Oracle® WebCenter Sites

Installing on IBM WebSphere Application Server 11*g* Release 1 (11.1.1)

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Oracle® WebCenter Sites Installing on IBM WebSphere Application Server, 11g Release 1 (11.1.1)

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About This Guide

This guide describes the process for installing Oracle WebCenter Sites on IBM WebSphere Application Server 8 Network Deployment, connecting to the supported database of your choice. This includes instructions for installing WebCenter Sites in single-member and vertically clustered environments.

Applications discussed in this guide are former FatWire products. Naming conventions are the following:

- Oracle WebCenter Sites is the current name of the application previously known as *FatWire Content Server*. In this guide, Oracle WebCenter Sites is also called WebCenter Sites.
- Oracle WebCenter Sites: Web Experience Management Framework is the current name of the environment previously known as FatWire Web Experience Management Framework. In this guide, Oracle WebCenter Sites: Web Experience Management Framework is also called Web Experience Management Framework, or WEM Framework.

Audience

This guide is for installation engineers and anyone else who has experience installing and configuring databases, web servers, and application servers.

Related Documents

For more information, see the following documents:

- Oracle WebCenter Sites: Configuring Supporting Software
- Oracle WebCenter Sites: Integrating with LDAP
- Oracle WebCenter Sites Administrator's Guide for the WEM Framework
- Oracle WebCenter Sites Administrator's Guide
- Oracle WebCenter Sites Developer's Guide

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.

Conventions

The following text conventions are used in this guide:

- Boldface type indicates graphical user interface elements that you select.
- *Italic* type indicates book titles, emphasis, or variables for which you supply particular values.
- Monospace type indicates file names, URLs, sample code, or text that appears on the screen.
- Monospace bold type indicates a command.

Third-Party Libraries

Oracle WebCenter Sites and its applications include third-party libraries. For additional information, see *Oracle WebCenter Sites 11gR1: Third-Party Licenses*.

Chapter 1 Introduction

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

- How This Guide Is Organized
- Before You Install Oracle WebCenter Sites
- Installation Quick Reference
- Acronyms and Variables Used in This Guide
- Paths and Directories Used in This Guide

How This Guide Is Organized

This guide provides instructions for installing WebCenter Sites in single-member and vertically clustered environments. This guide also describes the installation and configuration of IBM WebSphere Application Server 8 Network Deployment (referred to throughout this guide as WebSphere Application Server and WAS), as required to support WebCenter Sites. This includes configuration of one or more WAS instances, backend databases, and integrating WAS with IBM HTTP Server and the Apache web server.

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 WebCenter Sites is installed (Part IV). Each major component of the WebCenter Sites 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 9).

Before You Install Oracle WebCenter Sites

- Refer to the *Oracle WebCenter Sites Certification Matrix* to ensure that you are installing currently supported third-party products.
- Only selected information regarding the configuration of third-party products is given in this guide. For detailed information and to obtain the latest e-fixes, patches, and service packs, refer to third-party product vendors' documentation and release notes.
- You can install and deploy WebCenter Sites by running the supplied installer either in GUI or silent install mode. When you run the GUI installer, a graphical interface guides you through the installation process, prompting you to enter information and select options as required. It also provides access to extensive online help. When you install silently, you enter your installation settings into one of the sample omii.ini files provided, using comments in the file for guidance. The installer then uses the file to install WebCenter Sites.
- You will run the WebCenter Sites installer on all systems in your environment. There are two system types: content management/development and delivery. Content management systems and development systems run in the same mode but are used for different purposes.

Note

- The system type cannot be changed once you select the type and click **Next** (GUI installation) or start running the silent installer.
- The installation process does not install user interfaces on delivery systems, except for a limited version of the WebCenter Sites Admin interface to enable the management of select features.
- The names of the systems in your WebCenter Sites environment might differ from the names used in this document. Typically, the content management system is also called "staging," and the delivery system is also called "production."

• Remove older versions of the Java Runtime Environment from the CLASSPATH and PATH environment variables.

Installation Quick Reference

After you install and configure the Java EE components that support WebCenter Sites, you will run the WebCenter Sites installer on each development, content management, and delivery system on which you plan to use WebCenter Sites. During the WebCenter Sites installation, you will have the option to install sample sites and sample content.

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

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

I. Set Up the Database

Set up your choice of supported databases by installing the database management system, creating a database for WebCenter Sites, and configuring the database. For instructions, see *Oracle WebCenter Sites: Configuring Supporting 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 and update your installation to the latest version by following the steps in "Installing WebSphere Application Server," on page 22.
- **2.** Create a WAS instance on which you will install WebCenter Sites by following the steps in "Creating a WAS Instance Using the Command Line," on page 39.

If you are creating a WebCenter Sites cluster, create a unique WAS instance for each member of the cluster.

- 3. Configure the WAS instance by doing the following:
 - **a.** "Configuring the Application Server's Generic JVM Arguments," on page 42.
 - **b.** "Configuring the Web Container," on page 44.
 - **c.** "Configuring the WAS Instance for Database Communications," on page 46. This step requires you to:
 - 1) Create a J2C authentication. For instructions, see "Creating a J2C Authentication," on page 46.
 - 2) Create a JDBC provider. For instructions, see "Creating a JDBC Provider," on page 48.
 - 3) Create a JDBC data source. For instructions, see "Creating a JDBC Data Source," on page 52.

If you are creating a WebCenter Sites cluster, perform steps 2 and 3 for each member of the cluster. Cluster members can share the same J2C authentication.

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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 WebCenter Sites

- 1. Before you run the installer, ensure the following:
 - You have created the directory into which you are installing WebCenter Sites. The directory name and path cannot contain spaces, and the application server must be able to read from and write to the 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 WebCenter Sites is installed.
 - For content management and development systems, the default location of the shared file system directory is inside the directory in which WebCenter Sites is installed.
 - Your system is capable of displaying the WebCenter Sites installer GUI. The installer will not work in text mode.
- 2. Install WebCenter Sites by running the GUI installer or installing silently. For more information, see Chapter 5, "Installing and Configuring Oracle WebCenter Sites."

Half-way through the installation, you will have to deploy the WebCenter Sites application and complete the rest of the steps required to install WebCenter Sites. For instructions, see "Deploying the WebCenter Sites Application," on page 61.

- **3.** Complete the WebCenter Sites installation by performing the following steps:
 - **a.** If you installed WebCenter Sites on Unix, set the permissions for WebCenter Sites binaries by following the steps in "Setting File Permissions (Unix Only)," on page 97.
 - **b.** WebCenter Sites contains a modified version of the Microsoft XML Parser (MSXML.jar in the WEB-INF/lib directory). If a different version of the Parser is referenced in the CLASSPATH environment variable, you must change the path to refer to the version used by WebCenter Sites; otherwise, WebCenter Sites will fail when parsing XML. For more information, see "Loading the XML Parser," on page 97.
 - **c.** Add the WebCenter Sites binaries directory to your library path variables as explained in "Adding the WebCenter Sites Binaries Directory to the Library Path Variable," on page 98.
 - **d.** Verify the WebCenter Sites installation by logging in to Oracle WebCenter Sites as the general administrator and accessing the WebCenter Sites Admin and Contributor interfaces. For instructions, see "Verifying the Installation," on page 99.
 - e. If you wish to replace CAS with Oracle Access Manager (OAM), follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
 - f. If you want to perform LDAP integration, follow the instructions in "Integrating with LDAP (Optional)," on page 103.

- **g.** If you are creating a clustered system, follow instructions in "Setting Up a WebCenter Sites Cluster (Optional)," on page 103.
- **h.** If you are clustering CAS, follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
- i. If you need to redeploy CAS, follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
- **j.** Once the entire installation is completed and verified, set up WebCenter Sites for its business purpose. For instructions, see the *WebCenter Sites Administrator's Guide* and the *WebCenter Sites Developer's Guide*.

Acronyms and Variables Used in This Guide

Name	Description
WAS	WebSphere Application Server
DM	Deployment Manager
CS	WebCenter Sites
<dm_host></dm_host>	The host name or IP address of the Deployment Manager host.
<dm_console_port></dm_console_port>	The port number on which the Deployment Manager console is listening for connections.
<dm_profile></dm_profile>	The name of the Deployment Manager profile.
<dm_soap_port></dm_soap_port>	The number of the Simple Object Access Protocol port of the Deployment Manager.
<was_host></was_host>	The host name of the machine running WAS.
<pre><server_name></server_name></pre>	The name of the WAS server.
<appserv_profile></appserv_profile>	The name of the application server profile.
<appserv_cell></appserv_cell>	The name of the application server cell.
<appserv_node></appserv_node>	The name of the application server node.

 Table 1: Acronyms and Variables

Paths and Directories Used in This Guide

Name	Description
<was_home></was_home>	Path to the directory where WAS is installed. The path includes the name of the directory.
<cs_install_dir></cs_install_dir>	Path to the directory where WebCenter Sites is installed. The path includes the name of the directory.
<cs_shared_dir></cs_shared_dir>	Path to the WebCenter Sites shared file system directory. The path includes the name of the shared directory.
<apache_home></apache_home>	Path to the directory where the Apache web server is installed. The path includes the name of the directory.
<ibm_http_home></ibm_http_home>	Path to the directory where IBM HTTP Server is installed. The path includes the name of the directory.
<plugin_root></plugin_root>	The path to the plug-in directory of the web server. The path includes the name of the directory.
<iim_directory></iim_directory>	The path to the directory where the installation files for the IBM Installation Manager were unzipped.

Table 2: F	Paths a	and Dire	ectories
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Part 1 Database

This part contains a short chapter summarizing the databases that WebCenter Sites uses. For instructions on creating and configuring the databases, refer to *Oracle WebCenter Sites: Configuring Supporting Software*.

This part contains the following chapter:

• Chapter 2, "Setting Up a Database"

Chapter 2 Setting Up a Database

WebCenter Sites requires access to a database that is specifically configured for WebCenter Sites. Refer to the *Oracle WebCenter Sites Certification Matrix* for the list of supported databases (as well as other third-party components).

Before installing any other of WebCenter Sites' supporting software, 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 WebCenter Sites. For instructions, refer to *Oracle WebCenter Sites: Configuring Supporting 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 WebCenter Sites.

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 WebCenter Sites.

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

This chapter contains the following sections:

- Start/Stop Commands
- Installing WebSphere Application Server
- Creating a WAS Instance Using the Command Line
- Configuring the WAS Instance
- Deploying the WebCenter Sites Application
- Restarting the WebCenter Sites Application

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 version 8. It contains the following steps:

- A. Installing IBM Installation Manager
- B. Installing WebSphere Application Server Using IBM IM
- C. Updating WebSphere Application Server

A. Installing IBM Installation Manager

To install the IBM Installation Manager

1. Unzip the IBM Installation Manager to a directory and execute the following command:

```
cd <iim_directory> (need to add this to dir list)
./install
```

This command starts the installer for the IBM Installation Manager.

2. In the "Install Packages" screen, select the IBM IM version you wish to install.



3. Click Next.

4. Read and accept the license agreement, then click Next.



5. Enter the path to the Installation Manager Directory and click Next.

			IBM Install	ation Manag	er			-
install Packa	iges							
Install	Licenses	Location S	ummary					
0nce inst	alled, IBM Installat	ion Manager will	be used to insta	all, update, mo	dify, manage a	nd uninstall you	ir packages.	
Installation <u>M</u> ar	nager Directory: /c	pt/IBM/Installatio	onManager/eclip	se				Br <u>o</u> wse
Disk Space In	formation							
Volume	Available S	pace						

6. Click Install to start the installation process.

2	IBM Installation	n Manager	-	ο×
l I	nstall Packages Review the summary information.			
T	Install Licenses Location Summary arget Location Package Group Name: IBM Installation Manager Installation Directory: /opt/IBM/InstallationManager/eclipse			
F	Packages			
	Packages			
E G F T	i nvironment ırabic, Brazilian Portuguese, Czech, Danish, English, French, German, ireek, Hungarian, Italian, Japanese, Korean, Lithuanian, Polish, ussian, Simplified Chinese, Slovenian, Spanish, Traditional Chinese, urkish	Disk Space Information	Total Available Space 175.64 GB	2
		Iotal Download Size: 96.39 MB		
)	Repository Information	Intel Installation Size. 107.22 MB		
?		< <u>B</u> ack <u>N</u> ext >	Install Cancel	

The installer retrieves the required installation files:

	n Manager	
Install Packages		
Review the summary information.		7
Install Licenses Location Summary		
Target Location		
Package Group Name: IBM Installation Manager		
Installation Directory: /opt/IBM/InstallationManager/eclipse		
Packages		
Packages		
Environment Arabic, Brazilian Portuguese, Czech, Danish, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Lithuanian, Polish, Russian, Simplified Chinese, Slovenian, Spanish, Traditional Chinese, Turkish	Disk Space Information / Total Download Size: 96.39 MB	Total Available Space 175.64 GB
Environment Arabic, Brazilian Portuguese, Czech, Danish, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Lithuanian, Polish, Russian, Simplified Chinese, Slovenian, Spanish, Traditional Chinese, Turkish	Disk Space Information / Total Download Size: 96.39 MB Total Installation Size: 167.22 MB	Total Available Space 175.64 GE
Environment Arabic, Brazilian Portuguese, Czech, Danish, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Lithuanian, Polish, Russian, Simplified Chinese, Slovenian, Spanish, Traditional Chinese, Turkish • Repository Information	Disk Space Information / Total Download Size: 96.39 MB Total Installation Size: 167.22 MB	Total Available Space 175.64 GE
Environment Arabic, Brazilian Portuguese, Czech, Danish, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Lithuanian, Polish, Russian, Simplified Chinese, Slovenian, Spanish, Traditional Chinese, Turkish • Repository Information alling.: Retrieving files. 78 MB of 96 MB (82%) completed.	Disk Space Information / Total Download Size: 96.39 MB Total Installation Size: 167.22 MB	Total Available Space 175.64 GB

7. When the installation completes, restart the Installation Manager. We will now use the IBM Installation Manager to install WebSphere Application Server.

