

IBM Business Monitor V7.5: Clustering

Single cluster deployment environment pattern

What this exercise is about	2
Exercise requirements	2
What you should be able to do	2
Exercise Instructions	2
Introduction	3
Part 1: Installing IBM Business Monitor	5
Part 2: Create IBM Business Monitor Server Dmgr profile	13
Alternative: Manually create IBM Business Monitor deployment manager profile.....	22
Part 3: Create IBM Business Monitor custom profiles	24
Alternative: Manually create IBM Business Monitor custom profile	29
Part 4: Generate the Single Cluster Deployment Environment pattern	31
Part 5: Verify and update the deployment environment configuration.....	40
Part 6: Create Business Space database tables	50
Task 1: Manually create IBM Business Monitor database and tables	52

What this exercise is about

The objective of this exercise is to provide step by step instructions for installing IBM® Business Monitor V7.5 and eventually create a single cluster deployment environment pattern in a three machine topology.

Exercise requirements

List of software required for the student to complete the exercise:

- IBM Business Monitor V7.5
- DB2

What you should be able to do

At the end of this exercise you should be able to:

- Install IBM Business Monitor V7.5 on each node
- Create these IBM Business Monitor V7.5 profiles
 - A Deployment Manager profile
 - Two custom profiles
- Generate a Single Cluster deployment environment pattern

Exercise Instructions

Some instructions in this exercise might be Windows operating-system specific. If you plan on running the exercise 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 exercise instructions using symbolic references, as follows:

Reference Variable	Windows Location
<WBM_HOME>	C:\Program Files\IBM\WebSphere\AppServer
<DMGR_PROFILE_HOME>	<WBM_HOME>\profiles\Dmgr01
<CUSTOM01_PROFILE_HOME>	<WBM_HOME>profiles\Custom01
<CUSTOM02_PROFILE_HOME>	<WBM_HOME>\profiles\Custom02

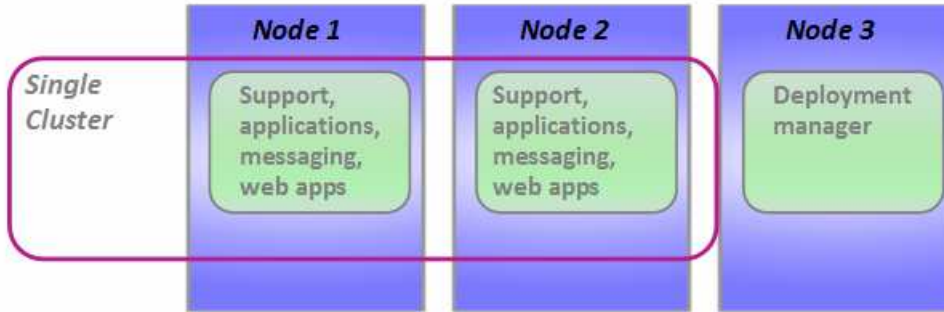
Windows users' note: When directory locations are passed as parameters to a Java program such as EJBdeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention.

Introduction

IBM® Business Monitor is a comprehensive business activity monitoring (BAM) software that provides an up-to-date view of your business performance and provides predictions so that you can take action before problems occur. Personalized business dashboards process business events and data, and calculate key performance indicators (KPIs) and metrics. IBM Business Monitor can collect events and data from a wide variety of sources including IBM Business Process Manager.

In this exercise, you will install and configure IBM Business Monitor in a single cluster deployment environment. The single cluster deployment environment pattern is a pre-defined one-cluster topology pattern in which all the monitor components and resources are allocated to one cluster. In this pattern, the Monitor Models, Event service, Message engines, Data Scheduler service, Action service, REST services, Business Space and other related components run on a single cluster. This topology is suitable for scenarios that are focused on running applications and on synchronous invocations. Note the messaging requirements should be kept to a minimum if using this pattern.

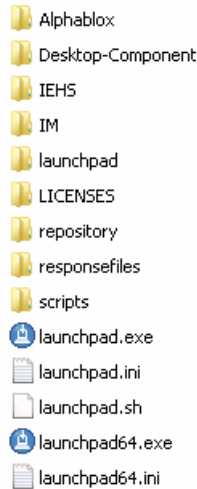
In this exercise, the Single Cluster deployment environment pattern has two member servers assigned to a cluster which is spread across two nodes as shown in the diagram below:



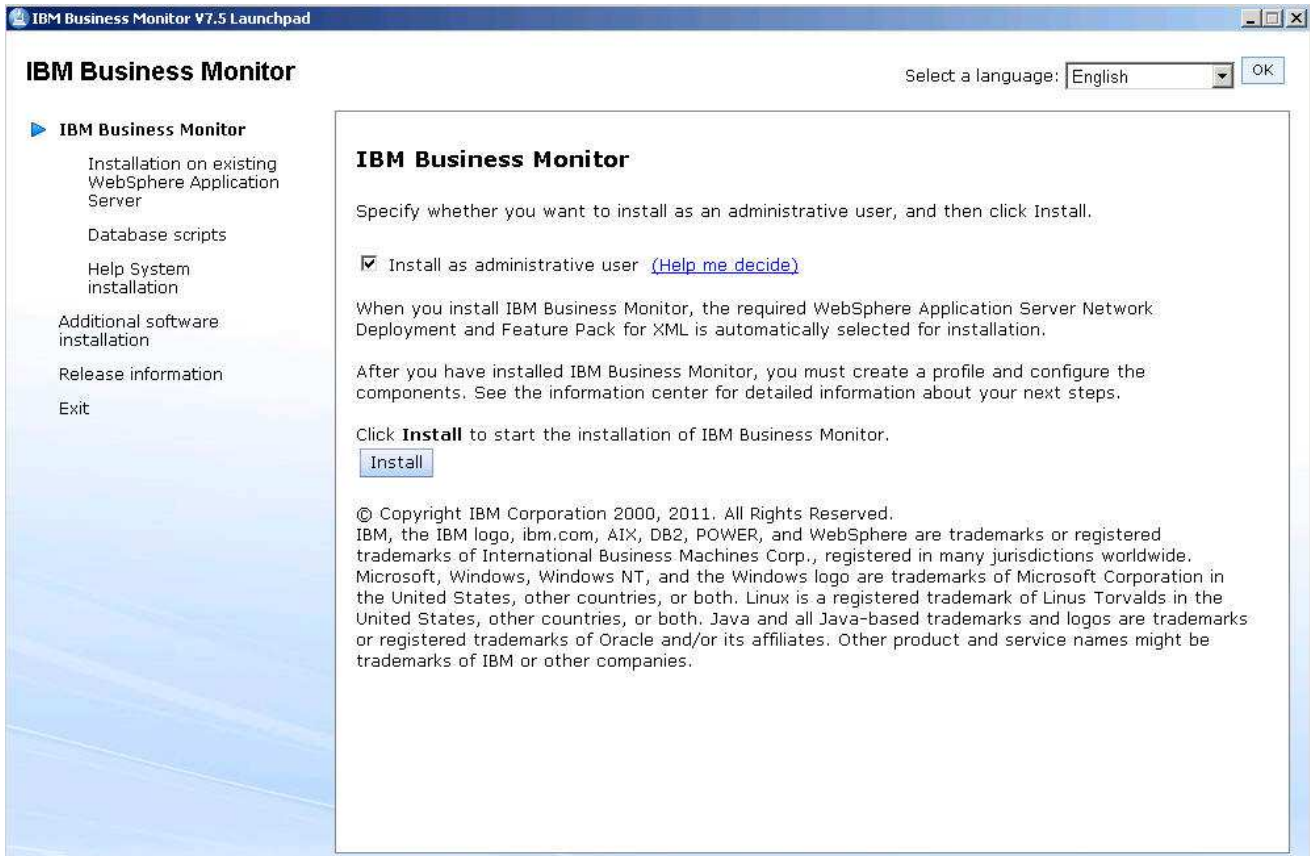
Part 1: Installing IBM Business Monitor

In this part of the exercise, you will install IBM Business Monitor on each machine that will host your profiles.

- ___ 1. Extract the IBM Business Monitor image files to a directory and confirm that the directories and files are extracted correctly; it should appear similar to the picture below:



- ___ 2. Double-click `launchpad.exe`.



3. Click **Install**

Install Packages
Select packages to install:

Installation Packages	Status	Vendor	License Key Type
<input checked="" type="checkbox"/> IBM@ Installation Manager	Will be installed	IBM	No key required
<input checked="" type="checkbox"/> Version 1.4.3			
<input checked="" type="checkbox"/> IBM WebSphere Application Server - ND	Will be installed	IBM	
<input checked="" type="checkbox"/> Version 7.0.0.17			
<input checked="" type="checkbox"/> IBM WebSphere Application Server V7 Feature Pack for XML	Will be installed	IBM	
<input checked="" type="checkbox"/> Version 1.0.0.9			
<input checked="" type="checkbox"/> IBM@ Business Monitor	Will be installed	IBM	
<input checked="" type="checkbox"/> Version 7.5.0.0			
<input checked="" type="checkbox"/> IBM@ Cognos Business Intelligence 32 bit	Will be installed	IBM	
<input checked="" type="checkbox"/> Version 10.1.0.1			
<input checked="" type="checkbox"/> IBM@ DB2 Express 32 bit	Will be installed	IBM	
<input checked="" type="checkbox"/> Version 9.7.0.4			

Show all versions Check for Other Versions, Fixes, and Extensions

Details
IBM@ Installation Manager 1.4.3
 IBM@ Installation Manager [More info...](#)
 • Repository: E:\moncd\IM

4. A list of packages is displayed. In this example, all of them are selected for installation, including Installation Manager, WebSphere Application Server with feature pack, IBM Business Monitor, Cognos, and DB2 Express. Click **Next**

5. Accept the license agreement and click **Next**

Install Packages

Select a location for the shared resources directory and a location for Installation Manager.

Install Licenses **Location** Features Summary

When you install packages, files are stored in two locations:

- 1) The shared resources directory - resources that can be shared by multiple packages.
- 2) The installation directory - any resources that are unique to the package that you are installing.

Important: You can only select the shared resources directory the first time you install a package with the IBM Installation Manager. For best results select the drive with the most available space because it must have adequate space for the shared resources of future packages.

Shared Resources Directory: C:\Program Files\IBM\WebSphere\AppServer-Shared

Once installed, IBM Installation Manager will be used to install, update, modify, manage and uninstall your packages.

Installation Manager Directory: C:\Program Files\IBM\Installation Manager\eclipse

Disk Space Information

Volume	Available Space
C:	10.30 GB

6. Review the installation directories and change as required. Click **Next**.

Install Packages

A package group is a location that contains one or more packages. Some compatible packages can be installed into a common package group and will share a common user interface. Select an existing package group, or create a new one.

Install > Licenses > Location > Features > Summary

Use the existing package group
 Create a new package group

Package Group Name	Installation Directory
IBM WebSphere Application Server - ND	C:\Program Files\IBM\WebSphere\AppServer

Package Group Name: IBM WebSphere Application Server - ND
Installation Directory: C:\Program Files\IBM\WebSphere\AppServer

Details
Shared Resources Directory: C:\Program Files\IBM\WebSphere\AppServer-Shared

Disk Space Information

Volume	Available Space
C:	10.30 GB

7. Review the server installation directory and change as required. Click **Next**

Install Packages

Select the features to install.

Install
Licenses
Location
Features
Summary

Features

- IBM® Installation Manager 1.4.3
- IBM WebSphere Application Server - ND 7.0.0.17
 - Sample applications
 - National language support
 - Non-English language packages for the administrative console
 - Non-English language packages for the application server runtime environment
 - IBM WebSphere Application Server V7 Feature Pack for XML 1.0.0.9
- IBM® Business Monitor 7.5.0.0
 - Business Monitor Server
 - Stand-alone development Business Monitor profile (qmwass)
 - Stand-alone development Business Monitor on Process Server profile (qmbpmas)
 - Stand-alone development Business Monitor on WebSphere Enterprise Service Bus profile (qmesb)
- IBM® Cognos Business Intelligence 32 bit 10.1.0.1
- IBM® DB2 Express 32 bit 9.7.0.4

Show dependencies

✔ Selected by Installation Manager because of dependencies

Details

IBM® Installation Manager 1.4.3

IBM® Installation Manager

Disk Space Information

	Volume	Required	Temporary	Total	Available
Shared Resources Area	C:	66.5 KB	3.67 GB	3.67 GB	10.30 GB
Installation Directory	C:	4.00 GB	46.06 MB	4.05 GB	10.30 GB

< Back
Next >
Install
Cancel

8. You can take the defaults here for the features to install. Do not select a profile since you will create that in the next section using the profile management tool.

The screenshot shows the 'Install Packages' wizard interface. At the top, it says 'Install Packages' and 'Fill in the configurations for the packages.' Below this is a progress bar with steps: 'Install', 'Licenses', 'Location', 'Features', and 'Summary'. The 'Common Configurations' section is active, showing 'DB2 Credentials'. The instructions state: 'Specify a DB2 administrative user name and password (defaults are bpmadmin/bpmadmin1). Ensure that you adhere to the password rules set forth by your organization. If you enter a user name that already exists on your system, you must ensure that you enter the correct password for that user name.' There are three input fields: 'User name:' with 'bpmadmin', 'Password:' with masked characters, and 'Confirm password:' with masked characters. At the bottom right, there are buttons for '< Back', 'Next >', 'Install', and 'Cancel'. A help icon is visible at the bottom left.

___ 9. You can take the default user and password or you can change them at this time. Click **Next**.

Install Packages

Review the summary information.

Install Licenses Location Features **Summary**

Target Location

Package Group Name: IBM WebSphere Application Server - ND
Installation Directory: C:\Program Files\IBM\WebSphere\AppServer
Shared Resources Directory: C:\Program Files\IBM\WebSphere\AppServer-Shared

Packages

- IBM@ Installation Manager 1.4.3
- IBM WebSphere Application Server - ND 7.0.0.17
 - Sample applications
 - National language support
 - IBM WebSphere Application Server V7 Feature Pack for XML 1.0.0.9
- IBM@ Business Monitor 7.5.0.0
 - Business Monitor Server
- IBM@ Cognos Business Intelligence 32 bit 10.1.0.1
- IBM@ DB2 Express 32 bit 9.7.0.4

Environment
English

Disk Space Information

	Total Available Space
C:	10.30 GB

Total Download Size: 3.77 GB
Total Installation Size: 7.72 GB

► **Repository Information**

?

