WebSphere Process Server V6.1: Clustering Generate custom deployment environment

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What this exercise is about

The objective of this lab is to provide instructions on how to configure a highly available business integration environment using multiple WebSphere[®] Process Server clusters. You will design and generate a custom deployment environment and then review all the resources created and applications configured.

Lab requirements

List of system and software required for the student to complete the lab.

- WebSphere Process Server V6.1
- DB2 ESE

What you should be able to do

At the end of this lab you should be able to achieve the following based on the options you choose:

- Install WebSphere Process Server V6.1 core product files on all the host machines
- Update the WebSphere Process Server installations with available critical fixes or refresh packs
- Create a deployment manager profile with the advanced profile creation as an option on the deployment manager host machine using the Profile Management Tool
- Manually create WebSphere Process Server common database and tables
- Create custom profiles with advanced profile creation option on the host machines designated as managed nodes host machines
- Create there clusters and their member servers, and a single managed server
- Create and generate a custom deployment environment
- Finally review the configured resources and applications

Exercise instructions

Some instructions in this lab are Windows[®] operating-system specific. If you plan on running the lab on an operating-system other than Windows, you will need to run the appropriate commands, and use appropriate files (.sh or .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references, as follows:

Reference variable	Windows location	Description
<wps_home></wps_home>	C:\IBM\WebSphere\ProcServer	
<dmgr_profile_home></dmgr_profile_home>	<wps_home>\profiles\Dmgr01</wps_home>	
<custom01_profile_home></custom01_profile_home>	<wps_home>\profiles\Custom01</wps_home>	
<custom02_profile_home></custom02_profile_home>	<wps_home>\profiles\Custom02</wps_home>	
<custom03_profile_home></custom03_profile_home>	<wps_home>\profiles\Custom03</wps_home>	
<db2_home></db2_home>	C:\IBM\DB2\SQLLIB	

Note for Windows users: When directory locations are passed as parameters to a Java[™] program such as EJBdeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention. For example, replace C:\LabFiles61\ with C:/LabFiles61/

Introduction

A deployment environment is a collection of configured clusters, servers, and middleware that collaborates to provide an environment to host Service Component Architecture (SCA) interactions. For example, a deployment environment might include a host for message destinations, a processor of business events, and administrative programs.

Taking advantage of the network deployment capability, clusters and servers can collaborate or to be precise, interconnected while they provide specific functionality. Depending on your requirements, you can assign specific functions to each cluster or server within the environment, to provide performance, failover, and capacity. In this lab, you will configure a custom deployment environment with a collection of three clusters and a single managed server scaled across three managed nodes as shown in the diagram below:



In this lab, you will be installing the WebSphere Process Server core product files on all the designated host machines. You will use the WebSphere update installer to update the WebSphere Process Server installations with the available critical fixes or refresh packs. Eventually you will use the 'Profile Management Tool' and create a deployment manager profile, create WebSphere Process Server Common database manually, and then create three custom profiles which get federated to the deployment manager. Finally you will create and generate a custom deployment environment designed to meet the business integration requirements using the deployment environment creation wizard.

Part 1: Identify the deployment environment pattern and assign functions

In this part of the lab you will identify a custom deployment environment pattern and assign the functions to the deployment targets. To design a custom deployment environment, you need to understand the functionality of each component, interrelationships, dependencies, restrictions, and then designate the functionality to each cluster and servers (deployment targets). To achieve this you need to learn about the various components, their interrelationships and considerations.

-	Considerations
lessaging	Not available if messaging is not configured or made available on the deployment target where SCA is being configured. Messaging can be configured local to the deployment target or can be remote. In this lab messaging is made available locally.
lessaging	CEI server configuration is not available if the deployment target is not configured for messaging
/lessaging, SCA, 3PC Explorer	BPC Container configuration is not available if the deployment target is not configured for messaging and SCA support.
BPC Container	BPC Explorer is only available if BPC Container is made available in the same collaborative unit*.
BPC Container, Common Event nfrastructure, BPC Dbserver	Configure first the Common Event infrastructure server on the same deployment target that you plan to use for the BPC Event Collector. BPC Event Collector is only available once you have configured the BPC container in the same collaborative unit*.
BPC Container, BPC Event Collector	BPC Observer configuration is available once you select a BPC Event Collector in the same collaborative unit*.
SCA	Business Rules Manager configuration is available once you configured SCA support on the same deployment target. Only one Business Rules Manager can be configured
	essaging essaging essaging, SCA, PC Explorer PC Container PC Container, prastructure, BPC bserver PC Container, BPC bserver PC Container, BPC bserver

Collaborative unit*: The configuration of the part of a deployment environment that delivers required behavior to an application module. For example, a messaging collaborative unit includes the host of the messaging engine and deployment targets of the application module, and provides messaging support to the application module.

Clusters and managed servers	Components assigned	Functional considerations
ME* Cluster (custom.Messaging)	 →SCA application →Service Component Architecture (SCA) application bus →SCA system bus →Business Process Choreographer (BPC) bus Common Event Interface (CEI) bus 	Messaging is configured for local making available for SCA application configuration. ME* Cluster is where all the messaging engines are located. The messaging engines enable communication amongst the nodes in the deployment environment. This cluster can consist of members on nodes created with WebSphere Application Server instead of WebSphere Process Server if the cluster solely provides the messaging function.
CEI* Cluster (custom.EventSupport)	 → CEI server application → Business Process Choreographer (BPC) Event Collector application → Business Process Choreographer (BPC) Observer 	CEI* Cluster hosts the Common Event Infrastructure (CEI) server and provides infrastructural support to other clusters and servers in the deployment environment. Configured to use remote messaging provided by ' ME* Cluster '
BPC* Cluster (custom.Application)	 → SCA support → Business Process Choreographer container → Human Tasks manager → Business Process Choreographer Explorer 	BPC* Cluster is configured to support Business Process Choreographer components followed by the SCA support configuration. SCA support is configured to use remote messaging provided by 'ME* Cluster' Remote CEI support is provided by the 'CEI* Cluster'
support (managed server) (support)	 → SCA support → Business Rules Manager 	 'support' is a managed server exclusively used to configure Business Rules Manager application. SCA support configured to use remote messaging provided by 'ME* Cluster'

Assign the components and define the function of each deployment target:

Note: The assignment of components and functions to various deployment targets in this lab are done to walk you through all the configuration actions that take place during a custom deployment environment creation process.

Part 2: Installing the WebSphere Process Server core product files

In this part of the lab you will install WebSphere Process Server core product files on all the host machines. This gives an opportunity to update the installation with available critical fixes or refresh packs and create profiles of your choice using the WebSphere Process Server 'Profile Management Tool (PMT)'.

Note: Installing only the WebSphere Process Server core product files, that is without any profiles being created allows you to update the installation with available critical fixes or refresh packs. Visit 'Appendix 4: Installing the Update Installer for WebSphere Software' at the end of this document.

Complete the following instructions to install the WebSphere Process Server core product files using the WebSphere Installation Manager:

- 1. Unpack the WebSphere Process Server installation archive file into a directory to create an on-disk image. (Example:- C:\CDImageV61\), double click on launchpad.exe to launch the Common Launchpad program
- 2. On the welcome screen, click on the 'WebSphere Process Server Installation' link in the left pane and then click the 'Launch the installation wizard for WebSphere Process Server for Multiplatforms' link to the right

🎒 IBM WebSphere Process Server 🗉	6.1 _ 🗆 🗙
WebSphere. Process Server	Launchpad IBM.
	Language selection: English
Welcome	
WebSphere Process Server installation <	WebSphere Process Server for Multiplatforms installation
Message service clients installation Additional software installation	Launch the installation wizard for WebSphere Process Server for Multiplatforms Install WebSphere Process Server for Multiplatforms using the installation wizard.
IBM Update Installer for WebSphere Software installation IBM Installation Factory for WebSphere Process Server	NOTE: While installing from CD-ROM, the initialization of the installer may take a considerable amount of time. Please do not click on this link again as doing so may cause the initialization of installer to fail.
IBM WebSphere Process Server Help System installation	Open the information center Complete technical product documentation available online, in PDF book format, or as Eclipse document plug- ins, which you can download and install on a local system.
IBM Support Assistant installation Exit	Read product overview and installation information Overview material and step-by-step instructions for installing the product, provided in PDF book format for

3. The install shield wizard for the WebSphere Process Server is launched

WebSphere, <mark>software</mark>	This wizard installs IBM WebSphere Process Server 6.1.0.0 on your comput For more information, see the <u>information center</u> . Click Next to continue.
stallShield	< Back Next > Cancel

- ____4. Click Next
- 5. In the following panel, read the license agreement. If you agree to the terms, select the radio button for 'I accept both the IBM and the non-IBM terms'. Click Next
- 6. In the following panel, review the system pre-requisite information panel. Click **Next**
- 7. In the following 'WebSphere Process Server Installation Type Selection' panel, select 'Typical Installation' from the available 'Installation Types'

	WebSphere Process Server Installation Type Selection
-	Select the type of installation that best suits your needs.
WebSphere software	Installation Types:
Dun-	Typical Installation
e Suren	Deployment Environment Installation
S	Client Installation
	Description This is a full installation of WebSphere Process Server that allows you to define an initial WebSphere Process Server environment of one stand-alone server, deployment manager, or custom profile. Alternatively, it allows you to run the Profile Management Tool in order to create your environment.
tallShield	Back Next > Cancel

____ 8. Click Next

9. In the following 'Feature Selection' panel, accept the defaults

🕍 IBM WebSphere Proces	s Server 6.1.0.0
WebSphere, software	Features Selection Select IBM WebSphere Process Server features to install. See the information center for descriptions of the features. Image: Business Rule Beans (deprecated) Image: Business Rule Beans (deprec
InstallShield -	≺ <u>B</u> ack <u>Next</u> ≽ <u>C</u> ancel

_____ 10. Click Next

- 11. In the following 'Installation Root Directory for WebSphere Process Server' panel, to specify a different for the 'Product installation location', click the Browse button
 - Product installation location : C:\IBM\WebSphere\ProcServer

	Installation Root Directory for WebSphere Process Server
WebSphere, software	WebSphere Process Server will be installed to the specified directory. You can specify a different directory or click Browse to select a directory.
	Note: The Windows operating system limits the length of a fully qualified path to 256 characters. A long path name for the installation root directory makes it more likely that this limit will be exceeded when files are created during normal product use. Keep the path name of the installation root directory as short as possible.
	C:\IBM\WebSphere\ProcServer
X	C:\IBM\WebSphere\ProcServer
taliShield	C:\IBM\WebSphere\ProcServer

____ 12. Click Next

13. In the following 'WebSphere Process Server Environments' panel, select None

Note: Selecting '**None**' for WebSphere Process Server environment, installs the core product files and does not create any profiles or runtime servers. You can update the installation with the available critical fixes or refresh packs and use the Profile Management Tool (PMT) which provides several options for creating or augmenting new WebSphere Process Server profiles.

1	WebSphere Process Serve	er Environments		
WebSphere software	Select the type of WebSphe installation. Although only o profiles can be created afte	re Process Serve ne environment t r installation usir	er environment to (ype can be chose ig the Profile Mana	reate during n, additional agement Tool.
-Norm-	Stand-alone server			
A ser	Deployment manager			
Dation	Custom			
	None			
	Description WebSphere Process Serv Select this option only if o Profile Management Tool	er requires at lea ne or more profile after installation.	ast one profile to b es will be created (e functional. using the
nstallShield	V		[

- _____14. Click Next
- _____ 15. Click **Yes** over the warning dialog

Warning	X
<u>.</u>	WebSphere Process Server requires at least one profile to be functional. Are you sure you want to proceed without creating a profile?

_____16. In the following 'Installation Summary' panel, review the process server installation summary

🖆 IBM WebSphere Process Server 6.1.0.0				
WebSphere, software	Installation Summary Review the summary for correctness. Click Back to change values on previous panels. Click Next to start installing WebSphere Process Server.			
	The following products will be installed: • WebSphere Process Server Product installation location: C:\IBM\WebSphere\ProcServer • WebSphere Application Server Network Deployment Product installation location: C:\IBM\WebSphere\ProcServer The following features will be included:			
	The following features will be included: Core product files The total size will be: 1439 MB The following profile type was selected: None			
InstallShield	Administrative security enabled:			
	< <u>B</u> ack <u>Next ></u> <u>C</u> ancel			

17. Click **Next** to continue with the installation. The installation progresses and would take a couple of minutes to complete. Once the installation is complete, review the '**Installation Results**' panel



18. Unselect the check box for launching the profile management tool and click **Finish**

Part 3: Creating the deployment manager profile

In this part of the lab, you will create a WebSphere Process Server deployment manager profile with an advanced profile creation option.

Pre-requisites:

- Make a decision on where the database server will reside. 'Local' or 'Remote' to this deployment manager host machine
- Make a note of the fully qualified host name of the database server host machine
- Make a note of the database server port number

Complete the following instructions to create a WebSphere Process Server deployment manager profile using the **Profile Management Tool**:

1. From the start menu under **IBM WebSphere** → **Process Server 6.1** select the **Profile Management Tool**. The WebSphere Process Server Profile Management Tool is launched.

Note: Alternatively, you can launch the Profile Management Tool by running the '**pmt.bat** (**sh**)' script located at '**<WPS_HOME>\bin\ProfileManagement**'

Velcome to the Profile Managen	nent tool	
Important information for Version 6.1		
This wizard creates run-time environments that to have a functional installation.	it are referred to as <i>profiles</i> . At l	least one profile must exist
An initial profile is created during the installation each contain a set of commands, configuration that defines a single application server environ See the online information center for more info up typical topologies for application servers.	on process. Use this wizard to cre n files, log files, deployable applic nment. ormation about the Profile Manag	eate additional profiles that cations and other informatio gement tool or about setting
An initial profile is created during the installation each contain a set of commands, configuration that defines a single application server environ See the online information center for more info up typical topologies for application servers. WebSphere Application Server - Online information	on process. Use this wizard to cre n files, log files, deployable applic nment. ormation about the Profile Manag	eate additional profiles that cations and other informatio gement tool or about setting
An initial profile is created during the installatio each contain a set of commands, configuration that defines a single application server environ See the online information center for more info up typical topologies for application servers. WebSphere Application Server - Online information WebSphere Enterprise Service Bus - Online	on process. Use this wizard to cre n files, log files, deployable applic nment. formation about the Profile Manag formation center link le information center link	eate additional profiles that cations and other informatio gement tool or about setting

- ____2. Click **Next** on the **Welcome** panel
- 3. In the following 'Environment Selection' panel, select 'WebSphere Process Server'

🚯 Profile Management Tool				
Environment Selection				a a a a a a a a a a a a a a a a a a a
Select the type of environment to create. Environments:				
Cell (deployment manager and a federated a Deployment manager Application server Custom profile	application se	erver)		
WebSphere Enterprise Service Bus WebSphere Process Server				
Description WebSphere Process Server is the next gen evolved from proven business integration of open standards.	eration busin oncepts, app	ess process integ lication server te	pration server th chnologies, and	at has the latest
	< <u>B</u> ack	<u>N</u> ext >	Enish	Cancel

- ____4. Click Next
- 5. In the following '**Profile Type Selection**' panel, select '**Deployment manager profile**' from the available '**Profile types**'

🚯 Profile Management Tool				_ 🗆 🗙
Profile Type Selection				B å
Select a profile type for the WebSp Profile Types:	here Process Server (environment.		
Deployment manager profile Stand-alone process server profile Custom profile				
Description A WebSphere Process Server dep federated into (made a part of) it	oloyment manager adn s cell.	ninisters applicati	on servers that a	re
	er Poels	Mouths	Cistas	í s i l

- ____6. Click Next
- 7. In the following 'Profile Creation Options' panel, select the radio button for 'Advanced profile creation'

🚯 Profile Management Tool 📃 🗌 🗙					
Profile Creation Options					
Choose the profile creation process that meets your needs. Pick the Typical option to allow the Profile Management tool to assign a set of default configuration values to the profile. Pick the Advanced option to specify your own configuration values for the profile.					
C Iypical profile creation					
Create a deployment manager profile that uses default configuration settings. The Profile Management tool assigns unique names to the profile, node, host, and cell. The tool also assigns unique port values. The administrative console will be installed, and you can optionally select whether to enable administrative security. The tool might create a system service to run the deployment manager depending on the operating system of your machine and the privileges assigned to your user account. The Common database will be set to Derby Network Server.					
Advanced profile creation					
Create a deployment manager profile using default configuration settings, or specify your own values for settings such as the location of the profile and names of the profile, node, host, and cell. You can assign your own port values. You can optionally choose whether to deploy the administrative console. You might have the option to run the deployment manager as a system service depending on the operating system of your machine and the privileges assigned to your user account. You can also assign your own configuration values for the Common database.					
C Deployment environment profile creation					
Create a deployment manager profile using the same configuration options as those in advanced profile creation with the addition of choosing a deployment evironment pattern for the deployment manager.					
< <u>B</u> ack <u>N</u> ext > Enish Cancel					

Note: Selecting the '**Advanced profile creation**' option gives you a privilege to control your environment setup is ideal for creating a custom deployment environment.