B. Installing WebSphere Application Server Using IBM IM

This section assumes you ave successfully installed IBM IM.

To install WebSphere Application Server

- 1. Unzip the IBM WAS installation directories to a temporary folder. For example: /tmp/was8
- **2.** Change to the IBM IM directory and launch the installer. Once the installer is launched, click **Install**.
- **3.** Click the **Repositories** link and configure the repository for installing the WebSphere Application Server.

	IBM Installation Mana	iger			-
nstall Packages					->
			6	-14	
ensure that you can access the network or yo	e to Install. In order to access p our repository media.	ackages, you must	configure a repo	sitory connection and	
Check the following areas for problems:					
Repository connections: Packages are sto <u>Repositories</u> preference page. Verify tha	red in repositories that you mu د your repository credentials all	st connect to. Confi ow access to the re	igure repository c pository.	onnections on the	
Passport Advantage settings: If you are i connection and site on the Passport Adva	nstalling packages from the Pas: <u>antage</u> preference page.	sport Advantage sit	te, configure the I	Passport Advantage	
Proxy settings: Your work environment m preference page.	ight require proxy settings to co	nnect to repositori	es. Configure the	se settings on the <u>Pro</u>	хy
Firewall and network access: Firewall sett IOD Correct firewall settings and resolve acce packages.	ings and network access proble iss issues on your system. Then	ms can affect your click <u>Refresh</u> to ref	ability to view ar try the corrected	nd select packages. settings and review	

4. Click Add Repository... and browse to the temporary directory where you extracted the WAS8 installer files (/tmp/was8) and select the respositories.config file.

Θ	Preferences (Filtered)		×
type filter text 🤞	Repositories		, , , , , , , , , , , , , , , , , , ,
Repositories Internet	Repositories:		
Passport Advantage	Location	Connection	Add <u>R</u> epository
			<u>E</u> dit Repository
	Add Repository	×	Remo <u>v</u> e Repository
Specify a	repository and add to the repository preference list.		Move <u>U</u> p
Repositor	<i>[</i> :	_	<u>M</u> ove Down
/tmp/was	8/repository.config	- Browse	<u>C</u> lear Credentials
<u>р. т.</u>			Test Connections
	Cancel	ок	ges (including the
			efaults <u>A</u> pply
		Cance	ок

5. Click OK.

IBM IM identifies the version to be installed based on your repository.

6. Select the appropriate version and click Next.

	ish instantion humage.	-
nstall Packages		
Select packages to install:		
		Lange and L
Installation Packages	Status Vendor License Key	Туре
🔻 🗹 🧊 IBM WebSphere Application Server Networ	k Deployment	
🗹 🗓 Version 8.0.0.0	Will be installed IBM	
] Show all versions	<u>_Check for Other Versions</u> , Fixes, and E	xtensions
Show all versions	<u>Check for Other Versions</u> , Fixes, and E	xtensions
] Show <u>a</u> ll versions Petails BM WebSphere Application Server Network Di	Check for Other Versions, Fixes, and E	xtensions
☐ Show <u>a</u> ll versions Petails BM WebSphere Application Server Network De BM WebSphere Application Server Network Deploy	<u>Check for Other Versions</u> , Fixes, and E eployment 8.0.0.0 ment is a production-ready Java Platform, Enterprise Edition (Java EE) compliant	xtensions
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Show <u>a</u> ll versions Petails BM WebSphere Application Server Network De pplication server for the deployment of enterprise leyond the WebSphere Application Server base edil Repository: (tmp/wa8	<u>Check for Other Versions</u> , Fixes, and E aployment 8.0.0.0 ment is a production-ready Java Platform, Enterprise Edition (Java EE) compliant web services solutions for dynamic e-business. It is the next level in application se tion because it provides advanced web services and clustering capabilities. <u>More in</u>	xtensions erving <u>nfo</u>
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Show <u>a</u> ll versions Setails BM WebSphere Application Server Network De BM WebSphere Application Server Network Deploy pplication server for the deployment of enterprise leyond the WebSphere Application Server base edit Repository: /tmp/was8	<u>Check for Other Versions</u> , Fixes, and E aployment 8.0.0.0 ment is a production-ready Java Platform, Enterprise Edition (Java EE) compliant web services solutions for dynamic e-business. It is the next level in application se tion because it provides advanced web services and clustering capabilities. <u>More in</u>	xtensions erving nfo
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7. Read and then accept the License agreement. Click Next.



8. In the "Shared Resources Directory" field, click **Browse** and select the directory for shared resources. Then click **Next**.

🖻 IBM Installation Mana	ger			_ = ×
Install Packages Select a location for the shared resources directory.				
Install Licenses Location Features Summary				
When you install packages, files are stored in two locations:				
 The shared resources directory - resources that can be shared by mult 2) The installation directory - any resources that are unique to the packa 	iple packages. ge that you are ir	nstalling.		
Important: You can only select the shared resources directory the first tin best results select the drive with the most available space because it mu packages.	ne you install a p ist have adequate	ackage with the I e space for the sł	BM Installation Man nared resources of f	nager. For uture
Shared <u>R</u> esources Directory: /opt/IBM/IMShared				Bro <u>w</u> se
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Volume Available Space / 172.25 GB				
0	< <u>B</u> ack	<u>N</u> ext >	Install	Cancel

9. In the "Installation Directory" field, click **Browse** and select the WAS8 installation directory. Then click **Next**.

<u>è</u> -	IBM Installation M	Manager			_ = ×
	Install Packages A package group is a location that contains one or more packages. Some c group and will share a common user interface. Select an existing package	compatible packages ca group, or create a new	an be installed in one.	nto a common pac	kage
	Install Licenses Location Features Summary				
	Use the existing package group				
	• <u>C</u> reate a new package group				
	Package Group Name	nstallation Directory			
	IBM WebSphere Application Server Network Deployment V8.0	/opt/IBM/WebSphere/Ap	pServer		
	Package Group Name: IBM WebSphere Application Server Network Deploy Installation <u>D</u> irectory: /opt/IBM/WebSphere/AppServer Details	rment V8.0 Disk Spa	ice Information	n	B <u>r</u> owse
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10. Select the translation that you wish to install and then click **Next**.

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nstall Package	2S				4
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Install Lic	enses Location Feat	ures Summary			
Translations					
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🗌 <u>H</u> ungarian	🗌 I <u>t</u> alian	Japanese	<u>K</u> orean	□ Po <u>l</u> ish	
🗌 Romanian	🗌 Ru <u>s</u> sian	Simplified Chinese	Spanish	Traditional <u>Chinese</u>	

11. Select all applicable packages and then click **Next**.

			TDP-1113ca		Jei				_
Install Packages									
Select the features to ins	stall.								T.
Install Licenses	E Locat	ion Fe	atures >	Summary					
Features									
🗢 📄 🇊 IBM WebSphere	Application S	Server Networ	k Deployment	8.0.0.0					
EJBDeploy to	ol for pre-EJB	3.0 modules							
🗢 🗹 🟠 Stand-alone t	hin clients, r	esource adapt	ers and embe	ddable contain	ers				
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🖌 Embeddab	le EJB contai	ner							
Sample appli	cations								
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IBM 32-bit	SDK for Java	, Version 6							
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12. Click Next, review your selections, and then click Install.

<u>e</u>	IBM Installatio	n Manager	_	• ×
	Install Packages Review the summary information.		4	
	Install Licenses Location Features Summ	ary		
	Target Location			
	Package Group Name: IBM WebSphere Application Server Netwo	rk Deployment V8.0		
	Installation Directory: /opt/IBM/WebSphere/AppServer			
	Shared Resources Directory: /opt/IBM/IMShared			
	Packages			
	Packages			
	 IBM WebSphere Application Server Network Deployment 8.0.0.0 IBM WebSphere Application Server Network Deployment 8.0.0.0 Egg 200 Stand-alone thin clients, resource adapters and embeddable composition of the server and the server adapters Stand-alone thin clients and resource adapters Embeddable EJB container IBM Software Development Kit IBM 64-bit SDK for Java, Version 6 	ontainers		
	Environment	Disk Space Information		
	English	/	Total Available Space 172.25 GB	
		Total Download Size: 936.08 MB Total Installation Size: 1.99 GB		
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IBM IM starts the installation process.

		L
nstall Packages		
Review the summary info	ormation.	
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Target Location		
Package Group Name:	IBM WebSphere Application Server Network Deployment V8.0	
Installation Directory:	/opt/IBM/WebSphere/AppServer	
Shared Resources Direct	cory: /opt/IBM/IMShared	
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 EJBDeploy tool f Stand-alone thin Stand-alone t Embeddable I IBM Software De 	for pre-EJB 3.0 modules n clients, resource adapters and embeddable containers thin clients and resource adapters EJB container evelopment Kit	
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 IBM 64-bit SD Environment English ▶ Repository Informatialling.: Retrieving files at 	Disk Space Information / Total Download Size: 936.08 MB Total Installation Size: 1.99 GB ion : 112.8 MB/s. 147 MB of 936 MB (16%) completed.	Total Available Space 172.25 GB

13. When the installation process completes successfully, you are prompted to start the profile management tool to create profiles. Select **Profile Management Tool to create an application server profile** and click **Finish**.



14. Enter the security username and password for the Deployment Manager console and then click **Next**.

Profile Management Tool 8.0 ×
Administrative Security
Choose whether to enable administrative security. To enable security, supply a user name and password for logging into administrative tools. This administrative user is created in a repository within the application server. After profile creation finishes, you can add more users, groups, or external repositories.
✓ Enable administrative security
User name:
Password:
Con <u>fi</u> rm password:
See the information center for more information about administrative security. View the online information center
< Back Next > Cancel Einish

15. Select **Cell (deployment manager and a federated application server)**. The Cell environment creates two profiles – one for the deployment manager and one for the application server. Click **Next**.

Profile Management Tool 8.0
Environment Selection
Select a specific type of environment to create. <u>E</u> nvironments:
▼ WebSphere Application Server
Cell (deployment manager and a federated application server)
Management Application server Custom profile Secure proxy (configuration-only)
Description A cell environment creates two profiles; a management profile with a deployment manager and an application server profile. The application server is federated to the cell of the deployment manager.
< Back Cancel Finish

16. In the "Profile Creation Options" screen, select **Typical profile creation** and then click **Next**.



17. Review the information in the "Profile Creation Summary" screen, and then click **Create**.

Profile Management Tool 8.0	×
Profile Creation Summary	i a
Review the information in the summary for correctness. If the information is correct, click Create to profiles. Click Back to change values on the previous panels.	o start creating the new
Application server environment to create: Cell (deployment manager and a federated applicatior Location: /opt/IBM/WebSphere/AppServer/profiles Disk space required: 230 MB	n server)
Profile type: Cell deployment manager Profile name: Dmgr01 Make this profile the default: True	=
Cell name: localhostCell01 Node name: localhostCellManager01 Host name: localhost	
Deploy the administrative console (recommended): True Deploy the default application: True	
Enable administrative security (recommended): False	
Administrative console port: 9060 Administrative console secure port: 9043 Bootstrap port: 9809 SOAP connector port: 8879	×
< Back Create Ca	ncel Einish

18. When the profile is created successfully, click **Finish**.

Profile Management Tool 8.0	×
Profile Creation Complete	i a
The Profile Management Tool created the profiles successfully.	^
The next step is to start the node agent for the federated application server and start the deployment manager.	
The node agent must be started to allow the deployment manager to communicate with the federated application Use the startNode command in the /opt/IBM/WebSphere/AppServer/profiles/AppSrv01/bin directory to start the no agent.	server. de
Start the deployment manager so that other nodes can be federated into its cell. After the deployment manager is you can administer the nodes that belong to the cell.	started,
You can start and stop the deployment manager from the command line or the First steps console. The First steps or also has links to an installation verification test and other information and features that relate to the deployment i	console manager.
☑ Launch the First steps console.	
To start the Profile Management Tool later, use the PMT command in the <i>app_server_root/</i> bin/ProfileManagement or the option in the First steps console.	lirectory
	~
< Back Next > Cancel	<u>F</u> inish

At this point, you have successfully installed WAS8 and created a Cell env profile.