< Back Next > **Install** Cancel

____ 10. Review the summary and then click **Install**. The installation progresses.

Install Packages

The packages are installed. [View Log File](#)

The next step is to use the `manageProfiles` command or the Profile Management Tool to augment existing profiles or create a new profile to enable the functionality provided by the feature pack. See the Information Center articles on creating, deleting, and augmenting profiles. Additionally, Network Deployment customers should read the profile rules and limitations topic.

The following packages were installed:

- IBM WebSphere Application Server - ND
 - IBM WebSphere Application Server - ND 7.0.0.17
 - IBM WebSphere Application Server V7 Feature Pack for XML 1.0.0.9
- IBM® Business Monitor 7.5.0.0
- IBM® Cognos Business Intelligence 32 bit 10.1.0.1
- IBM® DB2 Express 32 bit 9.7.0.4

Which program do you want to start?

Profile Management Tool

None

Installation Manager was successfully installed into: C:\Program Files\IBM\Installation Manager\eclipse

Note: If the packages support rollback, the temporary directory contains rollback files for installed packages. You can delete the files on the [Files for rollback](#) preference page.

[?](#) Finish

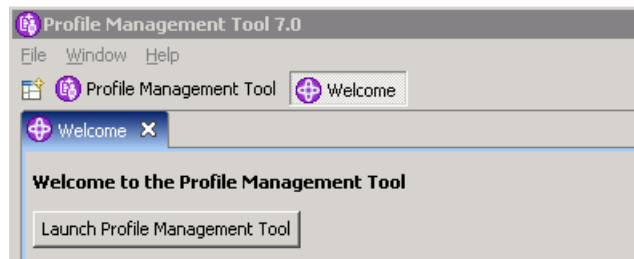
11. This panel displays when the installation has completed. You need the profile management tool, so leave that selected and click **Finish**

Part 2: Create IBM Business Monitor Server Dmgr profile

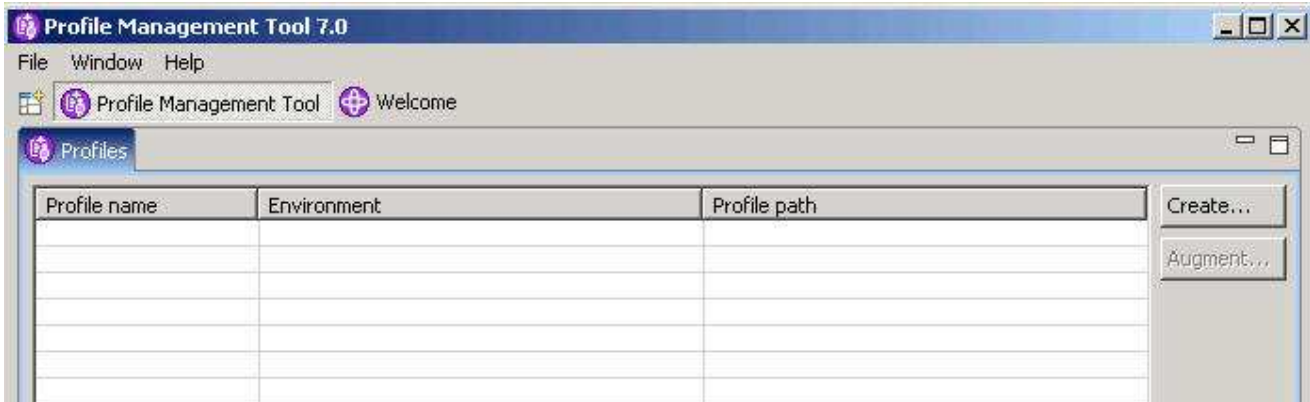
In this part of the exercise, you will create an IBM Business Monitor deployment manager profile using the Profile Management Tool (32 bit users only). If you are on a 64 bit operating system, you must manually create the profile, so see the next section for instructions.

- ___ 1. Launch the Profile Management Tool
 - ___ a. From the start menu, select **IBM** → **Business Monitor 7.5** → **Profile Management Tool**

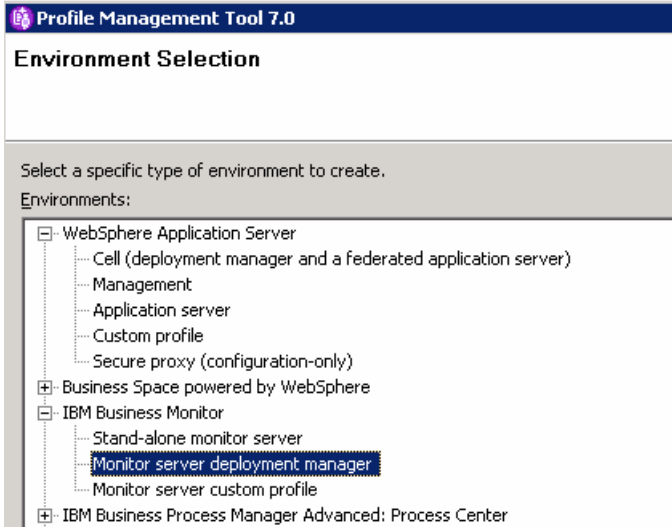
Note: Alternatively to launch the Profile Management Tool, navigate to <MON_HOME>\bin**ProfileManagement**, double click **pmt.bat**



- ___ 2. Select the **Launch Profile Management Tool** button

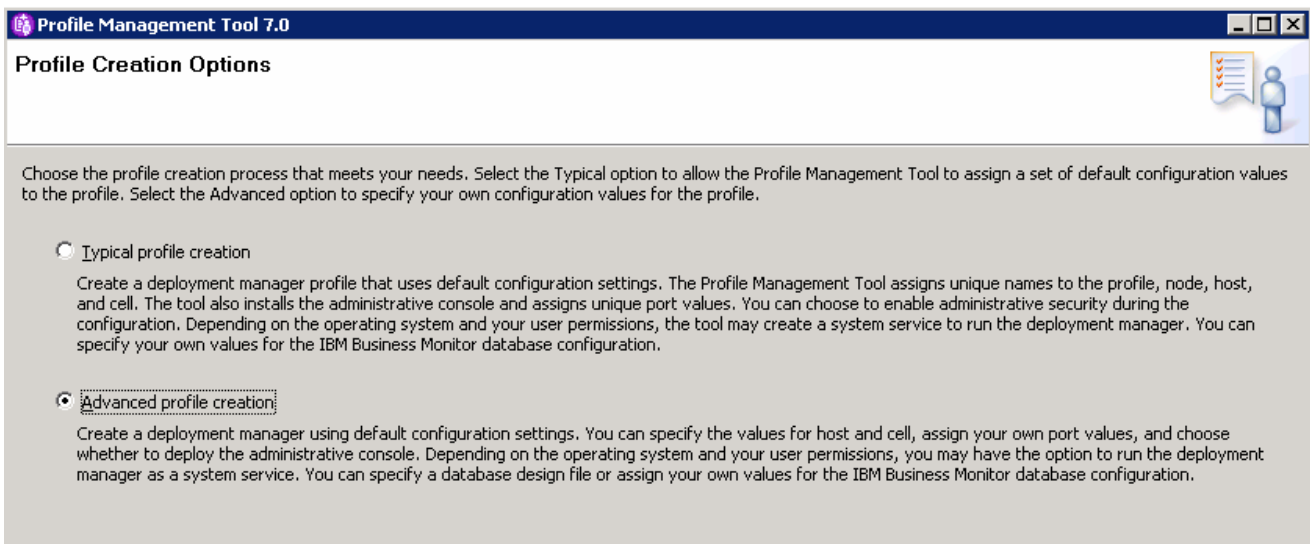


- ___ 3. Click the **Create** button.



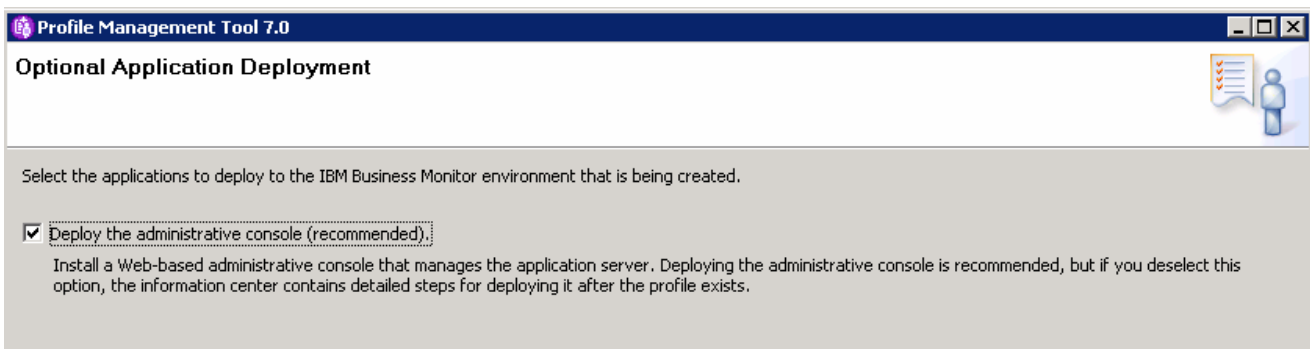
___ 4. Expand **IBM Business Monitor** and select **Monitor server deployment manager**

___ 5. Click **Next**



___ 6. Select the radio button for **Advanced profile creation**

___ 7. Click **Next**



____ 8. Select the option to deploy the administrative console.

____ 9. Click **Next**

Profile Management Tool 7.0

Profile Name and Location

Specify a profile name and directory path to contain the files for the run-time environment, such as commands, configuration files, and log files. Click **Browse** to select a different directory.

Profile name:

Profile directory:

____ 10. Specify the profile name and the profile directory path to the profile being created.

____ 11. Click **Next**

Profile Management Tool 7.0

Node, Host, and Cell Names

Specify a node name, a host name, and a cell name for this profile.

Node name:

Host name:

Cell name:

____ 12. Specify the node name, host name and cell name for the deployment manager profile

____ 13. Click **Next**

Profile Management Tool 7.0

Administrative Security

Choose whether to enable administrative security. To enable security, supply a user name and password for logging into administrative tools. This administrative user is created in a repository within Business Monitor. After profile creation finishes, you can add more users, groups, or external repositories.

Enable administrative security

User name:

Password:

Confirm password:

___ 14. Select the check box for **Enable administrative security** and then type the administrative username and password

___ 15. Click **Next**

The screenshot shows the 'Security Certificate (Part 1)' dialog box in the Profile Management Tool 7.0. The dialog has a title bar with the application name and standard window controls. Below the title bar is a header area with the title 'Security Certificate (Part 1)' and a help icon. The main content area contains instructions: 'Choose whether to create a default personal certificate and root signing certificate, or import them from keystores. To create new certificates, proceed to Part 2 and provide the certificate information. To import existing certificates from keystores, locate the certificates then proceed to Part 2 and verify the certificate information.' There are two radio button options: 'Create a new default personal certificate.' (selected) and 'Import an existing default personal certificate.' Below these are two sections for certificate configuration. The first section, 'Default personal certificate', has fields for 'Path:' (with a 'Browse...' button), 'Password:', 'Keystore type:' (a dropdown menu), and 'Keystore alias:' (a dropdown menu). The second section, 'Root signing certificate', has identical fields for 'Path:', 'Password:', 'Keystore type:', and 'Keystore alias:'.

___ 16. In this panel accept the defaults

___ 17. Click **Next**

The screenshot shows a window titled "Profile Management Tool 7.0" with a sub-header "Security Certificate (Part 2)". The main text reads: "Modify the certificate information to create new certificates during profile creation. If you are importing existing certificates from keystores, use the information to verify whether the selected certificates contain the appropriate information. If the selected certificates do not, click **Back** to import different certificates." There is a "Restore Defaults" button. The "Default personal certificate" section includes fields for "Issued to distinguished name" (containing "cn=WSBETA147.austin.ibm.com,ou=WSBETA147Cell01,ou=WSBETA147CellManager01,o=IBM,c=US"), "Issued by distinguished name" (containing "cn=WSBETA147.austin.ibm.com,ou=Root Certificate,ou=WSBETA147Cell01,ou=WSBETA147CellManager01,o=IBM,c=US"), and "Expiration period in years" (set to 1). The "Root signing certificate" section includes "Expiration period in years" (set to 15). The "Default keystore password" and "Confirm the default keystore password" fields are both masked with dots.

___ 18. In this panel accept the defaults

___ 19. Click **Next**

The values in the following fields define the ports for the deployment manager and do not conflict with other profiles in this installation. Another installation of IBM Business Monitor or other programs might use the same ports. To avoid run-time port conflicts, verify that each port value is unique.

Default Port Values Recommended Port Values

Administrative console port (Default 9060):	9062
Administrative console secure port (Default 9043):	9045
Bootstrap port (Default 9809):	9809
SOAP connector port (Default 8879):	8879
Administrative interprocess communication port (Default 9632)(X):	9632
SAS SSL ServerAuth port (Default 9401):	9408
CSIY2 ServerAuth listener port (Default 9403):	9407
CSIY2 MultiAuth listener port (Default 9402):	9409
ORB listener port (Default 9100):	9102
Cell discovery port (Default 7277)(6):	7278
High availability manager communication (DCS) port (Default 9352):	9352
DataPower appliance manager secure inbound port (Default 5555):	5555

____ 20. Review the ports assigned. You can change them, but ensure that the port numbers do not conflict with other services running on this machine

____ 21. Click **Next**

Choose whether to use a Windows service to run IBM Business Monitor. Windows services can start and stop IBM Business Monitor, and configure startup and recovery actions.

Run the deployment manager process as a Windows service.

Log on as a local system account.

Log on as a specified user account.