- ____ 8. Click Next
- 9. In the following '**Optional Application Deployment**' panel, select the radio button for '**Deploy the** administrative console (recommended)'

🚯 Profile Management Tool					
Optional Application Deployment	i g				
Select the applications to deploy to the WebSphere Process Server environment being created Deploy the administrative console (recommended).	Ι.				
Install a Web-based administrative console that manages the application server. Deploying the administrative console is recommended, but if you deselect this option, the information center contains detailed steps for deploying it after the profile exists.					
< <u>B</u> ack <u>N</u> ext > ⊟nish	Cancel				

_____ 10. Click Next

- _____ 11. In the following '**Profile Name and Location**' panel, enter the deployment manager profile name and the location where it will be created
 - ____a. Profile name : Dmgr01
 - ____b. Profile Directory : <WPS_HOME>\profiles\Dmgr01

Ex: - C:\IBM\WebSphere\ProcServer\profiles\Dmgr01

🚯 Profile Management Tool	_ 🗆 🗙
Profile Name and Location	i a
Specify a profile name and directory path to contain the files for the run-time environment, such commands, configuration files, and log files. Click Browse to select a different directory. <u>P</u> rofile name:	as
Dmgr01	
Profile <u>d</u> irectory: C:\IBM\WebSphere\ProcServer\profiles\Dmar01	
	Browse
Important: Deleting the directory a profile is in does not completely delete the profile. Use the manageprofiles command to completely delete a profile.	
< <u>B</u> ack <u>Next</u> Einish	Cancel

_____ 12. Click **Next**

- _____ 13. In the following 'Node, Host and Cell Names' panel, enter the following parameters:
 - ____a. Node name : dmgr01CellManager01
 - ____b. Host name : dmgr01.austin.ibm.com (fully qualified host name of the host machine)
 - __ c. Cell name : dmgr01Cell01

🚯 Profile Management Tool				_ 🗆 🗡
Node, Host, and Cell Names				i a
Specify a node name, a host name, and a cell n Node name:	name for this p	profile.		
dmgr01CellManager01				
<u>H</u> ost name:				
dmgr01.austin.ibm.com				
C <u>e</u> ll name:				
dmgr01Cell01				
For more information about profile naming and Online information center link	augmentation	considerations, se	e the online infor	mation center.
	< <u>B</u> ack	Next >	Einish	Cancel

- ____ 14. Click **Next**
- _____15. In the following 'Administrative Security' panel, enter username and password
 - ____a. Select the check box for 'Enable administrative security'
 - ____b. User name : wps61admin
 - ____ c. Password : wps61admin
 - ____a. Confirm Password : wps61admin

🚯 Profile Management Tool	
Administrative Security	i a
Choose whether to enable administrative security. To enable security, supply a user nar for logging into administrative tools. This administrative user is created in a repository w server. After profile creation finishes, you can add more users, groups, or external repo	me and password ithin the process ositories.
Enable administrative security	
User name:	
wps61admin	
Password:	
•••••	
Confirm password:	
•••••	
See the information center for more information about administrative security.	
Online information center link	
	1 . 1
<u>Back</u>	Cancel

_____ 16. Click Next

17. In the following 'Port Values Assignment' panel, review the ports assigned. You can change them to the new values, but ensure that the port numbers do not conflict with other services running on this host machine

🚯 Profile Management Tool	
Port Values Assignment	a la
The values in the following fields define the ports for the deployment me profiles in this installation. Another installation of WebSphere Application WebSphere Enterprise Service Bus, or other programs might use the se conflicts, verify that each port value is unique.	nanager and do not conflict with other on Server, WebSphere Process Server, ame ports. To avoid run-time port
Default Port Values Recommended Port Values	
Administrative console port (Default 9060):	9060 ≑
Administrative console secure port (Default 9043):	9043
Bootstrap port (Default 9809)(<u>W</u>):	9809
SOAP connector port (Default 8879)(X):	8879
SAS SSL ServerAuth port (Default 9401)(<u>Z</u>):	9401 📫
CSIV2 ServerAuth listener port (Default 9403)(<u>1</u>):	9403 📫
CSIV2 MultiAuth listener port (Default 9402)(<u>K</u>):	9402 📫
ORB listener port (Default 9100)(<u>5</u>):	9100 📫
Cell discovery port (Default 7277)(<u>6</u>):	7277
High availability manager communication port (DCS)(Default 9352)(7):	9352 🚦
< <u>B</u> ack	> Einish Cancel

- ____ 18. Click Next
- 19. In the following 'Windows Service Definition' panel, clear the check box for 'Run the deployment manager process as a Windows service' and click Next
- 20. In the following 'Database Configuration' panel, ensure the following parameters are set:
 - ____a. Choose a database product : DB2 Universal Database
 - b. Select the check box for 'Override the destination directory for generated scripts' and then click the 'Browse' button to specify a different 'Database scripts output directory'
 - Ex: <DMGR_PROFILE_HOME>\dbscripts\CommonDB\DB2\<DB_NAME>
 - ____ c. Select the radio button for 'Use an existing database
 - ____ d. Database name : WPRCSDB

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____e. Select the check box for 'Delay execution of database scripts for new or existing database'

🏟 Profile Management Tool	_ 🗆 🗵
Database Configuration	i a
Various components use WebSphere Process Server common database. Choose a database type the information based on that type.	e and enter
Choose a database product:	
DB2 Universal Database	•
Override the destination directory for generated scripts. Database <u>s</u> cript output directory:	
C:\IBM\WebSphere\ProcServer\profiles\Dmgr01\dbscripts\CommonDB\DB2\WPRCSDB	
	Browse
C Create a new local database.	
Use an existing database.	
Database name:	
WPRCSDB	
Delay execution of database scripts for new or existing database.	
< <u>B</u> ack <u>N</u> ext > ⊟nish	Cancel

Note: You can select the '**Create a new database**' if the supported database product or a client is local to the deployment manager profile. If the database product is remote to this deployment manager host machine, select the '**Use an existing database**' option. Also select the option to delay the execution of the database scripts if the WPRCSDB database is not yet created. You can use the generated database scripts to create the WPRCSDB database and tables once the deployment manager profile is created. WPRCSDB is the name of the WebSphere Process Server Common database.

22. In the following 'Database Configuration (Part 2)' panel, enter the following parameters:

a	. User	name to	authenticate	with the	database	: db2admin
---	--------	---------	--------------	----------	----------	------------

b. Password for database authentication	: passw0rd
c. Confirm Password	: passw0rd
d. Location of JDBC driver classpath files	: <accept defaults="" the=""></accept>
e. Database server host name	: Ex: dbserver.austin.ibm.com
f. JDBC driver type	: 4
g. Server port	: 50000

🚯 Profile Management Tool 📃 📃
Database Configuration (Part 2)
Additional information is required to complete configuration for the DB2 Universal Database database. User name to authenticate with the database:
db2admin
Password for database authentication:
•••••
Confirm password:
••••••
Location (directory) of JDBC driver classpath files:
C:\IBM\WebSphere\ProcServer\universalDriver_wbi\lib
Browse
JDBC driver type: C 2 (• 4) Database server <u>h</u> ost name (for example IP address):
dbserver.austin.ibm.com
Server port:
50000
< <u>B</u> ack <u>N</u> ext > ⊟nish Cancel

Note: If you are not sure about the database server host name and the port number at this time, you should choose the delay execution of database scripts option in the previous panel. To continue further, enter some dummy host name and port number. However you should update the data sources with the correct information once the profile creation task is complete.

24. In the following 'Profile Creation Summary' panel, review the deployment manager profile creation summary and click 'Create' button. The profile creation progresses. Once the installation is complete, ensure the check box for 'Launch the First steps console' is selected to verify for a successful deployment manager profile creation

Profile Creation Complete	
The Profile Management tool cr	eated the profile successfully.
The next step in creating a Network nodes can be federated into its cell, that belong to the cell.	Deployment environment is to start the deployment manager so tha After the deployment manager is started, you can administer the no
You can start and stop the deployme steps console also has links to an insi to the deployment manager.	ent manager from the command line or the First steps console. The F tallation verification test and other information and features that rel
Launch the <u>F</u> irst steps console.	
To create another profile now, select	t the following option.
Create another profile.	
To start the Profile Management tool directory or the option in the First st	l later, use the pmt command in the <i>install_root</i> /bin/ProfileManagem eps console.

Note: Now that you successfully created the WebSphere Process Server deployment manager profile, run the generated database scripts to create the WebSphere Process Server Common database and tables.

Part 4: Creating the common database and tables

In this part of the lab, you will create the WebSphere Process Server Common database and tables. WebSphere Process Server installation requires the common database and its tables to function.

Note: In this lab, you will use one database for all the tables of all the WebSphere Process Server components and they will be silently created during the configuration.

Pre-requisites:-

- Install and configure the WebSphere Process Server supported database product on the designated host machine. In this lab, a supported DB2 version is used and the instructions are based on the DB2 product.
- Ensure the DB2 server is running at this time
- Copy the WebSphere Process Server Common database scripts to a temporary location of your database product host machine. The database scripts are generated to the following location:

o <DMGR_PROFILE_HOME>\dbscripts\

Address 🛅 C:\IBM\WebSphere\ProcServer\profiles\Dmgr01\dbscripts\CommonDB\DB2\WPRCSDB 💌 ラ Go				
configCommonDB.bat	🗐 createTable_customization.sql			
📼 configCommonDB.sh	🗒 createTable_EsbLoggerMediation.sql			
🖲 createDatabase_CommonDB.sql	🗒 createTable_lockmanager.sql			
🐻 createDBTables.bat	🗐 createTable_mediation.sql			
🚾 createDBTables.sh	🗒 createTable_Recovery.sql			
E createTable_AppScheduler.sql	🗐 createTable_RelationshipMetadataTable.sql			
createTable_CommonDB.sql	🗊 insertTable_CommonDB.sql			

Complete the following instructions to create the common database:

- ___1. Creating WebSphere Process Server Common database (WPRCSDB)
 - ____a. Review the following WebSphere Process Server common database scripts and make modifications if necessary:

Note: The database scripts are generated based on the information you provided in the database configuration panels during the WebSphere Process Server deployment manager profile creation. The parameters of interest to you are the database name, DB2 administrative user name and password, and the WebSphere Process Server version information. You can modify this information at this time.

- Edit the configCommonDB.bat script and review the following parameters:
 - **DB_NAME=#DB_NAME#** where as #DB_NAME# is WPSCSDB

Ex: DB_NAME=WPRCSDB

• DB_USER=#DB_USER# where as #DB_USER# is db2admin

Ex: DB_USER=db2admin

- Edit the insertTable_CommonDB.sql script and review the following parameters:
 - #MajorVersion#, #MinorVersion#, #RefreshPackLevel#, #FixpackLevel#

Ex: 6,1,0,0

INSERT	INTO	SchemaVersionInfo	VALUES	('recovery.ejb', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('interfaceMediation', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('relationshipService', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('scheduler.wbi', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('customization', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('persistentlockmanager', 6, 1, 0, 0, 0);
INSERT	INTO	SchemaVersionInfo	VALUES	('WPS', 6, 1, 0, 0, 0);

- ____b. Open a command window and change directory to where the database scripts are located
 - Run the '**db2cmd**'
 - Run the following script with the recommended usage:

configCommonDB.bat [createDB]

Ex: configCommonDB.bat createDB

- The above script creates the common database, that is WPRCSDB and prompts for the DB2 administrator password. Enter the DB2 administrator password
- Press 'Enter'. This action runs all the SQL scripts listed in the picture above. Ensure that there is no failure.
- ____ c. Close the DB2 command window.
- 2. Start the deployment manager and ensure it starts successfully. Review the SystemOut.log for any database connection related failure messages.
- 3. Test the data sources for connection to the WebSphere Process Server Common database. The following are the data sources of interest:
 - ____a. Login in to the deployment manager administrative console. In the left navigation pane, expand 'Resources → JDBC' and click the 'Data Sources'

New Delete Test connection Manage state						
Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘	
2	ESBLoggerMediationDataSource	jdbc/mediation/messageLog	Cell=dmgr01Cell01	DB2 Universal JDBC Driver Provider (XA)	Default data source for ESB Logger Mediation	
	WBI DataSource	jdbc/WPSDB	Cell=dmgr01Cell01	DB2 Universal JDBC Driver Provider (XA)	WBI_DataSource	
Total 2						

____b. Select the check boxes for the 'ESBLoggerMediationDatasource' and 'WBI_DataSource' and then click the 'Test connection' button.

____ c. Ensure the database is successfully connected

Part 5: Creating the WebSphere Process Server custom profiles

In this part of the lab, you will create a WebSphere Process Server custom profile. A custom profile is an empty profile that gets created and eventually can federate itself to the WebSphere Process Server deployment manager profile.

Note: It is mandatory that you create a custom profile, which is an empty node that has no runtime servers created or any configuration changes occurred and federate it to the deployment manager.

