A step-by-step guide to configuring a WebSphere Portal v6.0.1.0 cluster using WebSphere Application Server v6.0.2.17 and WebSphere Process Server v6.0.2.1

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This guide describes a comprehensive procedure for installing, configuring, and building an IBM® WebSphere® Portal V6.0.1.0 cluster using:

IBM WebSphere Application Server 6.0.2.17 IBM WebSphere Process Server 6.0.2.1 Windows® 2003 Server DB2 v8.2.14 IBM Tivoli Directory Server v5.2 IBM HTTP Server 6.0

To perform the tasks described here you need basic WebSphere Portal and WebSphere Application Server knowledge and administration skills. Some steps might require the assistance of another system administrator, such as the database administrator or LDAP administrator.

Introduction

Building and configuring a cluster can be a very complex task. You can build portal clusters in various ways. This article provides a best practice approach for building a cluster environment using WebSphere Portal. This example produces a two-node horizontal cluster, as shown in Figure 1. Your environment might require special considerations, but you should still follow this step-by-step approach as an overall guide.

Although this guide is specifically written for WP v6.0.1.0 and WAS v6.0.2.17 and WPS v6.0.2.1 versions, the same approach will apply to any WP v6.0.x version and any WAS 6.0.x/WPS 6.0.x version as well.

The guide will also use the following acronyms:

WP-WebSphere Portal

- WPS WebSphere Process Server
- WAS WebSphere Application Server

About the example environment

This guide shows you how to configure a cluster consisting of:

- Two WebSphere Portal V6.0.1.0 nodes, called PNode and SNode
- A database server, in this case, DB2 v8.2.14, which contains the WebSphere Portal,
- WebSphere Member Manager, and WebSphere Portal content publishing databases
- A single Web server, IBM HTTP Server V6.0.0.0
- The LDAP server, in this case IBM Tivloi Directory Server V5.2
- The Deployment Manager, which is installed from the Application Server V6.0.2.9 Network Deployment package.

In this example scenario, PNode and SNode are Windows Server 2003 with Service pack 2 systems, and the backend data storage is DB2. The Data item represents various databases, which are set up by WebSphere Portal:

- wpsdm: portal Release database
- commdb: portal community database
- custdb: portal customization database
- jcrdb: portal JCR database
- wmmdb: portal member manager database

Introductory Note: Through out this document we will use the following short names for the installation and configuration of portal, application and process server:

wp_server_root:	Root directory for WebSphere Portal
was <u>server_root</u> :	Profile directory for WebSphere Application Server
was_profile_root:	Profile directory for application Server
was_config_root:	Configuration files directory of Application Server
wp_config_root:	Configuration files directory of Portal Server



Figure-1 Target portal cluster

Additional Introductory Note: This guide also introduces the WebSphere Process Server. This adds on component to WAS allows Portal to take advantage of the SOA architecture. Portal can be installed and clustered without WebSphere Process Server, but then you would loose the SOA features.

WebSphere Process Server is installed and configured by default when using the Portal Typical install path. However, one very important limitation exists with WebSphere Process Server. WebSphere Process Server does NOT allow a WebSphere Process Server profile to be federated if a Portal server already exists on the node. This limitation basically makes a node that has been installed by the Portal installer using the Typical install path to be UNCLUSTERABLE. So to work around this we MUST install WebSphere Application Server and WebSphereProcess Server separately by using their native installers and then federate the empty profile and then install Portal onto the already existing, federated profile.

This will be mentioned all through the installation sections of this guide.

Install and upgrade WAS 6.0.2.9/WPS 6.0.1.1 Deployment Manager

Important: This guide explicitly defines the required approach to build a WebSphere Portal cluster which has been installed on WebSphere Process Server (WPS). To do this you must install Portal into an already federated WAS/WPS profile. Because of this requirement, we MUST install WAS/WPS from their native installers and federate the node BEFORE using the Portal installer to install Portal.

Install WAS v6.0.2.9

Install the DMGR by following the procedure below:

1. Install WSAS DMGR by running the installer from: <cd_root>/W-1/windows/ia32/ifpackage/WAS/install.exe

Note: Make sure the installer screen is titled "**Welcome to WebSphere Application Server Network Deployment, V6**". This title means that you can use this installer to install either, DMGR or WAS profiles. If the title is "WebSphere Application Server Version 6.0", you are using an installer that only has the ability to install WAS profiles and not DMGR profiles:

🖄 Installation wizard	
	Welcome to IBM WebSphere Application Server Network Deployment, V6
	About this custom installation package
	This edition of WebSphere Application Server supports multinode, multiprocess distributed environments.
	In prior releases, a complete Network Deployment installation was achieved by running two separate installation procedures, each from its own CD. In Version 6, you can define an equivalent configuration from a single installation in a two-part procedure that uses wizards.
WebSphere. software	In the first part, this installation wizard will guide you through the installation of WebSphere Application Server core product files.
	Upon completion of the first part, a second wizard will guide you through the creation of a run-time environment for the WebSphere Application Server product, known as a <i>profile</i> . At least one profile must be created to have a functional installation.
	Important: IBM HTTP Server, Web server plug-ins, and the application clients are not required for a functional application server, and they are not included in this installation wizard. For a production configuration or otherwise, they can still be installed separately from the launchpad, located in the CD root directory or download expanded directory. If the launchpad will not start, see the readme file in the same directory.
	Click Next to continue.
InstallShield	J
	< <u>B</u> ack <u>Next > C</u> ancel

2. If installing on Windows, when asked for the install location, please shorten the default path. There is a path name limitation in Windows. Windows cannot handle path names longer than 256 characters.

🖄 Installation wizard		
Unscallation Wizard	IBM WebSphere Application Server Network Deployment, V6 will be installed t directory. You can specify a different directory or click Browse to select a directory. Directory name: C:IBMWAS	o the specified
InstallShield	< <u>B</u> ack Next >	<u>C</u> ancel

3. You should be prompted during the install (with a panel near the end) if you would like to create a profile....at this time please choose NOT to create a profile by making sure the "Launch the Profile creation wizard" checkbox remains UNCHECKED. We will create a WPS profile at the end of the WPS install.



Install WPS v6.0.1.1

1. Install WPS 6.0.1.1 by running the installer from: <cd_root>/W-2/windows/ia32/WBI/install.bat

Note: Please ensure you use the **install.bat** file and NOT the install.exe to install WPS.

2. Ensure you use the existing WAS you just installed.

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WebSphere Application Server Network Deployment, Version 6.0 C:\IBM\WAS stallShield		 Install a new copy of WebSphere Application Use an existing install 	n Server Network Dep ation of	iloyment, Version t	5.U
stallShield -		C:\IBM\WAS	n Server Network Dep	loyment, Version 6	3.0 ••••••••••••••••••••••••••••••••••••
stallShield					
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3. You should be prompted during the install (with panel near the end) if you would like to create a profile. At this time we will create a WPS DMGR profile. Please ensure the "Launch the Profile Wizard" checkbox is CHECKED and click Next to launch the WPS profile creation wizard.



Note: If you have to launch the WPS profile creation wizard manually, please ensure you launch the WPS profile creation wizard and NOT the WAS profile creation wizard. The WPS profile creation wizard script is located at:

<was_root>/bin/ProfileCreator_wbi/pcatWindows.exe

4. After the profile creation wizard is launched, ensure the "Deployment manager profile" radio button is selected on the "Profile type selection" panel and click "Next":



Upgrade WAS from version 6.0.2.9 to version 6.0.2.17 and WPS from 6.0.1.1 to version 6.0.2.1

1. After the DMGR profile is created, then upgrade WAS v 6.0.2.9 to version 6.0.2.17 and WPS v6.0.1.1 to version 6.0.2.1. WebSphere Process Server Version 6.0 Refresh Pack 2 for Windows platforms **6.0-WS-WPS-ESB-WinX32-RP0000002.zip**, upgrades WAS to v6.0.217 and WPS to v6.0.2.1. You can download it at: http://www-1.ibm.com/support/docview.wss?rs=2307&uid=swg24014373

2. Create a directory updateinstaller under <was_root> and extract the package at <was_root>/updateinstaller.

3. Open the command prompt and change directory to <was_root>/updateinstaller, then run the batch file **updateWPS-WESB-6021.bat**.



Note: If during installation any errors occur, then correct those errors, uninstall the fixpack or fixes installed by the batch file and rerun the batch files again.

4. Verify the version of WAS and WPS by running the batch file versionInfo.bat in command prompt, it's located at *<was_root>\bin* directory.

5. Verify the operation of the DMGR by starting the server and rendering it through a browser, example: http://dmgr:9060/admin

Note: The default port for the WAS AdminConsole has changed to 9060 in WAS 6.x.

Install WAS 6.0.2.9/WPS 6.0.0.0 on future cluster node, PNode

Important: This guide explicitly defines the required approach to build a Portal cluster which has been installed on WebSphere Process Server. To do this you must install Portal into an already federated WAS/WPS profile. Because of this requirement, we MUST install WAS/WPS from their native installers and federate the node BEFORE using the Portal installer to install Portal.

Install WAS v6.0.2.9

1. Install WAS on Node1 by running the installer from: <cd_root>/W-1/windows/ia32/ifpackage/WAS/install.exe

Note: Make sure the installer screen is titled "**Welcome to IBM WebSphere Application Server Network Deployment, V6**". This title means that you can use this installer to install either, DMGR or WSAS profiles. If the title is "WebSphere Application Server Version 6.0", you are using an installer that only has the ability to install WAS profiles and not DMGR profiles:



2. If installing on Windows, when asked for the install location, please shorten the default path. There is a path name limitation in Windows. Windows cannot handle path names longer than 256 characters.

쓀 Installation wizard		
WebSphere software	Installation directory IBM WebSphere Application Server Network Deployment, V6 will be installed directory. You can specify a different directory or click Browse to select a directory. Directory name: CAIBMWAS	to the specified
InstallShield	< Back Next >	<u>C</u> ancel

3. You should be prompted during the install (with a panel near the end) if you would like to create a profile....at this time please choose NOT to create a profile by making sure the "Launch the Profile creation wizard" checkbox remains UNCHECKED. We will create a WPS profile at the end of the WPS install.



Install WPS v6.0.1.1

1. Install WPS 6.0.1.1 by running the installer from: <cd_root>/W-2/windows/ia32/WBI/install.bat

Note: Please ensure you use the **install.bat** file and NOT the install.exe to install WPS.

2. Ensure you use the existing WAS you just installed:

皆 IBM WebSphere Proc	ess Server for Multiplatforms 6.0.1 Installation Wizard	_ 🗆 ×
72	Detected WebSphere Application Server, Version 6.0	
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	 Install a new copy of WebSphere Application Server Network Deployment, V Use an existing installation of 	/ersion 6.U
	WebSphere Application Server Network Deployment, V	/ersion 6.0
InstallShield		
	r Book Nord	

3. You should be prompted during the install (with a panel near the end) if you would like to create a profile. At this time we will create a WPS Custom profile. Please ensure the "Launch the Profile Wizard" checkbox is CHECKED and click Next to launch the WPS profile creation wizard.

