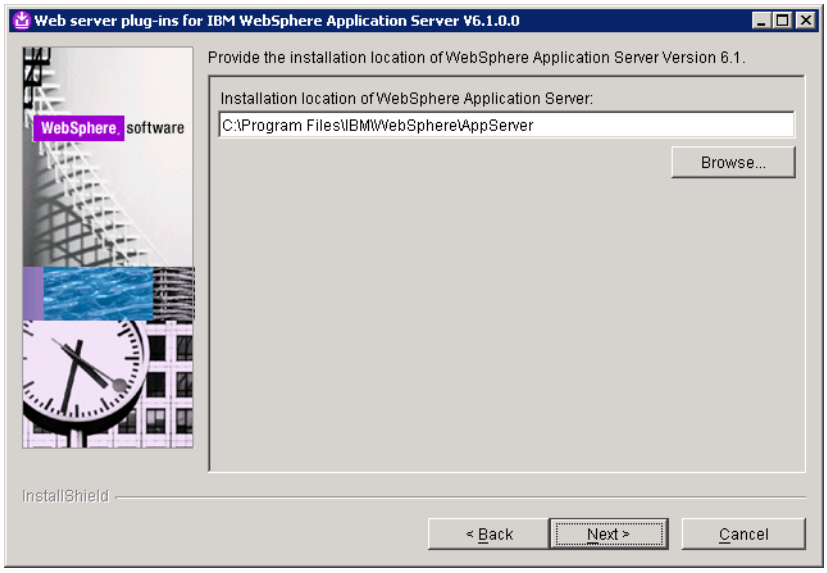
7. In the “Scenario selection” screen, do one of the following:
   - If the web server is installed on the same machine as WAS, select **WebSphere Application Server machine (local)** and click **Next**.
   - If the web server is installed on a different machine, select **Web server machine (remote)** and click **Next**.



8. In the “Installation directory” screen, browse to the web server’s `<plugin_root>` directory and click **Next**.



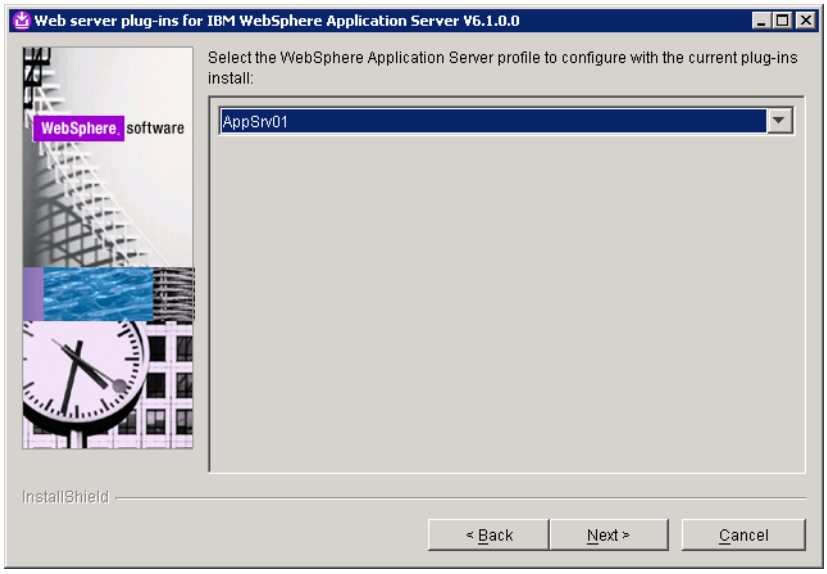
9. If you selected **WebSphere Application Server machine (local)** in step 7, browse to the `<WAS_home>` directory and click **Next**.



Note

If you selected **Web server machine (remote)** in step 7, skip this step.

10. If you selected **WebSphere Application Server machine (local)** in step 7, select the profile name of the WAS instance you want to integrate with the web server, then click **Next**.



Note

If you selected **Web server machine (remote)** in step 7, skip this step.

11. In the “Web server configuration file and port” screen, do the following:

a. Browse to the web server configuration file:

- If you are using IBM HTTP Server, the location and name of the file are:

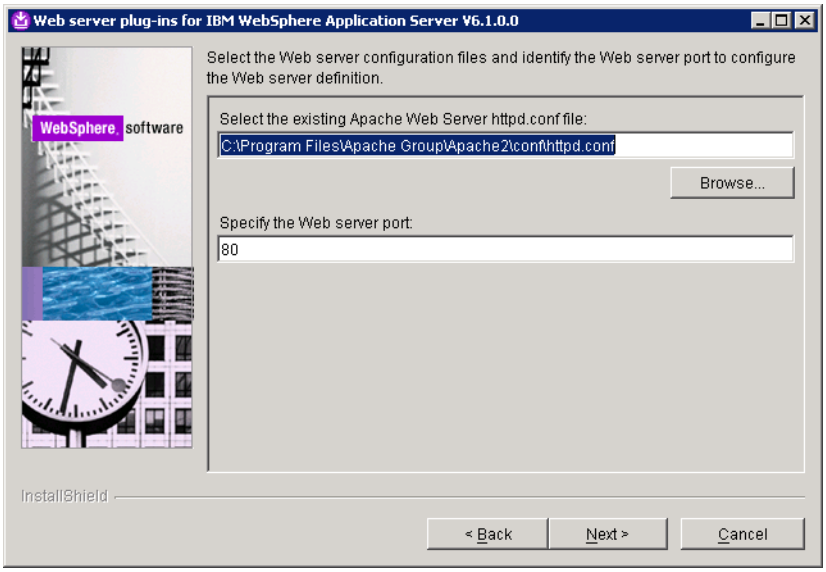
  `<ibm_http_home>/conf/httpd.conf`

- If you are using the Apache web server, the location and name of the file are:

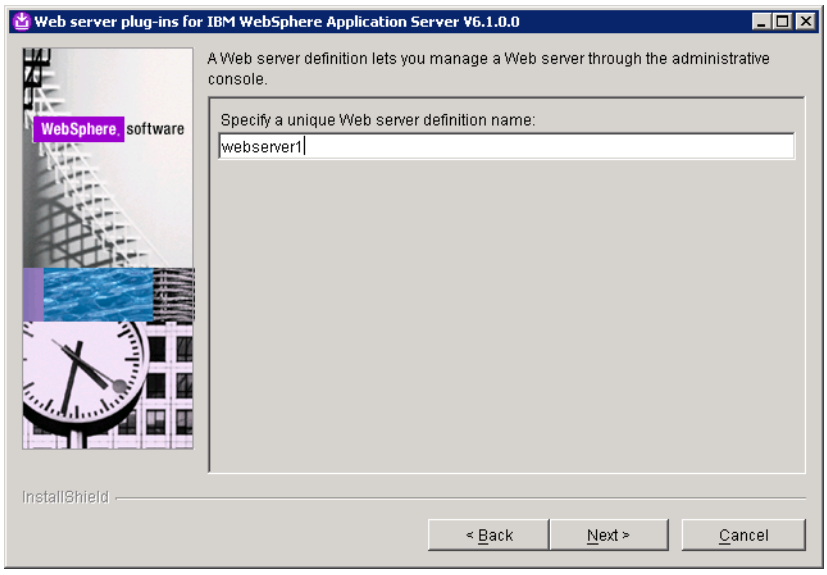
  `<apache_home>/conf/httpd.conf`

b. Specify the port on which your web server is listening for connections.

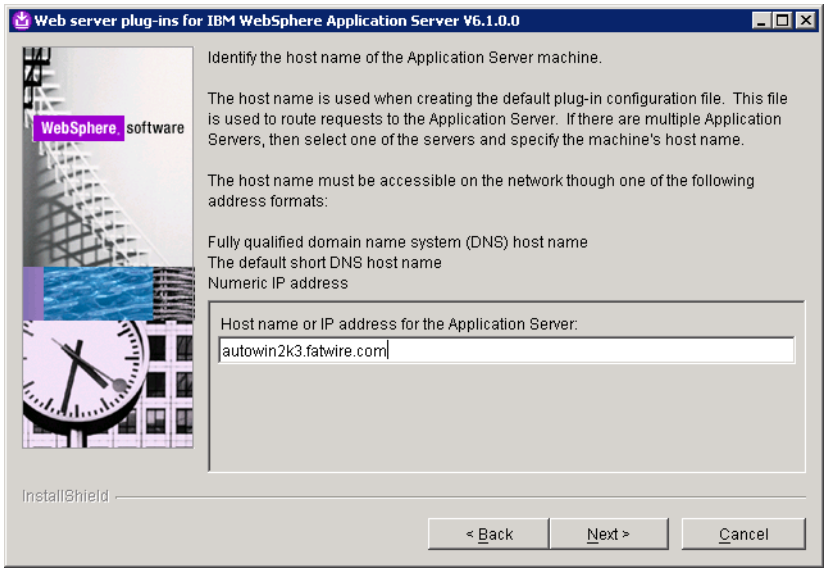
c. Click **Next**.



12. In the “Web server definition” screen, enter a unique name for this web server definition. (A web server definition stores the web server configuration data you have entered in the previous steps.) When you are finished, click **Next**.



13. In the “Web server plug-in configuration” screen, click **Next**.
14. If you selected **Web server machine (remote)** in step 7, enter the fully qualified host name or IP address of the machine where WAS is installed, then click **Next**.



Note

If you selected **WebSphere Application Server machine (local)** in step 7, skip this step.