Prerequisites: -

- Before proceeding further, ensure the deployment manager you want to federate this custom node is
 installed and running successfully at this time
- Make a note of the fully qualified host name of the deployment manager host machine
- Make note of the deployment manager SOAP port number
- Make a note of the primary user name and password of the deployment manager administrative security credentials, if enabled
- 1. From the start menu under **IBM WebSphere> Process Server 6.1** select the **Profile Management Tool**. The WebSphere Process Server Profile Management Tool is launched
- _____2. Click **Next** on the **Welcome** panel
- 3. In the following 'Environment Selection' panel, select 'WebSphere Process Server'

🚯 Profile Management Tool 📃 📃	
Environment Selection	ĝ
Select the type of environment to create.	
Environments:	
Cell (deployment manager and a federated application server) Deployment manager Application server Custom profile WebSphere Enterprise Service Bus WebSphere Process Server	
Description WebSphere Process Server is the next generation business process integration server that has evolved from proven business integration concepts, application server technologies, and the latest open standards.	:
< <u>B</u> ack <u>N</u> ext > Einish Canc	el

____4. Click Next

_ 5. In the following 'Profile Type Selection' panel, select 'Custom profile' from 'Profile Types'

🚯 Profile Management Tool	
Profile Type Selection	i a
Select a profile type for the WebSphere Process Server environment.	
Profile Types:	
Deployment manager profile Stand-alone process server profile Custom profile Description A WebSphere Process Server custom profile contains an empty node, which does not cor administrative console or servers. The typical use for a custom profile is to federate its nu deployment manager. After federating the node, use the deployment manager to create cluster of servers within the node.	ntain an ode to a a server or a
< <u>B</u> ack <u>N</u> ext > ⊟nish	Cancel

- ____6. Click Next
- 7. In the following '**Profile Creation Options**' panel, select the radio button for '**Advanced profile creation**'

🚯 Profile Management Tool 📃 🗌 🗙
Profile Creation Options
Choose the profile creation process that meets your needs. Pick the Typical option to allow the Profile Management tool to assign a set of default configuration values to the profile. Pick the Advanced option to specify your own configuration values for the profile.
O Iypical profile creation
Create a custom profile that uses default configuration settings. The Profile Management tool assigns unique names to the profile, node, and host. You can specify whether to federate the node to an existing deployment manager or federate the node later. All required databases will be set to Derby Network Server.
Advanced profile creation
Create a custom profile using default configuration settings, or specify your own values for the settings such as the location of the profile and names of the profile, node, and host. You can specify whether to federate the node to an existing deployment manager or federate the node later. You can also specify your own values for the Common database configuration.
C Deployment environment profile creation
Create a custom profile using the same configuration options as those for advanced profile creation. You must specify how to federate the node to an existing deployment manager with a defined deployment environment pattern. You must also specify at least one cluster to assign this node to on the deployment environment topology.
< <u>B</u> ack <u>N</u> ext > Einish Cancel

____ 8. Click Next

9. In the following '**Profile Name and Location**' panel, specify the profile name and the location where it will be created

____a. Profile name : Custom01

____b. Profile Directory : <WPS_HOME>\profiles\Custom01

Ex: - C:\IBM\WebSphere\ProcServer\profiles\Custom01

🚯 Profile Management Tool				
Profile Name and Location				i g
Specify a profile name and directory path commands, configuration files, and log fil <u>P</u> rofile name:	n to contain t es. Click Bro	he files for the run-l wse to select a diff	time environment erent directory.	, such as
Custom01				
Profile <u>d</u> irectory:				
C:\IBM\WebSphere\ProcServer\profile	s\Custom01			
				Browse
Important: Deleting the directory a pro manageprofiles command to complete	file is in does ly delete a pr	; not completely dele rofile.	ete the profile. Us	e the
	< <u>B</u> ack	Next >	Einish	Cancel

_____ 10. Click Next

- _____ 11. In the following 'Node and Host Names' panel, enter the following parameters:
 - ____a. Node name : customNode01
 - ___b. Host name : Ex: node01.asutin.ibm.com (fully qualified host name)

🚯 Profile Management Tool	
Node and Host Names	i a
Specify a node name and a host name for this profile.	
Node name:	
customNode01	
Host name:	
node01.austin.ibm.com	
Node name: A node name is used by the deployment manager for administration. The nam unique within the cell.	e must be
Host name: A host name is the domain name system (DNS) name (short or long) or the IP this computer.	address of
For more information about profile naming and augmentation considerations, see the online i center.	nformation
Online information center link	
< <u>B</u> ack [<u>N</u> ext > Einish	Cancel

- ____ 12. Click Next
- 13. In the following '**Federation**' panel, enter the following parameters:
 - ____a. Deployment manager host name or IP address : Ex: dmgr01.austin.ibm.com (fully qualified host name)
 - ____b. Deployment manager SOAP port number : **8879** (Default)
 - ____ c. Deployment manager authentication (if administrative security is enabled)
 - User name : wps61admin
 - Password : wps61admin
 - ____d. (Optional) Select the check box for '**Federate this node later**' to manually federate this node using the '**addNode**' after the profile creation completes

Note: The **User name** and **Password** must match the deployment manager **Administrative Security** credentials. Also ensure that the deployment manager SOAP port number is correct. If you are unable to connect, then the deployment manager may not be running or the information you provided in the '**Federation**' panel is not correct.

🚯 Profile Management Tool 📃 🗖 🗙
Federation Eag
Specify the host name or IP address and the SOAP port number for an existing deployment manager. Federation can occur only if the deployment manager is running.
Deployment manager host name or IP address:
dmgr01.austin.ibm.com
Deployment manager SOAP port number (Default 8879):
8879 Deployment manager authentication Provide a user name and password that can be authenticated, if administrative security is enabled on the deployment manager. User name: wps61admin Password: ••••••••
Eederate this node later. You must federate this node later using the addNode command if the deployment manager: - is not running - has the SOAP connector disabled < Back

____ 14. Click Next

- 15. In the following 'Port Values Assignment' panel, review the custom profile port values assigned. You can change them to the new values, but ensure that the port numbers do not conflict with other services running on this host machine. Click Next
- _____ 16. In the following 'Database Configuration' panel, enter the following parameters:
 - ____a. Select 'DB2 Universal Database' as the database product used on deployment manager
 - ____b. Location of JDBC driver classpath files: <WPS_HOME>\universalDriver_wbi\lib

Ex: C:\IBM\WebSpehre\ProcServer\universalDriver_wbi\lib

🚯 Profile Management Tool	
Database Configuration	i g
Various components use WebSphere Process Server common database. Choose a database enter the information based on that type.	type and
Choose the database product used on the deployment manager:	
DB2 Universal Database	•
Location (directory) of JDBC driver classpath files:	
C:\IBM\WebSphere\ProcServer\universalDriver_wbi\lib	
	Browse
< <u>B</u> ack <u>Next</u> Einish	Cancel

- ____ 17. Click Next
- 18. In the following panel, review the custom profile creation summary information and click Create. The profile creation progresses. Once the installation is complete, ensure the check box for 'Launch the First steps console' is selected to launch the first steps console
 - ____19. Click **Finish** once the profile creation is complete

Note: The above instructions lead you to create a custom profile and federated it with the WebSphere Process Server deployment manager. The node agent should have been started. Remember that this is an empty node as no server (runtime) created at this time.

20. Create the second and third custom profiles named **Custom02** and **Custom03** by repeating the above instructions on the designated host machines. In this lab, the nodes are named as **customNode02** and **customNode03**

Part 6: Create Clusters, cluster members and a managed server

In this part of the lab, you will create three clusters, their member servers and a managed server to accommodate the various business integration functions and components.

Note: You must use a custom profile with the WebSphere Process Server product functionality, for the deployment targets designated for Common Event Infrastructure server and Business Process Choreographer Container support. Use 'defaultProcessServer' template. However the messaging cluster or server can consist of members on nodes created with WebSphere Application Server instead of WebSphere Process Server if the cluster solely provides the messaging function.

It is a best practice to plan for the number of clusters you will be creating. Also plan for number of member servers, which cluster will be managing the member servers and on which managed node the member servers will be created.

Clusters \rightarrow Node \rightarrow server mapping (Topology) table:

Clusters & Servers	Nodes	Member Servers & managed servers
	customNode01	bpc1
custom.Application	customNode02	bpc2
	customNode03	bpc3
oustom Mossoging	customNode01	me1
custom.messaging	customNode02	me2
	customNode02	cei1
custom.eventSupport	customNode03	cei2
support (managed server)	customNode03	support

Pre-requisites:

- Ensure the DB2 server is running
- Ensure the Deployment Manager server is running
- Ensure all the node agents of the custom profiles federated to this deployment manager are running
 - In the left navigation pane of the deployment manager administrative console, expand
 'System administration' and then click the 'Node agents' link
 - In the following 'Node agents' panel to the right, ensure that all the node agents display the start status as green (⇒)

Stop	Stop Restart Restart all Servers on Node					
	ð 🗰 🥰					
Select	Name 🛟	Node 🗘	Version 🗘	Status ሷ		
	nodeagent	customNode03	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	€		
	nodeagent	CustomNode02	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	€		
	nodeagent	customNode01	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	€		

Complete the following instructions to create the clusters, their member servers and a single managed server:

- 1. Launch the WebSphere Process Server deployment manager administrative console, enter the security credentials and then click the 'Log in' button
 - URL: http://localhost:9060/admin
- 2. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Clusters' link



____3. In the following 'Server clusters' panel, click the 'New' button to launch the cluster creation wizard

Server clusters	? _
Server clusters Use this page to change the configuration settings for a cluster. A s of a group of application servers. If one of the member servers fail: routed to other members of the cluster. Learn more about this task guided activity provides a list of task steps and more general inform	erver cluster consists s, requests will be in a <u>quided activity</u> . A nation about the topic.
Preferences	
New Delete Start Stop Ripplestart ImmediateS	top
Select Name 🗘 Status ሷ	
None	
Total O	

- ____ 4. In the following 'Step 1: Enter basic cluster information' panel, enter the 'Cluster name'
 - Cluster name : Ex: custom.Application
 - Accept the defaults for the remaining parameters

Cr	eate	e a new cluster	2 -	-			
	Create a new duster						
	→	Step 1: Enter basic cluster information	Enter basic cluster information				
		Step 2: Create first cluster member	* Cluster name custom.Application				
		Step 3: Create additional cluster members	Prefer local. Specifies whether enterprise bean equests will be routed to the node on which the client esides when possible.				
		Step 4: Summary	□ Configure HTTP session memory-to-memory replication				
	ĨŇ	exti Cancel					

- ____5. Click Next
- 6. In the following '**Step 2: Create first cluster member**' panel, enter the following parameters to create the first cluster member on '**customNode01**':
 - ___a. Member name : **bpc1**
 - ____b. Select node : customNode01 (from the drop down list)
 - ____ c. Weight : 2 (default). Depends on your environment
 - ____ d. Select the check box for 'Generate unique HTTP ports'
 - ____e. Select the 'Select the member using an application server template' option
 - Select 'defaultProcessServer' from the drop down list

Note: You must use a server template with the WebSphere Process Server product functionality, for the deployment targets designated for Common Event Infrastructure server and Business Process Choreographer Container support. Use '**defaultProcessServer**' template.

Creat	e a new cluster	2 🗆
Cre	eate a new cluster	
	Step 1: Enter basic cluster information	Create first cluster member
→	Step 2: Create first cluster member Step 3: Create additional cluster members	The first cluster member determines the server settings for the cluster members. A server configuration template is created from the first member and stored as part of the cluster data. Additional cluster members are copied from this template. * Member name bpc1
	Step 4: Summary	Select node customNode01(ND 6.1.0.13) ▼ * Weight 2 (020) ✓ Generate unique HTTP ports Select basis for first cluster member: ✓ Create the member using an application server template ✓ defaultProcessServer ▼ ✓ Create the member using an existing application server as a template. ✓ (none) ▼ ✓ Create the member by converting an existing application server. ✓ (none) ▼ ✓ None. Create an empty cluster.
	Previous Next C	Cancel

- ____7. Click Next
- 8. In the following '**Step 3: Create additional cluster members**' panel, enter the following parameters to create the second cluster member on '**customNode02**':
 - ____a. Member name : **bpc2**
 - ____b. Select node : customNode02
 - ____ c. Weight : 2 (default). Depends on you're your environment
 - ____ d. Select the check box for 'Generate unique HTTP ports'

	Step 1: Enter basic	Create	additiona	l cluster mem	bers	
→	Step 2: Create first duster member Step 3: Create additional cluster members	Enter information about this new cluster member, and click Add Member to add this cluster member to the member list. A server configuration template is created from the first member and stored as part of the cluster data. Additional cluster members are copied from this template. * Member name bpc2				
	Step 4: Summary	Select node customNode02(ND 6.1.0.13) ▼ * Weight 2 Generate unique HTTP ports Add Member Use the Edit function to edit the properties of a cluster member that is already included in this list. Use the Delete function to remove a cluster member from this list. You are not allowed to				
		cluster member.				
		Edit	Delete			
		Select	Member name	Nodes	Version	Weight
			bpc1	customNode01	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2

____e. Click the 'Add Member' button. This action adds the additional cluster member server to the table as shown below:

Edit Delete					
Select	Member name	Nodes	Version	Weight	
	bpc1	customNode01	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2	
	bpc2	customNode02	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2	

- 9. In the following 'Step 3: Create additional cluster members' panel, enter the following parameters to create the third cluster member on 'customNode03':
 - ____a. Member name : bpc3
 - ____b. Select node : customNode03
 - ____ c. Weight : 2 (default). Depends on your environment

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____ d. Select the check box for 'Generate unique HTTP ports'

	Step 1: Enter basic	Create additional cluster members				
→	cluster information . Step 2: Create first cluster member Step 3: Create additional cluster members Step 4: Summary	Enter information about this new cluster member, and click Add Member to add this cluster member to the member list. A server configuration template is created from the first member and stored as part of the cluster data. Additional cluster members are copied from this template. * Member name bpc3 Select node customNode03(ND 6.1.0.13) * Weight 2 (020) Generate unique HTTP ports Add Member Use the Edit function to edit the properties of a cluster member that is already included in this list. Use the Delete function to remove a cluster member from this list. You are not allowed to		ick Add A server and nbers nbers on to owed to kisting		
		Edit	Delete			
		Select	Member	Nodes	Version	Weight
			bpc1	customNode01	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2
			Ьрс2	customNode02	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2

____e. Click the 'Add Member' button. This action adds the additional cluster member server to the table as shown below:

Select	Member name	Nodes	Version	Weight	
	bpc1	customNode01	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2	
	bpc2	customNode02 Business Process Choreographer 6.1.0.0 ND 6.1.0.13		2	
	Ьрс3	customNode03	Business Process Choreographer 6.1.0.0 ND 6.1.0.13	2	

____ 10. Click Next

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_____ 11. In the following 'Step 4: Summary' panel, review the summary of actions:

Step 1: Enter basic	Summary	
cluster information	Summary of actions:	
cluster member	Options	Values
Stan 3: Crasta	Cluster Name	custom.Application
additional cluster	Core Group	DefaultCoreGroup
members	Node group	DefaultNodeGroup
→ Step 4: Summary	Prefer local	
	Configure HTTP session memory-to-memory replication	false
	Server name	bpc1
	Node	customNode01(Business Process Choreographer 6.1.0.0 ND 6.1.0.13)
	Weight	2
	Clone Template	defaultProcessServer
	Clone Type	default
	Generate unique HTTP ports	true
	Server name	bpc2
	Node	customNode02(Business Process Choreographer 6.1.0.0 ND 6.1.0.13)
	Weight	2
	Clone Template	defaultProcessServer
	Clone Type	default
	Generate unique HTTP ports	true
	Server name	bpc3
	Node	customNode03(Business Process Choreographer 6.1.0.0 ND 6.1.0.13)
	Weight	2
	Clone Template	defaultProcessServer
	Clone Type	default
	Generate unique HTTP ports	true
Previous Finish	Cancel	

_____ 12. Click Finish

- _____ 13. Save to the master configuration and synchronize changes with the nodes
 - ____a. In the left navigation pane of the administrative console, expand 'System administration' and then click the 'Save Changes to Master Repository'


- ____b. In the following panel, select the check box for 'Synchronize changes with the Nodes' and then click the 'Save' button
- 14. Repeat the above steps to create the **custom.Messaging** and **custom.EventSupport** and their member servers. Take the '**Cluster** → **Node** → **member server mapping table**' as a reference.
- _____15. You should see the following three clusters created in the 'Server clusters' panel

New Delete Start Stop Ripplestart ImmediateStop					
Select	t Name 🗘 Status 👲				
	custom.Application	8			
	Custom.EventSupport.				
	custom.Messaging_	*			

- ____ 16. Now create a managed server
 - ____ a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Application Servers' link



- ____b. In the following 'Application servers' panel, click the 'New' button.
- ____ c. In the following 'Step 1: Select a node' panel, enter the following parameters:
 - Select node : customNode03
 - Server name : Ex: support

→ Step 1: Select a	Select a node		
Step 2: Select a server template Step 3: Specify server specific properties Step 4: Confirm new server	Select the node that corresponds to the server you wish to create. Select node customNode03 • * Server name support		
Next Cancel			

___ d. Click Next

____ e. In the following 'Step 2: Select a server template' panel, select the radio button for 'defaultProcessServer'

	Step 1: Select a	Select a server template					
	Step 2: Select a						
	server template	Select	Name	Туре	Specifies a description of an application server template.		
	Step 3: Specity server specific properties	0	DeveloperServer	System	This template is optimized to perform well for development uses.		
	Step 4: Confirm	0	default	System	The WebSphere Default Server Template		
	new server	©	defaultProcessServer	System	The WebSphere Process Server (WPS) Default Server Template		
		0	defaultESBServer	System	The WebSphere ESB Default Server Template		
F	Previous Next	Cance	el				

___ f. Click Next

- ____g. In the following 'Step 3: Specify the server specific properties' panel, ensure the check box for 'Generate Unique ports' is selected
- ___h. In the following 'Step 4: Confirm new server' panel, review the summary of actions
- ___ i. Click Finish
- ____j. Save to the master configuration and synchronize changes with the nodes
- _____ 17. Review the 'Cluster Topology'
 - ____a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Cluster topology' link. Expand all the clusters to the full extent



- ____ 18. Review the 'Cell Topology'
 - ____a. In the left navigation pane of the administrative console, expand 'System Administration' and then click the 'Cell' link.
 - ____b. In the following 'Cell' panel, select the 'Local Topology' tab and expand all the entities to the full extent



____ 19. Start the clusters and the managed server

Note: Ensure all node agents are running at this time. (System Administration → Node agents)

- ____ a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Clusters' link
- ____b. In the following 'Clusters' panel, select the check box for all the cluster listed

New	New Delete Start Stop Ripplestart ImmediateStop							
Select	Name 🛟	Status ሷ						
	custom.Application	8						
•	custom.EventSupport	*						
•	custom.Messaging	*						

- ____ c. Click the '**Start**' button. This action starts all the member servers assigned to the respective clusters. Review the runtime logs for all the member servers
- 20. Now start the managed server

- ____a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Application servers' link
- ____b. In the following '**Application servers**' panel, select the check box for '**support**' and then click the start button.
- ____ c. Review the runtime logs and ensure the managed server has successfully started

Part 7: Create and generate a custom deployment environment

In this part of the lab, you will create and eventually generate a custom deployment environment. You will use the deployment manager administrative console and launch the deployment environment creation wizard; assign clusters and managed servers to the collaborative units based on the functionality assigned to them and eventually generate the custom deployment environment. Generating a custom deployment environment configures the necessary resources, creates database tables, and configures applications on the designated deployment targets (clusters and managed servers assigned).