C. Updating WebSphere Application Server

This section assumes you have successfully installed WAS8 and created a Cell env profile. This section provides instructions for updating WAS8.

To update WebSphere application server

1. Change to the IBM IM directory and launch the installer. Once the installer is launched, click **Update**. Select the supported update and then click **Next**.

🖄 ІВМ І	nstallation Mana	ager			_ 0 X
lindate Packages					
Select the updates to install. Any available fixes can be sele	cted on the next p	bage.			Co.
Update	Recommended	Vendor			
🗢 🗹 🗞 IBM WebSphere Application Server Network Deployr	r				
🗢 🗹 🗊 IBM WebSphere Application Server Network Depl	0				
🖌 🧊 Version 8.0.0.1	×	IBM			
_					1
✓ Show recommended only				Select Recomme	ended
0		< Back	Next >	Update Ca	ancel
		<u></u> den			
2. Select the fix pack to install and then click Next.

	IBM Installation Manager				
Update Packages Select the fixes to install.					E.
	<i>M.</i> X				***
Fixes			Recommended	Vendor	
🗢 🗹 🗊 IBM WebSphere Applicatio	n Server Network Deployment 8.0.0.1			IBM	
🗹 🧊 8.0.0.1-WS-WAS-IFPM48	033 8.0.1.20110930_1638				
Sho <u>w</u> recommended only				<u>S</u> elect Rec	rommended
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Show recommended only Details 8.0.0.1-WS-WAS-IFPM48033 8.0	1.20110930_1638 More info			<u>S</u> elect Rec	ommended
Sho <u>w</u> recommended only Details 8.0.0.1-WS-WAS-IFPM48033 8.0 PM48033 iFix for WAS V8 Fixpack 1 • Repository: https://www.ibm.com/	1.20110930_1638 More info software/repositorymanager/service/com.ibm.we	bsphere.ND.v	80/8.0.0.0	<u>S</u> elect Rec	ommended
Show recommended only Details 8.0.0.1-WS-WAS-IFPM48033 8.0 PM48033 iFix for WAS V8 Fixpack 1 • Repository: https://www.ibm.com/ • This fix resolves APARS: - PM48033	1.20110930_1638 More info software/repositorymanager/service/com.ibm.we	bsphere.ND.v	80/8.0.0.0	<u>S</u> elect Rec	ommended

3. Read and accept the License agreement and then click Next.

Update Packages				Æ
Read the following license agreements carefully.				
Update Packages Updates Licenses Feature	s Summary			
International Program License Agreement				-
Part 1 - General Terms				_
BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING C LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEI	N AN "ACCEPT" BUTTON, OR ACCEPTING THESE TERMS ON E TO THESE TERMS. IF YOU DC	OTHERWISE US BEHALF OF LIC NOT AGREE T	ING THE PROGRAI CENSEE, YOU REPR O THESE TERMS,	M, LESENT
- DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCI	EPT" BUTTON, OR USE THE PR	OGRAM; AND		
- PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND P FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWN	ROOF OF ENTITLEMENT TO TH ILOADED, DESTROY ALL COPIE	E PARTY FROM	WHOM IT WAS OB GRAM.	TAINED
1. Definitions				
"Authorized Use" - the specified level at which Licensee is authorize of users, millions of service units ("MSUs"), Processor Value Units ("	ed to execute or run the Progra PVUs"), or other level of use s	am. That level i pecified by IBM	may be measured I.	by number
"IBM" - International Business Machines Corporation or one of its su	bsidiaries.			
"License Information" ("LI") - a document that provides information available at www.ibm.com/software/sla. The LI can also be found in i included with the Program.	and any additional terms spec the Program's directory, by the	ific to a Progra e use of a syste	m. The Program's em command, or a	LI is s a booklet
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4. Select the features to update and then click Next.

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Opdate Packages	4-11						
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Update Packages	Updates Licenses	Featu	res 🔪 Sum	mary			
Features							
🔻 🖃 🗊 IBM WebSphere							
EJBDeploy to	ol for pre-EJB 3.0 modules						
🗢 🗹 🟠 Stand-alone t	hin clients, resource adapt	ters and embe	ddable contain	ers			
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🖌 Embeddab	le EJB container						
Sample appli	cations						
🗢 🖃 族 IBM Software	Development Kit						
IBM 32-bit	SDK for Java, Version 6						
✓ IBM 64-bit	SDK for Java, Version 6						
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5. Click Update to start the update process.

lindate Packages			E
Review the summary information.			
Update Packages Vpdates Licenses Features	Summary		t,
Target Location			
Package Group Name: IBM WebSphere Application Server Netwo	rk Deployment V8.0		
Installation Directory: /opt/IBM/WebSphere/AppServer			
Shared Resources Directory: /opt/IBM/IMShared			
Updates			
Features To Install	Features To Remove		
 IBM WebSphere Application Server Network Deployment 8.0.0.1 8.0.0.1-WS-WAS-IFPM48033 8.0.1.20110930_1638 IBM WebSphere Application Server Network Deployment 8.0.0 			
Disk Space Information		Total Av	vailable Space
Disk Space Information		Total Av	vailable Space 170.08 GB
Disk Space Information / Total Download Size: 768.19 MB Total Installation Size: 1.66 GB		Total Av	vailable Space 170.08 GB
Disk Space Information / Total Download Size: 768.19 MB Total Installation Size: 1.66 GB ▶ Repository Information		Total Av	/ailable Space 170.08 GB

6. When the update process completes successfully, click Finish.



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 20).
- **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, ensure 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 20).
- **7.** Start the new application server instance (for instructions, see "Start/Stop Commands," on page 20).

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 20).
- 10. Stop the Node Agent (for instructions, see "Start/Stop Commands," on page 20).
- **11.** Stop the Deployment Manager (for instructions, see "Start/Stop Commands," on page 20).
- **12.** (Optional) If you are creating a WebCenter Sites cluster, repeat this procedure for each member of the cluster.

Configuring the WAS Instance

Follow the steps in this section to configure the WAS instance you created for WebCenter Sites (see "Creating a WAS Instance Using the Command Line," on page 39). This section contains the following steps:

- A. Configuring the Application Server's Generic JVM Arguments
- B. Configuring the Web Container
- C. Configuring the WAS Instance for Database Communications

A. Configuring the Application Server's Generic JVM Arguments

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 username and password.
- c. Click Log in.

The Deployment Manager console loads.

2. In the left-hand pane, expand Servers > Server Types and click WebSphere Application Servers.

A list of configured servers is displayed.

3. Select the application server instance you created for WebCenter Sites (for example, select server1), and expand the **Java and Process Management** node.

- WebSphere. software Weld • ell=localhostCell01. Profile=Dmgr01 Close page View: All tasks Anni 2 H Guided Activities Field help For field help information, s a field label or list marker v the help cursor is displayed Application servers > server1 ation, select narker when - Servers Use this page to configure an app ication server. An application server is a server that provides services required to run enterprise applica Configuration New server
 Server Types Page help More inform page WebSphere application servers
 WebSphere proxy servers
 Generic servers
 Version 5 JMS servers
 WebSphere MQ servers on about this General Properties Container Settin Name Session management Web servers server1 SIP Container Settings Node name H Web Container Settings DataPowe alhostNo E Core Groups Portlet Container Settings Run in development mode Applications EJB Container Settings Parallel start Jobs Container Services □ Start components as needed E Services Business Process Services + Resources Access to internal server classes Applications + Security Installed applications Environment Server-specific Application Settings Server messaging System administration Classloader policy Multiple 💌 Messaging engines € Users and Groups Messaging engine inbound transports Monitoring and Tuning Class loading mode WebSphere MQ link inbound transports Troubleshooting - Service integration Server Infrastructure ± UDDI Apply OK Reset Cancel Java and Process Management <u>Class loader</u>
 Process definition Process execution Monitoring policy Administration
- 4. Underneath the "Java and Process Management" node, click **Process Definition**.

5. Under "Additional Properties," click **Java Virtual Machine**. In the "Generic JVM arguments" field, enter:

-Dfile.encoding=UTF-8 -Djava.io.tmpdir=<AppSrv01>/servers/ <server_name>/temp -Djava.net.preferIPv4Stack=true -Dnet.sf.ehcache.enableShutdownHook=true

WebSphere, software		Welcome Help Logout IBM
View: All tasks		
= Welcome		Help
E Guided Activities		Field help
E Servers		Specifies additional command
New server	verbose class loading	line arguments for the JVM.
Server Types	Verbose garbage collection	Page help
WebSphere application servers		page
WebSphere proxy servers		Command Arristance
Generic servers	Initial heap size	View administrative scripting
WebSohere MO servers	mb	command for last action
Web servers	Maximum heap size	
Clusters	I III IIII IIII IIII IIII IIII IIII IIII	
DataPower	Run HProf	
E Core Groups	HProf Arguments	
Applications ■		
E Jobs	Debug Mode	
+ Services	Debug arguments	
+ Resources	-agentlib:jdwp=transport=dt_socket,server=y,suspend=n,address=7777	
+ Security	Generic JVM arguments	
Environment	-Dtile-encoding=UTF-8	
⊕ System administration		
🗄 Users and Groups		
Monitoring and Tuning	Everytable 108 file name	
⊕ Troubleshooting		
Service integration	Disable JIT	
E UDDI		
	Operating system name	
	Intux	
	Anth OK Bant Court	
	Appry UN neset Caricer	

6. Click OK to save your changes and synchronize all nodes.

B. Configuring the Web Container

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 username and password.
- c. Click Log in.

The Deployment Manager console loads.

2. In the left-hand pane, expand Servers > Server Types and click Application Servers.

A list of configured servers is displayed.

3. Select the application server instance you created for WebCenter Sites (for example, select server1), and expand the **Web Container Settings** node.

WebSphere. software			Welcome	Help Logout IBM
View: All tasks	Cell=localhostCell01, Profile=Dmgr01			Close page
= Welcome	Application servers		7 -	Help –
E Guided Activities	Application convert > convert			Field help
E Servers	Use this page to configure an application server. An application ser	ver is a server that provides services required to run enterprise applications .		For field help information, select
New server	ese chis page to comigare an appreadon server an appreadon ser			the help cursor is displayed.
🖃 Server Types	Configuration			Page help
WebSphere application servers				More information about this
WebSphere proxy servers				page
Version 5 JMS servers	General Properties	Container Settings		
WebSphere MQ servers	Name	Session management		
Web servers	server1	SIP Container Settings		
Clusters	Node name	El Web Centrines Setting		
DataPower	localhostNode01	E Web container settings		
E Core Groups		 web container Web container transport chains 		
Applications	Kun in development mode			
⊞ Jobs	Parallel start	Portlet Container Settings		
Services	Start components as needed	EJB Container Settings		
Resources	Start components as needed	Container Services		
Genuchy	Access to internal server classes	Business Process Services		
T Secondy				
e Environment	Server-specific Application Settings	Applications		
System administration	Classloader policy	Installed applications		
	Multiple 💌	Server messaging		
Monitoring and Tuning	Class loading mode			
	Classes loaded with parent class loader first	Messaging engines		
Service integration		WebSobere MO link inhound transports		
		SIB service		
	Apply OK Reset Cancel			
		Server Infrastructure		
		Java and Process Management		
		Administration		

4. Underneath the "Web Container Settings" node, click Web container.

- 5. Underneath the "Web container" node, click Custom Properties and then click New.
 - In the Name field, enter NoAdditionalSessionInfo.
 - In the **Value** field, enter true.