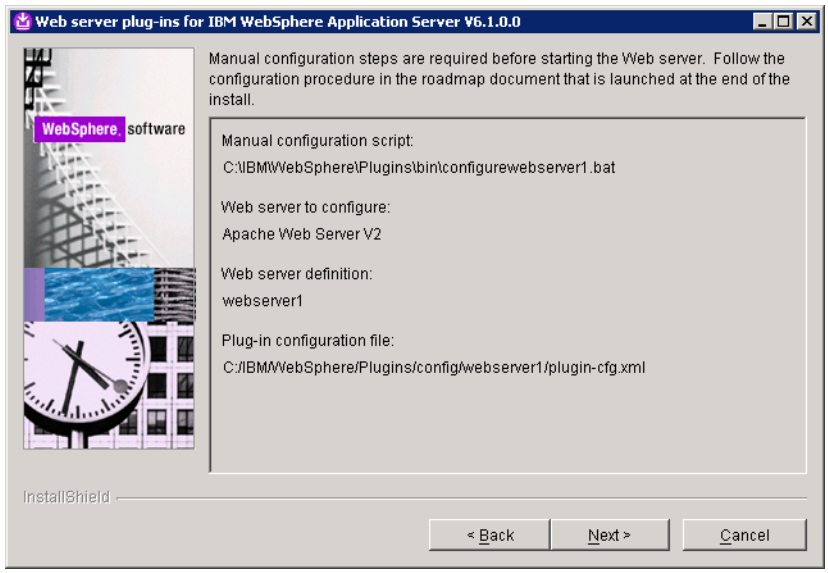
15. In the “Web server plug-in installation information” screen, click **Next**.
16. In the “Web server plug-in installation summary” screen, click **Next**.

17. If you selected **Web server machine (remote)** in step 7, do the following in the "Manual configuration steps" screen:

> **Note**
>
> If you selected **WebSphere Application Server machine (local)** in step 7, skip this step.

   a. When the installation completes successfully, write down the path to the manual configuration script. You will need this path to locate the script in step 19. (This path will be referred to as `<plugin_root>` in step 19.)

   b. Click **Next**.



18. In the "Installation completion status" screen, click **Finish**.

19. If you selected **Web server machine (remote)** in step 7, copy the manual configuration script from the `<plugin_root>/bin` directory on web server machine to the `<WAS_home>/bin` directory on the WAS machine.

    Note

    Before performing this step, note the following:

    - If you selected **WebSphere Application Server machine (local)** in step 7, skip this step.
    - The manual configuration script is named as follows:
        - On Windows: `configure<web_server_definition_name>.bat`
        - On Unix: `configure<web_server_definition_name>.sh`

      where `<web_server_definition_name>` is the name you assigned to the web server definition in step 12.
    - If the web server and WAS machines are not running the same operating system, you should instead use the manual configuration script located in the `<plugin_root>/bin/crossPlatformScripts` directory on the web server machine.

20. Run the manual configuration script:
    - On Windows: **`configure<web_server_definition_name>.bat`**
    - On Unix: **`configure<web_server_definition_name>.sh`**

Part 4

Content Server

This part shows you how to install Content Server. It contains the following chapter:

- Chapter 5, “Installing and Configuring Content Server”

Chapter 5

Installing and Configuring Content Server

This chapter guides you through the installation of Content Server on WebSphere Application Server.

This chapter contains the following sections:

Installing Content Server

After completing Steps I – IV.1 in the "Installation Quick Reference," on page 7, you install Content Server using the provided installer. The installation process consists of two stages.

In the first stage, the installer gathers necessary configuration information, installs the file structure, and creates the CS application for deployment. At the end of the first stage, the installer displays an "Installation Actions" window describing the steps you must perform before proceeding to the second stage of the installation. These steps include the deployment of the CS application; for instructions, see "Deploying the Content Server Application," on page 52.

If you are using an Oracle database and require text attributes greater than 2000 characters, you must set the `cc.bigtext` property to `CLOB` after the CS application is deployed. (For instructions, see step 5 in the next section.)

If the first stage fails, the installer allows you to go back and modify your configuration options (except the database type), and retry the installation.

Note

If you need to change the type of database you have specified during the installation, you must delete the installed CS file structure and restart the installation.

In the second stage, the installer populates the database with the tables and data required for Content Server to function. If the second stage fails, the file structure and database tables must be deleted and the installation restarted from the beginning.