To configure a custom deployment environment, you need to divide the functions amongst clusters using the collaborative units. Collaborative units allow functions to be spread depending on your needs onto different clusters and managed servers that work together as a unit to further increase isolation, function consolidation, throughput capabilities and failover.

Note: Ensure that the clusters and servers that you are adding to the custom deployment environment do not have anything configured on them.

Understanding the grouping of clusters and servers into collaborative units:

Messaging unit:

Messaging units contain a server within the cluster hosting a local messaging engine and the other clusters and servers within the unit use that messaging engine as a destination for messages.

Common Event Infrastructure unit:

Common Event Infrastructure units consist of the server hosting the Common Event Infrastructure (CEI) server and other clusters and servers that need support of the CEI functions. Common base events received at each cluster or server in the unit are routed to the server hosting the CEI server. You can use as many collaborative units as your deployment environment needs to host more CEI servers to isolate events from different event sources.

Application Support:

Application support units consist of group of clusters and servers onto which you are deploying your applications. One application support unit supports one business process choreographer container configuration. However you can add as many units as you need depending on how many business process choreographer configurations required. One unit defines a business process cluster and one or more SCA support clusters and support applications on the same or different clusters in that unit.

Grouping the clusters and managed servers into collaborative units:

<u>Messaging unit:</u> The following table depicts that the 'custom.Messaging' cluster in the unit, hosts the local messaging engines and the other clusters and servers with in the unit use these messaging engines as a destination. When you select a cluster or server in the messaging unit for 'Local Bus Member' option, all other clusters or servers in the unit are automatically configured for remote messaging destinations.

Note: You must complete the messaging units for each component before you can configure the application support unit. For example, if the check box is unavailable for Service Component Architecture in the application support units, then the associated messaging units have not been configured.

Clusters or Servers	Local Bus Member		
custom.Messaging	Yes (local)		
custom.EventSupport	No (remote)		
custom.Application	No (remote)		
support (managed server)	No (remote)		

Common Event Infrastructure unit: The following table depicts that the '**custom.EventSupport**' cluster in the unit, hosts the Common Event Infrastructure (CEI) server and the other clusters or servers added (custom.Application cluster in this scenario) support the CEI functions. Common base events received at the '**custom.Application**' cluster in this unit are routed to the '**custom.EventSupport**' cluster which will be hosting the CEI server. All other clusters or servers are automatically configured for remote Common Event Infrastructure destinations.

Clusters or Servers	Server
custom.EventSupport	Yes
custom.Application	No

<u>Application Support unit</u>: The following tables depicts that the two clusters and a managed server in the application support unit host applications depending on the assigned functional support.

Clusters or Servers	SCA	BPC Container	BPC Explorer	BPC Event Collector	BPC Observer	Business Rules Manager
custom.Application	Selected	Yes Requires SCA support	Yes	No Requires a CEI server)	No	No
custom.EventSupport	Not Selected	Νο	Νο	Yes Requires a CEI server)	Yes BPC Event Collect must be selected	Νο
support (managed server)	Selected	No	Νο	No	No	Yes Requires SCA support. Only one Business Rules Manager per deployment environment

Pre-requisites:

- Ensure the DB2 server is running
- Ensure the deployment manager is running
- Ensure all the node agents are running (System Administration → Node agents)
- Ensure all the member servers of all the clusters and the managed servers are running
- Decide if you want to create tables for various components during the custom deployment environment generation

Complete the following instructions to create and generate a custom deployment environment:

1. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Deployment Environments' link.

Deployment Environments ? -							
Deployment Environments							
Use this page to manage deployment environments that are based on deployment environment patterns or custom deployment environments.							
Deployment environment patterns set up typical business integration environment configurations that will take care of most of your needs. Use custom deployment environments to fine tune a configuration for an environment that does not fit in any of the available patterns.							
Start Stop New Remove Import Export							
SelectDeployment Environment NameStatus <>/th>Pattern <>Description <>							
None							
Total 0							

- 2. Click the '**New**' button. The deployment environments panel is launched
- 3. In the following 'Create new deployment environment' panel, enter the following parameters:
 - ____a. Select the radio button for 'Create a new deployment environment'
 - ____b. Deployment environment name : Ex: customDE
 - ___ c. Select 'WPS' for 'Runtime capability'

2 _ 2
Create a new deployment environment or load an external deployment environment definition. Choose the deployment environment name and its runtime capability. At the end of the wizard, you can start the deployment environment generation by clicking on "Finish and Generate Environment". If you like to save the deployment environment definition, then you can click on "Finish" instead. The environment generation option is only valid if all needed parameters are met in order to generate the deployment environment. If you would like to hide steps that have well defined default values, then check "Show
only steps that need my attention".
Create Deployment Environment
Create a new deployment environment
C Load an external deployment environment definition
File path Browse
* Deployment environment name
customDE
Runtime capability WPS -
\square Show only steps that need my attention
Next Cancel

- ____4. Click Next
- 5. In the following 'Deployment Environment Patterns' panel, select the radio button for 'Custom'



6. Click Next. The 'Custom deployment topology configuration' wizard is launched

_____7. In the following 'Step 1: Deployment Environment' panel, complete the following instructions:

Step 1: Deployment Deployment Environment								
<u>Step 2</u> : Database	1. Select Clusters and Servers for use with this Deployment Environment							
<u>Step 3</u> : Security	nt to the table below. configuration units							
<u>Step 4</u> : Web Application Context	Select Clusters and Servers	_ /						
Roots	• Cluster: custom.Messaging	Server:	customNode03:su	Jpport 🚽 🛛 Add				
<u>Step 5</u> : Summary	Remove Add selected to unit							
Section 1		/						
5000011	Select Cluster or Server		Node	Status				
	None							
Section 2	2. Specify the Deployment Environment	nent Configuratio	n					
	Click on each tab below and add collaborative units as needed, using the Add New Unit button. Each collaborative unit represents a group of clusters and servers that provides as a whole a function in the deployment environment. Each tab details the functions that can be ascribed to a collaborative unit. To add clusters and servers to a unit, select one or more clusters and servers in the section 1 table above and click Add selected to unit to select the unit. Use the checkboxes and radio buttons within a unit below to specify its configuration detail.							
	Messaging Common Event Infra	astructure Appli	cation Support					
	Add New Unit							
	Messaging Unit 1							
	Remove Cluster or Server Remove This Unit							
	Select Cluster or Server Node Local Bus Member							
	None							
Next Cancel								

Note: Add the clusters and servers to be used with the deployment environment to table in section one. You can then use the clusters and servers listed in this table to populate the configuration units in section two.

_____a. In the section one of 'Step 1: Deployment Environment' panel, select the radio button for 'Cluster', select a cluster from the drop down list and then click the 'Add' button. This action adds the selected cluster to the table. Repeat this action until all the clusters are added to the table. The table should look like the picture shown below:

Select	Cluster or Server		Node	Status		
	custom.Messaging			→		
	custom.Application					
	custom.EventSupport			→		

____ b. In the section one of 'Step 1: Deployment Environment' panel, select the radio button for 'Server', select a server from the drop down list and then click the 'Add' button. This action adds the selected server to the table. The table should now look like the picture shown below:

Select	Cluster or Server	Node	Status
	custom.Messaging		→
	custom.Application		⇒
	custom.EventSupport		→
	support	customNode03	→

____ c. Ensure the 'Messaging' tab is selected in section two. Now, add clusters and servers you want to assign the messaging function from the table in section one to the 'Messaging Unit 1' table in section two. To achieve this, select all the clusters and servers you want to add and then select 'Messaging Unit 1' from the 'Add selected to unit' list as shown below:

	Remove Add selected to unit							
	Messaging Unit 1							
S	elec	:t	Cluster or Server		Node	Status		
ſ	v		custom.Messaging			→		
	•		custom.Application			⇒		
	•		custom.EventSupport			⇒		
U	•		support		customNode03	⇒		
2.	Spec	ify	the Deployment Environm	nent Config	guration			
M	less	agi	ng Common Event Infra	structure	Application Support			
		Ad	d New Unit					
	Me	ssa	iging Unit 1					
		_	Remove Cluster or Serve	r 🗌	Remove This Unit			
	Select Cluster or Server Node Local Bus Member							
	Nor	None						

_ d. Now set the '**custom.Messaging**' cluster as '**Local Bus Member**'. To do this, select the radio button corresponding to the 'custom.Messaging' cluster row as shown in picture below:

<u>2.</u>	2. Specify the Deployment Environment Configuration								
ſ	Messaging Common Event Infrastructure Application Support								
	Add New Unit								
	Messaging Unit 1 🚤								
		Remove Cluster or Serv	ver R	emove This Unit]				
	Select	Cluster or Server	Node	Local Bus Member					
		custom.Messaging		í ©					
	custom.Application			0 🔶					
				0 🗲					
		support	customNode03	0 🔶					

. . ..

_____e. Select the 'Common Event Infrastructure' tab in section two. Now, add clusters and servers you want to assign CEI support from the table in section one to the 'Common Event Infrastructure Unit 1' table in section two. To achieve this, select all the clusters and servers you want to add and then select 'Common Event Infrastructure Unit 1' from the 'Add selected to unit' list as shown below:

Remo	Remove Add selected to unit							
¢ C	Common Event Infrastructure Unit 1							
Select	Cluster or Server	Node		Status				
	custom.Messaging			⇒				
	custom.Application			⇒				
	custom.EventSupport			⇒				
	support	custom	Node03	⇒				
2. Specif	y the Deployment Environment Co	nfiguration						
Messag	ing Common Event Infrastructur	e Applicat	ion Support					
A	dd New Unit							
Comr	non Event Infrastructure Unit 1			1				
	Remove Cluster or Server	Remove	e This Unit					
Sele	ct Cluster or Server	Node	Server					
None								

_____f. Now set the 'custom.EventSupport' cluster to host the Common Event Infrastructure (CEI) server. To do this, select the radio button corresponding to the 'custom.EventSupport' cluster row as shown in the picture below:

Messaging	Common Event Infrastructu	re Applicat	tion Support				
Add	Add New Unit						
Commo	n Event Infrastructure Unit 1 🤫						
F	Remove Cluster or Server	Remove	e This Unit				
Select	Cluster or Server	Node	Server				
	custom.Application		0				
	custom.EventSupport		(© "				

_____g. Select the 'Application Support' tab in section two. Now, add clusters and servers you want to assign from the table in section one to the 'Application Support Unit 1' table in section two. To achieve this, select all the clusters and servers you want to add and then select 'Application Support Unit 1' from the 'Add selected to unit' list as shown below:

	Remove Add selected to unit Add selected to unit										
	Application Support Unit 1										
	Select	Cluster o	or Serv	er		Node				Status	
		custom.M	essagin	g						->	
		custom.Aj	pplicatio	n						→	
		custom.Ex	ventSup	port						→	
		support				customNode03			→		
2	. Specify	y the Depl	oyment	: Environment (Configuration						
	Messag	ing Cor	nmon E	vent Infrastruct	ure Application S	Support					
Ī	Add	New Unit									
ľ	Applicat	ion Suppo	rt Unit :	1 🗲 🚽							
		Remove C	luster o	or Server	Remove This	Unit		1			
	Select Cluster Node Service Business Busines										

____h. Follow the instructions below to host the application on the designated deployment targets:

- 1. **custom.Application** cluster row (follow the sequence)
 - Select the check box for 'Service Component Architecture' (required for BPC container)
 - Select the radio button for 'Business Process Choreographer Container' (not available unless the check box for SCA is selected in this deployment target)
 - Select the check box for 'Business Process Choreographer Explorer' (not available unless the BPC container is selected in this collaborative unit)
- 2. **custom.EventSupport** cluster row (follow the sequence)
 - Select the radio button for 'Business Process Event Collector' (only available on the deployment target where the CEI support is selected for configuration. Additionally it is only available once the BPC container is selected in this collaborative unit)
 - Select the radio button for 'Business Process Choreographer Observer' (only available if the business process event collector is selected in this collaboration unit)
- 3. **support** server row (follow the sequence)
 - Select the check box for 'Service Component Architecture' (required for Business Rules Manager)
 - Select the radio button for 'Business Rules Manager'