BM WebSphere Process	Server for Multiplatforms 6.0.1 Installation Wizard	<u>- 🗆 ×</u>
The second	Installation complete	
	IBM WebSphere Process Server for Multiplatforms 6.0.1 was installed successfully.	
	WebSphere Process Server 6.0.1 includes the ability to create a profile for a deployment manager, managed node, or a stand-alone Process Server. Us Profile Wizard to create an operational environment that includes one of the profiles. Launch the Profile Wizard now to get started.	se the
	☑ Launch the Profile Wizard	
	Click Next to continue.	
InstallShield		
instanonisia -	< <u>B</u> ack <u>Next</u> ≥ <u>C</u> an	cel

Note: If you have to launch the WPS profile creation wizard manually, please ensure you launch the WPS profile creation wizard and NOT the WSAS profile creation wizard. The WPS profile creation wizard script is located at:

<was_root>/bin/**ProfileCreator_wbi**/pcatWindows.exe

4. After the profile creation wizard is launched, ensure the "Custom profile" radio button is selected on the "Profile type selection" panel and click "Next":



5. Next you will decide if you would like to have the profile creation wizard to automatically federate the Custom profile after creation. Please allow the profile creation wizard to federate the Custom profile. To do this, please ensure the "Federate this node later using the addNode command" checkbox remains UNCHECKED.

Also, please ensure that the clocks are synchronized to within 5 minutes of each other on Node1 machine and the DMGR machine. If the clocks are not within 5 minutes, the addNode process will fail.



Upgrade WAS v6.0.2.9 to v6.0.2.17 and WPS v6.0.1.1 to v6.0.2.1

Upgrade WAS from version 6.0.2.9 to version 6.0.2.17 and WPS from 6.0.1.1 to version 6.0.2.1

1. After the DMGR profile is created, then upgrade WAS v 6.0.2.9 to version 6.0.2.17 and WPS v6.0.1.1 to version 6.0.2.1.WebSphere Process Server Version 6.0 Refresh Pack 2 for Windows platforms **6.0-WS-WPS-ESB-WinX32-RP0000002.zip**, upgrades WAS to v6.0.217 and WPS to v6.0.2.1. You can download it at: http://www-1.ibm.com/support/docview.wss?rs=2307&uid=swg24014373

2. Create a directory updateinstaller under <was_root> and extract the package at <was_root>/updateinstaller.

3. Open the command prompt and change directory to <was_root>/updateinstaller, then run the batch file **updateWPS-WESB-6021.bat**.

C:\IBM\WAS\updateinstaller>updateWPS-WESB-6021.bat Copy notices.txt to the license.ProcessServer directory 1 file(s) copied. Copy the JRE to the updateinstaller directory 290 File(s) copied Installing SDK Fix Pack 6.0.2-WS-WASJavaSDK-WinX32-FP00000017.pak SDK Fix Pack 6.0.2-WS-WASJavaSDK-WinX32-FP00000017.pak installed successfully Installing WAS Fix Pack 6.0.2-WS-WAS-WinX32-FP00000017.pak WAS Fix Pack 6.0.2-WS-WASJavaSDK-WinX32-FP00000017.pak WAS Fix Pack 6.0.2-WS-WAS-WinX32-FP00000017.pak WAS Fix Pack 6.0.2-WS-WAS-WinX32-FP00000017.pak WAS iFix 6.0.2.11-WS-WAS-IFPK31745.pak WAS iFix 6.0.2.11-WS-WAS-IFPK31745.pak WAS iFix 6.0.2.13-WS-WAS-IFPK34465.pak WAS iFix 6.0.2.13-WS-WAS-IFPK34465.pak WAS iFix 6.0.2.18-WS-WAS-IFPK34401.pak Installing WAS iFix 6.0.2.18-WS-WAS-IFPK34001.pak WAS iFix 6.0.2.18-WS-WAS-IFPK34001.pak installing WAS iFix 6.0.2.17-WS-WAS-IFPK32982.pak WAS iFix 6.0.2.17-WS-WAS-IFPK35426.pak WAS iFix 6.0.2.17-WS-WAS-IFPK35426.pak	📾 C:\WINDOW5\system32\cmd.exe - updateWP5-WESB-6021.bat	- 🗆 🗵
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		-

Note: If during installation any errors occur, then correct those errors, uninstall the fixpack or fixes installed by the batch file and rerun the batch files again.

4. Verify the version of WAS and WPS by running the batch file versionInfo.bat in command prompt, it's located at *<was_root>\bin* directory.

5. Verify the operation of the DMGR by starting the server and rendering it through a browser, example: http://dmgr:9060/admin

Note: The default port for the WAS AdminConsole has changed to 9060 in WAS 6.x.

Prepare the DMGR and Node1 for the Portal install

1. Update the Deployment Manager machine with required WMM JAR files. These files are located on the Setup CD provided as part of the installation package for WebSphere Portal.

Copy the following files from the <cd_root>/W-Setup/dmgr_wmmjars directory on the Setup

CD to the /<was_server_root>/lib directory on the deployment manager machine:

* wmm.jar

* wmm.ejb.jar

* wp.wire.jar

Important: If this will be the first Portal node you will install into the cell, proceed to the next step and continue with the primary node installation. If you have already federated other managed nodes into the cell, you must also copy these JAR files to the /<wsas_root>/lib directory on each of those managed nodes, regardless of whether you intend to install WebSphere Portal on the nodes.

2. Change the time-out request for the Simple Object Access Protocol (SOAP) client for the DMGR and the Node 1. The default, in seconds, is 180.

On the DMGR machine locate the <dmgr_profile_root>/properties/ directory and edit the soap.client.props file. Change the line to

com.ibm.SOAP.requestTimeout=6000

On the WSAS Node1 machine locate the <wsas_profile_root>/properties/ directory and edit the soap.client.props file. Change the line to com.ibm.SOAP.requestTimeout=6000

3. Ensure the nodeagent is running on Node1 so the following changes are synchronized to the node. Login to the DMGR AdminConsole and change the timeout values for the deployment manager by navigating to:

System Administration>Deployment Manager>Web container transport chains

4. Increase the timeout values for each entry listed in the Web container transport chains section by clicking on each entry. After clicking on an entry, complete the following steps to increase the timeout values:

a) Click HTTP Inbound Channel.

b) Change the Read timeout value to 180.

c) Change the Write timeout value to 180.

d) Save your configuration changes and synchronize with the node

5. Change the timeout request period for the Java Management Extensions (JMX) connector.

a) Log in to the administrative console for the deployment manager
b) Click System administration > Deployment Manager > Administration
Services > JMX connectors > SOAPConnector > Custom Properties.
c) Select the requestTimeout property, and increase the value from 600 to 6000.

- d) Save your configuration changes and synchronize with the node
- 6. Disable automatic synchronization between this node and the deployment manager.

a) Log in to the administrative console for the deployment manager.

b) Click System Administration > Node Agents >nodeagent name for desired node> File synchronization service.

c) Ensure that the Automatic Synchronization check box is NOT checked.

d) Save your changes and synchronize with the node.

7. Restart the DMGR and the nodeagent

Install Portal onto the managed node, Node1

1. Start the Portal installer from <cd_root>/W-Setup/install.bat

ebSphere Portal Version 6.0 Installer	
WebSphere. Portal	TBN.
Welcome to WebSphere Portal Version 6.0. The wizard will install WebSphere Portal onto your computer. To access information about this product, press the Launch Information Center button. Launch Information Center To continue, press Next.	
< Back	> <u>C</u> ancel

2. Accept the license agreement

🕀 WebSphere Portal Version 6.0 Installer	
WebSphere. Portal	THN.
Software License Agreement Please read the following license agreement carefully.	2
Part 1 - General Terms	
BY DOWINE OADING, INSTALLING, COPYING, ACCESSING, OR USING THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON OR A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON, COMPANY, OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,	
- DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, OR USE THE PROGRAM; AND - PROMPTLY RETURN THE PROGRAM AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM VOLLACOULDED IT TO OBTAIN & REFUND OF THE AMOUNT YOU PAID IF YOU DOWNLOADED THE	
Read non-IBM terms O I accept both the IBM and the non-IBM terms	
C I do not accept the terms in the license agreement Print	
InstallShield	> <u>C</u> ancel

. Select Custom installation type:



4. Select the existing WebSphere Application Server install location and check "Install on a managed node" checkbox next

🕀 WebSphere Portal Version 6.0 Installer	_ 🗆 ×
WebSphere. Portal	
Select the location of the existing instance of WebSphere Application Server.	
Existing WebSphere Application Server instances:	LX VI
Note: WebSphere Portal Version 6.0 can only be installed on certain versions of WebSphere Application Server Version 6.0.	
< Back Next	> <u>C</u> ancel

5. Select Primary Node as type of node and select the desired profile that you wish to install Portal onto



6. Define a WAS administrator User ID and Password. This is a new panel in the Portal installer because with Portal v6 the install will enable security by default to the WMM database.

ebSphere Portal Version 6.0 Installer			
WebSphere. Portal			EV.
Enter the WebSphere Application Server administrative user ID and password.			2
This user ID is used to access WebSphere Application Server with administrator a installation. This user ID is only used to log into WebSphere Application Server and user IDs used to access the operating system itself.	uthority after 1 is not related to a	ny	\mathbf{O}
User ID:			
ladmin			
Password:			000

Confirm password:		_	
anonienu -	< <u>B</u> ack	<u>N</u> ext ≻	<u>C</u> ancel

7. Define the desired location for Portal to be installed



8. Define the Portal administrator User ID and password

WebSphere Portal Version 6.0 Installer	
WebSphere. Portal	<u>IRM</u> .
Enter the WebSphere Portal administrative user ID and password.	
This user ID is used to access WebSphere Portal with administrator authority after installation. This user ID is only used to log into WebSphere Portal and is not related to any user IDs used to access the operating system itself. User ID: admin Password: ********* Confirm password: *********	
< <u>B</u> ack <u>N</u> ex	kt> <u>C</u> ancel

9. Decide whether you want WAS and Portal to run as a service. In this guide we choose NOT to run either as a Windows service.

ebSphere Portal Version 6.0 Installer		_ 🗆
WebSphere. Portal		
Select the products to run as a service.		
You can use Microsoft ® Windows ® Services to run the following features: start an configure startup and recovery actions.	nd stop services, and	
WebSphere Application Server		00
🗖 WebSphere Portal		
Windows Administrator User ID:		
Administrator		
Password:		
IIShield	< Back Next >	<u>C</u> ancel

10. Review Summary panel and click Next to begin the install

ebSphere Portal Version 6.0 Installer	
NebSphere. Portal	IIM
/ebSphere Portal is ready to install.	
If you want to review or change any settings, press Back. If you are satisfied with the settings press Next to begin copying files.	+
Previously installed products:	
WebSphere Application Server	_
C/UBMWWAS	
Products to install:	
WebSphere Portal 6.0 1513MB	
C:\UBM\WVP	
Itemield	<u>Vext > C</u> ancel

11. Verify that portal install successfully and click Finish.



Re-enable auto-sync

1. Log in to the administrative console for the Deployment Manager.

2. Click System Administration > Node Agents > *node_name* > File Synchronization Service.

- 3. Select the Automatic Synchronization check box.
- 4. Save your changes and synchronize with the node.
- **5**. Restart the node agent.

