Part VI WebSphere Business Monitor

Chapter 16 WebSphere Business Monitor Cluster installation and configuration

16.1 WebSphere Business Monitor Cluster installation and configuration primer

On a high level, the following steps are necessary to create a clustered WebSphere Business Monitor (WBM) environment by making use of a clustered WebSphere Business Process Server (WBM) environment. Those steps are described in detail in the following chapters(A checklist can be found in Appendix):

- Product installation
  - Installation of the WBM binaries (including available fix packs and all iFixes (for WAS ND 6.1 and WPS 6.2.0)
- Installation of the database system and database creation
  - Augment WPS server deployment manager profile with WBM capabilities
  - Create the WBM tablespaces. users and schema objects
  - Create WBM custom profiles
  - Federate the WBM custom nodes
- Cluster configuration
  - Configure monitor messaging on the MECluster
  - Configure the monitor emitter factory on the SupportCluster
  - Create the Monitor Support Cluster (MonSupportCluster)
  - Configure the action services application and the monitor data services scheduler application on the MonSupportCluster
  - Create the Monitor Application Cluster (MonApplicationCluster)
  - Create the Web Dashboard Cluster (WebDashboardCluster)
  - Configure the WBM REST services on the WebDashboardCluster
  - Configure Business Space on the WebDashboardCluster
  - Configure Business Space endpoint XML files
  - Install and configure Alphablox on the WebDashboardCluster
- Optional: Install and configure the IBM HTTP Server

16.2 Installing WebSphere Business Monitor binaries

Note: The steps shown here have to be executed on each node that is supposed to contain WBM functionality; In this case this are the machines W6201L3M, W6201LN3 and W6201LN4. Make sure to execute this step as user root.

If you are installing from the product DVD, mount the DVD and change to the mount_point directory.

If you are installing from a downloaded image from Passport Advantage extract the image and change to the extract directory. There are two options on how to install the WBM binaries:

1. graphical wizard
2. silent mode

Note: Installing the WBM binaries in silent mode is not described within this document

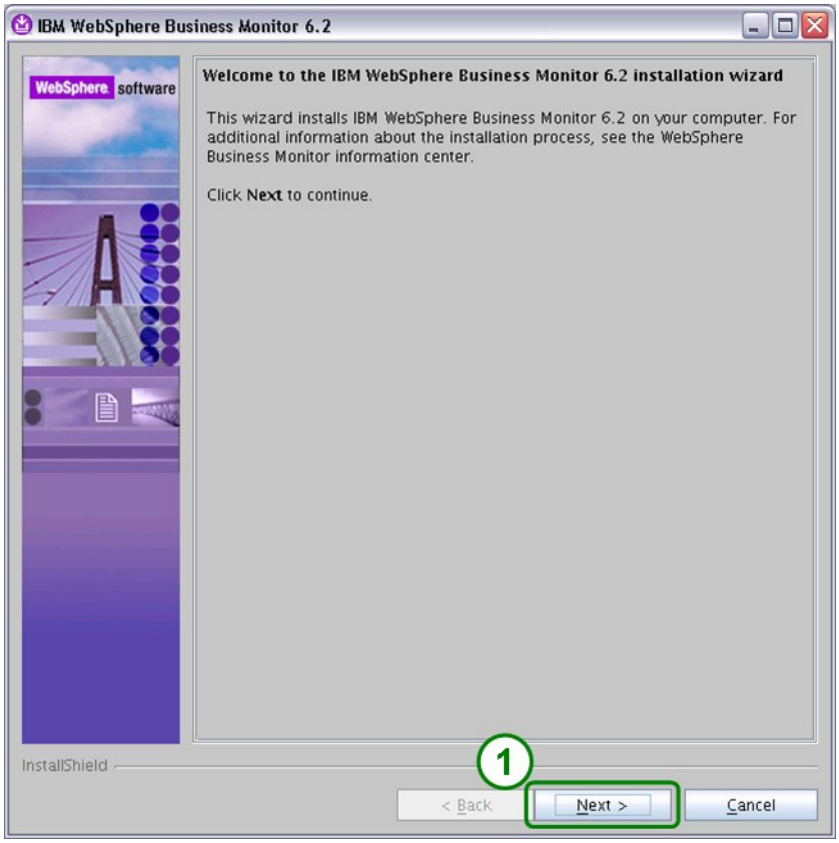
Note: Before starting the installation of the WBM binaries and the deployment manager augmentation shut down all clusters, the node agents and the deployment manager.

To start the installation with graphical wizard , enter the following (if you are not locally working on the machine, make sure X11 tunneling is activated and a X server is running on your system).

```
cd /<WBM62_EXTRACT_ROOT>/WBM
./install
```

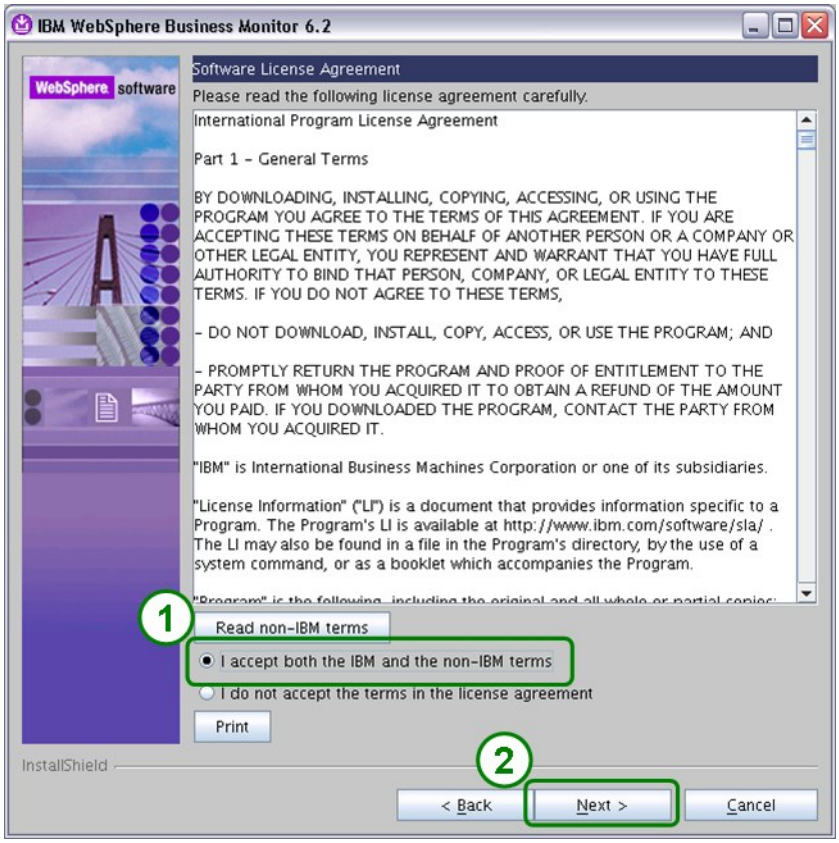
Now the graphical wizard starts

The "WebSphere Business Monitor 6.2 Welcome" panel is displayed:



1. Press **Next**.

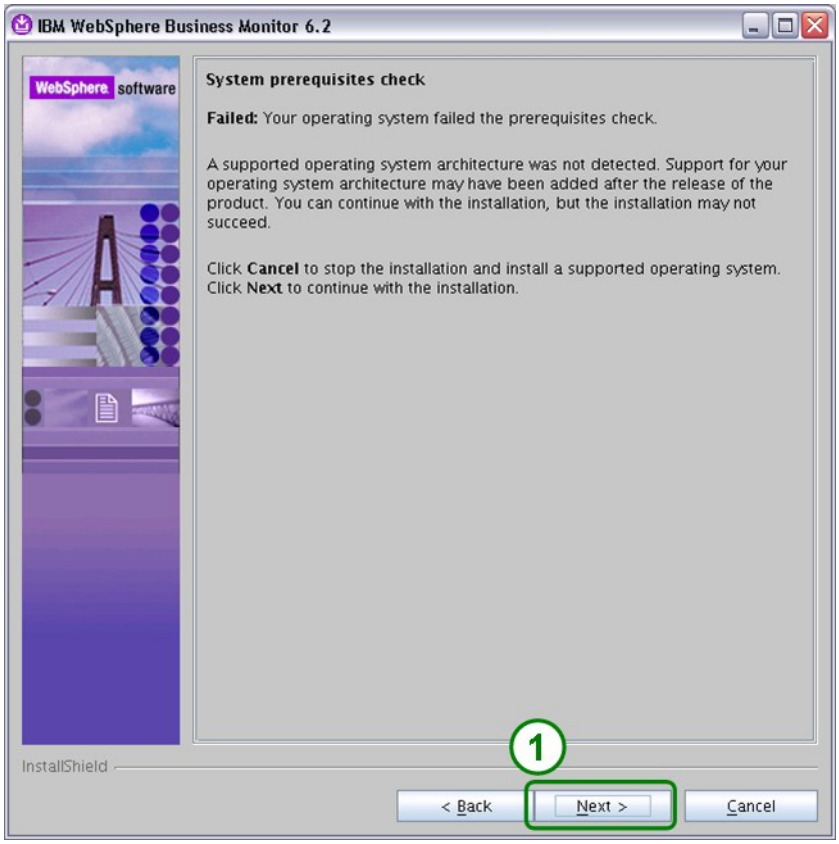
The "Software License Agreement" panel is displayed:



1. Select "I accept both the IBM and the non-IBM terms" to accept the license agreement.

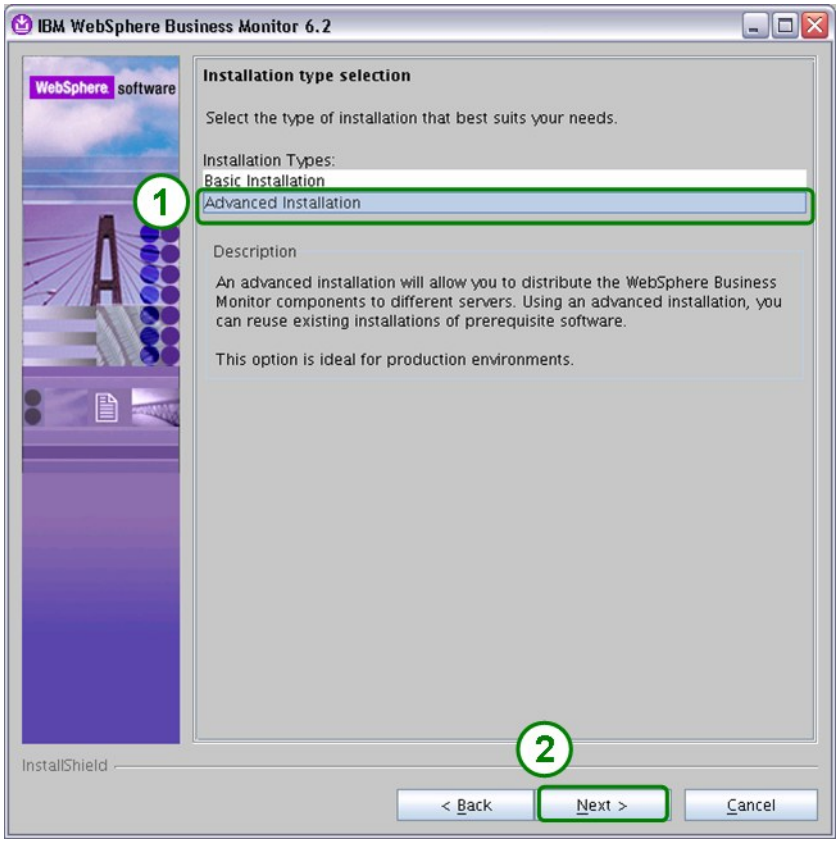
2. Press Next.

The Systen prerequisites check is displayed. **Ignore the message that the operating system failed the prerequisites check failed**.



1. Press Next.

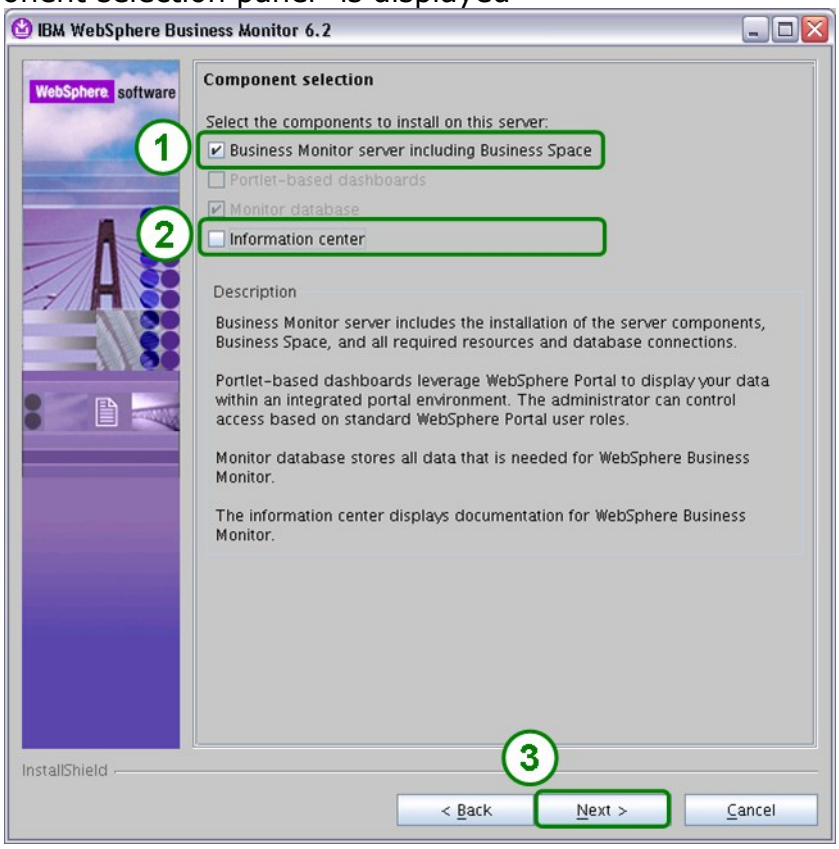
The "Installation Type Selection" panel is displayed:



1. Select "Advanced Installation" in the Installation Types selection box

2. Press Next.

The "Component selection panel" is displayed

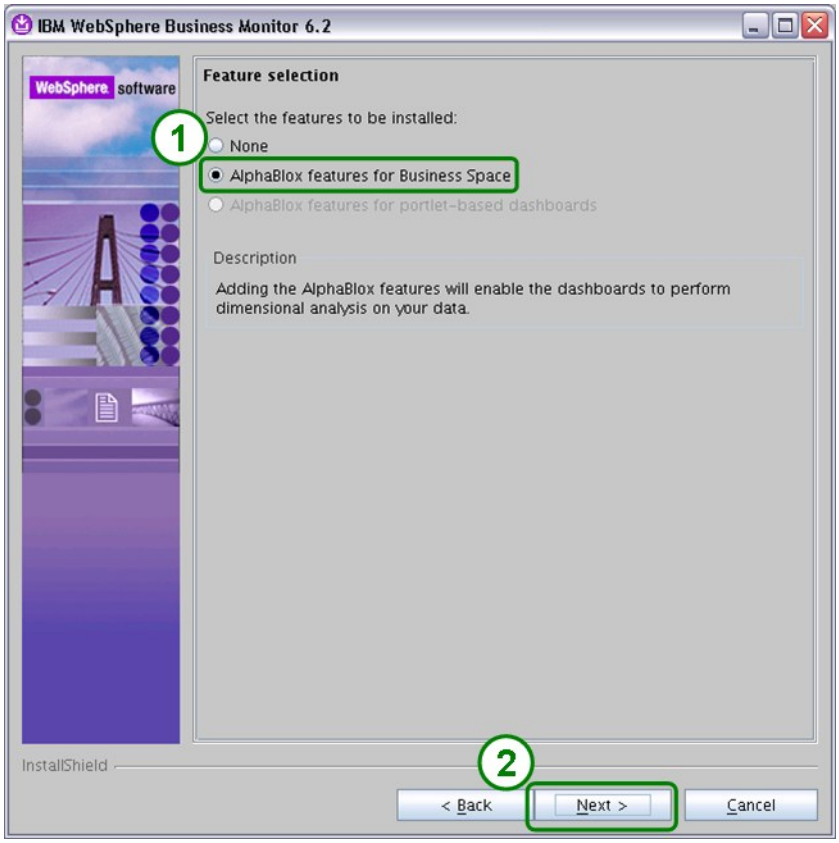


1. Select "Business Monitor server including Business Space"

2. Un-Select "Information center"

3. Press Next.

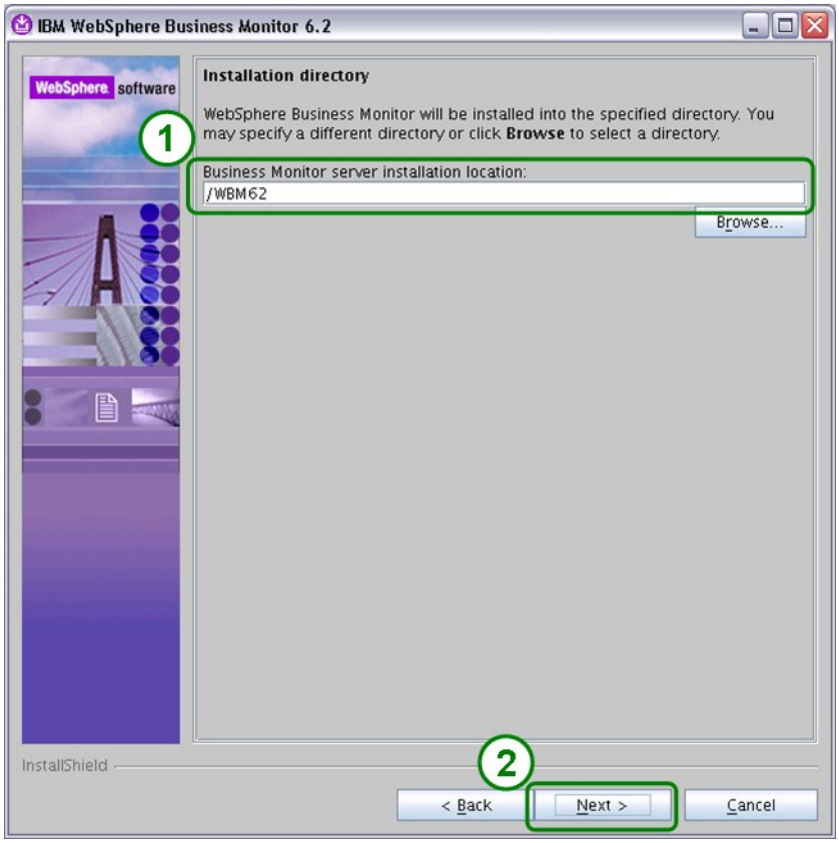
The "Feature selection" panel is displayed:



1. Select "AlphaBlox features for Business Space"

2. Press **Next**.

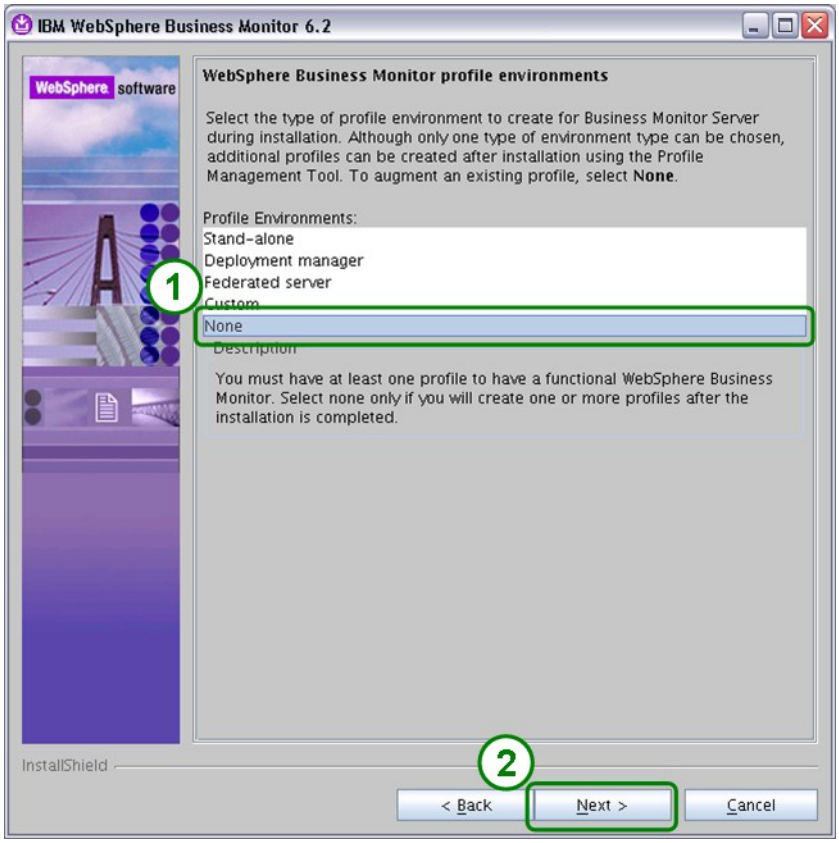
The "Installation directory" panel is displayed:



1. Choose /WBM62 as the installation directory.
Note: On the deployment manager host choose the already existing /WPS62 directory for installation.

2. Press Next.

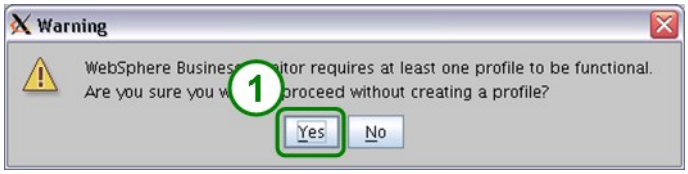
The "WBM profile environments" panel is displayed:



1. Select "None"

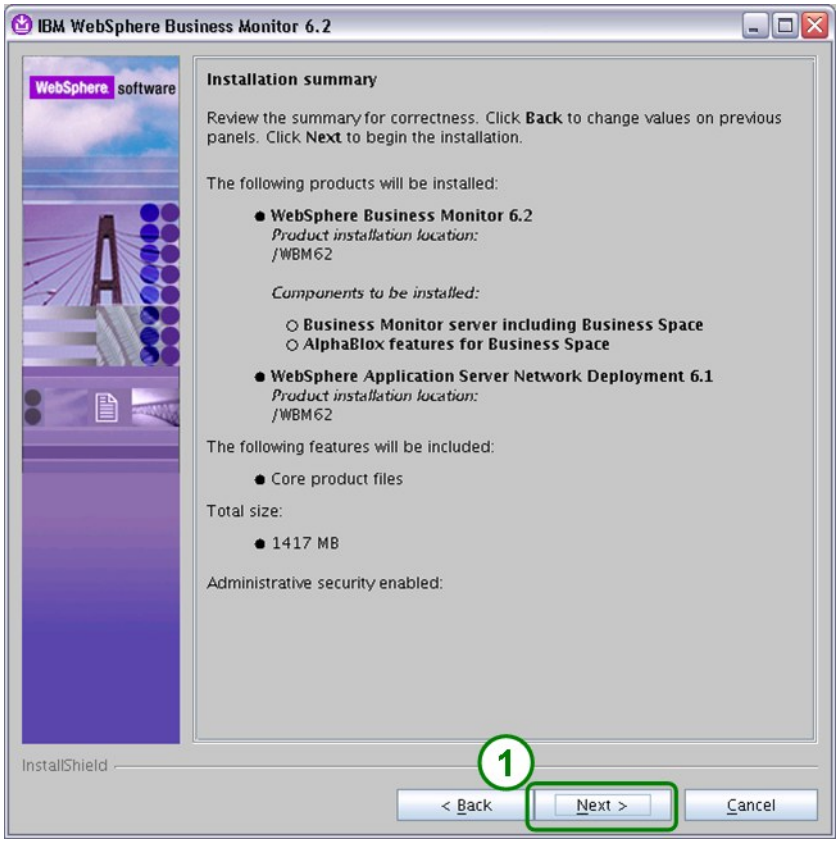
2. Press **Next**.

A Warning pops up:



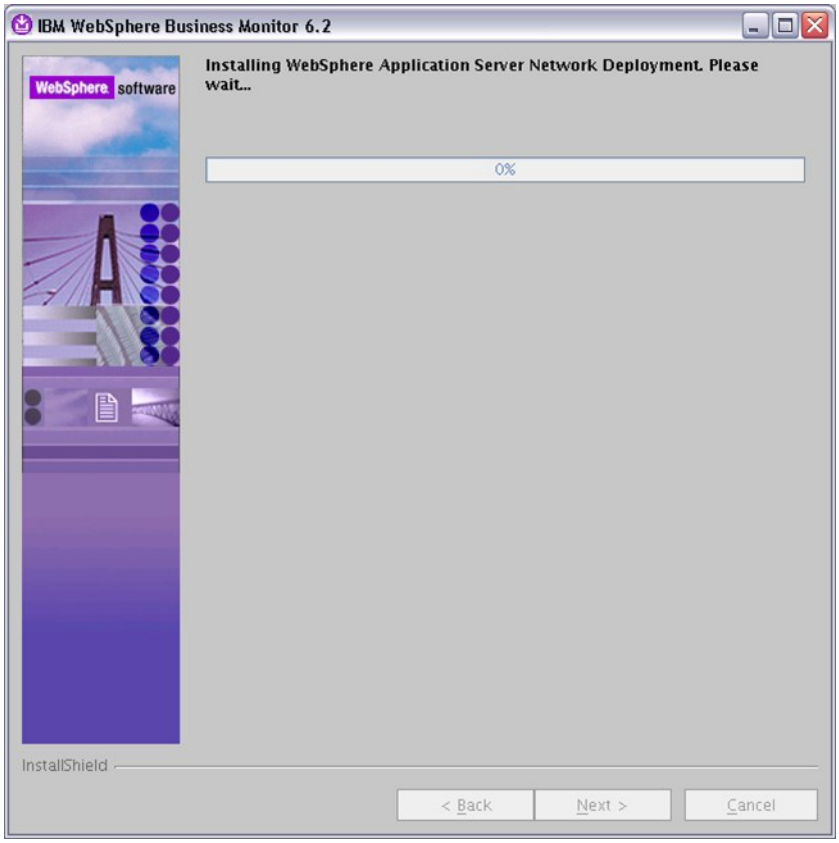
1. Press **Yes**.

The "Installation summary" panel is displayed:



1. Press **Next**.

The "Installation progress bar" is displayed:



Wait until the installation has finished.

16.3 Installing the latest UpdateInstaller

Please refer to Chapter Install WPS binaries in order to get information on how to install the latest Update Installer (if not already installed).

16.3.1 Installing mandatory fixes

Get the latest mandatory iFixes for the WebSphere Business Monitor, in this case it is the WebSphere Business Monitor V6.2 Fix Pack 1 (6.2.0.1)

http://www.ibm.com/support/docview.wss?uid=swg24022453&rs=0&cs=utf-8&context=SW600&dc=D400&q1=6.2.0.1&loc=en_US&lang=en&cc=US

and extract them into the Update Installer maintenance directory {UpdateInstaller_Home}/maintenance.

The selected "Launch IBM Update Installer in exit" has started the IBM Update Installer for WebSphere Software wizard.

16.4 Verify WebSphere Business Monitor binary installation

Verify the success of the binary installation by examining the WebSphere Process Server log files. If the last line of the file contains the word **INSTCONFSUCCESS**, the selected WebSphere Process Server features were installed successfully. The log file is located as follows:

```
/WPS62/logs/install/log.txt
```

The log file of each fix can be found under in directory:

```
/WPS62/logs/update/install/updatelog.txt
```

You can also use the IVT (Installation Verification Tool) to check if the binaries have been installed correctly. See the infos on how to do that here:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r2mx/index.jsp?topic=/com.ibm.websphere.wps.62.doc/doc/tins_ivt.html

16.5 Augmenting the Deployment Manager profile

This section describes how to augment the WPS deployment manager profile with the WebSphere Business Monitor profile.

There are two approaches to augment the WPS deployment manager:

1. Use the profile management tool (graphical approach).
2. Use the manage profiles script and a response file.

This document will describe the second approach, using the manage profiles script.

You find more information on how to create a profile in both ways by inspecting the information provided here:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r2mx/index.jsp?topic=/com.ibm.websphere.wps.620.doc/doc/iins_config_post_install.html

Regardless of which way you choose to augment the deployment manager profile, use the following configuration parameters to create the profile:

```
augment
profileName=W6201L3MBPMDmgr
profilePath=/WPS62/profiles/W6201L3MBPMDmgr
templatePath=/WPS62/profileTemplates/wbmonitor/dmgr
adminUserName=vmmuser
adminPassword=<password>
dbType=Oracle10g
dbName=ORCL
dbCreateNew=false
dbDelayConfig=true
dbUserId=WPS_MONITORDB
dbSchemaName=WPS_MONITORDB
dbPassword=<password>
dbHostName=W6201L3O.boeblingen.de.ibm.com
dbServerPort=1521
dbJDBCClasspath=/opt/oracle/driver
```

In order to create the deployment manager profile silently a response file which contains the configuration information for the deployment manager needs to be created. Navigate to the root folder (/) and create a folder **profileRespFiles**. In that folder create file and name it **dmgrAugRespFile.txt**. Add the entries from the previous page to that file, then save the file.

Execute the following commands as user root on the deploayment manager host:

```
cd /WPS62/bin
./manageprofiles.sh -response /profileRespFiles/dmgrAugRespFile.txt
```

```
INSTCONFSUCCESS: Profile augmentation succeeded.
```

16.5.1 Verify deployment manager augmentation

To verify the deployment manager augmentation check the log in /WPS62/logs/manageprofiles: augment.log and W6201L3MBPMDmgr_augment.log for INSTCONFSUCCESS return code.

```
<record>
  <date>2009-05-18T13:10:58</date>
  <millis>1242645058416</millis>
  <sequence>2821</sequence>
  <logger>com.ibm.wsspi.profile.WSProfileCLI</logger>
  <level>INFO</level>
  <class>com.ibm.wsspi.profile.WSProfileCLI</class>
  <method>invokeWSProfile</method>
  <thread>10</thread>
  <message>Returning with return code: INSTCONFSUCCESS</message>
</record>
```

Part Database System

Chapter 17 Creating Oracle users and tables for WebSphere Business Monitor

This chapter describes the creation of the Oracle users, tablespaces and tables for WebSphere Business Monitor Server (WBM).

17.1 WebSphere Business Monitor Server tablespaces

This section describes how to create the Oracle tablespaces needed by WBM. WBM provides a set of scripts that can be used to create mandatory tablespaces. It is recommended to add additional tablespaces for the message engines and the Alphablox db.

A SQL script to create the recommended tablespaces can be found in the Section 17.1.3 Create WBM recommended tablespaces.

17.1.1 Predefined WBM tablespaces

The following tablespaces are defined in WBM database scripts for Oracle.

Tablespace Name	WBM data
MONDSTS	Business Monitor Server tablespace
MONDMSTS	Data Movement Service tablespace
MONIDXTS	Index tablespace
MONLOBTS	Large objects tablespace

17.1.2 Recommended user default tablespaces

The following tablespaces are recommendations for WPS data without tablespace definitions in the WPs db scripts.

Tablespace Name	Description
ABX_TBS	Tablespace for the Alphablox repository.
WBM_MEMON_TBS	Tablespace for the monitor bus message engine.

Note: The tablespace names are also only recommendations. Changing the tablespace name can be done in the createRecWBMOraTablespaces.sql script. If the tablespace names are changed, remember to change them also in the section 17.2 WebSphere Business Monitor Server users and privileges.

17.1.3 Create WBM recommended tablespaces

You can use the following script to create the recommended tablespaces from Section 17.1.2 Recommended user default tablespaces.
Create a file **01createRecWBMOraTablespaces.sql** with the editor of your choice

and paste in the lines from below:

```
REM ****************************************************************
REM File: 01createRecWBMOraTablespaces.sql
REM Date: 2009-05-19
REM
REM Desc: Create all recommended tablespaces for WBM 6.2.0.1
REM
REM Usage:
REM 1. Define datafile paths as needed.
REM 2. Execute the sql script as user oracle on the database host.
REM ****************************************************************

REM Define Oracle datafile paths for Alphablox
Define ABX_TbsPath = "/opt/oracle/oradata/ORCL"

REM Define Oracle datafile paths for the Monitor Bus Message Engine
Define MEMON_TbsPath = "/opt/oracle/oradata/ORCL"

REM ****************************************************************
REM Create the Oracle tablespace for WPS
CREATE TABLESPACE WBM_ABX_TBS DATAFILE '&ABX_TbsPath/WBM_ABX.dbf' SIZE 150
M REUSE AUTOEXTEND ON NEXT 10 M;

REM ****************************************************************
REM Create the Oracle tablespace for the Message Engines
CREATE TABLESPACE WBM_MEMON_TBS DATAFILE '&MEMON_TbsPath/WBM_MEMON.dbf'
SIZE 100 M REUSE AUTOEXTEND ON NEXT 10 M;

REM Commit work
COMMIT;
EXIT
```

Execute the **01createRecWBMOraTablespaces.sql** by typing the following command as user oracle:

```
sqlplus sys/<yourPassword>@ORCL AS SYSDBA @01createRecWBMOraTa-
blespaces.sql
```

```
SQL*Plus: Release 11.1.0.7.0 - Production on Fri May 4 10:31:17 2009
Copyright (c) 1982, 2008, Oracle. All privileges reserved.
Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit
Production
With the Partitioning option
old 1: CREATE TABLESPACE WBM_ABX_TBS DATAFILE '&ABX_TbsPath/WBM_ABX.dbf'
SIZE 150 M REUSE AUTOEXTEND ON NEXT 10 M
new 1: CREATE TABLESPACE WBM_ABX_TBS DATAFILE
'/opt/oracle/oradata/ORCL/WBM_ABX.dbf' SIZE 150 M REUSE AUTOEXTEND ON NEXT
10 M
Tablespace created.
old 1: CREATE TABLESPACE WBM_MEMON_TBS DATAFILE
'&MEMON_TbsPath/WBM_MEMON.dbf' SIZE 100 M REUSE AUTOEXTEND ON NEXT 10 M
new 1: CREATE TABLESPACE WBM_MEMON_TBS DATAFILE
'/opt/oracle/oradata/ORCL/WBM_MEMON.dbf' SIZE 100 M REUSE AUTOEXTEND ON
NEXT 10 M
Tablespace created.
Commit complete.
Disconnected from Oracle Database 11g Enterprise Edition Release
11.1.0.7.0 - 64bit Production
With the Partitioning option
```

17.2 WebSphere Business Monitor Server users and privileges

This section describes the Oracle database users needed for WebSphere Business Monitor. The WPS common database role as described in the WPS Oracle database chapter will be used.

Scripts for creating the database users are also provided in a sub-section.

17.2.1 Needed WebSphere Business Monitor Server database users

The following database users are needed for WebSphere Process Server:

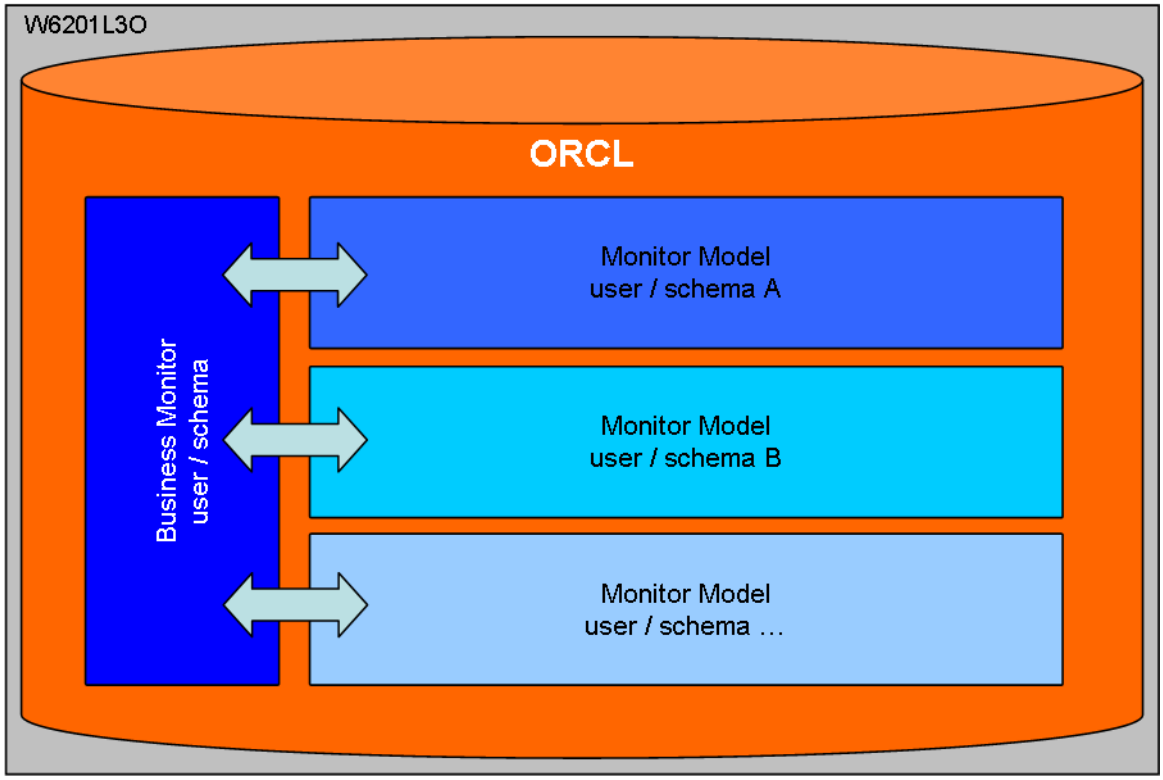
DB user	Description
WPS_MONITORDB	Business Monitor database user
WBM_ABXDB	Alphablox repository database user
WBM_MONMSG	Monitor bus message engine DB user

17.2.1.1 Business Monitor database user WPS_MONITORDB

The business monitor database user is used to store the monitor data in the Oracle database. This database user is also used to access the monitor modell data which will be created during a monitor model deployment. The monitor model data is normaly stored in a different schema than the business monitor database user and the monitor model schema has the same name as the monitor model application.

Oracle does not have a separate concept for users and schemas, which means that in an Oracle database a user always owns only one schema with the same name as the user itself. For example the user WPS_MONITORDB has only access to the schema WPS_MONITORDB.

An Oracle database user needs aditional privileges to access data in an other schema because to access an other schema in Oracle means to access data from an other database user.



To make sure that all needed privileges are granted to the Business Monitor database and the Monitor Model users the WebSphere Business Monitor database scripts will grant "all privileges" to these users.

17.2.2 WebSphere Business Monitor Server database user roles

The following privileges are needed for Alphablox and the message engine database user:

Role	Description
CONNECT	Enables a user to connect to the database. Grant this role to any user or application that needs database access. If you create a user using Oracle Enterprise Manager Database Control, this role is automatically granted to the user.
RESOURCE	Enables a user to create, modify, and delete certain types of schema objects in the schema associated with that user. Grant this role only to developers and to other users that must create schema objects. This role grants a subset of the create object system privileges. For example, it grants the CREATE TABLE system privilege, but does not grant the CREATE VIEW system privilege. It grants only the following privileges: CREATE CLUSTER, CREATE INDEXTYPE, CREATE OPERATOR, CREATE PROCEDURE, CREATE SEQUENCE, CREATE TABLE, CREATE TRIGGER, CREATE TYPE. In addition, this role grants the UNLIMITED TABLESPACE system privilege, which effectively assigns a space usage quota of UNLIMITED on all tablespaces in which the user creates schema objects.
UNLIMITED TABLESPACE	Permits a user to use an unlimited amount of any tablespace in the database, grant the user the UNLIMITED TABLESPACE system privilege. This overrides all explicit tablespace quotas for the user. If you later revoke the privilege, then explicit quotas again take effect. You can grant this privilege only to users, not to roles.

Note: The **WPS_USER_ROLE** from the Oracle WPS chapter above has the same privileges and will be used in this documentation.

17.2.3 WebSphere Business Monitor XA recovery user privileges

The WebSphere Business Monitor database users will need the same XA recovery rights as described in the WPS Oracle chapter. This documentation will describe the approach using a separate user for XA recovery.

17.2.4 Create WBM users and assign needed privileges and roles

This section describes how to create the needed WBM database users: Once the users exist the previously created roles from the Oracle WPS chapter are assigned.

DB user	Description	Role(s)	Privilege(s)
WPS_MONITORDB	Business Monitor DB user	WPS_RECOVERY	ALL PRIVILEGES
WBM_ABXDB	Alphablox DB user	WPS_USER WPS_RECOVERY	UNLIMITED TABLESPACE
WBM_MONMSG	Monitor bus message engine DB user	WPS_USER WPS_RECOVERY	UNLIMITED TABLESPACE

Note: The Business Monitor database user WPS_MONITORDB will NOT be created with these script. It will be created within the WebSphere Business Monitor create tables script in chapter 17.3.1 Create Monitor DB tables.

You can use the following script to create the WPS database users from section 17.2.1 Needed WebSphere Business Monitor Server database users and grant the needed privileges and roles to the WPS database users from the sections above:

- 17.2.2 WebSphere Business Monitor Server database user roles
- 17.2.3 WebSphere Business Monitor XA recovery user privileges

Create a file **03createWBMOraUser.sql** with the editor of your choice and paste in the lines from below:

```
REM ****************************************************************
REM File: 03createWBMOraUser.sql
REM Date: 2009-05-20
REM
REM Desc: Create all Oracle database user for WBM 6.2.0.1
REM
REM Usage:
REM 1. Define db user names
REM 2. Define db user passwords for all WBM user
REM 3. Optional: Adjust default tablespaces.
REM 4. Execute the sql script as user oracle on the database host.
REM ****************************************************************

REM Create user for Alphablox repository
CREATE USER WBM_ABXDB IDENTIFIED BY <PASSWORD> DEFAULT TABLESPACE
WBM_ABX_TBS;
GRANT WPS_USER_ROLE TO WBM_ABXDB;
```

```
GRANT WPS_RECOVERY_ROLE TO WBM_ABXDB;
GRANT UNLIMITED TABLESPACE TO WBM_ABXDB;

REM Create user for monitor bus message engine
CREATE USER WBM_MONMSG IDENTIFIED BY <PASSWORD> DEFAULT TABLESPACE
WBM_MEMON_TBS;
GRANT WPS_USER_ROLE TO WBM_MONMSG;
GRANT WPS_RECOVERY_ROLE TO WBM_MONMSG;
GRANT UNLIMITED TABLESPACE TO WBM_MONMSG;

REM Commit work
COMMIT;
EXIT
```

Execute the **03createWBMOraUser.sql** by typing the following commands as user oracle:

```
sqlplus sys/<yourPassword>@ORCL AS SYSDBA @03createWBMOraUser.sql
```

```
SQL*Plus: Release 11.1.0.7.0 - Production on Fri May 6 10:52:39 2009
Copyright (c) 1982, 2008, Oracle. All privileges reserved.
Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit Produc-
tion
With the Partitioning option
User created.
Grant succeeded.
Grant succeeded.
Grant succeeded.
User created.
Grant succeeded.
Grant succeeded.
Grant succeeded.
Commit complete.
Disconnected from Oracle Database 11g Enterprise Edition Release
11.1.0.7.0 - 64bit Production
With the Partitioning option
```

17.3 WebSphere Business Monitor Server tables

This chapter describes how to create the different WebSphere Business Monitor tables in the Oracle database.

17.3.1 Create Monitor DB tables

1. Switch to the directory /WPS62/profiles/W6201L3MBPMDmgr/dbscripts.wbm on the deployment manager host, in this case the host w6201l3m.boeblingen.de.ibm.com.

2. Create a directory on the Oracle database host, e.g. /home/oracle/WBMScripts

3. Copy the createDatabaseOracle.ddl file from this directory to the created directory on the Oracle database host, in this case the host w6201l3o.boeblingen.de.ibm.com.

4. Open the file createDatabaseOracle.ddl on the db host in a editor:

4a. Change the datafile directories for the monitor tablespaces from:

```
------------------------
-- Create tablespaces
------------------------
CREATE TABLESPACE MONDSTS
  DATAFILE 'RMDEFAULTTS32S_MONDSTS.dbf' SIZE 500M AUTOEXTEND ON NEXT 100M
MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONDMSTS
  DATAFILE 'RMDEFAULTTS32S_MONDMSTS.dbf' SIZE 100M AUTOEXTEND ON NEXT 20M
MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONIDXTS
  DATAFILE 'RMDEFAULTTS32S_MONIDXTS.dbf' SIZE 250M AUTOEXTEND ON NEXT 50M
MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONLOBTS
  DATAFILE 'RMDEFAULTTS32S_MONLOBTS.dbf' SIZE 200M AUTOEXTEND ON NEXT 40M
MAXSIZE UNLIMITED LOGGING;
```

to:

```
------------------------
-- Create tablespaces
------------------------
CREATE TABLESPACE MONDSTS
  DATAFILE '/opt/oracle/oradata/ORCL/MONDSTS.dbf' SIZE 500M AUTOEXTEND ON
NEXT 100M MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONDMSTS
  DATAFILE '/opt/oracle/oradata/ORCL/MONDMSTS.dbf' SIZE 100M AUTOEXTEND ON
NEXT 20M MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONIDXTS
  DATAFILE '/opt/oracle/oradata/ORCL/MONIDXTS.dbf' SIZE 250M AUTOEXTEND ON
NEXT 50M MAXSIZE UNLIMITED LOGGING;

CREATE TABLESPACE MONLOBTS
  DATAFILE '/opt/oracle/oradata/ORCL/MONLOBTS.dbf' SIZE 200M AUTOEXTEND ON
NEXT 40M MAXSIZE UNLIMITED LOGGING;
```

4b. Replace $DBPASS$ with a password of your choice and add after GRANT ALL PRIVILEGES in the "Create schema owner" section:

```
------------------------
-- Create schema owner --
```

```
-------------------------
CREATE USER WPS_MONITORDB IDENTIFIED BY <password> DEFAULT TABLESPACE
MONDSTS;

GRANT ALL PRIVILEGES TO WPS_MONITORDB;
GRANT WPS_RECOVERY_ROLE TO WPS_MONITORDB;
```

5. Save the file again.

6. Start the Business Monitor script in the created directory on the Oracle host by executing the following command as user oracle:

```
sqlplus sys/<password>@ORCL AS SYSDBA @createDatabaseOracle.ddl
```

```
SQL*Plus: Release 11.1.0.7.0 - Production on Thu Jun 18 16:36:58 2009
Copyright (c) 1982, 2008, Oracle.  All rights reserved.
Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit
Production
With the Partitioning, OLAP, Data Mining and Real Application Testing
options
...
...
Table created.
1 row created.
1 row created.
Table created.
  1  CREATE FUNCTION WPS_MONITORDB.DAYS (TIME2 IN TIMESTAMP) RETURN NUMBER
DETERMINISTIC
  2    AS
  3    TIME1   TIMESTAMP;
  4    DAYSRC  NUMBER;
  5    BEGIN
  6        SELECT
TO_TIMESTAMP('01.01.0001:00:00:00','DD.MM.YYYY:HH24:MI:SS') INTO TIME1
FROM DUAL;
  7        SELECT TRUNC(TO_NUMBER(SUBSTR((TIME2-TIME1),1,INSTR(TIME2-
TIME1,' ')))) INTO DAYSRC FROM DUAL;
  8        RETURN DAYSRC;
  9*   END;
Function created.
  1  CREATE FUNCTION WPS_MONITORDB.MIDNIGHT_SECONDS (TIME2 IN TIMESTAMP)
RETURN NUMBER DETERMINISTIC
  2    AS
  3    TIME1   TIMESTAMP;
  4    HH      NUMBER;
  5    MM      NUMBER;
  6    SS      NUMBER;
  7    BEGIN
  8        SELECT
TO_TIMESTAMP('01.01.0001:00:00:00','DD.MM.YYYY:HH24:MI:SS') INTO TIME1
FROM DUAL;
  9        SELECT SUBSTR((TIME2-TIME1), INSTR((TIME2-TIME1),' ')+7,2) INTO
SS FROM DUAL;
 10        SELECT SUBSTR((TIME2-TIME1), INSTR((TIME2-TIME1),' ')+4,2) INTO
MM FROM DUAL;
```

```
 11        SELECT SUBSTR((TIME2-TIME1), INSTR((TIME2-TIME1),' ')+1,2) INTO
HH FROM DUAL;
 12        RETURN (HH * 3600) + (MM * 60) + SS;
 13*   END;
Function created.
Disconnected from Oracle Database 11g Enterprise Edition Release
11.1.0.7.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing
options
```

17.3.2 Create Alphablox tables

The Alphablox tables will be created during the Alphablox installation.