View: All tasks	Cell=localhostCell01, Profile=Dmpr01	Close page
Welcome	Application servers.	Help -
Guided Activities	Application server 2 server 2 Web container 2 Custom properties 2 New	Field help
E Servers	Tuburkation articles articles in the second property in the second processing the second seco	Specifies the value that is paired
New server	configuration properties.	Deer hele
Server Types	Configuration	More information about this page
 WebSphere application servers WebSphere proxy servers 		
Generic servers		
Version 5 JMS servers	General Properties	
 WebSphere MQ servers Web servers 	+ Name	
Clusters	NoAdditionalSessionInto	
DataPower	* Value	
E Core Groups		
Applications ■	Description	
e Jobs		
	Apply OK Reset Cancel	
* Resources		
E Security		
Environment		
System administration		
■ Users and Groups		
Monitoring and Tuning		
Service integration		
E UDDI		

6. Click Save. The changes synchronize to all nodes.

WebSphere. software			Welcome	Help Logout IBM.
View: All tasks	Cell=localhostCell01, Profile=Dmgr01			Close page
Welcome	Application servers		2 4	Help –
Guided Activities Genera WebSphare application servers WebSphare application servers WebSphare application servers WebSphare Application servers WebSphare MQ servers WebSphare MQ servers WebSurvers WebSurvers WebSurvers OtaseOver DasPower Daspower	Application servers > server1 > Web contains Use this page to specify an arbitrary name and configuration properties. Rev Delete Rev Delete Select Name You can administer the following resources: NodditionalSessionInfo Tubid	tr > Custom properties d value pair. The value that is specified for Value ☆ Value ☆ true	the name and value pair is a string that can set internal system	Field help For field help information, select a field label or list marker when the help cursor is displayed. Page help More information about this page Command Assistance View administrative scripting command for last action
Applications	1000.1			
e Appressions				
F Services				
Resources				
Gecurity				
Environment				
Users and Groups				
Monitoring and Tuning				
€ Troubleshooting				
Service integration				
I UDDI				

C. 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 WebCenter Sites will be using.

This section contains the following steps:

Step I. Creating a J2C Authentication

Step II. Creating a JDBC Provider

Step III. Creating a JDBC Data Source

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 20.
 - 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 WebCenter Sites installer (as explained in "Installation Options," on page 92).

Step I. Creating a J2C Authentication

The J2C authentication contains the login information that WAS will use to connect to the WebCenter Sites 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 WebCenter Sites 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.

View: All tasks	Cell=localhostCell01, Profile=Dmgr01		Close page	
Welcome	Global security	· · · · · · · · · · · · · · · · · · ·	Help -	
Guided Activities	Global security		Field help	
E Servers	Use this panel to configure administration and the default application securi	ty policy. This security configuration applies to the security policy for all administrative	For field help information, select a field label or list marker when	
	functions and is used as a default security policy for user applications. Secur applications.	ity domains can be defined to override and customize the security policies for user	the help cursor is displayed.	
🕀 Jobs			Page help	
Services	Security Configuration Wizard Security Configuration Report		More information about this page	
E Resources	Administrative security	Authentication		
E Security	E cable administrative security. E Administrative uses relat	Authentication mechanisms and expiration		
Global security Security domains Administrative Authorization Groups SSL certificate and key management	Enable administrative security Administrative group roles Administrative authentication	© LTPA © Kerberos and LTPA Kerberos configuration		
 Security auditing Bus security JAX-WS and JAX-RPC security runtime 	Application security	Authentication cache settings B Web and SIP security B RMI/IIOP security		
Environment JAX-WS and JAX-RPC security runtime	Java 2 security	Java Authentication and Authorization Service		
E System administration	Use Java 2 security to restrict application access to local resources	Application logins		
	Warn if applications are granted custom permissions	System logins		
Monitoring and Tuning	Restrict access to resource authentication data	J2C authentication data		
	User account repository	Enable Java Authentication SPI (JASPI)		
Service integration	Realm name	Providers		
H UDDI		L Use realm-qualified user names		
	Current realm definition Local operating system Available realm definitions Local operating system P Configure Set as current Apply Reset	Security domains External authorization providers Programmatic ression cookie configuration Custom properties		

- **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 "General Properties" screen.

WebSphere, software	Welcome	Help Logout IBM.
View: All tasks	Cell=localhostCell01, Profile=Dmgr01	Close page
= Welcome	Global security 🛛 🖗 🗧	Help –
E Guided Activities	Clobal security > 1885 - 12C authentication data > New	Field help
E Servers	Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.	Specifies an optional description for the authentication data entry.
⊕ Applications	General Properties	For example, this authentication
∎ Jobs	+ Alias	DB2(R).
∃ Services	csuser	Page help
E Resources	+ User ID csuser	More information about this page
Security	* Decreard	Command Assistance
Global security		command for last action
Security domains	Description	
 SSL certificate and key management 		
Security auditing		
Bus security	Apply OK Reset Cancel	
JAX-WS and JAX-RPC security runtime		
Environment		
System administration		
∃ Users and Groups		
⊞ Monitoring and Tuning		
Service integration		
1 UDDI		

- 6. In the "General Properties" screen, 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 WebCenter Sites 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 20.

Step II. 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 WebCenter Sites 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:
 - For DB2:
 - db2jcc.jar
 - db2jcc_license_cu.jar
 - For MS SQL Server:
 - sqljdbc4.jar
 - For Oracle:
 - ojdbc6.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.

WebSphere, software				Welcome	Help Logout IBM.
View: All tasks	Cell=locali	ostCell01. Profile=Dmgr01			Close page
= Welcome	JDBC pro	viders		- 32 🖽	Help
E Guided Activities	IDRC				Field help
1 Servers	Lize #	is page to edit properties of a 1DBC provider	The IDBC provider object encapsulates the specific 1	DBC driver implementation class for access to the specific	For field help information, select
Applications	vendo	r database of your environment. Learn more	about this task in a guided activity. A guided activity	provides a list of task steps and more general	the help cursor is displayed.
⊞ Jobs		ation about the topic.			Page help
Services		, cen-localitosccenos, node-localitosculo	Server-server1		More information about this page
- Resources	M	Show scope selection drop-down list with th	ne all scopes option		Command Assistance
Schedulers Object pool managers JMS JMS JDBC Pool DBC providers Data sources WebSphere Application Server V-4) Resource Adapters Asynchronous beans Cache instances Mail URL Result Result	+ Pre	Description One-phase commit DB2 JCC provider that supports JDBC 3.0. Data sources that use this	View administrative acripting command for last action		
⊕ Security				unless you use driver type 2 with the application server for z/OS. If you use the application server	
Environment				2-phase commit processing.	
System administration		Derby JDBC Provider	Node=localhostNode01,Server=server1	Derby embedded non-XA JDBC Provider	
1 Users and Groups		Oracle JDBC Driver	Node=localhostNode01,Server=server1	Oracle JDBC Driver	
Monitoring and Tuning	Tekal	2			
Troubleshooting	Total				
Service integration					
I UDDI					

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 WebCenter Sites 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	DB2 Universal JDBC Driver Provider
Oracle	Oracle JDBC Driver

Database type	Corresponding provider type
SQL Server	Microsoft SQL Server JDBC Driver

- **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.

View: All tasks	Cell=localhostCell01. Prohle=Dmgr01	Close pag
Welcome	Create a new JDBC Provider	Help
Guided Activities		Field help
E Servers	Create a new JDBC Provider	For field help information, select a field label or list marker when
Applications	Step 1: Create new JDBC provider JDBC provider	the help cursor is displayed.
± Jobs	Set the basic configuration values of a JDBC provider, which encapsulates the specific vendor JDBC driver	
ervices	at database class path implementation classes that are required to access the database. The wizard fills in the name and the description fields, but you can type different values.	4
Resources	information Scope	
Schedulers	Step 3: Summary cells:localhostCell01:nodes:localhostNode01:servers:server1	
Object pool managers	+ Database type	
E 1080	DB2 V	
JDBC providers	Provider type	
E Data sources	DB2 Universal JDBC Driver Provider 💌	
Data sources (WebSphere Application Server V4)	* Implementation type	
Resource Adapters	Connection pool data source 👻	
Asynchronous beans	- Name	
Cache Instances	DB2 Universal JDBC Driver Provider	
+ URI	Description	
Resource Environment	One-phase commit DB2 2CC provider that supports	
	JDBC 3.0. Data sources that use this provider support only 1-phase commit processing, unless you use driver	
+ security	type 2 with the application server for z/OS. If you use the application server for z/OS. Uses RRS	
± Environment	and supports 2-phase commit processing.	
System administration		
Users and Groups		
Monitoring and Tuning	Next Cancel	
± Troubleshooting		
Service integration		
+ UDDI		

- 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**.

WebSphere. software		Welcome	Help Logout IBM,
View: All tasks	Cell=localhostCell01, Profile=Dmgr01		Close page
= Welcome	Create a new JDBC Provider		Help
⊕ Guided Activities			Field help
E Servers	Create a new JDBC Provider		A list of paths or JAR file names
⊕ Applications	Step 1: Create new 10BC provider	Enter database class path information	for the resource provider classes.
🕢 Jobs		Set the class path for the JDBC driver class files, which WebSphere(R) Application Server uses to define your JDBC	
Services	Step 2: Enter database class path	provider. This wizard page displays a default list of jars and allows you to set the environment variables that define the directory locations of the files. Use complete directory paths when you type the JDBC driver file locations. For	
E Resources	information	example: C:\SQLLIB\java on Windows(R) or /home/db2inst1/sqllib/java on Linux(TM).	
Schedulers Chject pool managers Object pool managers JMS JDBC JDDC Data sources Obats sources (WebSphere Application Server V4) Resources Adapters Asynchronous beans Cache instances Mail URL Result Result Result Result Result Result Result Result Result Result	Step 3: Summary	Entries are separated by using the ENTER (key and must not contain path separator characters (such as 'i' or 'i'). If a value is specified for you, you may click (kext to accept the value. Class path:	
E Security			
Environment		Native library path	
System administration		Directory location which is saved as WebSphere variable \${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH}	
Users and Groups			
Monitoring and Tuning	Previous Next Cancel		
⊕ Troubleshooting			
Service integration			
E UDDI			

8. In the "Summary" screen, review the settings you have chosen, then click Finish.

WebSphere, software			Welcom	e Help Logout IBM.	
View: All tasks	Cell=localhostCell01, Profile=Dmgr01			Close page	
Welcome	Create a new JDBC Provider			Help –	
Guided Activities				Field help	
Servers	Create a new JDBC Provider			For field help information, select	
Applications	Step 1: Create new IDBC provider	Summary		the help cursor is displayed.	
± Jobs	Stop 2: Enter	Summary of actions:			
Services	database class path	Options	Values		
E Resources	information	Scope	cells:localhostCell01:nodes:localhostNode01:servers:server1		
Schedulers	→ Step 3: Summary	JDBC provider name	DB2a Universal JDBC Driver Provider		
Cbject pool managers DMS JDBC JDBC JDBC JDBC		Description	One-phase commit DB2.2CC provider that supports JDBC 3.0. Data sources that use this provider support only 1-phase commit processing, unless you use driver type 2 with the application server for z/OS. If you use the application server for z/OS, driver type 2 uses RRS and supports 2-phase commit processing.		
 Data sources Data sources (WebSphere Application Server V4) 		Class path	\${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar \${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar		
		\${DB2UNIVERSAL_JDBC_DRIVER_PATH}	/u01/software/Apps/IBM/WebSphere8/AppServer/universalDriver/lib		
Asynchronous beans		Native path	\${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH}		
		\${DB2UNIVERSAL_JDBC_DRIVER_NATIVEPAT	FH}		
• Mail		Implementation class name	com.ibm.db2.jcc.DB2ConnectionPoolDataSource		
	Previous Finish Cancel				
Security	<u>}</u>				
Environment					
E System administration					
Users and Groups					
Monitoring and Tuning					
⊕ Troubleshooting					
Service integration					
E UDDI					

- 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**.

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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.

Step III. 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 WebCenter Sites cluster, each cluster member data source must use:

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

Note

Before starting this procedure, ensure you have done the following:

- 1. Created a J2C authentication by following the steps in Step I. Creating a J2C Authentication.
- **2.** Created a JDBC provider by following the steps in Step II. 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. Click Next.

WebSphere. software		Welcome Help Logout IBM
View: All tasks	Cell=localhostCell01. Profile=Dmgr01	Close page
= Welcome	Create a data source	L Help
Guided Activities		Field help
E Servers	Create a data source	Specifies the JNDI name for the
Applications	Step 1: Enter basic Enter basic data source information	new batasource.
⊞ Jobs	information Set the basic configuration values of a datasource for association with your JDB	3C provider. A datasource supplies
Services	Step 2: Select JDBC the physical connections between the application server and the database.	
E Resources	provider Requirement: Use the Datasources (WebSphere(R) Application Server V4) cons based on the Enterprise JavaBeane(TM) (FIR) 1.0 specification or the Java(TM)	sole pages if your applications are
Schedulers Cbjact pool managers JMS JMS JDBC JDBC JDBC JDBC providers Data sources Data sources Resource (VebSphere Application Server V4) Resource Adapters Asynchronous beans Cache instances Mail URL Resource Environment	Skap 3: Enter data severe data source Scope Scope relisticalhostCell01:nodesilocalhostNide01:servers:server1 Step 4: Setup security alases • Data source name (sDataSource Step 5: Summary * JIDI name (sDataSource Next Cancel	
± Security		
Environment		
System administration		
1 Users and Groups		
Monitoring and Tuning		
€ Troubleshooting		
I UDDI		

- d. Select Select an existing JDBC provider.
- **e.** In the drop-down list, select the JDBC provider you created in step Step II. Creating a JDBC Provider.
- f. Click Next.