User name:

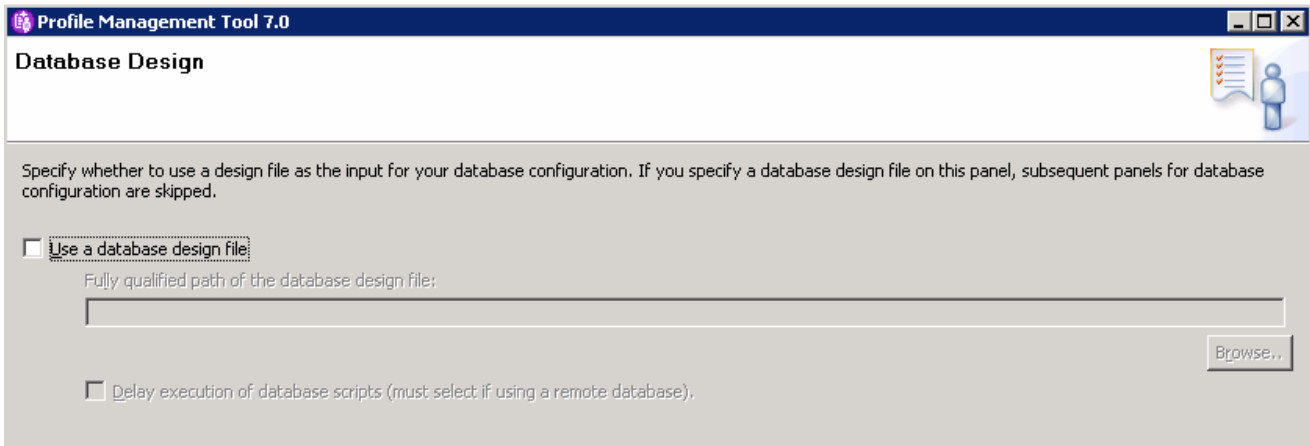
Password:

Startup type:

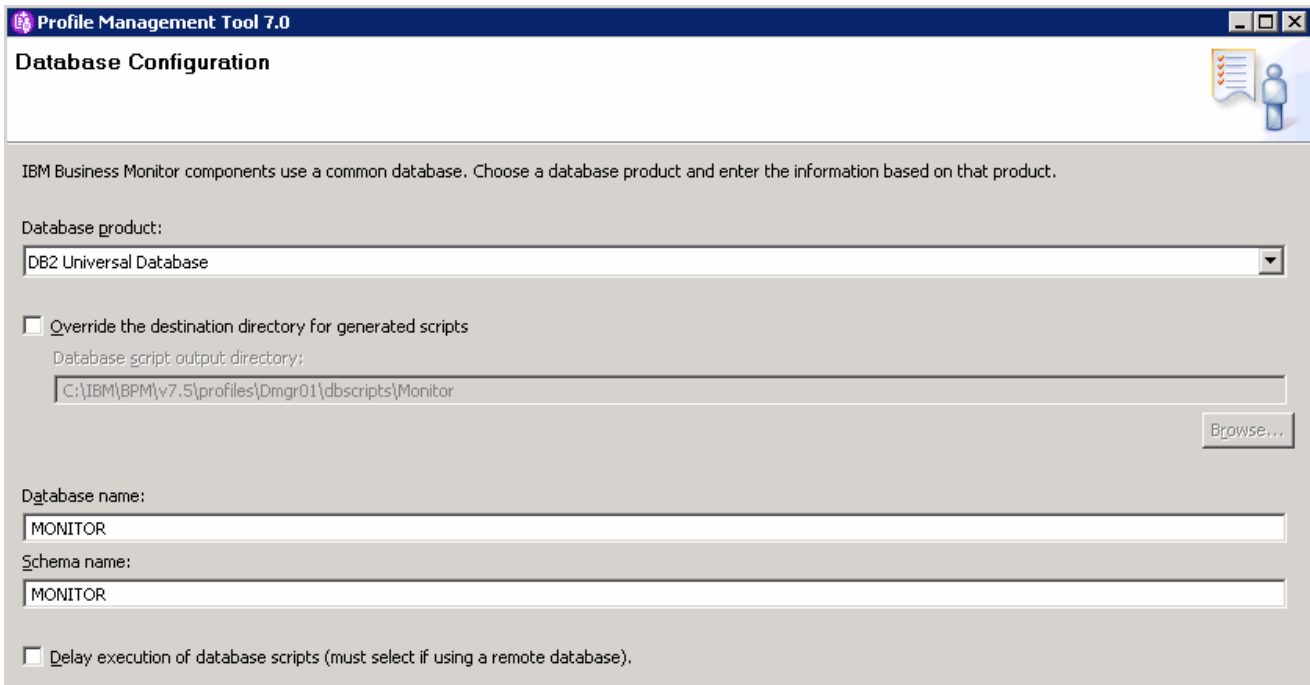
The user account that runs the Windows service must have the following user rights:
 - Log on as a service

____ 22. In the next **Windows Service Definition** panel, clear the check box for **Run the deployment manager process as a Windows service**

23. Click **Next**



24. In this panel, you can select to use a database design file. This file is normally setup by your database administrator and it contains the preconfigured database information for the Monitor database. In this example, it is not selected and then several more panels follow that allow you to manually enter the database configuration information. Click **Next**.



25. Specify the information for the monitor database. If you are using a remote database, then select the check box for **Delay execution of database scripts (must select if using a remote database)**

26. Click **Next**

Profile Management Tool 7.0

Database Configuration (Part 2)

Additional information about the database server you are using is required to complete configuration for the DB2 Universal Database database. For database authentication, you must type the user name and password that will be used to connect to the database. The database user must have read and write access on the database.

User name:

Password:

Confirm password:

Location (directory) of JDBC driver classpath files:

Database server host name or IP address:

Database TCP/IP service port or listener port:

___ 27. Provide the additional monitor database configuration information.

___ 28. Click **Next**

Profile Management Tool 7.0

Cognos Content Store Database

Create a Cognos content store database to be used by Business Monitor for multidimensional data analysis.

Create a new Cognos content store database that you can refer to later when you configure the Cognos service.
 You must provide a database user name with credentials to create tables.

Database name:

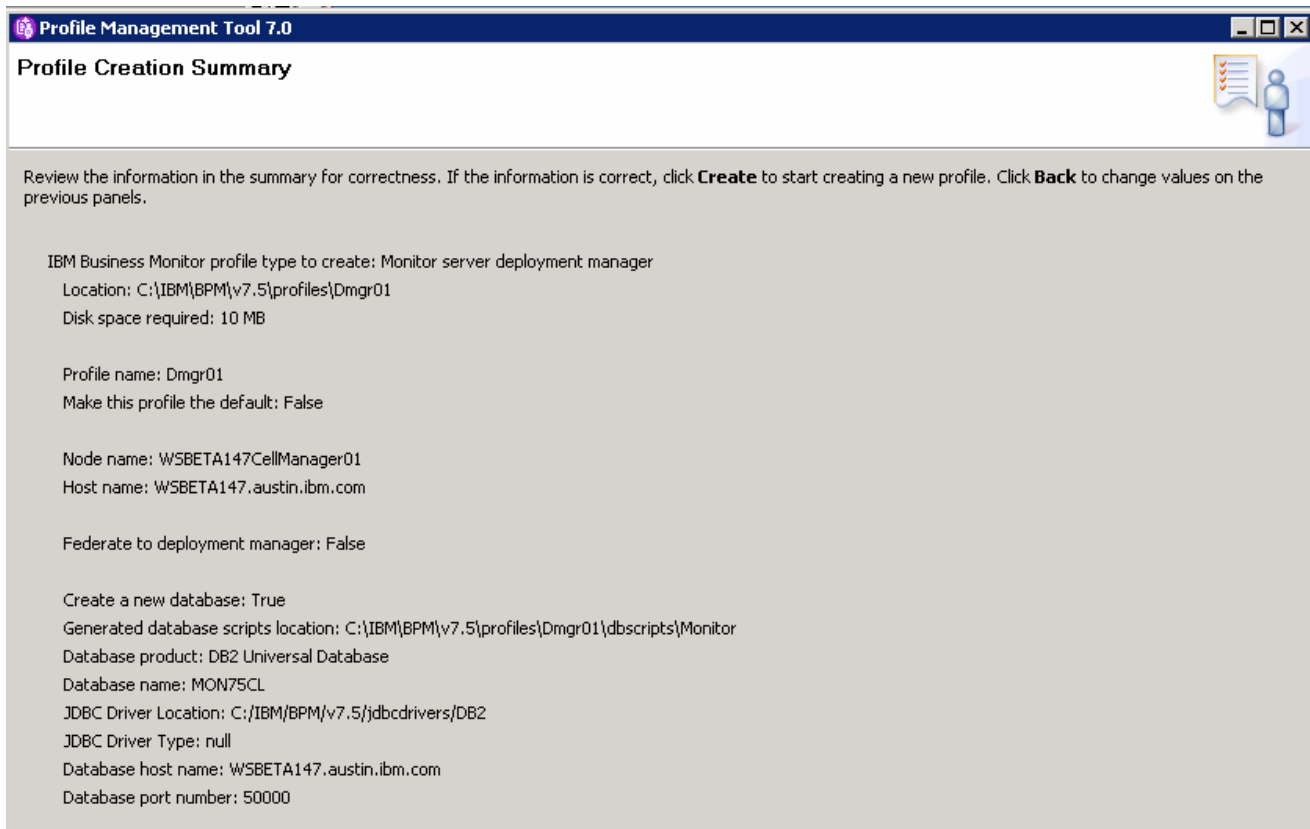
Database user name:

Database password:

Confirm password:

___ 29. Specify the configuration information for the Cognos database.

___ 30. Click **Next**



- ___ 31. Verify the profile creation summary.
- ___ 32. Click **Create**
- ___ 33. Once the installation is complete, clear the check box for **Launch the IBM Business Monitor first steps** console in the **Profile Creation Complete** panel.
- ___ 34. Click **Finish**

Note: If you delayed running the database scripts, then you need to run the scripts to create the database. For your reference there is a topic in this document titled **Task 1: Manually create IBM Business Monitor database and tables**.

Alternative: Manually create IBM Business Monitor deployment manager profile

WebSphere Business Monitor deployment manager profile can be created manually using the **manageprofiles** command. The manageprofiles command comes in handy when creating profiles on 64-bit platforms where the Profile Management Tool is not supported.

Note: For more options, navigate to <WBM_HOME>/bin and run the command below:

manageprofiles.bat -create -templatePath <WBM_HOME>/profileTemplates/wbmonitor/dmgr -help

Complete the instructions below to create the IBM Business Monitor deployment manager profile using the manageprofiles command:

- ____ 1. The following are the options commonly used to create an IBM Business Monitor deployment manager profile:

Parameter	Value
-create	N/A
-templatePath	<WBM_HOME>/profileTemplates/wbmonitor/dmgr
-profileName	Example: Dmgr01
-profilePath	<WBM_HOME>/profiles/Dmgr01
-nodeName	Example: wbmCellManager01
-cellName	Example: wbmCell01
-hostName	Example: dmgr.austin.ibm.com
-enableAdminSecurity	true
-adminUserName	Example: admin
-adminPassword	Example: superSecret
-winserviceCheck	false (windows only)
-wbmDBType	Use DB2_UNIVERSAL for connecting to DB2®. Use Oracle11g for connecting to either Oracle 10g or Oracle 11g. Use DB2UDBOS390 for connecting to DB2 for z/OS®. Use MSSQLSERVER_MICROSOFT for connecting to Microsoft SQL Server.
-wbmDBDelayConfig	If you ignore this parameter or set the value to false, a local database is created on the machine where the profile is created. If you set the value to true, the database and all required tables are not created during the installation.

-wbmDBName	Example: MONITOR
-wbmDBSchemaName	Example: MONITOR
-wbmDBDriverType	4
-wbmDBUserId	Example: db2admin
-wbmDBPassword	Example: superSecret
-wbmDBHostName	Example: dbserver.austin.ibm.com
-wbmDBServerPort	Example: 50000 (default)
-wbmDBJDBCClasspath	<WBM_HOME>\jdbcdrivers\DB2

- ___ 2. Run the manageprofiles script. Navigate to the <WBM_HOME>/bin directory and run the manageprofiles script along with the options

Example:

```
manageprofiles.bat -create -templatePath <WBM_HOME>\profileTemplates\wbmonitor\dmgr -
profileName Dmgr01 -profilePath <WBM_HOME>\profiles\Dmgr01 -nodeName wbmCellManager01
-cellName wbmCell01 -hostname dmgr.austin.ibm.com -enableAdminSecurity true -
adminUserName admin -adminPassword superSecret -winserviceCheck false -wbmDBType
DB2_Universal -wbmDBDelayConfig true -wbmDBName MONITOR -wbmDBSchemaName MONITOR -
wbmDBDriverType 4 -wbmDBUserId db2admin -wbmDBPassword superSecret -wbmDBHostName
dbserver.austin.ibm.com -wbmDBServerPort 50000 -wbmDBJDBCClasspath
<WBM_HOME>\jdbcdrivers\DB2
```

- ___ 3. If you delayed running the database scripts, visit **Task 1: Manually create WebSphere Business Monitor database and tables.**
- ___ 4. Verify the installation
- ___ a. Navigate to <WBM_HOME>/logs/manageprofiles and locate the <profile_name>_create.log file
- ___ b. You should see a string, **INSTCONFSUCCESS** written to the last line of the file. If so the installation is successful
- ___ c. If you **INSTCONFPARTIALSUCCESS** or **INSTCONFFAILED** appear in the last line of the log file, problems encountered during the installation
- ___ 5. Run the installation verification test
- ___ a. Navigate to <WBM_HOME>/bin and run the **ivt** command with appropriate parameters
- ```
ivt.bat <SERVER_NAME> <PROFILE_NAME> -username <USER_NAME> -password
<PASSWORD>
```
- \_\_\_ 6. Ensure the verification is successful. While the verification is complete, examine the **SystemOut.log** file. The file is located at <WBM\_HOME>/profiles/Dmgr01/logs/dmgr

## Part 3: Create IBM Business Monitor custom profiles

In this part of the exercise, you will create IBM Business Monitor custom profiles on all the designated machines using the Profile Management Tool. A custom profile is an empty profile that gets created and eventually has to federate itself to the IBM Business Monitor deployment manager profile. If you are on a 64 bit operating system, you must manually create the profile, so see the next section for instructions.