6. Verify the Portal install by accessing it thru a browser. By default Portal is installed onto port 9080:

http//<hostname>:9080/wps/portal

Upgrade WP v6.0.0 to WP v6.0.1

- Download the WebSphere Portal v6 refresh pack 1 6.0.1-WP-Multi-RP001.zip and portal update installer PortalUpdateInstaller.zip at: <u>http://www-</u> <u>1.ibm.com/support/docview.wss?rs=688&context=SSHRKX&dc%C3%9400&uid=s</u> wg24015257&loc=en_US&cs=UTF-8&lang=en&rss=ct688websphere
- 2. Create a directory updateinstaller at <wps_root> and extract the **PortalUpdateInstaller.zip** at <wps_root>/updateinstaller.
- 3. Extract 6.0.1-WP-Multi-RP001.zip at /portal_server_root/updateinstaller/fixpack/.
- **4.** Open the command prompt and change the directory to /app_server_root/bin/, run the setupCmdLine.bat file to setup the environment.
- **5.** Change the directory to /portal_server_root/updateinstaller/ and run the following command to install the fixpack:

Updateportal.bat –installDir \portal_server_root –fixpack –install –fixpackDir portal_server_root\updateinstaller\fixpacks\ -fixpackID WP_PTF_601

Migrate portal node1 database to DB2v 8.2.14 database

IBM WebSphere Portal stores configuration, access control, such as user identities, credentials, and permissions for accessing portal resources, and user data in a database. By default, WebSphere Portal installs and uses a Cloudscape database. The Cloudscape database that is not intended for use in a production environment or for authoring Web content. It should only be used for testing or proof of concept purposes. Cloudscape does not support vertical cloning, clustered environments, or enabling security in a database-only mode. That's why we will configure the portal to use DB2 database, as it's better able to handle large amounts of data and can be tuned for performance.

For improved performance DB2 database software must be installed on a separate machine. In a remote database environment, there are two connection types. Either WebSphere Portal connects to the DB2 server system using a local DB2 Connect installation (JDBC type 2 connection) or connects directly to the DB2 server (JDBC type 4 connection).

In this documents will be using JDBC type 2 connection. For that WebSphere Portal and a DB2 Connect are installed on the same machine and DB2 server is installed on a separate machine (the remote machine).



Figure 2. Remote Database Environment (JDBC type 2 connection)

- **1.** Log in with a user ID that has administrative authority.
- Click Start > Programs > Administrative Tools > Computer Management > Local Users and Groups and set following policies: Be defined locally Belong to the local Administrator group
- 3. Click Start > Programs > Administrative Tools > Local Security Policy. Next, click Local Policies > User Rights Assignment and set following policies:

Act as part of the operating system Have permissions to create a token object Have permissions to adjust memory quotas for a process Have permissions to replace a process level token

4. Install a supported version of DB2 server by following the instructions that are provided with the DB2 documentation.

5. Install the client software, DB2 Connect, on the same machine as WebSphere Portal and WebSphere Application Server. Installing DB2 Connect enables the WebSphere Portal to use the required JDBC drivers. You must also ensure that the DB2 Connect installation is the same name as the server profile name. Refer to the DB2information center for more information:

http://www.ibm.com/software/data/pubs/

6. The following pre-requested fix packs must be installed on DB2 client and server machines before database transfer.

- a. For DB2 v8.1 Fix Pack 14 must be downloaded and installed.
- b. For DB2 v9.1 Fix Pack 1 must be downloaded and installed.
- c. Fix Pack can be downloaded from the link: <u>http://www-1.ibm.com/support/docview.wss?rs=71&uid=swg27007053</u>
- 7. Locate the following file: db2home/sqllib/db2cli.ini
- 8. Edit the file by adding the following to the end of the file:

[COMMON] DYNAMIC=1 ReturnAliases=0

Note: An empty line is required after the ReturnAliases=0 at the end of the file.

9. Start the ConfigWizard from <wp_root>/config/wizard/configwizard.bat.

10. Click Next on the Welcome Screen.

🕀 WebSphere Portal Configuration Wizard	
WebSphere. Portal	TEX.
Welcome to the configuration wizard for WebSphere Portal 6.0.1 This wizard will run advanced WebSphere Portal configuration tasks on your computer. To access information about this product, choose Launch Information Center. Launch Information Center Choose Next to continue.	
Help < <u>B</u> ack Next	> <u>C</u> ancel
11. Select Transfer data to another database, and click Next button.



12. Provide the WSAS Admin User and password and click Next button.

labSohera Bartal	
Porta	
WebSphere Application Server global security is enabled. Enter the user ID a for WebSphere Application Server administration.	and password to be used
WasUserid: WebSphere Application Server user name.	
admin	
WasPassword: WebSphere Application Server password.	

13. Select the IBM Cloudscape as Source Database Type and click Next button.

ebSphere Portal Configuration Wizard	
NebSphere. Portal	
Source Database Tvoe	
Select the database type that you want to transfer data from for all domains.	
 IBM Cloudscape 	
O IBM DB2 Universal Database	
O IBM DB2 for z/OS and OS/390	
O Oracle Enterprise Edition	
O SQL Server Enterprise	tent all a state of the
🗖 Set database type for individual domains	
	THE REPORT OF
	Contraction of the Contraction
IShield	
alb	< Back Next > Cancel

14. Select the DB2 Universal Database as Target Database Type and click Next button.



. Fill the fields as appropriate for your environment and click Next button.



ebSphere Portal Configuration Wizard	_
WebSphere. Portal	
Community Database Domain Properties	
Target Database	
DbName: Database name	
comm_a	
DbSchema: Database schema	
community	
DataSourceName: Datasource to be used for WebSphere Portal	And it is the second
wpdbDS_community	
DbUser: Database administrator user name	
db2admin	
DbPassword: Database administrator password	

DbUrl: JDBC URL	
jdbc:db2:comm_a	
	THE OWNER AND A
	and the second se
JIChield	
elp	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel

bSphere Portal Configuration Wizard	
NebSphere. Portal	
Customization Database Domain Properties	
Target Database	
DbName: Database name	
cust_a	
DbSchema: Database schema	
customization	
DataSourceName: Datasource to be used for WebSphere Portal	And the figure of the second se
wpdbDS_customization	
DbUser: Database administrator user name	
db2admin	
DbPassword: Database administrator password	

DbUrl: JDBC URL	
jdbc:db2:cust_a	
	The second se
IChield	
elp	< Back Next > Cance

bSphere Portal Configuration Wizard	
NebSphere. Portal	
Java Content Repository Database Domain Properties	
Target Database	T
DbName: Database name	
jcrdb_a	
DbSchema: Database schema	
jcr	
DataSourceName: Datasource to be used for WebSphere Portal	
wpdbDS_jcr	
DbUser: Database administrator user name	
db2admin	
DbPassword: Database administrator password	

DbUrl: JDBC URL	
jdbc:db2:jcrdb_a	
	And the Arts of
IIShield	
ala	< Pack North Cance

ebSphere Portal Configuration Wizard	
WebSphere. Portal	
LikeMinds Database Domain Properties	
Target Database	
DbName: Database name	
lkmddb_a	
, DbSchema: Database schema	
likeminds	
, DataSourceName: Datasource to be used for WebSphere Portal	
wpdbDS_likeminds	
, DbUser: Database administrator user name	
db2admin	
DbPassword: Database administrator password	

DbUrl: JDBC URL	
jdbc:db2:lkmddb_a	
	The second se
IIShield -	
INVERSE OF A	
elp	< <u>B</u> ack <u>N</u> ext > <u>C</u> ance

ebSphere Portal Configuration Wizard		_
WebSphere. Portal		
Release Database Domain Properties		
Tarnet Database		
DbName: Database name		
wpsdm a		7
DbSchema: Database schema		7
release		P
, DataSourceName: Datasource to be used for WebSphere Portal		
wpdbDS_release		
, DbUser: Database administrator user name		
db2admin		
, DbPassword: Database administrator password		

DbUrl: JDBC URL		
jdbc:db2:wpsdm_a		A.
	The second s	
	and the second se	
JIChiald		
elp	< <u>B</u> ack <u>N</u> ext > <u>C</u> and	cel

lebSphere. Portal	
Member Manager Database Domain Properties	
farget Database	-
DbName: Database name	
wmmdb_a	
DataSourceName: Datasource to be used for WebSphere Portal	
wpdbDS_wmm	
DbUser: Database administrator user name	
3b2admin	
DbPassword: Database administrator password	

DbUrl: JDBC URL	
dbc:db2:wmmdb_a	

		ı Wizard	ohere Portal Configuration
			bSphere. Portal
	database domains listed in the	following task for the	e wizard is ready to run the • Transfer data to a
-	Target Database	Source Database	Domain
	BM DB2 Universal Database	IBM Cloudscape	Community
	BM DB2 Universal Database	IBM Cloudscape	Customization
	BM DB2 Universal Database	IBM Cloudscape	Java Content Repository
	BM DB2 Universal Database	IBM Cloudscape	LikeMinds
	BM DB2 Universal Database	IBM Cloudscape	Release
	BM DB2 Universal Database	IBM Cloudscape	Member Manager
	tisfied with the settings, choose	ise Back. If you are s	change any settings, choo
	tisfied with the settings, choos	ise Back. If you are s	change any settings, choo nield -

. After the task completes successfully, ensure Portal is started and please verify the Portal by rendering the Portal from a browser:

The default Portal URL is http://pnode:9080/wps/portal

Configure Portal to use a remote IBM HTTP Server

With WAS 6, the web server architecture has changed significantly. The web server is now listed as a separate Server in the AdminConsole and can be managed from there as well.

Details on how to configure a web server to WAS 6 can be found in the WAS InfoCenter at the following links:

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/topic/com.ibm.websphere.nd.doc/ info/ae/ae/tins_webplugins_single.html http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/topic/com.ibm.websphere.nd.doc/ info/ae/ae/tins_webplugins_remotesa.html

- 1. Install the Web server on a remote machine /<cd root>/W-9/IHS/install.exe
- 2. Install the plugin on a remote machine

/<cd_root>/W-9/plugin/install.exe

- **3.** Move configurewebserver1.bat script from < /<pre>/<plugin_root>/bin to the /<was_root>/bin on the DMGR machine.
- 4. Run configurewebserver1.bat script on dmgr.

Note: When running the configurewebserver1.bat script you should be prompted by a pop-up box to provide the WSAS admin user credentials.

Providing these credentials to essential for the script to be able to make a SOAP connection to the DMGR since security has been enabled by the Portal install.

On UNIX environments the pop-up box may not appear and you will receive a credential error when attempting to run the configurewebserver1.sh script. If this occurs, please edit the <dmgr_profile_root>/properties/soap.client.props file temporarily and add the current userid and password for the following properties:

com.ibm.SOAP.loginUserid

com.ibm.SOAP.loginPassword

After adding the values and saving the file, simply re-run the configurewebserver1 script. Once the script has completed, please edit the soap.client.props file again and remove the userid and password you just supplied. This script creates the Web server node in the AdminConsole.