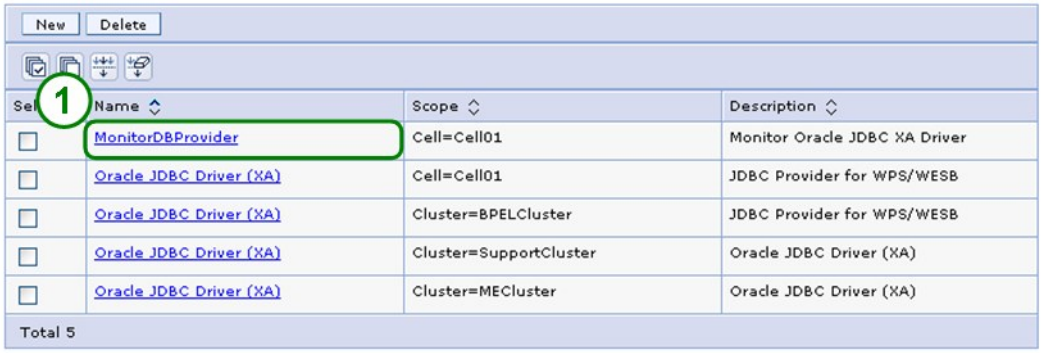
17.4 Modify the monitor data sources

17.4.1 Change the jdbc driver in the monitor jdbc provider for Oracle 11g

In the admin console, navigate to

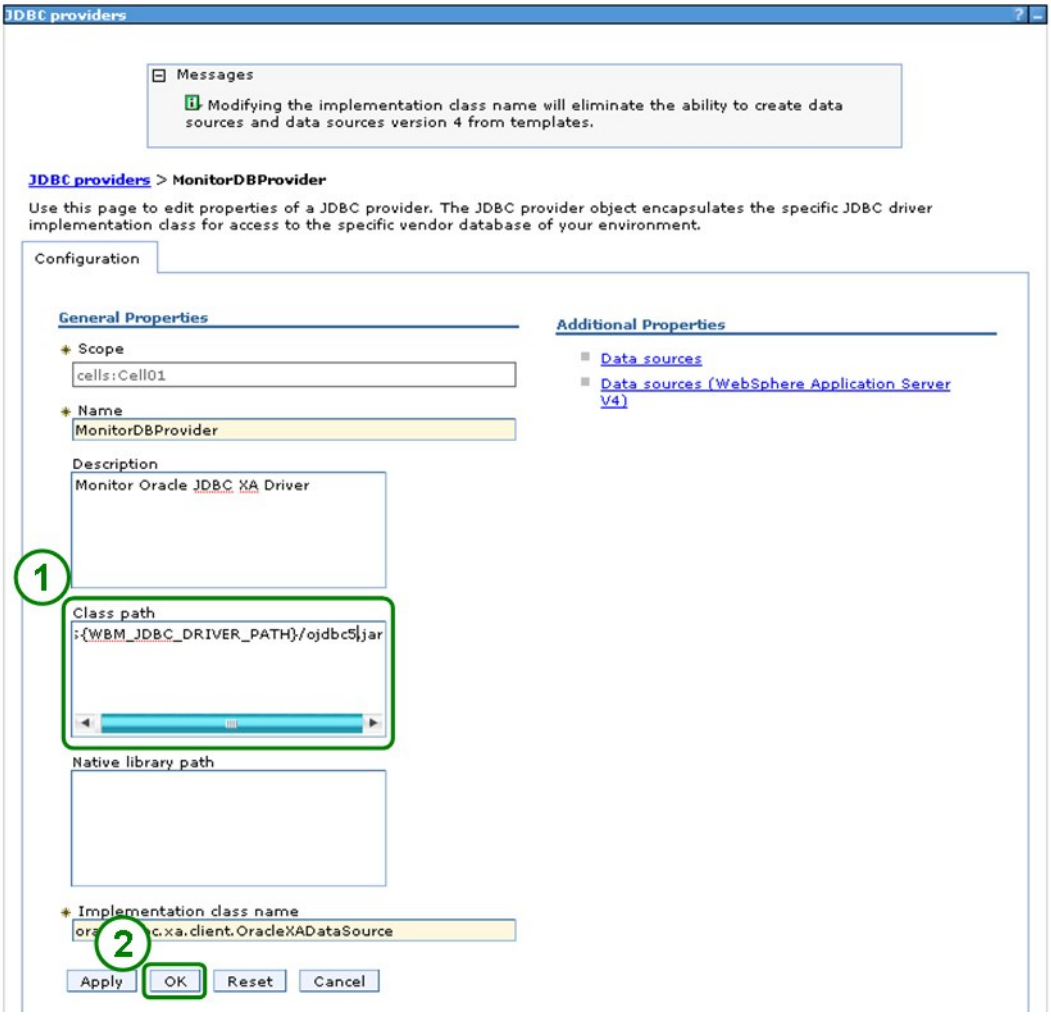
```
Resources
  -> JDBC
    -> JDBC Providers
```

The "JDBC providers" page is displayed:



1. Press MonitorDBProvider

The "MonitorDBProvider Configuration" page is displayed:



1. Change the Class path to "${WBM_JDBC_DRIVER_PATH}/ojdbc5.jar"

2. Click **Ok**

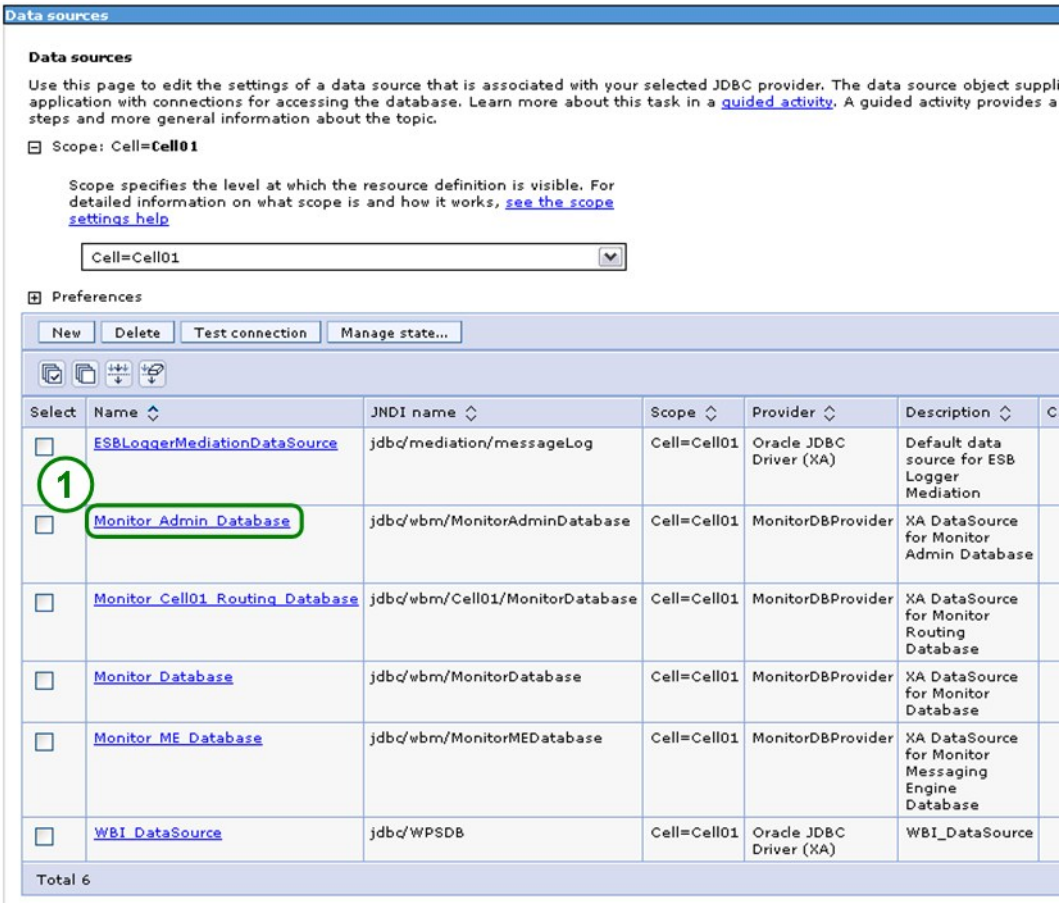
Save and synchronize the changes.

17.4.2 Change the monitor data sources for Oracle 11g

In the admin console navigateto:

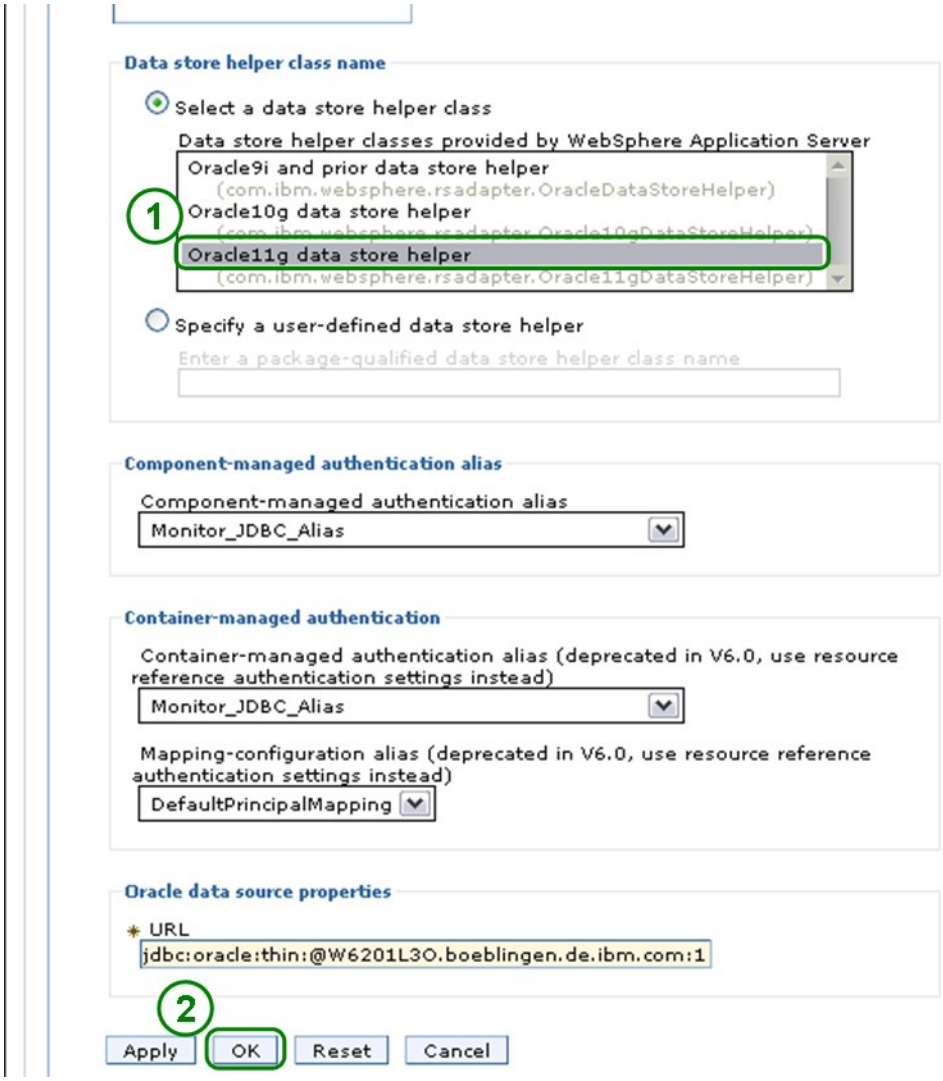
```
Resources
  -> JDBC
    -> Data sources
      -> Switch Scope to "Cell=Cell01"
```

The "Data sources" page is displayed:



1. Click **Monitor_Admin_Database**

The "Monitor_Admin_Database Configuration" is displayed:

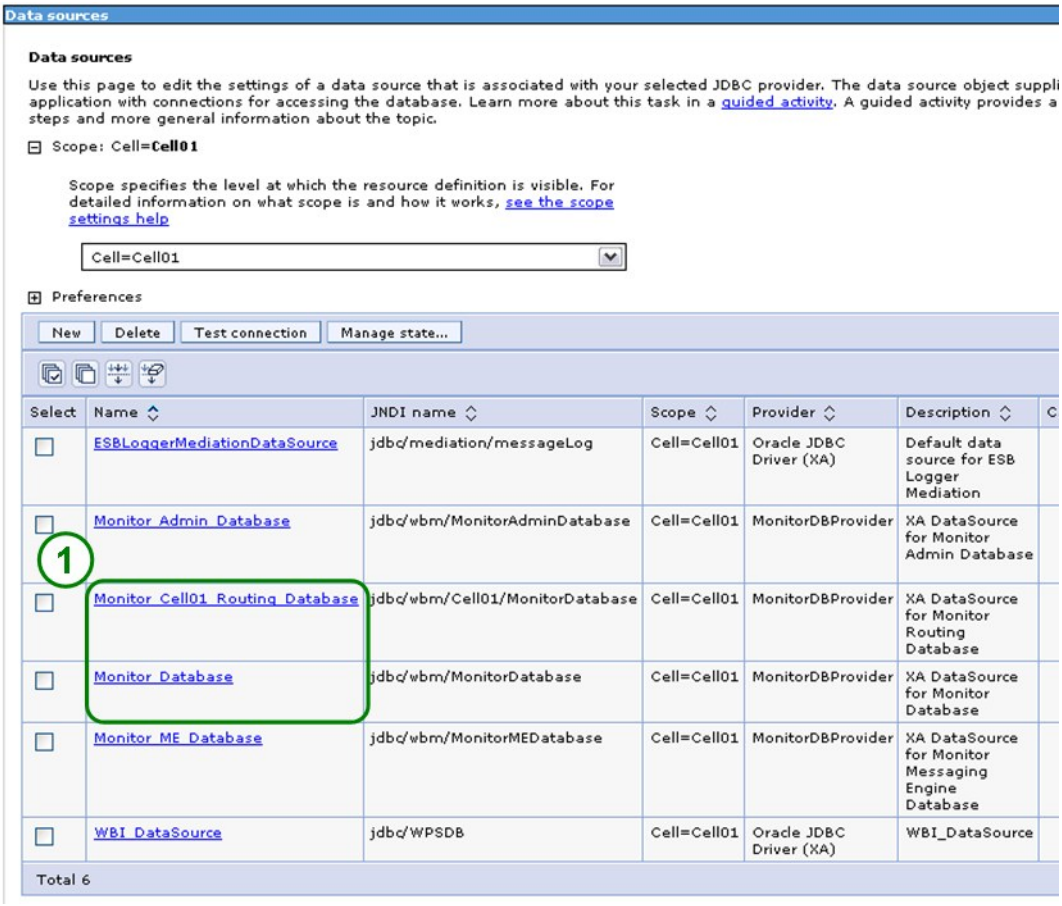


1. Select "Oracle11g data store helper".

2. Click **Ok**

Save and synchronize the changes.

In the "Data sources" page:



1. Repeate the steps above with the "Monitor_Cell01_Routing_Database" and the "Monitor_Database".

Chapter 18 WBM custom profiles

NOTE: This step has to be executed on the machines hosting the servers of this cluster, in this case this are the machines w6201ln3 and w6201ln4. Make sure to execute this step with root user id.

18.1 WBM custom profile creation

The next step in the setup of a cell/cluster is to create profiles on the other machines which should host the servers that are later on created in the cell. To create a WPS profile there are two options:

- graphical creation via profile creation tool
- silent creation (via response files, as you have seen it in the prior chapter)

You find more information on how to create a profile in both ways by inspecting the information provided here:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r2mx/index.jsp?topic=/com.ibm.btools.help.monitor.install.doc/install/pmt_custom_adv.html

Use the following configuration parameters to create the profile:

For w6201ln3:

```
create
profileName=W6201LN3WBMCustom01
profilePath=/WBM62/profiles/W6201LN3WBMCustom01
templatePath=/WBM62/profileTemplates/wbmonitor/managed
nodeName=W6201LN3WBMNode01
hostName=w6201ln3.boeblingen.de.ibm.com
dbType=Oracle10g
dbJDBCClasspath=/opt/oracle/driver
federateLater=true
```

For w6201ln4:

```
create
profileName=W6201LN4WBMCustom01
profilePath=/WBM62/profiles/W6201LN4WBMCustom01
templatePath=/WBM62/profileTemplates/wbmonitor/managed
nodeName=W6201LN4WBMNode01
hostName=w6201ln4.boeblingen.de.ibm.com
dbType=Oracle10g
dbJDBCClasspath=/opt/oracle/driver
federateLater=true
```

In order to create the custom profiles silently a response file which contains the configuration information needs to be created. Navigate to the root folder (/) and create a folder **profileRespFiles**. In that folder create file and name it **CustomWBMRespFile.txt**. Add the entries from the previous page to that file, then

save the file.

root:

```
/WBM62/bin/manageprofiles.sh -response <responsefilename>
```

```
INSTCONFSUCCESS: Success: Profile W6201LN3WBMCustom01 now exists. Please
consult /WBM62/profiles/W6201LN3WBMCustom01/logs/AboutThisProfile.txt for
more information about this profile.
```

Federate the custom node to the deployment manager:

root:

```
cd /WBM62/profiles/W6201LN3WBMCustom01/bin/
./addNode.sh w6201l3m.boeblingen.de.ibm.com 8879 -username vmmuser
-password <password>
```

```
ADMU0116I: Tool information is being logged in file
           /WBM62/profiles/W6201LN3WBMCustom01/logs/addNode.log
ADMU0128I: Starting tool with the W6201LN3WBMCustom01 profile
CWPKI0308I: Adding signer alias "CN=W6201L3M.boeblingen.de.ibm.com, O=IBM,
           C=US" to local keystore "ClientDefaultTrustStore" with the
following
           SHA digest:
           1A:DA:45:7C:A6:94:D8:C9:55:94:97:49:9D:81:8D:FA:CE:81:59:DB
CWPKI0308I: Adding signer alias "dummyclientsigner" to local keystore
           "ClientDefaultTrustStore" with the following SHA digest:
           0B:3F:C9:E0:70:54:58:F7:FD:81:80:70:83:A6:D0:92:38:7A:54:CD
CWPKI0308I: Adding signer alias "default_2" to local keystore
           "ClientDefaultTrustStore" with the following SHA digest:
           68:63:1A:FD:62:B7:73:F9:52:5C:3F:94:71:F3:B7:5C:A1:6B:82:EB
CWPKI0308I: Adding signer alias "default_3" to local keystore
           "ClientDefaultTrustStore" with the following SHA digest:
           7E:BF:DF:97:DD:A7:92:0C:2C:2F:A8:D2:5F:D0:83:6C:18:80:8A:7F
CWPKI0308I: Adding signer alias "dummyserversigner" to local keystore
           "ClientDefaultTrustStore" with the following SHA digest:
           FB:38:FE:E6:CF:89:BA:01:67:8F:C2:30:74:84:E2:40:2C:B4:B5:65
CWPKI0308I: Adding signer alias "default_1" to local keystore
           "ClientDefaultTrustStore" with the following SHA digest:
           80:90:B5:48:A6:1B:D9:C9:B0:56:F1:B0:52:47:03:98:71:99:DE:5A
ADMU0001I: Begin federation of node W6201LN3WBMNode01 with Deployment
Manager
           at w6201l3m.boeblingen.de.ibm.com:8879.
ADMU0001I: Begin federation of node W6201LN3WBMNode01 with Deployment
Manager
           at w6201l3m.boeblingen.de.ibm.com:8879.
ADMU0009I: Successfully connected to Deployment Manager Server:
           w6201l3m.boeblingen.de.ibm.com:8879
ADMU0507I: No servers found in configuration under:
           /WBM62/profiles/W6201LN3WBMCustom01/config/cells/w6201ln3Node01
Cell/nodes/W6201LN3WBMNode01/servers
ADMU2010I: Stopping all server processes for node W6201LN3WBMNode01
ADMU0024I: Deleting the old backup directory.
ADMU0015I: Backing up the original cell repository.
ADMU0012I: Creating Node Agent configuration for node: W6201LN3WBMNode01
ADMU0014I: Adding node W6201LN3WBMNode01 configuration to cell: Cell01
ADMU0016I: Synchronizing configuration between node and cell.
ADMU0018I: Launching Node Agent process for node: W6201LN3WBMNode01
ADMU0020I: Reading configuration for Node Agent process: nodeagent
```

```
ADMU0022I: Node Agent launched. Waiting for initialization status.
ADMU0030I: Node Agent initialization completed successfully. Process id
is:
           2390
ADMU9990I:
ADMU0300I: The node W6201LN3WBMNode01 was successfully added to the Cell01
           cell.
ADMU9990I:
ADMU0306I: Note:
ADMU0302I: Any cell-level documents from the standalone Cell01
configuration
           have not been migrated to the new cell.
ADMU0307I: You might want to:
ADMU0303I: Update the configuration on the Cell01 Deployment Manager with
           values from the old cell-level documents.
ADMU9990I:
ADMU0306I: Note:
ADMU0304I: Because -includeapps was not specified, applications installed
on
           the standalone node were not installed on the new cell.
ADMU0307I: You might want to:
ADMU0305I: Install applications onto the Cell01 cell using wsadmin
$AdminApp or
           the Administrative Console.
ADMU9990I:
ADMU0003I: Node W6201LN3WBMNode01 has been successfully federated.
```

Note: Make sure the deployment manager is running before federating the custom node.

Repeat the custom profile creation and federation on host w6201ln4.

18.2 Verify the custom profile creation

1. List existing profiles with the following command:

```
cd /WBM62/bin/
./manageprofiles.sh -listProfiles
```

```
[W6201LN3WBMCustom01]
```

```
cd /WBM62/bin/
./manageprofiles.sh -listProfiles
```

```
[W6201LN4WBMCustom01]
```

2. Check the following files for return code **"INSTCONFSUCCESS"**:

```
cd /WBM62/logs/manageprofiles
grep INSTCONFSUCCESS W6201LN3WBMCustom01_create.log
```

```
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>INSTCONFSUCCESS: Success: Profile W6201LN3WBMCustom01 now
exists. Please consult
/WBM62/profiles/W6201LN3WBMCustom01/logs/AboutThisProfile.txt for more
information about this profile.</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
```

```
cd /WBM62/logs/manageprofiles
grep INSTCONFSUCCESS W6201LN4WBMCustom01_create.log
```

```
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
  <message>INSTCONFSUCCESS: Success: Profile W6201LN4WBMCustom01 now
exists. Please consult
/WBM62/profiles/W6201LN4WBMCustom01/logs/AboutThisProfile.txt for more
information about this profile.</message>
  <message>Returning with return code: INSTCONFSUCCESS</message>
```

Unlike the deployment manager profile creation, the creation of a WPS profile does not create a startable server. A server is created later on when the clusters are created.

On both machines (w6201ln3 and w6201ln4) check the nodeagent logs.

These logs are located in:

- /WBM62/profiles/W6201LN3WBMCustom01/logs/nodeagent
- /WBM62/profiles/W6201LN4WBMCustom01/logs/nodeagent

Check that they do not contain any errors.

Further check the following files for errors:

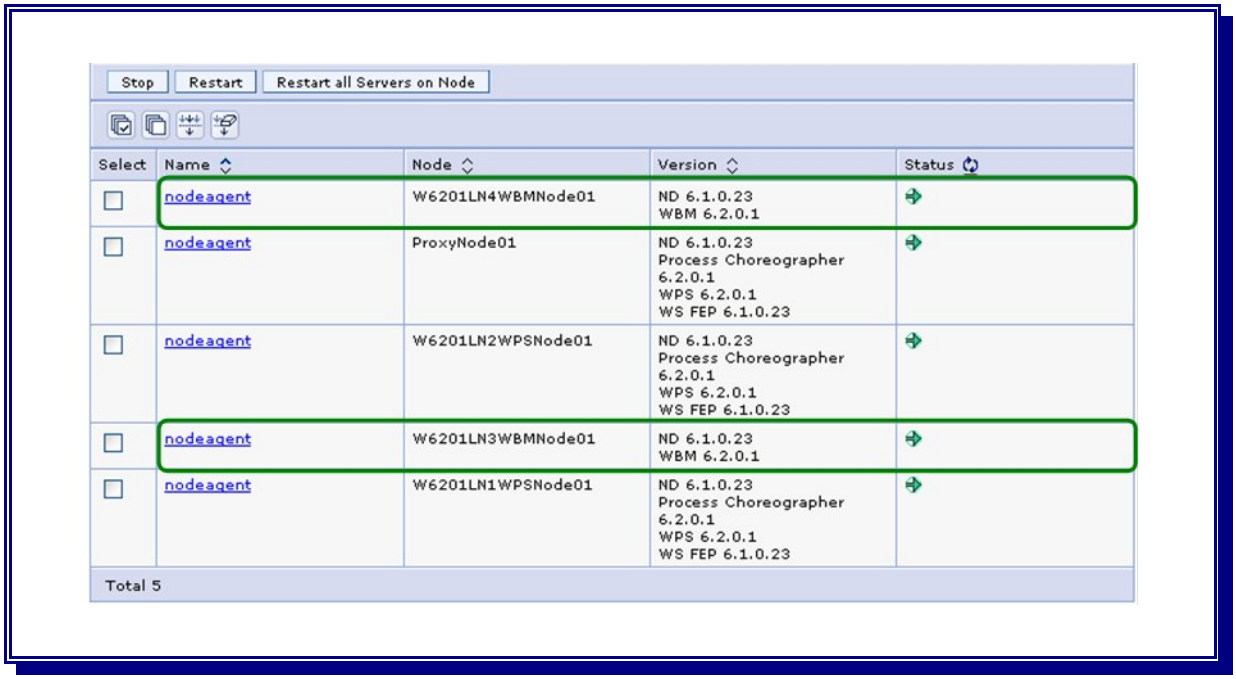
- /WBM62/profiles/W6201LN3WBMCustom01/logs/addNode.log

- /WBM62/profiles/W6201LN4WBMCustom01/logs/addNode.log

Login to the deployment manager admin console and navigate to:

```
System Administration
  -> Node agents.
```

and verify existence and status of the node agents:



Chapter 19 WBM messaging engine and event emitter factory configuration

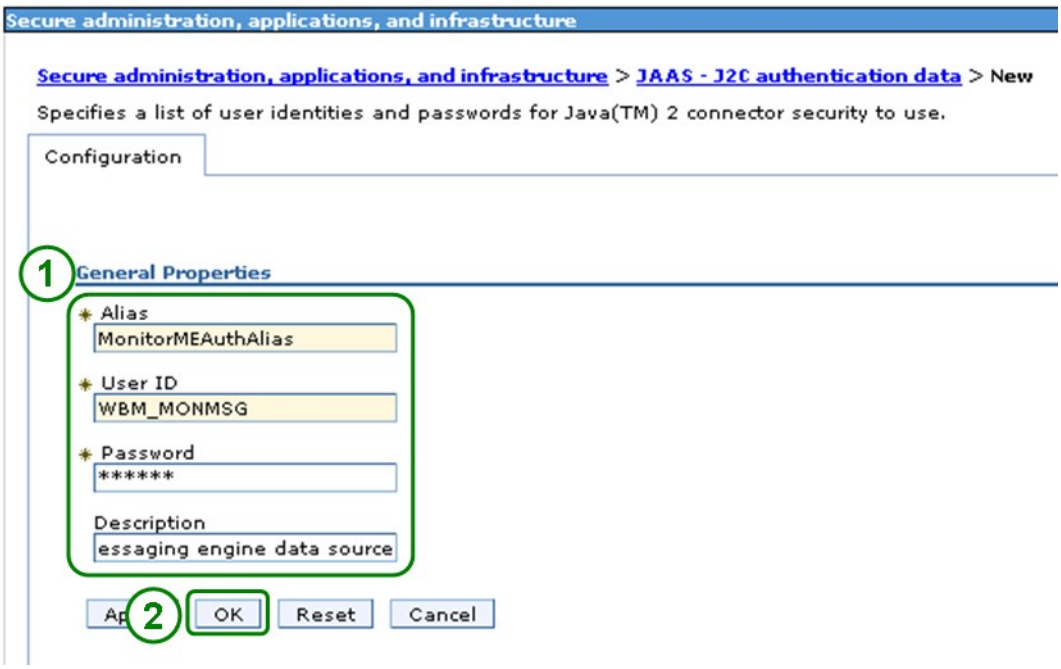
19.1 Configure monitor messaging on the MECluster

19.1.1 Create the authentication alias for the monitor messaging engine

In the admin console, navigate to

```
Security
  -> Secure administration, applications, and infrastructure
    -> Java Authentication and Authorization Service
      -> J2C authentication data
        -> [New]
```

The "JAAS - J2C authentication data > New" page is displayed:



1. Type in Alias, User ID, Password and Description for the authentication alias:

Alias:	MonitorMEAuthAlias
User ID:	WBM_MONMSG

Password: <password>
Description: Authentication for the monitor messaging engine data source

2. Press OK

Save changes and synchronize Nodes.

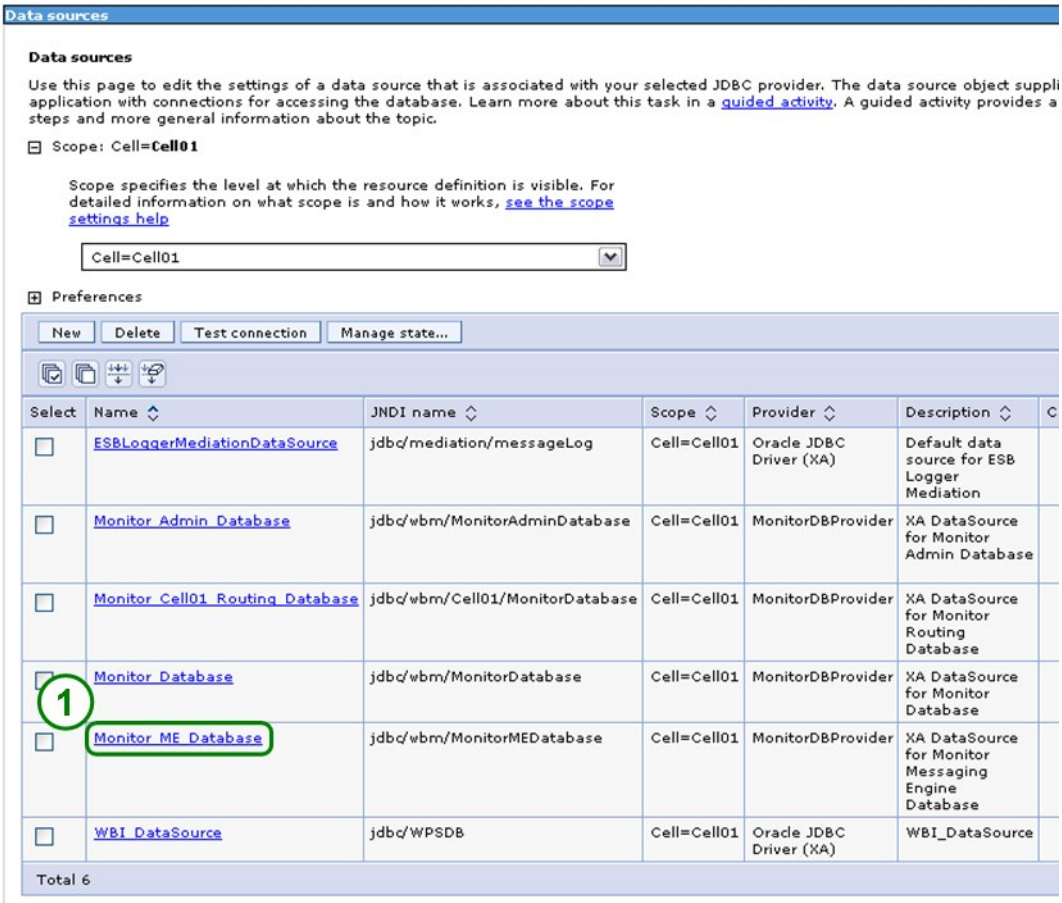
Please refer to the Appendix "Save changes and synchronize Nodes" how to do this.

19.1.2 Configure the datasource for the monitor messaging engine

In the admin console, navigate to

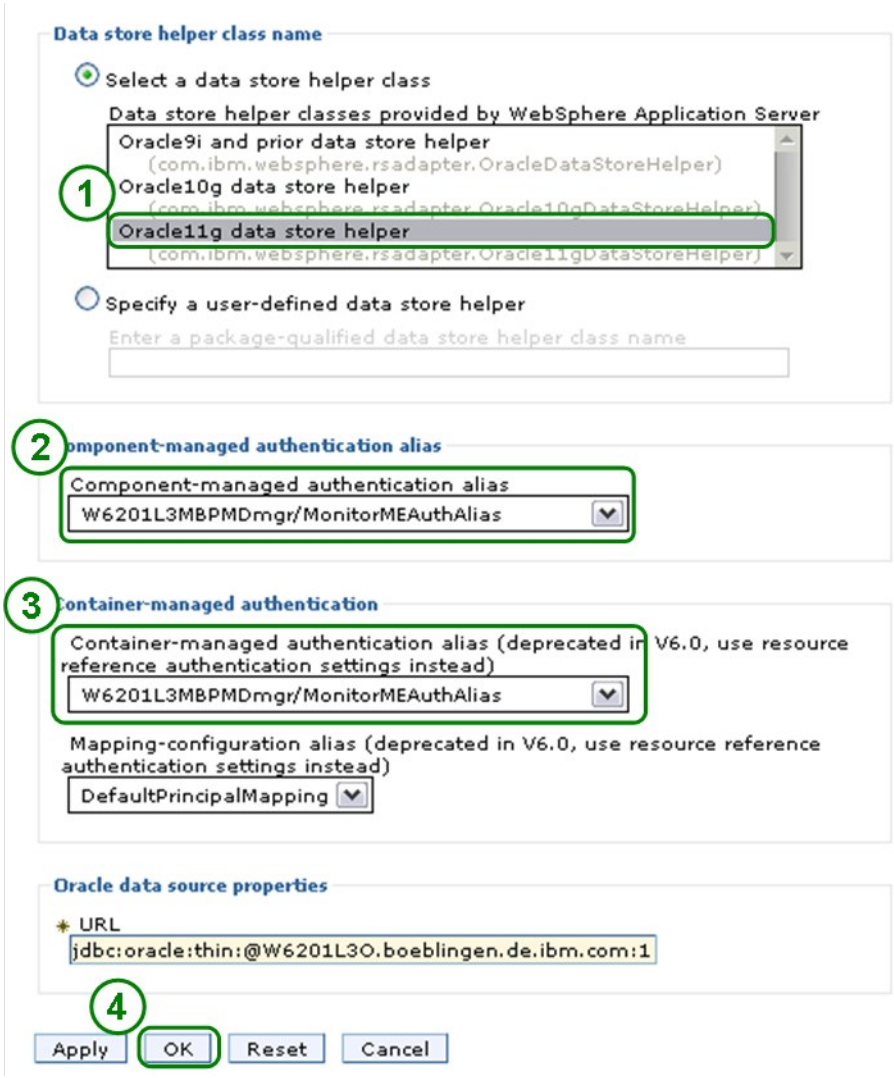
```
Resources
  -> JDBC
    -> Data sources
      -> Switch scope to "Cell=Cell01"
```

The "Data sources" page is displayed:



1. Press Monitor_ME_Database

The "Monitor_ME_Database Configuration" page is displayed:



1. Select "Oracle11g data store helper" class

2. Select "<DMGR_Hostname>/MonitorMEAuthAlias"

3. Select "<DMGR_Hostname>/MonitorMEAuthAlias"

4. Press OK

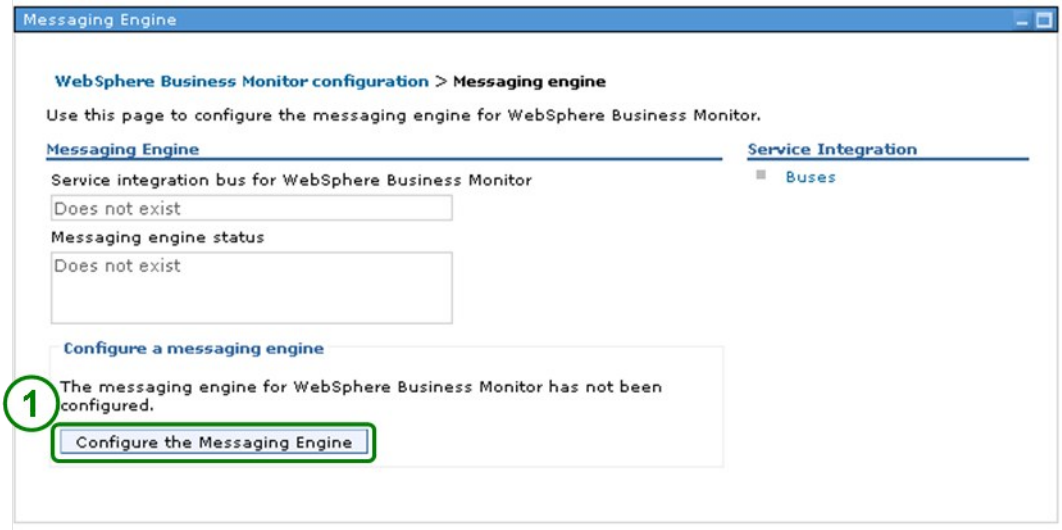
Save changes and synchronize Nodes.

19.1.3 Configure the monitor messaging engine

In the admin console, navigate to

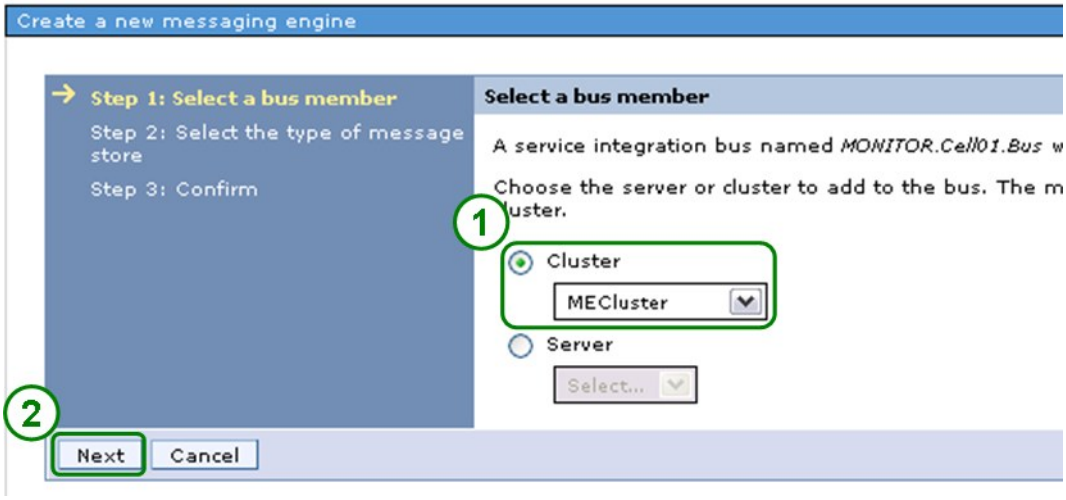
```
Servers
  -> WebSphere Business Monitor configuration
    ->Messaging engine
```

The "Messaging engine" page is displayed:



1. Press Configure the Messaging Engine

The "Step 1: Select a bus member" page is displayed:



1. Select Cluster -> MECluster

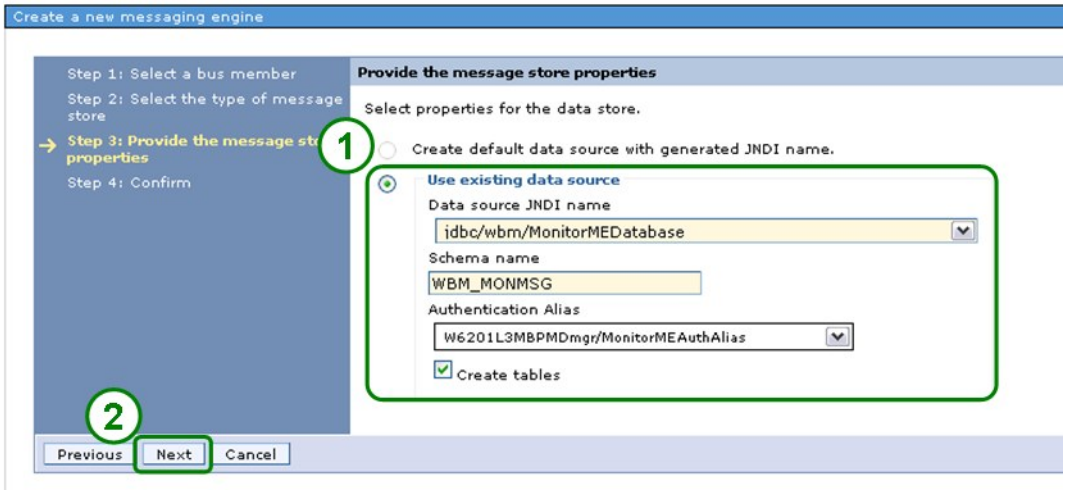
2. Press **Next**

The "Step 2: Select the type of message store" page is displayed:

1. Select "Data store"

2. Press **Next**

The "Step 3: Provide the message store properties" page is displayed:



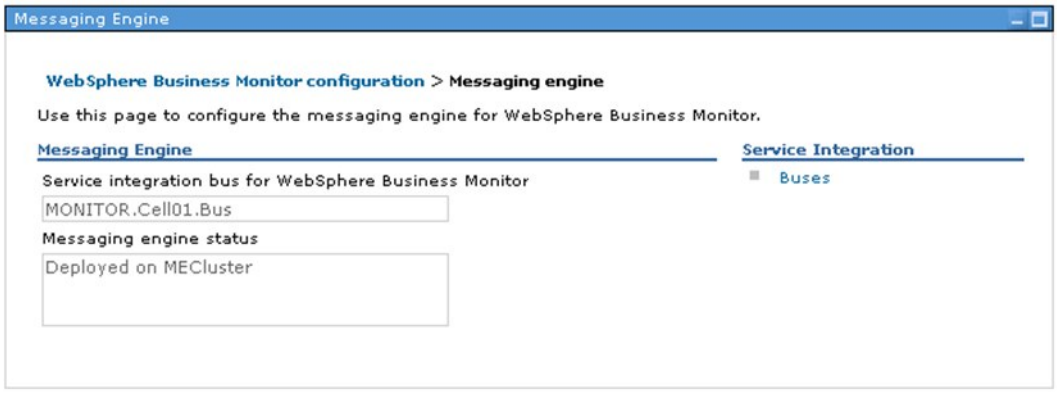
1. Type in / Select the following information:
   Data source JNDI name: jdbc/wbm/MonitorMEDatabase
   Schema name: WBM_MONMSG
   Authentication Alias: "<DMGR_Hostname>/MonitorMEAuthAlias"

2. Press **Next**

The "Step 4: Confirm" page is displayed:

1. Press **Finish**

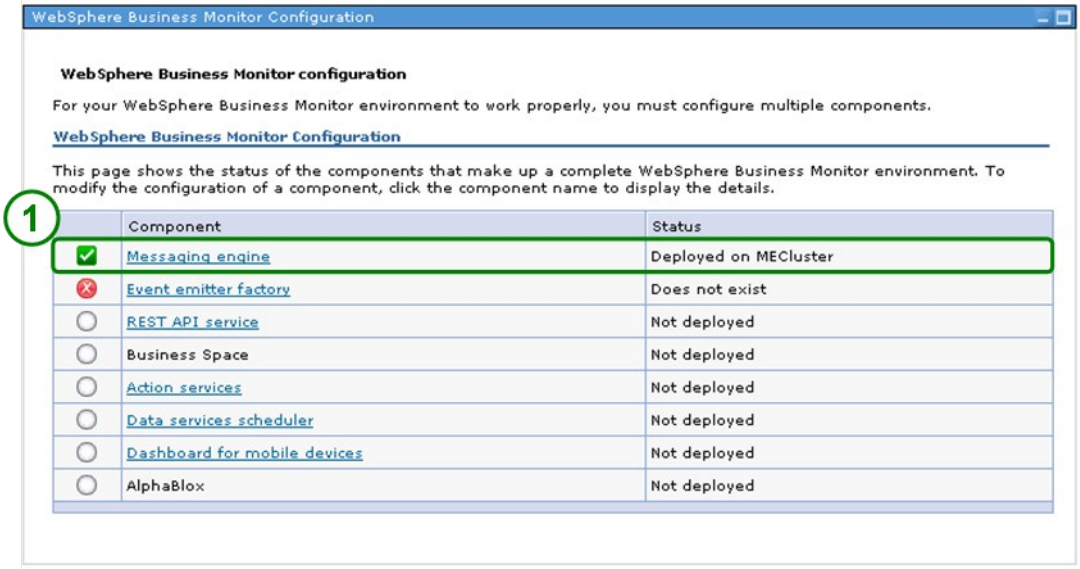
The "Messaging engine" page is displayed:



In the admin console, navigate to

```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



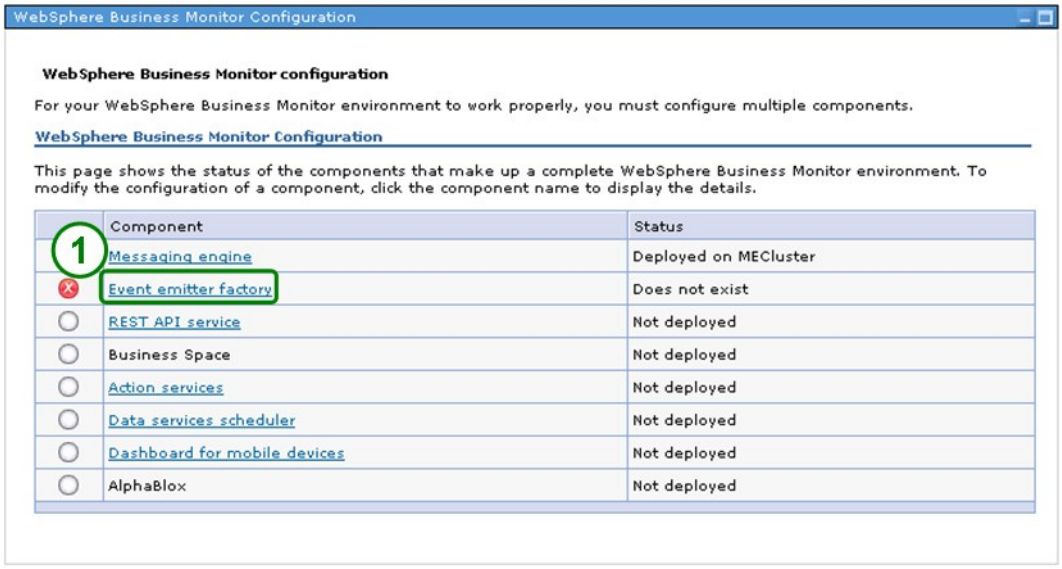
1. The Messaging engine has now the Status: "Deployed on MECluster".

19.2 Configure the monitor emitter factory on the SupportCluster

In the admin console, navigate to

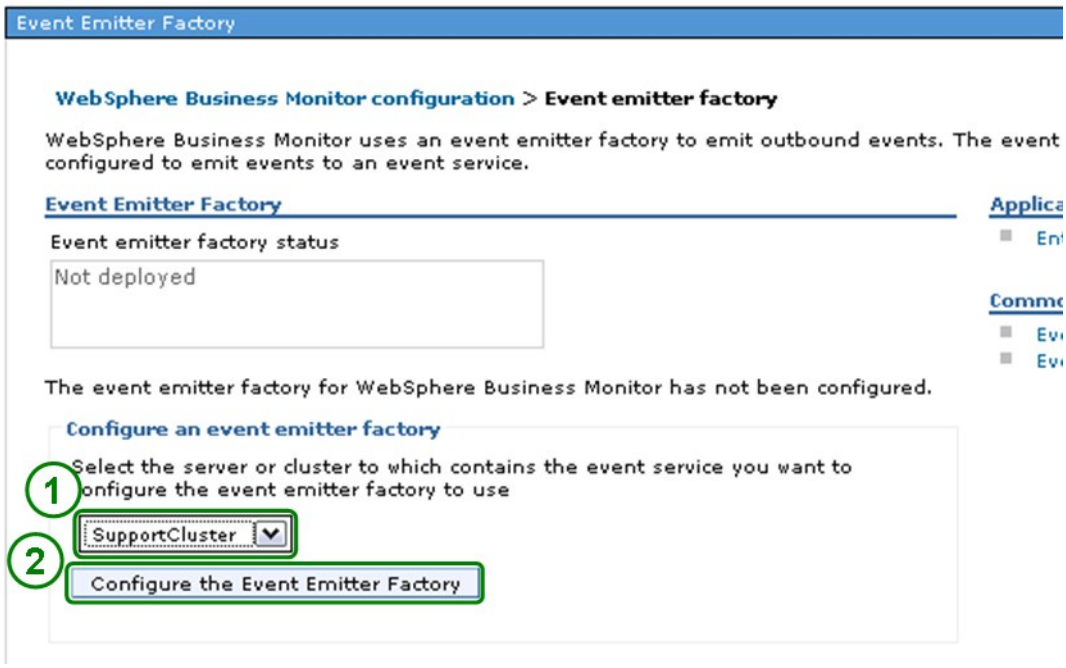
```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. Press Event emitter factory

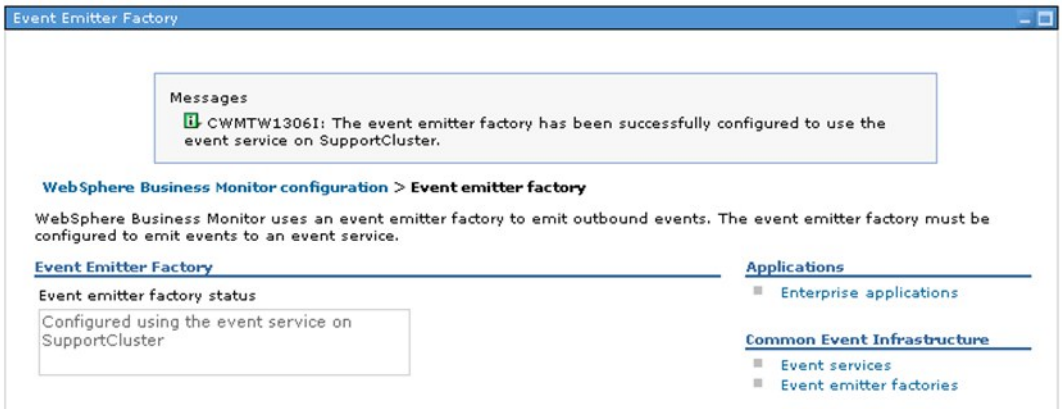
The "Event emitter factory" page is displayed:



1. Select "SupportCluster"

2. Press Configure the Event Emitter Factory

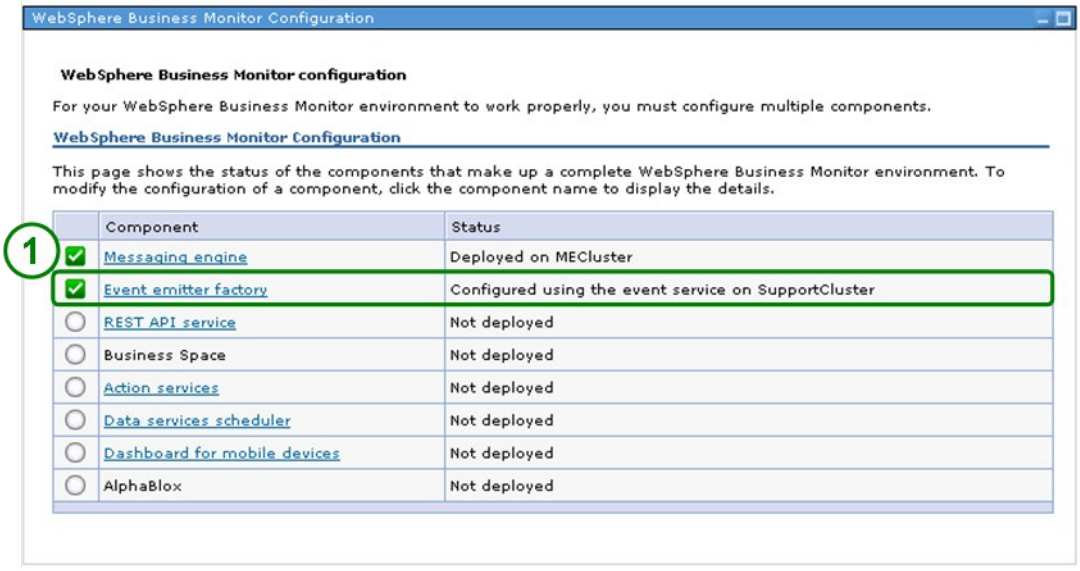
The "Event emitter factory" page is displayed:



In the admin console, navigate to

```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. The Event emitter factory has now the Status: "Configured using the event service on SupportCluster".

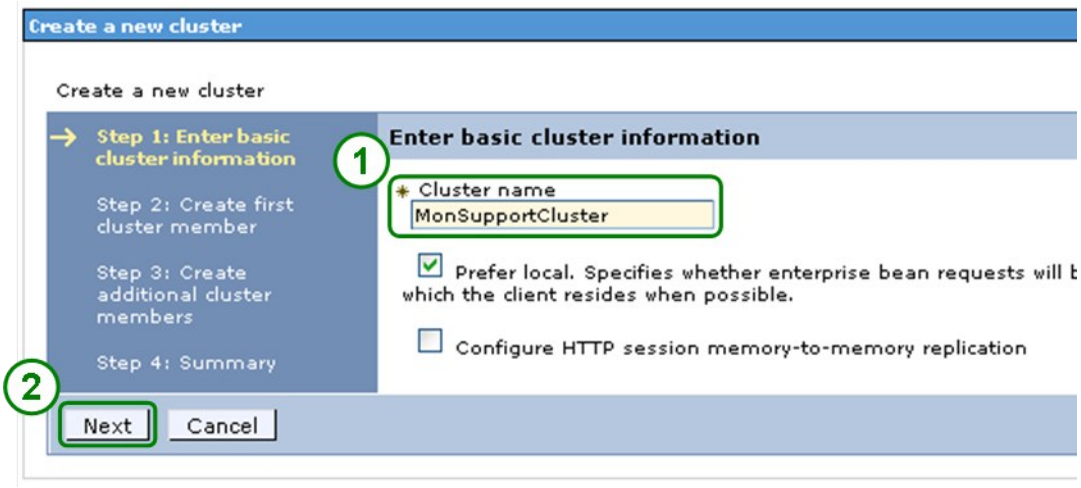
Chapter 20 Configure the Monitor Support Cluster

20.1 Create the Monitor Support Cluster (MonSupportCluster)

In the admin console, navigate to:

```
Servers
  -> Clusters
    -> [New]
```

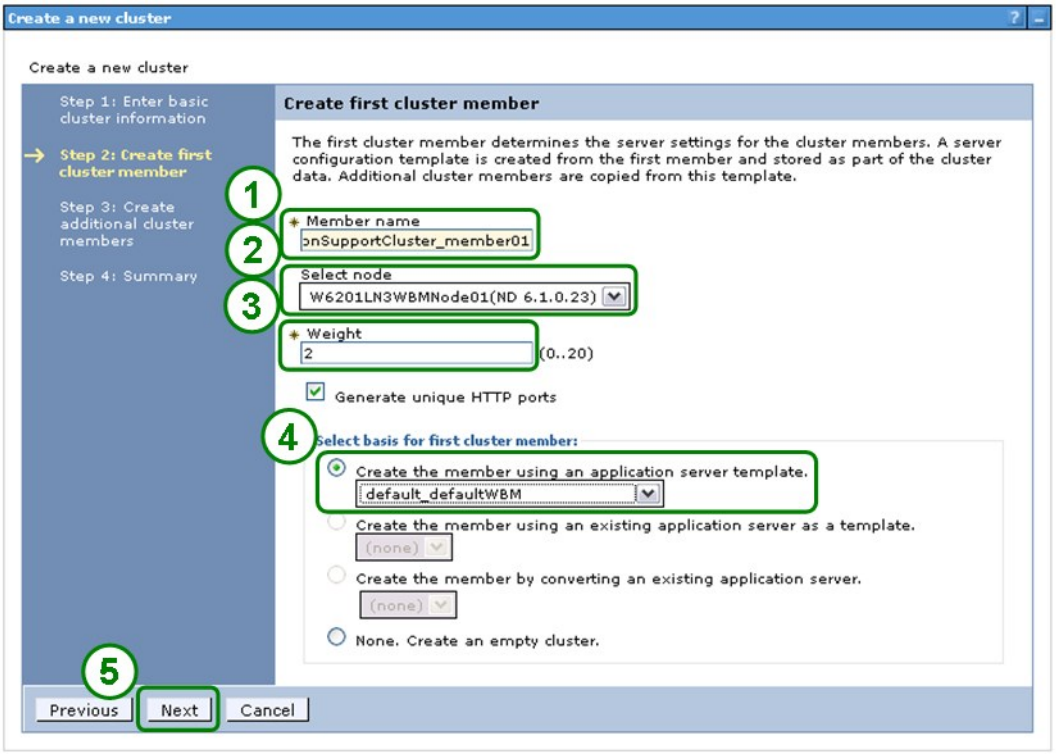
The "Create a new cluster Step 1" page is displayed:



1. Type in the Cluster name in this case "MonSupportCluster".

2. Click **Next**

The "Create a new Cluster Step 2" page is displayed:



1. Type in the Member name in this case "MonSupportCluster_member01".

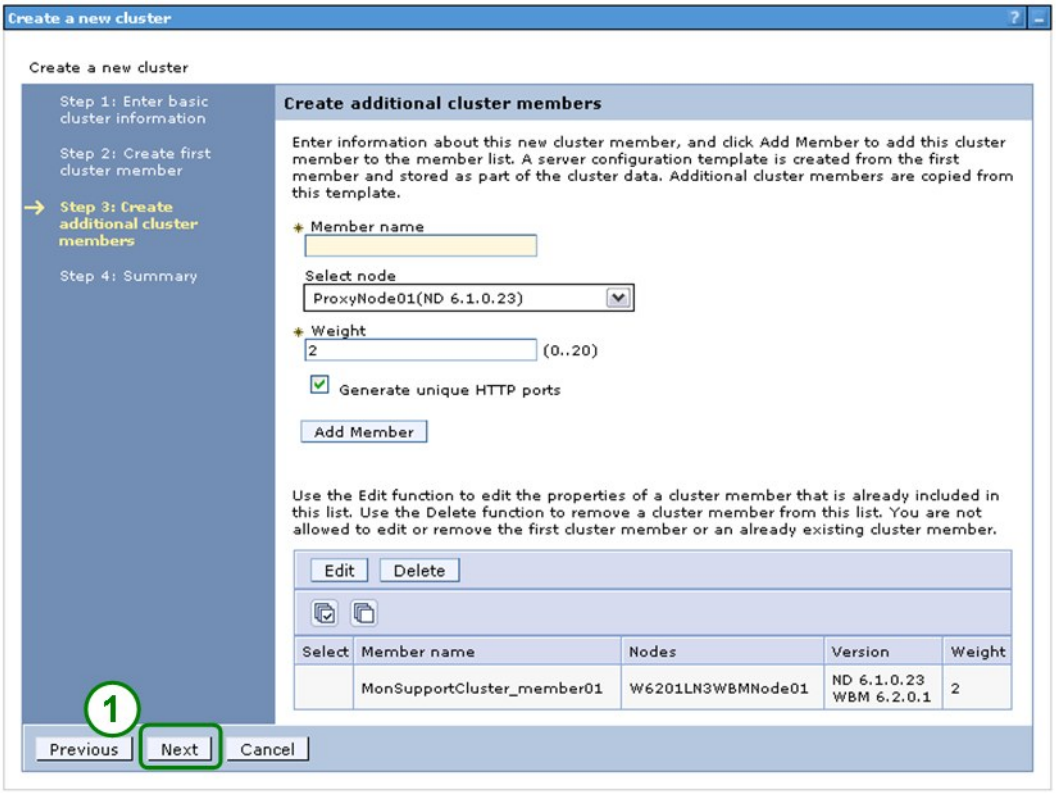
2. Select node "W6201LN3WBMNode01" from the drop-down-box.

3. Type in the Weight in this case "2".

4. Select the Template "default_defaultWBM" from the drop-down-box.

5. Click **Next**

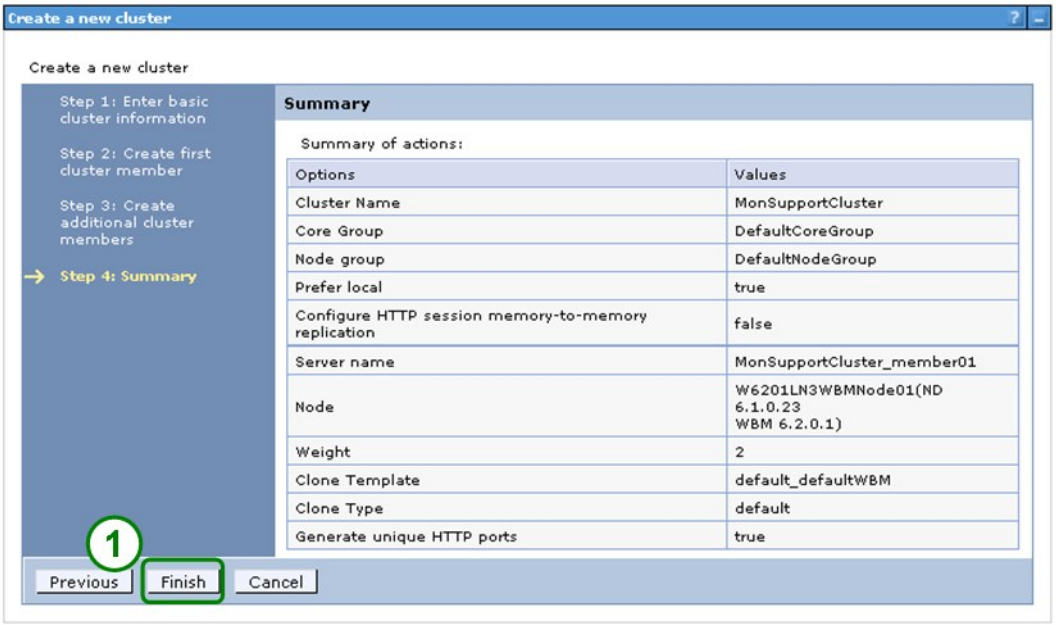
The "Create a new cluster Step:3" page is displayed:



1. Click **Next**

Note: For now there will be only one member for the cluster created and proceeded with the configuration of the cluster. After verifying that the cluster works, an additional cluster member will be created.

The "Create a new cluster Step:4" page is displayed:



1. Click **Finish**

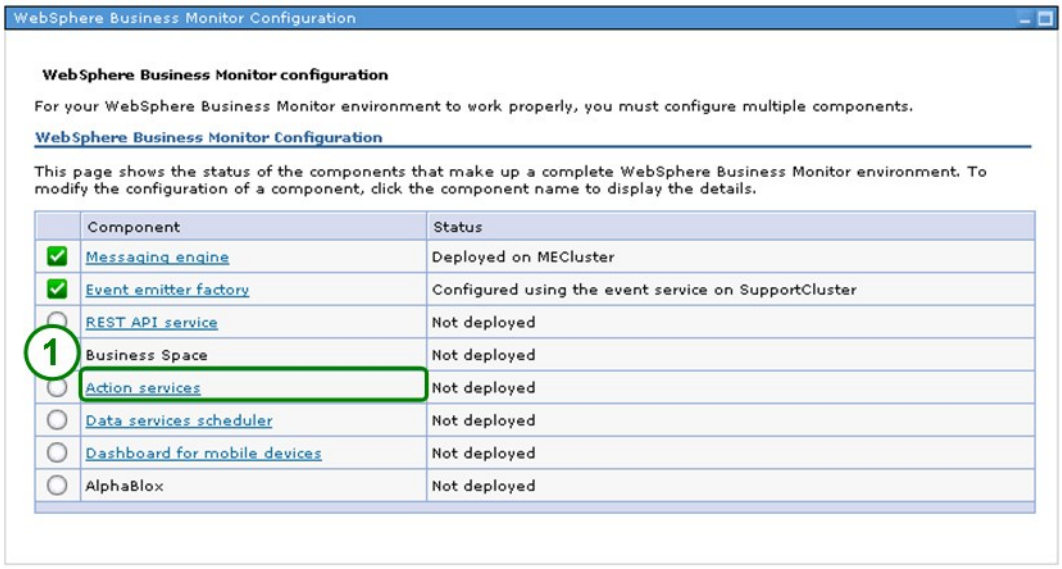
Save and **synchronize** the configuration.

20.2 Configure the action services application on the MonSupportCluster

In the admin console, navigate to

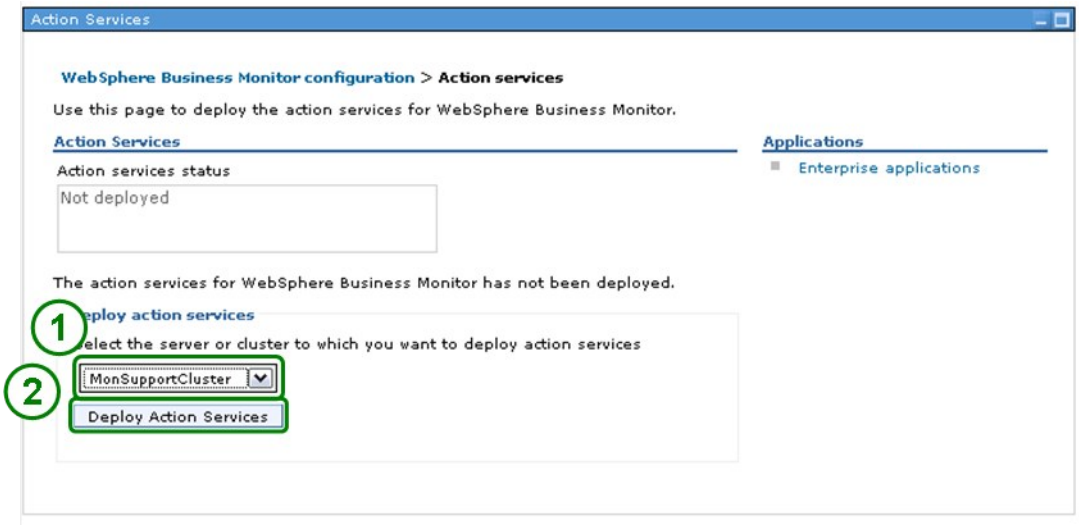
```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. Press Action services

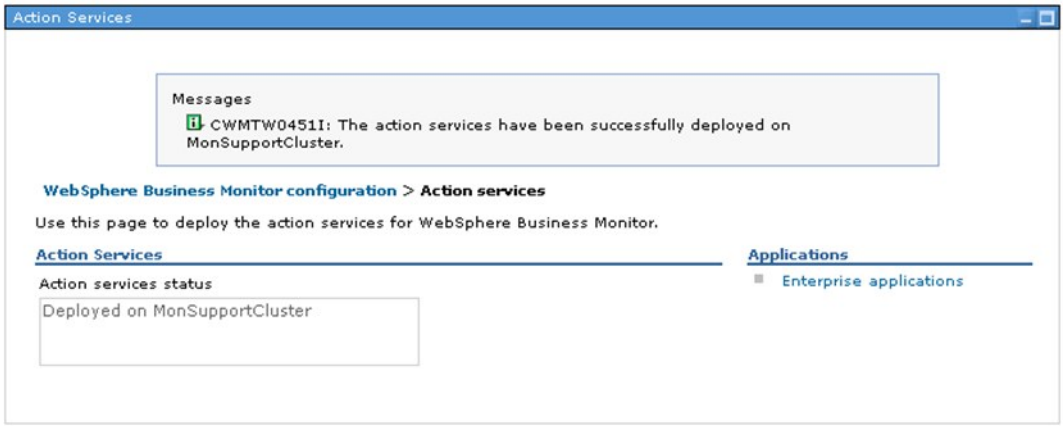
The "Action Services" page is displayed:



1. Select "MonSupportCluster"

2. Press Deploy Action Services

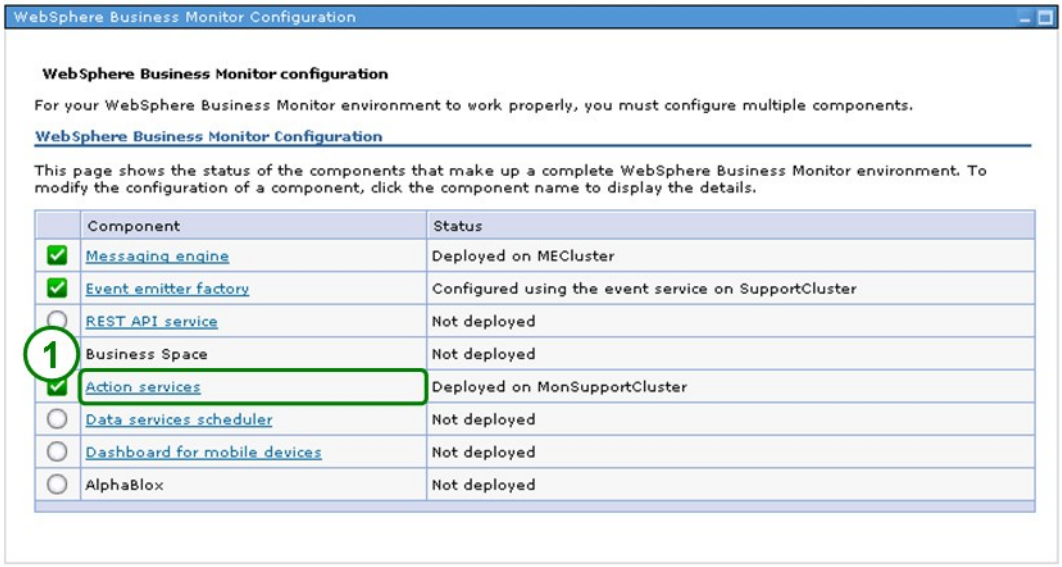
The "Action Services" page is displayed again:



In the admin console, navigate to

```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



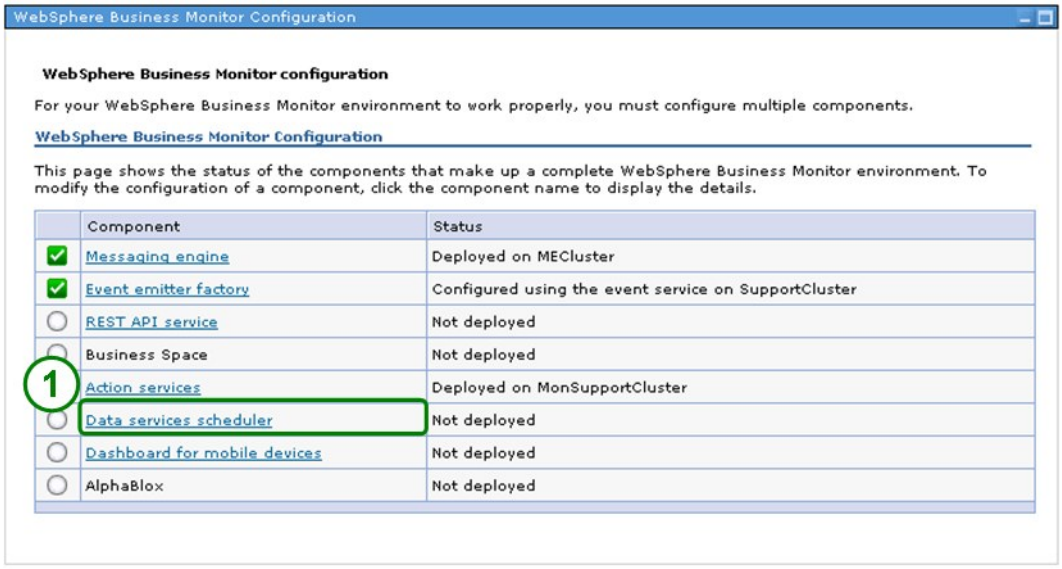
1. The Action services is now in Status: "Deployed on MonSupportCluster"

20.3 Configure the data services scheduler on the MonSupportCluster.

In the admin console, navigate to

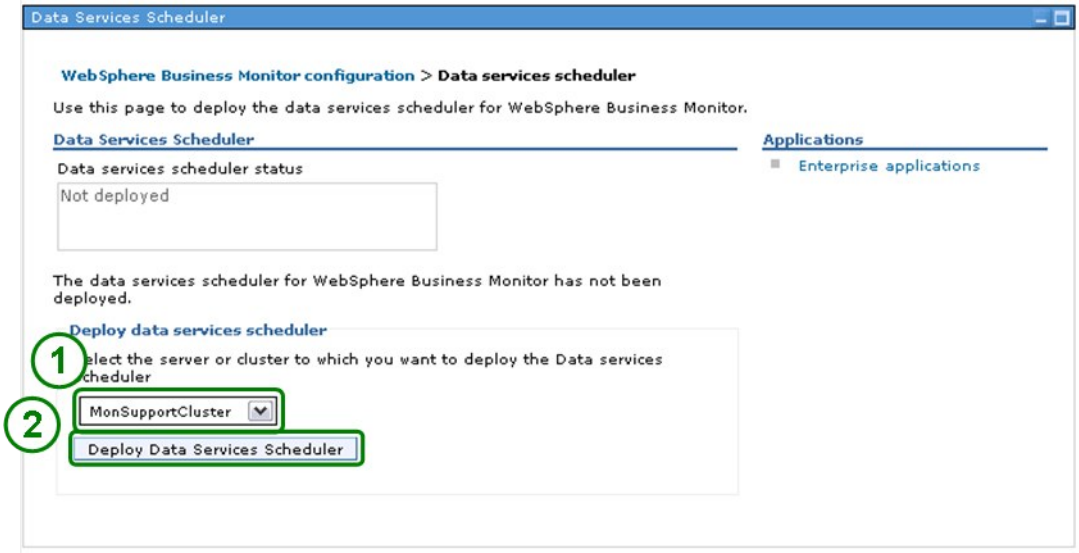
```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. Press Data services scheduler

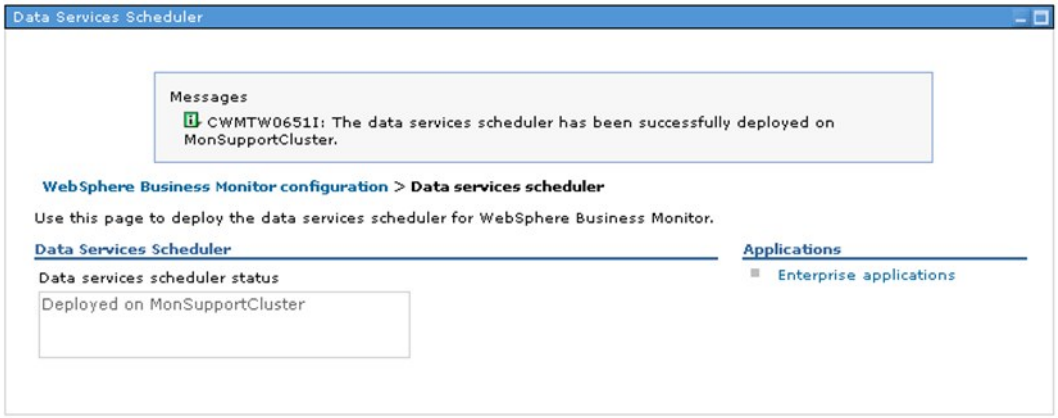
The "Data Services Scheduler" page is displayed:



1. Select "MonSupportCluster"

2. Press Deploy Data Services Scheduler

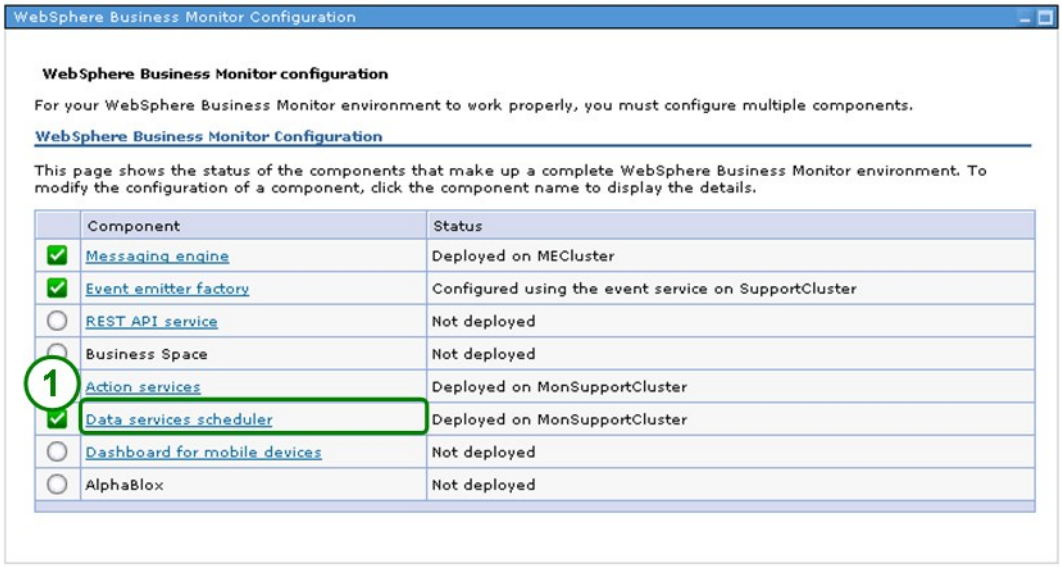
The "Data Services Scheduler" page is displayed:



In the admin console, navigate to

```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. The Data services scheduler is now in Status: "Deployed on MonSupportCluster"

20.4 Verify cluster start-up

In the admin console, navigate to:

```
Servers
  -> Clusters.
```

Select **MonSupportCluster** and click **Start.**

Check log file **SystemOut.log** for MonSupportCluster_member01 in directory:

```
<inst_root>/profiles/W6201LN3WBMCustom01/logs/MonSupportCluster_member01
```

for errors.

20.5 Create an additional cluster member

In the admin console, navigate to:

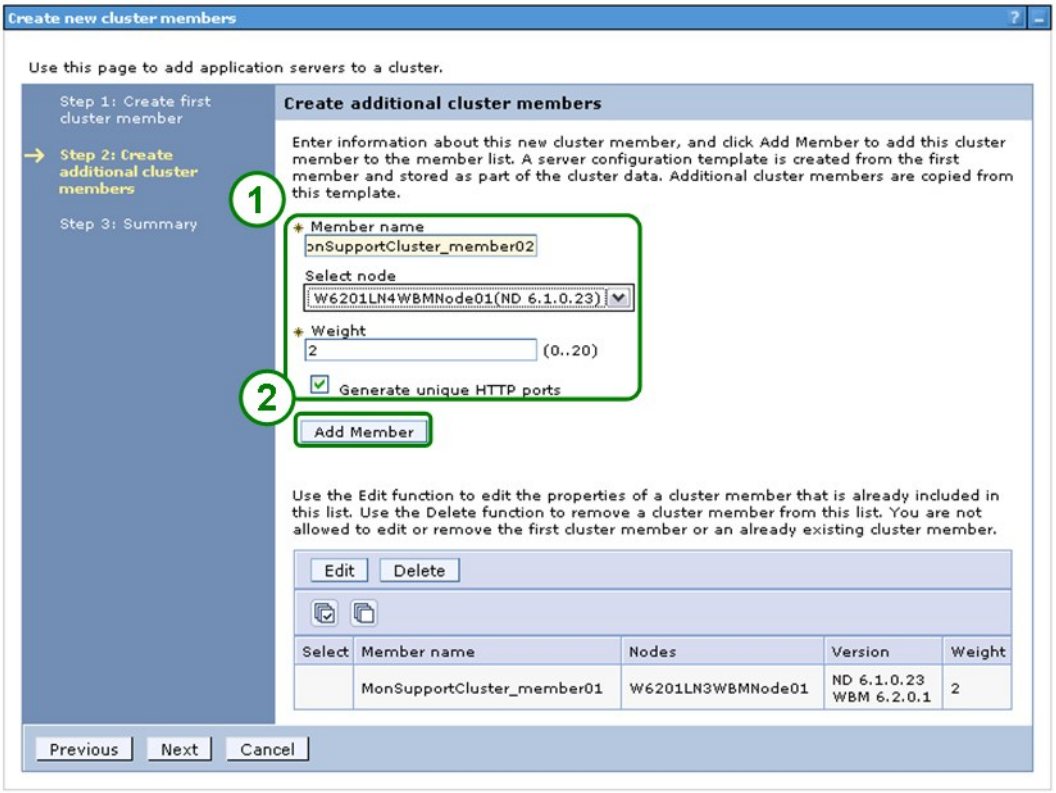
```
Servers
  -> Clusters.
```

Select **MonSupportCluster** and click **Stop.** Wait until the MonSupportCluster is stopped. Navigate to:

```
Servers
  -> Clusters
    -> MonSupportCluster
      -> Cluster Members
```

and click **New**.

The "Create new cluster members" page is displayed:



1. Enter the following values:

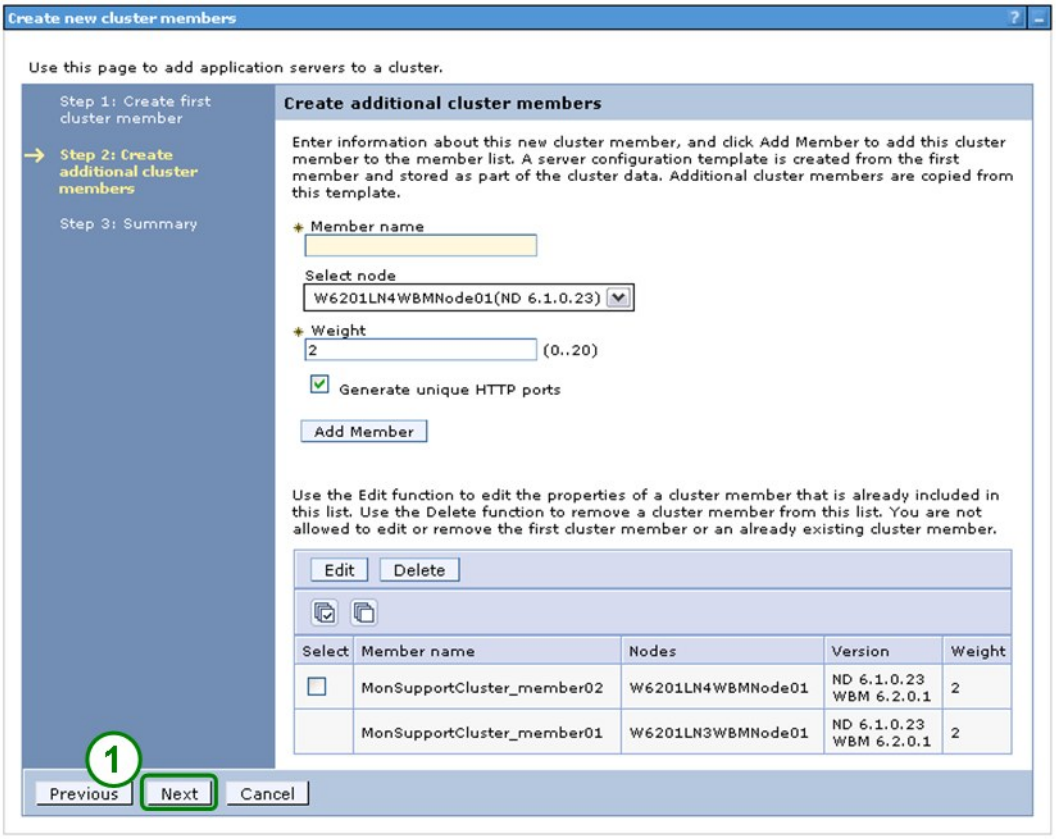
a.) Member name: MonSupportCluster_member02

b.) Select node: W6201LN4WBMNode01

c.) Weight: 2

2. Click **Add Member**

The "Create new cluster members" page is displayed:



1. Click **Next**

The "Create new cluster members Summary" page is displayed:

1. Click **Finish**

Save and **synchronize** the configuration.

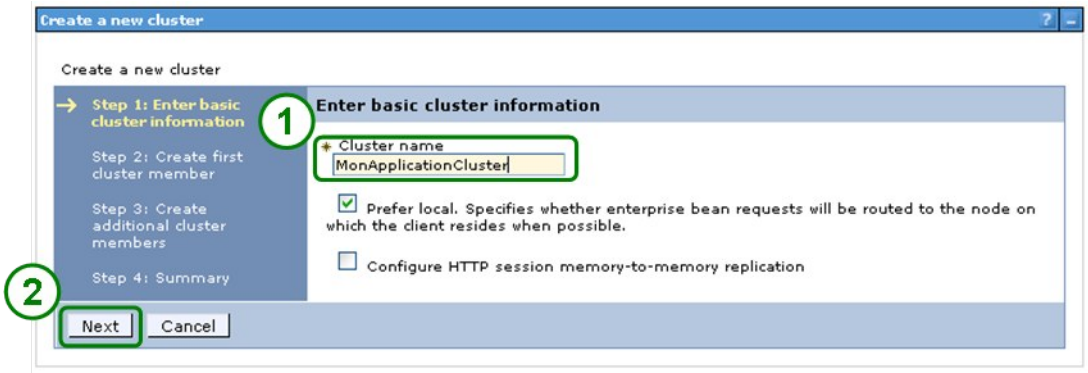
Chapter 21 Create Monitor Application Cluster

21.1 Create the Monitor Application Cluster (MonApplicationCluster)

In the admin console, navigate to:

```
Servers
  -> Clusters
    -> [New]
```

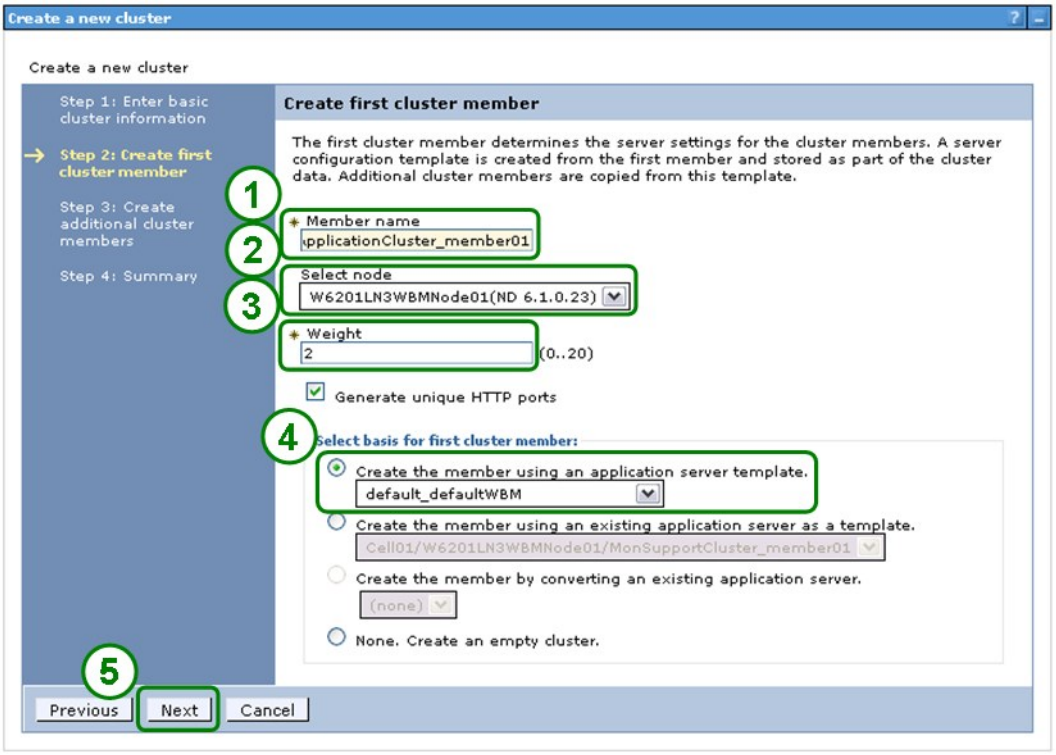
The "Create a new cluster Step 1" page is displayed:



1. Type in the Cluster name in this case "MonApplicationCluster".

2. Click **Next**

The "Create a new Cluster Step 2" page is displayed:



1. Type in the Member name in this case "MonApplicationCluster_member01".

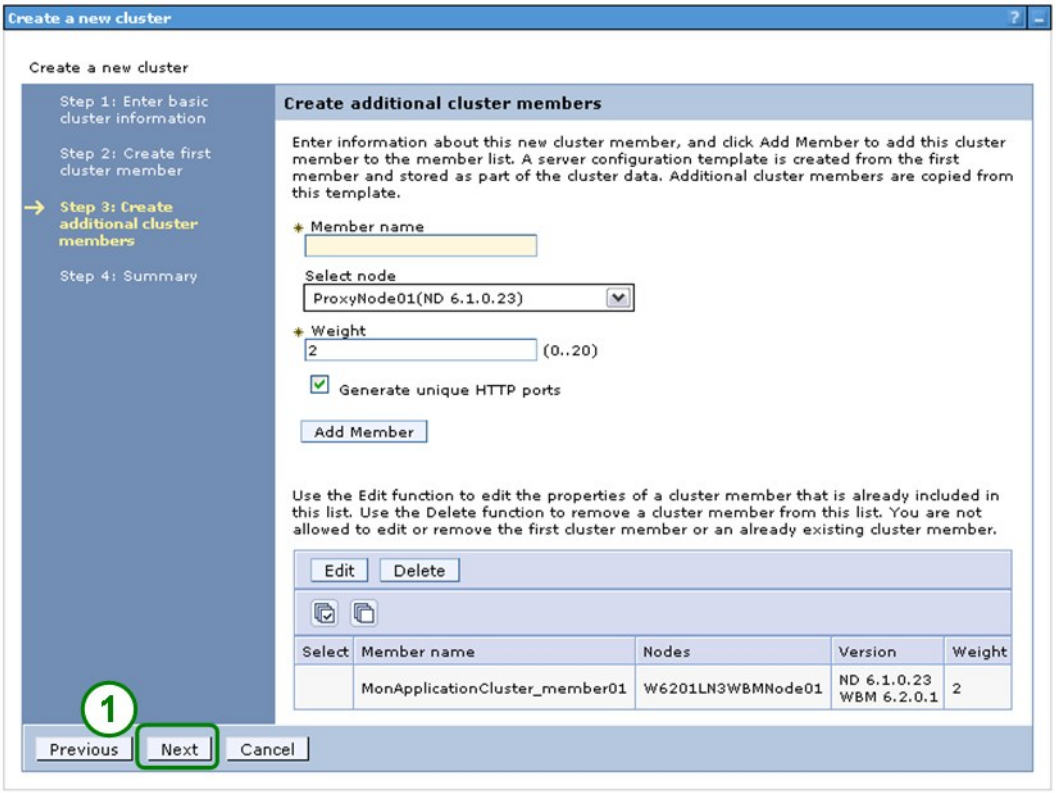
2. Select node "W6201LN3WBMNode01" from the drop-down-box.

3. Type in the Weight in this case "2".

4. Select the Template "default_defaultWBM" from the drop-down-box.

5. Click **Next**

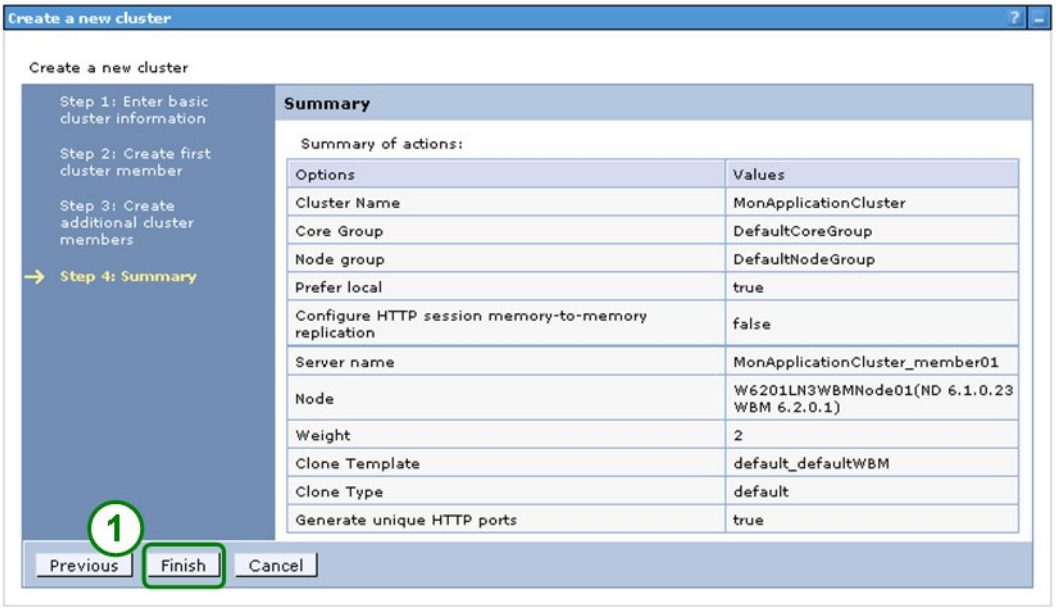
The "Create a new cluster Step:3" page is displayed:



1. Click **Next**

Note: For now there will be only one member for the cluster created and proceeded with the configuration of the cluster. After verifying that the cluster works, an additional cluster member will be created.

The "Create a new cluster Step:4" page is displayed:



1. Click **Finish**

Save and **synchronize** the configuration.

21.2 Verify cluster start-up

In the admin console, navigate to:

Servers
-> Clusters.

Select **MonApplicationCluster** and click **Start.**

Check log file **SystemOut.log** for MonApplicationCluster_member01 in directory:

```
<inst_root>/profiles/W6201LN3WBMCustom01/logs/MonApplicationCluster_mem-
ber01
```

for errors.

21.3 Create an additional cluster member

In the admin console, navigate to:

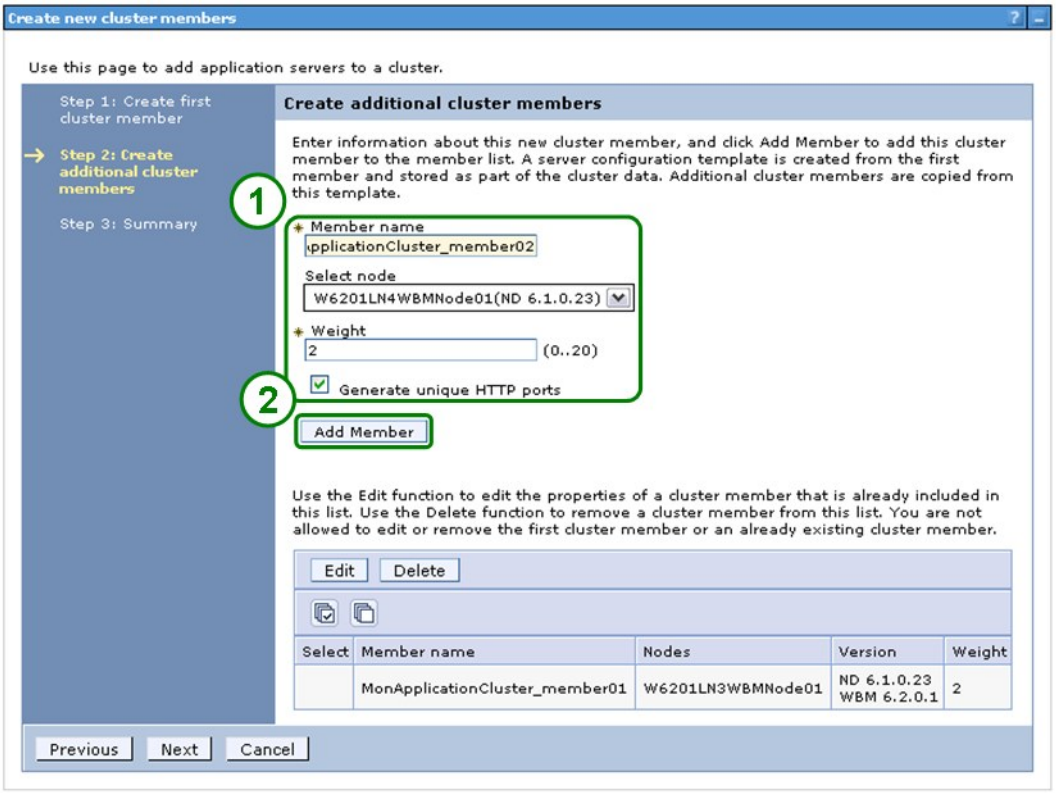
```
Servers
  -> Clusters.
```

Select **MonSupportCluster** and click **Stop.** Wait until the MonSupportCluster is stopped. Navigate to:

```
Servers
  -> Clusters
    -> MonApplicationCluster
      -> Cluster Members
```

and click **New**.

The "Create new cluster members" page is displayed:



1. Enter the following values:

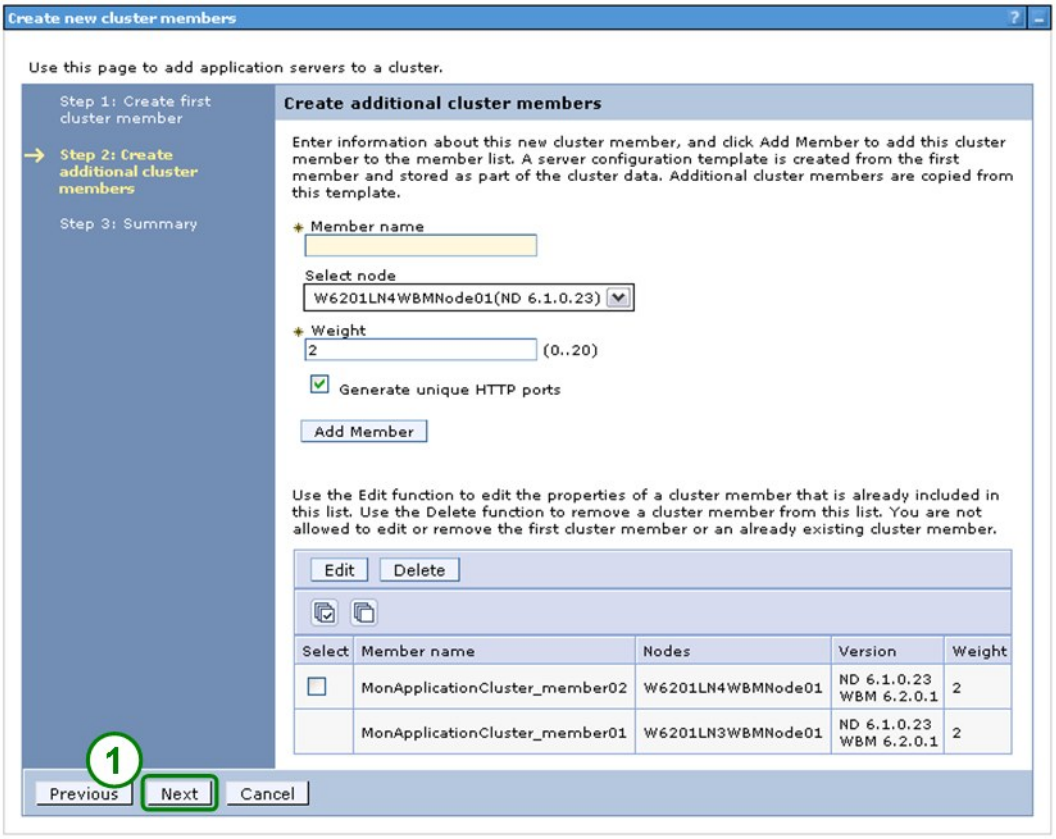
a.) Member name: MonApplicationCluster_member02

b.) Select node: W6201LN4WBMNode01

c.) Weight: 2

2. Click **Add Member**

The "Create new cluster members" page is displayed:



1. Click **Next**

The "Create new cluster members Summary" page is displayed:

1. Click **Finish**

Save and **synchronize** the configuration.

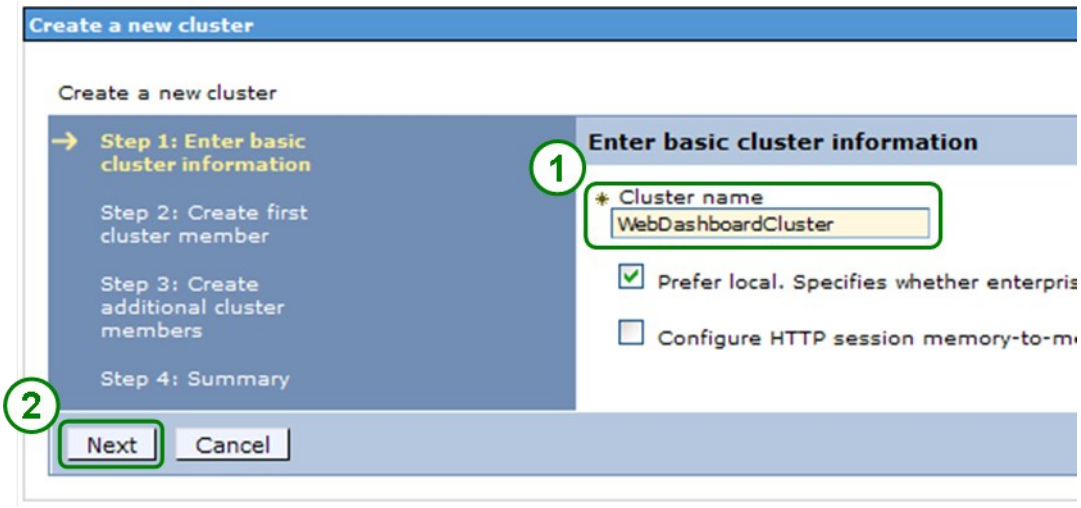
Chapter 22 Create Monitor Web Dashboard

22.1 Create the Monitor Web Dashboard Cluster (WebDashboardCluster)

In the admin console, navigate to:

```
Servers
  -> Clusters
    -> [New]
```

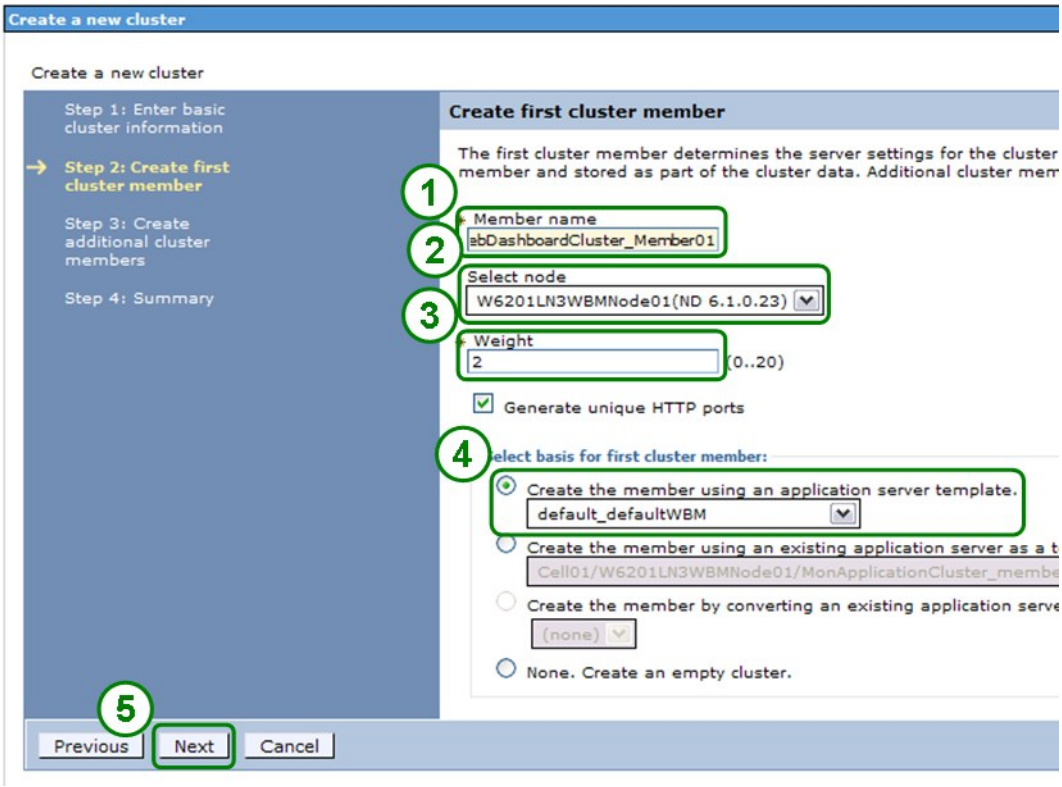
The "Create a new cluster Step 1" page is displayed:



1. Type in the Cluster name in this case "WebDashboardCluster".

2. Click **Next**

The "Create a new Cluster Step 2" page is displayed:



1. Type in the Member name in this case "WebDashboardCluster_member01".

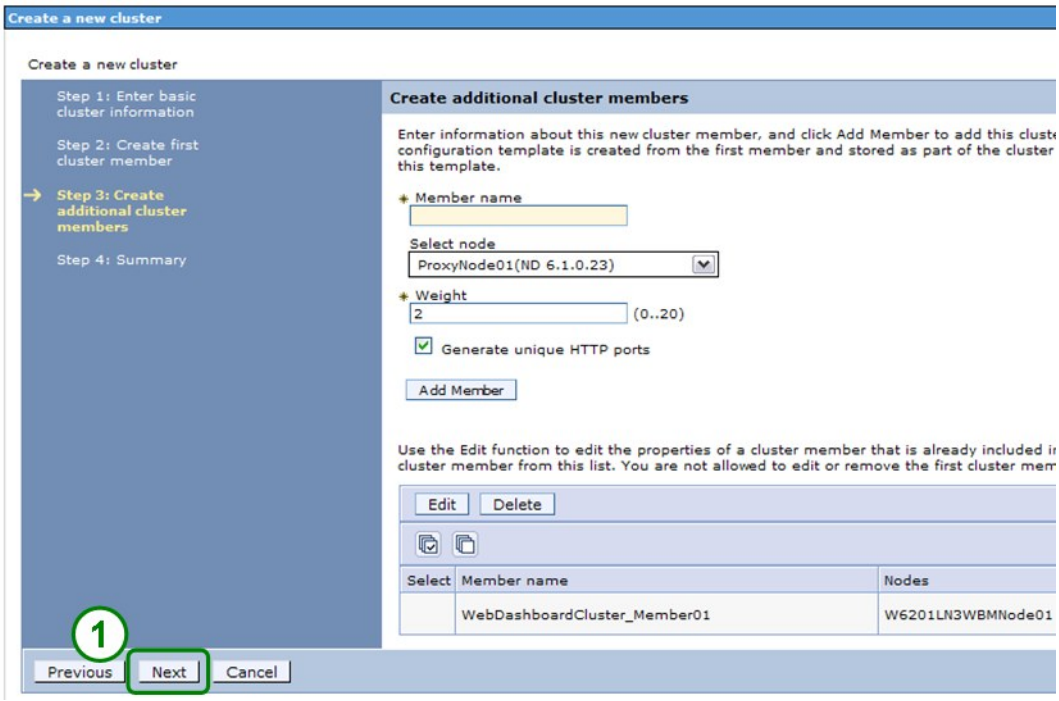
2. Select node "W6201LN3WBMNode01" from the drop-down-box.

3. Type in the Weight in this case "2".

4. Select the Template "default_defaultWBM" from the drop-down-box.

5. Click **Next**

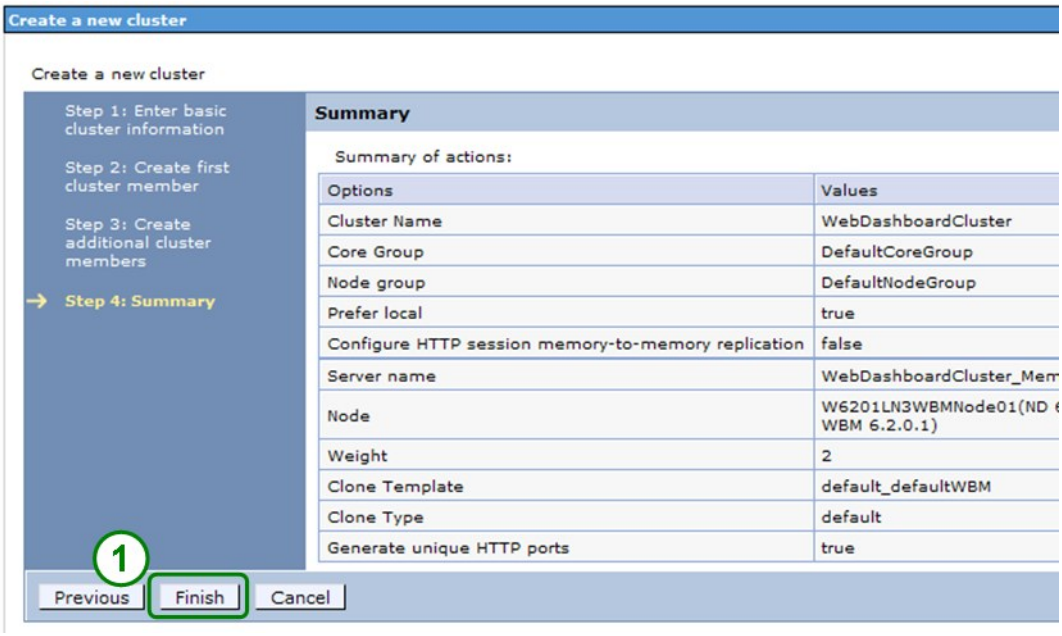
The "Create a new cluster Step:3" page is displayed:



1. Click **Next**

Note: For now there will be only one member for the cluster created and proceeded with the configuration of the cluster. After verifying that the cluster works, an additional cluster member will be created.

The "Create a new cluster Step:4" page is displayed:



1. Click **Finish**

Save and **synchronize** the configuration.

22.2 Verify cluster start-up

In the admin console, navigate to:

```
Servers
  -> Clusters
```

Select **WebDashboardCluster** and click **Start.**

Check log file **SystemOut.log** for WebDashboardCluster_member01 in directory:

```
<inst_root>/profiles/W6201LN3WBMCustom01/logs/WebDashboardCluster_member01
```

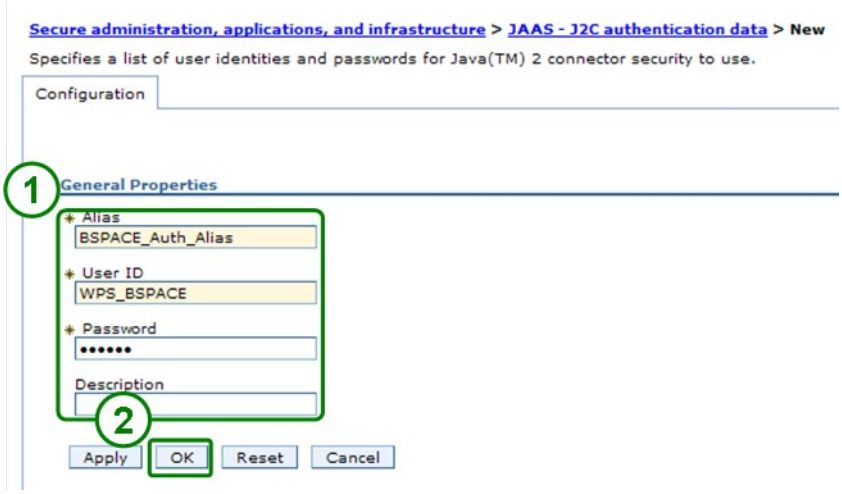
for errors.

22.3 Create Business Space authentication alias

To create the BSpace authentication alias navigate to:

```
Security
  -> Secure administration, applications, and infrastructure
    -> JAAS - J2C authentication data
      -> New
```

The "JAAS - J2C authentication data New" page is displayed:



1. Type in the following values for:
   - a.) Alias: BSPACE_Auth_Alias
   - b.) UserID: WPS_BSPACE
   - c.) Password: <password>
   - d.) Description

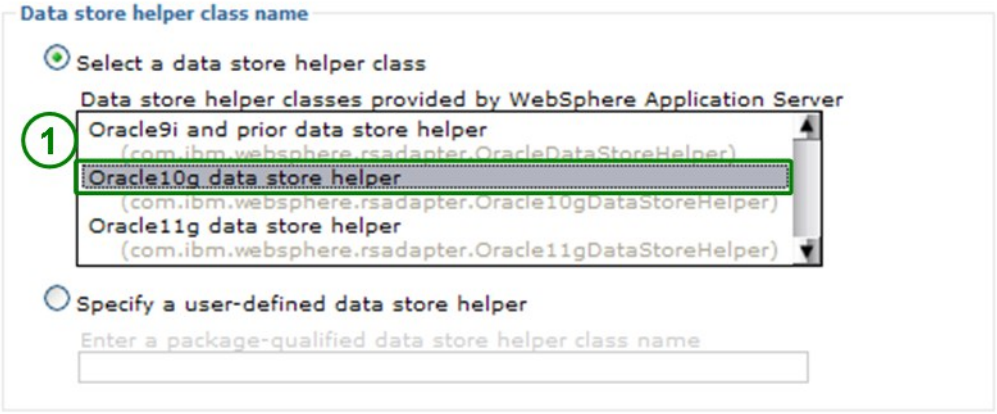
2. Click **Ok**, save and synchronize

22.4 Install Business Space applications

Navigate to the WBI datasource and change the datastore helper to Oracle 10g.

```
Resources
  -> JDBC
    -> Data sources
      -> WBI_DataSource
```

The "WBI_DataSource configuration" panel is displayed:



1. Select "Oracle10g data store helper"

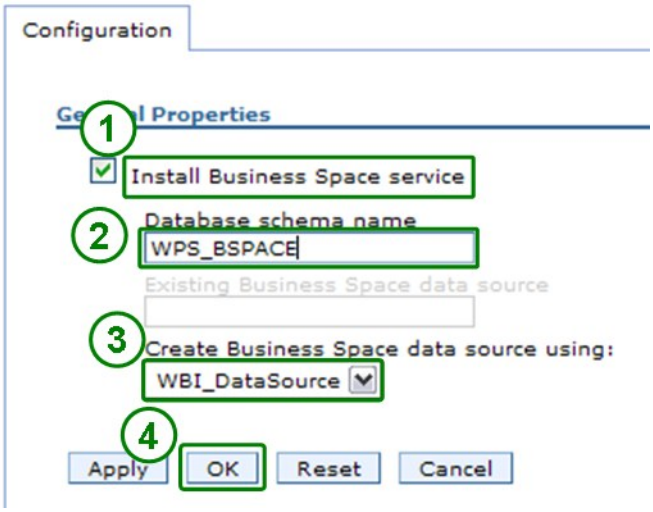
Press Ok, save and synchronize

Not changing the data store helper class to Oracle10g will lead to a Null Pointer Exception during the installation of the Business Space applications.

To install the Business Space applications navigate to:

```
Servers
  -> Cluster
    -> WebDashboardCluster
      -> Business Space Configuration
```

The "Business Space Configuration" page is displayed:



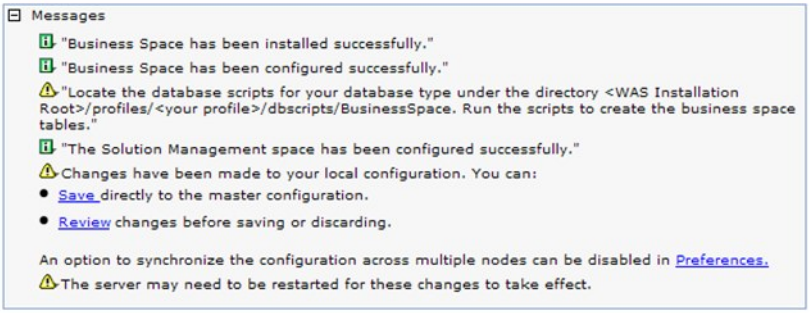
1. Select "Install Business Space service".

2. Type in the database schema name, in this case WPS_BSPACE.

3. Select "WBI_Datasource".

4. Click **Ok**

You will get the following message:

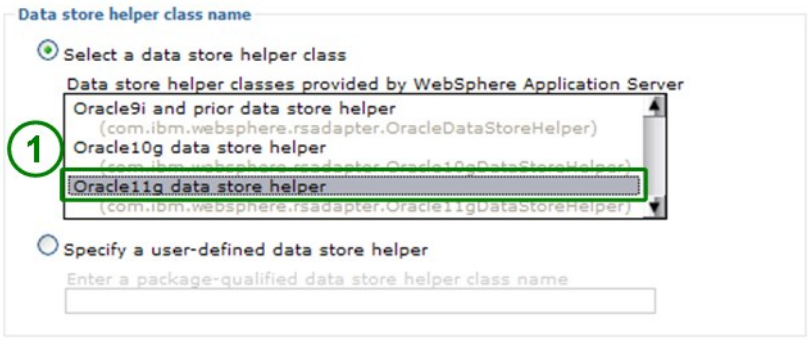


Save and synchronize the configuration

Navigate to the WBI datasource and change the datastore helper back to Oracle 11g.

```
Resources
  -> JDBC
    -> Data sources
      -> WBI_DataSource
```

The "WBI_DataSource configuration" panel is displayed:



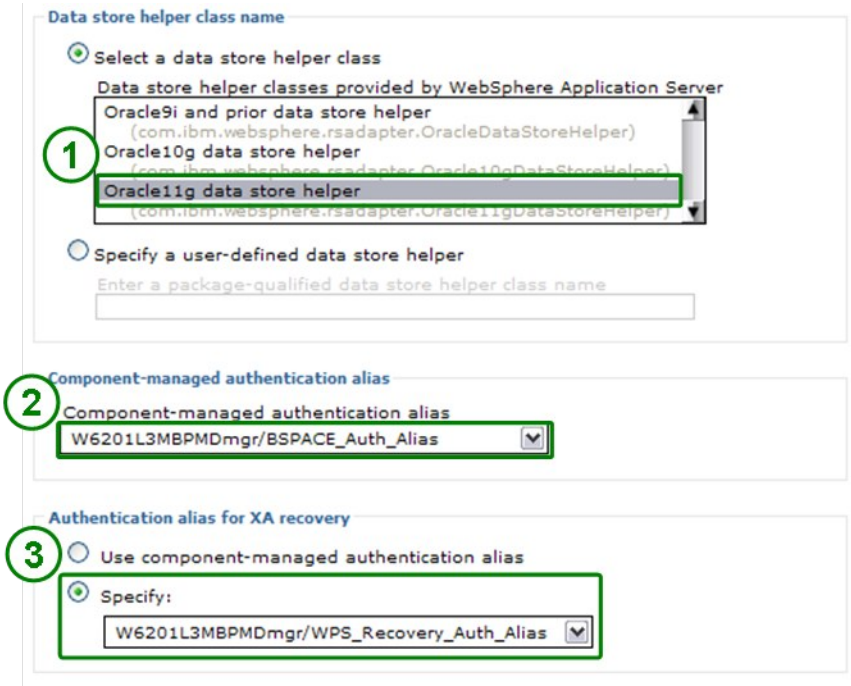
1. Select "Oracle11g data store helper"

Press Ok, save and synchronize

Navigate to the "Business Space Datasource" to change the datastore helper to Oracle 11g and the authentication alias to "<hostname>/BSPACE_Auth_Alias".

```
Resources
  -> JDBC
    -> Data sources
      -> Business Space Datasource
```

The "Business Space Datasource configuration" panel is displayed:



1. Select "Oracle11g data store helper"

2. Select "<hostname>/BSPACE_Auth_Alias"

3. Select specify and then "<hostname>/WPS_Recovery_Auth_Alias"

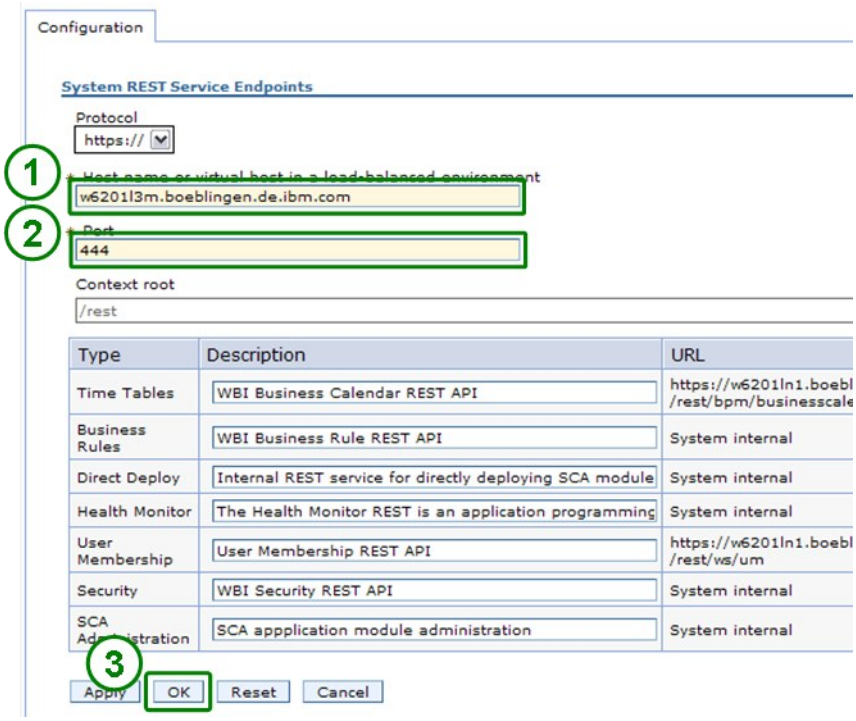
Press Ok, save and synchronize

22.5 Enable business rules for Business Space

In the admin console navigate to:

```
Servers
  -> Clusters
    -> SupportCluster
    -> System REST Service Endpoints
```

The "System REST Service Endpoints" panel is displayed:



1. Type in the proxy host, in this case "w6201l3m.boeblingen.de.ibm.com".

2. Type in the proxy port, in this case "444".

3. Click **Ok**

Save and synchronize the configuration

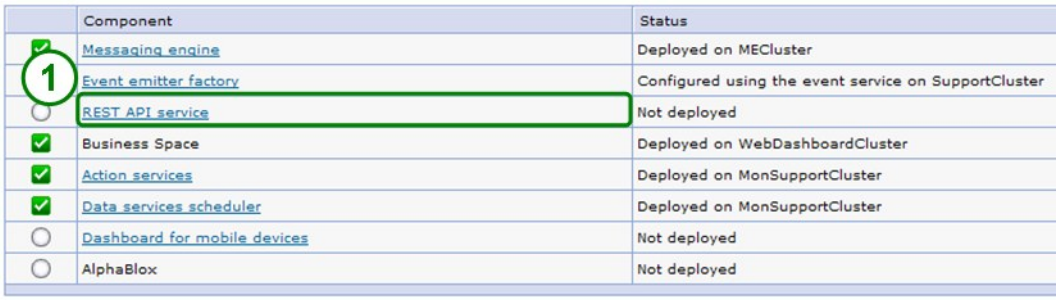
Recycle the entire cell (clusters, nodes and deployment manager) and verify output messages for successful startup.

22.6 Deploy WBM Rest service API on WebDashboardCluster

In the admin console, navigate to

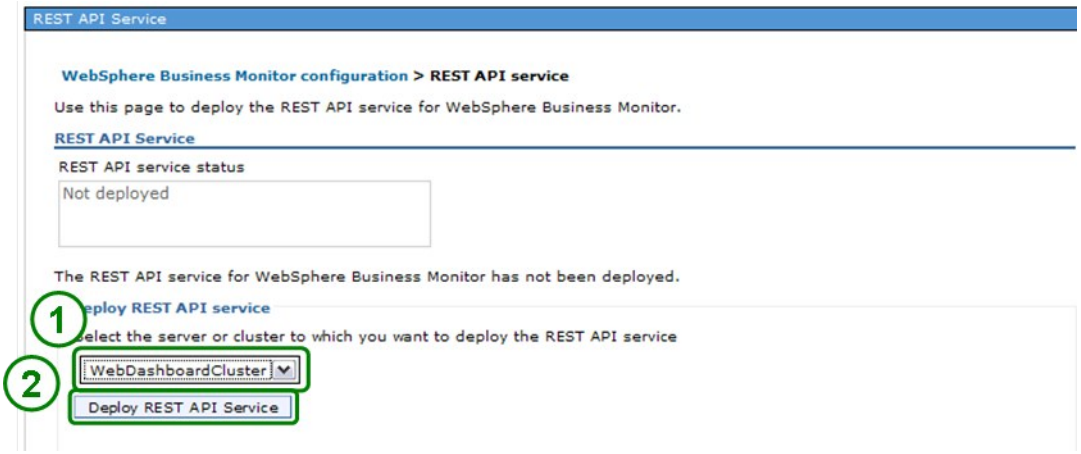
```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. Select **REST API service**

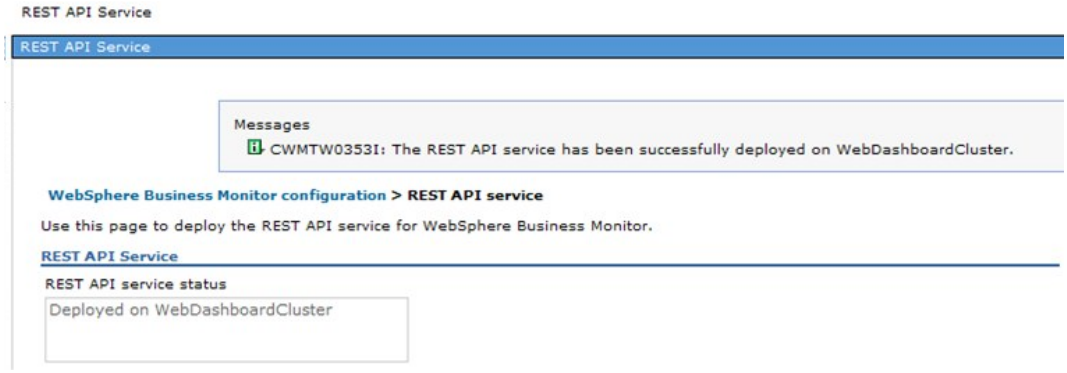
The "REST API service" page is displayed:



1. Select "WebDashboardCluster"

2. Press **Deploy REST API Service**

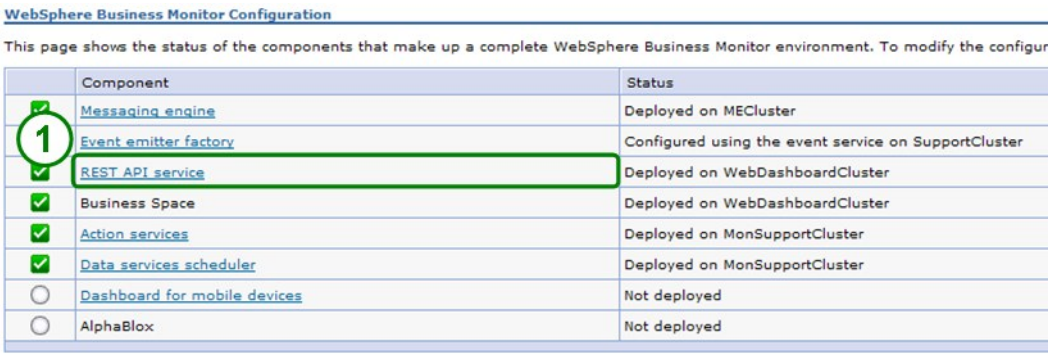
The "REST API Service" page is displayed again:



In the admin console, navigate to

```
Servers
  -> WebSphere Business Monitor configuration
```

The "WebSphere Business Monitor configuration" page is displayed:



1. The "REST API service" is now in Status: "Deployed on WebDashboard-Cluster"

22.7 Verify cluster start-up

1. In the admin console, navigate to:

```
Servers
  -> Clusters.
```

2. Select **WebDashboardCluster** and click **Start.**

3. Check log file **SystemOut.log** for MonSupportCluster_member01 in directory:

```
<inst_root>/profiles/W6201LN3WBMCustom01/logs/WebDashboardCluster_member01
```

for errors.

4. In the admin console, navigate to:

```
Servers
  -> Clusters.
```

5. Select **WebDashboardCluster** and click **Stop.**

6. Check log file **SystemOut.log** for MonSupportCluster_member01 in directory:

```
<inst_root>/profiles/W6201LN3WBMCustom01/logs/WebDashboardCluster_member01
```

for errors.

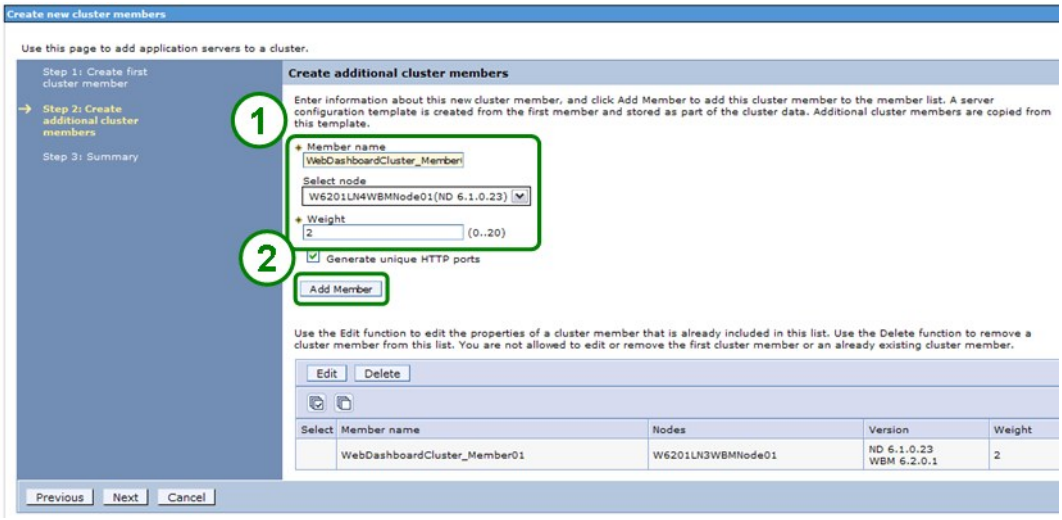
22.8 Create an additional cluster member

in den admin console, navigate to:

```
Servers
  -> Clusters
    -> WebDashboardCluster
      -> Cluster Members
```

and click **New**.

The "Create new cluster members" page is displayed:



1. Enter the following values:

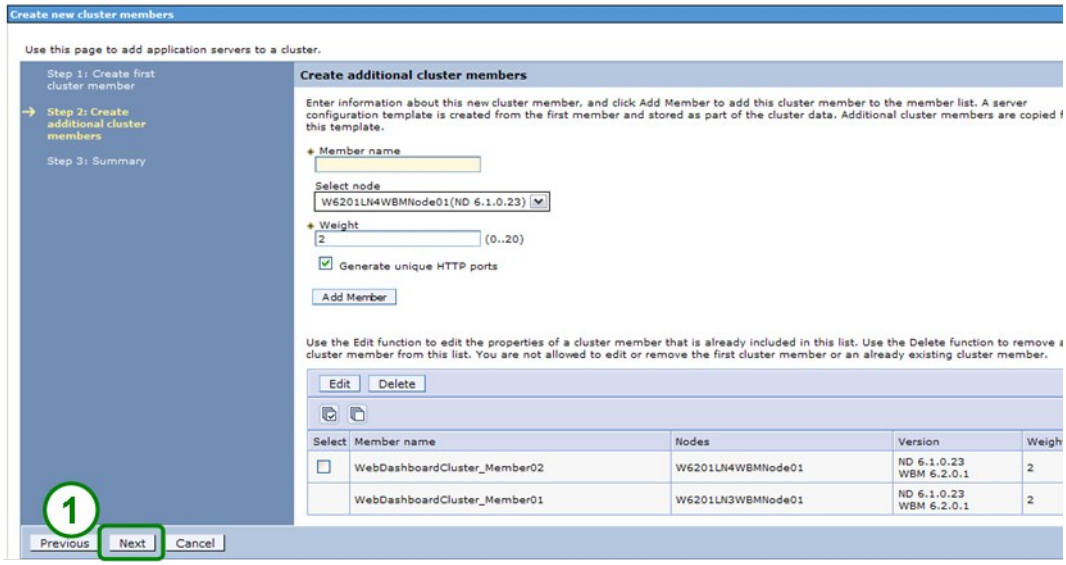
a.) Member name: WebDashboardCluster_member02

b.) Select node: W6201LN4WBMNode01

c.) Weight: 2

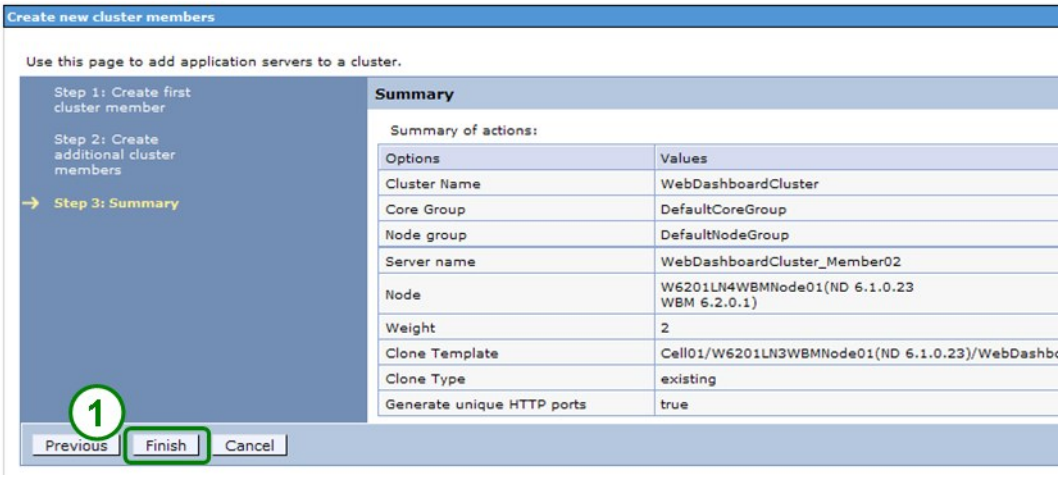
2. Click **Add Member**

The "Create new cluster members" page is displayed:



1. Click **Next**

The "Create new cluster members Summary" page is displayed:



1. Click **Finish**

Save and **synchronize** the configuration.

22.9 Install Alphablox on the WebDashbordCluster

22.9.1 Oracle JDBC driver for Alphablox

1. Create the directory /opt/oracle/abx_driver on each WBM host, in this case on the hosts w6201ln3 and w6201ln4.

2. Locate the jdbc driver files in the directory "$ORACLE_HOME/jdbc/lib" on the host where Oracle was installed.

3. Copy **only** the file **ojdbc5.jar** from the lib directory into the directory /opt/oracle/abx_driver on each WBM host.

4. If a non-root WBM installation is done, make sure the driver directory is readable by the used WBM user.

22.9.2 Shut Down all Java Processes within the cell

Before installing and configuring Alphablox all Java Processes need to be stopped (Except the WebServer). Shut down all clusters, the Proxy Server, all nodeagents and the deployment manager.

22.9.3 Install Alphablox on WebSphere Business Node 1 (W6201LN3WBMNode01)

Navigate to the folder where the WebSphere Business Monitor binaries have been extracted. Here, navigate to the Alphablox folder:

```
cd ABX/Linux
```

Start the Alphablox installation:

```
./install.bin
```

```
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

===============================================================================
Choose Locale...
----------------

    1- Deutsch
  ->2- English
    3- EspaÃ±ol
    4- FranÃ§ais
    5- Italiano
    6- PortuguÃªs  (Brasil)

CHOOSE LOCALE BY NUMBER: 2
```

Press Enter to select English as locale.

```
IBM Alphablox 9.5                (created with InstallAnywhere by Macro-
vision)
-------------------------------------------------------------------------
=========================================================================

    International Program License Agreement

    Part 1 - General Terms

    BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, OR USING
    THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF
    YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON
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    WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON,
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Press Enter to continue viewing the license agreement, or enter "1" to
   accept the agreement, "2" to decline it, "3" to print it, or "99" to go
back
   to the previous screen.:
```

Enter **1** to accept the license agreement. Press Enter.

```
=========================================================================
IBM Alphablox 9.5 Installation
------------------------------

The IBM Alphablox Installer guides you through the installation of IBM
Alphablox.
If you are upgrading a previous version of IBM Alphablox, shut down IBM
Alphablox before proceeding with the installation.

PRESS <ENTER> TO CONTINUE:
```

Press Enter to continue.

```
===============================================================================
Installation Location
---------------------

Enter the Instance Name for IBM Alphablox (the default is AlphabloxAnalyt-
ics)
and choose the directory to which IBM Alphablox will be installed. If you
choose a directory in which an existing version of IBM Alphablox is in-
stalled,
the installation process will guide you through an upgrade to IBM Al-
phablox.

Destination Directory [/opt/Alphablox]::
```

Leave the default install location (/opt/Alphablox) and press Enter.

```
Server Instance Name [AlphabloxAnalytics]::
```

Leave the default Server Instance Name (AlphabloxAnalytics) and press Enter.

```
===============================================================================
Select Installation Set
-----------------------

Please choose the Install Set to be installed by this installer.

    1- Compact
  ->2- Typical

    3- Customize...

ENTER THE NUMBER FOR THE INSTALL SET, OR PRESS <ENTER> TO ACCEPT THE DE-
FAULT
   :
```

Press Enter to choose Typical installation (accept the default).

```
===============================================================================
Choose Application Server
-------------------------

Choose an Application Server to use with IBM Alphablox.

    1- Tomcat
  ->2- WebSphere

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Press Enter to choose WebSphere (accept the default).

```
Before continuing, you must completely shutdown WebSphere.
PRESS <ENTER> TO CONTINUE:
```

Press Enter.

```
Enter the WebSphere Application Server Directory.
NOTE: For clustered servers, required applications must be manually de-
ployed.
See post-installation steps in the Installation Guide.

WebSphere Root Directory []:: /WBM62
```

Enter **/WBM62** as WebSphere Root Directory. Press Enter.

```
Installing to a clustered server? (Y/N): Y
```

Enter **Y** to install Alphablox into a clustered environment. Press Enter.

```
Please select where to install the applications.
Server:
  ->1- MonSupportCluster_member01
    2- MonApplicationCluster_member01
    3- WebDashboardCluster_Member01
    4- nodeagent

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 3
```

Enter the number that corresponds to WebDashboardCluster_Member01 (here 3). Press Enter.

```
================================================================================

Verify the following details used to make administrative connections to
the
WebSphere server.
HTTP Port: [9082]::
```

Leave the default http port value (9082). Press Enter.

```
SOAP Connector Port: [8881]::
```

Leave the default soap connector port value (8881). Press Enter.

```
WebSphere Administrator Name: []:: vmmuser
```

Enter the WebSphere administrative user (here: vmmuser). Press Enter.

```
WebSphere Administrator Password::
```

Enter the password for the WebSphere administrative user. Press Enter.

```
Telnet Console Port [20023]::
```

Leave the default telnet console port (20023). Press Enter.

```
Server Log File Name [Server.log]::
```

Leave the default server log file name (Server.log). Press Enter.

```
================================================================================
Configure IBM Alphablox
-----------------------

Enter values for the following configuration settings or accept the de-
faults.

Telnet Console Port [20023]::
Server Log File Name [Server.log]::
Console Message Level
    1- DEBUG
    2- VERBOSE
  ->3- INFO
    4- SYSTEM
    5- WARNING
    6- ERROR
    7- FATAL

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 3
```

Press Enter to choose INFO (accept the default).

```
SMTP Server []::
```

Don't specify a SMTP Server. Leave the default and press Enter.

```
================================================================================
Choose Java Location
--------------------

Enter the directory where a JRE or JDK of at least version 1.4 is in-
stalled.

Java Directory [/WBM62/java]::
```

Leave the default Java Directory (here: /WBM62/java) and press Enter.