### Prerequisites: -

- Before proceeding to the next step, ensure the deployment manager you want to federate this custom profile is installed and running successfully at this time
- Make a note of the fully qualified host name of the deployment manager host machine
- Make a 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 security is enabled

Complete the instructions below to create an IBM Business Monitor custom profile:

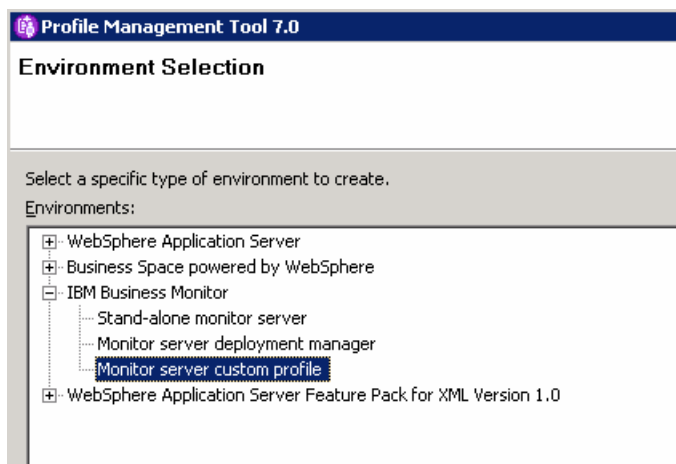
- \_\_\_ 1. Launch the Profile Management Tool
  - \_\_\_ a. From the start menu, select **IBM** → **Business Monitor 7.5** → **Profile Management Tool**

---

**Note:** Alternatively to launch the Profile Management Tool, navigate to <WBM\_HOME>\bin\ProfileManagement, double click `pmt.bat`

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- \_\_\_ 2. Select the **Profile Management Tool** button
- \_\_\_ 3. Click the **Create** button.



- \_\_\_ 4. Expand **IBM Business Monitor** and select **Monitor server custom profile**
- \_\_\_ 5. Click **Next**



**Profile Management Tool 7.0**

### Profile Creation Options

Choose the profile creation process that meets your needs. Select the Typical option to allow the Profile Management Tool to assign a set of default configuration values to the profile. Select the Advanced option to specify your own configuration values for the profile.

Typical profile creation  
Create a custom profile that uses default configuration settings. The Profile Management Tool assigns unique names to the profile, node, and host. The node will be federated to an existing deployment manager.

**Advanced profile creation**  
Create a custom profile using default configuration settings. You can specify the values for the location of the profile and names of the profile, node, and host. The node will be federated to an existing deployment manager.

\_\_\_ 6. Select **Advanced profile creation**

\_\_\_ 7. Click **Next**

**Profile Management Tool 7.0**

### Profile Name and Location

Specify a profile name and directory path to contain the files for the run-time environment, such as commands, configuration files, and log files. Click **Browse** to select a different directory.

Profile name:

Profile directory:

\_\_\_ 8. Specify the custom profile name and the location where the profile is created.

\_\_\_ 9. Click **Next**

**Profile Management Tool 7.0**

### Node and Host Names

Specify a node name and a host name for this profile.

Node name:

Host name:

\_\_\_ 10. Specify the node name and host name for this profile:

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**Best Practice:** Keep the node name short. After generating the deployment environment, the clusters and their member servers are named by appending to the Deployment Environment name and the node name. The clusters and their member server names can be lengthy if the node name is long.

---

11. Click **Next**

The screenshot shows the 'Federation' configuration window in the Profile Management Tool 7.0. The window title is 'Profile Management Tool 7.0'. The main heading is 'Federation'. Below the heading, there is a sub-heading 'Federation' and a small icon of a person with a checkmark. The main text reads: '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.' There are three input fields: 'Deployment manager host name or IP address:' with the value 'dgmr.austin.ibm.com', 'Deployment manager SOAP port number (Default 8879):' with the value '8879', and a section for 'Deployment manager authentication' which includes 'User name:' with the value 'admin' and 'Password:' with masked characters. At the bottom, there is a checkbox 'Federate this node later.' which is unchecked. Below the checkbox, there is a note: 'You must federate this node later using the **addNode** command if the deployment manager: - is not running - has the SOAP connector disabled'.

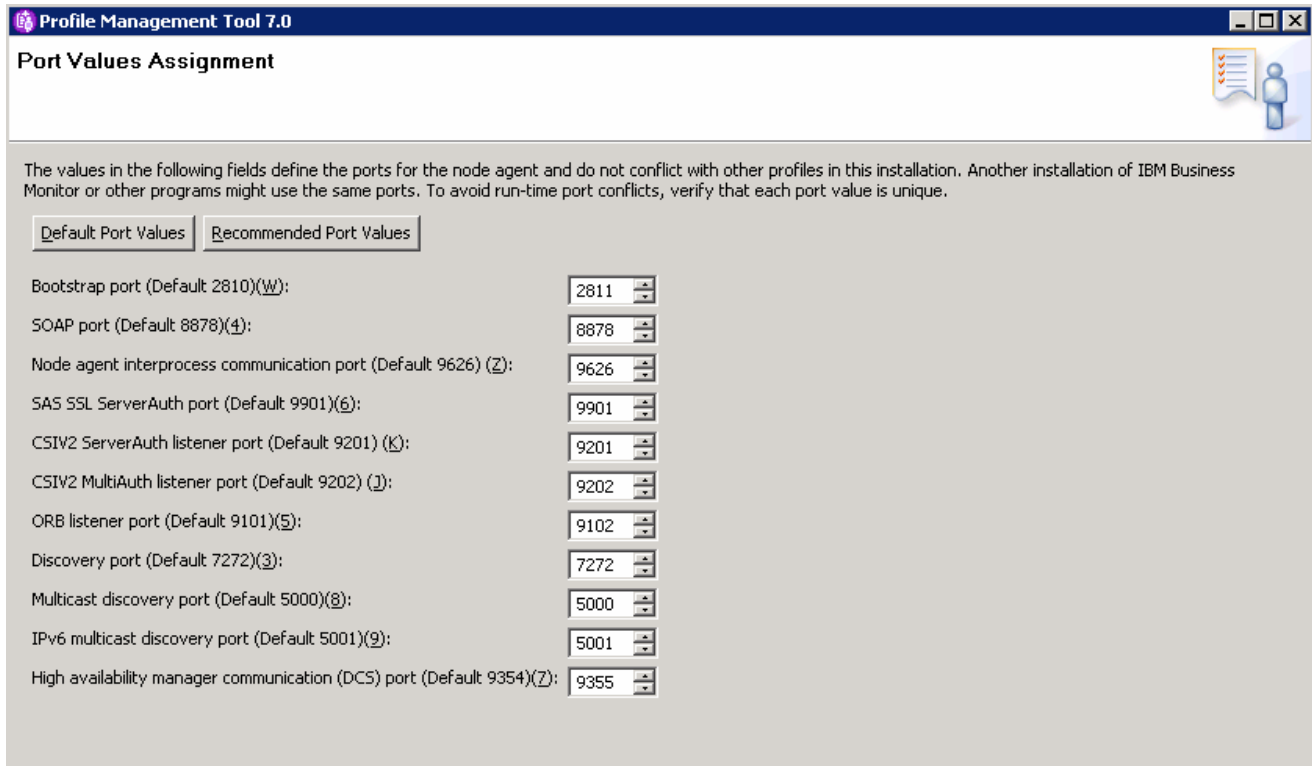
12. Provide the node federation information.

---

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

---

13. Click **Next**



**Profile Management Tool 7.0**

### Port Values Assignment

The values in the following fields define the ports for the node agent and do not conflict with other profiles in this installation. Another installation of IBM Business Monitor or other programs might use the same ports. To avoid run-time port conflicts, verify that each port value is unique.

Bootstrap port (Default 2810)(W):

SOAP port (Default 8878)(4):

Node agent interprocess communication port (Default 9626) (Z):

SAS SSL ServerAuth port (Default 9901)(6):

CSIV2 ServerAuth listener port (Default 9201) (K):

CSIV2 MultiAuth listener port (Default 9202) (J):

ORB listener port (Default 9101)(5):

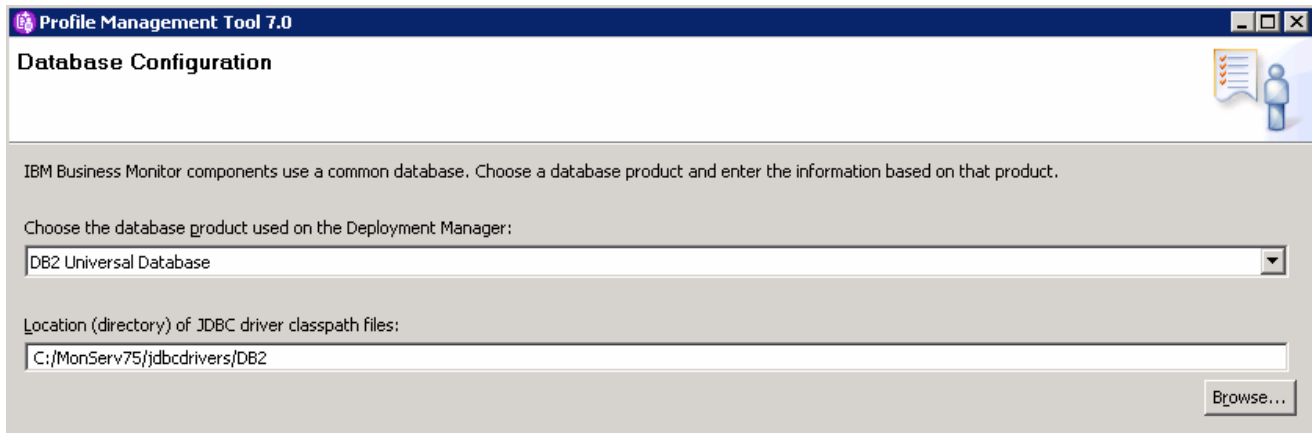
Discovery port (Default 7272)(3):

Multicast discovery port (Default 5000)(8):

IPv6 multicast discovery port (Default 5001)(9):

High availability manager communication (DCS) port (Default 9354)(Z):

- \_\_\_ 14. Review the ports assigned. You can change but ensure that the port numbers do not conflict with other services running on this machine
- \_\_\_ 15. Click **Next**.



**Profile Management Tool 7.0**

### Database Configuration

IBM Business Monitor components use a common database. Choose a database product and enter the information based on that product.

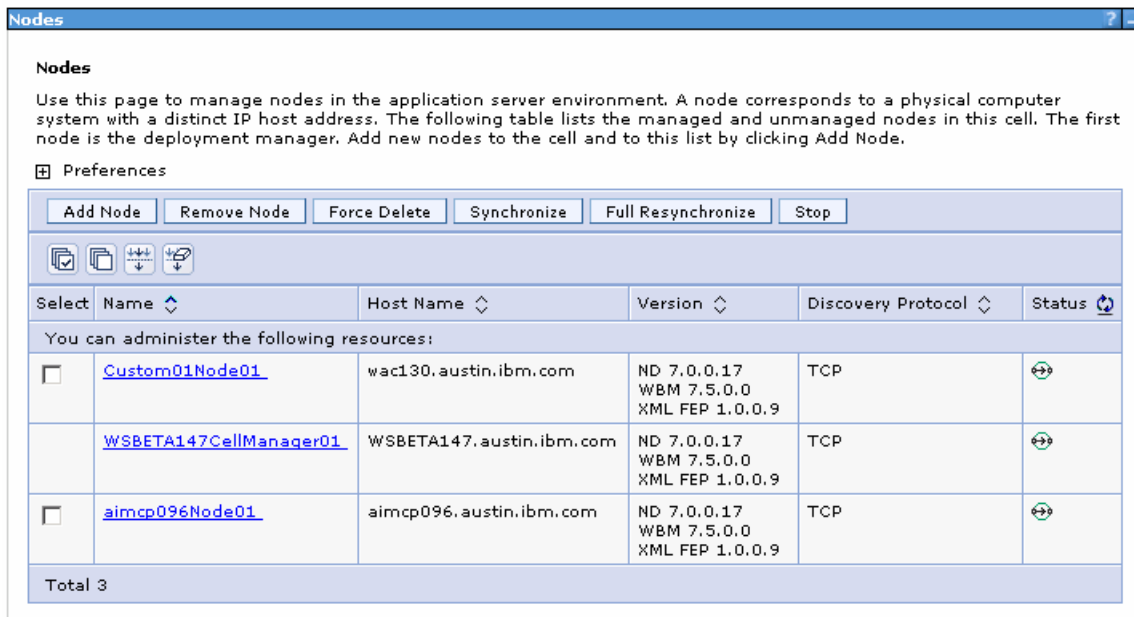
Choose the database product used on the Deployment Manager:

Location (directory) of JDBC driver classpath files:

- \_\_\_ 16. Specify the information for the IBM Business Monitor database.
- \_\_\_ 17. Click **Next**



- \_\_\_ 18. Verify the summary information.
- \_\_\_ 19. Click **Create**.
- \_\_\_ 20. Once the profile creation is complete, clear the check box for **Launch the First steps** console and click **Finish**
- \_\_\_ 21. Similarly create the remaining custom profile and name it as **Custom02** by repeating these instructions on the designated host machine.
- \_\_\_ 22. Login to the deployment manager administrative console. In the left navigation pane, expand **System Administration** and click the **Nodes** link. Ensure the nodes you added are listed and ensure the nodes you added display the correct versions (see the Version column).



## Alternative: Manually create IBM Business Monitor custom profile

IBM Business Monitor custom profile can be created manually using the `manageprofiles` command. The `manageprofiles` command comes in handy when creating profiles on 64-bit platforms where the Profile Management Tool is not supported.