Welcome	Nodes					
E Servers	Nodes			2.		
Applications	Nodes					
E Resources	A node corresponds to a physical computer system with a distinct IP host address. The node name is usually the					
E Security	same as the host name for the com into the cell by clicking on "Add Node	puter. The following table and specifying a remote	lists the nodes in this ce e, running WebSphere Ar	II. You can add nev nodes		
Environment	Preferences					
System administration	Add Node Remove Node	Force Delete S	ynchronize Full R	esynchronize Stop		
 Cell Deployment manager Nodes 	g d Ŧ ₹			,		
= Node agents	Select Name 🗢	Version 🗘	Discovery Protocol 🔅	Status ሷ		
= Node groups	irvanvmNode01	6.0.0.2	TCP	•		
 Save Changes to Master Repository Console settings 	D petty.raleigh.ibm.com	6.0.0.2	тср	8		
Monitoring and Tuning	tpescadorvmCellManager01	6.0.0.2	тср	•		
Troubleshooting	Total 3					
Service integration						

and the Web server server entry in the AdminConsole

# Welcome	Web servers			Close page		
E Servers	Web servers			7 -		
Application servers Generic servers JMS Servers Web servers Concess	Web servers A list of installed Web servers. Preferences					
 Clusters Cluster topology 	Generate Plug-In Pr	Generate Plug-in Propagate Plug-in Hev Delete Templates Start Stop Terminate				
E Core groups	0 0 # ¥					
Applications	Select Name 🗘	Node C_	Version 🔆	Status 🗘		
E Resources	webserver1 N	petty.raleigh.ibm.com	6.0.0.2	•		
Security	Total 1	tid a				
Environment						
System administration						

The script also tries to map all the existing Enterprise Applications (EAs) to the Web server entry, but may fail on some Windows environments because of the fact that some of the Portal EAs have more than 256 characters in their paths.

The results are that after this fails the node and server entry are created successfully, but none of the EAs are mapped to the Web server. This means that when you regenerate the Web server plugin it does not know about any of the EAs and therefore none of them are listed in the plugin-cfg, which means that if the plugin is moved to Web server it will not be able to serve the EAs.

If the **configurewebserver1.bat** script completes successfully then please move forward to Step 6. If the script runs successfully you will need to logout and login back into the DMGR AdminConsole to see the changes before moving to Step 6.

If you are on Windows and the script fails because of the 256 character limit, you must follow the following procedure, Step 5, to manually map the EAs to the web server.

5. So to accomplish this you must manually map each of the Enterprise Applications to the WebSphere_Portal server AND the webserver1 server thru the AdminConsole by first navigating to:

Applications>Enterprise Applications

In this example, we will map the wps EA as an example. This should be done for each EA that you wish the Web server to serve.

Click on the EA name, in this case "wps"...

= Welcome	Enterprise Applications	
🛨 Servers	Enterprise Applications	
Applications	Enterprise Applications	
 Enterprise Applications Install New Application 	Lists installed applications. A single application can be deployed onto n T Preferences	nultipl
Resources	Start Stop Install Uninstall Undate Rollout Undate	.] [
🕀 Environment		
System administration	Select Name 🗘 Statu	is 🖸
Monitoring and Tuning	Filter: wps*	
	To filter the following table, select the column by which to filter, then	antar f
Service integration	Filter Search term(s):	encer r
IDDI E	Name wps* Go	
	Tatal es	
	Total 66	

Click on Map modules to servers

= Welcome	Enterprise Applications	
1 Servers	Enterprise Applications	
Applications	Enterprise Applications > wps	
 Enterprise Applications Install New Application 	Enterprise Applications	
Resources	Configuration	
1 Security		
Environment	General Properties	Additional Properties
System administration	* Name	Stateful session bean failover settings
Monitoring and Tuning	w b s	Session management
Troubleshooting	Binary Management	Application profiles
Service integration	\$(APP_INSTALL_ROOT)/irvan	Libraries
		Target mappings
H 0001	Use metada:a from binaries	Last participant support extension
	Enable distribution	View Deployment Descriptor
	Validation	 Provide JMS and EJB endpoint URL information
	varn 👻	Publish WSDL files
	- Class Loading and Ele Undate Detection -	Provide HTTP endpoint URL information
	* Class loader mcde	Map security roles to users/groups
	Parent First 💌	Provide JNDI Names for Beans
	* WAR class loader policy	Map resource references to resources
	Module	Map virtual hosts for Web modules
	Enable class reloading	 Map resource env entry references to resources
	Reloading interval 3	Map monutes to servers

Select the Module, WebSphere Portal Server (wps.war) and then highlight both the webserver1 and WebSphere_Portal entries listed in the Clusters and Servers box and click Apply

erprise	Applications		Close page
terprise	Applications		
Enterne	ice Applicatio	ns > wns > Selecting server	
Map mo	dules to serv	ers	
Specify targets such as application servers or dusters of application servers where you want to install the modules contained in your application. Modules can be installed on the same application server or dispersed among several application servers. Also, specify			
the We each V	ab servers as Veb server is	targets that will serve as rou generated based on the app	iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) for ilications which are routed through it.
Cluste	ers and Serve	15:	
Web	Sphere:cell=t Sphere:cell=t	pescadorvmCell01,node=pe pescadorvmCell01,node=irv	tty.raleigh.ibm.com,server=vebserver1 anvmNode01,server=server1
Web	Sphere:cell=t	pescadorvmCell01,node=irv	anvmNode01,server=WebSphere_Portal Apply
R	6		rd.
Select	Module	URI	Server
	WP5 Task Scheduler	vp.scheduler.ejb.jar,META- INF/ejb-jar.xml	Web5phere:cell=tpescadorvmCell01,node=trvarvmNode01,server=Web5phere_Portal
5	WebSphere Portal Server	vps.war,WEB-INF/veb.xm	$WebSphere: cell=tpescadorvmCell01, node=irvarvmNode01, server=WebSphere_Portaling (Server=Server) = Server(Server) = Server$
	WebSphere Portal Server Facade	vps_facade.var,WEB- INF/veb.xml	WebSphere:cell=tpescadorvmCell01,node=irvarvmNode01,server=WebSphere_Portal
	Cluster Select	Clusters and Server Clusters and Server Select Module Select Module Select Module Select Module Select Module WebSpherecellet Select Module WebSphere Select Module Server Server	Enterprise Applications Enterprise Applications > wps > Selecting server Map modules to servers Specify targets such as application servers or dusplication. Modules can be installed on the sar the Web servers as targets that will serve as route ack Web servers are generated based on the application servers: WebSphere:cell=tpsscadorwnCell01.node=m/webSphere:

Now you will see that the Module WebSphere Portal Server (wps.war) is now mapped to both servers:

ns > wps > Selecting server ers as application servers or du can be installed on the sar targets that vill serve as rou generated based on the app rs	sters of application servers where you want to install the modules contained in you ne application server or dispersed among several application servers. Also, specify iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) ilications which are routed through it.		
ns > wpp > Selecting server ers as application servers or du can be installed on the sar targets that vill serve as rou generated based on the app rs:	sters of application servers where you want to install the modules contained in you me application server or dispersed among several application servers. Also, specify iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) ilications which are routed through it.		
ers as application servers or du s can be installed on the sar targets that vill serve as roo generated based on the app rs:	isters of application servers where you want to install the modules contained in you ne application server or dispersed among several application servers. Also, specify iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) ilications which are routed through it.		
as application servers or du s can be installed on the sar targets that will serve as rou generated based on the app rs:	isters of application servers where you want to install the modules contained in you ne application server or dispersed among several application servers. Also, specify iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) ilications which are routed through it.		
targets that vill serve as roo generated based on the app rs:	iters for requests to this application. The plug-in configuration file (plugin-cfg.xml) ilications which are routed through it.		
YS 1			
WebSphere:cell=tpescadorvmCell01,node=petty.raleigh.ibm.com,server=vebserver1 WebSphere:cell=tpescadorvmCell01,node=irvanvmNode01,server=server1			
pescadorvmCell01,node=irv	anvmNode01,server=WebSphere_Portal Apply		
URI	Server		
vp.scheduler.ejb.jar.META- INF/ejb-jar.xml	WebSphere:cell=tpescadorvmCell01,node=irvarvmNode01,server=WebSphere_Po		
vps.var,WEB-INF/veb.xm	WebSphere:cell=tpescadorvmCell01,node=petty.raleigh.ibm.com,sarvar=vebserve WebSphere:cell=tpescadorvmCell01,node=irvarvmNode01,server=WebSphere_Po		
vps_facade.var,WEB- INF/web.xml	WebSphere:cell=tpescadorvmCell01,node=irvarvmNode01,server=WebSphere_Po		
	URI vp.scheduler.ejb.jar.META- INF/ejb-jar.xml vps.war,WEB-INF/veb.xm vps_facade.war,WEB- INF/web.xml		

6. Then regen the plugin by navigating to Servers>Web servers and select the webserver1 entry and click Generate Plug-in. This is written to: <dmgr_profile_root>/<profile_name>/config/cells/<cellname>/nodes/<no dename>/servers/webserver1/plugin-cfg.xml

= Welcome	Web serv	ers			Close pag
🖯 Servers	Web serv	(e)*\$			2
 Application servers Generic servers JMS Servers Web servers Clusters Cluster topology Core groups 	Webs A list Pro	ervers of installed Web server ferences lenerate Plug-in	r. Propagate Plug-in New	Delete Templates	. Start Stop Terminate
① Applications	Select	Name 🛟	Node 🔘 🚬	Version 0	Status ሷ
🗄 Resources		webserver1	petty, raleigh, ibm, com	6.0.0.2	\$
🗄 Secunty	Total	1			1
🗄 Environment					
B System administration					

7. Move the plugin to the remote Web server which is under cplugin_root>/config/webserver1

8. Restart the DMGR, Web server and Portal

9. Change the WpsHostName and WpsHostPort properties in the wpconfig.properties to reflect the Web server values

10. Verify the Portal can be accessed thru the Web server

Create the cluster definition

Note: You must add the PortalAdminPwd and the WasPassword values to the *wpconfig.properties* file and all the database password values to the *wpconfig_dbdomain.properties* file or supply these values on the command line. This is because of what was described before in that the ConfigWizard replaces all the password values with the string, "ReplaceWithYourPassword" for security reasons.

Also, please ensure that the **PrimaryNode** property in the *wpconfig.properties* is equal to **True**.

Important Note: If you wish to change the name of the cluster to something other than the default in the *wpconfig.properties* file, you MUST change is now BEFORE the cluster definition is created. This can be changed by editing the *wpconfig.properties* file and changing the *ClusterName* property.

Also, the cluster-setup task will automatically configure the DRS settings for the nodes in the cluster.

1. Run <wp_root>/config/WPSconfig.bat cluster-setup

2. Restart DMGR, nodeagent and WebSphere_Portal to load the new configuration

3. As a checkpoint in the process, you now have a 1 node cluster configured to an external database and using the WMM database for security.

Install WSAS 6.0.2.9/WPS 6.0.1.1 on future cluster node, Node2

Important: This guide explicitly defines the required approach to build a Portal cluster which has been installed on WebSphere Process Server. To do this you must install Portal into an already federated WSAS/WPS profile. Because of this requirement, we MUST install WSAS/WPS from their native installers and federate the node BEFORE using the Portal installer to install Portal.

