Installing the Monitor Server for WebSphere Business Monitor Version 6.0

What this exercise is about

This lab provides instructions for installing the *Monitor Server* component of WebSphere Business Monitor Version 6.0.

WebSphere Business Monitor typically runs on two servers, and these servers are respectively considered the 'Monitor Server' and the 'Dashboard Client'. This lab describes the Monitor Server installation.

Lab Requirements

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

- Supported Microsoft Windows operating system, for example Microsoft Windows 2003 Server.
- IBM WebSphere Business Monitor Version 6.0 driver.
- Pre-requisite software (obtained as part of the IBM WebSphere Business Monitor V6 driver):
    - IBM DB2 Universal Database Enterprise Server Edition
    - IBM WebSphere Process Server

Note: It is necessary to first complete the Dashboard Client Installation lab. This is because this lab requires access to the Repository database but you will create the Repository database on the Dashboard Client.

Note: This lab should, optimally, be started using a 'clean' machine (i.e. a machine without previous installations of the pre-requisites or the Monitor Server). If your machine is not clean, uninstall previous versions of the pre-requisite software, and then delete the installation folders and the vpd.properties file from C:\Windows\.

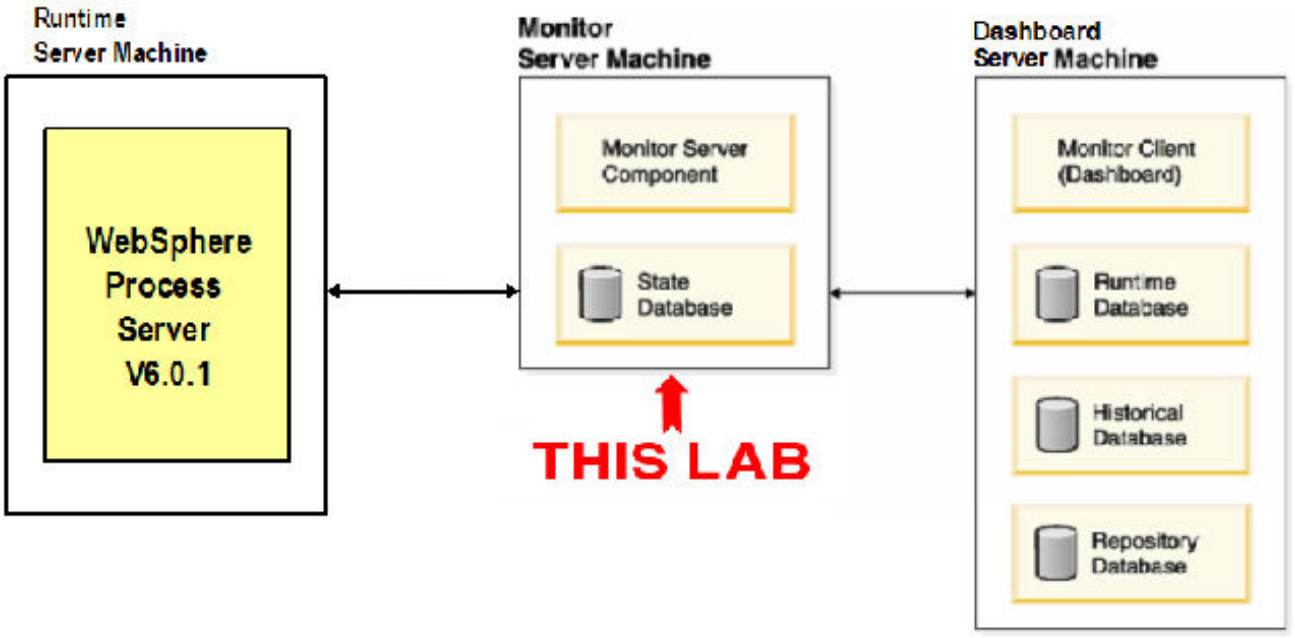
What you should be able to do

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

- Install pre-requisite software
- Catalog a remote REPOS database
- Create the STATE database for Monitor
- Install the Monitor Server
- Test installation

Introduction

This is the first of three labs showing how to build a WebSphere Business Monitor V6 environment, such as shown in the picture below. **In this lab, the Monitor Server Machine will be built.**



This lab will configure the Monitor Server for WebSphere Business Monitor V6. When Monitor V6 is running, this server will collect the events from the processes that execute in the Runtime Server using the Common Event Infrastructure. The Dashboard Client is used to deliver this data to end users who connect using a web browser. Separate labs describe the installation of the Dashboard and Runtime Servers.