None

Messagi	Messaging Common Event Infrastructure Application Support										
Add	New Unit										
Applicat	tion Support U	nit 1									
	Remove Cluster or Server Remove This Unit										
Select	Cluster or S	Server	Node .	Service Compone Architecti	ent Process ure Chorec Contair	ss B s P ographer C ner E	Susiness Process Choreograp Explorer	bher Event Collec	ess Busine ss Proces : Chore tor Obser	ess ss ographer ver	Business Rules Manager
	custom.Appl	ication			۲		o	0	0		0
	custom.Even	tSupport			•		0	0	ri ⊙¦n		0
	support		customNode03		0		0	•	0		$\overline{\mathbf{O}}$
8. 9.	 8. Click Next 9. In the following 'Step 2: Database' panel, edit the following database parameters for the data sources needed for this deployment environment: a. Database Instance : WPRCSDB (default). Enter the correct database name b. Schema : Accept the default or enter the correct schema name c. User Name & Password : Ex: db2admin d. Create Table : Clear the check boxes to defer database table creation. 										
e. Server : Ex: dbserver.austin.ibm.com (fully qualified host name) Step 1: Deployment Database											
<u>Step 1</u> : Environ	: Deployment Iment	Databas	e								
Step 1: Environ Step 2:	: Deployment Iment : Database	Databas	e database parame	ters for the	e data source	es that are n	eeded by th	nis deployme	nt environm	ent.	
Step 1 Environ Step 2 Step 3	: Deployment Iment : Database : Security	Databas Edit the o	i e Jatabase parame Reset T	ters for the est Conne	e data source	es that are n Edit Provide	eeded by th er	nis deployme	nt environm	ent.	
Step 1: Environ Step 2: Step 3: Step 4:	: Deployment ment : Database : Security : Business	Databas Edit the o Edit	e database parame Reset T	ters for the est Conne	e data source ction	25 that are n Edit Provide	eeded by th :r	iis deployme	nt environm	ent.	
Step 1: Environ Step 2: Step 3: Step 4: Process Choreo Contain Step 5:	: Deployment Iment : Database : Security : Business s grapher ner : Web	Databas Edit the o Edit Edit Select	e database paramer Reset T 	ters for the rest Conne []	e data source ction Database (nstance	es that are n Edit Provide Schema	eeded by th rr Create L Tables	nis deployme Jser Name	nt environm Password	ent. Server	Provider
Step 1: Environ Step 2: Step 3: Step 4: Proces: Choreo Contain Step 5: Applica Roots	: Deployment ment : Database : Security : Business s grapher ner : Web : Web tion Context	Databas Edit the o Edit Edit Select	e database parame Reset T +++ + Component \$ WBI_CEI_EVENT	ters for the est Conne []	e data source ction Database (ystance WPRCSDB	es that are n Edit Provide Schema	eeded by th er Create U Tables	is deployme Jser Name (db2admin)	nt environm Password	ent. Server dbserver.ar	Provider
Step 1 : Environ Step 2 : Step 4 : Process Choreo Contair Step 5 : Applica Roots Step 6 :	: Deployment iment : Database : Security : Business s ographer ner : Web tion Context : Summary	Databas Edit the o Edit C Select	e database paramet Reset T Component WBI_CEI_EVENT WBI_CEI_EVENTC	ters for the est Conne []	e data source ction Database (nstance WPRCSDB WPRCSDB	es that are n Edit Provide	Create Tables	is deployme Jser Name (db2admin) (db2admin)	nt environm Password ••••••	ent. Server dbserver.au dbserver.au	Provider DB2 Uni -
Step 1: Environ Step 2: Step 3: Step 4: Process Choreo Contair Step 5: Applica Roots Step 6:	: Deployment ment : Database : Security : Business s grapher ner : Web tion Context : Summary	Databas Edit the o Edit Select	e database paramed Reset T Component WBI_CEI_EVENT WBI_CEI_EVENTC WBI_CEI_ME	ters for the est Conne [] :ATALOG	e data source ction Database [instance [wPRCSDB] [wPRCSDB]	Edit Provide	Create C Tables	is deployme Jser Name (db2admin) (db2admin)	nt environm Password ••••••	ent. Server dbserver.au dbserver.au	Provider DB2 Uni - DB2 Uni -
Step 1: Environ Step 2: Step 3: Step 4: Process: Choreo Contair Step 5: Applica Roots Step 6:	: Deployment iment : Database : Security : Business s ographer ner : Web tion Context : Summary	Databas Edit the o Edit Select	e database parament Reset T Component WBI_CEI_EVENT WBI_CEI_EVENTC WBI_CEI_ME WBI_BPC	ters for the est Conne [] :ATALOG	e data source ction Database (nstance WPRCSDB WPRCSDB WPRCSDB	es that are n Edit Provide Schema WPRCM00	Create Tables	is deployme Jser Name (db2admin) (db2admin) (db2admin) (db2admin)	nt environm Password ••••••	ent. Server dbserver.au dbserver.au dbserver.au	Provider DB2 Uni DB2 Uni DB2 Uni DB2 Uni DB2 Uni
Step 1: Environ Step 2: Step 3: Proces: Choreo Contair Step 5: Applica Roots Step 6:	: Deployment ment : Database : Security : Business s ographer ner : Web tion Context : Summary	Databas Edit the o Edit Select	e database paramed Reset T Component WBI_CEI_EVENT WBI_CEI_EVENTC WBI_CEI_ME WBI_BPC WBI_BPC_ME	ters for the est Conne I ATALOG	e data source ction Database (instance (WPRCSDB) (WPRCSDB) (WPRCSDB) (WPRCSDB)	es that are n Edit Provide Schema WPRCM00 WPRBE00	Create V Tables V IV IV IV IV IV IV IV	is deployme Jser Name (db2admin) (db2admin) (db2admin) (db2admin)	nt environm Password •••••• ••••••	ent. Server dbserver.au dbserver.au dbserver.au dbserver.au	Provider DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni •
Step 1: Environ Step 2: Step 4: Process Choress Contair Step 5: Applica Roots Step 6:	: Deployment iment : Database : Security : Business s ographer ner : Web tion Context : Summary	Databas Edit the o Edit Select	e database paramed Reset T Component WBI_CEI_EVENT WBI_CEI_EVENTC WBI_CEI_ME WBI_BPC_ME WBI_SCA_SYS_M	ters for the est Conne [] :ATALOG E	e data source ction Database (instance (wPRCSDB) (wPRCSDB) (wPRCSDB) (wPRCSDB) (wPRCSDB) (wPRCSDB)	es that are n Edit Provide Schema WPRCM00 WPRBE00 WPRBM00	Create C Tables	is deployme Jser Name (db2admin) (db2admin) (db2admin) (db2admin) (db2admin)	nt environm Password •••••• ••••••	ent. Server dbserver.au dbserver.au dbserver.au dbserver.au dbserver.au	Provider DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni •
Step 1: Environ Step 2: Step 4: Process: Choreo Contair Step 5: Applica Roots Step 6:	: Deployment iment : Database : Security : Business s grapher ner : Web tion Context : Summary	Databas Edit the of Edit Select	e database parament Reset T Component C WBI_CEI_EVENT WBI_CEI_EVENTC WBI_CEI_ME WBI_BPC WBI_BPC_ME WBI_SCA_SYS_M WBI_SCA_APP_M	ters for the est Conne [] CATALOG E E	e data source ction Database (instance WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB	es that are n Edit Provide Schema WPRCM00 WPRBE00 WPRBE00 WPRSS00	Create C Tables C I I I I I I I I I I I I I I I I I I I	is deployme Jser Name (db2admin) (db2admin) (db2admin) (db2admin) (db2admin) (db2admin)	nt environm Password •••••• •••••• ••••••	ent. Server dbserver.ar dbserver.ar dbserver.ar dbserver.ar dbserver.ar dbserver.ar	Provider DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni •
Step 1: Environ Step 2: Step 3: Step 4: Process Choress Choress Contair Step 5: Applica Roots Step 6:	: Deployment iment : Database : Security : Business s ographer ner : Web tion Context : Summary	Databas Edit the o Edit Select	e database paramed Reset T Component WBI_CEI_EVENTC WBI_CEI_EVENTC WBI_CEI_ME WBI_BPC_ME WBI_SCA_SYS_M WBI_SCA_APP_M WBI_SCA_APP_M	ters for the est Conne [] :ATALOG E E E Ullector	e data source ction Database (Instance WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB WPRCSDB	es that are n Edit Provide Schema WPRCM00 WPRBE00 WPRBE00 WPRBM00 WPRSS00	Create C Tables IV IV IV IV IV IV IV IV IV IV IV IV	is deployme Jser Name (db2admin) (db2admin) (db2admin) (db2admin) (db2admin) (db2admin)	nt environm Password •••••• •••••• ••••••• ••••••• •••••••	ent. Server dbserver.au dbserver.au dbserver.au dbserver.au dbserver.au dbserver.au	Provider DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni • DB2 Uni •

2. Specify the Deployment Environment Configuration

Note: The number of components listed for configuration depends on the functionally you assigned to the deployment targets.

Note: To make it simple, you will be using one database, which is WPRCSDB to create tables for all the components. By default the deployment environment wizard populates the database parameters for the data sources for various components. By selecting the check boxes for '**Create tables**', the wizard silently creates tables in the respective databases provided. However you can defer creating the tables at this time by clearing the create table check boxes and eventually run the generated scripts manually after generating the deployment environment.

- ____ 10. Click **Next**
- 11. In the following 'Step 3: Security' panel, edit user names and passwords for the authentication aliases

	<u>Step 1</u> : Deployment	Security							
	<u>Step 2</u> : Database	Edit the user names and passwords for the authentication aliases that are needed by this deployment environment.							
→	<u>Step 3</u> : Security	***							
	<u>Step 4</u> : Business Process Choreographer	Component	User name	Password	Confirm Password	Description			
	Container <u>Step 5</u> : Web Application Context Roots	WBI_BPC	wps61admi	•••••	•••••	Business Process Choreographer JMS authentication alias			
		WBI_CEI_EVENT	wps61admi	•••••	•••••	CEI JMS authentication alias			
	Previous Next Cancel								

____ 12. Click Next

- __ 13. In the following 'Step 4: Business Process Choreographer Container' panel, complete the following configuration steps:
 - ___a. Configure security. Click the pull down icon (V) to view the 'Security' configuration properties
 - ____b. In the '**Security**' configuration panel, enter the following parameters:
 - Enter user and (or) group values for the 'Administrator' and 'Monitor' roles
 - Enter user name and password for the authentication aliases

V 3	Security								
٨	Role	Us	5er	Gr	roup	De	scription		
	Administrator		wps61admi				User name(s) and/or group name (s) for the business flow and human task administrator role. Users assigned to this role have all privileges.		
	Monitor		wps61admi			User name(s) and/or group name (s) for the business flow and human task monitor role. Users assigned to this role can view the properties of all of the business process and task objects.			
	Authentication		User		Password	ł	Confirm Password	Description	
	JMS API Authentication	1	wps61ad	mi	•••••		•••••	Authentication for business flow manager message- driven bean to process asynchronous API calls	
	Escalation Use Authentication	≥r 1	wps61ad	mi	•••••		•••••	Authentication for human task manager message- driven bean to process asynchronous API calls	

- ____ c. Configure SCA bindings. Click the pull down icon (▼) to view the 'SCA Bindings' configuration properties
 - Accept the defaults for the 'SCA Bindings' configuration

V 3	SCA Bindings			
↑	Host	Context Root	Relative Path	Description
	http://host:port	/BFMIF_cus	/sca/com/ibm/bpe/spi/sca/BFMWS	Business Flow Manager Web Service Endpoint
	http://host:port	/HTMIF_cus	/sca/com/ibm/bpe/spi/sca/HTMWS	Human Task Manager Web Service Endpoint

- ____ d. Configure Human Tasks Manager Mail session. Click the pull down icon (▼) to view the 'Human Tasks Manager Mail session' configuration properties
 - Clear the check box for 'Enable e-mail server' to defer the e-mail service configuration

Huma	an Task Manager Mail Session	
-	Mail transport host	
	Mail transport user	
	wps61admin	
	Mail transport password	
	Confirm mail transport password	
	Business Process Choreographer Explorer URL	

_____e. Configure state observers. Click the pull down icon (♥) to view the 'State Observers' configuration properties. Accepts the defaults for the 'State Observers' configuration

V - 2	State Observers			
≜	Logging	Business Flow Manager	Human Task Manager	
	Audit Logging			
	Common Event Infrastructure Logging			

____ 14. Click Next

15. In the following 'Step 5: Web Application Context Roots' panel, review the web applications selected for configuration, and the context roots the web applications will be using.

	<u>Step 1</u> : Deployment Environment	Web Application Cor	ntext Roots				
	Step 2: Database	Edit the context roots for the listed web applications.					
	Step 3: Security	Business Process Chor	eographer Ex	plorer			
	<u>Step 4</u> : Business Process	Deployment Target	Container Deployment Target		Context Root		
	Choreographer Container	custom.Application	custom.Application		/bpc		
→	Step 5: Web	Business Process Choreographer Observer					
	Application Context Roots	Deployment Target	t Container Deployment Target		Context Root		
	<u>Step 6</u> : Summary	custom.EventSupport	custom.App	lication	/bpcobserver		
		Business Rules Manage	2 1				
		Deployment Target		Context Ro	oot		
		customNode03:suppor	customNode03:support /br]	
F	Previous Next Cancel						

- ____ 16. Click Next
 - ____ 17. In the following 'Step 2: Summary' panel, review the custom deployment environment configuration summary:

<u>Step 1</u> : Dep Environment	loyment t	Summary Overview									
<u>Step 2</u> : Data	abase	Parameter							Valu		
<u>Step 3</u> : Sec	urity	Parameter Doploumont Environme) attara					Cuct	toro	
Stop 4: Busi	iness	Deployment environme		-atteni					cust		
Process		Deployment environme	inc i	laine					wpa	, ,	
Choreograpi Container	her	Runtime capability	- 4 - 6	N - I					WP3	, l_t_	
Step 5: Web	ь	Deployment Environme	nte	status					LINCO	mpiete	
Application (Context	Cluster or Corver					Ma	da			
NOULS							NU	ue			
-> <u>step o</u> : sum	imary	custom Application	2								
		custom.Application	2								
		custom.eventsupport					•		- 0.2		
		Support Carlos					🗩 cus	tominode	203		
					a 1	-					
		Component		Database Instance	Schema	D. Pr	ataba rovide	se r	Data	base Ho	ost
		WBI_BPC		WPRCSDB	WPRBEO	D DE	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_BPCEventCollector		WPRCSDB	WPRBCO	O DE	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_BPC_ME		WPRCSDB	WPRBMO	O DE	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_CEI_EVENT		WPRCSDB		DE	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_CEI_EVENTCATALC	G	WPRCSDB		DE	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_CEI_ME		WPRCSDB	WPRCMO	0 D8	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		WBI_SCA_APP_ME		WPRCSDB	WPRSAO	O DE	B2_UNI	VERSAL	dbserver. austin. ibm. com		
		WBI_SCA_SYS_ME		WPRCSDB	WPRSSO	0 D8	B2_UNI	VERSAL	dbse	rver, aust	in.ibm.com
		Security									
		Component A	uth	entication						User N	ame
		WBI_BPC B	PC_	Auth_Alias						wps61a	dmin
		WBI_CEI_EVENT C	om	monEventIn	onEventInfrastructureJMSAuthAlias				wps61a	dmin	
		Business Process Chore	preographer Container								
		Parameter					custom.Application				
		User for Administrator role					wps61admin				
		Group for Administrator role									
		User for Monitor role						wps61admin			
		Group for Monitor role									
		SCA Bindings for Busin	ess	Flows				/BFMIF_custom.Application			
		SCA Bindings for Huma	nΤ	asks				/HTMIF_custom.Application			
		Create a mail session	to s	end e-mails	:			false			
		Mail session host									
		Business Process Chore	eogr	apher Explo	orer URL						
		Audit logging on for									
Common Event Infrastructure lo			ure logging	on for							
		Web Application Context Roots									
	Web Application (custom.Applica				plication	cust	om.Eve	entSuppo	ort cus	stomNode	≥03:support
		Business Process Choreographer Explore	r	/bpc 🚄			1				
		Business Process Choreographer Observ	er			/bpc	observ	er	V		
		Business Rules Manage	≥r						/br		
Previous	Finish	Finish and Ge	ner	ate Environ	ment		Can	cel			

18. Click Finish and Generate Environment. This action generates a custom deployment environment, configures resources, creates tables, and configures applications and Web resources on the designated deployment targets.

Configuration Status

12008-03-08 01:40:58	Beginning configuration
1 2008-03-08 01:40:58	CWLDB9015I: Deployment environment customDE is being generated.
1 2008-03-08 01:43:02	CWLDB9013I: Configuring component #WBI_BPCExplorer_12 on deployment target custom.Application.
1 2008-03-08 01:43:19	CWLDB9013I: Configuring component #WBI_RECOVERY_12 on deployment target custom.Application.
1 2008-03-08 01:43:23	CWLDB9013I: Configuring component #WBI_BPCEventCollector_13 on deployment target custom.EventSupport.
•	
2008-03-08 01:43:45	CWLDB9013I: Configuring component #WBI_BPCObserver_13 on deployment target custom.EventSupport.
1, 2008-03-08 01:44:14	CWLDB9013I: Configuring component #WBI_BRM_14 on deployment target support.
2008-03-08 01:44:16	CWLDB9013I: Configuring component #WBI_RECOVERY_14 on deployment target support.
1, 2008-03-08 01:44:19	The configuration has ended.

- 19. Save to the master configuration and synchronize changes with the nodes
- 20. Restart the node agents (System Administration \rightarrow Node agents)
- _____ 21. Restart all the clusters and managed servers
- ____ 22. Ensure the new custom deployment environment is started.