1. Install WSAS on Node2 by running the installer from: <cd_root>/W-1/windows/ia32/ifpackage/WAS/install.exe

Note: Make sure the installer screen is titled "**Welcome to IBM WebSphere Application Server Network Deployment, V6**". This title means that you can use this installer to install either, DMGR or WSAS profiles. If the title is "WebSphere Application Server Version 6.0", you are using an installer that only has the ability to install WSAS profiles and not DMGR profiles:

🖞 Installation wizard		
	Welcome to IBM WebSphere Application Server Network Deployment, V6	
	About this custom installation package.	
CN	This edition of WebSphere Application Server supports multinode, multiprocess distributed environments.	^
	In prior releases, a complete Network Deployment installation was achieved b running two separate installation procedures, each from its own CD. In Versio 6, you can define an equivalent configuration from a single installation in a two-part procedure that uses wizards.	y n
WebSphere. software	In the first part, this installation wizard will guide you through the installation of WebSphere Application Server core product files.	
	Upon completion of the first part, a second wizard will guide you through the creation of a run-time environment for the WebSphere Application Server product, known as a <i>profile</i> . At least one profile must be created to have a functional installation.	
211 11		Ť
InstallShield		
	< <u>Back</u> <u>Next</u> <u>C</u> ance	1

. If installing on Windows, when asked for install location, please shorten the default path. There is a path name limitation in Windows. Windows cannot handle path names longer than 256 characters.

쑵 Installation wizard			
Installation wizard	Installation directory IBM WebSphere Application Server Network Deployment, Ve directory. You can specify a different directory or click Browse to select Directory name: C:NBMWAS) will be installed t a directory.	to the specified
InstallShield	< <u>B</u> ack	<u>N</u> ext >	Cancel

3. You should be prompted during the install (with a panel near the end) if you would like to create a profile....at this time please choose NOT to create a profile by making sure the "Launch the Profile creation wizard" checkbox remains UNCHECKED. We will create a WPS profile at the end of the WPS install.



4. The WSAS installer from the Portal CDs will automatically upgrade WSAS to 6.0.2.9

Install WPS v6.0.1.1

5. Install WPS 6.0.1.1 by running the installer from: <cd_root>/W-2/windows/ia32/WBI/install.bat

Note: Please ensure you use the install.bat file and NOT the install.exe to install WPS

6. Ensure you use the existing WAS you just installed:

皆 IBM WebSphere Proc	ess Server for Multiplatforms 6.0.1 Installation Wizard	_ 🗆 ×
72	Detected WebSphere Application Server, Version 6.0	
1	The Installation Wizard detected an existing installation of Server, Version 6.0 on your computer. You can either use a install a new copy. Installation will occur simultaneously w Server 6.0.1.	WebSphere Application an existing installation or /ith WebSphere Process
	 Install a new copy of WebSphere Application Server Network Deployment, V Use an existing installation of 	/ersion 6.U
	WebSphere Application Server Network Deployment, V	/ersion 6.0
InstallShield		
	r Book Nord	

7. You should be prompted during the install (with a panel near the end) if you would like to create a profile. At this time we will create a WPS Custom profile. Please ensure the "Launch the Profile Wizard" checkbox is CHECKED and click Next to launch the WPS profile creation wizard.

법 IBM WebSphere Process	Server for Multiplatforms 6.0.1 Installation Wizard
7	Installation complete
	IBM WebSphere Process Server for Multiplatforms 6.0.1 was installed successfully.
	WebSphere Process Server 6.0.1 includes the ability to create a profile for a deployment manager, managed node, or a stand-alone Process Server. Use the Profile Wizard to create an operational environment that includes one of these profiles. Launch the Profile Wizard now to get started.
	☑ Launch the Profile Wizard
	Click Next to continue.
InstallShield -	s Pools Nexts Consol
	Searce Next Searce

Note: If you have to launch the WPS profile creation wizard manually, please ensure you launch the WPS profile creation wizard and NOT the WSAS profile creation wizard. The WPS profile creation wizard script is located at:

<wsas_root>/bin/**ProfileCreator_wbi**/pcatWindows.exe

8. After the profile creation wizard is launched, ensure the "Custom profile" radio button is selected on the "Profile type selection" panel and click "Next":



9. Because security is enabled in the cluster, you will not be able to use the automatic federation feature on secondary nodes. Please ensure the "Federate this node later using the addNode command" checkbox is checked.



Federate the profile to DMGR

10. After the profile is created we will federate the node using the addNode command Before running the addNode.bat command ensure the DMGR has been started To add a node to the deployment manager cell, run the script *addNode.bat* command on the command line of the snode to be added:

<wsas_profile_root>\bin\addNode.bat <deployment_manager_host> <deployment_manager_port> -username <admin_user_id> -password <admin_password>

Where:

wsas_root is the root directory on WebSphere Application Server. *deployment_manager_host* is the Deployment Manager host name. *deployment_manager_port* is the Deployment Manager SOAP connector-address. The default value is 8879.

Note: This value can be determined by accessing the DMGR AdminConsole and navigating to:

System Administration>Deployment Manager and then expand the Ports property under Additional Properties and then you can see the value for SOAP_CONNECTOR_ADDRESS.

admin_user_id is the WebSphere Application Server administrative user name. This parameter is optional but is required if security is enabled. *admin_password* is the administrative user password. This parameter is optional but is required if security is enabled.

Example:

addNode.bat dmgr 8879 –username admin –password password

Note: To run the addNode command here you MUST supply username and password because security has been enabled on the DMGR.

See the appropriate Network Deployment Information Center for details on the addNode command.

http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp?topic=/com.ibm.websph ere.nd.doc/info/welcome_nd.html

Upgrade WAS v6.0.2.9 to v6.0.2.17 and WPS v6.0.1.1 to v6.0.2.1

11. After the DMGR profile is created and federated to DMGR, then upgrade WAS v6.0.2.9 to version 6.0.2.17 and WPSv6.0.1.1 to version 6.0.2.1. WebSphere® Process Server Version 6.0 Refresh Pack 2 for Windows platforms, also known as Version 6.0.2, contains WebSphere Application Server v6.0.2 fix pack 17 for windows platform with all required fixes. You can download the fixpack 6.0-WS-WPS-ESB-WinX32-RP0000002.zip from:

http://www-1.ibm.com/support/docview.wss?rs=2307&uid=swg24014373

12. Extract the fixpack to *<was_root>*\updateinstaller and run the script *updateWPS-WESB-6021.bat* on the command line of the snode.

🔤 C:\WINDOW5\system32\cmd.exe - updateWP5-WE5B-6021.bat	
C:\IBM\WAS\updateinstaller>updateWPS-WESB-6021.bat	
Copy notices txt to the license.ProcessServer directory	
1 file(s) copied.	
Copy_the_JRE to the updateinstaller directory	
290 File(s) copied	
Installing SDK Fix Pack 6.0.2-WS-WASJavaSDK-WinX32-FP00000017.pak	
SDK Fix Pack 6.0.2-WS-WASJavaSDK-WinX32-FP00000017.pak installed successfully	
Installing WAS Fix Pack 6.0.2-WS-WAS-WinX32-FP00000017.pak	
WAS Fix Pack 6.0.2-WS-WAS-WinX32-FP00000017.pak installed successfully	
Installing WAS iFix 6.0.2.11-WS-WAS-IFPR31745.pak	
WAS ifix 6.0.2.11-WS-WAS-IFPK31745 pak installed successfully	
Installing WAS iFix 6.0.2.13-WS-WAS-IFPK34465.pak	
WAS ifix 6.0.2.13-WS-WAS-IFPK34465.pak installed successfully	
Installing WAS iFix 6.0.2.18-WS-WAS-IFPK34001.pak	
WAS ifix 6.0.2.18-WS-WAS-IFPK34001.pak installed successfully	
Installing WAS iFix 6.0.2.13-WS-WAS-IFPK32982.pak	
WAS ifix 6.0.2.13-WS-WAS-IFPK32982.pak installed successfully	
Installing WHS 1Fix 6.0.2.12-WS-WHS-1FPR35426.pak	
WHS 1F11x 6.0.2.17-WS-WHS-IFPK35426.pak installed successfully	
Installing WAS iFix 6.0.2.9-WS-WAS-IFPK35039.pak	
WHS IFIX 6.0.2.9-WS-WHS-IFPR35039.pak installed successfully	
Installing WHS ifix 6.0.2-WS-WHS-IFFK35285.pak	
	-

Note: If you get any errors during upgrade process, fix those errors and run the batch file again. You will not be able to start the nodeagent until you complete Step 12 of the next section titled, *'Install Portal onto the managed node, Node2'*. This is because of an incomplete wmm security configuration.

Install Portal onto the managed node, Node2

13. Before installing Portal please move the WMM jars. Update the secondary node with required WMM jar files. These files are located on the Setup CD provided as part of the installation package for WebSphere Portal. Copy the following files from the: <*cd_root>/W-Setup/dmgr_wmmjars* directory on the Setup CD to the </wsas_root>/lib directory on the secondary node: wmm.jar wmm.ejb.jar wp.wire.jar

14. Ensure the time-out request for the Simple Object Access Protocol (SOAP) client for Node 2 has been increased to 6000. The default, in seconds, is 180. Within the <wsas_profile_root>/properties/ directory, edit the *soap.client.props* file. Change the line to:

com.ibm.SOAP.requestTimeout=6000

15. Begin the Portal install by using this command: <cd_root>/W-Setup/install.bat -W startPortalServerSequence.active=false

ebSphere Portal Version 6.0 Installer	
WebSphere. Portal	TEN.
Welcome to WebSphere Portal Version 6.0. The wizard will install WebSphere Portal onto your computer. To access information about this product, press the Launch Information Center button. Launch Information Center To continue, press Next.	
< <u>B</u> ack Next	> <u>C</u> ancel

16. Accept the license agreement:

WebSphere Portal Version 6.0 Installer	_ _ _ _ ×
WebSphere. Portal	
Software License Agreement Please read the following license agreement carefully. International Program License Agreement Part 1 - General Terms By DOWINLOADING, INSTALLING, COPYING, ACCESSING, OR USING THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON OR A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON, COMPANY, OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS, DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, OR USE THE PROGRAM; AND • PROMPTLY RETURN THE PROGRAM AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM YOUL ACOULDED IT TO OBTAIN A REFUND OF THE AMOUNT YOUL PAID JE YOU DOWNNL OADED THE Read non-IBM terms • Laccept both the IBM and the non-IBM terms] • I do not accept the terms in the license agreement Print	
nstallShield	<u>C</u> ancel

17. Select Custom as the install path

🕀 WebSphere Portal Version 6.0 Installer	
WebSphere. Portal	IBV.
Select the installation type you prefer.	
Typical Install a new version of WebSphere Portal with WebSphere Application Server Custom Install a new version of WebSphere Portal on an existing version of WebSphere Application Server	
< <u>B</u> ack <u>N</u> ext	> <u>C</u> ancel

18. Select the existing WebSphere AppServer install location and check the box next to "Install on a managed node"

ebSphere Portal Version 6.0 Installer	
WebSphere Portal	IBM,
Select the location of the existing instance of WebSphere Application Server.	
Existing WebSphere Application Server instances:	LXN
CNBMWAS	
Note: WebSphere Portal Version 6.0 can only be installed on certain versions of WebSphere Application	
Install on a managed node	
	1/20
anomeiu -	
< <u>Back</u> <u>N</u> ext	> <u>C</u> ancel