```
================================================================================
Enable Additional Drivers
-------------------------

You may select a directory that contains additional drivers. The Alphablox
lib
directory must not be used.

Do you want to enable additional drivers for IBM Alphablox? (Y/N)
   : Y
```

Enter **Y** to enable additional drivers for Alphablox. Press Enter.

```
Location of Additional Drivers []:: /opt/oracle/abx_driver
```

Enter the path where the oracle 11g drivers are located (here: /opt/oracle/abx_driver). Press Enter.

```
Driver Information:Enabled: Oracle

Is the driver information above correct? (Y/N): Y
```

The driver information is displayed. Enter **Y** confirm that the driver information is correct. Press Enter.

```
========================================================================
Configure Repository
--------------------

Select the repository type to use with this installation of IBM Alphablox.
If
you are running IBM Alphablox in a clustered environment, you must select
the
'Database Repository'.

Database
  ->1- DB2
    2- Derby
    3- Oracle

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 3
```

Enter **3** to select Oracle as repository database. Press Enter.

```
Server []:: W6201L3O.boeblingen.de.ibm.com
```

Enter the host name of the database server (here: W6201l3m.boeblingen.de.ibm.-com). Press Enter.

```
Port []:: 1521
```

Enter the database port (here: 1521). Press Enter.

```
SID []:: ORCL
```

Enter **ORCL** as database name. Press Enter.

```
User []:: WBM_ABXDB
```

Enter **WBM_ABXDB** as database user. Press Enter.

```
Password:
```

Enter the password for the database user. Press Enter.

```
The installer will now run a database connection test using the informa-
tion
that you have provided
PRESS <ENTER> TO CONTINUE:
```

Press Enter to run a database connection test.

```
Database Connection Test Successful
System Information
Database Name: Oracle
Database Version: Oracle Database 11g Enterprise Edition Release
11.1.0.7.0 -
64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing op-
tions
Driver Name: Oracle JDBC driver
Driver Version: 11.1
Connection URL: jdbc:oracle:thin:@W6201L3O.boeblingen.de.ibm.com:1521:ORCL

Alphablox system table ABX_OBJECTS not found
Alphablox system table ABX_TYPES not found
Alphablox system table ABX_VERSION not found
Alphablox system table ABX_LOOKUP not found
Alphablox system table ABX_PROPERTY_MAP not found
Alphablox system table ABX_LOOKUP_VALUES not found
PRESS <ENTER> TO CONTINUE:
```

If the database connection test is successful press Enter.

```
================================================================================
Configure Clustering
--------------------

Enter the configuration information for the clustering settings in your
configuration.

    1- Yes
  ->2- No

Enable Alphablox Clustering: 1
```

Enter **1** to enable Alphablox Clustering. Press Enter.

```
Cluster Port Number (DEFAULT: 7855):
```

Leave the default Cluster Port Number (7855). Press Enter.

```
Cluster Subnet Mask (DEFAULT: 255.255.255.0):
```

Leave the default Cluster Subnet Mask (255.255.255.0). Press Enter.

```
================================================================================
Configure Conversion Utility
----------------------------

The Conversion Utility is run when IBM Alphablox first starts up. The in-
staller
has selected the most common options for your environment.

Conversion Operation
  ->1- Copy
    2- Move

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (Copy) and press Enter.

```
Move Server Properties
  ->1- All
    2- Specific
    3- Global
    4- None

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (All) and press Enter.

```
User defined DDL schema file
    1- Yes
  ->2- No

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (No) and press Enter.

```
================================================================================
Pre-Installation Summary
------------------------

Please Review the Following Before Continuing:

Install Set
    Typical

Product Components:
    Core,
    Tools,
```

```
    FastForward,
    Examples,
    Relational Reporting,
    Applications,
    IBM Alphablox,
    Query Builder

Summary

Installation Directory:  /opt/Alphablox
Instance Name:  AlphabloxAnalytics
Application Server:  WebSphere
    WebSphere Home:  /WBM62
    WebSphere Product:  IBM WebSphere Application Server - ND
    WebSphere Version:  6.1.0.23
    WebSphere Start File:  setupCmdLine.sh
    WebSphere Cluster Install:  true
    WebSphere Profile:  W6201LN3WBMCustom01
    WebSphere Cell:  Cell01
    WebSphere Node:  W6201LN3WBMNode01
    WebSphere Server:  WebDashboardCluster_Member01
    HTTP Request Port:  9082
    SOAP Connector Port:  8881
    SOAP Admin User:  vmmuser
Telnet Console Port:  20023
Server Log File Name:  Server.log
Console Message Level:  INFO
Java Directory:  /WBM62/java
Additional Driver Directory:  /opt/oracle/abx_driver
DB2 Driver Type:
Drivers:  Enabled: Oracle
Repository Type:  Database
    Database Type:  Oracle
    Database Server:  W6201L3O.boeblingen.de.ibm.com
    Database Port:  1521
    Database SID:  ORCL
    Database User:  WBM_ABXDB

CLUSTERING: Enabled:
    Port::  7855
    Subnet Mask::  255.255.255.0

Repository Conversion Utility:
    Operation:  Copy
    Existing Tables:

Disk Space Information (for Installation Target):
    Required:  163,385,762
    Available:  51,955,326,976

PRESS <ENTER> TO CONTINUE:
```

Verify the pre-installation summary and press Enter. This will install Alphablox.

```
================================================================================
IBM Alphablox 9.5 Installation Complete
--------------------------------------

IBM Alphablox successfully installed on your system!

To install the IBM Alphablox Information Center to your local system, use
the
IBM Alphablox Information Center Installer CD.

See the IBM Alphablox Installation Guide for post-installation tasks you
must
perform before starting IBM Alphablox. The PDF version of the Installation
Guide is available on this IBM Alphablox CD, under the documentation/pdf
directory.

Please check the installation log file for warnings, errors, and addition-
al
information important to running IBM Alphablox successfully. The installa-
tion
log file is located at: /opt/Alphablox/alphablox_install_log.html

PRESS <ENTER> TO CONTINUE:
```

Press enter upon successful completion of Alphablox. The next step is to install Alphablox on the second WebSphere Business Monitor node (W6201LN4WBMNode01)

22.9.4 Install Alphablox on WebSphere Business Monitor Node 2 (W6201LN4WBMNode01)

Navigate to the folder where the WebSphere Business Monitor binaries have been extracted. Here, navigate to the Alphablox folder:

```
cd ABX/Linux
```

Start the Alphablox installation:

```
./install.bin
```

```
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

===============================================================================
Choose Locale...
----------------

    1- Deutsch
  ->2- English
    3- EspaÃ±ol
    4- FranÃ§ais
    5- Italiano
    6- PortuguÃªs  (Brasil)

CHOOSE LOCALE BY NUMBER: 2
```

Press Enter to select English as locale.

```
IBM Alphablox 9.5                (created with InstallAnywhere by Macro-
vision)
-------------------------------------------------------------------------
=========================================================================

    International Program License Agreement

    Part 1 - General Terms

    BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, OR USING
    THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF
    YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON
    OR A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT AND
    WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON,
    COMPANY, OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT
    AGREE TO THESE TERMS,

    - DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, OR USE THE
    PROGRAM; AND

    - PROMPTLY RETURN THE PROGRAM AND PROOF OF ENTITLEMENT TO
    THE PARTY FROM WHOM YOU ACQUIRED IT TO OBTAIN A REFUND OF
    THE AMOUNT YOU PAID. IF YOU DOWNLOADED THE PROGRAM,
    CONTACT THE PARTY FROM WHOM YOU ACQUIRED IT.

Press Enter to continue viewing the license agreement, or enter "1" to
   accept the agreement, "2" to decline it, "3" to print it, or "99" to go
back
   to the previous screen.:
```

Enter **1** to accept the license agreement. Press Enter.

```
=========================================================================
IBM Alphablox 9.5 Installation
------------------------------

The IBM Alphablox Installer guides you through the installation of IBM
Alphablox.
If you are upgrading a previous version of IBM Alphablox, shut down IBM
Alphablox before proceeding with the installation.

PRESS <ENTER> TO CONTINUE:
```

Press Enter to continue.

```
===============================================================================
Installation Location
---------------------

Enter the Instance Name for IBM Alphablox (the default is AlphabloxAnalyt-
ics)
and choose the directory to which IBM Alphablox will be installed. If you
choose a directory in which an existing version of IBM Alphablox is in-
stalled,
the installation process will guide you through an upgrade to IBM Al-
phablox.

Destination Directory [/opt/Alphablox]::
```

Leave the default install location (/opt/Alphablox) and press Enter.

```
Server Instance Name [AlphabloxAnalytics]::
```

Leave the default Server Instance Name (AlphabloxAnalytics) and press Enter

```
===============================================================================
Select Installation Set
-----------------------

Please choose the Install Set to be installed by this installer.

    1- Compact
  ->2- Typical

    3- Customize...

ENTER THE NUMBER FOR THE INSTALL SET, OR PRESS <ENTER> TO ACCEPT THE DE-
FAULT
   :
```

Press Enter to choose Typical installation (accept the default).

```
===============================================================================
Choose Application Server
-------------------------

Choose an Application Server to use with IBM Alphablox.

    1- Tomcat
  ->2- WebSphere

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Press Enter to choose WebSphere (accept the default).

```
Before continuing, you must completely shutdown WebSphere.
PRESS <ENTER> TO CONTINUE:
```

Press Enter.

```
Enter the WebSphere Application Server Directory.
NOTE: For clustered servers, required applications must be manually de-
ployed.
See post-installation steps in the Installation Guide.

WebSphere Root Directory []:: /WBM62
```

Enter **/WBM62** as WebSphere Root Directory. Press Enter.

```
Installing to a clustered server? (Y/N): Y
```

Enter **Y** to install Alphablox into a clustered environment. Press Enter.

```
===============================================================================
Please select where to install the applications.
Server:
  ->1- MonSupportCluster_member02
    2- MonApplicationCluster_member02
    3- nodeagent
    4- WebDashboardCluster_Member02

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 4
```

Enter the number that corresponds to WebDashboardCluster_Member02 (here 4). Press Enter.

```
===============================================================================

Verify the following details used to make administrative connections to
the
WebSphere server.
HTTP Port: [9082]::
```

Leave the default http port value (9082). Press Enter.

```
SOAP Connector Port: [8881]::
```

Leave the default soap connector port value (8881). Press Enter.

```
WebSphere Administrator Name: []:: vmmuser
```

Enter the WebSphere administrative user (here: vmmuser). Press Enter.

```
WebSphere Administrator Password::
```

Enter the password for the WebSphere administrative user. Press Enter.

```
Telnet Console Port [20023]::
```

Leave the default telnet console port (20023). Press Enter.

```
Server Log File Name [Server.log]::
```

Leave the default server log file name (Server.log). Press Enter.

```
================================================================================
Configure IBM Alphablox
-----------------------

Enter values for the following configuration settings or accept the de-
faults.

Telnet Console Port [20023]::
Server Log File Name [Server.log]::
Console Message Level
    1- DEBUG
    2- VERBOSE
  ->3- INFO
    4- SYSTEM
    5- WARNING
    6- ERROR
    7- FATAL

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 3
```

Enter **3** to INFO as console message level. Press Enter.

```
SMTP Server []::
```

Don't specify a SMTP Server. Leave the default and press Enter.

```
================================================================================
Choose Java Location
--------------------

Enter the directory where a JRE or JDK of at least version 1.4 is in-
stalled.

Java Directory [/WBM62/java]::
```

Leave the default Java Directory (here: /WBM62/java) and press Enter.

```
===============================================================================
Enable Additional Drivers
-------------------------

You may select a directory that contains additional drivers. The Alphablox
lib
directory must not be used.

Do you want to enable additional drivers for IBM Alphablox? (Y/N)
   : Y
```

Enter **Y** to enable additional drivers for Alphablox. Press Enter.

```
Location of Additional Drivers []:: /opt/oracle/abx_driver
```

Enter the path where the oracle 11g drivers are located (here: /opt/oracle/abx_driver). Press Enter.

```
Driver Information:Enabled: Oracle

Is the driver information above correct? (Y/N): Y
```

The driver information is displayed. Enter **Y** confirm that the driver information is correct. Press Enter.

```
===============================================================================
Configure Repository
--------------------

Select the repository type to use with this installation of IBM Alphablox.
If
you are running IBM Alphablox in a clustered environment, you must select
the
'Database Repository'.

Database
  ->1- DB2
    2- Derby
    3- Oracle

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   : 3
```

Enter **3** to select Oracle as repository database. Press Enter.

```
Server []:: W6201L3O.boeblingen.de.ibm.com
```

Enter the host name of the database server (here: W6201l3m.boeblingen.de.ibm.-com). Press Enter.

```
Port []:: 1521
```

Enter the database port (here: 1521). Press Enter.

```
SID []:: ORCL
```

Enter **ORCL** as database name. Press Enter.

```
User []:: WBM_ABXDB
```

Enter **WBM_ABXDB** as database user. Press Enter.

```
Password:
```

Enter the password for the database user. Press Enter.

```
The installer will now run a database connection test using the informa-
tion
that you have provided
PRESS <ENTER> TO CONTINUE:
```

Press Enter to run a database connection test.

```
Database Connection Test Successful
System Information
Database Name: Oracle
Database Version: Oracle Database 11g Enterprise Edition Release
11.1.0.7.0 -
64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing op-
tions
Driver Name: Oracle JDBC driver
Driver Version: 11.1
Connection URL: jdbc:oracle:thin:@W6201L3O.boeblingen.de.ibm.com:1521:ORCL

Alphablox system table ABX_OBJECTS not found
Alphablox system table ABX_TYPES not found
Alphablox system table ABX_VERSION not found
Alphablox system table ABX_LOOKUP not found
Alphablox system table ABX_PROPERTY_MAP not found
Alphablox system table ABX_LOOKUP_VALUES not found
PRESS <ENTER> TO CONTINUE:
```

If the database connection test is successful press Enter.

```
================================================================================
Configure Clustering
--------------------

Enter the configuration information for the clustering settings in your
configuration.

    1- Yes
  ->2- No

Enable Alphablox Clustering: 1
```

Enter **1** to enable Alphablox Clustering. Press Enter.

```
Cluster Port Number (DEFAULT: 7855):
```

Leave the default Cluster Port Number (7855). Press Enter.

```
Cluster Subnet Mask (DEFAULT: 255.255.255.0):
```

Leave the default Cluster Subnet Mask (255.255.255.0). Press Enter.

```
================================================================================
Configure Conversion Utility
----------------------------

The Conversion Utility is run when IBM Alphablox first starts up. The in-
staller
has selected the most common options for your environment.

Conversion Operation
  ->1- Copy
    2- Move

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (Copy) and press Enter.

```
Move Server Properties
  ->1- All
    2- Specific
    3- Global
    4- None

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (All) and press Enter.

```
User defined DDL schema file
    1- Yes
  ->2- No

PLEASE SELECT ONE OF THE ITEMS, OR PRESS <ENTER> TO ACCEPT THE DEFAULT
   :
```

Accept the default (No) and press Enter.

```
===============================================================================
Pre-Installation Summary
------------------------

Please Review the Following Before Continuing:

Install Set
    Typical

Product Components:
    Core,
    Tools,
    FastForward,
    Examples,
    Relational Reporting,
    Applications,
    IBM Alphablox,
    Query Builder

Summary

Installation Directory:  /opt/Alphablox
Instance Name:  AlphabloxAnalytics
Application Server:  WebSphere
    WebSphere Home:  /WBM62
    WebSphere Product:  IBM WebSphere Application Server - ND
    WebSphere Version:  6.1.0.23
    WebSphere Start File:  setupCmdLine.sh
    WebSphere Cluster Install:  true
    WebSphere Profile:  W6201LN4WBMCustom01
    WebSphere Cell:  Cell01
    WebSphere Node:  W6201LN4WBMNode01
    WebSphere Server:  WebDashboardCluster_Member02
    HTTP Request Port:  9082
    SOAP Connector Port:  8881
    SOAP Admin User:  vmmuser
Telnet Console Port:  20023
Server Log File Name:  Server.log
Console Message Level:  INFO
Java Directory:  /WBM62/java
Additional Driver Directory:  /opt/oracle/abx_driver
DB2 Driver Type:
Drivers:  Enabled: Oracle
Repository Type:  Database
    Database Type:  Oracle
    Database Server:  W6201L3O.boeblingen.de.ibm.com
    Database Port:  1521
    Database SID:  ORCL
    Database User:  WBM_ABXDB
```

```
CLUSTERING: Enabled:
    Port::  7855
    Subnet Mask::  255.255.255.0

Repository Conversion Utility:
    Operation:  Copy
    Existing Tables:

Disk Space Information (for Installation Target):
    Required:  163,385,762
    Available:  50,811,506,688
```

Verify the pre-installation summary and press Enter. This will install Alphablox.

```
================================================================================
IBM Alphablox 9.5 Installation Complete
---------------------------------------

IBM Alphablox successfully installed on your system!

To install the IBM Alphablox Information Center to your local system, use
the
IBM Alphablox Information Center Installer CD.

See the IBM Alphablox Installation Guide for post-installation tasks you
must
perform before starting IBM Alphablox. The PDF version of the Installation
Guide is available on this IBM Alphablox CD, under the documentation/pdf
directory.

Please check the installation log file for warnings, errors, and addition-
al
information important to running IBM Alphablox successfully. The installa-
tion
log file is located at: /opt/Alphablox/alphablox_install_log.html

PRESS <ENTER> TO CONTINUE:
```

Press enter upon successful completion of Alphablox.

22.9.5 Deploy Alphablox Applications

Before the Alphablox Applications can be installed the Deployment Manager, both WebSphere Business Monitor nodes and the WebDashboard Cluster have to be started.

Specify on the machine hosting the Deployment Manager:

```
cd /WPS62/profiles/W6201L3MBPMDmgr/bin/
./startManager.sh
```

Specify on the machine hosting WebSphere Business Monitor Node 1 (W6201LN3WBMNode01):

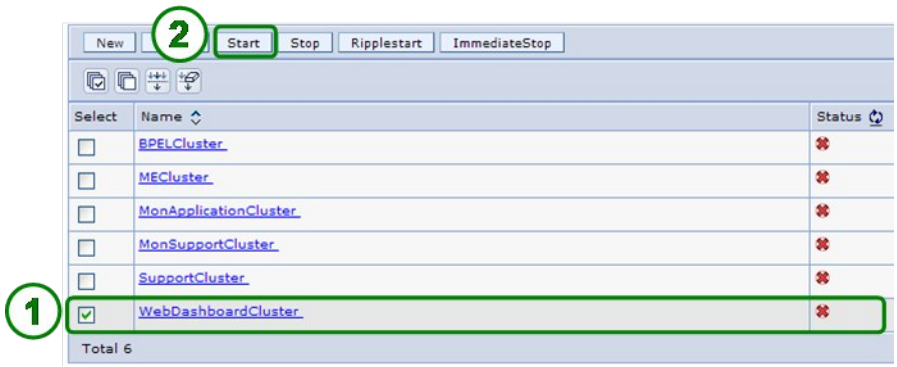
```
cd /WBM62/profiles/W6201LN3WBMCustom01/bin
./startNode.sh
```

Specify on the machine hosting WebSphere Business Monitor Node 2 (W6201LN4WBMNode01):

```
cd /WBM62/profiles/W6201LN4WBMCustom01/bin/
./startNode.sh
```

Start the WebDashboard Cluster. Navigate to:

```
--> Servers
----> Clusters
```



1. Tick WebDashboardCluster.
2. Press Start.

Create a folder on the Deployment Manager host machine

```
cd /opt
mkdir abx
```

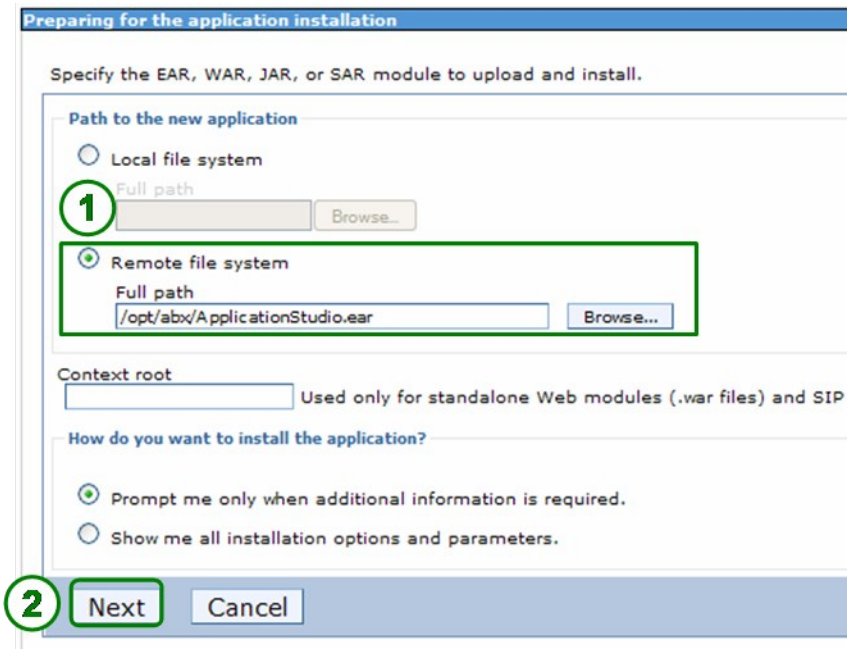
Following ear files have to be copied from any of the machines hosting the WebSphere Business Monitor Nodes to /opt/abx on the Deployment Manager host machine:

- AlphabloxPlatform.ear
- ApplicationStudio.ear

The Alphablox application files are located under **/opt/Alphablox/installableApps** They can be copied from any WebSphere Business Monitor node host machine.

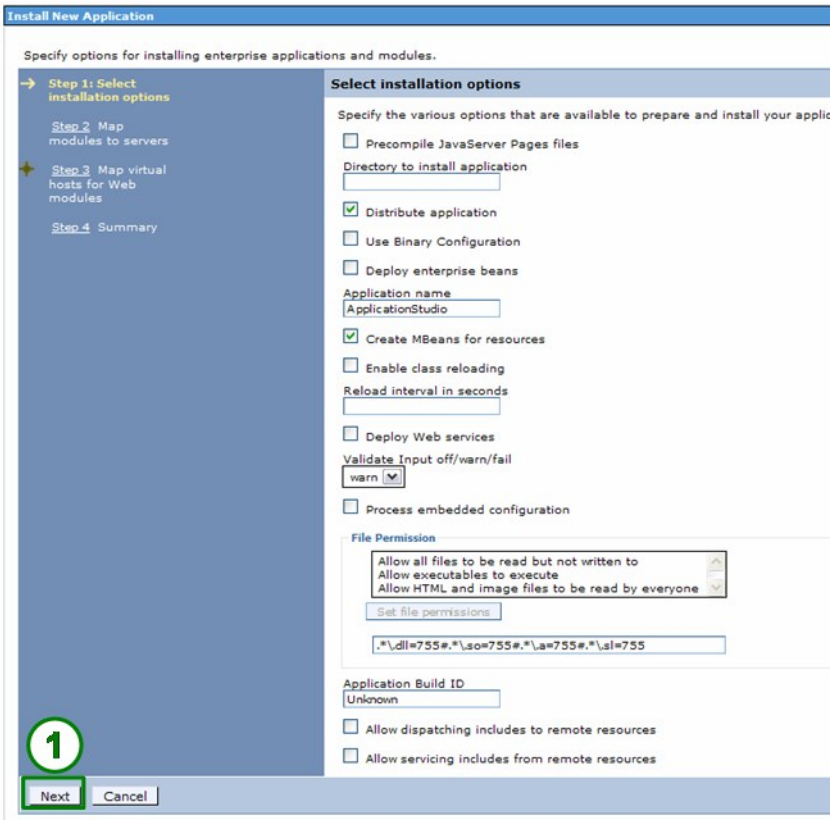
Navigate to:

```
--> Applications
----> Enterprise Applications
------> Install
```

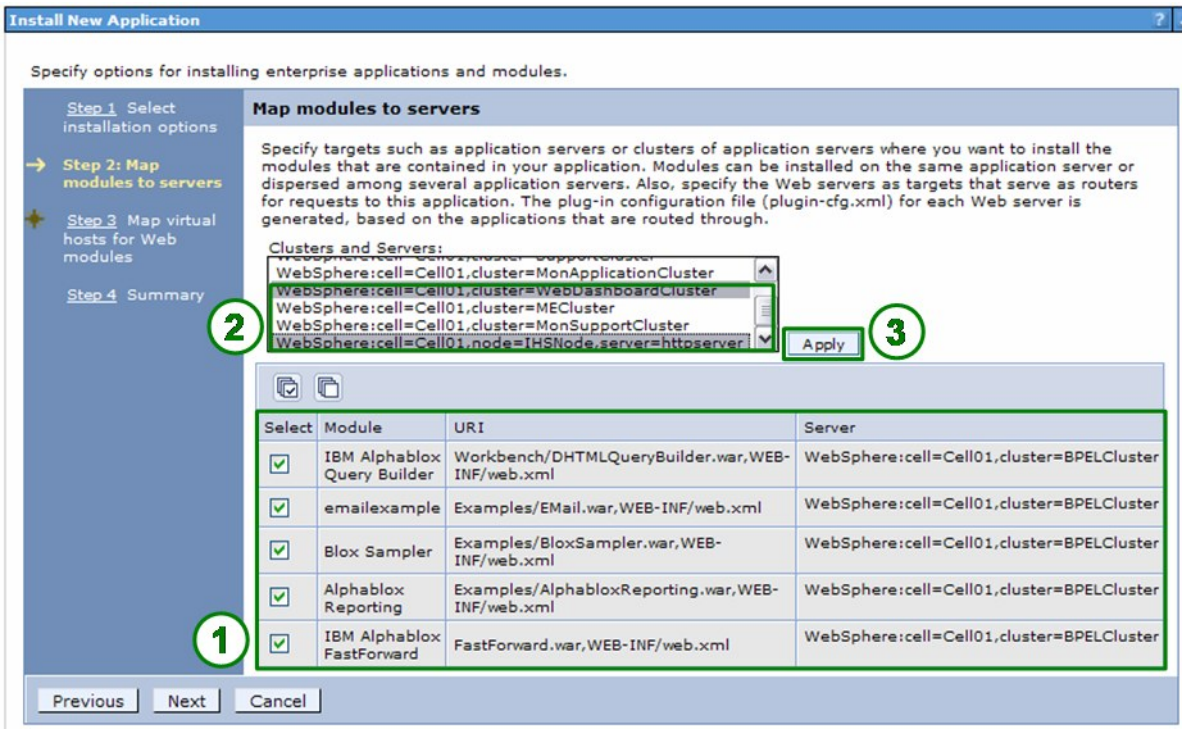


1. Browse to /opt/abx on the remote system (Deployment Manager host machine) and select ApplicationStudio.ear.

2. Press Next.



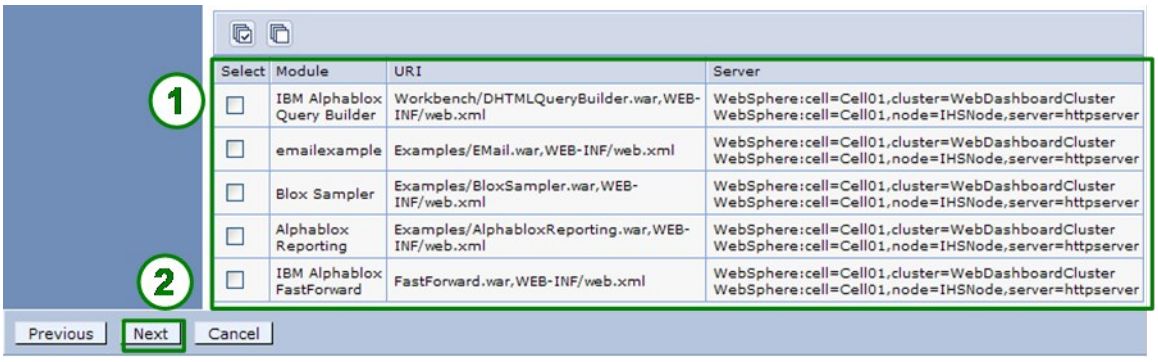
1. Leave the default values and press Next.



1. Tick all Modules.

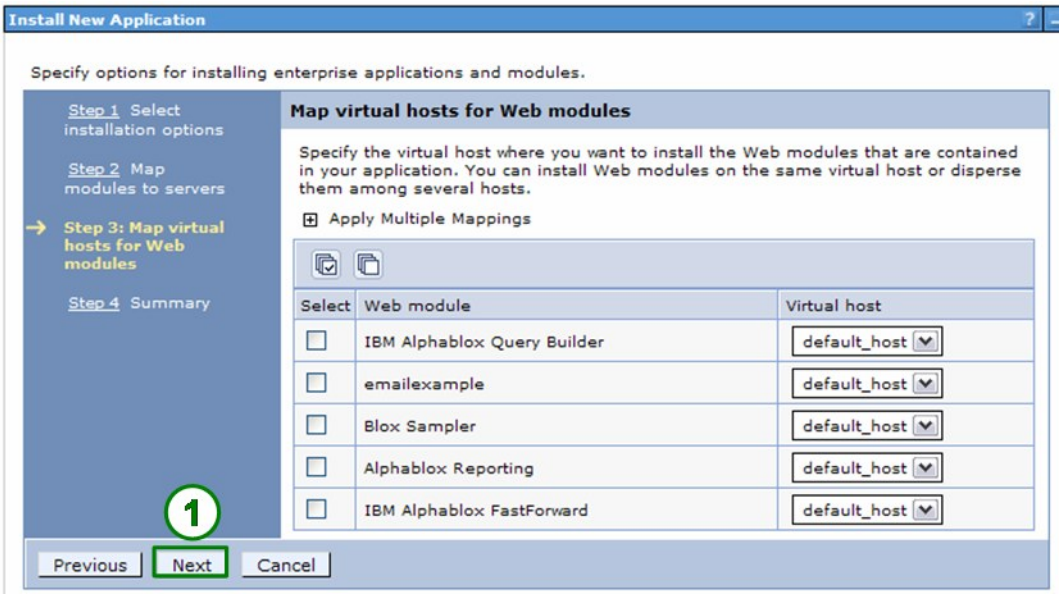
2. Select WebDashboardCluster and httpserver (multi-select).

3. Press Apply.

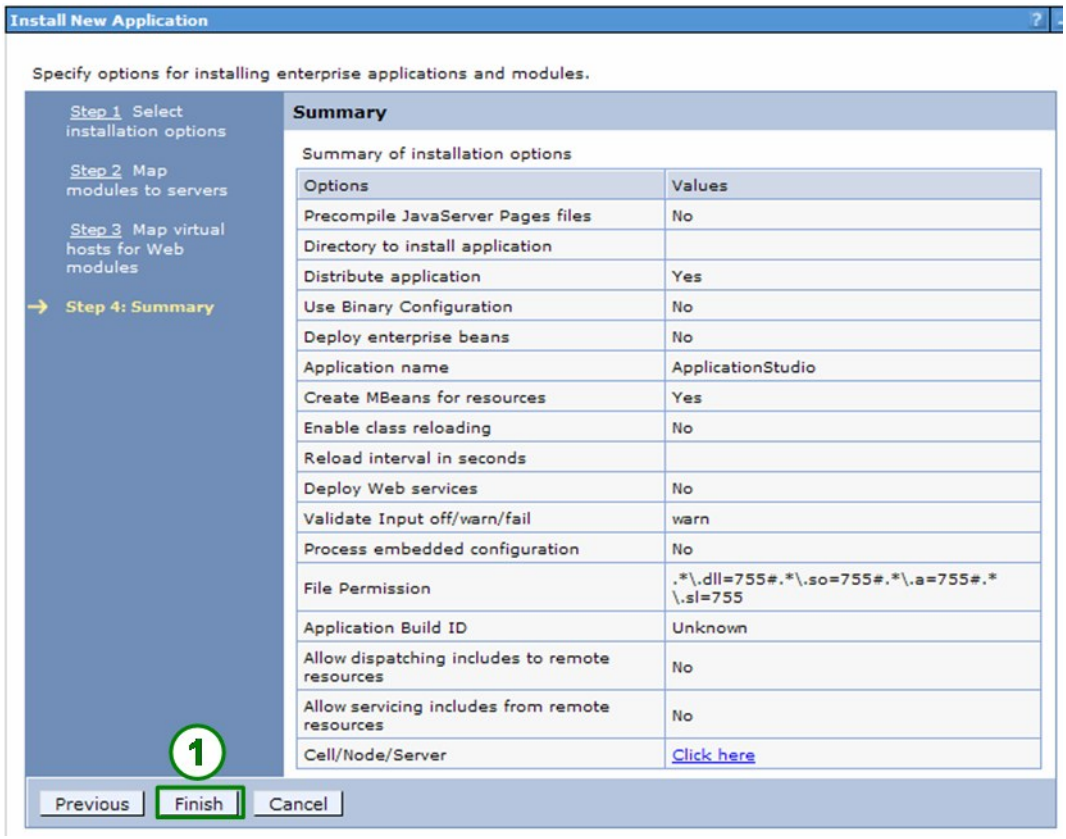


1. All modules have to be mapped to WebDashboardCluster and httpserver.

2. Press Next.



1. Leave the default values and press Next.

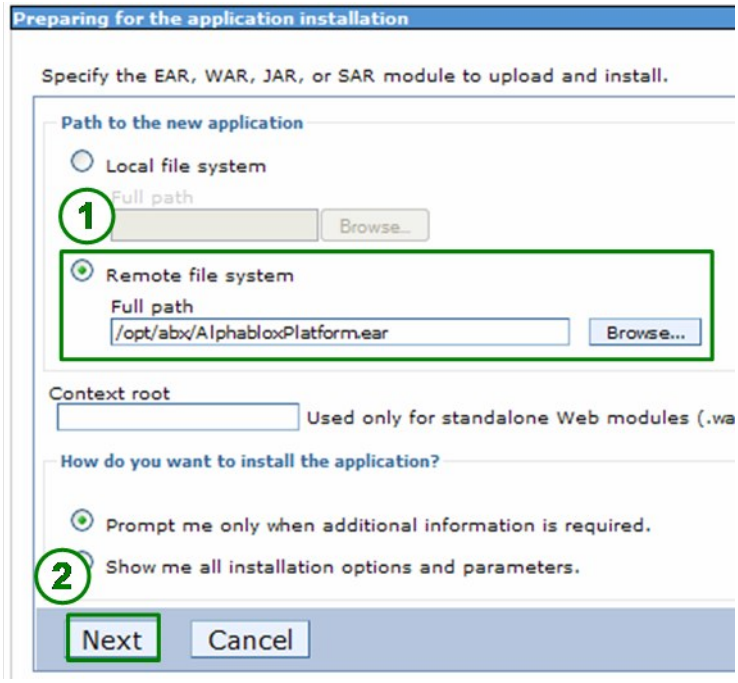


1. Press Finish on the Summary Panel.

Save and **synchronize** the configuration.

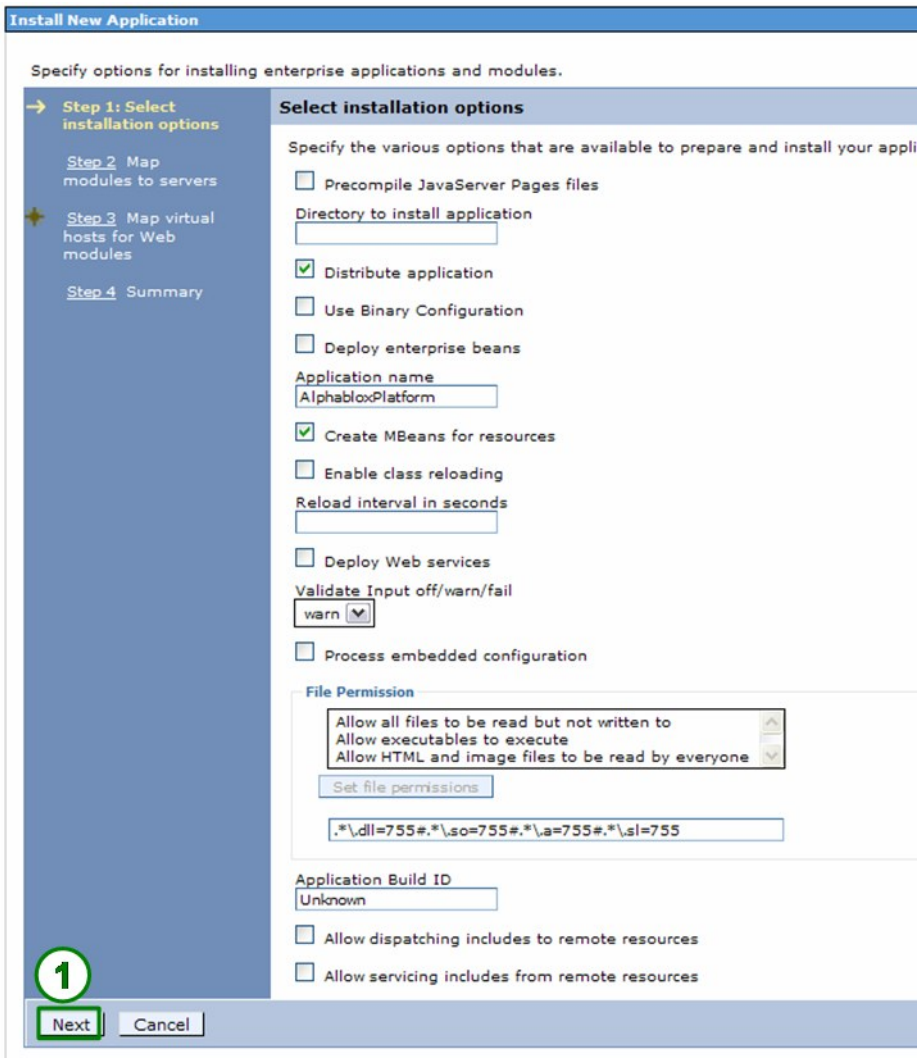
Navigate to:

```
--> Applications
----> Enterprise Applications
------> Install
```

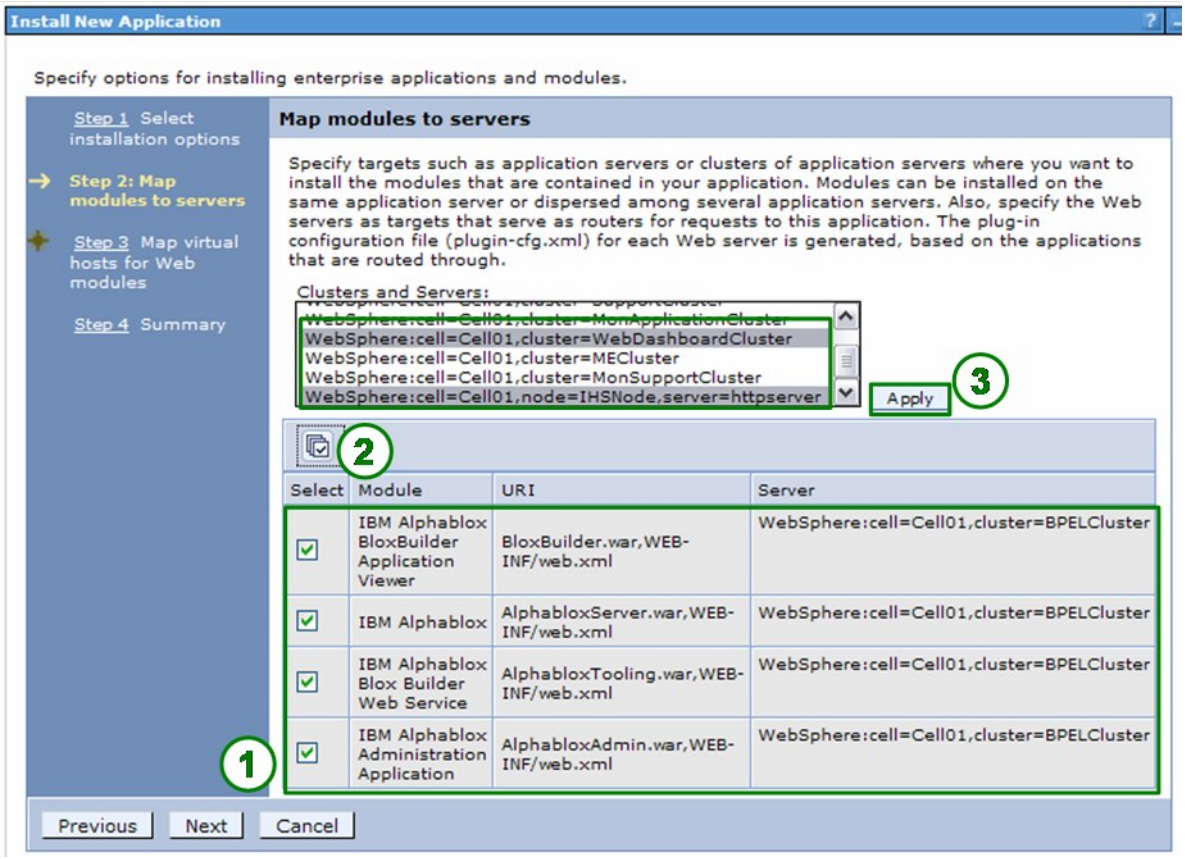


1. Browse to /opt/abx on the remote system (Deployment Manager host machine) and select AlphabloxPlatform.ear.

2. Press **Next**



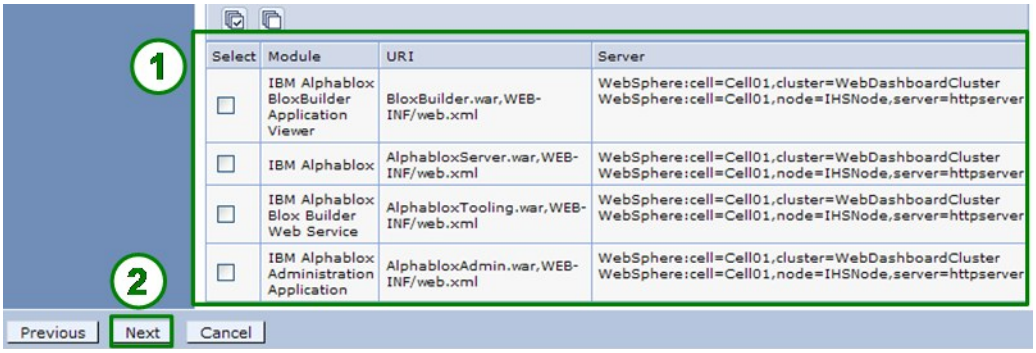
1. Leave the default values and press **Next**



1. Tick all modules.

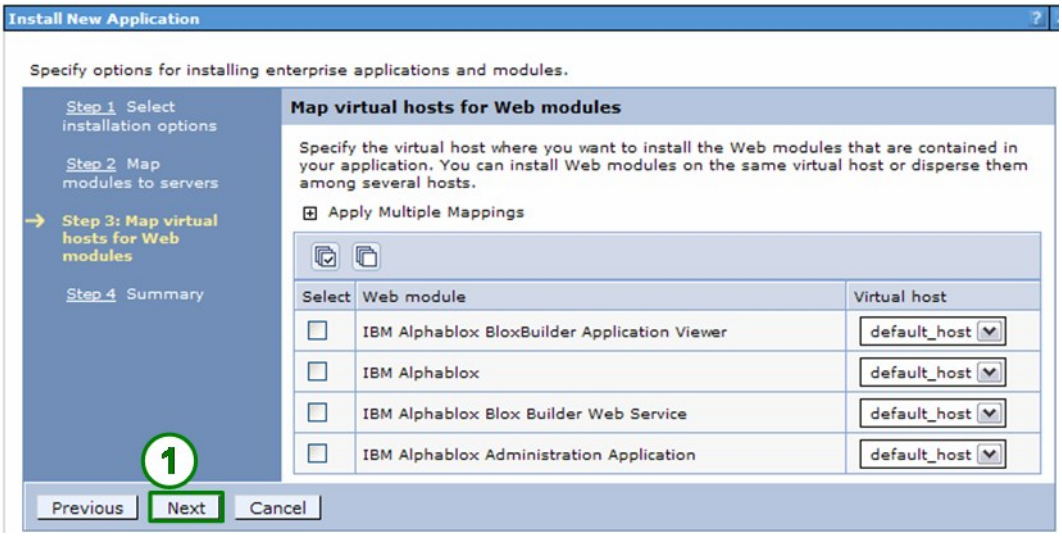
2. Select WebDashboardCluster and httpserver (multi-select).

3. Press Apply

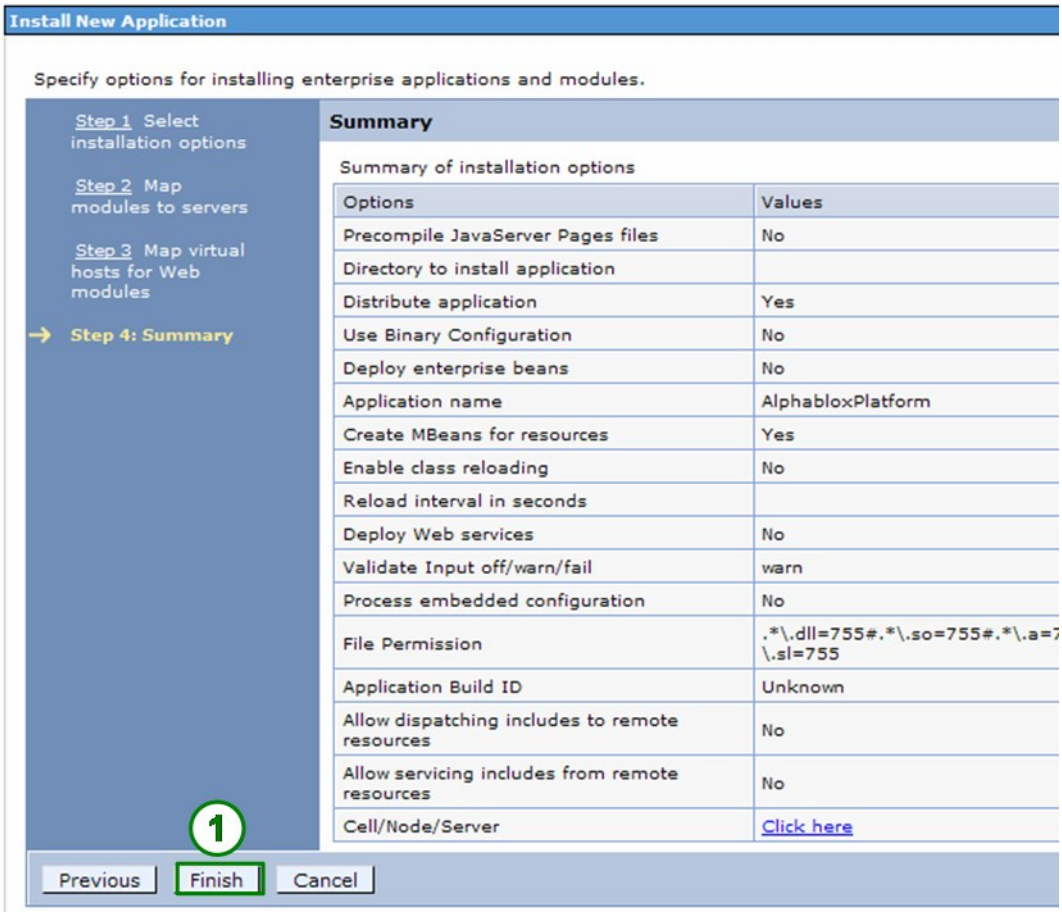


1. All modules have to be mapped to WebDashboardCluster and httpserver.

2. Press **Next**



1. Leave the default values and press **Next**

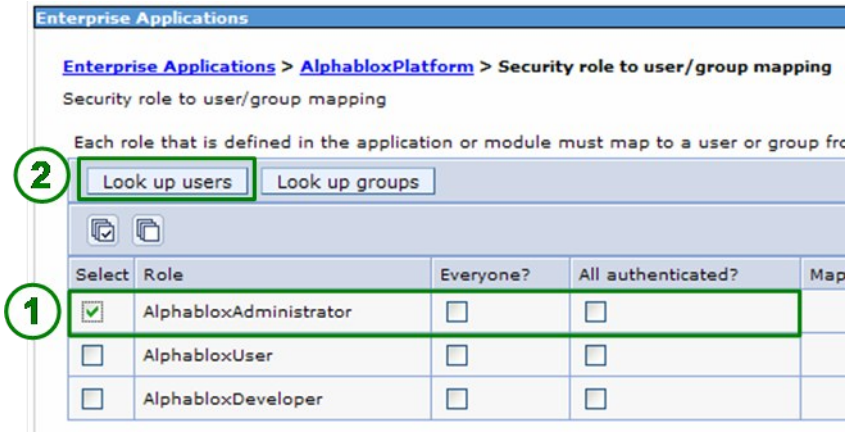


1. Press Finish on the Summary Panel.

Save and **synchronize** the configuration.

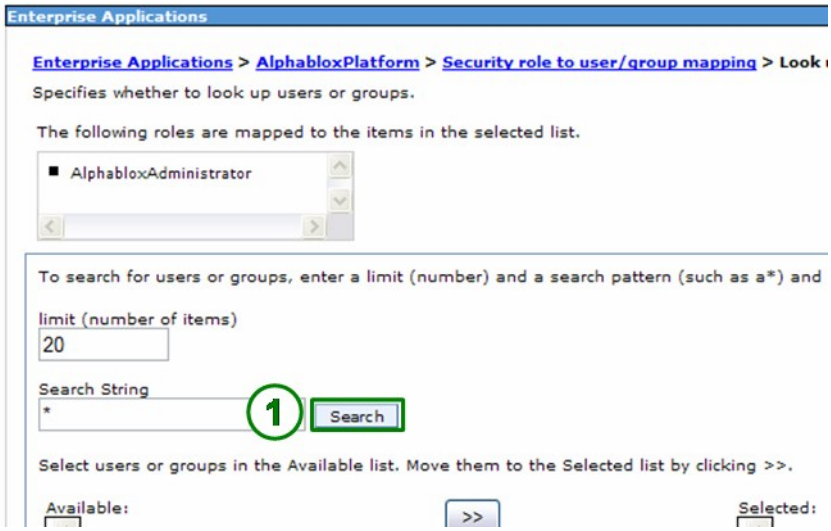
Navigate to:

```
--> Applications
----> Enterprise Applications
------> AlphabloxPlatform
--------> Security role to user/group mapping
```



1. Tick AlphabloxAdministrator.

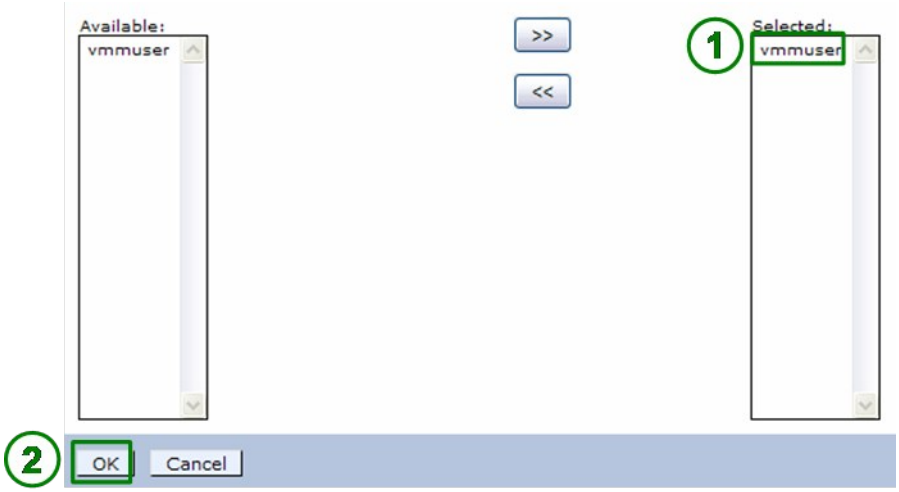
2. Press Look up users



1. Press Search

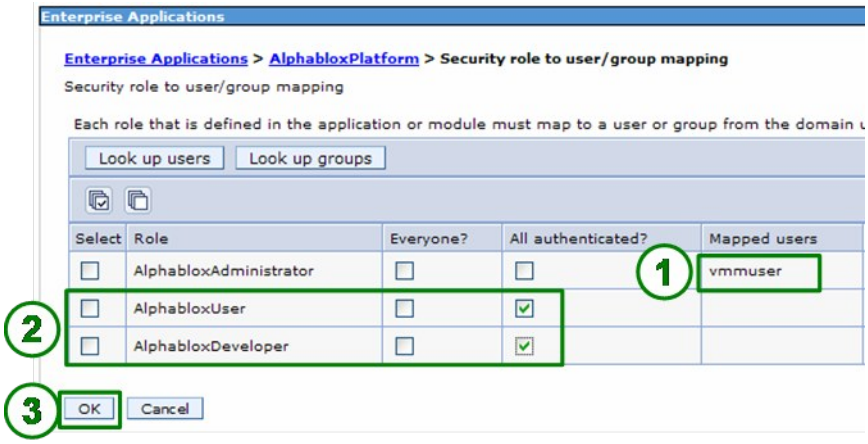
1. Select vmmuser.

2. Press the >> button to select the vmmuser.



1. Verify that the vmmuser is in the list of selected users.

2. Press OK



1. Verify that vmmuser is selected as mapped user.

2. Tick All Authenticated for AlphabloxUser and AlphabloxDeveloper.

3. Press OK.

Save and **synchronize** the configuration.

22.9.6 Deploy Alphablox Shared Libraries

The Shared Libraries needed by Alphablox can be deployed from any machine hosting Alphablox (W6201LN3 or W6201LN4). Navigate to:

```
/opt/Alphablox/tools/was_shared_lib
```

Specify:

```
./DeployWebSphereLibraries -username vmmuser -password <password>
```

```
Please select from one of the following options

1) Install libraries
2) Uninstall libraries
3) Search for installed libraries
4) Toggle trace
----------------------
5) Exit

Select (1-5):1
```

Enter **1** to install the libraries required by Alphablox. Press Enter.