WebSphere. software		Welcome	Help Logout IBM.
View: All tasks	Cell=localhostCell01, Profile=Dmgr01		Close page
Welcome	Create a data source		Help –
∃ Guided Activities	Arth 10 10 10		Field help
I Servers	Create a data source		For field help information, select
	Step 1: Enter basic data source	Select JDBC provider	the help cursor is displayed.
i Jobs	information	Specify a JDBC provider to support the datasource. If you choose to create a new JDBC provider, it will be created at	
	→ Step 2: Select JDBC	the same scope as the datasource. If you are selecting an existing JDBC provider, only those providers at the current scope are available from the list.	
E Resources	Step 3: Enter	C Create new JDBC provider	
 Object pool managers JMS 	properties for the data source	© Select an existing JDBC provider	
JDBC JDBC JDBC Data sources Data sources Data sources Data sources Data sources Data sources (wbSphere Application Server V4) (a) Resource Adaptars # Asynchronous beans # Cache instances	Step 4: Setup security aliases Step 5: Summary Previous Next Cancel	DB2 Universal JDBC Driver Provider 💌	
Mail URL Resource Environment			
Security			
Environment			
. System administration			
⊞ Users and Groups			
Monitoring and Tuning			
Troubleshooting			
Service integration			
E TODI			

- **6.** 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 e, do the following:

- 1) In the **Database name** field, enter the name of the database WebCenter Sites 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 WebCenter Sites database.
- 4) In the **Port number** field, enter the port number on which the WebCenter Sites database is listening for connections.
- 5) Select the Use this data source in container managed persistence (CMP) check box.
- 6) Click Next.

View: All tasks	Cell=localhostCell01, Profile=Dmgr01			Close pa
Welcome	Create a data source			_ Help
Guided Activities				Field help
E Servers	Create a data source			Specifies the port number on
+ Applications	Step 1: Enter basic	Enter database specific properties for the	data source	This property corresponds with
± Jobs	information			datasource class.
	Step 2: Select JDBC	Set these database-specific properties	s, which are required by the database vendor JDBC driver to support the	
E Resources	provider	connections that are managed through		
Schedulers	→ Step 3: Enter	Name	Value	
Object pool managers	database specific properties for the	+ Driver type	4 🗸	
⊞ JMS	data source	+ Database name	contentDB	
I JDBC	Step 4: Setup	+ Server name		
JDBC providers	security aliases		002	
Data sources (WebSphere Application Server V4)	Step 5: Summary	* Port number	50000	
Resource Adapters		Use this data source in container	managed persistence (CMP)	
	Desviews Next Cancel	1.1		
E Cache instances	Previous Next Canter	J.		
Mail				
URL URL				
E Resource Environment				
Resource Environment Security				
Resource Environment Security Environment				
(#) Resource Environment #) Security #) Environment #) System administration				
Besource Environment Security Environment System administration Users and Groups				
(B) Resource Environment 2) Security 3) Environment 4) System administration 1) Usars and Groups 2) Monitoring and Tuning				
B Resource Environment Becurity Environment System administration System administration Monitoring and Truning TrubleShooting				
B) Resource Environment Security Environment System administration Users and Groups Monitoring and Tuning Troubleshooting Service integration				
EX Resource Environment S Security Environment S System administration Voers and Groups Mitroving and Tuning Forwise integration S Service integration UDDI				

- If you selected an Oracle JDBC provider in step e, do the following:
 - 1) In the URL field, enter the URL of the database WebCenter Sites 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 WebCenter Sites database.
- <db_port> is the port number on which the WebCenter Sites database is listening for connections.
- <db_name> is the name of the WebCenter Sites database.
- 2) In the "Data store helper class name" drop-down list, select Oracle11g 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 e, do the following:
 - 1) In the **Database name** field, enter the name of the database WebCenter Sites will be using.
 - 2) In the Server name field, enter the host name or IP address of the machine running the WebCenter Sites database.
 - **3)** In the **Port number** field, enter the port number on which the WebCenter Sites database is listening for connections.
 - **4)** Select the **Use this data source in container managed persistence (CMP)** check box.
 - 5) Click Next.
- 7. In the "Component-managed authentication alias" drop-down list, select the J2C authentication you created in Step I. Creating a J2C Authentication, then click Next.

webspinete. Sontware		welcome Help Logout APTIL.
View: All tasks	Cell=locslhostCell01, Profile=Dmgr01	Close page
- Welcome	Create a data source	_ Help _
Guided Activities Servers	Create a data source	Field help Specifies an authentication alias
Applications Jobs Services	Step 1: Enter basic data source information Setup security aliases Step 2: Select JDBC Select the authentication values for this resource.	ror use when the component resource reference res-auth value is Application. See Related Items -> J2EE Connector Architecture (J2C) authentication data entries to define a new alias.
Resources Schedulers Schedulers Cbject pool managers JMS JDBC JDBC Dats sources Cats sources Cats sources (WebSphere Application Server V4) Resource Adapters Asynchronous beans Cats instances Mail URL Resource Environment	provider Component-managed authentication alias Step 3: Enter localhostCollManaged1/csuser data source Mapping-configuration alias Step 5: Step 5: Summary Container-managed authentication alias Note: You can create a new J2C authentication alias Step 5: Summary Note: You can create a new J2C authentication alias Step 5: Summary Note: You can create a new J2C authentication alias Step 5: Summary Note: You can create a new J2C authentication alias Step 5: Summary Note: You can create a new J2C authentication alias Step 5: Summary Note: You can create a new J2C authentication alias Step 5: Summary	sk voli
Security Environment System administration Users and Groups Monteoring and Tuning Service integration UDD1		

- 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.

WebSphere. software		Welcome	Help Logout IBM,
View: All tasks	Cell=localhostCell01, Profile=Dmgr01		Close page
Welcome	Data sources	2 -	Help 🗧
Guided Activities	Data courses > DR2 Universal IDRC Driver DataSource > Connection pools		Field help
Servers	Use this page to set properties that impact the timing of connection manageme	ant tasks, which can affect the performance of your application. Consider the	Specifies the maximum number
Applications	default values carefully; your application requirements might warrant changing t	hese values.	pool per application server. If the
± Jobs	Configuration		is reached for a server and all
⊕ Services			server, additional connection
E Resources	General Properties	Additional Properties	requests will not be denied for that server for the full time
Schedulers Object pool managers Object pool managers Data Sources Data sources Data sources Data sources Adapters Asynchronous beans Object instances Mail Mulk Resource Environment	Scope cells:localhostCell01:nodes:localhostNode01:servers:server1 Connection timeout 100 * Maximum connections * Minimum connections * Minimum connections * Minimum connections * Reap time 100 seconds * Unused timeout 100 seconds * Unused timeout 500 seconds * Unused timeout 500 seconds * Unused timeout 500 seconds	 Advanced connection pool properties Connection pool custom properties 	period that you specify for the connection timeout property. Page help More information about this page
	* Aged timeout		
± Environment	Purse selieu		
System administration	EntirePool		
Users and Groups			
Monitoring and Tuning	Apply OK Reset Cancel		
Troubleshooting			
(±) Service integration			
I UDDI			

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.** For installations running DB2:
 - **a.** In the list of data sources, select the data source you just created.
 - **b.** In the "Additional Properties" area of the "Data source" screen, click **Custom properties**.

c. In the "Custom properties" screen click on resultSetHoldability.

WebSphere, software	Welcome	Help Logout IBM.
View: All tasks	Cell=localhostCell01, Profile=Dmgr01	Close page
Welcome	Data sources 7 =	Help –
Guided Activities	Data servers > DB2 Universal JDBC Datase DataServers > Contemporanties > service Attaid with	Field help
1 Servers	Data sources - Doz Universal JDec Driver DataSource - Location properties - resultationability	Specifies the value that you
+ Applications	configure for specify costor properties that you enception minimized apprent (LD) requires to the resource profession machine inclusion properties for data source shat access the database.	assign to the property.
🗄 Jobs	Configuration	Page help More information about this page
Services		
E Resources		
■ Schedulers ■ Object posiders ■ JMS ■ JDBC ■ JDBC ■ Data sources ■ Data sources (webSphere Application Server V4) ■ Resource Adapters ■ Asynchronous beans ■ Cache instances ■ Mail ■ URL ■ Resource Environment		
(€ Security		
Environment		
E System administration	Type	
1 Users and Groups	java.lang.integer 💌	
Monitoring and Tuning	Anny OK Reset Cancel	
Troubleshooting	Typy Cox Trees Canad	
Service integration		
I UDDI		

d. In the "Value" field enter 1, and click OK.

WebSphere, software				W	elcome Help Logout 🌆
View: All tasks			logged into the WebSphere trace file.		246-00
walcome walcome Guided Activities it: Servers (c) Anning strong	traceFileAppend	false	Specifies whether to append to or overwrite the file that is specified by the traceFile property. The default is false, which means that the file that is specified by the traceFile property is overwritten.	false	Help - Field help For field help information, select a field label or list marker when the help cursor is displayed.
± Jobs	traceDirectory		Specifies the directory where the trace	false	Page help
Hi Jose (B) Services Schedulers Chiptot pol managers B) JOSC JOSC JOSC Forviders Data sources Data sources Data sources Data sources	fullvMaterializeLobData	true	This will be created. This setting controls whether or not LOB locators are used to fetch LOB data. If enabled. LOB data is not streamed, but is fully materialized with locators when the user requests a stream on the LOB column. The default value is true.	false	More information about this page
	resultSetHoldability	1	Determine whether ResultSets are closed or kept open when committing a transaction. The possible values are: 1 (HOLD_CURSORS_OVER_COMMIT), 2 (CLOSE_CURSORS_AT_COMMIT), 2	false	
 Asynchronous beans B Cache instances Mail 	<u>currentPackageSet</u>		This property is used in conjunction with the DB2Binder - collection option which is given when the JDBC/CLI packageset is bound during installation by the DBA.	false	
B URL Resource Environment Second Seco	readOnly	false	This property creates a read only connection. By default this value is false.	false	
Gi Security Environment System administration Users and Groups Monitoring and Tuning Troublehooting Service integration UDD1	deferPrepares	true	This property provides a performance directive that affects the internal conversion capability of the driver. By default the Universal driver defers 'internal prepare requests'. In this case, the driver works without the benefit of described parameter or time. So undescented input data is sen's as 'to the server without any data type cross-conversation of the inputs.	false	
	currentSchema		Identifies the default schema name used to qualify unqualified database object references where applicable in dynamically prepared SOL	false	

- e. In the "Messages" box, click Review.
- f. In the "Save" screen, do the following:
 - 1) Select the Synchronize changes with nodes check box.
 - 2) Click Save.
- 19. In the "Synchronize changes with nodes" screen, click OK.

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- **20.** Navigate to the "Custom properties" screen and create the following properties, setting each property's value to 1:
 - allowNextOnExhaustResultSet = 1
 - allowNullResultsSetForExecuteQuery = 1
- **21.** If you are creating a WebCenter Sites cluster, repeat steps 4 17 of this procedure for each cluster member.

D. Configuring WAS Instances for CAS

This section provides information about the CLASSPATH configuration needed for the CAS web application.

To configure WAS instances for CAS

1. Log in to the Deployment Manager console:

Note

The default Deployment Manager console port number is 9060. If the classpath and library path are not set properly, the CAS web application will not start and the **System Tools** node in the **Admin** tab of the WebCenter Sites Admin interface will have reduced functionality.

a. Point your browser to the following URL:

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

- **b.** Enter our username and password.
- c. Click Log in.

The Deployment Manager console loads.

2. In the left-hand pane, expand Servers > ServerTypes and then click Application Servers.

A list of configured servers is displayed.

3. Click the application server instance you created for WebCenter Sites (for example, select **server1**).

4. Expand **Java and Process Management** and click **Process definition**. Under "Additional Properties," click **Java Virtual Machine**. In the "Classpath" text area, enter the location of your WebCenter Sites installation directory.