Running the Installer

To install Content Server

1. Make sure you have completed Steps I – IV.1 in the "Installation Quick Reference," on page 7.
2. Extract the Content Server installer archive into a temporary directory.
3. Change to the temporary directory containing the installer files.
4. Execute the installer script:
   - On Windows: **`csInstall.bat`**
   - On Unix: **`csInstall.sh`**

   The installer provides online help at each screen. Read the online help for detailed explanations of the options that are presented in each screen. If you encounter problems during the installation process, consult the online help for possible causes and solutions.
5. If you are using an Oracle database and require text attributes greater than 2000 characters, you must set the `cc.bigtext` property to `CLOB`. When the installer displays the "Installation Actions" pop-up window, complete step 1 displayed in the window, then do the following:
   a. Open the Property Editor by clicking the **Property Editor** button.
   b. In the Property Editor, open the `futuretense.ini` file.

c. Click the **Database** tab.

d. Locate the `cc.bigtext` property and set its value to `CLOB`.

e. Save your changes and close the Property Editor.

f. Continue on to step 3 displayed in the "Installation Actions" window.

6. When the installation completes successfully, perform the post-installation steps in the next section as required for your installation.

Post-Installation Steps

When the Content Server installation completes successfully, perform the following steps:

A. Setting File Permissions (Unix Only)

If you installed Content Server on Unix, you must grant the "executable" permission to all files in the `<cs_install_dir>/bin` directory. To do so, perform the following steps:

1. Change to the `<cs_install_dir>/bin` directory.
2. Run the following command: **`chmod +x *`**
3. Restart the CS application.

B. Verifying the Installation

Verify the installation by logging in to Content Server as the administrator.

Logging in to the Advanced Interface

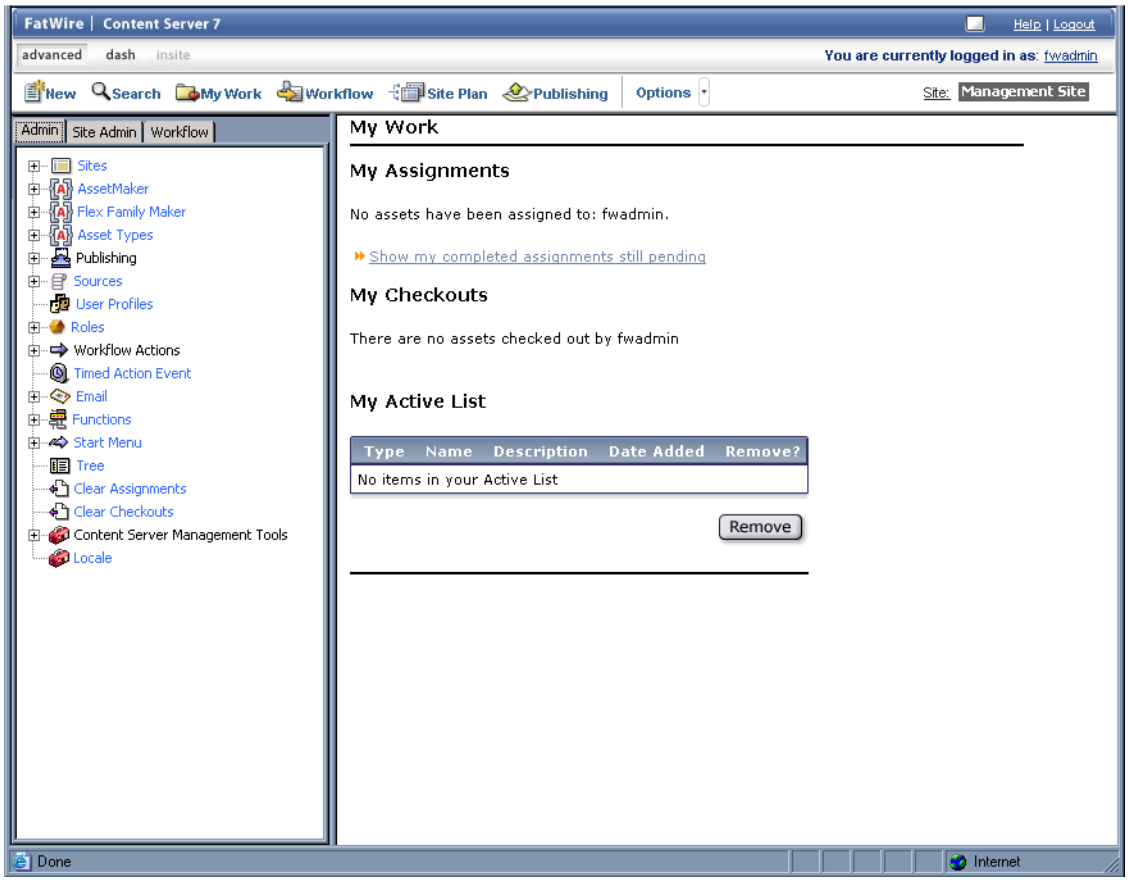
1. Point your browser to the following URL:

   `http://<hostname>:<port>/<context>/Xcelerate/LoginPage.html`

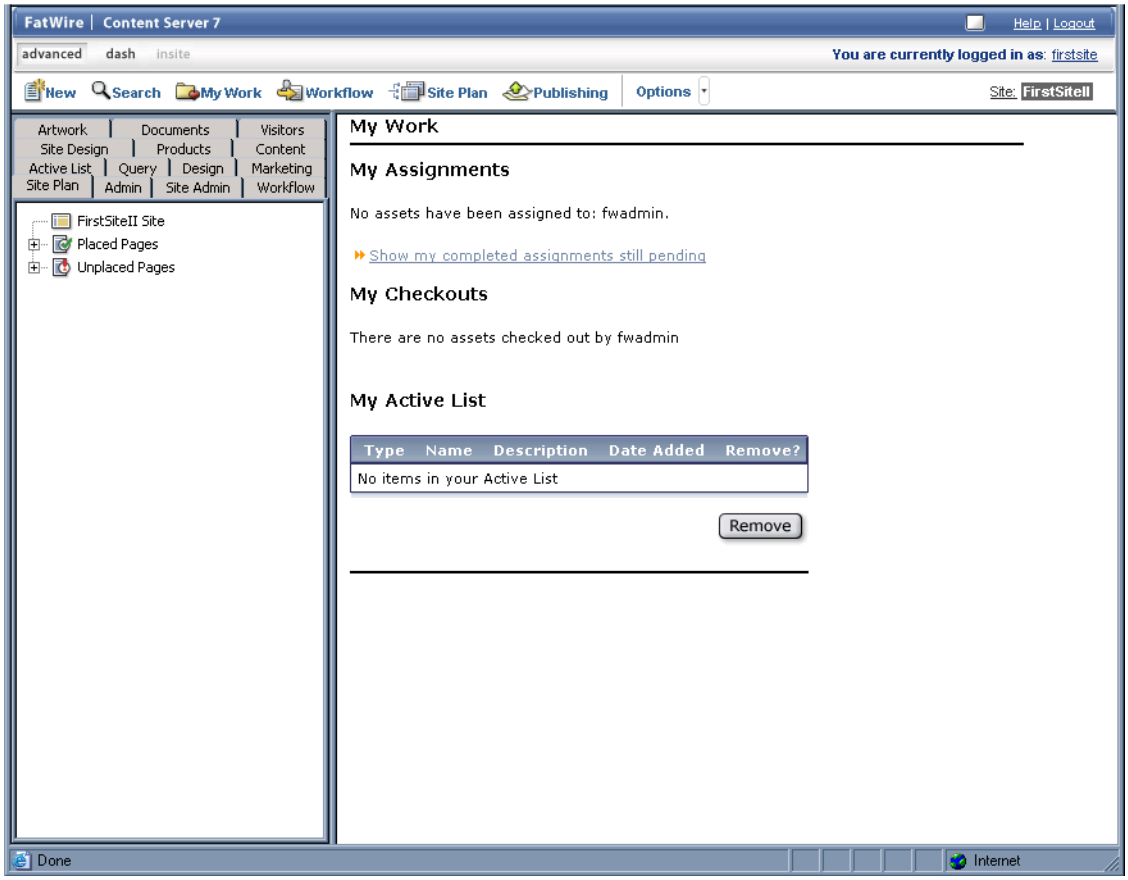
   Content Server displays the Advanced interface login form.

2. Enter the following credentials:
   - User name: **fwadmin**
   - Password: **xceladmin**
3. Click **Login**.

   Depending on whether you installed sample sites, one of the following happens:
   - If you did not install any sample sites, you are logged in to the built in Content Server management site. Only system administration functionality is available.



- If you installed one sample site, you are logged in to that site.