19. Select Secondary Node and select the desired profile that you wish to install Portal onto

ebSphere Portal Version 6.0 Installer			_ 0
WebSphere. Portal			IBM.
Managed node input		_	2
Select the type of node:		-	
O Primary Node			
Secondary Node			
Select an existing profile:		_	
CSNode			
allShield	 < <u>B</u> ack	<u>N</u> ext >	<u>C</u> ancel

20. Provide the current WSAS Admin User and password.

WebSphere Portal Version 6.0 Installer	
WebSphere Portal	IIM.
Enter the WebSphere Application Server administrative user ID and password.	2
This user ID is used to access WebSphere Application Server with administrator authority after installation. This user ID is only used to log into WebSphere Application Server and is not related to any user IDs used to access the operating system itself. User ID: admin Password: ******** Confirm password: ********	
InstallShield	> <u>C</u> ancel

. Define the desired location for Portal to be installed



22. Define the Portal Admin User and password

WebSphere Portal Version 6.0 Installer	
WebSphere. Portal	IIV.
Enter the WebSphere Portal administrative user ID and password.	
This user ID is used to access WebSphere Portal with administrator authority after installation. This user ID is only used to log into WebSphere Portal and is not related to any user IDs used to access the operating system itself. User ID: admin Password: #******** Confirm password: #*********	
< Back Nex	kt > <u>C</u> ancel

23. Decide whether you want WSAS and Portal to run as a service. In this guide we choose NOT to run either as a Windows service.

ebSphere Portal Version 6.0 Installer	
WebSphere. Portal	IEM
Select the products to run as a service.	
You can use Microsoft® Windows® Services to run the following features: start and stop services, and configure startup and recovery actions.	+
WebSphere Application Server	
🗖 WebSphere Portal	
Windows Administrator User ID:	
Administrator	
Password:	
allShield	> <u>C</u> ancel

24. Review Summary panel and click Next to begin the install

ebSphere Portal Version 6.0 Installer	
WebSphere. Portal	TEM
VebSphere Portal is ready to install.	
If you want to review or change any settings, press Back. If you are satisfied with the settings press Next to begin copying files.	+
Previously installed products:	
WebSphere Application Server	_
CWBMWWAS	
Products to install:	
WebSphere Portal 6.0 1513MB	
C:\\BM\\VP	
IIShield	<u>Next > C</u> ancel
. Verify that portal install successfully and click Finish

ebSphere Portal Version 6.0 Installer WebSphere Portal	
Installation was successful. Please review the message log C:\IBM\WP\log\installmessages.txt for any installation warnings. Previously installed products: WebSphere Application Server	
C/JBM/WAS The following products are now installed on your computer: WebSphere Portal 6.0 1513MB C/JBM/WP	
First Steps gives you access to launch WebSphere Portal and view product documentation. ☑ Launch First Steps WebSphere Portal is listening on port 9080. The WebSphere Portal is now available at http://localhost.9080/wps/portal.	
< Back	Vext > Finish

Important: Do not attempt to start the WebSphere Portal to verify it's operational after installation. Because you installed as a secondary node, no enterprise applications or portlets will be installed onto the WebSphere Portal instance on the secondary node. This will make the Portal to not be operational until it is added to the cluster.

Add Node2 to the cluster definition

Important Note: Next we will run the cluster-setup task to add Node2 to the cluster. It is important to know that with Portal v6 the connect-database task has been integrated into the cluster-setup task. If the PrimaryNode property is defined as False, the cluster-setup task will perform the connect-database to point the secondary node to the existing cluster database. Therefore during this step we will be required to ensure that the database properties are correct in the wpconfig.properties files.

Also, the cluster-setup task will also automatically configure the DRS for the nodes in the cluster as well.

27. Make a backup of the original wpconfig_dbdomain.properties and wpconfig_dbtype.properties files on Node2 and then copy the wpconfig_dbdomain.properties and wpconfig_dbtype.properties from node1 to node2 to ensure the same database configuration.

28. Ensure the ClusterName and PrimaryNode and ServerName and PortalAdminPwd and WasPassword in the wpconfig.properties file have correct values. ClusterName should be the name of the cluster created when running the clustersetup task on the Primary Node, Node1.

PrimaryNode should be set to "false" because this is a Secondary Node. ServerName is REQUIRED to be changed from WebSphere_Portal. The clustersetup task is written to automatically remove the WebSphere_Portal server during the *action-remove-appserver-wps* task. This occurs at the end of the cluster-setup task and ONLY occurs when the PrimaryNode is set to "false". This happens because of the fact in previous versions of Portal when you build a cluster you have 2 WebSphere_Portal server entries for the secondary nodes....like for example, WebSphere_Portal_2 (which was the true cluster member) and also a WebSphere_Portal entry (which was a "ghost" server) and most customers wanted the "ghost" server removed to avoid confusion.

Important Note: However, because of this requirement you will NOT be allowed to have the server name, WebSphere_Portal, across all the clustered nodes. If the ServerName is NOT changed to something other than WebSphere_Portal, you will have an incorrect cluster configuration and to recover you will be required to reinstall Portal on Node2.

PortalAdminPwd should be set to the password defined at install which should be the same as the Portal password on Node1. WasPassword should be set to the WSAS password defined at install which should be the same as the WSAS password on Node1.

29. Install the client software, DB2 Connect, on the same machine as WebSphere Portal and WebSphere Application Server. Installing DB2 Connect enables the WebSphere Portal to use the required JDBC drivers. You must also ensure that the DB2 Connect

installation is the same name as the server profile name. Refer to the DB2information center for more information: http://www.ibm.com/software/data/pubs/

30. The following pre-requested fix packs must be installed on DB2 client and server machines before database transfer.

- a. For DB2 v8.1 Fix Pack 14 must be downloaded and installed.
- b. For DB2 v9.1 Fix Pack 1 must be downloaded and installed.
- c. Fix Pack can be downloaded from the link: <u>http://www-1.ibm.com/support/docview.wss?rs=71&uid=swg27007053</u>

31. Again, in Portal v6 the connect-database task has been integrated into the clustersetup task. So, now because of this we must run the validate database tasks. If the passwords are defined in the wpconfig_dbdomain.properties file, the the –D options below are not required at the command line

WPSconfig.bat validate-database-driver

WPSconfig.bat validate-database-connection-wps - DDbPassword=password

WPSconfig.bat validate-database-connection-jcr - DJcrDbPassword=*password*

WPSconfig.bat validate-database-connection-feedback -DFeedbackDbPassword=password

WPSconfig.bat validate-database-connection-likeminds -DLikemindsDbPassword=*password*

WPSconfig.bat validate-database-connection-wmm -DWmmDbPassword=*password*

32. Run <wp_root>/config/WPSconfig.bat *cluster-setup*.

33. Restart DMGR, and then the nodeagent and WebSphere_Portal_2 on Node2, and also restart the webserver to load the new configuration.

34. Verify the Portal install by accessing it thru a browser. By default Portal is installed onto port 9081: http://<hostname>:9081/wps/portal

35. Also verify the new cluster member is available thru the webserver. The webserver plugin-cfg.xml may have been updated by the cluster-setup task if the webserver plugin is setup to be propagated via the WSAS config. Please see WSAS documentation for more information on this.

If the plugin-cfg.xml needs to be updated manually, please follow these instructions to regen the Web server plugin:

a. Regenerate the Web server plug-in using the deployment manager administrative console.

b. If you are using a remote Web server, copy the updated plug-in configuration file (plugin-cfg.xml) to the Web server's plug-in configuration directory.

c. Stop and start the Web server.

d. Restart all nodes in the cluster.

36. Edit the wpconfig.properties on Node2 to reflect the Web Server configuration. Change the following properties:

WpsHostName WpsHostPort

Configure Portal Node 1, Portal Node 2 and the DMGR for LDAP security with Realm Support

Installing an LDAP server is not part of the default IBM[®] WebSphere[®] Portal installation, so you must install, setup, and configure the IBM Tivoli[®] Directory Server separately. You can install the Tivoli Directory Server on the same machine as WebSphere Portal or you can install it on a remote machine. In this guide we will use Tivoli Directory Server v5.2 on the same machine where DB2 server is installed.

1. Install Tivoli Directory Server v5.2 by running the setup.exe file at: <tivoli_installation_root>\ismp\setup.exe



2. Accept the license agreement and click Next.

😼 IBM Tivoli Directory Se	erver 5.2	_ 🗆 🗵
	Software License Agreement	
	Please read the following license agreement carefully.	
	International License Agreement for Non-Warranted Programs	
	Part 1 - General Terms	
	BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, OR USING THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON OR A COMP OR OTHER LEGAL ENTITY, YOU REPORT AND WARRANT THAT YOU HAV	ANY
	FULL AUTHORITY TO BIND THAT PERSON, COMPANY, OR LEGAL ENTITY TO)
C C C C	THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,	
111- 1-0	DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, OR USE THE PROGRAM; A	ND
19/11. 20.	PROMPTLY RETURN THE PROGRAM AND PROOF OF ENTITLEMENT TO TH	IE 🔳
The states of th	I accept the terms in the license agreement	
	C I do not accept the terms in the license agreement	
InstallShield		
	< <u>B</u> ack <u>N</u> ext > <u>C</u> an	cel

3. Specify the TDS installation location and click Next.

😔 IBM Tivoli Directory Se	erver 5.2
200	Click Next to install "IBM Tivoli Directory Server 5.2" to this directory, or click Browse to install to a different directory.
	Directory Name:
	C:\IBM\LDAP
- 91 B	Browse
- and	
14 / C	
0.2000000	
InstallShield	
	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel

4. Select the language and click Next.

🛃 IBM Tivoli Directory Se	ver 5.2			_ 🗆 ×
2 6	Select the language for IBM Tivoli	Directory Server:		
	 Select the language for IBM Tivoli English French German Italian Japanese Korean Portuguese (Brazil) Simplified Chinese Spanish Traditional Chinese 	Directory Server:		
InstallShield				
		< <u>B</u> ack	<u>N</u> ext ≻	<u>C</u> ancel

5. Select the features that should be installed on the server and click Next.



6. Click Next.

😼 IBM Tivoli Directory Serve	r 5.2	_ 🗆 🗵
	Installation has enough information to start copying files. Please review the settings below and if you wish to change any setting, click Back. If you are satisfied with the settings, click Next to begin copying files.	
	The following features will be installed: Client SDK Web Administration Tool Server IBM WebSphere Application Server - Express 5.0.2 will be installed in path	
	C:\IBM\LDAP\appsrv The Web Administration Tool will be installed into embedded version of Web	o: ▼
InstallShield		
	< <u>B</u> ack <u>Next > C</u> a	ncel

7. Click Finish.

😼 IBM Tivoli Directory Se	erver 5.2
2 6/	Installation is now complete.
	If you installed the server, log in after reboot with the user ID you are currently using, and a configuration tool will be launched. Use the configuration tool to configure a database* and the administrator distinguished name and password. You must configure these items before you can use IBM Tivoli Directory Server.
0	*Note: Before configuring a database, be sure you have already defined a system user ID for the owner of the database instance.
	The InstallShield Wizard has successfully installed IBM Tivoli Directory Server 5.2. Choose Finish to exit the wizard.
InstallShield	
	< <u>B</u> ack <u>N</u> ext > <u>Finish</u>

Configure the Tivoli Directory Server

- 1. Start the TDS administrative console by navigating to Start > All Programs > IBM Tivoli Directory Server v5.2 > Directory Configuration.
- 2. Navigate to Configure Database in the left hand side and select Create a New database. Then click Next.