WebSphere, software	Welcome	Help Logout 🎞 🕅
View: All tasks	Cell=localhostCell01, Profile=Dmgr01	Close page
Welcome	Application servers	-
Guided Activities ■	Application servers > server1 > Process definition > Java Virtual Machine	
🖃 Servers	Use this page to configure advanced Java(TM) virtual machine settings.	
New server Server Types WebSphere application servers WebSphere proxy servers Generic servers WebSphere MQ servers WebSphere MQ servers WebServers WebServers Clusters DataPower Core Groups	Configuration General Properties Classpath //u01/CS/sites/bin	Additional Properties Custom properties
Applications	Boot Classpath	
🛨 Jobs		
± Resources		
Security		
± Environment	Verbose class loading	
🛨 System administration		
🗄 Users and Groups		
Monitoring and ⊤uning	Verbose JNI	

Deploying the WebCenter Sites Application

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

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

Note

Before starting this procedure, ensure you have done the following:

- Created a WAS instance which will run the WebCenter Sites application by following the steps in "Creating a WAS Instance Using the Command Line," on page 39.
- Set up the WAS instance for database communications by following the steps in "Configuring the WAS Instance for Database Communications," on page 46.
- **3.** Completed the first stage of the WebCenter Sites installation process, as described in Chapter 5, "Installing and Configuring Oracle WebCenter Sites."
- 4. Ensured that priority=1 is the first property in the commons-logging.properties file in WEB-INF/classes.

To deploy the WebCenter Sites 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.

Environment
Virtual Hosts
Update global Web server plug-in configuration
WebSphere Variables
Shared Libraries
Replication domains
URI Groups
⊞ Naming

- 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**).

hared Librarie	5	? _					
Shared Libraries							
Use this page to define a container-wide shared library that can be used by deployed applications.							
🛛 Scope: Ce	=realhp00Cell01, Node=realhp00Node01, Server=se	rver1					
Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, <u>see the scope settings help</u>							
Node=realhp00Node01, Server=server1 💌							
⊞ Preferences							
New Delete							
Select Name 🗘 Description 🗘							
None							
Total 0							

- 5. Click New and complete the configuration form as follows:
 - a. In the Name field, enter FWbinaries
 - **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.

onfiguration		
General Prop	erties	
+ Scope		
cells:localh	ostCell01:nodes:localhostNode01:servers:server1	
+ Name		
FWbinaries		
Description		
+ Classpath		
/u01/CS/cs	_was/bin	
Native Libra	ry Path	
/u01/CS/ci	_was/bin	

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.

View: All tasks 💌
Welcome
Guided Activities Guided Activities Second Secon
Applications
Enterprise ApplicationsInstall New Application

- 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 WebCenter Sites 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 WebCenter Sites 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**.

→	Step 1: Select	Select installation options	
	options	Specify the various options that are available to prepare and install your application.	
	Step 2 Map	🔽 Precompile JavaServer Pages files	
	modules to servers	Directory to install application	
	Step 3 Provide		
	JSP reloading		
	options for Web modules	Deploy enterprise beans	
	Step 4 Map	Application name	
	shared libraries	ContentServer	
	<u>Step 5</u> Map	Create MBeans for resources	
	virtual hosts for Web modules	Enable class reloading	
	Step 6 Man	Reload interval in seconds	
	context roots for	Deploy Web services	
	web modules	Validate Input off/warn/fail	
	<u>Step /</u> Summary	warn 💌	
		Process embedded configuration	
		File Permission	
		Allow all files to be read but not written to	
		Allow HTML and image files to be read by everyone	
		Set file permissions	
		*\ dll_755# *\ co_755# *\ a_755# *\ cl_755	
		. (.ull=755#. (.30=755#. (.31=755	
		Application Build ID	
		Allow carrying includes to remote resources	
_	Next Cancel		

- 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.

	<u>Step 1</u> Select	Map modules to servers						
installation options Specify targets such as application servers or clusters of application servers where you want to in that are contained in your application. Modules can be installed on the same application server or among several application servers. Also, specify the Web servers as targets that serve as routers this application. The plucain configuration file (plucin-for wpl) for each Web servers is generated by								
	servers	applica	ans application. The plug-in configuration file (plugin-cig.xml) for each web server is generated, based on the applications that are routed through.					
	<u>Step 3</u> Provide options to compile	Cluste Web	Clusters and Servers: WebSphere:cell=realhp00Cell01,node=realhp00Node01,server=server1					
	JSPs		6					
	<u>Step 4</u> Provide JSP reloading	Select	Module	URI	Server			
	options for Web modules	is for Web cs.war cs.war,WEB-INF/web.xml WebSphere:cell=realhp00Cell01,node=realhp00Node01						
	<u>Step 5</u> Map shared libraries							
	<u>Step 6</u> Map virtual hosts for Web modules							
	<u>Step 7</u> Map context roots for Web modules							
	<u>Step 8</u> Summary							
_	Previous Next	Cance	1					

15. In the "Provide options to compile JSPs" screen, change the value of the **JDK Source Level** field to 16, then click **Next**.

		<u>Step 1</u> Select	Provid	e option	s to compile	JSPs			
		<u>Step 2</u> Map modules to servers	Specify	y the opti- ply Multip	ons for JSP pro le Mappings	ecompiler.			
-	÷	Step 3: Provide options to compile	D	G					
		JSPs Step 4 Provide JSP	Select	Web module	URI	JSP Class Path	Use Full Package Names	JDK Source Level	Disable JSP Runtime Compilation
		Web modules		cs.war	cs.war,WEB- INF/web.xml			16	
		<u>Step 5</u> Map shared libraries							
		<u>Step 6</u> Map shared library relationships							
		<u>Step 7</u> Initialize parameters for servlets							
•	ŧ	<u>Step 8</u> Map virtual hosts for Web modules							
		<u>Step 9</u> Map context roots for Web modules							
		<u>Step 10</u> Map JASPI provider							
		<u>Step 11</u> Display module build Ids							
		Step 12 Summary							
	F	Previous Next C	ancel						

- 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**.

	<u>Step 1</u> Select	Map shared libraries				
	installation options	Specify librarie	shared libraries that t s must be defined in tl	the application or individual modules ne configuration at the appropriate s	reference. These scope.	
	<u>Step 2</u> Map modules to	Ref	erence shared libra	ries		
	servers	Select	Application	URI	Shared Libraries	
	<u>Step 3</u> Provide	Γ	ContentServer	META-INF/application.xml		
	options to compile JSPs	Select	Module	URI	Shared Libraries	
	Step 4 Provide	-	cs.war	cs.war,WEB-INF/web.xml		
	JSP reloading options for Web modules					
	Step 5: Map shared libraries					
	<u>Step 6</u> Map virtual hosts for Web modules					
	<u>Step 7</u> Map context roots for Web modules					
	<u>Step 8</u> Summary					
ł	Previous Next Canc	el				

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

ap shared libraries to an entire application or to one or mo	re modules.	
1ap libraries to the application or module listed		
cs.var		
elect the library in the Available list. Move it to the Selecte	d list by clicking >>.	
Available:	•	Selected:
	•	FWbinaries
OV Canad		

The DM console redisplays the "Map shared libraries" screen showing your changes. 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 WebCenter Sites installation inoperable.

21. In the "Summary" screen, review the options you have chosen and click Finish.

<u>Step 1</u> Select	Summary				
installation options	Summary of installation options				
Step 2 Man	Options	Values			
modules to	Precompile JavaServer Pages files	Yes			
servers	Directory to install application				
<u>Step 3</u> Provide	Distribute application	Yes			
options to compile	Use Binary Configuration	No			
1 3585	Deploy enterprise beans	No			
<u>Step 4</u> Provide	Application name	ContentServer			
options for Web	Create MBeans for resources	Yes			
	Enable class reloading	No			
Step 5 Map	Reload interval in seconds				
shared libraries	Deploy Web services	No			
Step 6 Map	Validate Input off/warn/fail	warn			
virtual hosts for	Process embedded configuration	No			
Web modules	File Permission	.*\.dll=755#.*\.so=755#.*\.a=755#.*\.sl=755			
<u>Step 7</u> Map	Application Build ID	Unknown			
context roots for Web modules	Allow dispatching includes to remote resources	No			
Step 8: Summary	Allow servicing includes from remote resources	No			
	Cell/Node/Server	Click here			
Previous Finish Can	cel				

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

Installing
f there are enterprise beans in the application, the EJB deployment process can take several minutes. Please do not save the configuration until the process completes.
Check the SystemOut.log on the Deployment Manager or server where the application is deployed for specific information about the EJB deployment process as it occurs.
ADMA5016i: Installation of ContentServer started.
ADMA50671: Resource validation for application ContentServer completed successfully.
ADMA5058: Application and module versions are validated with versions of deployment targets.
ADMA50091: An application archive is extracted at /u01/software/Apps/WebSphere/6.1/AppServer/profiles/Dmgr01/wstemp/wstemp/app_11073a1/083/ext
ADMA5003I: The JavaServer Pages (JSP) files in the Web archive (WAR) files cs.war compiled successfully.
ADMA5005I: The application ContentServer is configured in the WebSphere Application Server repository.
ADMA5053I: The library references for the installed optional package are created.
ADMA5005I: The application ContentServer is configured in the WebSphere Application Server repository.
ADMA50011: The application binaries are saved in Au01/software/Apps/WebSphere/6.1/AppServer/profiles/Dmgr01/wstemp/0/workspace/cels/realhp00Cell01/applications/ContentServer.ear/ContentServer.ear
ADMA5005I: The application ContentServer is configured in the WebSphere Application Server repository.
SECJ0400I: Successfuly updated the application ContentServer with the appContextIDForSecurity information.
ADMA5011I: The cleanup of the temp directory for application ContentServer is complete.
ADMA5013: Application ContentServer installed successfully.
Application ContentServer installed successfully.
Fo start the application, first save changes to the master configuration.
Dhanges have been made to your local configuration. You can:
<u>Save</u> directly to the master configuration.
P. <u>Review</u> changes before saving or discarding.
Fo work with installed applications, click the "Manage Applications" button.
Manage Applications

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

Enterprise Applications				
Enterprise Applications				
Use this page to manage installed applications. A single application can be deployed onto multiple servers.				
E Preferences				
Start Stop Install Uninstall Update Rollout Update Remove File Export DDL				
Select	Name 🗘	Application Status 🙅		
⊡	ContentServer	*		
Г	DefaultApplication	•		
Total 2				

or its modules.	the links to access pages for further conliguring of the app
Configuration	
General Properties	
* Name	■ <u>Manage Modules</u>
Application reference validation	Web Module Properties
	Session management
Detail Properties	Context Root For Web Modules
 <u>Target specific application status</u> 	 JSP reload options for web modules Virtual bosts
Startup behavior	
Application binaries	References
Class loading and update detection	Shared library references
Remote request dispatcher properties	
View Deployment Descriptor	

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.** Similar to deploying the WebCenter Sites application, if you wish to deploy the CAS application, perform steps 8 27 of this procedure (replacing the values for the WebCenter Sites application with values for the CAS application).
- **29.** If you are creating a WebCenter Sites cluster, repeat steps 3–27 of this procedure for each additional member of the cluster. For information about clustering CAS, see *Oracle WebCenter Sites: Configuring Supporting Software*.

Restarting the WebCenter Sites Application

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

To restart the WebCenter Sites 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 WebCenter Sites application you want to restart.

Enterprise Applications ?.				
Enterprise Applications				
Use this page to manage installed applications. A single application can be deployed onto multiple servers.				
Start Stop Install Update Rollout Update Remove File Export Export DDL				
Select	Name 🛟	Application Status 👲		
	ContentServer_	*		
Total 1				

- 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
- Installing the Apache 2.2.x Web Server
- Integrating WAS with a Supported Web Server

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. Ensure 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.

<u>ك</u>	IBM HTTP Server 7.0 .	- 0	×
	Welcome to IBM HTTP Server 7.0		
WebSphere, software	This wizard installs IBM HTTP Server 7.0 on your computer. See the I <u>BM HTTP Server 7.0 Installation Guide</u> to learn more about this installation.		
	Click Next to continue.		
InstallShield	1		
	< Back Next > Canc	el	

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.

2	IBM HTTP Server 7.0 _ 🗆	x
WebSphere: software	System Prerequisites Check Warning: A supported operating system was not detected. Support for your operating system might have been added after the release of the product. See the WebSphere Application Server detailed system requirements Web pages for more information about supported operating systems. You can continue with the installation, but the installation or product operation might not succeed without applying maintenance. Go to the product support Web pages to obtain the latest maintenance packages to apply after installation. Click Cancel to stop the installation and install a supported operating system Click Next to continue the installation.	I.
InstallShield	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

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.

WebSphere software Product installation location: /opt/IBM/HTTPServer Browse		IBM HTTP Server 7.0	_ 0	×
WebSphere software //opt/IBM/HTTPServer Browse Browse Browse		Enter the installation location		
Browse	WebSphere software	Product installation location: //opt/IBM/HTTPServer		
	NRE.		B <u>r</u> owse	
	AST			
InstallShield	InstallShield			
< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel		< <u>B</u> ack <u>N</u> ext >	<u>C</u> ancel	

- 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**.