### Prerequisites: -

- Before proceeding to the next step, ensure the deployment manager is installed and running
- Make a note of the fully qualified host name of the deployment manager host machine
- Make a note of the deployment manager SOAP port number
- Make a note of the primary user name and password of the deployment manager

---

**Note:** For more options, navigate to `<WBM_HOME>/bin` and run the command:

```
manageprofiles.bat -create -templatePath <WBM_HOME>/profileTemplates/wbmonitor/managed -help
```

---

\_\_\_\_ 1. The following are the options commonly used to create an IBM Business Monitor custom profile:

| Parameter                       | Value                                                            |
|---------------------------------|------------------------------------------------------------------|
| <code>-create</code>            | <i>N/A</i>                                                       |
| <code>-templatePath</code>      | <code>&lt;WBM_HOME&gt;/profileTemplates/wbmonitor/managed</code> |
| <code>-profileName</code>       | <code>Custom01</code>                                            |
| <code>-profilePath</code>       | <code>&lt;WBM_HOME&gt;/profiles/Custom01</code>                  |
| <code>-nodeName</code>          | Example: <code>Custom01Node01, Custom02Node02</code>             |
| <code>-hostName</code>          | Example: <code>custom01.austin.ibm.com</code>                    |
| <code>-dmgrHost</code>          | Example: <code>dmgr.austin.ibm.com</code>                        |
| <code>-dmgrPort</code>          | <code>8879 (default)</code>                                      |
| <code>-dmgrAdminUserName</code> | Example: <code>admin</code>                                      |
| <code>-dmgrAdminPassword</code> | Example: <code>superSecret</code>                                |
| <code>-federateLater</code>     | <code>false</code>                                               |

|                     |                                                                                                                                                                                                                                                           |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -wbmDBType          | <p>Use DB2_UNIVERSAL for connecting to DB2®.</p> <p>Use Oracle11g for connecting to either Oracle 10g or Oracle 11g.</p> <p>Use DB2UDBOS390 for connecting to DB2 for z/OS®.</p> <p>Use MSSQLSERVER_MICROSOFT for connecting to Microsoft SQL Server.</p> |
| -wbmDBJDBCClasspath | <WBM_HOME>\jdbcdrivers\DB2                                                                                                                                                                                                                                |

\_\_\_ 2. Run the manageprofiles script

- \_\_\_ a. Navigate to the <WBM\_HOME>/bin directory and run the manageprofiles script along with the options

Example:

```
manageprofiles.bat -create -templatePath <WBM_HOME>\profileTemplates\wbmonitor\managed
-profileName Custom01 -profilePath <WBM_HOME>\profiles\Custom01 -nodeName
Custom01Node01 -hostName custom01.austin.ibm.com -dmgrHost dmgr.austin.ibm.com -
dmgrPort 8879 -dmgrAdminUserName admin -dmgrAdminPassword superSecret -federateLater
false -wbmDBType DB2_Universal -wbmDBJDBCClasspath <WBM_HOME>\jdbcdrivers\DB2
```

\_\_\_ 3. Verify the installation

- \_\_\_ a. Navigate to <WBM\_HOME>/logs/manageprofiles and locate the <profile\_name>\_create.log file
- \_\_\_ b. You should see a string, **INSTCONFSUCCESS** written to the last line of the file. If so the installation is successful
- \_\_\_ c. If **INSTCONFPARTIALSUCCESS** or **INSTCONFFAILED** appear in the last line of the log file, problems encountered during the installation

\_\_\_ 4. Similarly create the remaining custom profile and name it as **Custom02** by repeating these instructions on the designated host machine.

\_\_\_ 5. Login to the deployment manager administrative console. In the left navigation pane, expand **System Administration** and click the **Nodes** link. Ensure the nodes you added are listed and display the correct versions (see the Version column).

## Part 4: Generate the Single Cluster Deployment Environment pattern

In this part of the exercise, you will use the administrative console to generate a single cluster deployment environment. A single cluster pattern defines one cluster for all the IBM Business Monitor components like the application deployment (monitor models), messaging infrastructure, Common Event Infrastructure and other support applications plus Business Space and other web components.

In this exercise, you will assign two member servers for the cluster.

### Pre-requisites:

- Ensure the Deployment Manager process is running
- Ensure all the node agents are running
  - In the left navigation pane of the deployment manager administrative console, expand **System administration** and then click **Node agents**
  - In the **Node agents** panel to the right, ensure that all the node agents display the start status (➔)

The screenshot shows the 'Node agents' administrative console. It includes a title bar, a description of node agents, a 'Preferences' section with buttons for 'Stop', 'Restart', and 'Restart all Servers on Node', and a table of resources. The table has columns for 'Select', 'Name', 'Node', 'Host Name', 'Version', and 'Status'. Two 'nodeagent' resources are listed, both with a green arrow status icon.

| Select                   | Name                      | Node           | Host Name               | Version                                       | Status |
|--------------------------|---------------------------|----------------|-------------------------|-----------------------------------------------|--------|
| <input type="checkbox"/> | <a href="#">nodeagent</a> | Custom01Node01 | wac130.austin.ibm.com   | ND 7.0.0.17<br>WBM 7.5.0.0<br>XML FEP 1.0.0.9 | ➔      |
| <input type="checkbox"/> | <a href="#">nodeagent</a> | aimcp096Node01 | aimcp096.austin.ibm.com | ND 7.0.0.17<br>WBM 7.5.0.0<br>XML FEP 1.0.0.9 | ➔      |

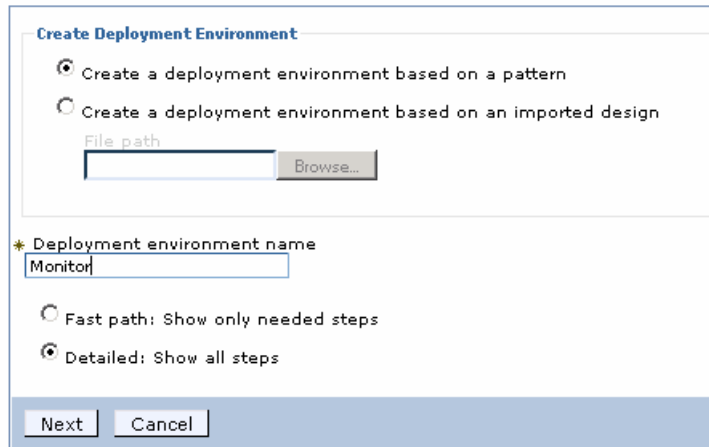
Total 2

Complete the instructions below to generate the deployment environment using the administrative console:

- \_\_\_ 1. Launch the deployment manager administrative console, enter the security credentials and then click **Log in**. The default URL is: `http://localhost:9060/admin`
- \_\_\_ 2. In the left navigation pane of the administrative console, expand **Servers** and click **Deployment Environments**

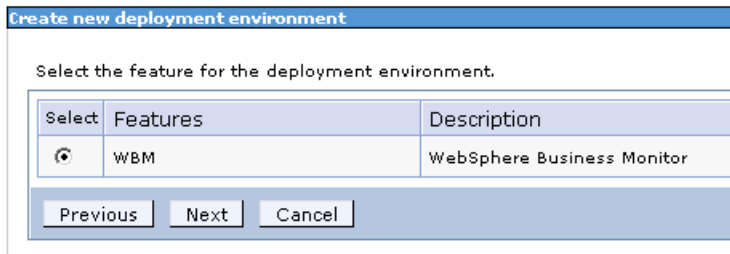


3. Click **New...** to launch the Deployment Environments wizard

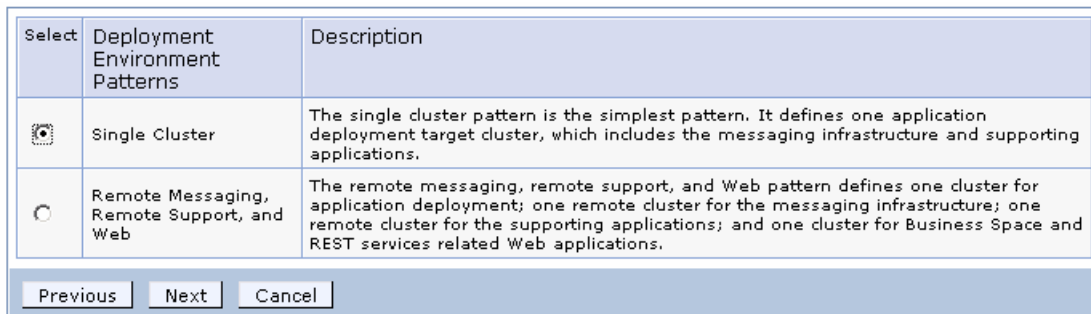


4. Select to create the deployment pattern based on a pattern. Give it a name such as 'Monitor'. Select the detailed option to show all steps.

5. Click **Next**



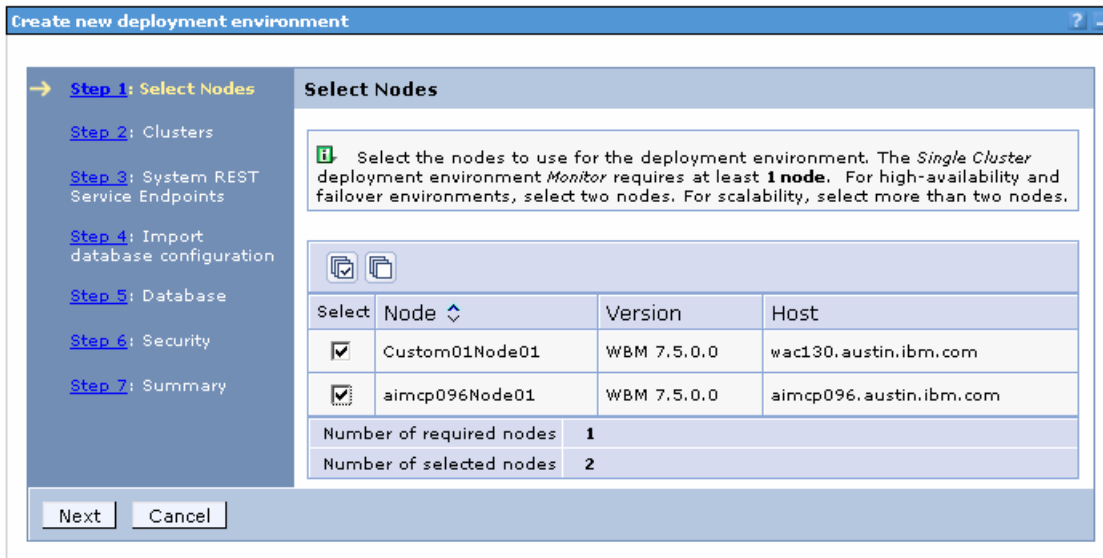
6. Select the radio button for the **wbm** feature, then click **Next**.



7. Select the radio button for the **Single Cluster** pattern.

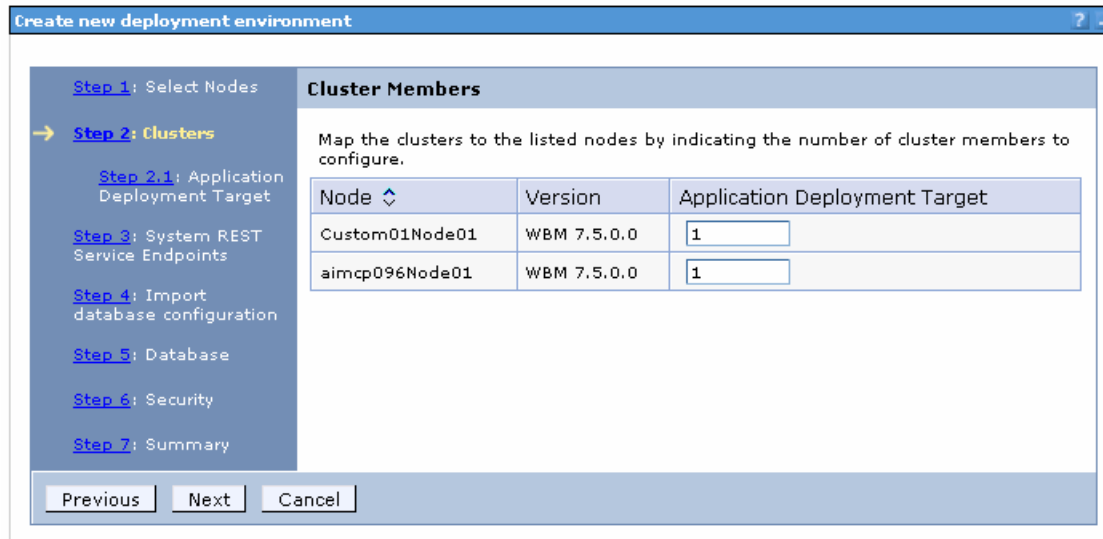


8. Click **Next**



9. Select the check boxes for all the nodes you want to use in this deployment environment. In this exercise, two nodes are used for the single cluster environment.

10. Click **Next**



11. Enter **1** to assign a member server to a cluster on a designated node and enter **0** to **not** assign a member server.

12. Click **Next**

**Create new deployment environment** ? -

[Step 1: Select Nodes](#)

[Step 2: Clusters](#)

→ [Step 2.1: Application Deployment Target](#)

[Step 3: System REST Service Endpoints](#)

[Step 4: Import database configuration](#)

[Step 5: Database](#)

[Step 6: Security](#)

[Step 7: Summary](#)

### Cluster Naming

Customize the name of a cluster and cluster member.

#### Cluster

Cluster  
Application Deployment Target

\* Cluster Name  
Monitor.AppTarget

#### Cluster Members

| Node Name      | Cluster Member Name           |
|----------------|-------------------------------|
| Custom01Node01 | Monitor.AppTarget.Custom01N   |
| aimcp096Node01 | Monitor.AppTarget.aimcp096N c |

Previous Next Cancel

\_\_\_ 13. Enter names for the cluster and cluster members.

\_\_\_ 14. Click **Next**.

**Create new deployment environment** ? -

[Step 1: Select Nodes](#)

[Step 2: Clusters](#)

→ [Step 3: System REST Service Endpoints](#)

[Step 4: Import database configuration](#)

[Step 5: Database](#)

[Step 6: Security](#)

[Step 7: Summary](#)

### System REST Service Endpoints

Use this page to configure service endpoints for Representational State Transfer (REST) system interfaces. If you want widgets to be available in Business Space, you must configure the REST service endpoints for those widgets. For each REST service endpoint, specify the host or virtual host and port that a client uses to communicate with your cluster. If you leave the host and port fields empty, the values default to those of a cluster member host and its HTTP port. For a load-balanced environment, you must later change the default values to the virtual host name and port of your environment.

#### REST services

Protocol:  
http://

Host name or virtual host in a load-balanced environment:  
\_\_\_\_\_

Port:  
\_\_\_\_\_

Context root:  
/rest

Previous Next Cancel

\_\_\_ 15. If you do not have the information for the http protocol, host name and port number for the REST service endpoints, accept the defaults. You can update the values after the environment configuration.