____a. In the left navigation pane of the deployment manager, expand 'Servers' and then click the 'Deployment Environments' link

De	eployment Environments ? –							
	Deployment Environments							
	Start Stop New Remove Impo	ort Ex	port					
	Select Deployment Environment Name	Status 🗘	Pattern 🗘	Description 🗘				
		- \$	Custom					

Note: If the status of the environment is showing an '**Unknown**' icon, you can not control the environment from this panel. In this case '**Start**' and '**Stop**' the clusters individually from the '**Clusters**' panel.

b. If not started, select the check for the deployment environment and then click the 'Start' button. This action controls all the deployment targets (clusters and servers) configured with this deployment environment

Note: Amazing! You successful created all the resources and applications on the assigned deployment targets at the click of a button. However, there might be situations where you have to configure components manually. The following are some of the important component configurations:

Appendix 1: Configure Service Component Architecture support Appendix 2: Configuring Common Event Infrastructure support Appendix 3: Configure Business Process Choreographer container support

Part 8: Review the resources and applications configured

In this part of the lab, you will review and ensure all the resources and applications are configured successfully on the designated deployment targets, as a result of the custom deployment environment creation. The following table depicts the important resources and application configurations for review:

Messaging Deployment Target (custom.Messaging)						
	Business Process Choreographer ME data source					
Data sources	CEI ME data source					
Data Sources	SCA Application Bus ME data source					
	SCA System Bus ME data source					
	<deployment_target_name>.BPC.<cell_name>.Bus</cell_name></deployment_target_name>					
Message Engines	<deployment_target_name>.CommonEventInfrastructure_Bus</deployment_target_name>					
message Engines	<pre><deployment_target_name>.SCA.APPLICATION.<cell_name>.Bus</cell_name></deployment_target_name></pre>					
	<pre><deployment_target_name>.SCA.SYSTEM.<cell_name>.Bus</cell_name></deployment_target_name></pre>					
Common Event	Infrastructure support Deployment Target (custom.EventSupport)					
Data sources	event					
Data sources	Business Process Choreographer Event Collector data source					
	Event Server					
Applications	BPCECollector_ <deployment_target_name></deployment_target_name>					
	BPCObserver_ <deployment_target_name></deployment_target_name>					
Queue Connection Factories	BPCCEIConsumerQueueConnectionFactory					
	CommonEventInfrastructure_QueueCF					
Topic Connection Factories	CommonEventInfrastructure_AllEventsTopicCF					
	BPCCEIConsumerQueue_ <deployment_target_name></deployment_target_name>					
Queues	BPCTransformerQueue_ <deployment_target_name></deployment_target_name>					
	CommonEventInfrastructure_Queue					
Topics	CommonEventInfrastructure_AllEventsTopic					
	BPCCEIConsumerActivationSpec					
Activation Specifications	BPCTransformerActivationSpec					
	CommonEventInfrastructure_ActivationSpec					

Business Process Choreographer Container support Deployment Target (custom.Application) Data sources Business Process Choreographer data source **BFMJMSReplyCF** BPECF **Connection Factories BPECFC** HTMCF BFMJMSAPIQueue_<DEPLOYMENT_TARGET_NAME> BFMJMSCallbackQueue_<DEPLOYMENT_TARGET_NAME> BFMJMSReplyQueue_<DEPLOYMENT_TARGET_NAME> BPEHIdQueue_<DEPLOYMENT_TARGET_NAME> Queues BPEIntQueue_<DEPLOYMENT_TARGET_NAME> BPERetQueue_<DEPLOYMENT_TARGET_NAME> HTMHIdQueue_<DEPLOYMENT_TARGET_NAME> HTMIntQueue_<DEPLOYMENT_TARGET_NAME> **BFMJMSAS Activation Specifications BPEInternalActivationSpec HTMInternalActivationSpec** BPCExplorer_<DEPLOYMENT_TARGET_NAME> BPEContainer_<DEPLOYMENT_TARGET_NAME> Applications TaskContainer_<DEPLOYMENT_TARGET_NAME> Failed Event Manager (wpsFEMgr) BFMIF_<DEPLOYMENT_TARGET_NAME> **SCA Modules** HTMIF_<DEPLOYMENT_TARGET_NAME> **Business Rules Manager Deployment Target (support server)** BusinessRulesManager_<DEPLOYMENT_TARGET_NAME> Applications Failed Event Manager (wpsFEMgr)

IBM WEBSPHERE PROCESS SERVER 6.1 - LAB EXERCISE

Reviewing the WebSphere variables configured:

- 1. To review the WebSphere variables configured on a deployment target, in the left navigation pane of the administrative console, expand 'Environment' and then click on the 'WebSphere Variables' link
- 2. In the following panel, select the scope from the drop down list

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Reviewing the data sources configured:

- 1. To review the data sources configured on a deployment target, in the left navigation pane of the administrative console, expand 'Resources → JDBC' and then click on the 'Data sources' link
- _____2. In the following 'Data sources' panel, select the scope from the drop down list.

Reviewing the business integration data sources configured:

1. To review the data sources configured on a deployment target, in the left navigation pane of the administrative console, expand 'Resources → JDBC' and then click on the 'Business Integration Data Sources' link

Reviewing the authentication aliases configured:

- 1. To review the authentication aliases configured on a deployment target, in the left navigation pane of the administrative console, expand '**Security**' and then click on the '**Secure administration**, applications and infrastructure' link
- 2. In the following panel, expand 'Java Authentication and Authorization service' and then click the 'J2C authentication data'

Reviewing the JMS resources configured:

- 1. To review the JMS resources configured on a deployment target, in the left navigation pane of the administrative console, expand '**Resources** → JMS' and then click on the resource link
- 2. The resources of interest to you are Connection Factories, Queue connection factories, Topic connection factories, Queues, Topic and Activation specifications

Reviewing the components and functions configured on the messaging cluster:

In this lab, the SCA support and messaging engines are configured on the 'custom.Messaging' cluster

- 1. In the left navigation pane of the deployment manager, expand 'Servers' and then click the 'Clusters' link
- _____ 2. In the following 'Clusters' panel, click the 'custom.Messaging' link
- 3. In the following 'Server clusters → custom.Messaging' panel, ensure the 'Configuration' tab is selected and then click the 'Messaging Engines' link under the 'Cluster Messaging' section

Se	rver clu	isters		2 -					
	<u>Server clusters</u> > <u>custom.Messaging</u> > <u>Service Component Architecture</u> > Messaging engines								
Start Stop mode: Immediate 🕶 Stop									
	Select	Name 🛟	Description 🗘	Status 🗘 ሷ					
		custom.Messaging.000- BPC.customCell01.Bus		€					
		<u>custom.Messaging.000-</u> CommonEventInfrastructure_Bus		€					
		custom.Messaging.000- SCA.APPLICATION.customCell01.Bus		€					
		<u>custom.Messaging.000-</u> SCA.SYSTEM.customCell01.Bus		€					

- _ 4. In the 'Server clusters → custom.Messaging' panel, ensure the 'Configuration' tab is selected and then click the 'Service Component Architecture' link under the 'Business Integration' section
 - ____a. The following 'Service Component Architecture' panel should indicate that 'Service Component Architecture' has been configured.
 - ____ b. Ensure the check box for 'Support the Service Component Architecture components' is disabled indicating that SCA support has been configured on this deployment target
 - ____ c. You can see the radio button for 'Local' is selected and disabled, indicating that the message engines are located local to this deployment target.
 - _____ d. However you can edit the data source configuration information

pport the Service Component Archited	ture components
s Member Location	
P Local	
e Kemore	
WebSphere:cluster=custom.Messagi	ing 💽 New
Bur Mamber	2 (MA.24) (2 - 13)
R DUS PIENDEL	

Edit	Test Connection]				
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSSOO		db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

Application Bus Member

Application bus destinations support the asynchronous communication of WebSphere Business Integration Adapters and other System Component Architecture components.

Edit	Test Connection				4	
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSA00	v	db2admin		dbserver.austin.ibm	DB2 Universal

Reviewing the components and functions configured on the CEI cluster:

In this lab, the Common Event Infrastructure server support, BPC Event Collector and BPC Observer are configured on the '**custom.EventSupport**' cluster

- 1. In the left navigation pane of the deployment manager, expand 'Servers' and then click the 'Clusters' link
- 2. In the following 'Clusters' panel, click the 'custom.EventSupport' link
- 3. In the following 'Server clusters → custom.EventSupport' panel, ensure the 'Configuration' tab is selected, expand 'Common Event Infrastructure' and then click the 'Common Event Infrastructure Server' link under the 'Business Integration' section

- ____a. The following 'Common Event Infrastructure' panel should indicate that 'Common Event Infrastructure' server has already been configured
- ____ b. Ensure the 'Common Event Infrastructure Bus member location' is configured for remote messaging

Enable the ev	ent infrastructure s					
ommon Event Infra	structure Event Data	base				
he Common Eve	nt infrastructure eve	int database	e stores Common B	ase Events for his	storic data processing.	
Edit	Fest Connection	s.				
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB			db2admin		dbserver.austin.ibm	DB2 Universal
Common Event In Cocal Remote	frastructure Bus Mem	ber Location				
Common Event In Local Remote Cluster=co common Event Infra ommon Event Infra	frastructure Bus Mem ustom. Messaging astructure Bus Membe frastructure bus de ents.	New	pport the asynchror	ious transmission	and distribution of	
Common Event In Local Cluster=ci Cluster=ci common Event Infra common Event Infra common Base Event Edit	frastructure Bus Mem ustom. Messaging astructure Bus Membe frastructure bus de ents. Fest Connection	New	pport the asynchror	ious transmission	and distribution of	
Common Event In Local Remote Cluster=co common Event Infra ommon Event Infra ommon Base Event Edit	frastructure Bus Mem ustom. Messaging astructure Bus Membe frastructure bus de ents. Test Connection Schema	Vew stination sup Create Tables	pport the asynchror User name	ous transmission Password	and distribution of Server	Provider

- _ 4. In the 'Server clusters → custom.EventSupport' panel, ensure the 'Configuration' tab is selected, expand 'Business Process Choreographer' and then click the 'Business Process Choreographer' Event Collector' link under the 'Business Integration' section
 - ____a. Ensure the 'Business Process Choreographer Event Collector' panel should indicate the BPC Event Collector has already been configured

General Properties						
Data Source						
Edit Test Con	nection					
Database Instance	Schema Name	Create Tables	User Name	Password	Server	Provider
WPRCSDB	WPRBC00	◄	db2admin	•••••	dbserver. a	DB2 Universal 🗸
Observation Target						
C Managed business p Existing event group	process choreog name	grapher co	ntainer			
y						
C Event group name						
Apply OK Reset	Cancel					

5. In the 'Server clusters → custom.EventSupport' panel, ensure the 'Configuration' tab is selected, expand 'Business Process Choreographer' and then click the 'Business Process Choreographer' Observer' link under the 'Business Integration' section

Add			
Select	Observer 🗘	Context Root ≎	Business Process Choreographer Event Collector 🗘
	BPCObserver_custom.EventSupport	/bpcobserver	Cluster=custom.EventSupport

Reviewing the components and functions configured on the application target cluster:

In this lab, the Business Process Choreographer container support, SCA support and BPC Explorer are configured on the '**custom.Application**' cluster

- 1. In the left navigation pane of the deployment manager, expand 'Servers' and then click the 'Clusters' link
- _____2. In the following 'Clusters' panel, click the 'custom.Application' link
- 3. In the 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected and then click the 'Service Component Architecture' link under the 'Business Integration' section
 - _____a. The following 'Service Component Architecture' panel should indicate that 'Service Component Architecture' has already been configured.
 - ____b. Ensure the check box for 'Support the Service Component Architecture components' is disabled indicating that SCA support has been configured on this deployment target
 - ____ c. Ensure the member bus location is configured to use 'Remote' messaging
 - _____d. However you can edit the data source configuration information
- 2. In the 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected, expand 'Business Process Choreographer Container Settings' and then click the 'Business Process Choreographer Containers' link under the 'Container Settings' section
 - ____a. In the following 'Business Process Choreographer Containers' panel should indicate that 'Business Process manager' and 'Human tasks Manager' are currently installed
 - ____b. Review the data source and security configuration parameters
 - ____ c. Ensure the BPC bus is configured for 'Remote' messaging
- 3. In the 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected, expand 'Business Process Choreographer' and then click the 'Business Process Choreographer Explorer' link under the 'Business Integration' section

Select	Explorer 🗘	Context Root 🗘	Managed Container 😂
	BPCExplorer_custom.Application	/Брс	Cluster=custom.Application

Appendix 1: Configure Service Component Architecture support

In this part of the lab, you will configure Service Component Architecture (SCA) support for a cluster. By default, new clusters in a network deployment or managed node environment are not configured to host SCA applications and their destinations. You will choose a cluster and enable it to host service applications, configure required messaging engines and destinations. To achieve this, you should select an option such that the messaging engines are configured using the local bus members as SCA function needs messaging support.

The SCA System and Application bus members are configured locally if the corresponding messaging configuration is local, otherwise you must select an existing remote destination location. In this lab, you will use the local option.

Make a decision:

The following are the decisions made to configure SCA support:

- Choose a cluster, for SCA support, Ex: custom.Messaging
- Local Bus Member configuration: On choosing this configuration, you plan to host SCA applications, destinations, and messaging engines on this cluster

Pre-requisites:

• Ensure the DB2 server is running

Complete the following steps to configure SCA support for a cluster:

- 1. In the left navigation pane of the deployment manager administrative console, expand 'Servers' and then click the 'Clusters' link
- 2. In the following 'Server clusters' panel, click the 'custom.Messaging' link
- 3. In the following 'Server clusters → custom.Messaging' panel, ensure the 'Configuration' tab is selected and then click the 'Service Component Architecture' link under the 'Business Integration' section

erver clusters	? -
<u>Server clusters</u> > custom.Messaging	
Use this page to change the configuration set of a group of application servers. If one of the routed to other members of the cluster.	tings for a cluster. A server cluster consists e member servers fails, requests will be -
Runtime Configuration Local Topology	
General Properties	Container Settings
* Cluster name custom.Messaging Bounding node group name DefaultNodeGroup 💌	Business Process Choreographer Container Settings
Prefer local	Messaging engines
Enable failover of transaction log recovery	Business Integration Business Integration Configuration
Apply OK Reset Cancel	 Service Component Architecture Common Event Infrastructure
	Business Process Choreographer
	🗄 Business Rules
	Additional Properties
	 <u>Backup cluster</u> <u>Endpoint Listeners</u>

4. In the following 'Service Component Architecture' panel, select the check box for 'Support the Service Component Architecture components'. This action enables all the available configuration options

General Properties	
Support the Service Component Arctture compnents	
Bus Member Location	
C Local	
@ Remote	
New	

System Bus Member

System bus destinations support the asynchronous communication of Service Oriented Architecture applications and their Service Component Architecture components with each other.

Edit Test Connection								
Database Instance	Schema	Create Tables	User name	Password	Server	Provider		
WPRCSDB	WPRSS00	M	db2admin	*******	dbserver.austin.ibm	DB2 Universal 💌		

Application Bus Member

1.1

Application bus destinations support the asynchronous communication of WebSphere Business Integration Adapters and other System Component Architecture components.

Edit an	Test Connection					
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSA00	1	db2admin	•••••	dbserver.austin.lbm	DB2 Universal

- 5. In the current 'Service Component Architecture' panel, enter the following parameters:
 - ____a. Bus Member Location:
 - Select the radio button for 'Local'
 - ____b. System Bus Member (system bus data source configuration):
 - Database Instance : WPRCSDB
 - Schema : <Accept the default> (Ex: WPRSS00)
 - Create tables : Select the check box
 - User name : db2admin
 - Password : passw0rd
 - Server : dbserver.austin.ibm.com
 - Provider : DB2 Universal

____ c. Application Bus Member (application bus data source configuration):

- Select the check box for 'Enable the WebSphere Business Integration Adapter components'
 - Database Instance : WPRCSDB
 - Schema : <Accept the default> (Ex: WPRSS00)
 - Create tables : Select the check box
 - User name : db2admin
 - Password : passw0rd
 - Server : dbserver.austin.ibm.com
 - Provider : DB2 Universal

Note: Verify any default values in the **Database Instance**, **Schema**, **Create Tables**, **User name Password**, **Server**, and **Provider** fields. If no default values exist in these fields, or if the default values are incorrect, enter the appropriate values for the system bus data source.

General Properties	
Support the Service Component Architecture components	
Bus Member Location	
Local	
C Remote	
New	

System Bus Member

System bus destinations support the asynchronous communication of Service Oriented Architecture applications and their Service Component Architecture components with each other.

Edit Test Connection							
Database Instance	Schema	Create Tables	User name	Password	Server	Provider	
WPRCSDB	WPRSS00	V	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌	

Application Bus Member

Application bus destinations support the asynchronous communication of WebSphere Business Integration Adapters and other System Component Architecture components.