1	IBM HTTP Ser	ver 7.0 _ 🗆	×
WebSphere software	Port Values Assignment IBM HTTP Server communic ports are already in use by change the port numbers for	ates using the port numbers listed below. If these IBM HTTP Server or another application, then om their default values.	
Cherry .	HTTP Port:	80	
Ser	HTTP Administration Port:	8008	
InstallShield			
		< Back Next > Cancel	

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.

2	IBM HTTP Server 7.0 _ 🗆 🗙
WebSphere, software	HTTP Administration Server Authentication Create a user ID and password to authenticate to the IBM HTTP Server administration server using the WebSphere Application Server administrative console. The newly-created user ID and password is encrypted and stored in the conf/admin.passwd file. You can create additional user IDs after the installation by using the htpasswd utility. ✓ Create a user ID for IBM HTTP Server administration server authentication. User ID: admin Password: Confirm Password:
InstallShield	
	< <u>Back</u> <u>N</u> ext > <u>Cancel</u>

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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 82.

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

۵	IBM HTTP Server 7.0 _ 🗆 X
HH I	Installation summary
WebSphere, software	Review the summary for correctness. Click ${\bf Back}$ to change values on previous panels. Click ${\bf Next}$ to begin the installation.
Net.	IBM HTTP Server will be installed to the following location:
A.	/opt/IBM/HTTPServer
	with the following configuration:
	HTTP Port: 80 HTTP Administration Port: 8008 User ID for HTTP Administration Server Authentication:
	Total size:
The second se	158 MB
فاختلخاه رردخا	
InstallShield	
	< <u>Back</u> <u>Next</u> > <u>Cancel</u>

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

۲	IBM HTTP Server 7.0 _ 🗆 ×
WebSebase astimus	Success: The following product was successfully installed: • IBM HTTP Server - /opt/IBM/HTTPServer
wedsphere. software	For information on configuring and using the IBM HTTP Server, refer to the on-line IBM HTTP Server Information Center.
	Click Finish to exit.
X	
InstallShield	
	< <u>B</u> ack <u>N</u> ext > <u>Finish</u>

Installing the Apache 2.2.x Web Server

The procedure to set up the Apache 2.2.x web server (beyond the steps necessary to integrate with WAS) is not covered in this guide. For information on setting up the Apache 2.2.x web server, consult one of the following sources:

- If you are installing an Apache web server on Linux or Solaris, consult *Oracle WebCenter Sites: Configuring Supporting 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 2.2.x web server using the WAS web server plug-in.

Note

Before starting this procedure, ensure 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 V7 or Apache Web Server V2.2) and click Next.

🖞 🛛 Web ser	ver plug-ins for WebSphere Application Server 7.0 _ 🗆 🗙
	Select the Web server to configure. All plug-in binaries are installed, but only the selected Web server will be configured.
WebSphere software	○ None
Nex.	○ IBM HTTP Server V7
Chillin .	Apache Web Server V2.2
DAT	O Lotus Domino Web Server V8
	O Lotus Domino Web Server V7
	○ Sun Java System Web Server V6.1 or Sun Java System Web Server V7.0
InstallShield	
	< <u>Back</u> <u>N</u> ext > <u>C</u> ancel

- 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**.

🖄 🛛 Web serv	er plug-ins for WebSphere Application Server 7.0 _ 🛛	×
WebSphere, software	Installation directory Web server plug-ins for IBM WebSphere Application Server, Version 7.0 will be installed to the specified directory. Specify a different directory or click Browse to select a different install location. <u>Product installation location:</u> /u01/software/Apps/IBM/Plugins <u>Browse</u>	
InstallShield	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

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



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**.



- **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.

🖄 Web se	rver plug-ins for WebSphere Application Server 7.0 $_$ \Box	×
	Select the Web server configuration files and identify the Web server port to configure the Web server definition.	
liv.	/u01/software/Apps/Apache2.2TC/conf/httpd.conf	j
WebSphere, software	Browse	
Cross.	Specify the Web server port:	
PAT	80	j
InstallShield		
	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

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**.

🖄 Web sei	ver plug-ins for WebSphere Application Server 7.0	_ 0 ×
#	A Web server definition lets you manage a Web server through the administrative console.	
Web Sebere offware	Specify a unique Web server definition name:	
websphere software	apache22_224	
2 th		
PAT		
A THE		
. 🗙 📲		
InstallShield		
	< <u>B</u> ack <u>N</u> ext > <u>C</u> an	cel

13. In the "Web server plug-in configuration" screen, click Next.

🖞 🛛 Web ser	ver plug-ins for WebSphere Application Server 7.0 $_$ \Box \times
	The following plug-in configuration file (plugin-cfg.xml) will be created and used for configuring the selected Web server. This default location can be changed to specify another existing plug-in configuration file.
WebSphere, software	Web server plugin-cfg.xml file:
Netz.	/u01/software/Apps/IBM/Plugins/config/apache22_224/plugin-cfg.xml
ATT.	Browse
Par-	
. 🗶 📲	
InstallShield	
	Z Back Nevt > Cancel

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**.

🖄 Web sei	rver plug-ins for WebSphere Application Server 7.0 $_$ \Box \times
]//	Identify the host name of the Application Server machine.
WebSphere, software	The host name is used when creating the default plug-in configuration file. This file is used to route requests to the Application Server. If there are multiple Application Servers, then select one of the servers and specify the machine's host name.
A	The host name must be accessible on the network through one of the following address formats:
	Fully qualified domain name system (DNS) host name The default short DNS host name Numeric IP address
X	Host name or IP address for the Application Server:
InstallShield	
	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel

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.

🖞 🛛 Web serv	er plug-ins for WebSphere Application Server 7.0 $_$ \Box X
WebSobere software	Manual configuration steps are required before starting the Web server. Follow the configuration procedure in the roadmap document that is launched at the end of the install.
NAA	Manual configuration script:
	Web server to configure: Apache Web Server V2.2
	Web server definition: apache22_224
	Plug-in configuration file: /u01/software/Apps/IBM/Plugins/config/apache22_224/plugin-cfg.xml
InstallShield	
	< Back Next > Cancel

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

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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 Oracle WebCenter Sites

This part shows you how to install WebCenter Sites. It contains the following chapter:

• Chapter 5, "Installing and Configuring Oracle WebCenter Sites"

Chapter 5

Installing and Configuring Oracle WebCenter Sites

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

This chapter contains the following sections:

- Installing WebCenter Sites
- Post-Installation Steps

Installing WebCenter Sites

Note

The WebCenter Sites installer includes the installation of CAS. By default, CAS will be installed only on the primary server.

After completing Steps I - IV.1 in the "Installation Quick Reference," on page 9, you install WebCenter Sites 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 WebCenter Sites application for deployment. At the end of the first stage, the installer displays the "Installation Actions" window prompting you to deploy the WebCenter Sites application. In a silent installation, these steps are displayed on the command line. These steps include the deployment of the WebCenter Sites application.

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 WebCenter Sites file structure and restart the installation.

• In the second stage, the installer populates the database with the tables and data required for WebCenter Sites to function. If the second stage fails, you must drop the database tables, undeploy the WebCenter Sites application, delete the WebCenter Sites file structure, and re-install WebCenter Sites.

Installation Options

This section explains the two ways to install WebCenter Sites:

• Running the GUI Installer

When you run the GUI installer, a graphical interface guides you through the installation process, prompting you to enter information and select options as required. It also provides access to extensive online help.

Installing Silently

When you install silently, you enter your installation settings into one of the sample omii.ini files provided, using comments in the file for guidance. The installer uses the settings in the file to install and deploy WebCenter Sites.

Running the GUI Installer

To install WebCenter Sites using the GUI installer

- 1. Ensure you have completed Steps I IV.1 in the "Installation Quick Reference," on page 9.
- 2. Extract the WebCenter Sites 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. In the "Enter CAS Deployment information" screen, do one of the following:
 - For networks with firewalls, fill in the fields as follows:
 - Enter Server HostName Enter the hostname/IP address of the CAS server, as referred to by the external network. If you are clustering CAS, enter the hostname/IP address of the externally facing load balancer.
 - Enter Server PortNumber Enter the port number of the CAS server, as referred to by the external network. If you are clustering CAS, enter the port number of the externally facing load balancer.
 - Enter Server HostName of internally accessible CAS Enter the hostname/IP address of the CAS server, as referred to by the internal network. If you are clustering CAS, enter the hostname/IP address of the load balancer, as referred to by the internal network.
 - Enter Server PortNumber of internally accessible CAS Enter the port number of the CAS server, as referred to by the internal network. If you are clustering CAS, enter the hostname/IP address of the load balancer, as referred to by the internal network.
 - Enter Server HostName where CAS is actually deployed Enter the hostname of the machine where CAS will be deployed.
 - For networks without firewalls, fill in the fields as follows:
 - Enter Server HostName Enter the hostname/IP address of the CAS server. If you are clustering CAS, enter the hostname/IP address of the load balancer.
 - Enter Server PortNumber Enter the port number of the CAS server. If you are clustering CAS, enter the post number of the load balancer.
 - Enter Server HostName of internally accessible CAS Enter the hostname/IP address of the CAS server. If you are clustering CAS, enter the hostname/IP address of the load balancer.
 - Enter Server PortNumber of internally accessible CAS Enter the port number of the CAS server. If you are clustering CAS, enter the port number of the load balancer.

- Enter Server HostName where CAS is actually installed – Enter the hostname of the machine where CAS will be deployed.

<i>€</i> •	CAS Deployment Information	¢
Installer	Oracle WebCenter Sites	
	Enter CAS Deployment Information	
	Enter Server HostName: external	
	Enter Server PortNumber: 80	
	Enter Server HostName of internally accessible CAS: internal	
	Enter Server PortNumber of internally accessible CAS:	
	Enter Server HostName where CAS is actually deployed:	
	If autodeploy is enabled, by default CAS will be deployed on the primary Sites cluster member. If manual deploy is enabled, then CAS can be deployed on a separate server.	
Exit	Help Previous Next	

- **6.** Halfway through the installation, the installer displays the "Installation Actions" window, which lists the steps you must perform to complete the installation. Do the following:
 - **a.** Deploy the WebCenter Sites and CAS applications. For instructions, see "Deploying the WebCenter Sites Application," on page 61.
 - **b.** Before continuing with the installation process, do the following:
 - To ensure that Ehcache functions properly, edit the cas-cache.xml, cs-cache.xml, ss-cache.xml, and linked-cache.xml files (located in the WebCenter Sites deployed directory in the WEB-INF/classes folder. The following fields must be unique for each cache type:
 - multicastGroupAddress
 - multicastGroupPort
 - timeToLive

Note

When setting up a cluster, ensure that each corresponding file has identical values across cluster members. Edit the timeToLive field to control the propagation of multicast packets. The following is a list of possible options:

- 1- (multicast packets restricted to the same subnet)
- 32- (multicast packets restricted to the same site)
- 64- (multicast packets restricted to the same region)
- 128- (multicast packets restricted to the same continent)
- 255- (multicast packets are unrestricted)
- 2) Edit the jbossTicketCacheReplicationConfig.xml file, located under the <cs_install>/bin directory. Ensure that the following fields have unique values:
 - mcast addr
 - mcast port

Note

Wen setting up a CAS cluster, ensure that each cluster member has identical values for the following fields:

- ClusterName
- mcast addr
- mcast port
- ip_ttl (set this value to 1 or 32 depending on your network)

For more details on setting up a CAS cluster, see *Oracle WebCenter Sites: Configuring Supporting Software*.

- 3) If you are using an Oracle database and require text attributes greater than 2000 characters, set the cc.bigtext property to CLOB:
 - 1) Open the Property Editor by clicking the **Property Editor** button.
 - 2) In the Property Editor, open the futuretense.ini file.
 - 3) Click the **Database** tab.
 - 4) Locate the cc.bigtext property and set its value to CLOB.
 - 5) Save your changes and close the Property Editor.
- 7. When the installation completes successfully, continue with "Post-Installation Steps," on page 97.