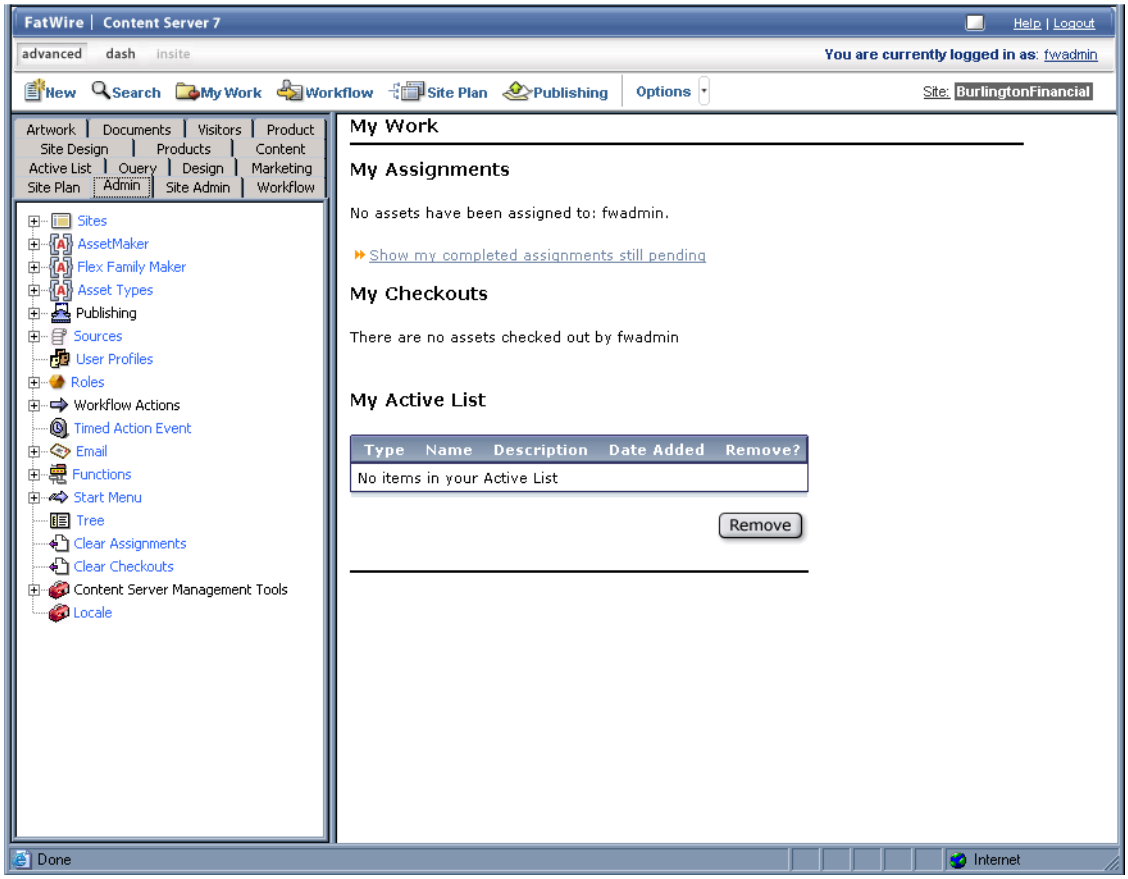
- If you installed more than one sample site, Content Server displays the "Select Site" screen. In such case, select the sample site you wish to log in to.

You have logged in as fwadmin
Select a site that you want to work on:

Site	Description	Assigned Role
BurlingtonFinancial	Burlington Financial	GeneralAdmin, ArtworkEditor, Approver, ContentEditor, WorkflowAdmin, Analyst, Pricer, Marketer, SiteAdmin, Checker, MarketingAuthor, MarketingEditor, Author, Editor, ContentAuthor, Expert, ProductAuthor, ProductEditor, DocumentAuthor, DocumentEditor, Designer, ArtworkAuthor
FirstSiteII	FirstSite Mark II	ArtworkEditor, GeneralAdmin, Approver, ContentEditor, WorkflowAdmin, Analyst, Pricer, Marketer, SiteAdmin, Checker, MarketingAuthor, MarketingEditor, Author, Editor, ContentAuthor, Expert, ProductAuthor, ProductEditor, DocumentAuthor, ArtworkAuthor, Designer, DocumentEditor
GE Lighting	GE Lighting	Designer, SiteAdmin, WorkflowAdmin, GeneralAdmin

[Log in again]

When you select a site, you are logged in to that site.