🗹 Enable the WebSphere Business Integration Adapter components

Edit Test Connection						
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSS00	V	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

- ____ 6. Click **OK**
 - __7. Save to the master configuration and synchronize the changes with the nodes

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- Review and test data sources created during the SCA configuration
 - ____a. In the left navigation pane of the administrative console, expand '**Resources**' and then click the '**Data sources**' link. Select '**custom.Messaging**' as scope
 - ____b. The following two database sources created are created as the part of the SCA configuration at the '**custom.Messaging**' cluster scope:
 - SCA Application Bus ME data source
 - SCA System Bus ME data source

 Scope: Cell=dmgr01Cell01, Cluster=custom.Messaging Cluster=custom.Messaging Preferences 									
New Delete Test connection Manage state									
Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description (
	<u>SCA</u> Application Bus ME data source	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.APPLICATION.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA Application Bus Messaging Engine data source				
	<u>SCA System</u> <u>Bus ME data</u> <u>source</u>	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.SYSTEM.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA System Bus Messaging Engine data source				

____ c. Select the check box for the data sources and then click the 'Test Connection' button. Ensure the database connection is successful

Troubleshooting: If the test connection is failed and is reporting the following message:

The test connection operation failed for data source SCA Application Bus ME data source on server nodeagent at node customNode01 with the following exception: java.sql.SQLException: [ibm][db2][jcc][t4][10205][11234] Null userid is not supported.DSRA0010E: SQL State = null, Error Code = -99,999. <u>View JVM logs</u> for further details.

Restart the node agent of the corresponding node name reported in the failure message and then continue testing the data sources.

- 9. Review the Messaging Engines configured and ensure they are in 'started' status
 - ____a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Clusters' link.
 - ____b. In the following 'Clusters' panel, click the 'custom.Messaging' link

____ c. In the following 'Clusters → custom.Messaging' panel, click the 'Messaging engines' link under the 'Cluster Messaging' section

Cluster messaging

Messaging engines

____d. Ensure the following 'Messaging engines' panel, lists two messaging engines named as:

• <CLUSTER_NAME>.SCA.APPLICATION.<DMGER_CELL_NAME>.Bus

• <CLUSTER_NAME>.SCA.SYSTEM.<DMGER_CELL_NAME>.Bus

erver clu Server	rver clusters ? _ ? _ Server clusters > custom.Messaging > Messaging engines							
⊕ Pref	Preferences							
Star	Start Stop mode: Immediate 💌 Stop							
Select	Name 🛟	Description 🗘	Status 🗘 ሷ					
	custom.Messaging.000- SCA.APPLICATION.dmgr01Cell01.Bus		⇒					
custom.Messaging.000- \$ SCA.SYSTEM.dmgr01Cell01.Bus \$								
Total	2							

Troubleshooting: If the messaging engines show an 'unavailable' status and report the following message when attempted to start them:

The messaging engine custom.Messaging.000-SCA.SYSTEM.dmgr01Cell01.Bus cannot be started as there is no runtime initialized for it yet, retry the operation once it has initialized. If dynamic configuration reload is not enabled for this bus then the server will need to be restarted.

Restart the member servers of the corresponding cluster where these messaging engines exist. Alternatively restart the cluster itself which restarts the member servers.

Appendix 2: Configure Common Event Infrastructure server support

In this part of the lab, you will configure a cluster to support the Common Event Infrastructure (CEI) function.

Complete the following steps to configure the CEI support for a cluster:

- 1. In the left navigation pane of the deployment manager administrative console, expand 'Servers' and then click the 'Clusters' link
- _____2. In the following 'Server clusters' panel, click the 'custom.EventSupport' link
- 3. In the following 'Server clusters → custom.EventSupport' panel, ensure the 'Configuration' tab is selected, expand 'Common Event Infrastructure' and then click the 'Common Event Infrastructure Server' link under the 'Business Integration' section



4. In the following 'Common Event Infrastructure Server' panel, select the check box for 'Enable the event infrastructure server'. This action enables all the available configuration options

neral Properties								
Enable the event infrastructure server								
Common Event Infrastructure Event Datab								
The Common Event i	nfrastructure event	t databası	e stores Com	mon Base Event	s for historic data proce	essing.		
Edit Test Connection								
Database Instance	Schema	Create Tables	User name	Password	Server	Provider		
WPRCSDB		V	db2admin		dbserver.austin.ibi	DB2 Universal 💌		
Remote New								
Common Event Infrastructure bus destination support the asynchronous transmission and distribution of Common Base Events.								
Edit Test Connection								
Database Instance	Schema	Create Tables	Jser name	Password	Server	Provider		
WPRCSDB	WPRCM00	V	db2admin	•••••	dbserver.austin.ibr	DB2 Universal 💌		

5. In the current 'Enable the event infrastructure server' panel, enter the following parameters:

____a. Common Event Infrastructure event database:

- Database Instance : WPRCSDB
- Schema : <Accept the default>
- Create tables : Select the check box
- User name : db2admin
- Password : passw0rd
- Server : dbserver.austin.ibm.com
- Provider : DB2 Universal
- b. Common Event Infrastructure Bus Member Location:
 - Select the radio button for 'Remote'
 - Click the 'New' button to select the an existing remote messaging cluster
 - In the following 'Browse Deployment target' panel select 'custom.Messaging'

<u>Server clusters</u> > <u>custom.EventSupport</u> > <u>Common Event Infrastructure Server</u> > Browse deployment target

🕀 Pref							
Sele	Select Cancel						
<u>+++</u>	₽ ₽						
Select	Deployment Target 🛟						
0	Cluster=custom.Application						
©	Cluster=custom.Messaging 🗧 🗲 🚽 🛶						

• Click the 'Select' button

____ c. Common Event Infrastructure Bus Member (CEI bus data source configuration):

- Database Instance : WPRCSDB
- Schema : <Accept the default> (Ex: WPRCM00)
- Create tables : Select the check box
- User name : db2admin
- Password : passw0rd
- Server : dbserver.austin.ibm.com
- Provider : DB2 Universal

Note: Verify any default values in the **Database Instance**, **Schema**, **Create Tables**, **User name Password**, **Server**, and **Provider** fields. If no default values exist in these fields, or if the default values are incorrect, enter the appropriate values if required.

ieneral Properties								
Enable the event infrastructure server								
Common Event Infrast	Common Event Infrastructure Event Database							
Edit Test Connection								
Database Instance Schema Create Tables User name Password Server Provider								
WPRCSDB		V	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌		
C Local Remote Cluster=custom.Messaging Rew								
Common Event Infrastructure bus destination support the asynchronous transmission and distribution of Common Base Events.								
Edit Test Connection								
Database Instance	Schema	Create Tables	Jser name	Password	Server	Provider		
WPRCSDB	WPRCM00		db2admin	•••••	dbserver.austin.ibr	DB2 Universal 💌		

- ____ 6. Click **OK**
- _____7. Save to the master configuration and synchronize with the nodes
- 8. Review and test data sources created during the CEI server configuration. You should see three data sources, two at the 'custom.EventSupport' cluster scope and one at the 'custom.Messaging' cluster scope created
 - ____a. In the left navigation pane of the administrative console, expand '**Resources**' and then click the '**Data sources**' link. Select '**custom.EventSupport**' as scope
 - ____ b. The following two database sources created are created as the part of the SCA configuration at the 'custom.EventSupport' cluster scope:
 - event
 - event_catalog

	·									
Cluster=custom.EventSupport										
New Delete Test connection Manage state										
Select	: Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘					
	<u>event</u>	jdbc/cei	Cluster=custom.EventSupport	DB2 Universal JDBC Driver Provider (XA)	Event server data source					
	event catalog	jdbc/eventcatalog	Cluster=custom.EventSupport	DB2 Universal JDBC Driver Provider (XA)	Event catalog data source					

Scope: Cell=dmgr01Cell01, Cluster=custom.EventSupport

____ c. Select the check box for the data sources and then click the 'Test Connection' button. Ensure the database connection is successful

Troubleshooting: If the test connection is failed and is reporting the following message:

The test connection operation failed for data source event on server nodeagent at node customNode03 with the following exception: java.sql.SQLException: [ibm][db2] [jcc][t4][10205][11234] Null userid is not supported.DSRA0010E: SQL State = null, Error Code = -99,999. <u>View JVM logs</u> for further details.

Restart the node agent of the corresponding node name reported in the failure message and then continue testing the data sources.

____ d. Now select the scope to 'custom.Messaging' cluster. You should see a new data source created exclusively for the CEI member bus as shown below:

• CEI_ME_data_source

Scope: Cell=dmgr01Cell01, Cluster=custom.Messaging

(Cluster=custom.Messaging									
New Delete Test connection Manage state										
Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘					
	CEI ME data source	jdbc/com.ibm.ws.sib/custom.Messaging- CommonEventInfrastructure_Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	CEI Messaging Engine data source					
	<u>SCA</u> Application Bus ME data source	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.APPLICATION.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA Application Bus Messaging Engine data source					
	<u>SCA System</u> <u>Bus ME data</u> <u>source</u>	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.SYSTEM.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA System Bus Messaging Engine data source					
- ____e. Select the check box for the data source and then click the 'Test Connection' button. Ensure the database connection is successful
- 9. Review Messaging Engine is created and ensure they are in '**started**' status
 - ____a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Clusters' link
 - ____b. In the following 'Clusters' panel, click the 'custom.Messaging' link
 - ____ c. In the following 'Clusters → custom.Messaging' panel, click the 'Messaging engines' link under the 'Cluster Messaging' section

Cluster messaging

Messaging engines

____d. Ensure the following 'Messaging engines' panel, lists a new CEI messaging engines named as:

CUSTER_NAME>.CommonEventInfrastructure_Bus

<u>Server clusters</u> > <u>custom.Messaging</u> > Messaging engines

Star	Start Stop mode: Immediate - Stop							
Select	Select Name 🗘 Description 🗘 Status 🗘 💆							
	<u>custom.Messaging.000-</u> CommonEventInfrastructure Bus		€					
	custom.Messaging.000- SCA.APPLICATION.dmgr01Cell01.Bus		€					
	<u>custom.Messaging.000-</u> SCA.SYSTEM.dmgr01Cell01.Bus		€					

Troubleshooting: If the messaging engines show an 'unavailable' status and report the following message when attempted to start them:

The messaging engine custom.Messaging.000-CommonEventInfrastructure_Bus cannot be started as there is no runtime initialized for it yet, retry the operation once it has initialized. If dynamic configuration reload is not enabled for this bus then the server will need to be restarted.

Restart the member servers of the corresponding cluster where these messaging engines exist. Alternatively restart the cluster itself which restarts the member servers.

Appendix 3: Configure business process choreographer container support

In this part of the lab, you will configure business process choreographer (BPC) container for a cluster followed by the Service Component Architecture support. Note that the BPC container is not available unless the SCA support is made available on the deployment target.

Complete the following steps to configure the Service Component Architecture support for this cluster:

- 1. In the left navigation pane of the deployment manager administrative console, expand 'Servers' and then click the 'Clusters' link
- _____2. In the following 'Server clusters' panel, click the 'custom.Application' link

.

. .

3. In the following 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected and then click the 'Service Component Architecture' link under the 'Business Integration' section

<u>Server clusters</u> > custom.Application	
Runtime Configuration Local Topo	logy
General Properties	Container Settings
* Cluster name custom.Application	Business Process Choreographer Container Settings
Bounding node group name DefaultNodeGroup 🔽	Cluster messaging
✓ Prefer local	Messaging engines
Enable failover of transaction l recovery	> Business Integration og Business Integration Configuration
Apply OK Reset Cancel	Service Component Architecture ① Common Event Infrastructure
	Business Process Choreographer
	Business Rules Additional Properties
	Cluster members
	Backup cluster
	Endpoint Listeners

4. In the following 'Service Component Architecture' panel, select the check box for 'Support the Service Component Architecture components'. This action enables all the available configuration options

General Properties						
Support the Service Component Architecture components						
Bus Member Location						
C Local						
Remote						
WebSphere:duster=custom.Messaging 🔽 New						

System Bus Member

System bus destinations support the asynchronous communication of Service Oriented Architecture applications and their Service Component Architecture components with each other.

Edit Tes	st Connection					
Database Schema		Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSS00	$\overline{\mathbf{v}}$	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

Application Bus Member

Application bus destinations support the asynchronous communication of WebSphere Business Integration Adapters and other System Component Architecture components.

🗹 Enable the WebSphere Business gation Aatter compone

Edit Te:	st Connection					
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSA00	$\overline{\mathbf{v}}$	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

- 5. In the current 'Service Component Architecture' panel, enter the following parameters:
 - ____a. Bus Member Location:
 - Select the radio button for 'Remote'
 - Select 'custom.Messaging' cluster from the drop down list or click the 'New' button to select another cluster which is configured for messaging support

	Remote						
	WebSphere:	cluster=custom.Messaging 🗾 🛛 New					
b. System Bus Me	ember (system b	us data source configuration):					
Database	e Instance : WP	RCSDB					
Schema	: <ac< td=""><td>ccept the default> (Ex: WPRSS00)</td></ac<>	ccept the default> (Ex: WPRSS00)					
Create ta	ables : Sele	ect the check box					
User nar	me : db2	admin					
Passwor	d : pas	sw0rd					
Server	: dbs	erver.austin.ibm.com					

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• Provider : DB2 Universal

____ c. Application Bus Member (application bus data source configuration):

- Select the check box for 'Enable the WebSphere Business Integration Adapter components'
 - Database Instance : WPRCSDB
 - Schema : <Accept the default> (Ex: WPRSS00)
 - Create tables : Select the check box
 - User name : db2admin
 - Password : passw0rd
 - Server : dbserver.austin.ibm.com
 - Provider : DB2 Universal

Note: Verify any default values in the **Database Instance**, **Schema**, **Create Tables**, **User name Password**, **Server**, and **Provider** fields. If no default values exist in these fields, or if the default values are incorrect, enter the appropriate values for the system bus data source.

General Properties
Support the Service Component Architecture components
Bus Member Location
Local Local
© Remote
WebSphere:duster=custom.Messaging Vew

System Bus Member

System bus destinations support the asynchronous communication of Service Oriented Architecture applications and their Service Component Architecture components with each other.

Edit Te	st Connection					
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSS00	V	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

Application Bus Member

Application bus destinations support the asynchronous communication of WebSphere Business Integration Adapters and other System Component Architecture components.

🗹 Enable the WebSphere Business Integration Adapter components

Edit Te	st Connection					
Database Instance	Schema	Create Tables	User name	Password	Server	Provider
WPRCSDB	WPRSS00	V	db2admin	•••••	dbserver.austin.ibm	DB2 Universal 💌

___ 6. Click **OK**

____7. Save to the master configuration and synchronize the changes to the nodes

Complete the following steps to configure the BPC container for a cluster:

- 8. In the left navigation pane of the deployment manager administrative console, expand 'Servers' and then click the 'Clusters' link
- 9. In the following 'Server clusters' panel, click the 'custom.Application' link
- 10. In the following 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected, expand 'Business Process Choreographer Container Settings' and then click the 'Business Process Choreographer Containers' link under the 'Container Settings' section

Note: A message indicates whether the BPC container is configured on the top of the **Business Process Choreographer Containers** panel. Also mentions that the Service Component Architecture support should be configured on this cluster before configuring the BPC container.

🖯 Messages

🖪 The Business Process Choreographer containers are not installed. Install and configure them using this panel.

🗓 The Service Component Architecture has not been configured yet.

You must configure the <u>Service Component Architecture</u> before configuring the Business Process Choreographer containers.

If the Service Component Architecture support is already configured for this cluster, you see the following message:

🖯 Messages

🖪 The Business Process Choreographer containers are not installed. Install and configure them using this panel.