\_\_\_ 16. Click **Next**

**Create new deployment environment**

[Step 1: Select Nodes](#)  
[Step 2: Clusters](#)  
[Step 3: System REST Service Endpoints](#)  
**→ [Step 4: Import database configuration](#)**  
[Step 5: Database](#)  
[Step 6: Security](#)  
[Step 7: Summary](#)

**Import database configuration**

If you defined a database design document, enter the document name in the following field to import it into the new deployment environment. The database design document defines the database configuration for the selected deployment environment features. If you do not have a database design document, click **Next** to define the database parameters on the following page.

Import database configuration file for features:

17. Click **Next**

**Create new deployment environment**

[Step 1: Select Nodes](#)  
[Step 2: Clusters](#)  
[Step 3: System REST Service Endpoints](#)  
[Step 4: Import database configuration](#)  
**→ [Step 5: Database](#)**  
[Step 6: Security](#)  
[Step 7: Summary](#)

**Database**

Edit the database parameters for the data sources that are needed by this deployment environment.

| Select                   | Name                                          | Database Name | Schema  | Create Tables                       | User Name | Password | Server     | Provider      |
|--------------------------|-----------------------------------------------|---------------|---------|-------------------------------------|-----------|----------|------------|---------------|
| <input type="checkbox"/> | Business Monitor messaging engine data source | MON75SC       | MEDME00 | <input checked="" type="checkbox"/> | db2admin  | *****    | wsbeta147. | DB2 Universal |
| <input type="checkbox"/> | Business Space data source                    | BSP75SC       | BSPBS00 | <input type="checkbox"/>            | db2admin  | *****    | wsbeta147. | DB2 Universal |
| <input type="checkbox"/> | Cognos Content Store                          | COG75SC       |         | <input checked="" type="checkbox"/> | db2admin  | *****    | wsbeta147. | DB2 Universal |
| <input type="checkbox"/> | CEI Messaging Engine data source              | MED75SC       | MEDCM00 | <input checked="" type="checkbox"/> | db2admin  | *****    | wsbeta147. | DB2 Universal |

18. Enter the database information including user names, passwords and servers.

**Note:** If your database is on the same machine as the deployment manager, when specifying the server for each database, do not use 'localhost', instead use the actual server name.

To avoid creating database tables during the deployment environment configuration, clear all the check boxes for **Create Tables** for the data sources where applicable. You might have to do this if the user has insufficient privileges.

19. Click **Next**

**Create new deployment environment** ?

**Step 1:** Select Nodes  
**Step 2:** Clusters  
**Step 3:** System REST Service Endpoints  
**Step 4:** Import database configuration  
**Step 5:** Database  
**→ Step 6: Security**  
**Step 7:** Summary

**Security**

Edit the user names and passwords for the authentication aliases that are needed by this deployment environment.

| Name                                                         | User name                          | Password                               | Confirm Password                       |
|--------------------------------------------------------------|------------------------------------|----------------------------------------|----------------------------------------|
| Authentication alias for the CEI event service JMS resources | <input type="text" value="admin"/> | <input type="password" value="*****"/> | <input type="password" value="*****"/> |
| Cognos Administration access authentication                  | <input type="text" value="admin"/> | <input type="password" value="*****"/> | <input type="password" value="*****"/> |

Previous Next Cancel

\_\_\_ 20. Ensure the administrative security credentials are set.

\_\_\_ 21. Click **Next**

**Create new deployment environment**

[Step 1: Select Nodes](#)  
[Step 2: Clusters](#)  
[Step 3: System REST Service Endpoints](#)  
[Step 4: Import database configuration](#)  
[Step 5: Database](#)  
[Step 6: Security](#)  
→ [Step 7: Summary](#)

**Summary**

This summary shows an overview of your new deployment environment. To save the deployment environment definition, click on "Finish". To save the definition and generate the deployment environment, click on "Finish and Generate Environment".

**Overview**

| Parameter                      | Value          |
|--------------------------------|----------------|
| Deployment Environment Pattern | Single Cluster |
| Deployment environment name    | Monitor        |
| Features                       | WBM            |
| Deployment Environment Status  | Not configured |

**Deployment Targets**

| Cluster                       | Nodes                            |
|-------------------------------|----------------------------------|
| Application Deployment Target | Custom01Node01<br>aimcp096Node01 |

**Data Sources**

| Name                                          | Database Name | Schema  | Database Provider | Database Host            |
|-----------------------------------------------|---------------|---------|-------------------|--------------------------|
| Cognos Content Store                          | COG75SC       |         | DB2_UNIVERSAL     | wsbeta147.austin.ibm.com |
| Business Space data source                    | BSP75SC       | BSPBS00 | DB2_UNIVERSAL     | wsbeta147.austin.ibm.com |
| CEI Messaging Engine data source              | MED75SC       | MEDCM00 | DB2_UNIVERSAL     | wsbeta147.austin.ibm.com |
| Business Monitor messaging engine data source | MON75SC       | MEDME00 | DB2_UNIVERSAL     | wsbeta147.austin.ibm.com |

**Security**

| Name                                                         | Authentication                        | User Name |
|--------------------------------------------------------------|---------------------------------------|-----------|
| Authentication alias for the CEI event service JMS resources | CommonEventInfrastructureJMSAuthAlias | admin     |
| Cognos Administration access authentication                  | Cognos_Admin_Alias                    | admin     |

Previous Finish Finish and Generate Environment Cancel

- \_\_\_ 22. Verify the deployment environment configuration summary.
- \_\_\_ 23. Click **Finish and Generate Environment** to generate the IBM Business Monitor deployment environment. To generate it later, just click **Finish**. Later you can generate it in the administrative console by navigating to **Servers > Deployment Environments > select your environment > Generate Environment**.

## Configuration Status

```

2011-07-12 14:23:01 Beginning configuration ...
2011-07-12 14:23:01 CWLDB9015I: Deployment environment Monitor is being generated.
2011-07-12 14:23:01 CWLDB9009I: Creating cluster Monitor.AppTarget.
2011-07-12 14:23:03 CWLDB9010I: Creating cluster member Monitor.AppTarget.Custom01Node01.0 on node Custom01Node01 for cluster Monitor.AppTarget.
2011-07-12 14:23:45 CWLDB9010I: Creating cluster member Monitor.AppTarget.aimcp096Node01.0 on node aimcp096Node01 for cluster Monitor.AppTarget.
2011-07-12 14:23:58 CWLDB9013I: Configuring component WBI_CEI on deployment target Monitor.AppTarget.
2011-07-12 14:24:10 CWLDB9022I: Creating authentication alias CEIME_Monitor.AppTarget_Auth_Alias for component WBI_CEI.
2011-07-12 14:24:10 CWLDB9022I: Creating authentication alias CEIME_Monitor.AppTarget_Auth_Alias_XAR for component WBI_CEI.
2011-07-12 14:24:17 CWLDB9021I: Datasource CEI ME data source is configured at scope Cluster=Monitor.AppTarget
2011-07-12 14:24:17 CWLDB9022I: Creating authentication alias CEIME_Monitor.AppTarget_Auth_Alias for component WBI_CEI.
2011-07-12 14:24:33 CWLDB9013I: Configuring component WBM_EventEmitterFactory on deployment target Monitor.AppTarget.
2011-07-12 14:24:34 CWLDB9013I: Configuring component WBM_MessagingEngine on deployment target Monitor.AppTarget.
2011-07-12 14:24:34 CWLDB9022I: Creating authentication alias MonitorME_Monitor.AppTarget_Auth_Alias for component WBM_MessagingEngine.
2011-07-12 14:24:35 CWLDB9022I: Creating authentication alias MonitorME_Monitor.AppTarget_Auth_Alias_XAR for component WBM_MessagingEngine.
2011-07-12 14:24:39 CWLDB9021I: Datasource Monitor ME data source is configured at scope Cluster=Monitor.AppTarget
2011-07-12 14:24:39 CWLDB9022I: Creating authentication alias MonitorME_Monitor.AppTarget_Auth_Alias for component WBM_MessagingEngine.
2011-07-12 14:24:41 CWLDB9013I: Configuring component WBM_ActionServices on deployment target Monitor.AppTarget.
2011-07-12 14:24:43 CWLDB9013I: Configuring component WBI_RETSERVICES on deployment target Monitor.AppTarget.
2011-07-12 14:24:45 CWLDB9013I: Configuring component WBI_BSPACE on deployment target Monitor.AppTarget.
2011-07-12 14:26:39 CWLDB9022I: Creating authentication alias BSPACE_Auth_Alias for component WBI_BSPACE.
2011-07-12 14:26:39 CWLDB9022I: Creating authentication alias BSPACE_Auth_Alias_XAR for component WBI_BSPACE.
2011-07-12 14:26:44 CWLDB9021I: Datasource Business Space data source is configured at scope Cluster=Monitor.AppTarget
2011-07-12 14:26:47 CWLDB9013I: Configuring component WBM_COGNOS on deployment target Monitor.AppTarget.
2011-07-12 14:28:43 CWLDB9013I: Configuring component WBM_MobileDashboard on deployment target Monitor.AppTarget.
2011-07-12 14:28:44 CWLDB9013I: Configuring component WBM_ScheduledServices on deployment target Monitor.AppTarget.
2011-07-12 14:29:25 CWLDB9013I: Configuring component WBM_BPMEmitterService on deployment target Monitor.AppTarget.
2011-07-12 14:30:09 CWLDB9013I: Configuring component WBM_EventEmitterServices on deployment target Monitor.AppTarget.
2011-07-12 14:30:46 CWLDB9013I: Configuring component WBI_BSPACE on deployment target Monitor.AppTarget.
2011-07-12 14:30:47 CWLDB9051W: Deployment environment Monitor is successfully generated.
2011-07-12 14:30:47 The configuration has ended.

```

Show Changes

Save Changes

Discard Changes

Close

- \_\_\_ 24. Once the environment generation is complete, verify that the messages show that it was successful.
- \_\_\_ 25. Click **Save Changes**.
- \_\_\_ 26. Update console preferences to ensure that repository changes are synchronized with the nodes
- \_\_\_ a. In the left navigation pane, expand **System Administration** and click **Console preferences**
  - \_\_\_ b. Select **Synchronize changes with Nodes**
  - \_\_\_ c. Click **Apply**
- \_\_\_ 27. Save changes which will synchronize with the nodes.
- \_\_\_ a. In the left navigation pane, expand **System Administration** and click **Save changes to master repository**
  - \_\_\_ b. Click **save**. The next window shows the status of the synchronization. Check for any errors.
  - \_\_\_ c. Click **OK**.
- \_\_\_ 28. Restart the deployment manager
- \_\_\_ 29. Restart all the node agents

- \_\_\_ a. In the left navigation pane of the deployment manager administrative console, expand **System Administration** and then click **Node agents**. You should see two node agents listed. Select the check boxes for all the node agents and then click **Restart**.


















## Part 5: Verify and update the deployment environment configuration

In this part of the exercise, you will verify the functions, resources and applications configured during the deployment environment configuration.

### Pre-requisites:

- Ensure the DB2 server is running
- Restart the deployment manager
- Restart the node agents

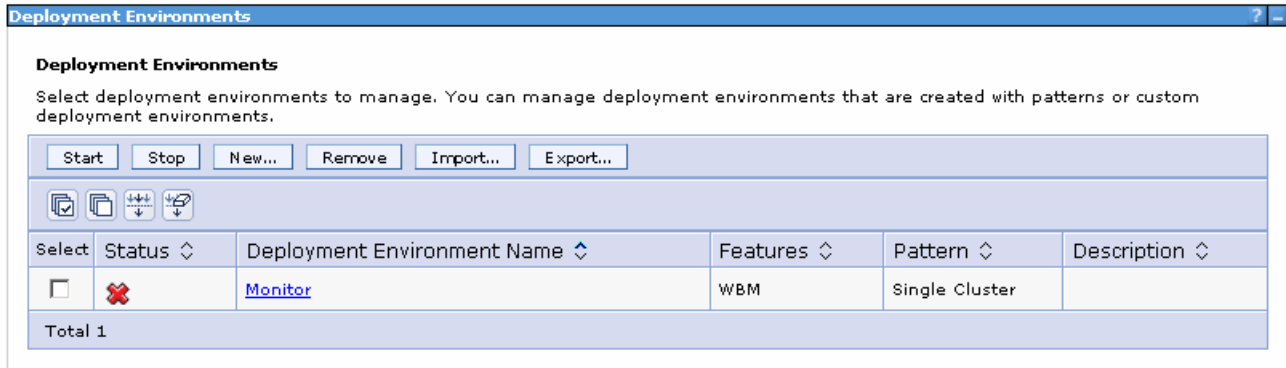
### Deployment Environment Status icons:

| Status icon                                                                         | Warning icon                                                                        | State                  | Description                                                                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|    | None                                                                                | Unknown                | The system cannot determine the current state of the deployment environment.                                                           |
|    |    | Incomplete             | The deployment environment is not missing any elements but is incomplete in some way. The warning message contains additional details. |
|    |    | Not configured         | The configuration is known and complete but has not yet been generated.                                                                |
|  |  | Deferred configuration | The deployment environment has been generated but deferred configuration has not been completed.                                       |
|  |  | Unavailable            | The deployment environment is complete but at least one function is unavailable.                                                       |
|  |  | Partially stopped      | The deployment environment is available but at least one function is stopped or partially stopped.                                     |
|  |  | Stopped                | All functions are stopped.                                                                                                             |
|  |  | Partially running      | The deployment environment is available but at least one function is partially running.                                                |
|  |  | Running                | The deployment environment is available and all functions are running.                                                                 |