Logging in to the Dashboard Interface

1. Point your browser to the following URL:

   `http://<hostname>:<port>/<context>`

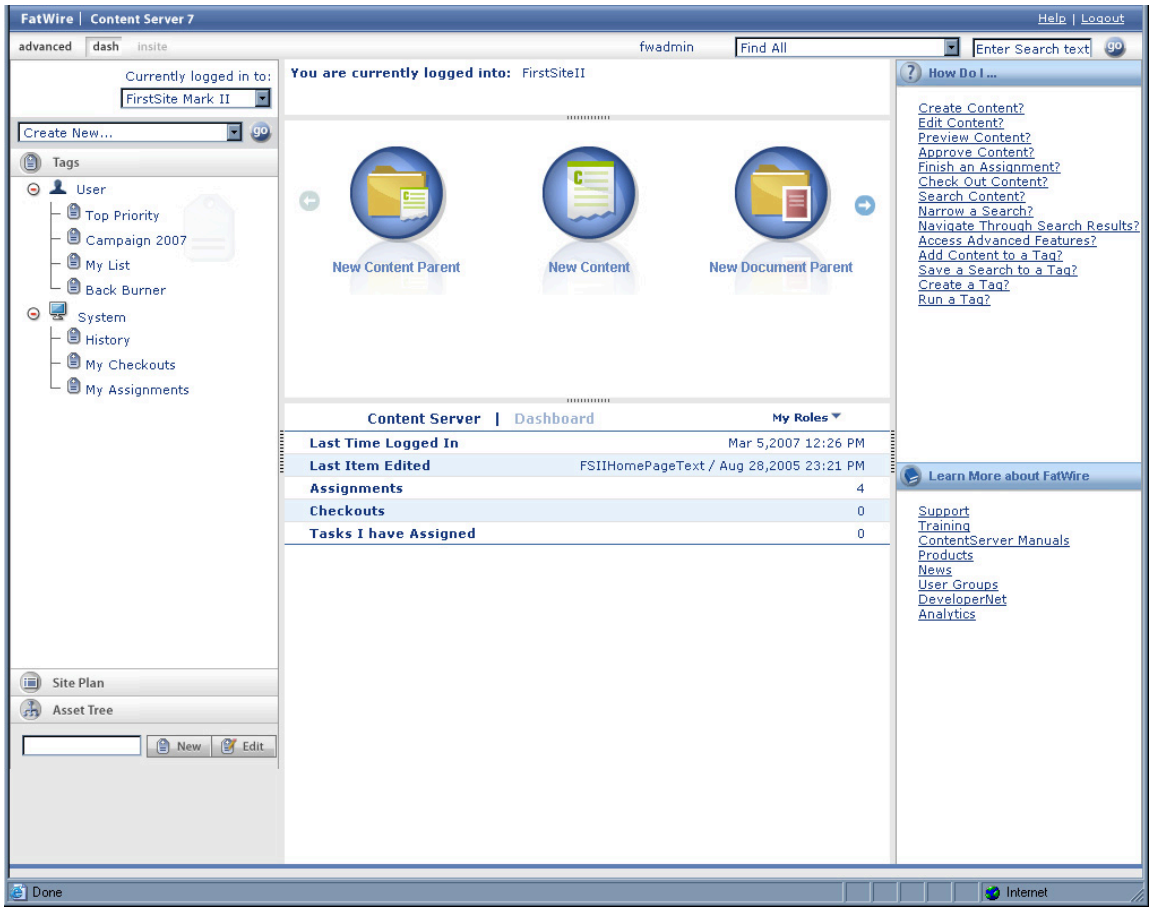
   Content Server displays the Dashboard interface login page.

2. Enter the following credentials:
   - User name: **fwadmin**
   - Password: **xceladmin**

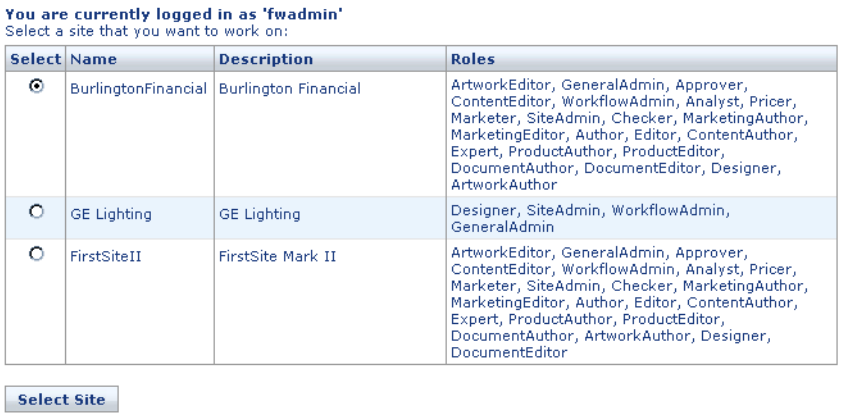
3. Click **Login**.

   Depending on whether you installed sample sites, one of the following happens:

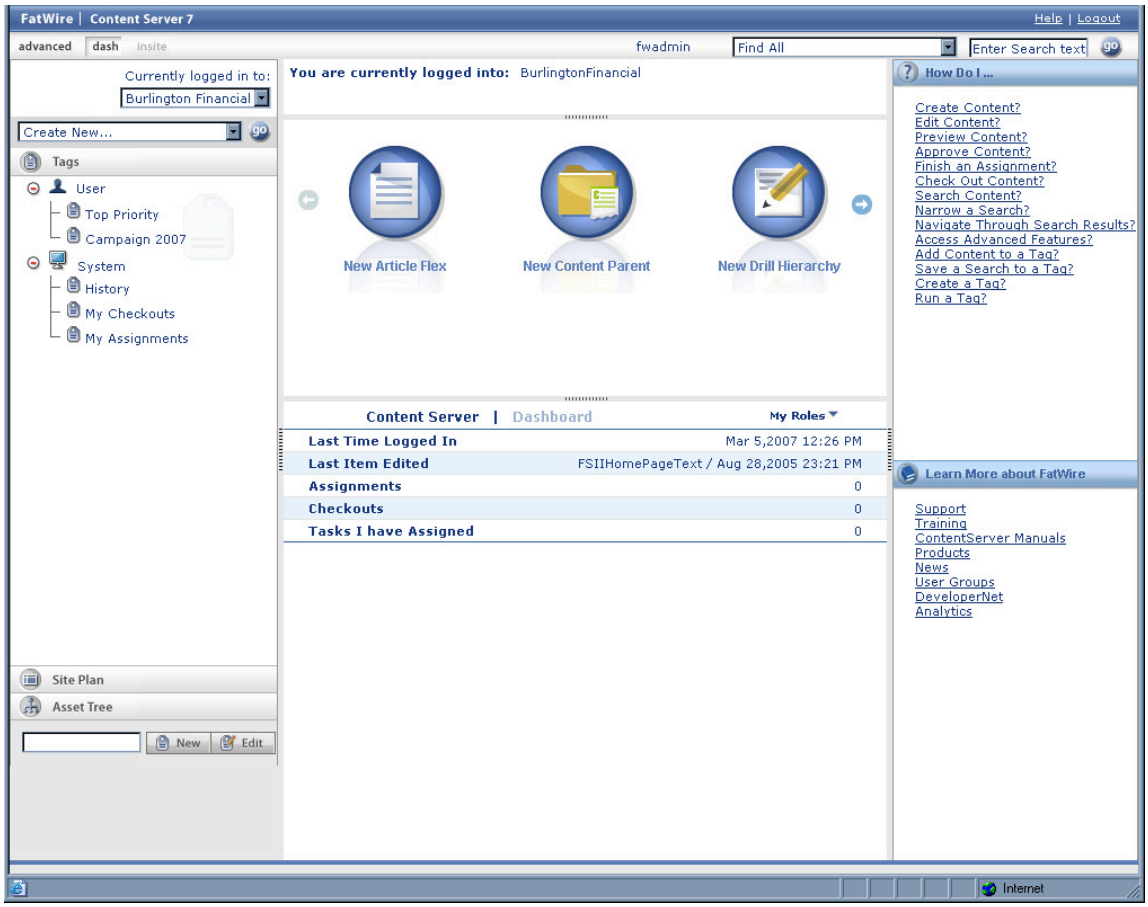
   - If you did not install any sample sites, Content Server displays a message notifying you of that fact. You will not be able to log in to the Dashboard interface until at least one site exists on your system.
   - If you installed one sample site, you are logged in to that site.



   - If you installed more than one sample site, Content Server displays the "Select Site" screen. In such case, select the sample site you wish to log in to.



When you select a site, you are logged in to that site.



Content Server is now ready for configuration. Follow the steps in the rest of this chapter.

C. Setting Up a Content Server Cluster (Optional)

If you plan to install Content Server in a vertical cluster, follow the steps below. Before you proceed, make sure of the following:

- You are installing a vertical cluster (running WAS instances on the same machine).
- You have created a shared file system directory (referred to in this guide as `<cs_shared_dir>`) that all cluster members can read from and write to. The directory name and path cannot contain spaces.
- You have created a `sync` directory inside the shared file system directory.
- You have created a J2C authentication containing the login information for the database which all Content Server cluster members will be using. For instructions, see "Creating a J2C Authentication," on page 37.

To set up a Content Server cluster

For each cluster member, do the following:

1. Create a unique application server instance. For instructions, see "Creating a WAS Instance," on page 28.

2. Create a unique JDBC provider based on the J2C authentication you created for the Content Server database. For instructions, see "Creating a JDBC Provider," on page 41.
3. Create a unique JDBC data source based on the J2C authentication you created for the Content Server database, and the JDBC provider you created in step 2 of this procedure. For instructions, see "Creating a JDBC Data Source," on page 46.
4. Install Content Server by running the Content Server installer and doing one of the following in the "Clustering" screen:
   - For the primary cluster member, select **Single Server**.
   - For each secondary cluster member, select **Cluster Member**.

   For more information, see the online help included with the installer.
5. Deploy the CS application, making sure it has a unique name. For instructions, see "Deploying the Content Server Application," on page 52.
6. Edit the `<cs_install_dir>/futuretense.ini` file by making the following changes:
   a. Set `ft.sync` to a value that is the same for all cluster members.
   b. Set `ft.usedisksync` to `<cs_shared_dir>/sync`.
7. Restart the CS application for the changes to take effect. For instructions, see "Restarting the Content Server Application," on page 63.

D. Setting Up Content Server for Its Business Purpose

Once you have completed your Content Server installation, you are ready to configure it for business use. For instructions, see the *Content Server Administrator's Guide* and the *Content Server Developer's Guide*. The guides explain how to create and enable a content management environment including the data model, content management sites, site users, publishing functions, and client interfaces.