```
Select the level you wish to deploy the libraries.

1) Cluster
2) Cell
3) Node
4) Server
----------------------
5) Back

Select (1-5):1
```

Enter **1** to deploy the libraries on Cluster level. Press Enter.

```
Please select the Cluster you wish to target.
1*) WebDashboardCluster(cells/Cell01/clusters/WebDashboardCluster|
cluster.xml#ServerCluster_1245757613068)
2) MonSupportCluster(cells/Cell01/clusters/MonSupportCluster|
cluster.xml#ServerCluster_1245741265540)
3) MECluster(cells/Cell01/clusters/MECluster|
cluster.xml#ServerCluster_1241531384559)
4) BPELCluster(cells/Cell01/clusters/BPELCluster|
cluster.xml#ServerCluster_1241680216626)
5) SupportCluster(cells/Cell01/clusters/SupportCluster|
cluster.xml#ServerCluster_1241598331839)
6) MonApplicationCluster(cells/Cell01/clusters/MonApplicationCluster|
cluster.xml#ServerCluster_1245755162284)
---------------------
7) Back

Select (1-7):1
```

Enter **1** to deploy the libraries to the WebDashboardCluster. Press Enter.

```
The following servers have been found:
WebDashboardCluster_Member01(cells/Cell01/nodes/W6201LN3WBMNode01/servers/
WebDashboardCluster_Member01|server.xml#Server_1245757617568)
WebDashboardCluster_Member02(cells/Cell01/nodes/W6201LN4WBMNode01/servers/
WebDashboardCluster_Member02|server.xml#Server_1245760997715)
Do you wish to continue?[Y/N]:Y
```

Enter **Y** to confirm to deploy the libraries to the WebDashboardCluster cluster members. Press Enter.

```
Processing object
WebDashboardCluster_Member01(cells/Cell01/nodes/W6201LN3WBMNode01/servers/
WebDashboardCluster_Member01|server.xml#Server_1245757617568)...
Libraries successfully installed!
Processing object
WebDashboardCluster_Member02(cells/Cell01/nodes/W6201LN4WBMNode01/servers/
WebDashboardCluster_Member02|server.xml#Server_1245760997715)...
Libraries successfully installed!

Select the level you wish to deploy the libraries.

1) Cluster
2) Cell
3) Node
4) Server
---------------------
5) Back

Select (1-5):5
```

Enter **5** upon successful deployment of the libraries. Press Enter.

```
Please select from one of the following options

1) Install libraries
2) Uninstall libraries
3) Search for installed libraries
4) Toggle trace
---------------------
5) Exit

Select (1-5):5
```

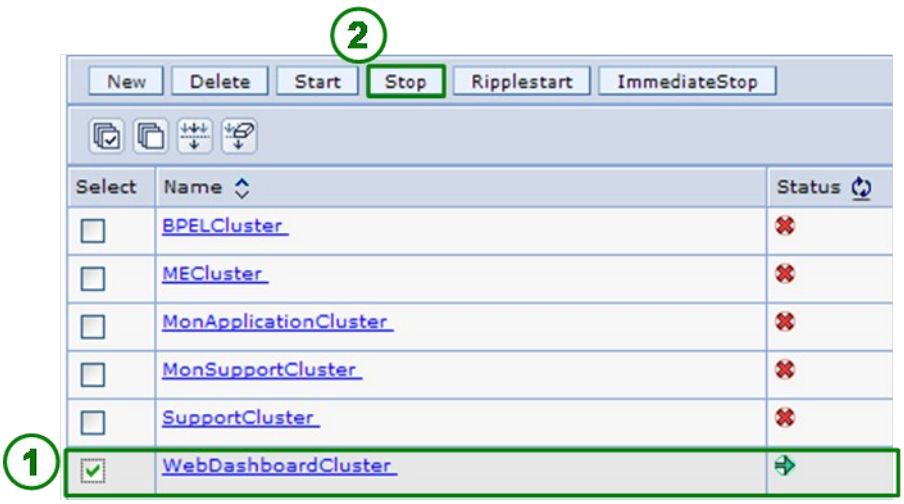
Enter **5** to exit the shared library deployment tool. Press Enter.

22.9.7 Finalize Alphablox Installation

The Alphablox repository tables do not exist yet. They are created the first time the Alphablox applications connect to to the database.

Stop the WebDashboard Cluster. Navigate to:

```
--> Servers
----> Clusters
```

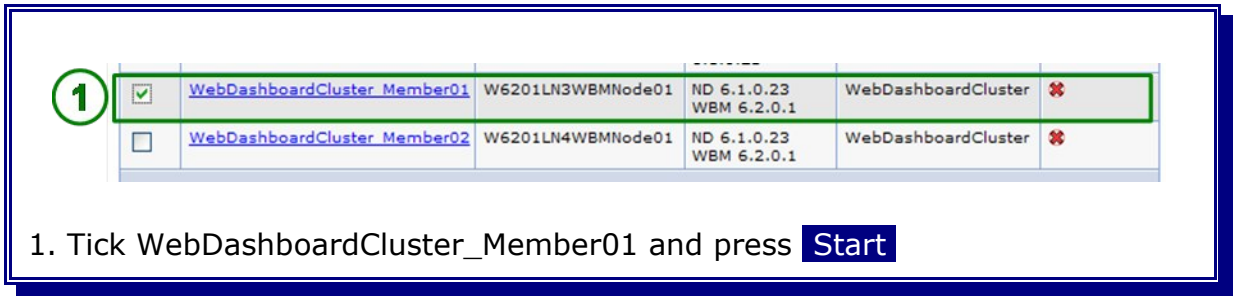


1. Tick WebDashboardCluster.

2. Press Stop

Once the cluster is stopped, start WebDashboard Cluster Member 1 **ONLY**. Navigate to:

```
--> Servers
----> Application Servers
```



1. Tick WebDashboardCluster_Member01 and press Start

Open the SystemOut log file of WebDashboardCluster_Member01 once the server is started. Verify that following log entries exist:

```
...
Creating the destination repository...
Copying the source repository (this may take a few minutes)...
Updating the server to point to the destination repository...
Repository operation completed successfully
...
IBM Alphablox (AlphabloxAnalytics) started (06/24/09 12:42:28)
...
```

The repository tables have been created now.

Start WebDashboard Cluster Member 2. Navigate to:

```
--> Servers
----> Application Servers
```

1. Tick WebDashboardCluster_Member02 and press Start.

Open the SystemOut log file of WebDashboardCluster_Member02 once the server is started. Following log entry exists:

```
...
Destination repository exists and OVERWRITE has not been specified
...
```

This entry indicates that Alphablox on W6201LN4 was not able to register itself within the common destination repository since OVERWRITE or UPDATE were not be specified due to a missing Alphablox instance (the repository conversion tool which allows to specify UPDATE or OVERWRITE is only available when an Alphablox instance exists. In turn the Alphablox instance gets created the first time the Alphablox Applications starts).

In case Alphablox can't register to a destination repository a file based repository is used instead. In the next steps the Alphablox instance will be configured to use the common destination repository that is also used by the Alphablox installation which resides on W6201LN3.

In order to verify the Alphablox configuration later on both nodes the Alphablox Administrative Console is used. Therefore the corresponding HTTP ports have to be opened.

Navigate to:

```
--> Environment
----> Virtual Hosts
------> default_host
--------> Host Aliases
```

Create following entries:

Save and **Synchronize**

Stop the WebDashboard Cluster, both WebSphere Business Monitor nodes and the Deployment Manager again.

On WebSphere Business Monitor Node 2 (W6201LN4Node01) navigate to:

```
cd /opt/Alphablox/tools/convert
```

Note: In case the Alphablox instance name is not set the conversion can't be executed. In that case the Alphablox instance name has to be set first (Option 2). The name of the instance is **AlphabloxAnalytics**.

Start the convert repository tool:

```
./ConvertRepository
```

```
Please choose an option:

1) Set IBM Alphablox File Manager root [/opt/Alphablox/repository/]
2) Set IBM Alphablox instance name [AlphabloxAnalytics]
3) Convert one repository to another
4) Create an empty database repository
5) Verify and repair a repository
6) Change IBM Alphablox to use a different repository
7) Conversion Utility options
8) Configure Web Application Server Connection pooling
9) Exit

Select (1-9): 3
```

Specify **3** to convert one repository to another. Press Enter.

```
Please choose an option:

1) Convert from file to database
2) Convert from database to file
3) Convert from file to file
4) Convert from database to database
5) Go back to main menu

Select (1-5): 1
```

Specify **1** to convert from file to database. Press Enter.

```
Convert File To Database
   Source File System

Repository root [/opt/Alphablox/repository/]:
```

Leave the repository root default (/opt/Alphablox/repository) and press Enter.

```
1) Continue, 2) Re-enter, 3) Go back to main menu  Select (1-3): 1
```

Specify **1** and press Enter.

```
Convert File To Database
   Destination Database

Please select the database type:

1) Oracle
2) Go back to main menu

Select (1-2): 1
```

Specify **1** to select Oracle. Press Enter.

```
Server: W6201L3O.boeblingen.de.ibm.com
```

Enter the host name of the database (here: W6201L3O.boeblingen.de.ibm.com). Press Enter.

```
Port [1521]:
```

Leave the default port value (1521) and press Enter.

```
SID []: ORCL
```

Specify **ORCL** as database name. Press Enter.

```
Schema (if different from user):
```

Don't specify a schema. Press Enter.

```
User: WBM_ABXDB
```

Specify **WBM_ABXDB** as user. Press Enter.

```
Password: <password>
```

Specify the password for the database.

```
1) Continue, 2) Re-enter, 3) Go back to main menu  Select (1-3):1
```

Specify **1** and press Enter to continue.

```
The following questions can be answered by using the first character
  in the selected option or press <ENTER> for the default.

Enter conversion operation (COPY, MOVE) [COPY]:
```

Leave the default (Copy) and press Enter.

```
Enter repository creation operation (NEW, UPDATE, OVERWRITE) [NEW]: UPDATE
```

Specify **UPDATE** and press Enter. This will keep the existing structure of the repository and update it with the data from this repository.

```
Update IBM Alphablox to use the destination repository [Y]: Y
```

Specify **Y** and press Enter.

```
Update IBM Alphablox properties in the destination
  repository (ALL, SPECIFIC, GLOBAL, NONE) [ALL]:
```

Leave the default (All) and press Enter.

```
Below is a description of the options selected:
* Copy source repository to destination repository. Update existing
destination
  repository by placing source repository over destination repository.
* Set Alphablox to point to the destination repository.
* Copy all Alphablox server properties to the destination repository.

1) Continue, 2) Re-enter, 3) Go back to main menu  Select (1-3): 1
```

Specify **1** and press Enter.

```
Copying the source repository (this may take a few minutes)...
Updating data types in TYPES table...
Creating any missing indexes...
Updating the server to point to the destination repository...

Do you want to move source Cluster Manager settings to the destination
(Y/N) [Y]: Y
```

Specify **Y** and press Enter. This will start the repository conversion.

```
Repository operation completed successfully

Please choose an option:

1) Set IBM Alphablox File Manager root [/opt/Alphablox/repository/]
2) Set IBM Alphablox instance name [AlphabloxAnalytics]
3) Convert one repository to another
4) Create an empty database repository
5) Verify and repair a repository
6) Change IBM Alphablox to use a different repository
7) Conversion Utility options
8) Configure Web Application Server Connection pooling
9) Exit

Select (1-9): 9
```

Specify **9** and press Enter.

Start again the Deployment Manager, both WebSphere Business Monitor Nodes and then the WebDashboard Cluster.

Following entry should now exist in the SystemOut log files of both cluster members of the WebDashboard Cluster.

```
...
IBM Alphablox (AlphabloxAnalytics) started (06/24/09 12:42:28)
...
```

Following entry should not exist any longer within the log of WebDashboardCluster_Member2 (W6201LN4Node01):

```
...
Destination repository exists and OVERWRITE has not been specified
...
```

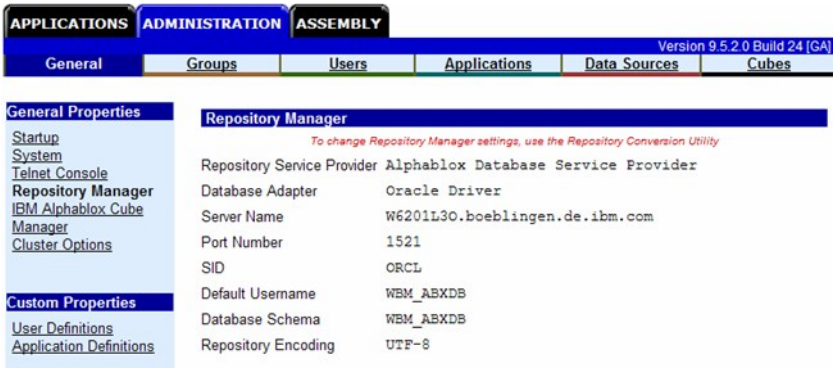
Open a browser and open the Alphablox Administrative Console on W6201LN3:

```
http://w6201ln3.boeblingen.de.ibm.com:9082/AlphabloxAdmin
```

Authenticate with vmmuser and the corresponding password.

Navigate to:

```
--> Administration
----> Repository Manager
```



The settings should point to the repository which was specified during installation.

Open a browser and open the Alphablox Administrative Console on W6201LN4:

```
http://w6201ln4.boeblingen.de.ibm.com:9082/AlphabloxAdmin
```

Authenticate with vmmuser and the corresponding password.

Navigate to:

```
--> Administration
----> Repository Manager
```

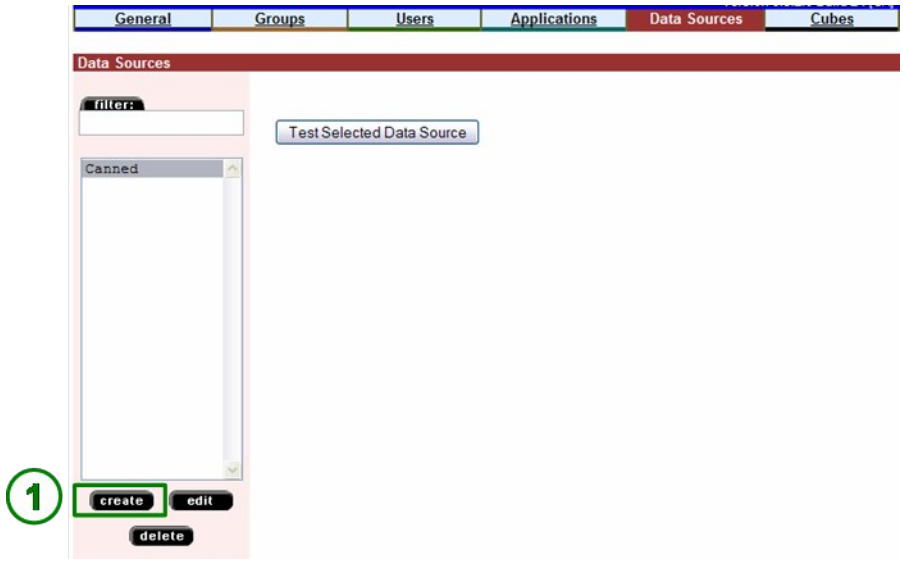
The settings should exactly be the same as in the Alphablox Administrative Console on W6201LN3.

Note: Installation and configuration of Alphablox is successful when **both** Alphablox instances point to the same database repository.

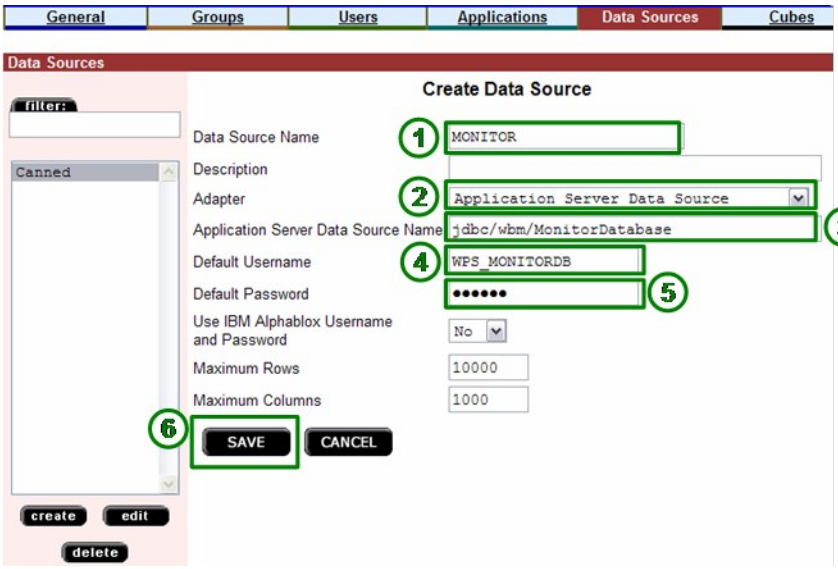
Stay in the Alphablox Administrative Console on W6201LN4.

Navigate to:

```
--> Administration
----> Data Sources
```



1. Press Create



1. Enter MONITOR as Data Source Name.

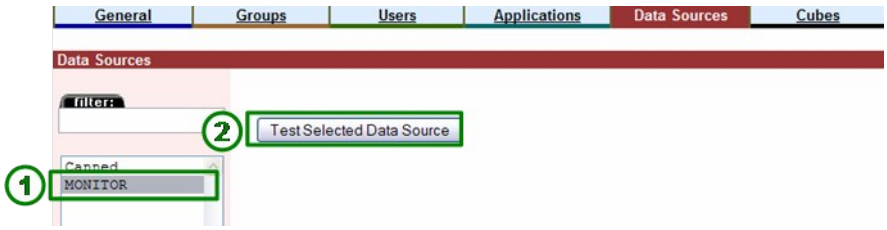
2. Select Application Server Data Source.

3. Enter jdbc/wbm/MonitorDatabase as Application Data Source Name.

4. Enter WPS_MONITORDB as Default Username.

5. Enter the database password.

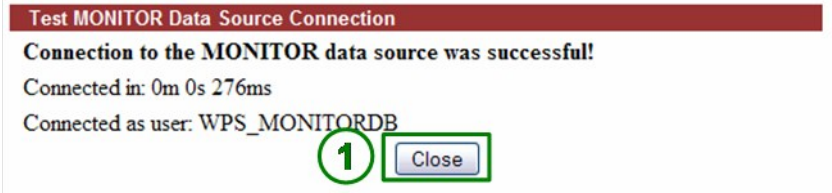
6. Press Save



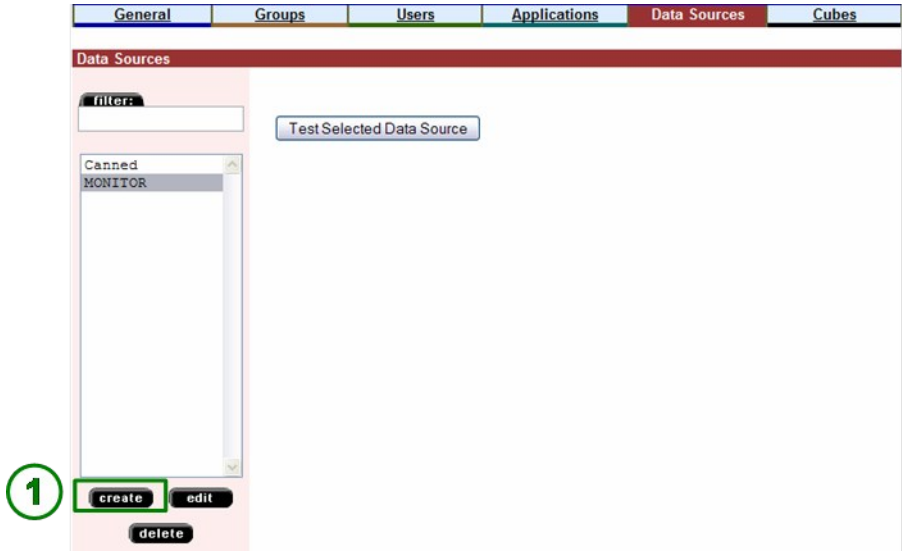
1. Select the MONITOR Data Source.

2. Press Test Selected Data Source

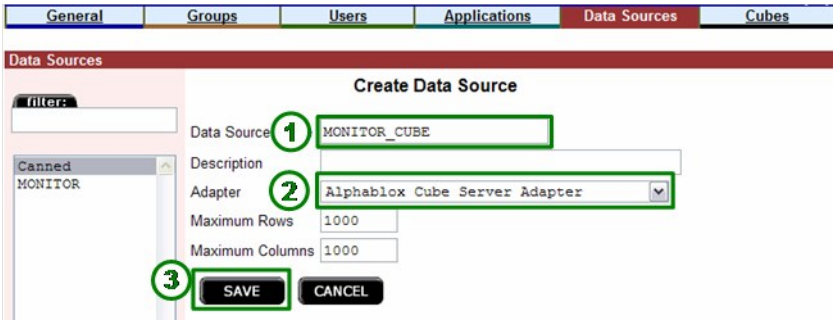
The Connection to the Monitor data source has to be successful.



1. Press Close



1. Press Create to create another data source.



1. Enter MONITOR_CUBE as Data source

2. Select Alphablox Cube Server Adapter

3. Press Save

22.10 Enable widgets in Business Space

Login to W6201LN3.boeblingen.de.ibm.com as user root and navigate to the following directory:

```
cd /WBM62/BusinessSpace/registryData
```

Edit:

```
bcmEndpoints.xml
```

Change all the <tns:url> tags to point to the default secure port of the proxy server e.g.

```
<tns:url>https://<proxy-host>:444/rest/bpm/businesscalendar</tns:url>
```

Edit:

```
bpcEndpoints.xml
```

Change all the <tns:url> tags to point to the default secure port of the proxy server e.g.

```
<tns:url>https://<proxy-host>:444/rest/bpm/htm</tns:url>
<tns:url>https://<proxy-host>:444/rest/bpm/bfm</tns:url>
```

Edit:

```
monitorABXEndpoints.xml
```

Change all the <tns:url> tags to point to the default secure port of the proxy server e.g.

```
<tns:url>https://<proxy-host>:444/rest/</tns:url>
```

Edit:

```
wpsEndpoints.xml
```

Change all the <tns:url> tags to point to the default secure port of the proxy server e.g.

```
<tns:url>https://<proxy-host>:444/rest</tns:url>
```

Edit:

```
monitorEndpoints.xml
```

Change all the <tns:url> tags to point to the default secure port of the proxy server e.g.

```
<tns:url>https://<proxy-host>:444/rest/bpm/brules</tns:url>
```

Copy all xml files from

```
/WBM62/BusinessSpace/registryData
```

to the **W6201LN3WBMCustom01** profile in the directory

```
/WBM62/profiles/W6201LN3WBMCustom01/BusinessSpace/registryData
```

Note: Create the directory <profile_home>/BusinessSpace/registryData if it does not exist.

Do the same steps on the W6201LN4WBMNode01 server and copy it to the W6201LN4WBMCustom01 profile.

22.10.1 Map Business Space

Navigate to:

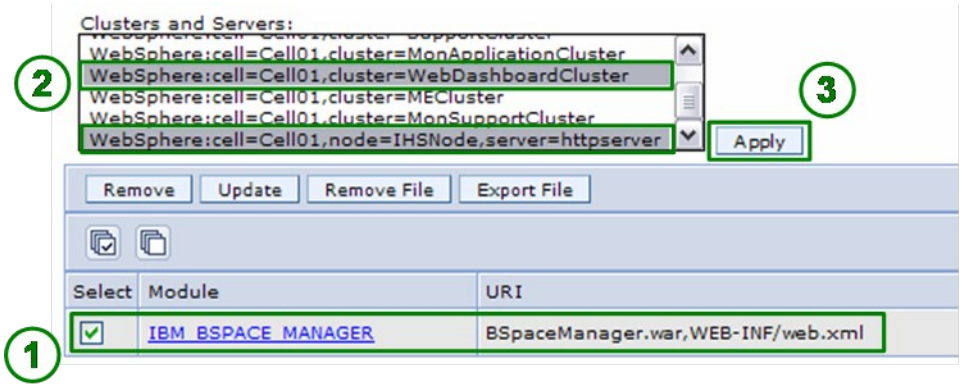
```
Applications
  -> Enterprise Applications
```

and select “BusinessSpaceManager”.

The "BusinessSpaceManager configuration" panel is displayed:

1. Select “Manage Modules”

The "BusinessSpaceManager Manage Modules" panel is displayed:

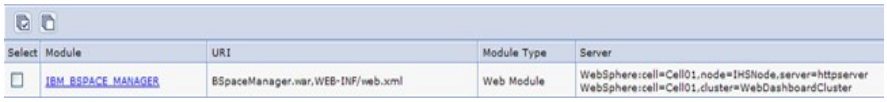


1. Select Module “IBM_BSPACE_MANAGER”.

2. Select both “WebDashboardCluster” and “httpserver”.

3. .Press **Apply**, then **OK** and then **Save**

The module should now be mapped to the WebDashboard Cluster and the HTTP server:



Select	Module	URI	Module Type	Server
☐	IBM_BSPACE_MANAGER	BSpaceManager.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,node=IHSNode,server=httpserver WebSphere:cell=Cell01,cluster=WebDashboardCluster

Open the deployment manager integration solution console, navigate to

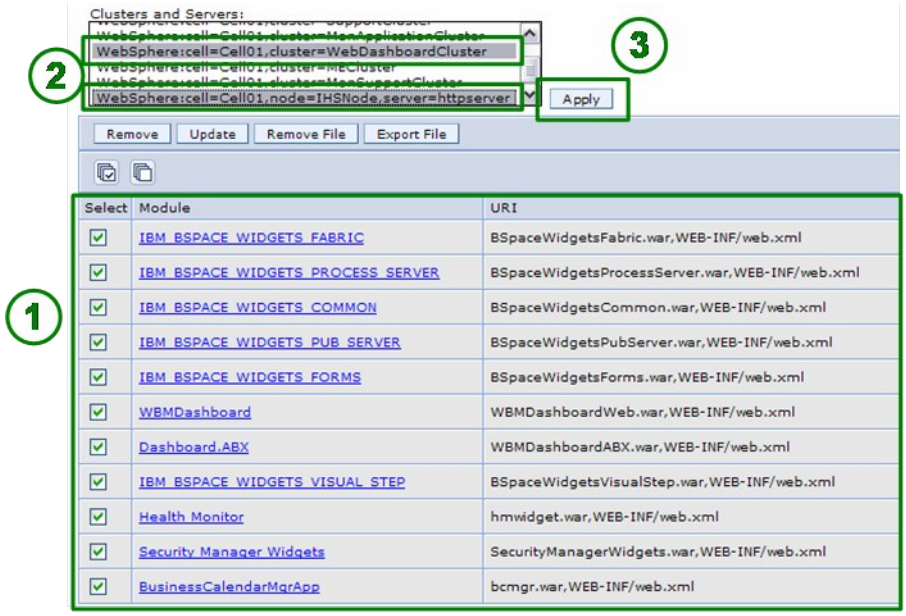
```
Applications
  -> Enterprise Applications
```

and select “IBM_BSPACE_WIDGETS”.

The "IBM_BSPACE_WIDGETS configuration" panel is displayed:

1. Select “Manage Modules”.

The "IBM_BSPACE_WIDGETS Manage Modules" panel is displayed:



1. Select all modules.

2. Select both “WebDashboardCluster” and “httpserver”.

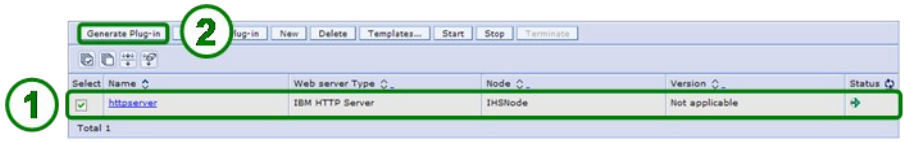
3. .Press **Apply**, then **OK** and then **Save**

All modules should now be mapped to the WebDashboard Cluster and the HTTP server:

Select	Module	URI	Module Type	Server
☐	IBM_BSPACE_WIDGETS_FABRIC	BSpaceWidgetsFabric.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	IBM_BSPACE_WIDGETS_PROCESS_SERVER	BSpaceWidgetsProcessServer.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	IBM_BSPACE_WIDGETS_COMMON	BSpaceWidgetsCommon.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	IBM_BSPACE_WIDGETS_PUB_SERVER	BSpaceWidgetsPubServer.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	IBM_BSPACE_WIDGETS_FORMS	BSpaceWidgetsForms.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	WBMDashboard	WBMDashboardWeb.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	Dashboard.ABX	WBMDashboardABX.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	IBM_BSPACE_WIDGETS_VISUAL_STEP	BSpaceWidgetsVisualStep.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	Health Monitor	hmwidget.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	Security Manager Widgets	SecurityManagerWidgets.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver
☐	BusinessCalendarMgrApp	bcmgr.war,WEB-INF/web.xml	Web Module	WebSphere:cell=Cell01,cluster=WebDashboardCluster WebSphere:cell=Cell01,node=IHSNode,server=httpserver

22.11 Generate and propagate IHS Plug-in

Navigate to "Servers → WebServers"

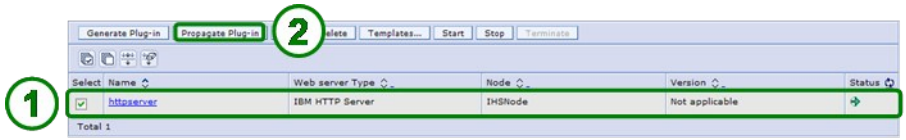


1. Select "httpserver".

Press **Generate Plug-in**

A message indicates that the plug-in (plugin-cfg.xml) was created:

Navigate to "Servers → WebServers" (if not already there)



1. Select "httpserver".

2. Press **Propagate Plug-in**

A message indicates that the plug-in (plug-cfg.xml) was propagated.

Navigate to “Servers → WebServers” (if not already there)

1. Select “httpserver”.

2. Press **Stop** (wait until the server is stopped).

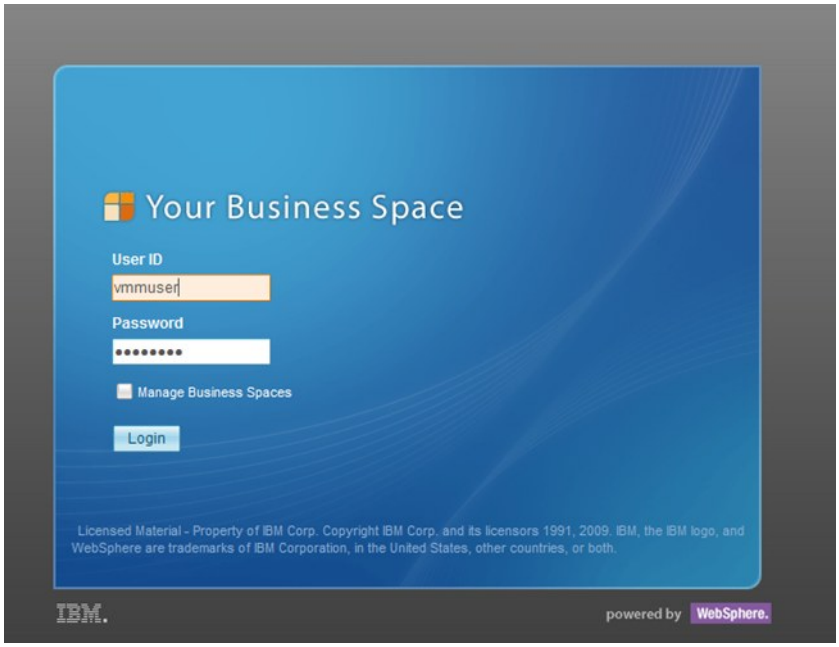
3. Press **Start** (wait until the server is started).

22.12 Verify the Business Space

Re-Start the WebSphere Business Monitor Nodes, the Deployment Manager and the WebDashboard Cluster. Additionally start the WebSphere Process Server Nodes, the Proxy Node, the MECluster, SupportCluster, BPELCluster, MonSupportCluster and MonApplicationCluster. Finally start the Proxy Server.

Open a http browser and navigate to the Business Space website, e.G.

```
https://<webserver>/BusinessSpace
```



Note: The WebSphere Process Server and WebSphere Business Monitor related widgets are only able to connect to their corresponding REST services if the proxy server is running.

Part VII Cell Verification

Chapter 23 Install the Claims Handling application

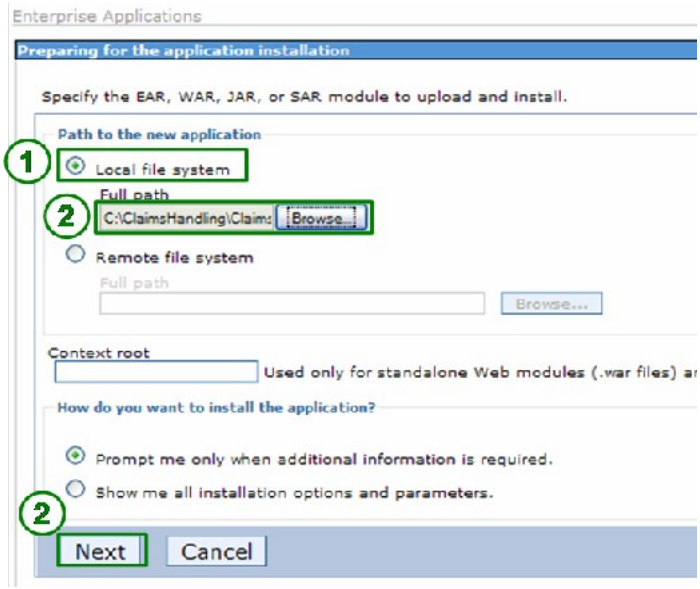
The sample application that should run on our cluster is **Claims Handling**. This application is one of the samples shipped with WebSphere Process Choreographer. Documentation and download files can be found at URL:

http://publib.boulder.ibm.com/bpcsamp/index.html

The application was installed using the admin console. Navigate to

```
--> Applications
----> Enterprise Applications
------> Install
```

The "Enterprise Applications" panel is displayed:

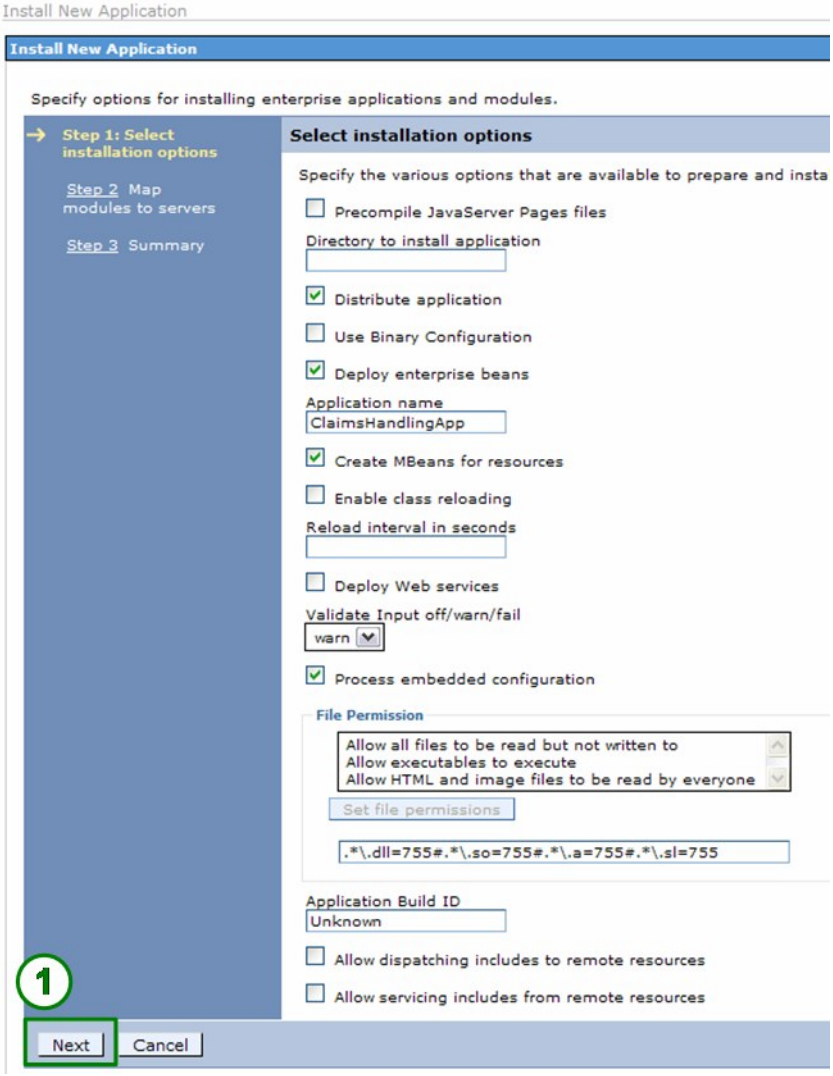


1. Select **Local file system**

2. Type in the path to the **ClaimsHandlingApp.ear**

3. Click **Next** in the "Preparing for application installation" panel.

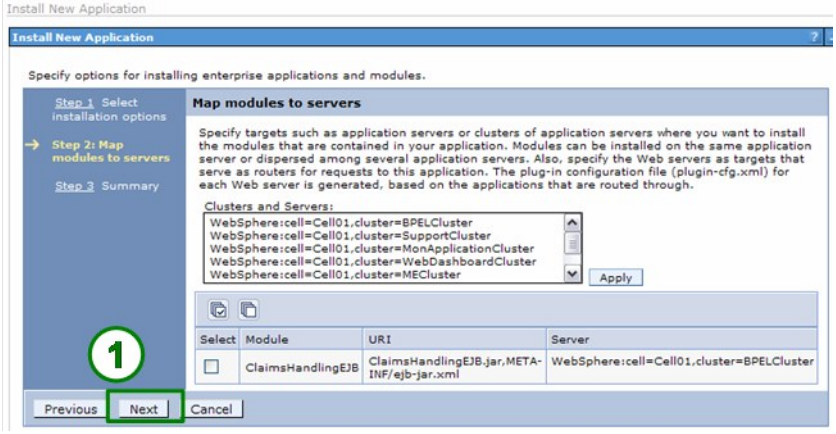
The "Select installation options" panel is displayed:



Accept the Defaults in the **"Select installation options"** panel.

1. Click **Next** .

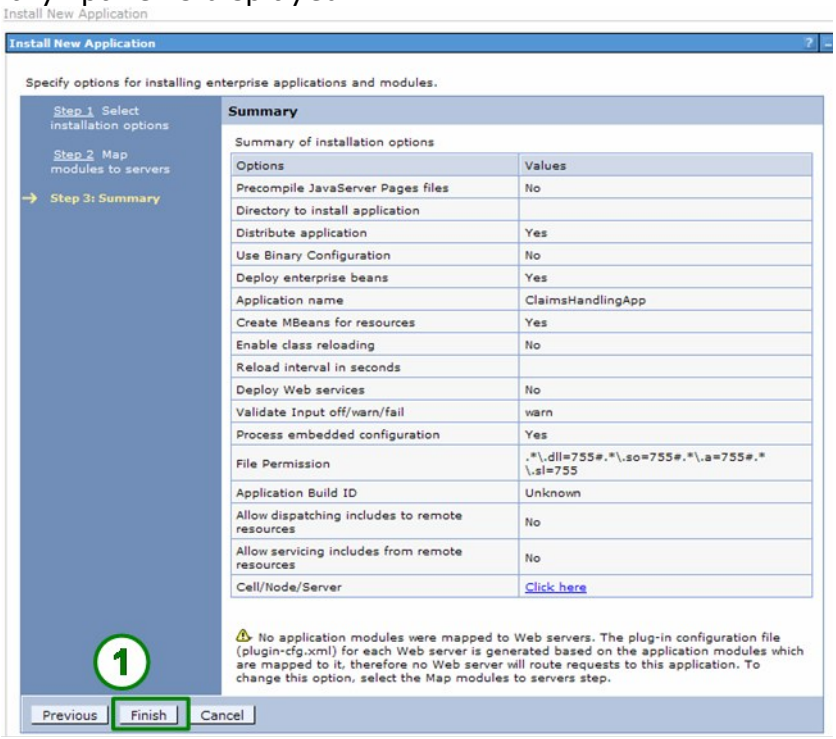
The “Map modules to servers” panel is displayed:



The application is already mapped to the BPELCluster by default.

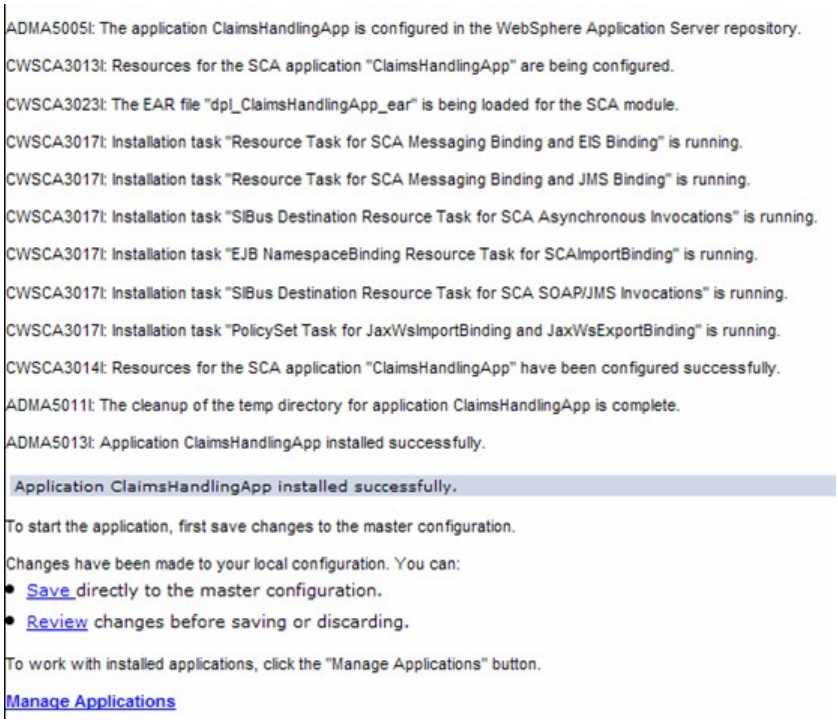
1. Leave the **defaults** and click **Next.**

The "Summary" panel is displayed:



1. Click **Finish.**

The “Application ClaimsHandlingApp” is displayed:

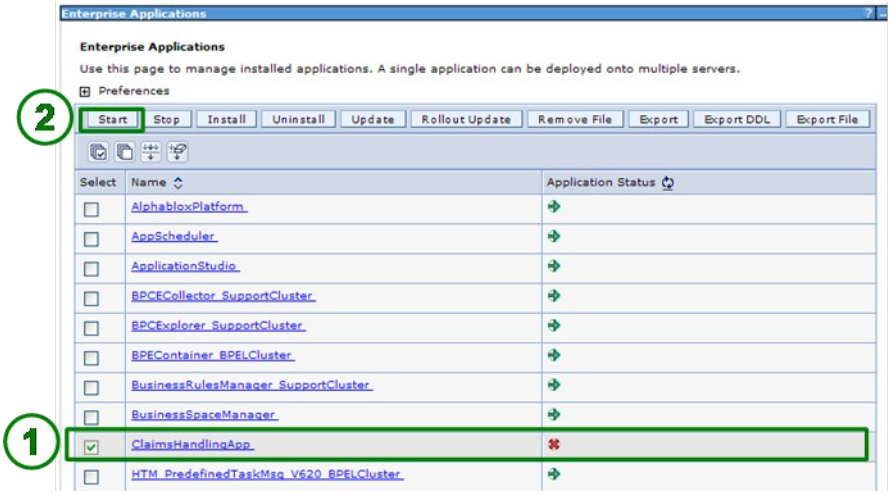


Save and Synchronize.

23.1 Start the ClaimsHandlingApp

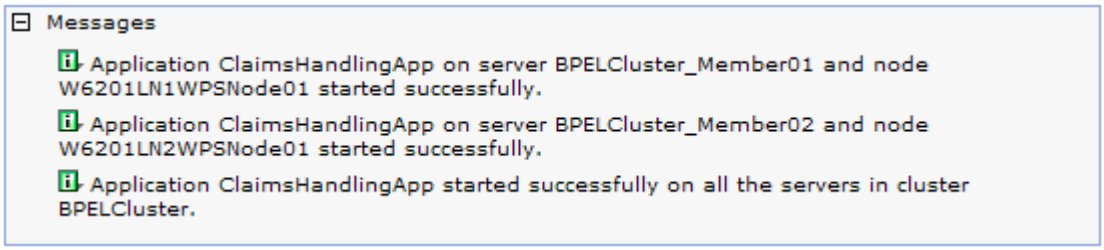
In the administrative console, navigate to ***Applications -> Enterprise Applications,*** select **ClaimsHandlingApp** and click **Start**:

The Enterprise Application panel is displayed:



1. Select ClaimsHandlingApp.
2. Click **Start**

After a successful application start, the following message is displayed.



Chapter 24 Install the Claims Handling Monitor Model

Based on the **Claims Handling** application a simple Monitor Model has been created. It contains several Metrics, Key Performance Indicators and Visual Models.
Explaining the logic of the monitor model is beyond the scope of this document. The goal is to provide general instructions on how to deploy a monitor model in a clustered environment using an Oracle database.

24.1 Configure Queue Bypass

According to the Info Center WebSphere Business Monitor provides two methods for receiving events from the CEI server: queue based or queue bypass. Queue based event management uses JMS to process events. Queue bypass enables you to process events without using an intermediate JMS queue. For most environments, using the queue bypass method improves performance and simplifies the system configuration. With the queue bypass method, the events do not use a JMS queue configured for the monitor model. Rather, the events are directed to the event database table for the monitor model.

For more information on Queue Based / Queue Bypass consult the Info Center:

```
http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r2mx/index.jsp?
topic=/com.ibm.btools.help.monitor.install.doc/admin/cfg_qb_single_cell.htm
l
```

Queue Bypass needs to be configured on the machines that host the Common Event Infrastrucure (W6201LN1.boeblingen.de.ibm.com and W6201LN2.boeblingen.de.ibm.com).

Note: Since WebSphere Business Monitor binaries have not been installed on the machines that host the Common Event Infrastructure several files have to be copied from any of the WebSphere Business Monitor Machines (W6201LN3.boeblingen.de.ibm.com or W6201LN4.boeblingen.de.ibm.com) to W6201LN1.boeblingen.de.ibm.com and W6201LN2.boeblingen.de.ibm.com

Copy all files from **/WBM62/scripts.wbm/QueueBypass** on W6201LN3.boeblingen.de.ibm.com **OR** W6201LN4.boeblingen.de.ibm.com to /WPS62/temp on W6201LN1.boeblingen.de.ibm.com **AND** W6201LN2.boeblingen.de.ibm.com

Logon to W6201LN1.boeblingen.de.ibm.com as user root. Navigate to:

```
/WPS62/temp
```

Specify following command:

```
./setupQueueBypass.sh -wasHome /WPS62 -profileName W6201LN1WPSCustom01
-profilePath /WPS62/profiles/W6201LN1WPSCustom01 -cellName Cell01
-nodeName W6201LN1WPSNode01
```

```
Start Setup Queue Bypass Script

wasHome=/WPS62
profileName=W6201LN1WPSCustom01
profilePath=/WPS62/profiles/W6201LN1WPSCustom01
cellName=Cell01
nodeName=W6201LN1WPSNode01
. /WPS62/profiles/W6201LN1WPSCustom01/bin/setupCmdLine.sh

call setupQueueBypass.ant
/WPS62/bin/ws_ant.sh -buildfile setupQueueBypass.ant -DwasHome=/WPS62
-DprofileName=W6201LN1WPSCustom01
-DprofilePath=/WPS62/profiles/W6201LN1WPSCustom01 -DcellName=Cell01
-DnodeName=W6201LN1WPSNode01
Buildfile: setupQueueBypass.ant

removeQuotes:
     [echo] wasHome: /WPS62
     [echo]  wasHome2: /WPS62
     [echo] profilePath: /WPS62/profiles/W6201LN1WPSCustom01
     [echo]  profilePath2: /WPS62/profiles/W6201LN1WPSCustom01
   [delete] Deleting: /WPS62/temp/tmp_out.txt

installAll:
     [echo] WAS_HOME: /WPS62
     [echo] PROFILE_PATH: /WPS62/profiles/W6201LN1WPSCustom01
     [echo] profileName: W6201LN1WPSCustom01
     [echo] cellName: Cell01
     [echo] nodeName: W6201LN1WPSNode01
    [unzip] Expanding: /WPS62/temp/queue_routing_plugins.zip into
/WPS62/plugins
     [echo] NODE_META_DATA_FILE:
/WPS62/profiles/W6201LN1WPSCustom01/config/cells/Cell01/nodes/W6201LN1WPSN
ode01/node-metadata.properties
     [echo] Add WBM routing feature
[propertyfile] Updating property file:
/WPS62/profiles/W6201LN1WPSCustom01/config/cells/Cell01/nodes/W6201LN1WPSN
ode01/node-metadata.properties
     [echo] Done add WBM routing feature

BUILD SUCCESSFUL
Total time: 0 seconds
Done
```

Navigate to:

```
/WPS62/profiles/W6201LN1WPSCustom01/bin
```

Specify following command:

```
./osgiCfgInit.sh
```

Repeat the Queue Bypass configuration on W6201LN2.boeblingen.de.ibm.com:

```
./setupQueueBypass.sh -wasHome /WPS62 -profileName W6201LN2WPSCustom01
-profilePath /WPS62/profiles/W6201LN2WPSCustom01 -cellName Cell01
-nodeName W6201LN2WPSNode01
```

Navigate to:

```
/WPS62/profiles/W6201LN2WPSCustom01/bin
```

Specify following command:

```
./osgiCfgInit.sh
```

Re-start all Java Processes (except Proxy nodeagent, Proxy server and WebServer):

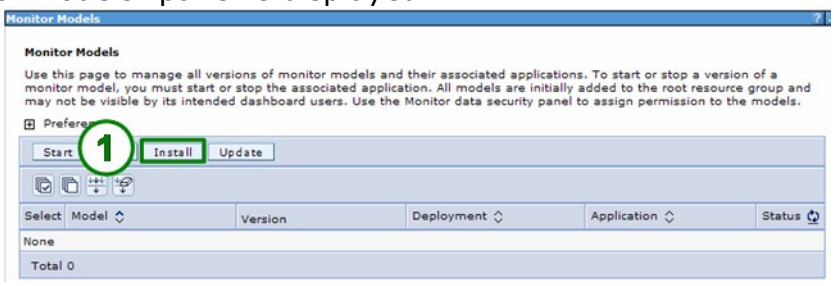
- MECluster
- SupportCluster
- BPELCluster
- MonApplicationCluster
- MonSupportCluster
- WebDashboardCluster
- Deployment Manager
- WebSphere Process Server nodeagents
- WebSphere Business Monitor nodeagents

24.2 Deploy the Claims Handling Monitor Model

The application was installed using the admin console. Navigate to

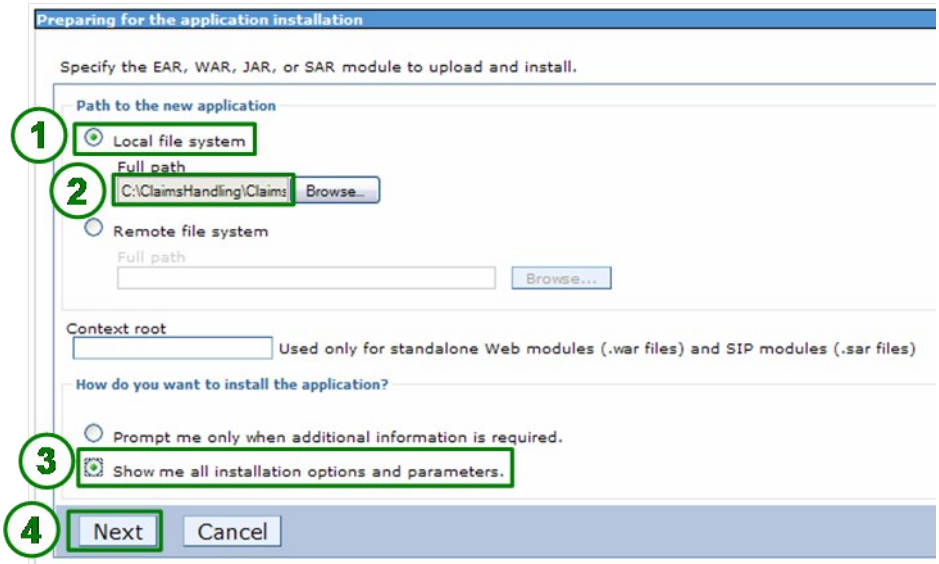
```
--> Applications
----> Monitor Models
```

The "Monitor Models" panel is displayed:



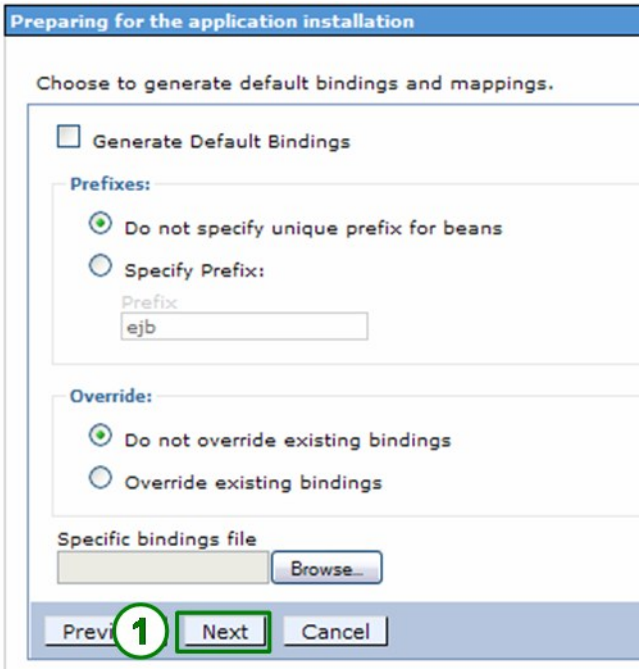
1. click **Install**

The "Preparing for the application installation" panel is displayed:



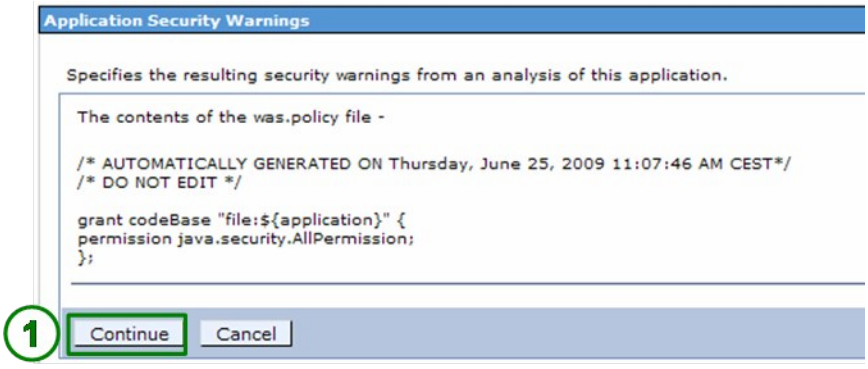
1. Select **Local file system**
2. Type in the path to the **ClaimsHandlingMMApplication.ear**
3. Select **Show me all installation options and parameters**.
4. Click **Next**

The "Preparing for the application installation" panel is displayed:



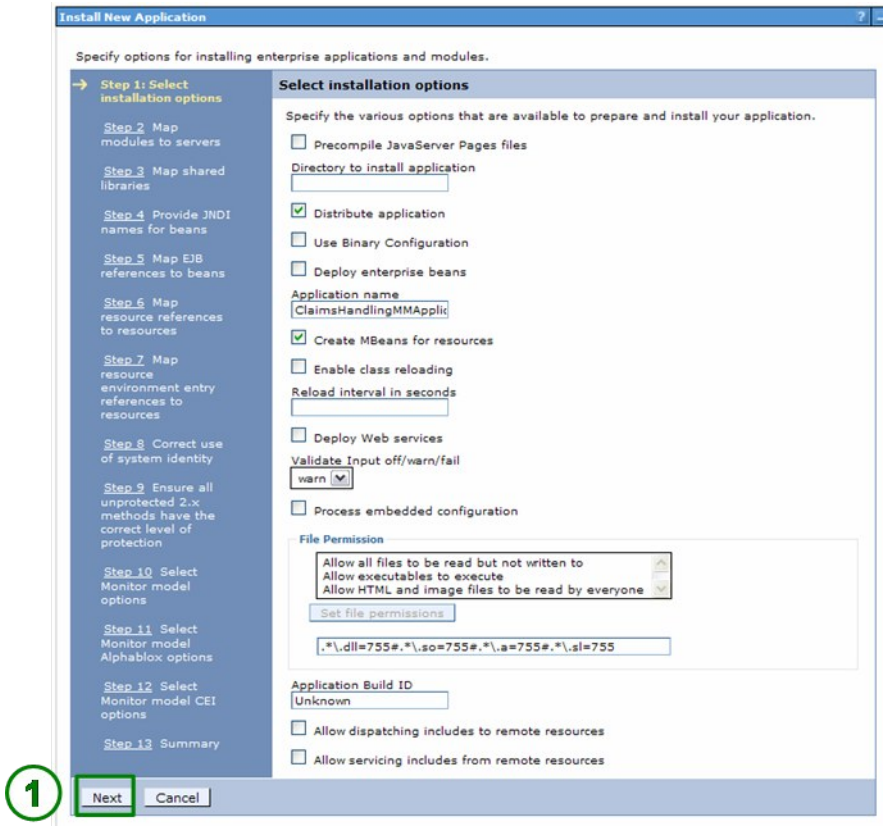
1. Leave the defaults and click **Next**

The "Application Security Warnings" panel is displayed.



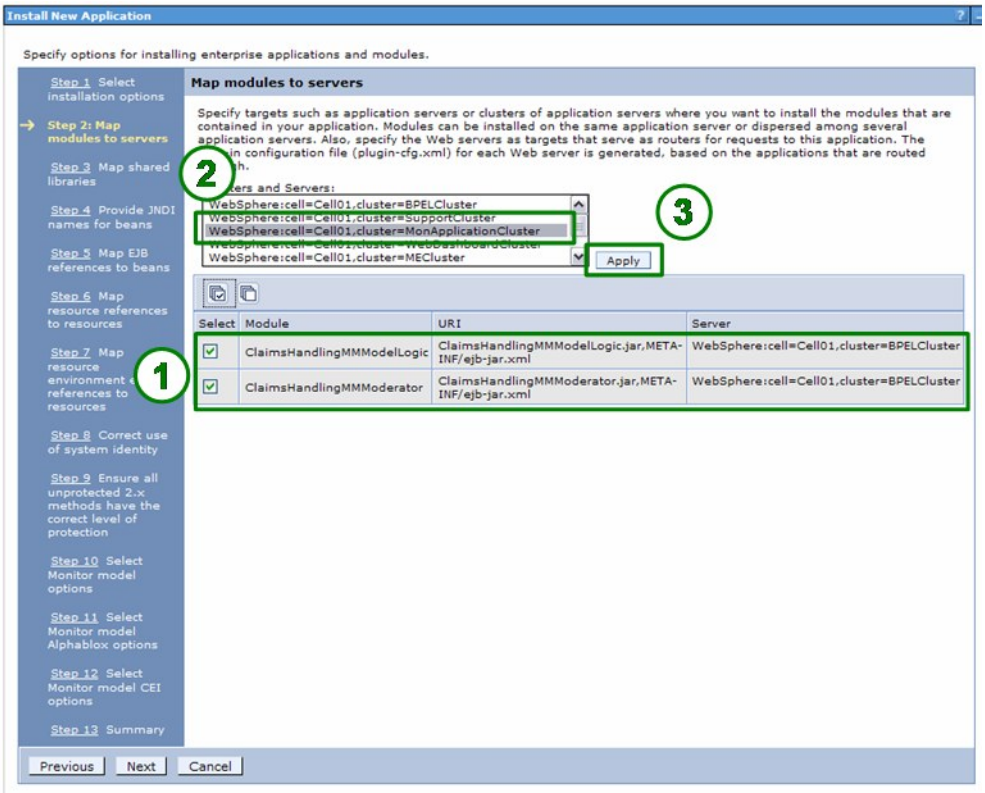
1. Click **Continue**

The “Select installation options” panel is displayed.



1. Leave the defaults and click **Next**

The “Map modules to servers” panel is displayed:

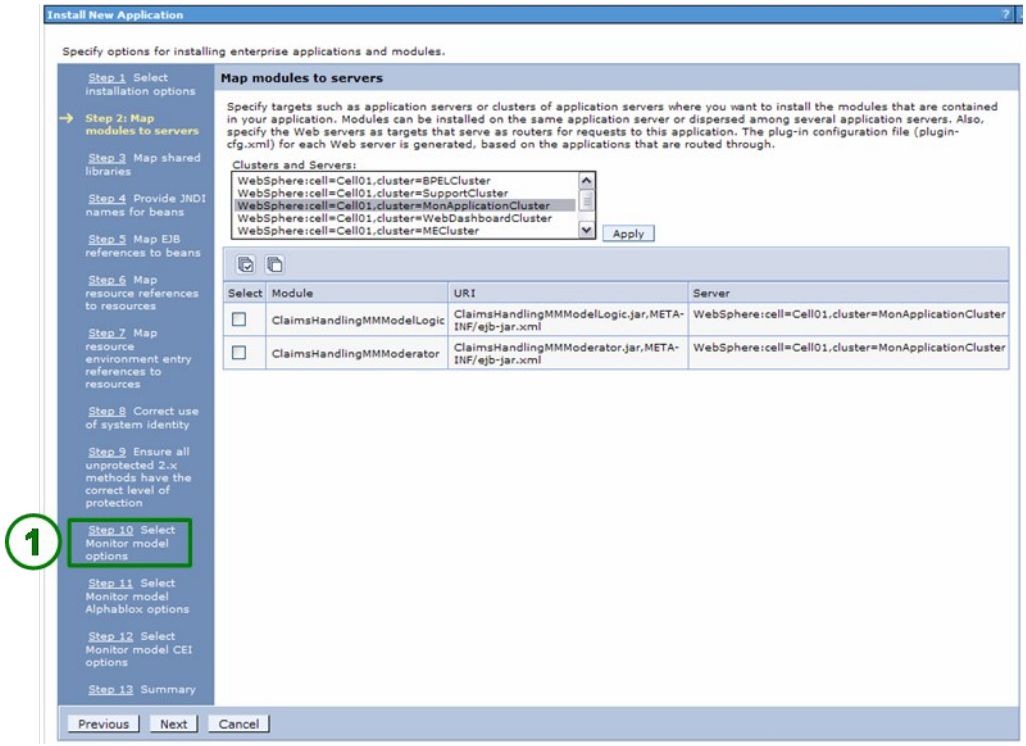


1. Select both modules (**ClaimsHandlingMMModelLogic** and **ClaimsHandlingMMModerator**)

2. Select **MonApplicationCluster**.

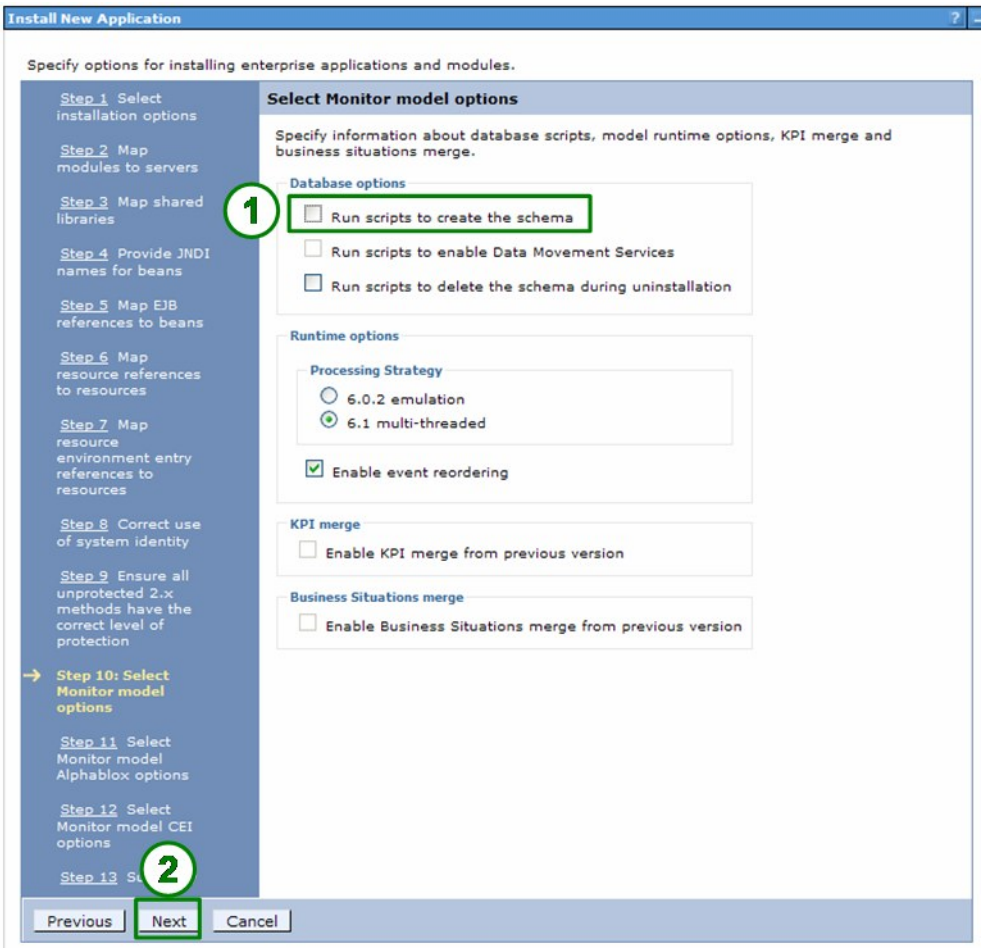
3. Press **Apply**

The “Map modules to servers” panel is displayed again. Now both Monitor Model modules are mapped to the MonApplicationCluster:



1. Select **Step 10: Select Monitor model options**

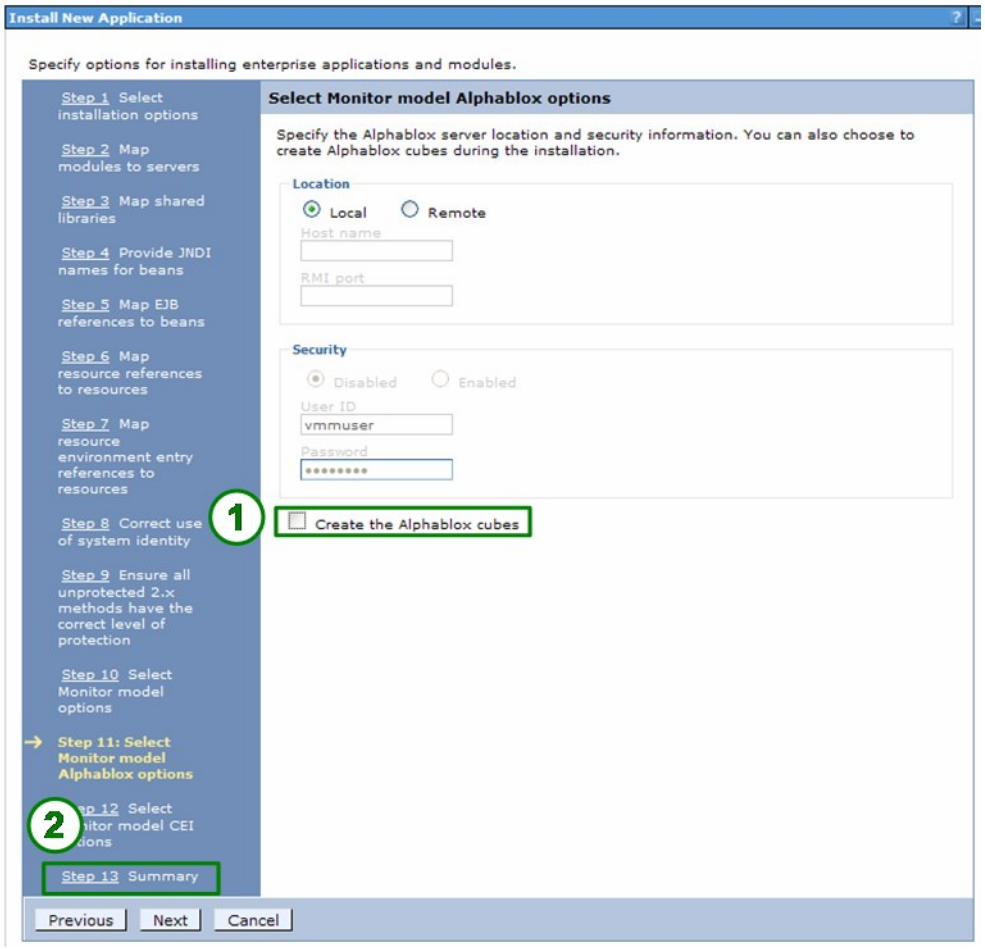
The “Select Monitor model options” panel is displayed:



1. Check if **Run scripts to create the schema**. is selected

2. Press **Next**

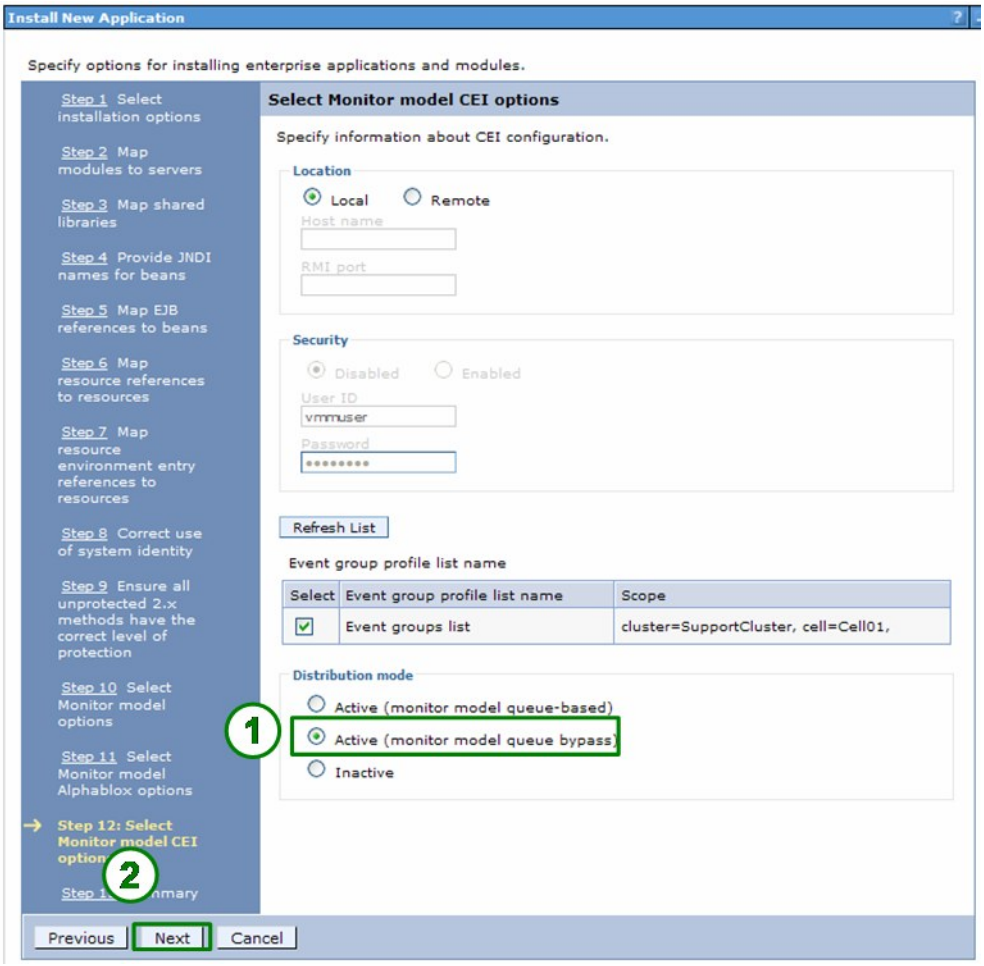
The "Select Monitor model Alphablox options" panel is displayed:



1. De-select **Create the Alphablox cubes**.

2. **Press Next**

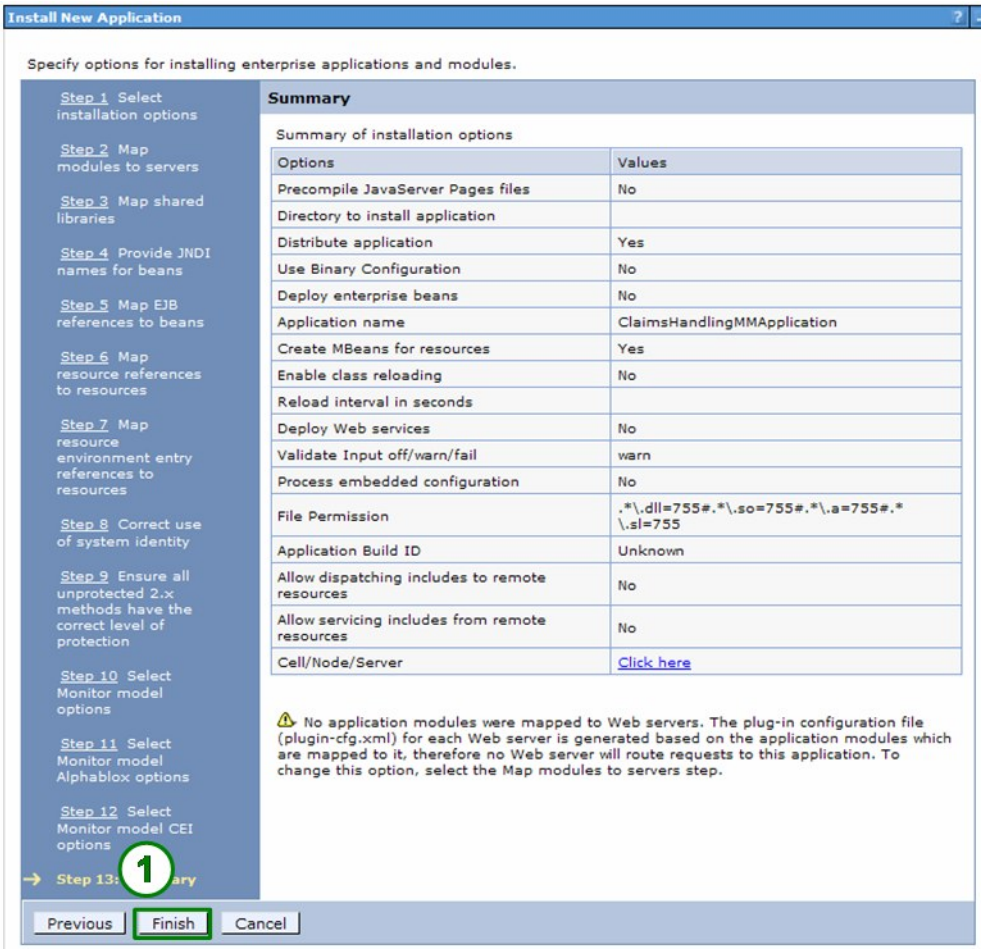
The “Select Monitor model CEI options” panel is displayed:



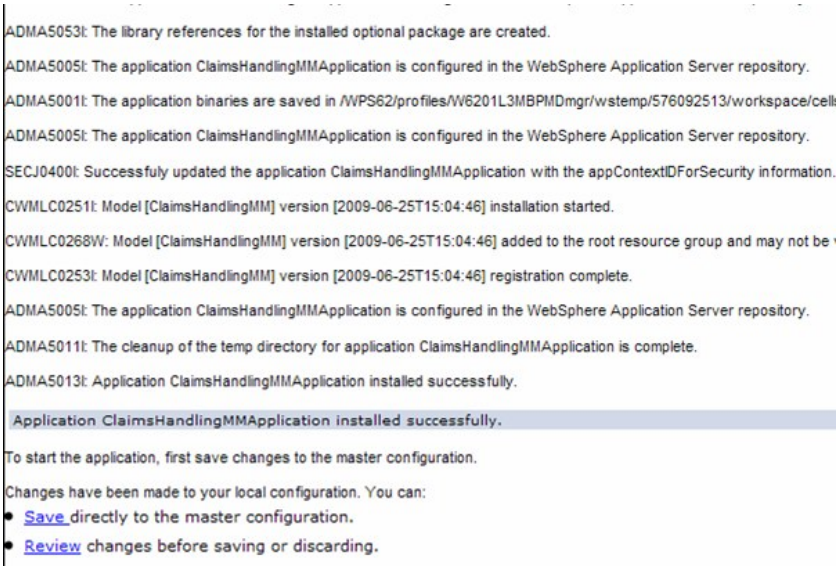
1. Select **Active (monitor model queue bypass)**

2. **Press Next**

The “Summary” panel is displayed:



Press **Finish**



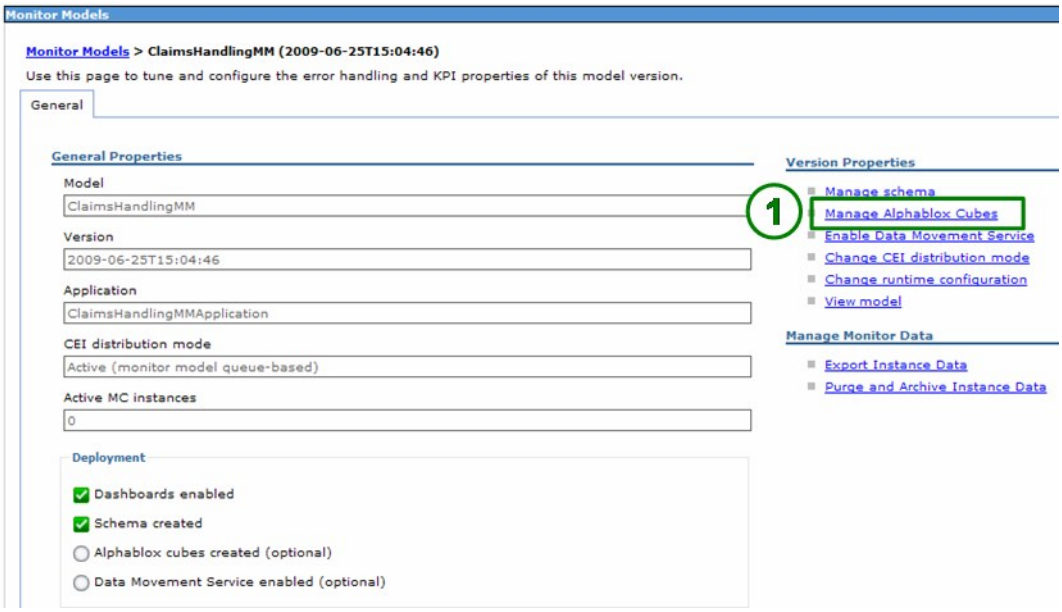
Save and Synchronize.

24.3 Create the Alphablox Cubes

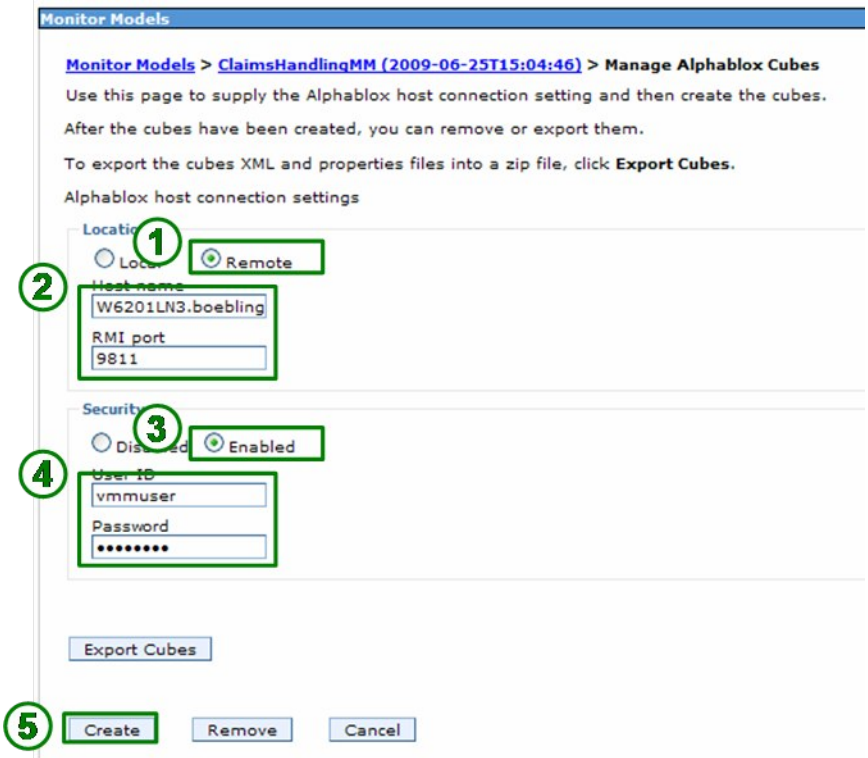
Navigate to:

```
--> Applications
----> Monitor Models
------> Version (identified by the time stamp)
```

The Schema has been created (indicated by the green icon next to **Schema created)**



1. Select **Manage Alphablox Cubes**



1. Select **Remote**.

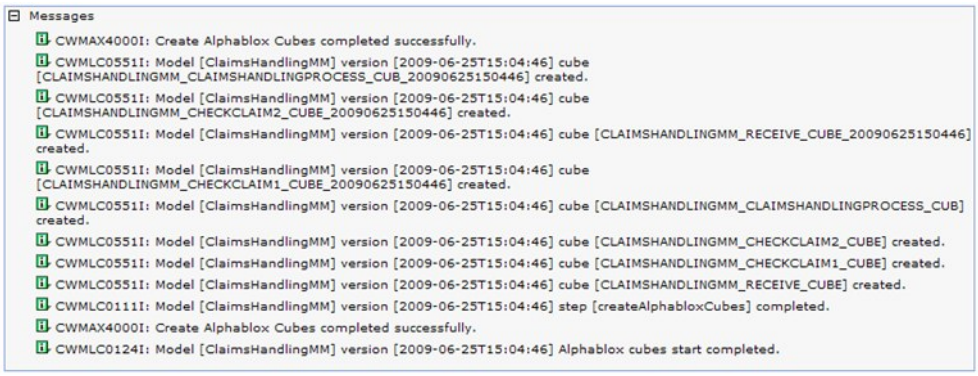
2. Enter the host name of one of the nodes that Alphablox is installed on. (here: **W62L3dmg.boeblingen.de.ibm.com** is used, could be also W6201 l4m.boeblingen.de.ibm.com. Enter **9811** as RMI port (BOOTSTRAP_PORT). The port can be determined by looking at the ports section of one of the members of the WebDashboard Cluster.

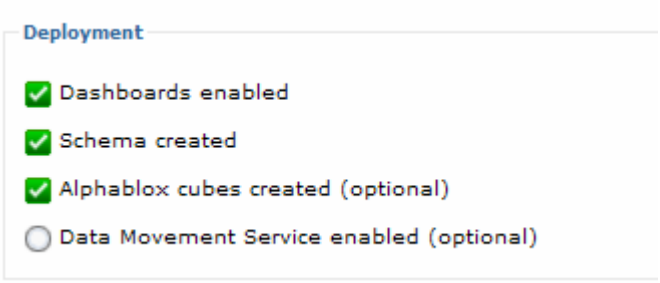
3. Select **Enabled** (Global Security on the remote host).

4. Enter username and pasword of the remote host.

5. Click **Create**

Following messages indicate that the Alphablox Cubes have been created successfully:





The Monitor Model contains Alphablox cubes now:

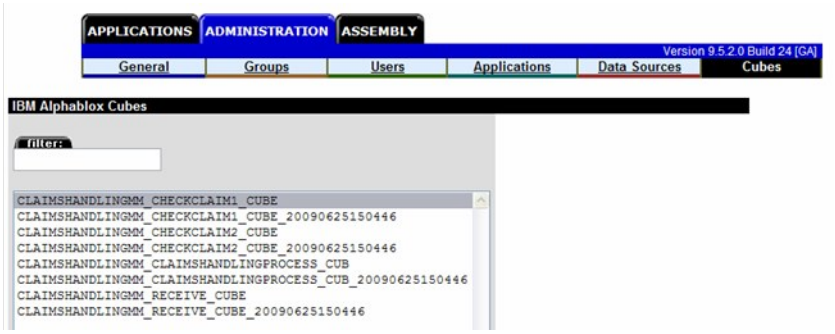
An additional verification step is to check the cubes section within the Alphablox Administration Console of **both** Alphablox hosts:

http://w6201ln3.boeblingen.de.ibm.com:9082/AlphabloxAdmin/home

or

http://w6201ln4.boeblingen.de.ibm.com:9082/AlphabloxAdmin/home

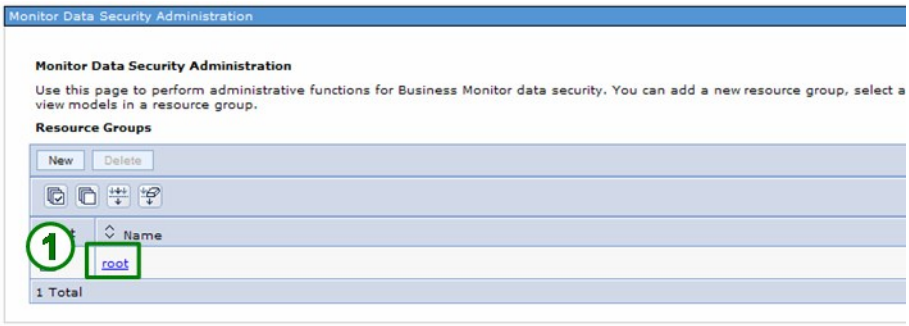
Both Installations have to display the same cubes:



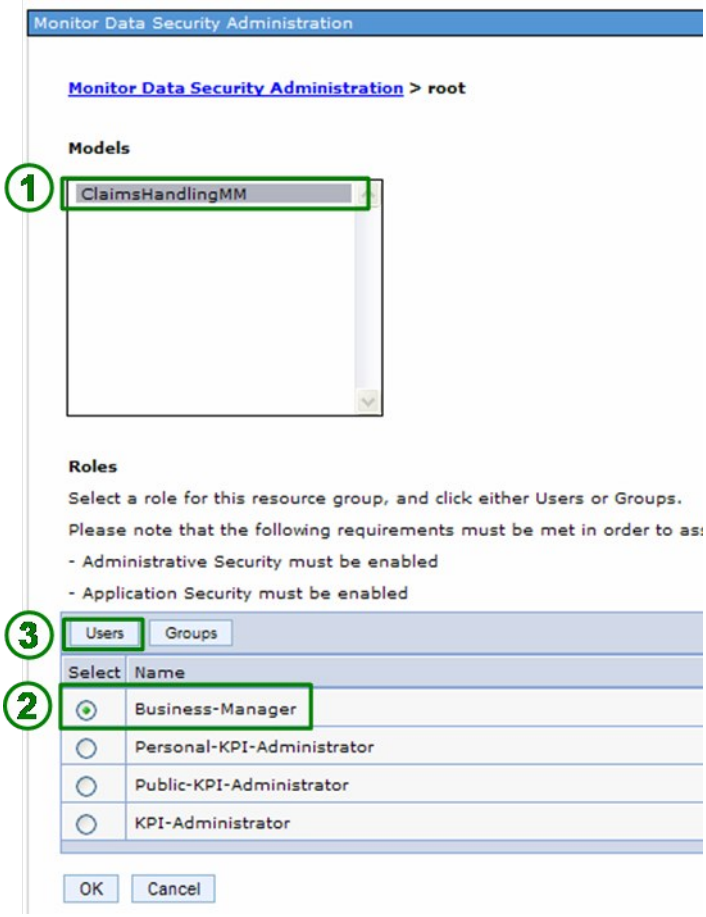
Chapter 25 Configure Monitor Data Security

Navigate to:

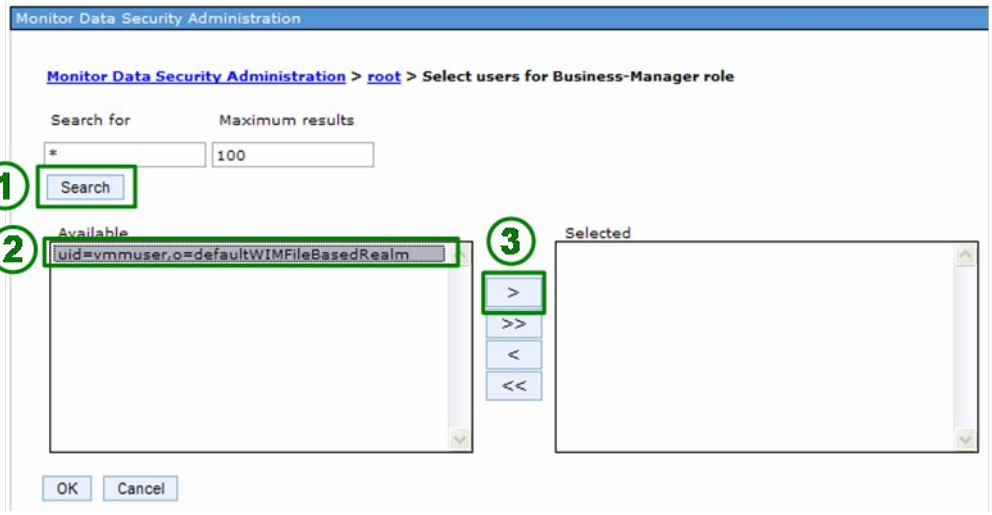
```
--> Security
----> Monitor Data Security
```



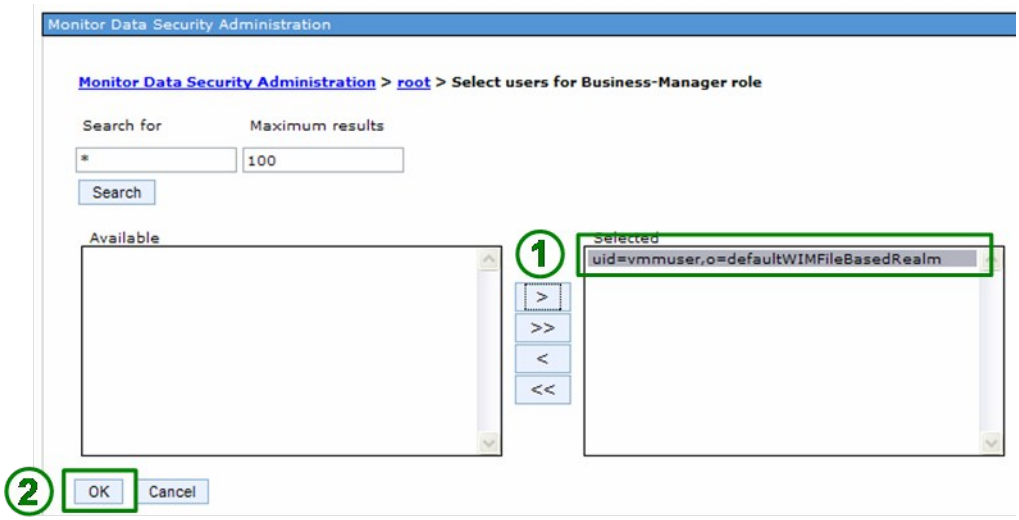
1. Select **root.**



1. Select the **ClaimsHandlingMM** monitor model.
2. Select **Business-Manager**.
3. Click **Users.**



1. Click **Search.**
2. Select the **vmmuser** that is displayed in the panel of available users.
3. Click **>.**



1. The vmmuser is now displayed in the panel of the selected users.

3. Click **OK.**

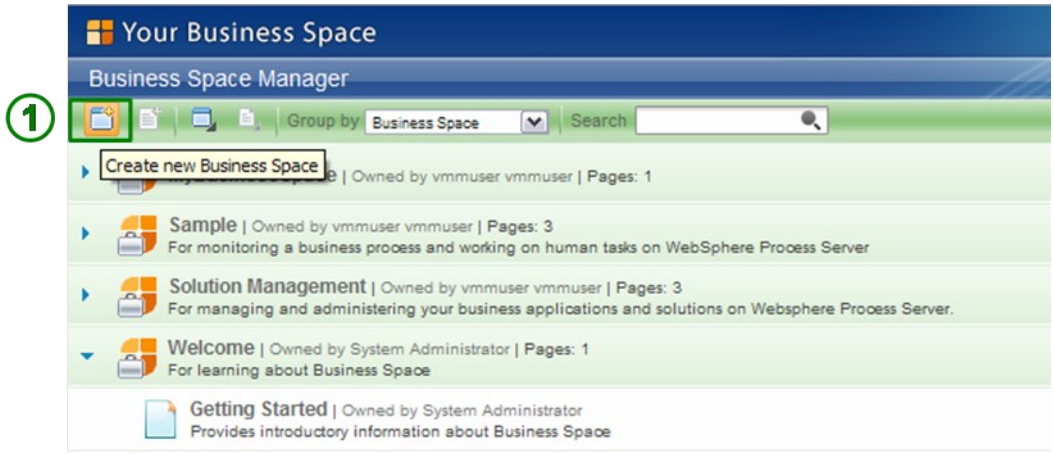
Repeat the steps for the **Personal-KPI-Administrator**, the **Public-KPI-Administrator** and the **KPI-Administrator**.

Chapter 26 Define a Business Space

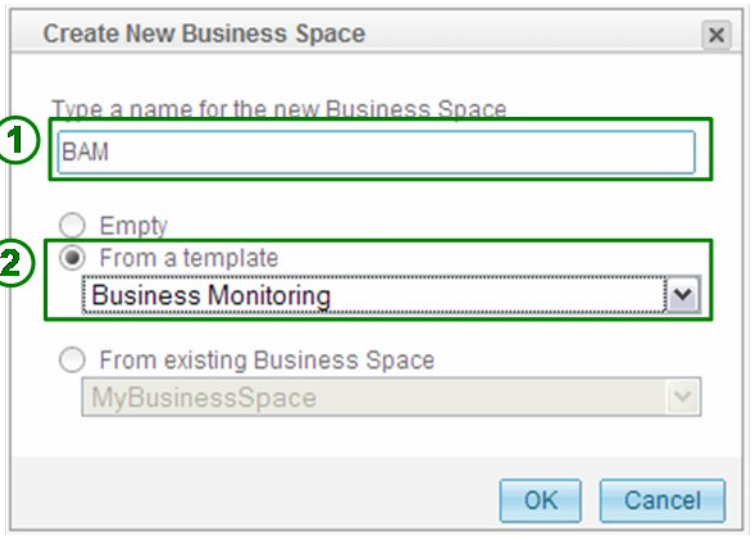
This chapter describes how to define a sample Business Space in order to verify the configuration and deployment of the monitor model.

Logon to the Business Space:

```
https://w620113m.boeblingen.de.ibm.com/BusinessSpace/login.jsp
```

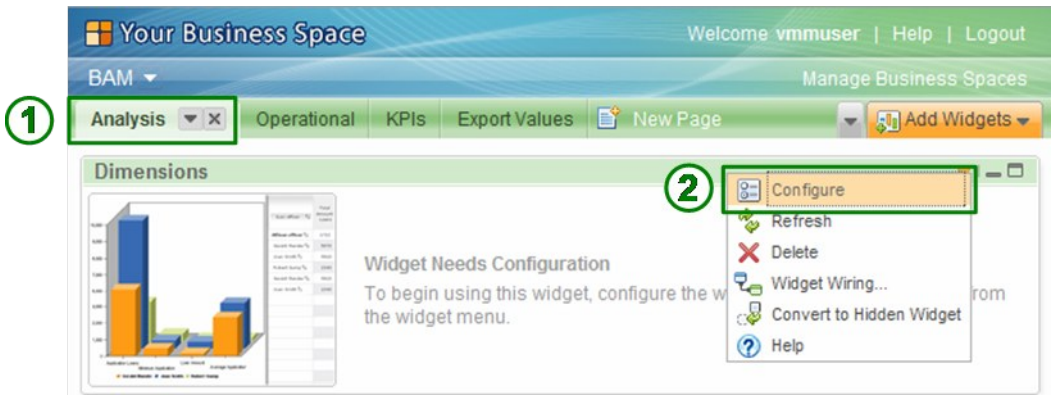


1. Select the **Create new Business Space** icon in the upper left corner.



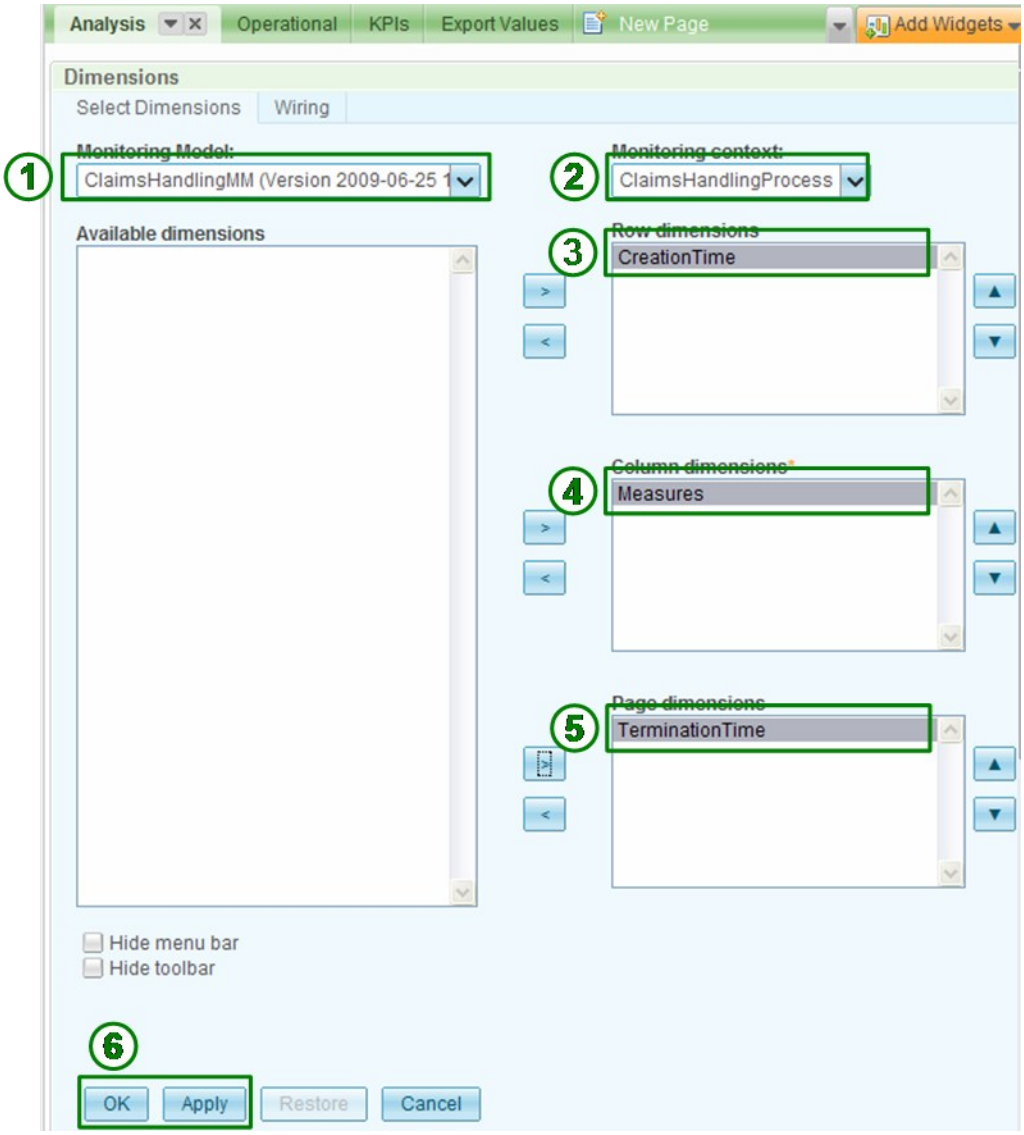
1. Enter **BAM** as name for the new Business Space.

2. Select **From a template** and select **Business Monitoring** from the drop down list.



1. Select the **Analysis** tab in the newly created BAM Business Space.

2. Select the arrow in the upper right corner of the **Dimensions** widget. Select **configure** from the drop down menu.



1. Select the version of the Monitoring Model (At this point only one version is available).

2. Select **ClaimsHandingProcess** as Monitoring context.

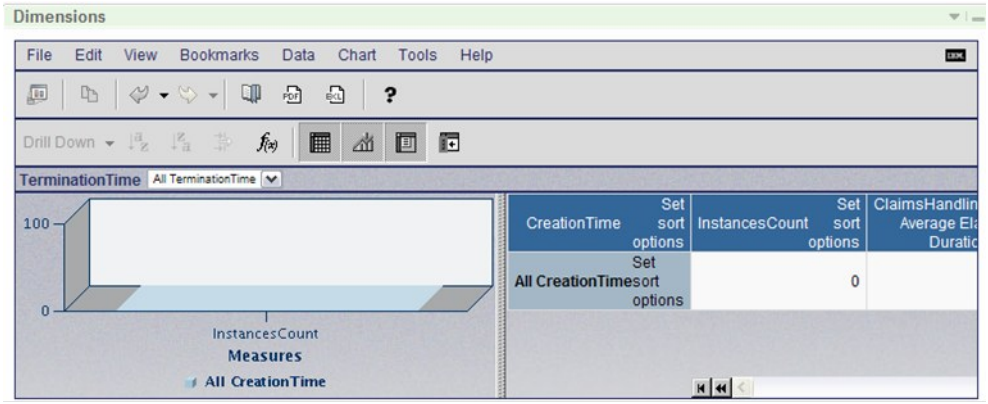
3. Move **CreationTime** from **Available Dimensions** to **Row Dimensions**.

4. Move **Measures** from **Available Dimensions** to **Column Dimensions**.

5. Move **TerminationTime** from **Available Dimensions** to **Page Dimensions**.

6. Click **Apply** and then **OK.**

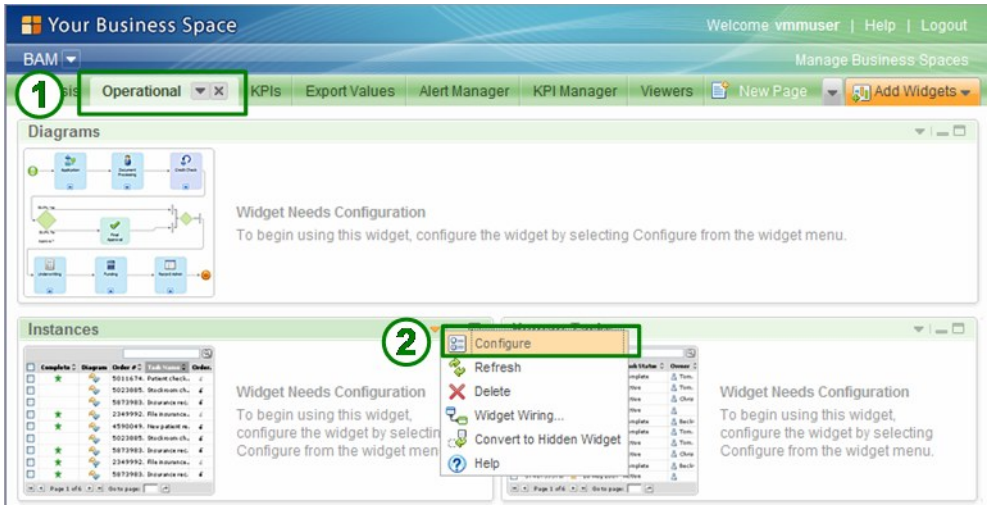
The **Dimensions** widget is displayed. However, is does not display any data since Common Base Events have not yet been emitted by the corresponding Business Process.



Note: if you encounter following exception: **/DashboardABX/_Dimensional/jsp/html/DimABXView.jsp has not been defined.** Refer to

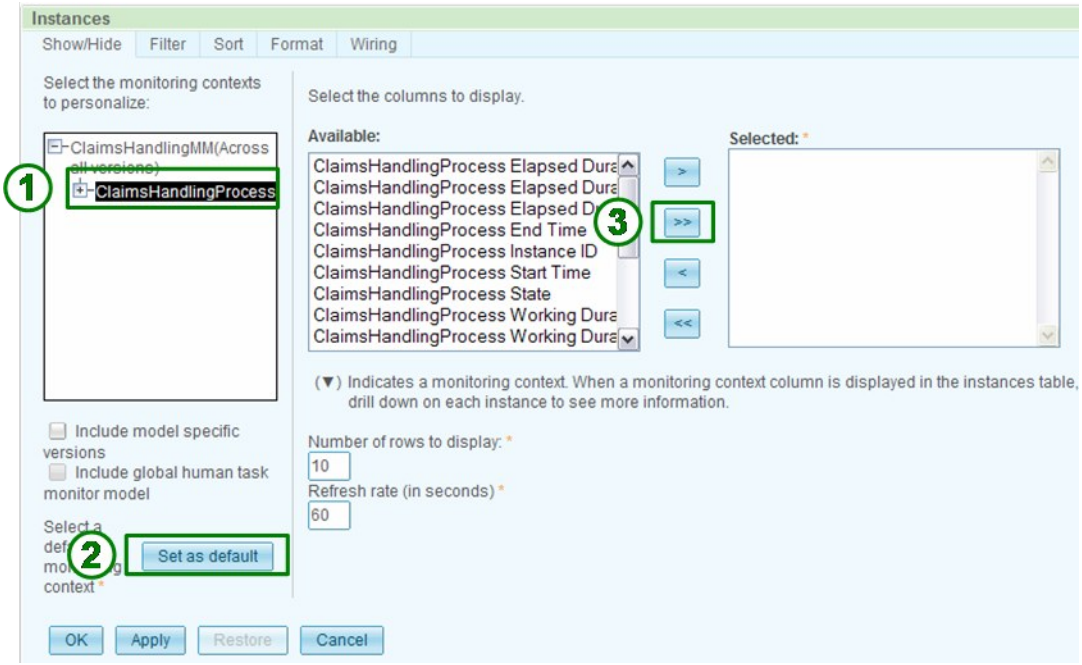
http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r2mx/index.jsp?topic=/com.ibm.btools.help.monitor.admin.doc/trouble/dash_abx_autostart.html

to solve the issue.

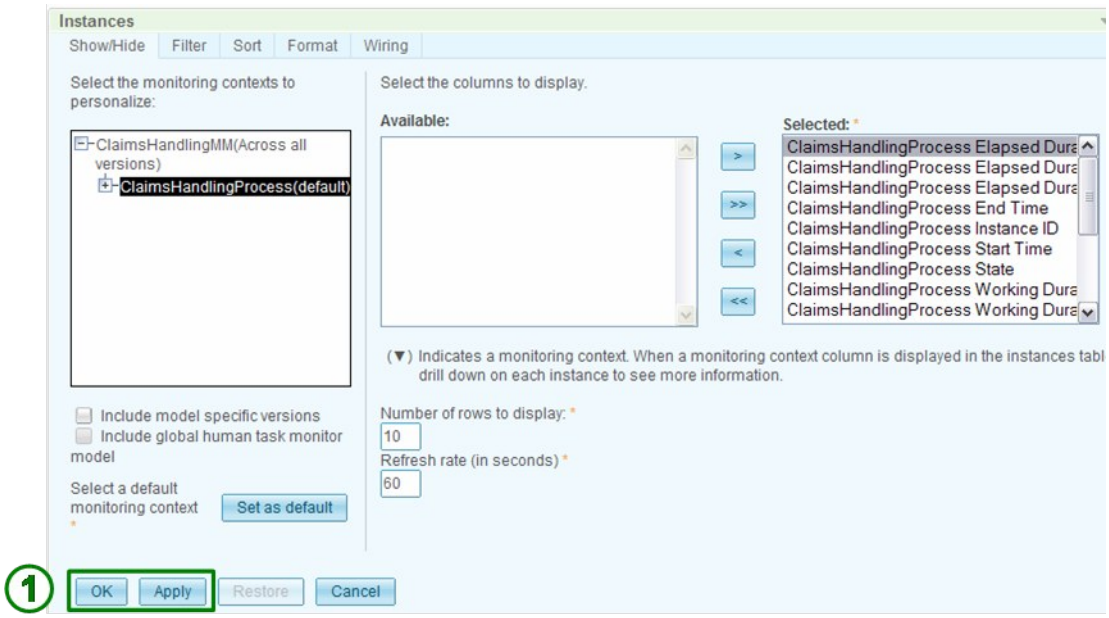


1. Select the **Operational** tab in the BAM Business Space.

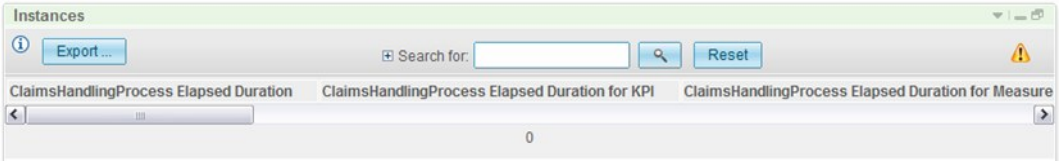
2. Select the arrow in the upper right corner of the **Instances** widget. Select **configure** from the drop down menu.



1. Expand the Monitoring Contexts and select **ClaimsHandlingProcess**.
2. Click **Set as default.**
3. Click **>>** to display all available columns.



1. Click **Apply** and then **OK.**



The **Instances** widget is displayed. However, is does not display any data since Common Base Events have not yet been emitted by the corresponding Business Process.

Chapter 27 Run the Claims Handling Application

More information on running the ClaimsHandling application can be found at http://publib.boulder.ibm.com/bpcsamp/index.html

1. Start the BPC Explorer at URL http://<hostname>:<default_hostport>/bpc:

```
http://w62l3dmgr.boeblingen.de.ibm.com:444/bpc
```

2. Navigate to Process Templates -> My Process Template

3. Select ClaimsHandlingProcess and click Start Instance:

4. Enter string values in the Process Input Message view e.g.:
   - **customerNo:** **100** (a value of type string)
   - **claimRecord:** **999** (a value of type string)

5. Click Submit and navigate to Task Instances -> All Tasks

6. Select Task CheckClaim and click Work on

7. Select on of the available Task Output Messages, e.g. Reject

8. Click Complete

The process finishes and the process instance is being deleted.

The following output can be found in the according log of the BPELCluster member:

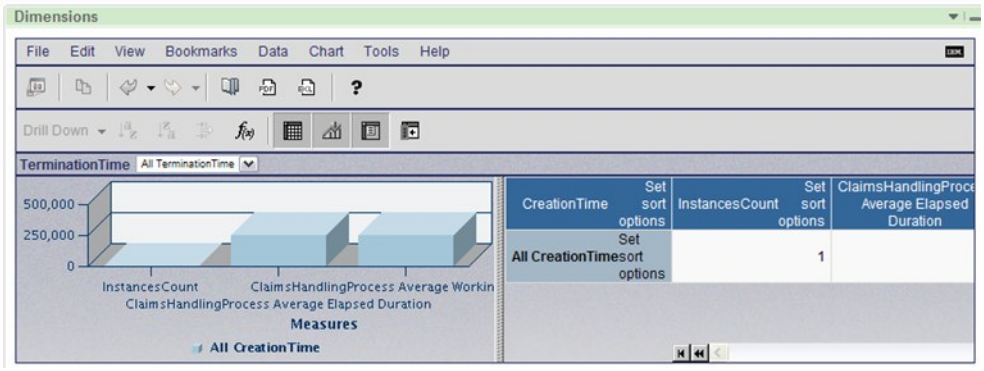
```
[5/25/07 12:22:12:048 CEST] 00000061 SystemOut     O May 25, 2007 12:21:12
PM: Claim handling request received. Claim record no: 999. Customer no:
100.
May 25, 2007 12:22:12 PM: Claim was checked. Action: reject.
May 25, 2007 12:22:12 PM: Final decision: reject.
```

Chapter 28 View Dimensions and Instances within Business Space

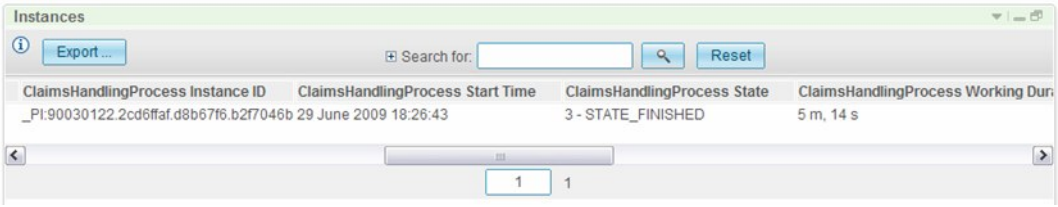
Logon to the Business Space:

https://w620113m.boeblingen.de.ibm.com/BusinessSpace/login.jsp

Open the BAM Business Space. Select the **Analysis** tab. The **Dimensions** widget now displays data based on the Common Base Events emitted by the Claims Handling Business Process:



Open the BAM Business Space. Select the **Operational** tab. The Instances widget now displays information related to single instances of the Claims Handling Business Process:



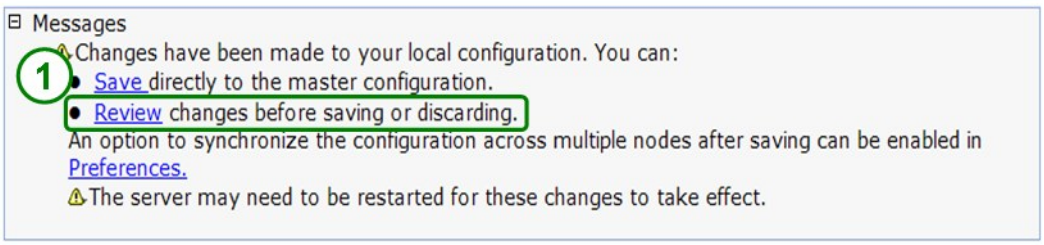
Part VIII Appendix

Chapter 29 Appendix

29.1 WPS How To

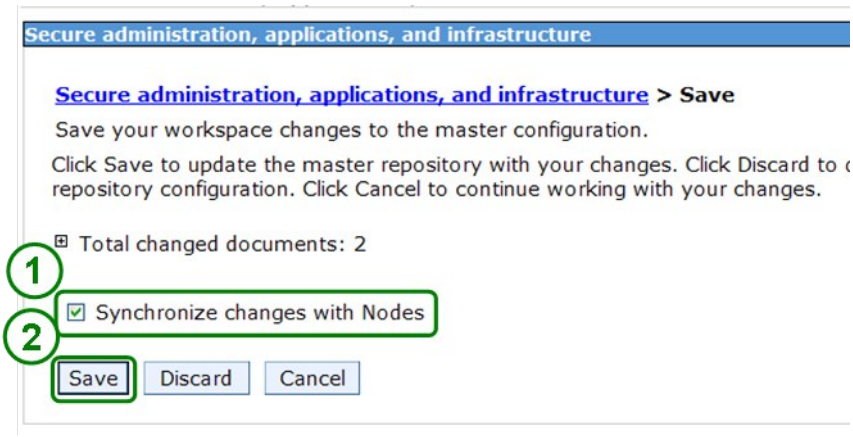
29.1.1 Save changes and synchronize Nodes

The "Save changes" section is displayed on top of a page:



1. Click **Review**

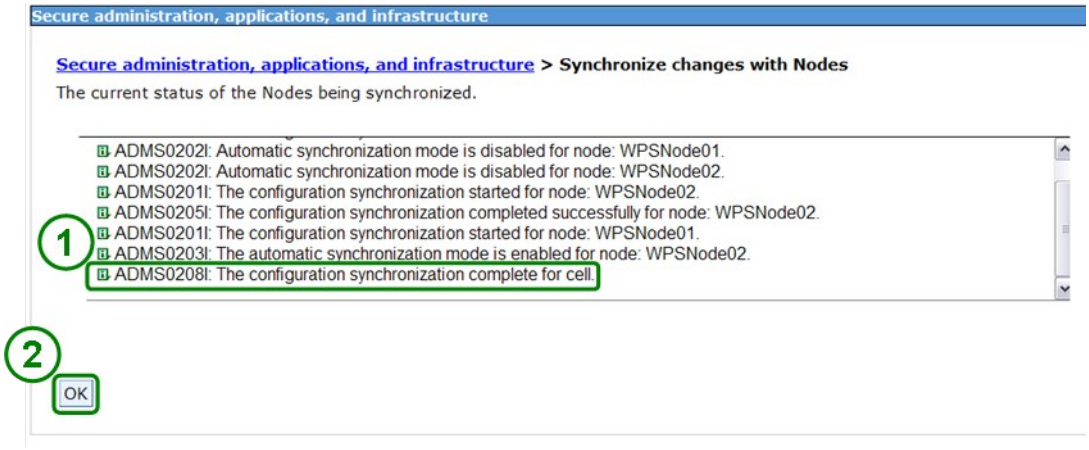
The "Save" page is displayed:



1. Select "Synchronize changes with Nodes".

2. Click **Save**

The "Synchronize changes with Nodes" page is displayed:



1. Verify that synchronization is complete.

2. Click **OK**

29.1.2 Start/stop the deployment manager and the node agents

This section describes how to stop and start the node agents and the deployment manager. Deployment manager and node agents are the parts of the cell.

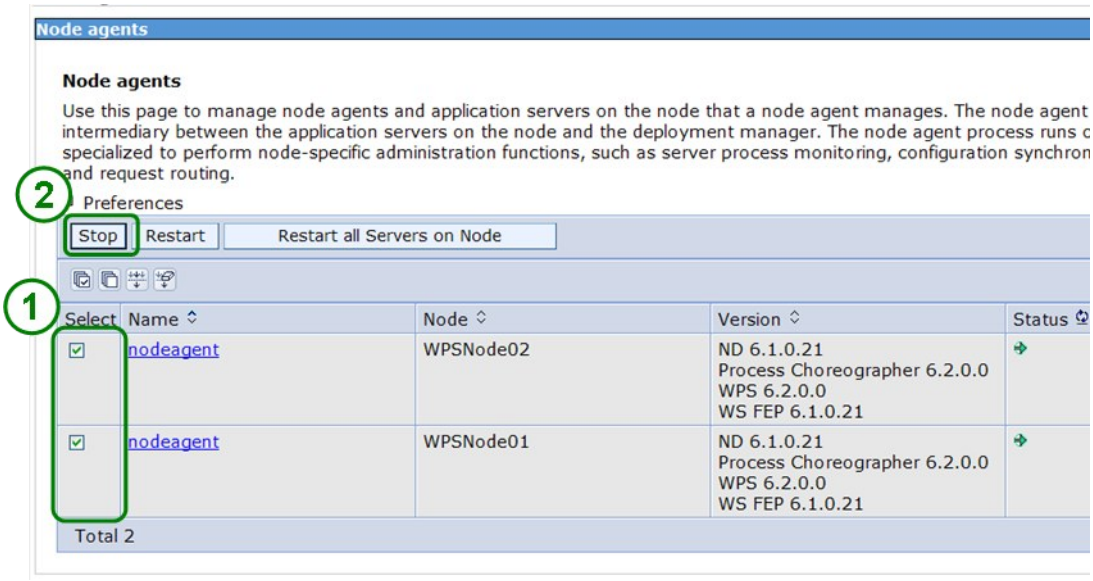
29.1.2.1 Stop the deployment manager and the node agents

Before restarting the entire cell all Clusters in the cell must be stopped.

In the admin console navigate to:

```
System administration
  -> Node agents
```

The "Node agents" page is displayed:



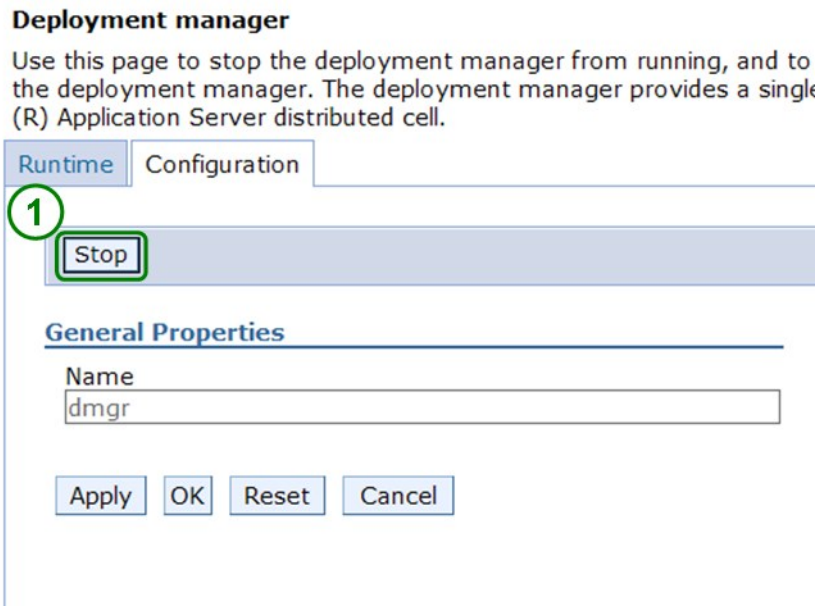
1. Select all running node agents.

2. Click **Stop**

In the admin console navigate to:

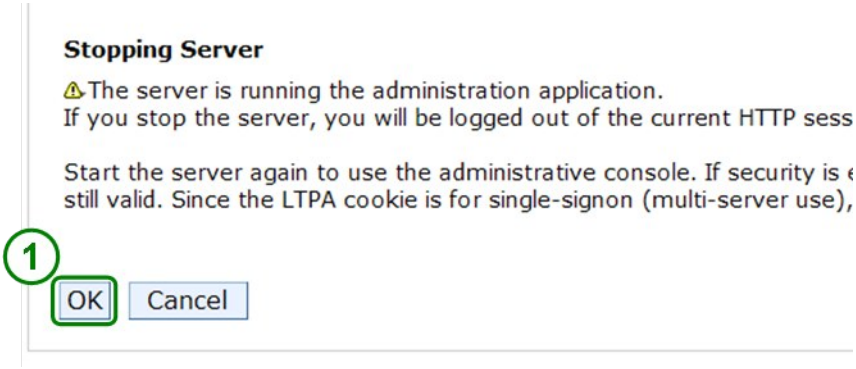
```
System administration
  -> Deployment manager
```

The "Deployment manager" page is displayed:



1. Click **Stop**

The "Stopping Server" page is displayed:



Click **Ok**

You can also stop the node agents and the deployment manager by executing the following commands as user **root** on the several hosts:

1. On all custom profile node hosts:

```
cd /<install_root>/profiles/<profile_name>/bin
./stopNode.sh -username vmmuser -password <password>
```

```
ADMU0116I: Tool information is being logged in file
/<install_root>/profiles/<profile_name>/logs/nodeagent/stopServer.log
ADMU0128I: Starting tool with the <profile_name> profile
ADMU3100I: Reading configuration for server: nodeagent
ADMU3201I: Server stop request issued. Waiting for stop status.
ADMU4000I: Server nodeagent stop completed.
```

2. On the deployment manager host:

```
cd /<install_root>/profiles/<profile_name>/bin
./stopManager.sh -username vmmuser -password <password>
```

```
ADMU0116I: Tool information is being logged in file
/<install_root>/profiles/<profile_name>/logs/dmgr/stopServer.log
ADMU0128I: Starting tool with the <profile_name> profile
ADMU3100I: Reading configuration for server: dmgr
ADMU3201I: Server stop request issued. Waiting for stop status.
ADMU4000I: Server dmgr stop completed.
```

29.1.2.2 Start the deployment manager and the node agents

To start the deployment manager and the node agents execute the following commands as user **root** on the several hosts:

1. On the deployment manager host:

```
cd /<install_root>/profiles/<profile_name>/bin
./startManager.sh
```

```
ADMU0116I: Tool information is being logged in file
/<install_root>/profiles/<profile_name>/logs/dmgr/startServer.log
ADMU0128I: Starting tool with the <profile_name> profile
ADMU3100I: Reading configuration for server: dmgr
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server dmgr open for e-business; process id is 8941
```

2. On all node hosts:

```
cd /<install_root>/profiles/<profile_name>/bin
./startNode.sh
```

```
ADMU0116I: Tool information is being logged in file
/<install_root>/profiles/<profile_name>/logs/nodeagent/startServer.log
ADMU0128I: Starting tool with the <profile_name> profile
ADMU3100I: Reading configuration for server: nodeagent
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server nodeagent open for e-business; process id is 7000
```

29.2 IHS How To

29.2.1 Starting and stopping the HTTP server

To start the http serverexecute the following commands as user **root** on the http host:

```
cd /<install_root>/bin
./apachectl start
```

To stop the http serverexecute the following commands as user **root** on the http host:

```
cd /<install_root>/bin
./apachectl stop
```

29.3 Oracle How To

29.3.1 Starting and stopping the database listener

This chapter describes now to manage the Oracle database listener.

29.3.1.1 Starting the database listener

Login the database system as user oracle and execute the following command:

```
lsnrctl start
LSNRCTL for Linux: Version 11.1.0.6.0 - Production on 05-DEC-2008
19:45:06

Copyright (c) 1991, 2007, Oracle.  All rights reserved.

Starting /opt/oracle/11g/bin/tnslsnr: please wait...

TNSLSNR for Linux: Version 11.1.0.6.0 - Production
System parameter file is /opt/oracle/11g/network/admin/listener.ora
Log messages written to
/opt/oracle/diag/tnslsnr/fmtc7175/listener/alert/log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)
(HOST=fmtc7175.boeblingen.de.ibm.com)(PORT=1521)))
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)
(KEY=EXTPROC1521)))

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)
(HOST=<your_hostname>)(PORT=1521)))
STATUS of the LISTENER
------------------------
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 11.1.0.6.0 -
Production
Start Date                05-DEC-2008 19:45:06
Uptime                    0 days 0 hr. 0 min. 0 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   /opt/oracle/11g/network/admin/listener.ora
Listener Log File
/opt/oracle/diag/tnslsnr/fmtc7175/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<your_hostname>)
(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=EXTPROC1521)))
The command completed successfully
```

Note: The Oracle Listener needs about 1 minute to discover all services. Trying to connect to a database before all services are discovered will lead to an ORA error.

29.3.1.2 Stopping the database listener

Login the database system as user oracle and execute the following command:

```
lsnrctl stop
LSNRCTL for Linux: Version 11.1.0.6.0 - Production on 05-DEC-2008
19:46:30

Copyright (c) 1991, 2007, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)
(HOST=<your_hostname>)(PORT=1521)))
The command completed successfully
```

29.3.1.3 Displaying the database listener status

Login the database system as user oracle and execute the following command:

```
lsnrctl status
LSNRCTL for Linux: Version 11.1.0.6.0 - Production on 05-DEC-2008
19:49:55

Copyright (c) 1991, 2007, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)
(HOST=<your_hostname>)(PORT=1521)))
STATUS of the LISTENER
------------------------
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 11.1.0.6.0 -
Production
Start Date                05-DEC-2008 19:49:13
Uptime                    0 days 0 hr. 0 min. 42 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Parameter File   /opt/oracle/11g/network/admin/listener.ora
Listener Log File
/opt/oracle/diag/tnslsnr/fmtc7175/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<your_hostname>)
(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=EXTPROC1521)))
Services Summary...
Service "ORCL.<your_hostname>" has 1 instance(s).
  Instance "ORCL", status READY, has 1 handler(s) for this
service...
Service "ORCL_XPT.<your_hostname>" has 1 instance(s).
  Instance "ORCL", status READY, has 1 handler(s) for this
service...
The command completed successfully
```

29.3.2 Starting and stopping the database

This chapter describes how to start and stop the oracle database ORCL.

29.3.2.1 Starting the database

To start the database ORCL execute the following commands as user oracle:

```
sqlplus sys/<password>@<oracle_sid> AS SYSDBA

SQL*Plus: Release 11.1.0.7.0 - Production on Thu Jan 29 15:07:23
2009

Copyright (c) 1982, 2008, Oracle. All rights reserved.

Connected to an idle instance.

SQL>startup
ORACLE instance started.

Total System Global Area <xxxxxx> bytes
Fixed Size <xxxxxx> bytes
Variable Size <xxxxxx> bytes
Database Buffers <xxxxxx> bytes
Redo Buffers <xxxxxx> bytes
Database mounted.
Database opened.
```

29.3.2.2 Stopping the database

To stop the database ORCL execute the following commands as user oracle:

```
sqlplus sys/<yourPassword>@<oracle_sid> AS SYSDBA

SQL*Plus: Release 11.1.0.7.0 - Production on Thu Jan 29 15:00:08
2009

Copyright (c) 1982, 2008, Oracle. All rights reserved.


Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit
Production
With the Partitioning option

SQL>shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
```

29.3.3 Starting and stopping the Oracle Enterprise Manager Console

This chapter describes how to manage the Oracle Enterprise Manager Console (OEM) and how to access the OEM website.

29.3.3.1 Starting the Oracle Enterprise Manager

To start the Oracle Enterprise Manager Console execute the following command as user oracle:

```
emctl start dbcosole
Oracle Enterprise Manager 11g Database Control Release 11.1.0.7.0
Copyright (c) 1996, 2008 Oracle Corporation. All rights reserved.
https://<hostname>:1158/em/console/aboutApplication
Starting Oracle Enterprise Manager 11g Database
Control ..... started.
------------------------------------------------------------------
Logs are generated in directory
/opt/oracle/11g/W62L3ORA.boeblingen.de.ibm.com_ORCL/sysman/log
```

29.3.3.2 Stopping the Oracle Enterprise Manager

To stop the Oracle Enterprise Manager Console execute the following command as user oracle:

```
emctl stop dbconsole
Oracle Enterprise Manager 11g Database Control Release 11.1.0.7.0
Copyright (c) 1996, 2008 Oracle Corporation. All rights reserved.
https://<hostname>:1158/em/console/aboutApplication
Stopping Oracle Enterprise Manager 11g Database Control ...
... Stopped.
```

29.3.3.3 Displaying the Oracle Enterprise Manager status

```
emctl status dbconsole
Oracle Enterprise Manager 11g Database Control Release 11.1.0.7.0
Copyright (c) 1996, 2008 Oracle Corporation. All rights reserved.
https://<hostname>:1158/em/console/aboutApplication
Oracle Enterprise Manager 11g is running.
------------------------------------------------------------------
Logs are generated in directory /opt/oracle/11g/W62L3ORA.boeblin-
gen.de.ibm.com_ORCL/sysman/log
```

29.3.3.4 Accessing the Oracle Enterprise Manager

To access the Oracle Enterprise Manager type the following url in the web browser:

```
https://<hostname>:1158/em
```

The port can differ and may be found in the file $ORACLE_HOME/install/portlist.ini.

29.3.4 Resetting a user password in the Oracle database

There is sometimes a need to reset the password for a database user in the Oracle database.

To reset the password of a database user execute the following commands as user oracle:

```
# sqlplus / AS SYSDBA
```

```
SQL*Plus: Release 11.1.0.7.0 - Production on Wed Jul 22 09:16:52 2009

Copyright (c) 1982, 2008, Oracle.  All rights reserved.


Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit
Production
With the Partitioning, OLAP, Data Mining and Real Application Testing
options
```

```
SQL> ALTER USER <username> IDENTIFIED BY <password>;
```

```

SQL>
```

e.G. resetting the password for the database user "sys":

```
SQL> ALTER USER SYS IDENTIFIED BY <password>;
```

```

SQL>
```

29.3.5 Compute database statistics

29.3.5.1 Prepare the database

Execute script

```
sqlplus sys/<password>@<oracle_sid> AS SYSDBA
@$ORACLE_HOME/rdbms/admin/dbmsstat.sql;
```

to create the dbms_stats packages in the database.

> **Note:** The dbms_stats packages are normally created during the database creation.

29.3.5.2 Gather the database statistics

To gather statistics log in with

```
sqlplus sys/<password>@<oracle_sid> AS SYSDBA
```

and start the function:

```
execute dbms_stats.Gather_database_stats;
```

29.3.6 Work with Redo Log Groups

29.3.6.1 Sizing the Redo Log Groups

The size of the redo log files depends on the database load. The 750 MB of the Oracle database chapter are only a rule of thumb. It may be, that greater redo log files are needed.

If a redo log file is full, the database switches to the next redo log file in a round robin manner. On every log switch the database generates a checkpoint. This is very IO extensive. So too small log files are downgrading the database performance.

With Oracle 10g a sizing advisor was introduced. A precondition of this advisor is that the database is on load.

A important parameter of this method is the parameter FAST_START_MTTR_TARGET. This is the mean time that the database should be able to recover if a database crash occurs. This parameter is specified in seconds and possible values are between 0 and 3600.

The result of the following SQL statement is the advice for the size in MB of the redo log files:

```
SQL> SELECT OPTIMAL_LOGFILE_SIZE FROM V$INSTANCE_RECOVERY;
```

You have to execute the statement as user "SYS" and the role "SYSDBA".

Therefore connect to the database executing the following command as user oracle:

```
# sqlplus sys/<password>@<oracle_sid> AS SYSDBA
```

```
SQL*Plus: Release 11.1.0.7.0 - Production on Wed Jul 22 09:16:52 2009
Copyright (c) 1982, 2008, Oracle.  All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 - 64bit
Production
With the Partitioning, OLAP, Data Mining and Real Application Testing
options
```

```
SQL> SELECT OPTIMAL_LOGFILE_SIZE FROM V$INSTANCE_RECOVERY;
```

```
OPTIMAL_LOGFILE_SIZE
--------------------
                nnnn
```

29.3.6.2 Changing the redo log size

The size of a redo log file cannot be changed. You have to delete it and recreate it with the right size.
Oracle uses the redo log files in a round robin order. So if you have three redo log files, one is active and two are inactive. You are able to drop a logfile member with the following command:

```
ALTER DATABASE DROP LOGFILE MEMBER
'/opt/oracle/oradata/<DBNAME>/redo01.log';
```

In this command you have to change the name and location of the redo log file. When a redo log member is dropped from the database, the operating system file is not deleted from disk. Rather, the control files of the associated database are updated to drop the member from the database structure. After dropping a redo log file, make sure that the drop completed successfully, and then use the appropriate operating system command to delete the dropped redo log file.

To drop a member of an active group, you must first force a log switch.
To force a log switch, you must have the ALTER SYSTEM privilege:

```
ALTER SYSTEM SWITCH LOGFILE;
```

Ta add a new logfile member use:

```
ALTER DATABASE ADD LOGFILE MEMBER
'/opt/oracle/oradata/<DBNAME>/redo01.log' SIZE <new_log_size>M TO GROUP
<your_group>;
```