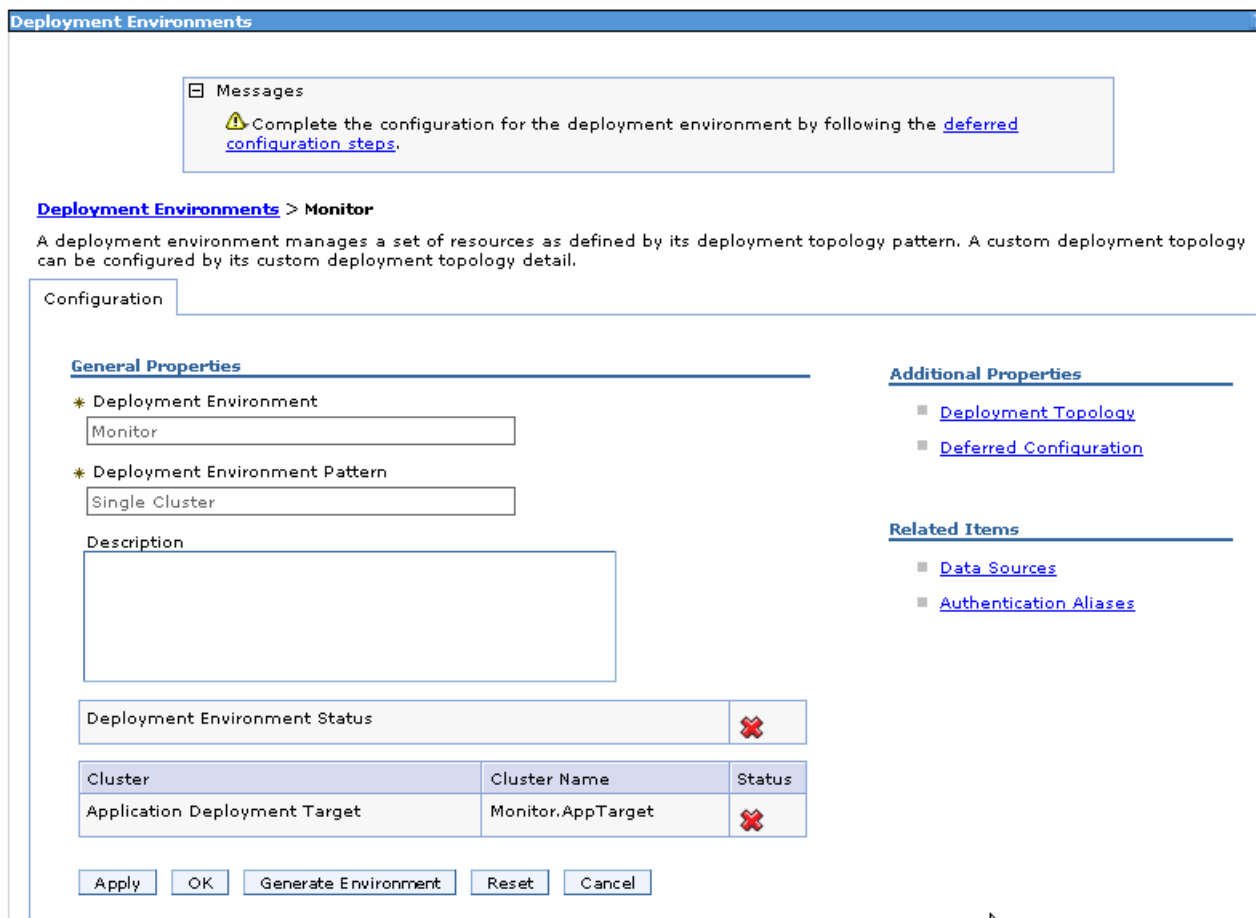
Complete the instructions below to verify the deployment environment configuration:

1. In the left navigation pane of the administrative console, expand **servers** and then click the **Deployment Environments** link. The status of the deployment environment should display either as **Stopped** (Red Icon) or **Started** (Green Icon)

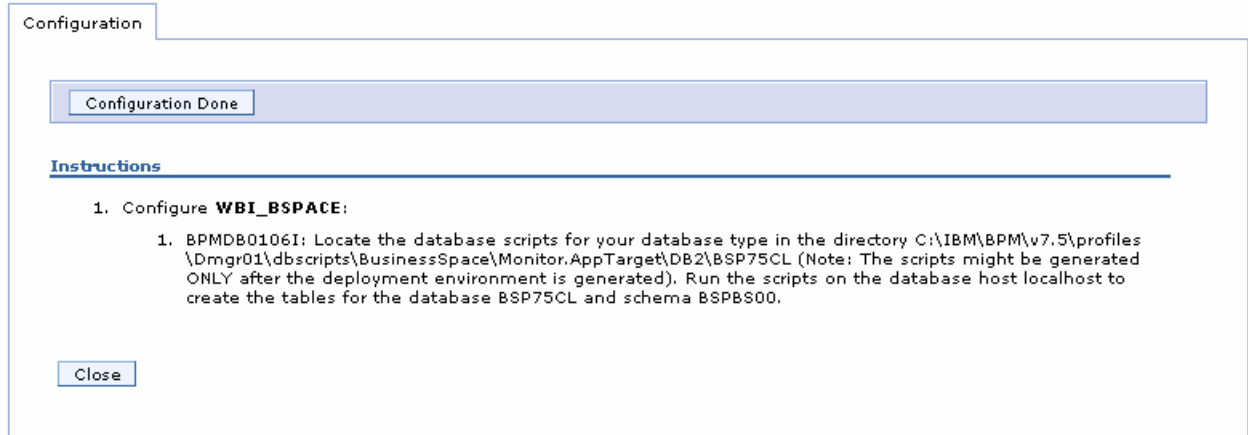




2. Click the name of the deployment environment to view the details.



3. You should see a cluster listed and a warning in the **Messages** box at the top, referring to a deferred configuration. Click the **Deferred Configuration** link under the **Additional Properties** section

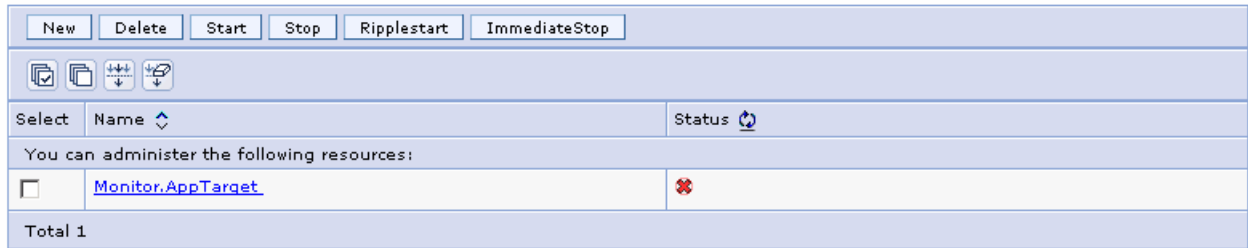


- \_\_\_ 4. Read the instructions. You need to run a Business Space database script, which is done later in this exercise. Click **Close**
- \_\_\_ 5. Click **cancel** on the Deployment Environments panel
- \_\_\_ 6. Now, verify that the cluster was created. In the left navigation pane of the administrative console, expand **Servers** → **Clusters** and then click **WebSphere application server clusters** link

**WebSphere application server clusters**

Use this page to change the configuration settings for a cluster. A server cluster consists of a group of application servers. If one of the member servers fails, requests will be routed to other members of the cluster. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

⊕ Preferences



- \_\_\_ 7. Now, verify the member servers. In the left navigation pane, expand **Servers** → **Server Types** and then click **WebSphere application servers** link. You should see two member servers listed as shown below:

**Application servers**

Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server.

☰ Preferences

| <input type="button" value="New"/> <input type="button" value="Delete"/> <input type="button" value="Templates..."/> <input type="button" value="Start"/> <input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="ImmediateStop"/> <input type="button" value="Terminate"/> |                                                    |                |                         |                                                        |                   |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------|-------------------------|--------------------------------------------------------|-------------------|--------|
|                                                                                                                                                                                                                                                                                                                            |                                                    |                |                         |                                                        |                   |        |
| Select                                                                                                                                                                                                                                                                                                                     | Name                                               | Node           | Host Name               | Version                                                | Cluster Name      | Status |
| You can administer the following resources:                                                                                                                                                                                                                                                                                |                                                    |                |                         |                                                        |                   |        |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                   | <a href="#">Monitor.AppTarget.Custom01Node01.0</a> | Custom01Node01 | wac130.austin.ibm.com   | ND<br>7.0.0.17<br>WBM<br>7.5.0.0<br>XML FEP<br>1.0.0.9 | Monitor.AppTarget | ✖      |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                   | <a href="#">Monitor.AppTarget.aimcp096Node01.0</a> | aimcp096Node01 | aimcp096.austin.ibm.com | ND<br>7.0.0.17<br>WBM<br>7.5.0.0<br>XML FEP<br>1.0.0.9 | Monitor.AppTarget | ✖      |
| Total 2                                                                                                                                                                                                                                                                                                                    |                                                    |                |                         |                                                        |                   |        |

- 8. Verify the Cluster Topology. In the left navigation pane, expand **Servers** → **Clusters** and then click the **Cluster Topology** link. This shows the cluster, node, member relationship.

**Cluster Topology**

Use this page to view a list of WebSphere application server clusters and proxy server clusters in a tree format.



- 9. Start the deployment environment.
  - a. In the left navigation pane, expand **Servers** and then click **Deployment Environments**
  - b. Select the check box for the deployment environment and then click **Start**
  - c. This action starts the cluster, but it may take some time.

**WebSphere application server clusters**

Use this page to change the configuration settings for a cluster. A server cluster consists of a group of application servers. If one of the member servers fails, requests will be routed to other members of the cluster. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

☰ Preferences

|                                                                                                                                                                                                                                           |                                   |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------|
| <input type="button" value="New"/> <input type="button" value="Delete"/> <input type="button" value="Start"/> <input type="button" value="Stop"/> <input type="button" value="Ripplestart"/> <input type="button" value="ImmediateStop"/> |                                   |          |
|                                                                                                                                                                                                                                           |                                   |          |
| Select                                                                                                                                                                                                                                    | Name ▾                            | Status ↻ |
| You can administer the following resources:                                                                                                                                                                                               |                                   |          |
| <input type="checkbox"/>                                                                                                                                                                                                                  | <a href="#">Monitor.AppTarget</a> | ➔        |
| Total 1                                                                                                                                                                                                                                   |                                   |          |

\_\_\_ d. Ensure all the member servers are successfully started (**Servers** → **Server Types** → **WebSphere application servers**).

**Application servers**

Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server.

☰ Preferences

|                                                                                                                                                                                                                                                                                                                            |                                                    |                |                         |                                                        |                   |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------|-------------------------|--------------------------------------------------------|-------------------|----------|
| <input type="button" value="New"/> <input type="button" value="Delete"/> <input type="button" value="Templates..."/> <input type="button" value="Start"/> <input type="button" value="Stop"/> <input type="button" value="Restart"/> <input type="button" value="ImmediateStop"/> <input type="button" value="Terminate"/> |                                                    |                |                         |                                                        |                   |          |
|                                                                                                                                                                                                                                                                                                                            |                                                    |                |                         |                                                        |                   |          |
| Select                                                                                                                                                                                                                                                                                                                     | Name ▾                                             | Node ▾         | Host Name ▾             | Version ▾                                              | Cluster Name ▾    | Status ↻ |
| You can administer the following resources:                                                                                                                                                                                                                                                                                |                                                    |                |                         |                                                        |                   |          |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                   | <a href="#">Monitor.AppTarget.Custom01Node01.0</a> | Custom01Node01 | wac130.austin.ibm.com   | ND<br>7.0.0.17<br>WBM<br>7.5.0.0<br>XML FEP<br>1.0.0.9 | Monitor.AppTarget | ➔        |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                   | <a href="#">Monitor.AppTarget.aimcp096Node01.0</a> | aimcp096Node01 | aimcp096.austin.ibm.com | ND<br>7.0.0.17<br>WBM<br>7.5.0.0<br>XML FEP<br>1.0.0.9 | Monitor.AppTarget | ➔        |
| Total 2                                                                                                                                                                                                                                                                                                                    |                                                    |                |                         |                                                        |                   |          |

**Verify the messaging engines configured on the cluster:**

- \_\_\_ 10. In the left navigation pane, expand **Servers** → **Clusters** and then click **WebSphere application server clusters**
- \_\_\_ 11. In the **WebSphere application server clusters** panel to the right, click **wbm.AppTarget**
- \_\_\_ 12. Select the **Configuration** tab, then click **Messaging Engines** under the **Cluster Messaging** section. You should see two messaging engines listed. Ensure they are running properly

| Select                                      | Name                                                    | Description | Status |
|---------------------------------------------|---------------------------------------------------------|-------------|--------|
| You can administer the following resources: |                                                         |             |        |
| <input type="checkbox"/>                    | <a href="#">wbm.AppTarget.000-CEI.wbmCell01.BUS</a>     |             |        |
| <input type="checkbox"/>                    | <a href="#">wbm.AppTarget.000-MONITOR.wbmCell01.Bus</a> |             |        |
| Total 2                                     |                                                         |             |        |

### Verify the Event Service and components configured on the cluster:

In this section, you will verify the common event infrastructure support and event emitter factories.

- \_\_\_ 13. In the left navigation pane, expand **Service Integration** → **Common Event Infrastructure** and then click **Event service**
- \_\_\_ 14. In the **Event service** panel, click the **Event services** link under the **Additional Properties** section
- \_\_\_ 15. In the next panel, click the **Default Common Event Infrastructure event server** link

| Name                                                             | Scope                 | Enable Event Distribution | Enable Event Data Store | Event Data Store EJB JNDI Name   |
|------------------------------------------------------------------|-----------------------|---------------------------|-------------------------|----------------------------------|
| You can administer the following resources:                      |                       |                           |                         |                                  |
| <a href="#">Default Common Event Infrastructure event server</a> | Cluster=wbm.AppTarget | true                      | false                   | ejb/com/ibm/events/datastore/imp |
| Total 1                                                          |                       |                           |                         |                                  |

- \_\_\_ 16. In the next panel, verify the configuration

**General Properties**

\* Scope

\* Name

\* JNDI name

Description

Category

Enable event distribution  
 Enable event data store

Event data store EJB JNDI name

**Additional Properties**

- [Event groups](#)
- [Event data store](#)
- [Custom properties](#)

\_\_\_ 17. Click the **Event groups** link to verify the event groups created.

| Select                                      | Event Group Name                              | Event Selector String                                                 | Topic JNDI Name                     | Topic Connection Factory JNDI Name                   |
|---------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|------------------------------------------------------|
| You can administer the following resources: |                                               |                                                                       |                                     |                                                      |
| <input type="checkbox"/>                    | <a href="#">Action Services Group Profile</a> | CommonBaseEvent[extendedDataElements/@name = 'BusinessSituationName'] |                                     |                                                      |
| <input type="checkbox"/>                    | <a href="#">All events</a>                    | CommonBaseEvent[@globalInstanceId]                                    | jms/cei/notification/AllEventsTopic | jms/cei/notification/AllEventsTopicConnectionFactory |

\_\_\_ 18. In the left navigation pane, expand **Service Integration** → **Common Event Infrastructure** and then click **Event emitter factories**

\_\_\_ 19. In the next panel, verify all the event emitter factory configurations listed.