File Help Choose a task: Configure database Anisitator DNpassword Directory data is stored in a DB2 database. You can either create a new Configure database Configure database Configure database Configure an existing database Configure database Configure an existing database Poptimize database Configure an existing database Optimize database Configure database Optimize database Configure database Poptimize database Configure database Poptimize database Configure database Configure database Configure database Configure database Configure database Configure database Configure database Configure database Concel
Choose a task: Configure database Introduction Directory data is stored in a DE2 database. You can either create a new LDAP DE2 database for the directory server or configure the directory server to use an existing database. Onfigure database Configure database Manage suffixes Configure database Manage suffixes Configure database Manage suffixes Configure database Restore database Configure database Restore database Configure database Optimize database Configure database Manage suffixes Configure an existing database Prestore database Configure database Optimize database Configure database Restore database Restore database Optimize database Primize database Manage suffixes Manage suffixes Restore database Restore database Primize database Primize database Manage suffixes Manage suffixes Restore database Restore database Restore database Restore database Manage suffixes Restore database Manage suffixes Restore database Resto

3. Provide DB2 user id and password.

🛃 IBM Tivoli Directory Server Configur	ation Tool
<u>File H</u> elp	e
Choose a task:	Configure database The database will be configured using a valid system User ID. Enter an existing User ID and password below. User ID db2admin Password *********
<u></u>	

4. Enter database name and click Next button.

🔧 IBM Tivoli Directory Server Configura	ation Tool				_ 🗆 ×
<u>File H</u> elp					e
Choose a task: Administrator DN/password Configure database Unconfigure database Configure/unconfigure changelog Manage suffixes Manage schema files Import LDIF data Export LDIF data Backup database Restore database Optimize database	Configure database Enter the name of the data Database name Idapdb	oase to be config	ured. Next >	Finish	Cancel
· · · · · · · · · · · · · · · · · · ·	1				

5. Select create a universal DB2 database (UTF-8/UCS-2) and click Next button.

🚰 IBM Tivoli Directory Server Configur	ation Tool	_ 🗆 🗡
<u>File H</u> elp		e
Choose a task: Introduction Administrator DN/password Configure database Unconfigure database Configure/unconfigure changelog Manage suffixes Manage schema files Export LDIF data Export LDIF data Backup database Restore database Optimize database	Configure database The new DB2 database may be created in in a universal character set (UTF-8/UCS-2) or in the local codepage. If you anticipate storing data from multiple character sets in your directory you may wish to use the universal DB2 database option. (Create a universal DB2 database (UTF-8/UCS-2) (Create a local codepage DB2 database (Create a local codepage DB2 database (Help ?) < Back	incel

6. Specify the drive where the database will be created.

🛃 IBM Tivoli Directory Server Configur	ation Tool	
<u>F</u> ile <u>H</u> elp		\mathcal{O}
Choose a task: Introduction Administrator DN/password Configure database Unconfigure database Configure/unconfigure changelog Manage suffixes Manage schema files Import LDIF data Backup database Restore database Optimize database	Configure database The database containing the directory entries will be created in the location you specify below. For the empty database to be created successfully, there must be at least 80 megabytes available. You should also have additional disk space available to accommodate the growth of the database as entries are added. Database location C I I I I I I I I I I I I I I I I I I	Cancel

7. Review the setting and click Close button.

🚰 IBM Tivoli Directory Server Configur	ation Tool		_ 🗆 ×
<u>File</u> <u>H</u> elp			e
File Help Choose a task: Introduction Administrator DN/password Configure database Unconfigure database Onfigure/unconfigure changelog Manage suffixes Manage schema files Import LDIF data Export LDIF data Backup database Restore database Optimize database Optimize database	Configure database Start time Elapsed time 7/25/07 8:24 PM 0:1:6 Task messages 0:1:6 You have chosen the following actions: Database 'idapdb' will be configured in instance 'db2admin'. Configuring IBM Tivoli Directory Server Database. Creating instance: 'db2admin'. Created instance: 'db2admin'. Cataloging instance node: 'db2admin'. Cataloged instance node: 'db2admin'. Starting database manager for instance: 'db2admin'. Starting database: 'idapdb'. Created database: 'idapdb'. Created database: 'idapdb'. Updating the database: 'idapdb'. Updating the database: 'idapdb'. Updating the database: 'idapdb'.		
	Updated the database: 'Idapdb' Updating the database manager: 'db2admin' Updated the database manager: 'db2admin' Enabling multi-page file allocation: 'Idapdb' Enabled multi-page file allocation: 'Idapdb' Configuring database: 'Idapdb' Configured database: 'Idapdb' Configured IBM Tivoli Directory Server Database. IBM Tivoli Directory Server Configuration complete.	Close	Help ?

Tivoli Directory server is now ready to be configured with portal server.

Creating required LDAP users and groups

Before you can configure IBM[®] WebSphere[®] Portal to work with the LDAP server, the LDAP user registry must have some minimal user and group information already populated. A minimum of one group that's **wpsadmins** or an equivalent (the group that is specified with the PortalAdminGroupId attribute in the wpconfig.properties file and one user that's specified with the PortalAdminId attribute in the wpsconfig.properties file is required for WebSphere Portal.

If content management functions are configured, it is recommended to also create the following groups in the LDAP: wpsContentAdministrators wpsDocReviewer These groups should be created in the LDAP with the same authority as granted to the wpsadmins group.

1. In the Tivoli Directory Server console, click the **Server Administration** folder on the left-hand navigation. Click the **Manage Server Properties** folder underneath it, and then click on the **Suffixes** link on the right-hand side of the main page.

2. Type the name of the Base DN to be used as the suffix, for example, *dc=yourco,dc=com*. Click **Add** to add the suffix.

3. When you are finished adding the suffix, click **OK** to save your changes.

4. Stop and start the LDAP server.

5. If you choose to use the LDIF file, locate PortalUsers.ldif in the root directory on the CD setup of portal server. <cd_root>/Setup_cd/

Notes: The PortalUsers.ldif file is provided as a working example and needs to be adapted appropriately to work with your LDAP server.

6. Replace all occurrences of dc=yourco, dc=com with the suffix that you are using. Also, replace any prefixes and suffixes that are unique to your LDAP server. You can specify user names other than wpsadmin and wpsbind if you want. For security reasons, you should specify non-trivial passwords for these administrator accounts because it is easier to specify them now than to change them after installation. Save your changes. 7. Start the TDS administrative console by navigating to Start > All Programs > IBM Tivoli Directory Server v5.2 > Directory Configuration and select Import LDIF data. Import the edited PortalUsers.ldif file and click Import button.

File Help	rver Configuration T	ool		
Choose a task:	Import LDIF data Enter the path and na Note: Before importin Path and LDIF file nar	me of the LDIF file (on the LDAP server) fi ig an LDIF file you must add the correspondin me	rom which you want to import directory data. ng suffixes in the Add/remove suffix task.	
Configure database Configure/unconfigur Manage suffixes Manage schema files	Remove trailing s	paces in Standard import or Bulkload	rowse	
Export LOF data Backup database Restore database	Standard import	C Data validation only Schema checking is done on the data, but the data is not added to the directory. Warning: To improve performance Buildoad does not check the correctness	Buildoad for very large LDIF files. Buildoad options Enable scheme checking	
		of the data. Run Data validation only on the LDIF file before attempting buildoad.	Enable ACL checking Enable password policy	
	Start time Task messages	Elapsed time The time elapsed since the st	tart of the import LDIF operation.	
<u> </u>			Cier Import Stop Close H	ar results

Note: Importing the PortalUsers.ldif file could overwrite existing user data.

8. Stop and restart the LDAP server.

9. After the portal installation, if you did not specify non-trivial passwords for the administrator IDs in the LDIF file, it is recommended that you change the passwords for these user IDs.

Disabling WebSphere Application Server global security

Please ensure that the Portal server has been stopped on each node. Also, because security comes enabled by default with Portal v6, we are now required to run the disablesecurity task BEFORE enabling any type of additional Portal security. Also, the disable-security and the enable-security-wmmur-ldap tasks MUST be ran on the Primary node.

1. Make a copy of the original helper file. Edit the /<wp_root>/config/helpers/security_disable.properties helper file.

Change the following properties to match your current security configuration: wmm.DbPassword WasPassword

Change the following properties to match what you desire your Portal id/pwd to be after disabling security: PortalAdminId PortalAdminPwd PortalAdminGroupId

2. Run the config wizard to disable security. Invoke the config wizard by running the following script, <wp_root>/config/wizard/configwizard.bat. Again, please make sure the task is ran on the Primary node.

3. Click next on the Welcome Panel



4. Choose Disable security and click next



5. Enter the WSAS Admin password and click next

ebSphere Portal Configuration Wizard	_ 8
WebSphere Portal	IBM,
WebSphere Application Server global security is enabled. Enter the user ID and password to be used for WebSphere Application Server administration.	2
WasUserld: WebSphere Application Server user name.	$ \rangle /$
wasadmin	
WasPassword: WebSphere Application Server password.	
allShield	
< Back Next :	Cancel

6. Select the proper location of the helper file and click next

/ebSphere Portal Configuration Wizard	_ 8
WebSphere Portal	IIM.
Please enter an appropriate properties file location for the properties file you wish to use for this session. For additional information click the 'Help' button on the lower left corner of this panel. Enter your he per file location:	R
C.weeDopheter onaloeiver.comigatelpersisecumy_disable.properties	
	4
tallShield	Cancel

7. Enter the WMM database ID password and click next

cospilere Portal Configuration wizaru	
WebSphere Portal	TEM
	-
Portal Adminia: The user ID for the WebSphere Portal Administrator	
PortalAdminPwd: The password for the WebSphere Portal Administrator	

, PortalAdminGroupId: The group ID for the WebSphere Portal Administrator group	
wpsadmins	
wmm DhPaceword Paceword for WebSahara Member Manager database	
9911010 LILE #355991110 E #55991110 010 99811010818 1988110181 198004040818 0780	

8. Review the summary panel and click next to start the task



Verify that task run successfully, if you got any errors, then correct the errors and rerun the task again.

Configure Portal Node 1, Portal Node 2 and the DMGR for LDAP security with Realm Support

Refer to the following InfoCenter link for the details of LDAP/security configuration http://publib.boulder.ibm.com/infocenter/wpdoc/v6r0/topic/com.ibm.wp.ent.doc/wpf/intr _ldap.html

Note: In this guide we will enable security using the enable-security-wmmur-ldap task. In previous versions of the cluster guide we have always used enable-security-ldap. This guide recommends the use of the enable-security-wmmur-ldap task because overall Portal now recommends using this task to enable security so you can have the flexibility to configure realm support and virtual portals in the future. If you have no plans for these features running this task will NOT cause a problem. Or you can certainly choose to implement other security types at this step by running other tasks, such as enablesecurityldap, etc.

After the disable-security task finishes, please ensure all Portal servers are stopped and ensure the nodeagents and the DMGR are running before running the enablesecurity-wmmur-ldap task

1. Make a copy of the original security helper file. Edit the security helper file to change all the LDAP values to match your LDAP configuration.