Installing Silently

To install WebCenter Sites silently

1. Ensure you have completed Steps I – IV.1 in the "Installation Quick Reference," on page 9.

- 2. Extract the WebCenter Sites installer archive into a temporary directory.
- **3.** The Misc/silentinstaller folder of the temporary directory contains sample omii.ini files that you can use for your silent installation.
 - If you are installing a content management or development system, use the generic_omii.ini file.
 - If you are installing a delivery system, use the delivery_omii.ini file.
 - **a.** Edit the file for your type of installation by verifying the default values and entering additional values as required. Refer to the comments in the file for guidance.
 - **b.** Save the file and copy it to a folder outside <cs_install_dir>.
- 4. If you are installing a delivery system, you must set unique passwords for the fwadmin and ContentServer/SatelliteServer users:
 - **a.** Open the cscore.xml file in the ContentServer folder of the temporary directory.
 - **b.** Set passwords in the following section:

```
<IF COND="Variables.bShowInstallTypeDialog=false">
    <THEN>
        <DIALOGACTION>
        <SETVARIABLE NAME="passwordVar" VALUE=" "/>
        <SETVARIABLE NAME="passwordAdminVar" VALUE=" "/>
        </DIALOGACTION>
        </THEN>
<//IF>
```

- 1) Set the password for the fwadmin user in the VALUE field following NAME="passwordVar".
- 2) Set the password for the ContentServer/SatteliteServer user in the VALUE field following NAME="passwordAdminVar".
- **c.** Save and close the file.
- 5. Edit the install.ini file in the root folder of the temporary directory:
 - a. Set the nodisplay property to true.
 - **b.** Uncomment the loadfile property and set it to the path and name of the omii.ini file from step 3b.

Note

Verify that you have correctly specified the file system path. For example, for Windows:

```
CSInstallDirectory=C\:/csinstall
- or -
c\:\\install
```

- **c.** Save and close the file.
- 6. Change to the temporary directory containing the installer files.

- 7. Execute the installer script:
 - On Windows: csInstall.bat -silent
 - On Unix: csInstall.sh -silent
- **8.** To complete the installation, see steps 5 7 starting on page 93.
- **9.** When the installation completes successfully, continue with "Post-Installation Steps," on page 97.

Post-Installation Steps

When the WebCenter Sites installation completes successfully, perform the following steps:

- A. Setting File Permissions (Unix Only)
- B. Loading the XML Parser
- C. Adding the WebCenter Sites Binaries Directory to the Library Path Variable
- D. Verifying the Installation
- E. Integrating Oracle Access Manager (OAM) with WebCenter Sites (Optional)
- F. Integrating with LDAP (Optional)
- G. Setting Up a WebCenter Sites Cluster (Optional)
- H. Setting Up a CAS Cluster (Optional)
- I. Redeploying CAS (Optional)
- J. Setting Up WebCenter Sites for Its Business Purpose

A. Setting File Permissions (Unix Only)

If you installed WebCenter Sites 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 WebCenter Sites application.

B. Loading the XML Parser

WebCenter Sites contains a modified version of the Microsoft XML Parser (MSXML.jar in the WEB-INF/lib directory). If a different version of the Parser is referenced in the CLASSPATH environment variable, you must change the path to refer to the version used by WebCenter Sites; otherwise, WebCenter Sites will fail when parsing XML.

C. Adding the WebCenter Sites Binaries Directory to the Library Path Variable

Note

If the classpath and library path are not set properly, the System Tools node in the Admin tab of the WebCenter Sites Admin interface will have reduced functionality and CAS will not start.

In order for the ContentServer component to function in WebCenter Sites, you must add the WebCenter Sites binaries directory, <cs_install_dir>/bin, to your library path variable as follows:

• For HP-UX:

Add <cs_install_dir>/bin to SHLIB_PATH.

For Linux and Solaris:

Add <cs_install_dir>/bin to LD_LIBRARY_PATH.

• For AIX:

Add <cs_install_dir>/bin to LIBPATH.

For Windows:

Add <cs_install_dir>\bin to your system's PATH variable.

For AIX and Solaris based systems, you will have to manually copy the correct library file from the sigar/bin/<os_type> folder, located under the Installer folder (into which you extracted the WebCenter Sites installer), to the <cs_install_dir>/bin directory. Then, remove the incorrect version from the <cs_install_dir>/bin directory.

For example, for AIX 64 bit, copy the libsigar-ppc64-aix-5.so from <Installer>/sigar/bin/AIX64/ to the <cs_install>/bin directory and delete the libsigar-ppc-aix-5.so from the <cs_install>/bin directory.

Note

In the WebCenter Sites log file, the following message indicates that the correct libraries are not found in the library path:

"UnsatisfiedLinkError caught: Content Server is unable to gather/display system information. Ensure that java.library.path (or LD_LIBRARY_PATH) is pointed to CSInstallDirectory/bin"

In such cases, set -Djava.library.path=<cs_install_dir>/bin for the application server.

The default WebCenter Sites log file (sites.log) is created during the installation process in the <cs_install_dir>/logs directory.

D. Verifying the Installation

Verify the installation by logging in to Oracle WebCenter Sites as a general administrator and accessing the WebCenter Sites Admin, Contributor, and WEM Admin interfaces. In the process, you will verify that single sign-on functions (by accessing a different application without logging out and back in to WebCenter Sites).

To access the WebCenter Sites interfaces

1. Point your browser to the following URL:

http://<server>:<port>/<context>/login

where <server> is the host name or IP address of the server running WebCenter Sites, <port> is the port number of the WebCenter Sites application, and <context> is the name of the WebCenter Sites application that was deployed on the server.

The WebCenter Sites login form is displayed.

ORACLE [®] WebCenter Sites		Version: 11gR1
	Username	Secure User Login
ORACLE	Password	Forgot password?
		Remember me

- **2.** Enter the following credentials:
 - User name: fwadmin
 - Password: xceladmin
- 3. Click Login.
- 4. Access the WEM Admin interface. In the "Site" drop-down, select AdminSite and the icon for the WEM Admin interface.

ORACLE: WebCenter Sites	Version: 11	R1
ORACLE'	Site AdminSite	WEM Admin
	« Login ag	ain

DRACLE [®] WebCenter Sites Adm	in Sites	Apps	Users	Roles		
(- 1999) 						
Sites						
Add Site					,	
				Sort b	y: Site Name *	
SITE NAME	DESCRIPTION					
AdminSite	AdminSite					
FirstSiteII	FirstSite II					
avisports	avisports					

The WEM Admin interface (on AdminSite) is displayed:

5. Switch to the WebCenter Sites Admin interface by navigating to the applications bar and selecting the icon for the WebCenter Sites **Admin** interface:

Admin		Applica	ations ba	r				
		,	•					
	_	_		_	fwadmin	AdminSite	~	Logout
ORACLE [®] WebCenter Sites Admin	Sites	Apps	Users	Roles				
Sites								
				-				
Add Site					Sort by:	Site Name +		
SITE NAME	DESCRIPTION							
AdminSite	AdminSite							
FirstSiteII	FirstSite II							
avisports	avisports							
			Show	rows: 5	▶ 1-3 of 3			

The WebCenter Sites Admin interface (on AdminSite) is displayed. Only system administration functionality is available.

			fwadmin Adn	inSite 🔽 Experi	
ORACLE WebCenter Sites	New Search Workflow	Publishing			
Admin Site Admin Workflow	New Please select the asset type that you war	nt to create:			
B O Security B C Search	Туре	Name			
Sources	FW_Application	New FW_Application			
■ 盘 Roles	FW_View	New FW_Vew			
B → Workflow Actions → → Workflow Actions → → Trind Action Event B → ⊕ Enal B → ⊕ Enal B → ⊕ Enal B → ⊕ Start Mmu → □ Clear Assignments → ○ Clear Assignments					

6. Switch to the WebCenter Sites Contributor interface:

Note

The WebCenter Sites Contributor interface is not associated with AdminSite. If the avisports and FirstSite II sample sites are installed, you can switch to either one of these sample sites to access the Contributor interface. If no sample sites are installed, you will have to access the WEM Admin interface (see step 4 on page 99), create a site, create users, and then assign the users to the site. The Contributor interface is automatically assigned to the site. (For instructions, see the *Oracle WebCenter Sites Administrator's Guide for the Web Experience Management Framework.*) Then continue with this step.

a. Navigate to the applications bar. In the site selection drop-down menu, select a site other than AdminSite.



b. Since this is the first time you are accessing the selected site, the following screen is displayed. Select the icon for the **Contributor** interface.

ORACLE' WebCenter Sites		Version: 11gR1	
ORACLE'	Site avisports		Contributor
		« cogiri ayalri	

(Upon subsequent access, WebCenter Sites opens the application you last accessed for the site you selected.)

The Contributor interface on the site to which you are logged in is displayed:

0			fwadmen wripprts	
ORACLE WebCenter Stes	Content Edit View			
	*		Seach	- P
avisports Site		100		47
	n Bookmarks (0)	47 😡	Assignments (0)	47 😡
	You do not have any Bookmarks.		You do not have any Assignments.	
	SmartLists (0) You do not have any SmartLists.	47 Q	Checkouts (0) You do not have any Checkouts.	4 0
Sile Tree Content Free My Work				

WebCenter Sites is now ready to be configured. Follow the steps in the rest of this chapter.

E. Integrating Oracle Access Manager (OAM) with WebCenter Sites (Optional)

If you wish to replace CAS with Oracle Access Manager (OAM), refer to the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.

F. Integrating with LDAP (Optional)

If you wish to perform LDAP integration, do the following:

- 1. Set up a supported LDAP server of your choice. For instructions, see *Oracle WebCenter Sites: Configuring Supporting Software*.
- 2. Run the LDAP integration program included on the WebCenter Sites CD.

For more information, see Oracle WebCenter Sites: Integrating with LDAP.

Note

If you have configured LDAP for the primary cluster member, make sure to run the configureLDAP.sh for all secondary cluster members.

G. Setting Up a WebCenter Sites Cluster (Optional)

Before beginning the steps in this section, ensure the following:

- You are installing a vertical cluster (WAS instances are installed on the same machine).
- You have already installed and configured an instance of WAS, and it is running a verified WebCenter Sites system.
- 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 WebCenter Sites cluster members will be using. For instructions, see "Creating a J2C Authentication," on page 46.

To set up a WebCenter Sites cluster

For each cluster member, do the following:

- 1. Create a new WAS instance. For instructions, see "Creating a WAS Instance Using the Command Line," on page 39.
- **2.** Create a WebCenter Sites installation directory. The directory name and path cannot contain spaces, and the application server must be able to read from and write to the directory.
- **3.** Create a unique JDBC provider based on the J2C authentication you created for the WebCenter Sites database. For instructions, see "Creating a JDBC Provider," on page 48.
- 4. Create a unique JDBC data source based on the J2C authentication you created for the WebCenter Sites database, and the JDBC provider you created in step 3 of this procedure. For instructions, see "Creating a JDBC Data Source," on page 52.
- 5. Install the WebCenter Sites cluster member on the newly created WAS instance. Follow the steps in "Running the GUI Installer," on page 93 or "Installing Silently," on page 95, but observe the following exceptions:
 - When running the GUI installer:

- In the "Installation Directory" screen, select the installation directory that you created in step 2 of this section.
- In the "Clustering" screen, select **Cluster Member**.
- In the "WebCenter Sites Shared File System" screen, enter the path to the shared file system of the primary cluster member.
- In the "WebCenter Sites Application Deployment" screen, enter the path to the WAS instance you created in step 1 of this section.
- When configuring the omii.ini file for silent installation:
 - Set CSInstallDirectory to the installation directory that you created in step 2 of this section.
 - Set CSInstallType to cluster.
 - Set CSInstallSharedDirectory to the shared file system of the primary cluster member.
 - Set CSInstallAppServerPath to the WAS instance you created in step 1 of this section.
 - Set CSInstallAppServerPath to CATALINA_HOME of the Tomcat instance you created in step 1 of this section.
 - Set CASHOstName to the resolvable hostname/IP address of the external load balancer for CAS.
 - Set CASPortNumber to the port number of external load balancer for CAS.
 - Set CASHostNameLocal to the resolvable hostname/IP address of the internal load balancer for CAS.
 - Set CASPortNumberLocal to the port number of internal load balancer for CAS.
 - Set CASHostNameActual to the resolvable hostname/IP address of the Server where CAS is actually deployed.
- 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 WebCenter Sites application for the changes to take effect. For instructions, see "Restarting the WebCenter Sites Application," on page 71.

H. Setting Up a CAS Cluster (Optional)

The installer is configured to deploy CAS only on the primary WebCenter Sites cluster member. In cases where CAS is deployed on a separate server, you will have to manually deploy CAS. Additionally, you must configure and deploy secondary CAS cluster members manually. For instructions, see *Oracle WebCenter Sites: Configuring Supporting Software*.

I. Redeploying CAS (Optional)

There may be cases where you will have to manually redeploy CAS on another server. For instructions on redeploying CAS, see *Oracle WebCenter Sites: Configuring Supporting Software*.

J. Setting Up WebCenter Sites for Its Business Purpose

Once you have completed your WebCenter Sites installation, you are ready to configure it for business use. For instructions, see the *WebCenter Sites Administrator's Guide* and the *WebCenter Sites 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.

Post-Installation Steps