- 11. In the following 'Business Process Choreographer Containers' panel, complete the following configuration steps:
 - ____a. Configure the data source and create BPC tables. Click the pull down icon (▼) to view the 'Data source' configuration properties
 - ____b. In the 'Data Source' configuration panel, enter the following parameters:
 - Database Instance : WPRCSDB
 - Schema Name : < Accept the default> Ex: WPRBE00
 - Create tables : Select the check box
 - User Name : db2admin
 - Password : passw0rd
 - Server : dbserver.austin.ibm.com
 - Provider : DB2 Universal

Note: Verify any default values in the **Database Instance**, **Schema**, **Create Tables**, **User name Password**, **Server**, and **Provider** fields. If no default values exist in these fields, or if the default values are incorrect, enter the appropriate values if necessary.

▼ ! ↑	Data Source 🧹	nnection					
	Database Instance Schema Name		Create Tables	User Name	Password	Server	Provider
	WPRCSDB	WPRBE00		db2admin	•••••	dbserver.a	DB2 Universal 💌

- ___ c. Configure Human Tasks Manager Mail session. Click the pull down icon (▼) to view the 'Human Tasks Manager Mail session' configuration properties
 - Clear the check box for 'Enable e-mail server'

Human Task Manager Mail Session	
Enable e-mail service	
Mail transport host	
Mail transport user	
wps61admin	
Mail transport password	
Confirm mail transport password	
Business Process Choreographer Explorer URL	

- _____d. Configure security. Click the pull down icon (**v**) to view the '**Security**' configuration properties
- _____e. In the 'Security' configuration panel, enter the following parameters:
 - Enter user or group values for the 'Administrator' and 'Monitor' roles
 - Enter user name and password for the authentication aliases

	,							
Role	User		Group		Description			
Administrator	wps61a	dmi			User name Users assig	Jser name(s) and/or group name(s) for the business flow and human task administra Jsers assigned to this role have all privileges.		
Monitor	wps61a	dmi			User name assigned to	(s) and/or grou) this role can v	p name(s) for the business flow and human task monitor role. Users iew the properties of all of the business process and task objects.	
Authentication U		Us	er	Password		Confirm Password	Description	
JMS Authentication		w	ps61admi	••••••			Authentication used to authorize communication between messaging engines on the system integration bus	
JMS API Authentication		w	ps61admi	•••••		•••••	Authentication for business flow manager message-driven bean to process asynchronous API calls	
Escalation User Authentication		w	ps61admi		•••••	••••••	Authentication for human task manager message-driven bean to process asynchronous API calls	

Security

- _____f. Configure state observers. Click the pull down icon (▼) to view the 'State Observers' configuration properties
- ____ g. Accepts the defaults for the 'State Observers' configuration

State Observers Logging Business Flow Manager Human Task Manager Audit Logging □ □ Common Event Infrastructure Logging □ □

- ____h. Configure SCA bindings. Click the pull down icon (♥) to view the 'SCA Bindings' configuration properties
- _____i. Accept the defaults for the 'SCA Bindings' configuration

SCA Bindings

Host	Context Root	Relative Path	Description
http://host:port	/BFMIF_cus	/sca/com/ibm/bpe/spi/sca/BFMWS	Business Flow Manager Web Service Endpoint
http://host:port	/HTMIF_cus	/sca/com/ibm/bpe/spi/sca/HTMWS	Human Task Manager Web Service Endpoint

- _____j. Configure the BPC Bus (Message Engine). Click the pull down icon (♥) to view the 'Bus' configuration properties
- ____k. By default the '**Bus**' configuration uses the default configuration as shown below:

Υ.	Bus		
			Unselect
_	→ 🗹	Use the default configuration	e

- ____I. Clear the check box for '**Use the default configuration**'. This action displays the BPC bus configuration properties. Complete the following steps to configure the BPC bus:
 - 1) Bus Member Location:
 - Select the radio button for 'Remote'
 - Select 'custom.Messaging' cluster from the drop down list or click the 'New' button to select another cluster which is configured for messaging support

Remote

·	WebSphere:cluster=custom.Messaging	-		New
	I descent added a descent desta de	_	i 1	

2) Configure data source and create tables (BPC bus data source configuration):

• Database Instance : WPRCSDB

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- Schema : <Accept the default> (Ex: **WPRBM00**)
- Create tables : Select the check box
- User name : db2admin
- Password : passw0rd
- Server : dbserver.austin.ibm.com
- Provider : DB2 Universal

r	565						
	Use the default configu	ration					
Åгв	us Member Location						
	O Local						
	Remote WebSphere:cluster=cu	stom. Messagir	ng 🔻	New			
	Edit Test Cor	nection					
	Database Instance	Schema Name	Create Tables	User Name	Password	Server	Provider
	WPRCSDB	WPRBM00	V	db2admin	•••••	· dbserver.a	DB2 Universal 💌

___ m. Click OK. Review the 'Configuration status' carefully

Co	nfiguration Status	
i	2008-03-05 15:24:05	Beginning configuration
i	2008-03-05 15:24:44	ADMA5016I: Installation of BPEContainer_custom.Application started.
-		
i.	2008-03-05 15:24:56	ADMA50111: The cleanup of the temp directory for application BPEContainer_custom.Application is complete.
E.	2008-03-05 15:24:56	ADMA50131: Application BPEContainer_custom.Application installed successfully.
E.	2008-03-05 15:25:08	ADMA5016I: Installation of TaskContainer_custom.Application started.
į.	2008-03-05 15:25:13	ADMA5016I: Installation of SchedulerCalendars started.
i.	2008-03-05 15:25:13	ADMA5011I: The cleanup of the temp directory for application SchedulerCalendars is complete.
i.	2008-03-05 15:25:13	ADMA5013I: Application SchedulerCalendars installed successfully.
i.	2008-03-05 15:25:15	The configuration has ended.

___ n. Click the 'Save Changes' button

____ o. Save to the master configuration and synchronize changes with the nodes

- 12. Configure 'Common Event Infrastructure Destination'. This service enables WebSphere[®] Process Server applications and clients to create and manage events. The Common Event Infrastructure serves as an integration point for consolidation and persistence of business events from multiple, heterogeneous sources, and distribution of those events to event consumers
 - ____a. In the left navigation pane of the deployment manager administrative console, expand 'Servers' and then click the 'Clusters' link
 - ____b. In the following 'Server clusters' panel, click the 'custom.Application' link
 - _____ c. In the following 'Server clusters → custom.Application' panel, ensure the 'Configuration' tab is selected, expand 'Common Event Infrastructure' and then click the 'Common Event Infrastructure Destination' link under the 'Business Integration' section



_____d. In the following panel, ensure the following parameters are selected:

- Select the check box for 'Enable Service at server startup'
- Select the appropriate 'Event Infrastructure emitter factory JNDI name'. In this scenario you use the remote CEI server.

General Properties					
Enable service at server startup Event Infrastructure emitter factory JNDI name.					
cell/clusters/custom.EventSupport/com/ibm/events/configuration/emitter/Default					
C com/ibm/events/configuration/emitter/Default					
Apply OK Reset Cancel					

- ____e. Click **OK**. Save to the master configuration and synchronize changes with the nodes
- 10. Review and test data sources created during the BPC container configuration. You should see one data source created at the 'custom.Application' cluster scope and the other in the 'custom.Messaging' cluster scope
 - ____ a. In the left navigation pane of the administrative console, expand 'Resources' and then click the 'Data sources' link. Select 'custom.Application' as scope
 - ____ b. The following database source is created as the part of the BPC container configuration at the 'custom.Application' cluster scope:

Business Process Choreographer data source

Scope: Cell=dmgr01Cell01, Cluster=custom.Application						
	Cluster=custom.Application					
🕀 Pref	ferences					
New	New Delete Test connection Manage state					
D						
Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 💲	Description 🗘	
	<u>Business</u> <u>Process</u> <u>Choreographer</u> data source	jdbc/BPEDB	Cluster=custom.Application	DB2 Universal JDBC Driver Provider (XA)	Business Process Choreographer data source	

____ c. Select the check box for the data source and then click the 'Test Connection' button. Ensure the database connection is successful

Troubleshooting: If the test connection is failed and is reporting the following message:



Restart the node agent of the corresponding node name reported in the failure message and then continue testing the data sources.

- ____d. Now select the scope to '**custom.Messaging**' cluster. You should see a new data source created exclusively for the BPC member bus as shown below:
 - Business Process Choreographer ME data source

	Cluster=custom.Messaging					
New	Delete Test connection Manage state					
Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘	
	Business Process Choreographer ME data source	jdbc/com.ibm.ws.sib/custom.Messaging- BPC.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	Business Process Choreographer Messaging Engine data source	
	<u>CEI ME data source</u>	jdbc/com.ibm.ws.sib/custom.Messaging- CommonEventInfrastructure_Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	CEI Messaging Engine data source	
	SCA Application Bus ME data source	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.APPLICATION.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA Application Bus Messaging Engine data source	
	<u>SCA System Bus</u> <u>ME data source</u>	jdbc/com.ibm.ws.sib/custom.Messaging- SCA.SYSTEM.dmgr01Cell01.Bus	Cluster=custom.Messaging	DB2 Universal JDBC Driver Provider (XA)	SCA System Bus Messaging Engine data source	

Scope: Cell=dmgr01Cell01, Cluster=custom.Messaging

- ____e. Select the check box for the data source and then click the 'Test Connection' button. Ensure the database connection is successful
- 11. Review Messaging Engine is created and ensure it is in 'started' status
 - ____a. In the left navigation pane of the administrative console, expand 'Servers' and then click the 'Clusters' link
 - ____b. In the following 'Clusters' panel, click the 'custom.Messaging' link
 - ____ c. In the following 'Clusters → custom.Messaging' panel, click the 'Messaging engines' link under the 'Cluster Messaging' section

Cluster messaging

Messaging engines

____d. Ensure the following 'Messaging engines' panel, lists a new CEI messaging engines named as:

• <CUSTER_NAME>.BPC.<DMGR_CELL_NAME>.Bus

<u>Server clusters</u> > <u>custom.Messaging</u> > Messaging engines

Star	Start Stop mode: Immediate 💌 Stop				
Select	Name 🛟	Description 🗘	Status 🗘 👲		
	<u>custom.Messaging.000-</u> BPC.dmgr01Cell01.Bus		€)		
	custom.Messaging.000- CommonEventInfrastructure_Bus		€		
	custom.Messaging.000- SCA.APPLICATION.dmgr01Cell01.Bus		€)		
	custom.Messaging.000- SCA.SYSTEM.dmgr01Cell01.Bus		€)		

Troubleshooting: If the messaging engines show an 'unavailable' status and report the following message when attempted to start them:

The messaging engine custom.Messaging.000-BPC.dmgr01Cell01.Bus cannot be started as there is no runtime initialized for it yet, retry the operation once it has initialized. If dynamic configuration reload is not enabled for this bus then the server will need to be restarted.

Restart the member servers of the corresponding cluster where these messaging engines exist. Alternatively restart the cluster itself which restarts the member servers.

- 12. Ensure the Business Process Engine container application and Task container application are successfully running
 - ____a. In the left navigation pane of the administrative console, expand 'Applications' and then click the 'Enterprise Applications' link.

Start	: Stop Install Uninstall Update Rollout Update	Remove File Export Export DDL Export File
Select	Name 🛟	Application Status ሷ
	AppScheduler	\$
	BPEContainer_custom.Application_	⇒
	RemoteAL	\$
	TaskContainer custom.Application	⇒
	persistentLkMgr	\$
	sca.sib.mediation	€)
	wpsFEMgr 6.1.0	\$

Enterprise Applications

Appendix 4: Installing the Update Installer for WebSphere software

The Update Installer for WebSphere Software has a new installation program for Version 6.1, Installation Wizard for the Update Installer. The Update Installer now uses the Common Install Engine for WebSphere Software.

Obtain the update installer archive; download.updii.61013.windows.ia32.zip and extract it to a temporary location.

1. To install the Update Installer, navigate to the directory **UpdateInstaller** directory and double click **install.exe** to launch the installer

🗁 C:\download.updii.61013.windows.ia32\UpdateInstaller 💦 📃 🗙					
Address 🛅 C:\download.up	dii.61013.windows.ia32\UpdateInstaller 💌	🔁 Go			
🛅 bin	🙆 install.exe <				
🛅 framework	🗐 responsefile.updiinstaller.txt				
🛅 lafiles	📓 setup.jar				
🛅 lib	國 updi.updi.pak				
🛅 panels	🗐 version.txt				
🛅 updi.primary.pak					

____2. Read the instruction on the Welcome screen

🖄 Installation Wizard for (the Update Installer 6.1.0.13
	Installation Wizard for the Update Installer
WebSphere, software	Welcome to the Installation Wizard for the IBM Update Installer for WebSphere Software. Additional information can be found at the <u>Information</u> <u>Centers and Support sites for WebSphere and related products</u> home page.
Kitt	Click Next to continue.
InstallShield	
	< <u>B</u> ack <u>Next</u> > <u>C</u> ancel

- ____ 3. Click Next
- 4. In the following panel, read the license agreement and select the radio button next to **I accept both** the IBM and non-IBM terms and click Next
- 5. The installation wizard runs the system prerequisite check
- ____6. Click Next
- 7. Click the Browse button to set the installation path to C:\IBM\WebSphere\UpdataInstaller

쓥 Installation Wizard for	the Update Installer 6.1.0.13	
WebSphere, software	Installation Directory IBM Update Installer for Websphere Software, Version 6.1.0.13 will be installed to the specified directory. You can specify a different directory or click Browse to select a director Directory path: C:\IBMWVebSphere\UpdateInstaller	y.
In stall (Child Ltd	Brov	NSe
Installishield	< <u>B</u> ack <u>Next > C</u> a	ancel

- _____8. Click **Next.** In the following panel, review the installation summary
 - 9. Click **Next** to continue with the installation
 - 10. Once the installation is complete, ensure the check box next to 'Launch IBM Update Installer for WebSphere Software on exit'

省 Installation Wizard for t	he Update Installer 6.1.0.13	
WebSphere, software	Installation Complete Success: The following product was successfully installed: ● IBM Update Installer for WebSphere Software Path: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere\UpdateInstaller Image: CNBMWebSphere Image: CNBMWebSphere	and in
	< Back Next >	ish

_____ 11. Click **Finish**. The IBM Update Installer is launched

→Updating the WebSphere Process Server V6.1

Update the WebSphere Process Server with the patches. It is a best practice to update the WebSphere Process Server installation with the patches before creating any profiles. This is done using the UpdateInstaller tool.

- 1. Obtain and copy the WebSphere Process Server V6.1 patches to the **maintenance** directory located at **C:\IBM\WebSphere\UpdateInstaller**, that is the Update Installer installation location
- _____2. Launch the WebSphere Application Server update installer from the start menu
- _____3. Read the instructions carefully on the Welcome page
- 4. In the following panel, ensure the WebSphere Process Server V6.1 installation root is correct
- ____5. Click Next
- 6. In the following panel, click the **Browse** button to specify the '**Directory Path**' of the WebSphere Process Server installation
- ____7. Click Next
- 8. In the following panel, select the radio button for 'Install maintenance package'
- 9. Click Next
 - __ 10. In the following panel, click the **Browse** button to select the maintenance packages directory

🕍 IBM Update Installer for WebSphere Software 6.1.0.13		
WebSphere, software	Maintenance Package Directory Selection Enter directory to list maintenance packages available for installation. You can specify a directory or click Browse to select a path to maintenance package. Directory path: C:\IBM\WebSphere\UpdateInstaller\maintenance\6.1-WS-WPS-CritFixes Browse	
InstallShield	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

- ____ 11. Click Next
- _____12. In the following panel, select the check boxes for all the fixes listed
- _____ 13. Click Next
- _____14. In the following panel, review the installation summary
- _____15. Click **Finish** when the installation is complete

What you did in this exercise

- You installed the WebSphere Process Server core files on all the host machines
- You created a deployment manager profile on the deployment manager host machine using the Profile Management Tool (PMT)
- You manually created the WebSphere Process Server Common database scripts using the database scripts which were generated during the deployment manager profile creation
- You created three custom profiles on the designated host machines and federated them to the deployment manager cell using the Profile Management Tool (PMT)
- You identified a custom deployment pattern and assigned functions and components to the deployment targets (clusters and servers)
- You created three clusters, their member servers and a managed server scaled across the three federated custom nodes
- You created and generated the custom deployment environment, in which the required resources and applications were configured across the designated deployment targets assigned.