WasPassword: The password for WebSphere Application Server security authentication (LDAP and CUR) WasPassword=cyber2003

wpconfig_dbdomain.properties and wpconfig_dbtype.properties

DbPassword: The database administrator password

wmm.DbPassword=cyber2003

PortalAdminPwd: The password for the WebSphere Portal Administrator PortalAdminPwd=cyber2003

PortalAdminGroupId: The group ID for the WebSphere Portal Administrator group PortalAdminGroupId=cn=wpsadmins,cn=groups,dc=rc,dc=com

WebSphere Portal Security Configuration - BEGIN

#

LTPAPassword: Specifies the password to encrypt and decrypt the LTPA keys. LTPAPassword=cyber2003

LTPATimeout: Specifies the time period in minutes at which an LTPA token will expire. LTPATimeout=120

SSORequiresSSL: Specifies that Single Sign-On function is enabled # only when requests are over HTTPS Secure Socket Layer (SSL) connections. SSORequiresSSL=false

SSODomainName: Specifies the domain name (ibm.com, for example) for all Single Sign-on hosts.

SSODomainName=<SSODomainName>

Description: The values in this section should only be adapted by advanced users

useDomainQualifiedUserNames: Specifies the user names to qualify with the security domain within which they reside. useDomainQualifiedUserNames=false

cacheTimeout: Specifies the timeout value in seconds for security cache. cacheTimeout=600

issuePermissionWarning: Specifies that when the Issue permission warning is enabled, during application deployment # and application start, the security run time emits a warning if applications are granted any custom permissions. issuePermissionWarning=true

activeProtocol: Specifies the active authentication protocol for RMI/IIOP requests when security is enabled. activeProtocol=BOTH

activeAuthMechanism: Specifies the active authentication mechanism, when security is enabled. activeAuthMechanism=LTPA

LDAPHostName: The LDAP server hostname LDAPHostName=ishtiaque

LDAPPort: The LDAP server port number # For example, 389 for non-SSL or 636 for SSL LDAPPort=389

LDAPAdminUId: The LDAP administrator ID LDAPAdminUId=cn=admin

LDAPAdminPwd: The LDAP administrator password LDAPAdminPwd=cyber2003

LDAPServerType: The type of LDAP server to be used for WebSphere Portal LDAPServerType=IBM_DIRECTORY_SERVER

#LDAPBindID: The user ID for LDAP Bind authentication

LDAPBindID=uid=admin.cn=users.dc=rc.dc=com

#LDAPBindPassword: The password for LDAP Bind authentication LDAPBindPassword=cvber2003

LDAP Properties Configuration - END ******

Advanced LDAP Configuration - BEGIN

LDAPSuffix: The LDAP suffix appropriate for your LDAP server LDAPSuffix=dc=rc,dc=com

LdapUserPrefix: The LDAP user prefix appropriate for your LDAP server LdapUserPrefix=uid

LDAPUserSuffix: The LDAP user suffix appropriate for your LDAP server LDAPUserSuffix=cn=users

LdapGroupPrefix: The LDAP group prefix appropriate for your LDAP server LdapGroupPrefix=cn

LDAPGroupSuffix: The LDAP group suffix appropriate for your LDAP server LDAPGroupSuffix=cn=groups

LDAPUserObjectClass: The LDAP user object class appropriate for your LDAP server LDAPUserObjectClass=inetOrgPerson

LDAPGroupObjectClass: The LDAP group object class appropriate for your LDAP server

LDAPGroupObjectClass=groupOfUniqueNames

LDAPGroupMember: The LDAP group member attribute name appropriate for your LDAP server LDAPGroupMember=uniqueMember # LDAPUserFilter: The LDAP user filter appropriate for your LDAP server (to work with default values in WMM) LDAPUserFilter=(&(uid=%v)(objectclass=inetOrgPerson))

LDAPGroupFilter: The LDAP group filter appropriate for your LDAP server (to work with default values in WMM) LDAPGroupFilter=(&(cn=%v)(objectclass=groupOfUniqueNames))

LDAPGroupMinimumAttributes: This attribute is loaded for group search (performance issues) LDAPGroupMinimumAttributes=

LDAPUserBaseAttributes: These attributes are loaded for user login (performance issues) LDAPUserBaseAttributes=givenName,sn,preferredLanguage

LDAPUserMinimumAttributes: These attributes are loaded for user search (performance issues) LDAPUserMinimumAttributes=

#LDAPsearchTimeout: Specifies the timeout value in seconds for an LDAP server to respond before aborting a request. LDAPsearchTimeout=120

#LDAPreuseConnection: Should set to true by default to reuse the LDAP connection.
{ false | true }
LDAPreuseConnection=true

#LDAPIgnoreCase: Specifies that a case insensitive authorization check is performed.
{ false | true }
LDAPIgnoreCase=true

#LDAPsslEnabled: Specifies whether secure socket communications is enabled to the LDAP server. # { false | true }

Set to true if configuring LDAP over SSL LDAPsslEnabled=false

WpsContentAdministrators: The group ID for the WebSphere Content Administrator group

See LDAP examples below:

IBM Directory Server: { cn=wpsContentAdministrators,cn=groups,dc=yourco,dc=com
}

WpsContentAdministrators=cn=wpsContentAdministrators,cn=groups,dc=rc,dc=com

WpsContentAdministratorsShort: The WebSphere Content Administrators group ID WpsContentAdministratorsShort=wpsContentAdministrators

WpsDocReviewer: The group ID for the WebSphere Document Reviewer group # See LDAP examples below:

IBM Directory Server: { cn=wpsDocReviewer,cn=groups,dc=yourco,dc=com } WpsDocReviewer=cn=wpsDocReviewer,cn=groups,dc=rc,dc=com

WpsDocReviewerShort: The WebSphere Document Reviewer group ID WpsDocReviewerShort=wpsDocReviewer

WcmAdminGroupId: The group ID for the WCM Administrator group # See LDAP examples below:

IBM Directory Server: { cn=wcmadmins,cn=groups,dc=yourco,dc=com } WcmAdminGroupId=cn=wcmadmins,cn=groups,dc=rc,dc=com

WebSphere Portal Security Configuration - END

2. Import the contents of the helper file into the wpconfig.properties file by issuing this command:

<wp_root>/config/WPSconfig -DparentProperties="<full_path_to_helper_file>" - DSaveParentProperties=true

3. Open the wpconfig.properties file and make sure the WpsHostName and WpsHostPort are correct

4. Run the following task to validate the LDAP values: WPSconfig.bat validate-wmmur-ldap

5. Run the following task on the primary node ONLY to configure the LDAP security settings for both WSAS/WP nodes and the DMGR. This will enable security on the entire cluster:

WPSconfig.bat enable-security-wmmur-ldap

6. Because we enabled security using the enable-security-wmmur-ldap task that enables realm support, we are required to manually edit the wmmWASAdmin.xml file on the DMGR. If this file is not edited with the shortname you will not be able to run the stopServer.bat or the serverStatus.bat on the nodes using the shortname as the username....rather you will be required to use the full LDAP DN.

The current <dmgr_profile_root>/config/wmm/wmmWASAdmin.xml should look something like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<wmmWASAdmins>
<admin logonId="uid=wasadmin,ou=People,ou=portal6,ou=dancy,o=portin"
logonPassword="anvu7zPZ7jbrZLa4h89Tfg=="
uniqueUserId="uid=wasadmin,ou=People,ou=portal6,ou=dancy,o=portin"/>
</wmmWASAdmins>
```

Please add another line between the <wmmWASAdmins> tag that includes the shortname. Since both IDs will have the same password you can simply copy the current <admin logonId> tag entry and modify it like below: <?xml version="1.0" encoding="UTF-8"?> <wmmWASAdmins> <adminlogonId="uid=wasadmin,ou=People,ou=portal6,ou=dancy,o=porti n" logonPassword="anvu7zPZ7jbrZLa4h89Tfg==" uniqueUserId="uid=wasadmin,ou=People,ou=portal6,ou=dancy,o=portin "/> <adminlogonId=**''wasadmin''** logonPassword="anvu7zPZ7jbrZLa4h89Tfg==" uniqueUserId="uid=wasadmin,ou=People,ou=portal6,ou=dancy,o=portin "/>

</wmmWASAdmins>

7. Please perform a full synchronization to ensure all the security settings are pushed from the DMGR to the nodes. Restart the DMGR and the nodeagents on each node. The nodeagents will have to be stopped by providing the full LDAP DN on the command line. After they restart the new config settings should take affect and then they should be able to be stopped using the shortname.

8. Update the <wp_root>/config/wpconfig.properties file on each secondary node in the cluster with the same LDAP user registry information you used to configure the primary node.

9.

Update the wpconfig.properties by moving the LDAP helper file from Node1 to Node2 and running the following command:

<wp_root>/config/WPSconfig -DparentProperties="<full_path_to_helper_file>" -

DSaveParentProperties=true

Complete the security configuration by running the enable-jcr-security configuration task on each secondary node.

Run the following command from the <wp_root>/config directory: WPSconfig.bat enable-jcr-security -DPortalAdminId=*portal_admin_id*

Where *portal_admin_id* is the fully qualified distinguished name (DN) of the portal administrator (for example, uid=wpsadmin,cn=users,dc=example,dc=com).

Restart the Portal server cluster member on each secondary node.

10. Verify the new security settings by rendering the DMGR AdminConsole and Portal from a browser.

Perform the final tasks

1. Save your changes and resynchronize the nodes:

. In the administrative console for the deployment manager, click System

Administration>Save Changes to Master Repository and save your administrative configuration.

Select **System Administration > Nodes**, select the cluster nodes from the list, and click **Full Resynchronize**.

2. Regenerate the Web server plug-in.

Select Servers > Web servers in the deployment manager administrative console, select the Web server entry and click the Generate Plug-in button Move the plugin to the Web server which is under <plugin_root>/config/webserver1

3. Restart the DMGR, Web server and Portal cluster

4. Verify the WpsHostName and WpsHostPort properties in the wpconfig.properties reflect the Web server values on all cluster nodes

5. Verify the Portal cluster can be accessed through the Web server

Conclusion

In this article, you saw how to build a fully-functional WebSphere Portal cluster using an external database and a LDAP for security. You also saw how to configure a Web server to allow for load balancing.

About the author

Ishtiaque Ali Daudpota is an IBM Certified Solution Developer, WebSphere Portal v5.1 working at Royal Cyber, Inc. as Sr. Software Engineer have about one and half year professional working experience on portlet development and portal administration for off-shore clients.

Resources

WebSphere Application Server Network Deployment Information Center http://publib.boulder.ibm.com/infocenter/wasinfo/v6r0/index.jsp?topic=/com.ibm.websph ere.nd.doc/info/welcome_nd.html WebSphere Portal InfoCenter http://publib.boulder.ibm.com/infocenter/wpdoc/v6r0/index.jsp A step-by-step guide to configuring a WebSphere Portal v6.0.0.0 cluster using WebSphere Application Server v6.0.2.9 and WebSphere Process Server v6.0.1.1 http://www-1.ibm.com/support/docview.wss?uid=swg21246630 A step-by-step guide to configuring a WebSphere Portal V5.1.x cluster using WebSphere Application Server V5.1.1.x http://www-128.ibm.com/developerworks/websphere/library/techarticles/0509_dancy/0509_dancy.ht ml

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