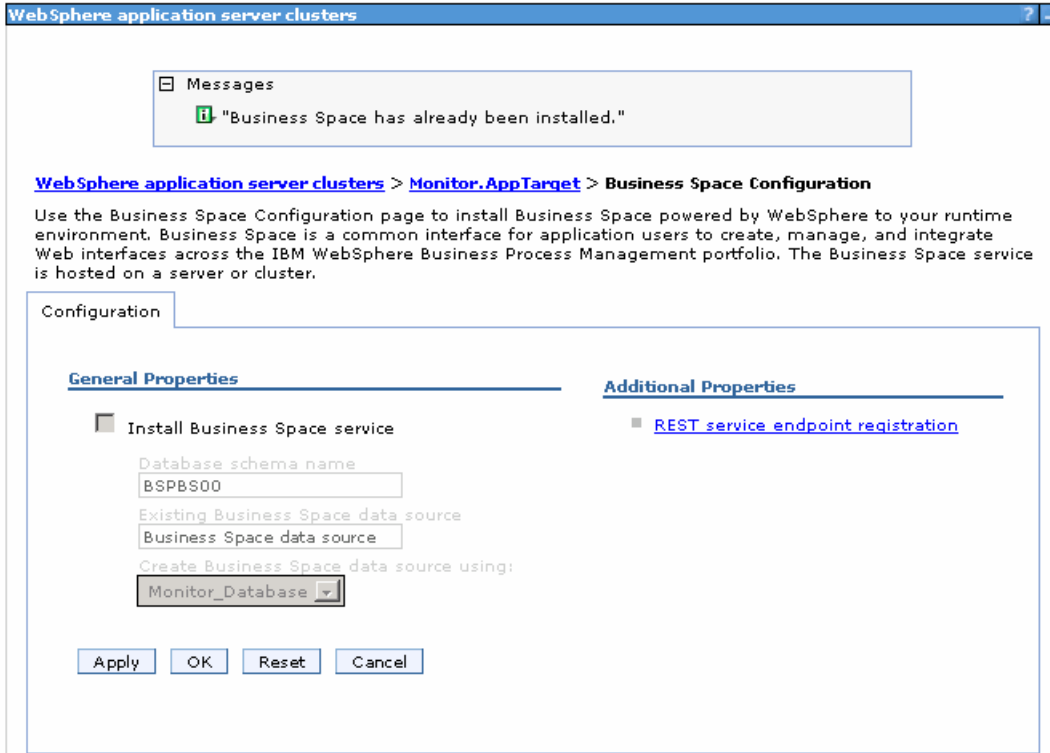
| Select                                      | Name                                                        | Scope                     | JNDI name                                    |
|---------------------------------------------|-------------------------------------------------------------|---------------------------|----------------------------------------------|
| You can administer the following resources: |                                                             |                           |                                              |
| <input type="checkbox"/>                    | <a href="#">Default Common Event Infrastructure emitter</a> | Cluster=Monitor.AppTarget | com/ibm/events/configuration/emitter/Default |
| <input type="checkbox"/>                    | <a href="#">EmitterFactory</a>                              | Cluster=Monitor.AppTarget | com/ibm/monitor/EmitterFactory               |
| <input type="checkbox"/>                    | <a href="#">EmitterFactoryForREST</a>                       | Cluster=Monitor.AppTarget | com/ibm/monitor/EmitterFactoryForREST        |
| <input type="checkbox"/>                    | <a href="#">LombardiEventEmitterFactory</a>                 | Cluster=Monitor.AppTarget | cei/com.ibm.lombardi/EmitterFactory          |
| <input type="checkbox"/>                    | <a href="#">MonitorEmitterFactory</a>                       | Cell=WSBETA147Cell01      | com/ibm/monitor/MonitorEmitterFactory        |

**Verify the Business Space and REST services configured on the cluster:**

\_\_\_ 20. In the left navigation pane, expand **Servers** → **Clusters** and then click **WebSphere application server clusters**

\_\_\_ 21. In the **WebSphere application server clusters** panel, click your target cluster

- \_\_\_ 22. Ensure the **Configuration** tab is selected, then click **Business Space Configuration** under the **Business Integration** section
  - \_\_\_ a. At the top of this panel, you should see a message that indicates business space has already been installed.



- \_\_\_ 23. Click **Cancel**
- \_\_\_ 24. On the cluster target window, ensure the configuration tab is selected, then click **REST Services** under the **Business Integration** section
  - \_\_\_ a. Verify the REST service endpoint configuration.

---

**Note:** If you did not provide the protocol, host name and the http port for the REST services configuration values during the deployment environment generation, the end points are configured to a default cluster member. Provide the correct information once you have it handy and save to the master configuration.

---

**REST services**

Protocol:

\* Host name or virtual host in a load-balanced environment:

\* Port:

Context root:

| Enabled                             | Type                                            | Description                                              | URL                                                             |
|-------------------------------------|-------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Time Tables(6.2.0.0)                            | WBI Business Calendar REST API                           | https://wac130.austin.ibm.com:9445/rest/bpm/businesscalendar    |
| <input checked="" type="checkbox"/> | Business Rules(6.1.2.0)                         | WBI Business Rule REST API                               | System internal                                                 |
| <input checked="" type="checkbox"/> | Direct Deploy(6.2.0.0)                          | Internal REST service for directly deploying SCA modules | System internal                                                 |
| <input checked="" type="checkbox"/> | Process services(7.5.0.0)                       | Federated BPM REST Services for Processes                | https://wac130.austin.ibm.com:9445/rest/bpm/federated/bfm       |
| <input checked="" type="checkbox"/> | Task services(7.5.0.0)                          | Federated BPM REST Services for Tasks                    | https://wac130.austin.ibm.com:9445/rest/bpm/federated/htm       |
| <input checked="" type="checkbox"/> | Monitor(7.0.0)                                  | IBM Business Monitor REST services                       | https://wac130.austin.ibm.com:9445/rest/bpm/monitor             |
| <input checked="" type="checkbox"/> | Service Monitor REST(6.2.0.0)                   | SCA Service Monitor REST                                 | System internal                                                 |
| <input checked="" type="checkbox"/> | Gateway REST API(7.0.0.0)                       | Gateway REST API                                         | System internal                                                 |
| <input checked="" type="checkbox"/> | Registry and Mediation Policy REST API(6.2.0.0) | Registry and Mediation Policy REST API                   | System internal                                                 |
| <input checked="" type="checkbox"/> | SCA Qualifier(7.0.0.0)                          | WBI Store and Forward REST API                           | https://wac130.austin.ibm.com:9445/rest/bpm/qos/storeandforward |
| <input checked="" type="checkbox"/> | User Membership(6.2.0.0)                        | User Membership REST API                                 | https://wac130.austin.ibm.com:9445/rest/ws/um                   |
| <input checked="" type="checkbox"/> | Security(6.2.0.0)                               | WBI Security REST API                                    | System internal                                                 |
| <input checked="" type="checkbox"/> | Visual Step REST(7.0.0)                         | Visual Step REST                                         | System internal                                                 |

\_\_\_\_ 25. Click **Cancel**

**Verify the IBM Business Monitor components:**

\_\_\_\_ 26. In the left navigation pane, expand **servers** and then click **IBM Business Monitor configuration**

\_\_\_\_ 27. Verify that each component shows successful deployment. Click a component link to verify the specific configuration of that component.



### Configure IBM Business Monitor

To view the details of a component or to modify a configuration, click the component name.

#### Required components:

All components must display a green check mark for your IBM Business Monitor environment to work properly.

|                                     | Component                                  | Status                                                  |
|-------------------------------------|--------------------------------------------|---------------------------------------------------------|
| <input checked="" type="checkbox"/> | <a href="#">Outbound CEI event service</a> | Configured using the event service on Monitor.AppTarget |
| <input checked="" type="checkbox"/> | <a href="#">Messaging engine</a>           | Deployed on Monitor.AppTarget                           |
| <input checked="" type="checkbox"/> | <a href="#">Action services</a>            |                                                         |
| <input checked="" type="checkbox"/> | <a href="#">Monitor scheduled services</a> | Deployed on Monitor.AppTarget                           |

#### Optional components:

To configure an optional component, click the component name. Components that are already configured display a green check mark.

|                                     | Component                                                     | Status                        |
|-------------------------------------|---------------------------------------------------------------|-------------------------------|
| <input checked="" type="checkbox"/> | <a href="#">Cognos</a>                                        |                               |
| <input checked="" type="checkbox"/> | <a href="#">Dashboards for mobile devices</a>                 |                               |
| <input checked="" type="checkbox"/> | <a href="#">Inbound event emitter services (JMS and REST)</a> | Deployed on Monitor.AppTarget |

#### Shared components:

Components that are already configured display a green check mark. Removing these components might affect other products.

|                                     | Component                             | Status                        |
|-------------------------------------|---------------------------------------|-------------------------------|
| <input checked="" type="checkbox"/> | <a href="#">REST Services Gateway</a> | Deployed on Monitor.AppTarget |
| <input checked="" type="checkbox"/> | <a href="#">Business Space</a>        | Deployed on Monitor.AppTarget |

## Part 6: Create Business Space database tables

In this part of the exercise, you will create the business space database tables using the generated scripts.

- \_\_\_ 1. The Business Space database scripts are generated to the location mentioned below, on the deployment manager machine:

```
<DMGR_PROFILE_HOME>\dbscripts\BusinessSpace\<cluster_name>\DB2\<database_name>
```

- \_\_\_ 2. Open the DB2 command window from **Start → Programs → IBM DB2 → <DB2 instance> → Command Line Tools → Command Window** and change the directory to the location of the scripts

- \_\_\_ a. Edit this script and modify it to suit your environment. Run the script to create the Business Space tables on the specified database:

- `configBusinessSpaceDB.bat createDB`

- \_\_\_ b. It will prompt you for the database administrator user and password.

- \_\_\_ c. Ensure the Business Space tables are created successfully.

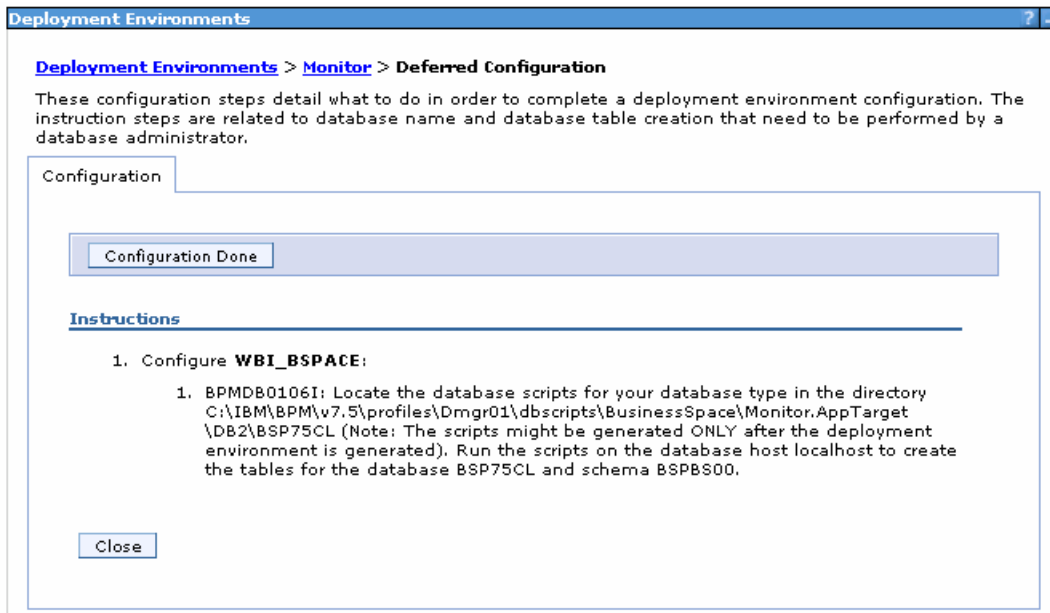
- \_\_\_ 3. Close the DB2 command window

- \_\_\_ 4. Mark the deferred configuration complete

- \_\_\_ a. In the left navigation pane of the administrative console, expand **Servers** and then click **Deployment Environments**

- \_\_\_ b. In the list, click your deployment environment name.

- \_\_\_ c. In the next panel, click **Deferred Configuration** under the **Additional Properties** section



- \_\_\_ d. Click **Configuration Done**. You should see a message indicating that the configuration is complete.
- \_\_\_ e. Save the changes to the master configuration.
- \_\_\_ f. You should see a message stating that the configuration is complete.
- \_\_\_ g. Click **Close**

\_\_\_ 5. Launch Business Space to verify that it is working, and login to Business Space

**URL:** <http://<hostname:port>/BusinessSpace>

**Example:** <http://bspace.austin.ibm.com:9080/BusinessSpace>

---

**Note 1:** Use the host name and port of a member server of that cluster. In this exercise, you can specify either of the two member servers that were configured.

**Note 2:** If you had turned on security during the profile creation, the Business Space security credentials are the same as credentials used to configure IBM Business Monitor security.

---

## Task 1: Manually create IBM Business Monitor database and tables

In this part of the exercise, you will create the IBM Business Monitor database and tables.

### Pre-requisites:-

- Install and configure the IBM Business Monitor supported database product on a designated host machine. In this exercise, 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 IBM Business Monitor Common database scripts to a temporary location of your database product host machine. The database scripts are generated to the location mentioned below:

`<DMGR_PROFILE_HOME>\dbscripts\Monitor\DB2`

Complete the instructions below to create the database:

- \_\_\_\_ 1. Open the DB2 command window from **Start → Programs → IBM DB2 → <DB2\_instance> → Command Line Tools → Command Window** and change the directory to the temporary directory where the scripts are copied
- \_\_\_\_ 2. There are separate scripts to create the database and tables. Here are examples of commands to create them:
  - `db2 -tf createDatabase.sql`
  - `db2 -tf createTables.sql` (**Note:** Connect to the database before running this script)
- \_\_\_\_ 3. Close the DB2 command window.