The key part of this lab is the **Launchpad,** which is used to install all pre-requisites and the Monitor Server. The Launchpad makes installing the complete set of supporting software very simple.

Monitor Server runs on top of WebSphere Process Server 6.0.0; WebSphere Process Server must be installed as one of the pre-requisites. However, this is not suitable or licensed for running business processes. Business processes must execute in a dedicated runtime server, and WebSphere Process Server V6.0.1 will be configured on a separate server in another lab.

Note: A problem with the CheckPoint Integrity Flex (CPIF) V6.0.116.000 firewall may cause DB2 connections to fail and TCP/IP to stop responding. Typically, the conflicting software causes the installation to stop responding and the system to lockup. Disabling CPIF did not resolve this problem during testing; upon diagnosis of the situation, the pre-requisites had to be reinstalled after CPIF was uninstalled. If you encounter problems, you may try uninstalling CPIF. We recommend that you do not use CPIF, or if you do, be wary of potential problems.

Note: Due to a limitation within DB2, you should not login to Windows when installing Monitor using a userid that contains any of these strings anywhere in the userid: 'sys', 'sql', 'ibm'. If you do, then the databases will not be created, but the Monitor Launchpad may not detect the problem. For example, the userid 'ibmadmin' would not be valid.

Part 1: Preparing the Launchpad

In this part of the lab, the pre-requisite software will be obtained and extracted -- creating the correct on-disk structure for the Launchpad to run.

____ 1. Download the following zip files and place them into a directory, C:\Drivers\ for example. Make sure that no other zip files are present in this directory.

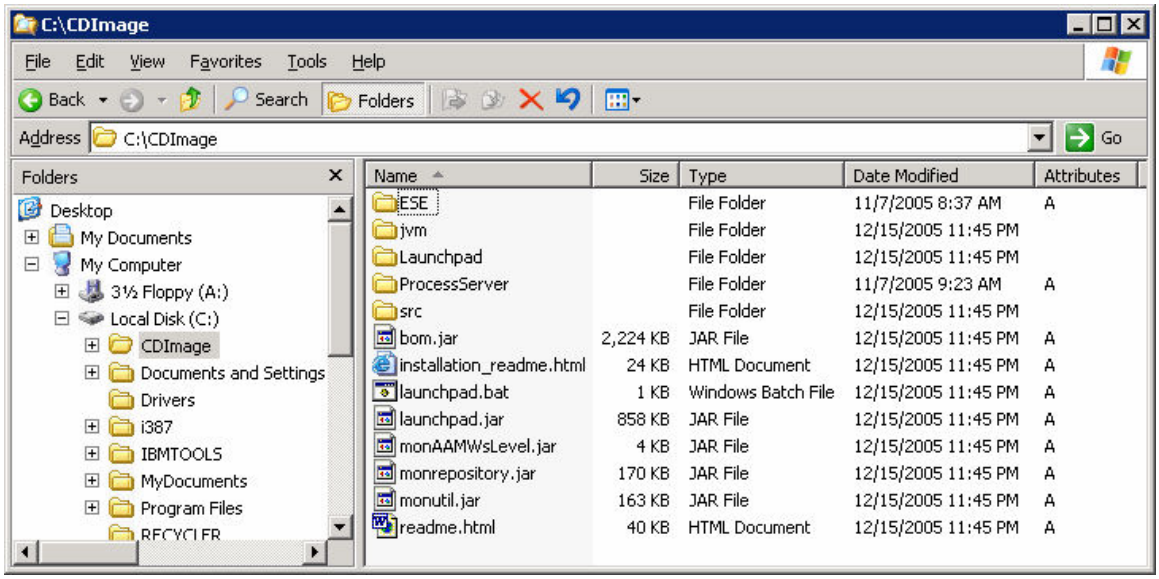
```
C88B8NA.zip - WebSphere Business Monitor
C88B9NA.zip - DB2
C88BGNA.zip - WebSphere Process Server
```

____ 2. Using unzip (**not** Winzip), extract all of the zip files into a directory called C:\CDImage\.

```
cd C:\Drivers\
unzip C88B8NA.zip -d C:\
unzip C88B9NA.zip -d C:\CDImage\
unzip C88BGNA.zip -d c:\CDImage\
```

`unzip C88BGNA.zip -d c:\CDImage\`**NOTE:** Winzip could have problems extracting the number of files and/or the directory structure depth from the source zip files. Use unzip instead, which can be downloaded from the Internet at http://www.info-zip.org/pub/infozip/.

____ 3. Confirm that the directory structure was extracted correctly; it should appear similar to the picture below, although the exact files and dates may vary.

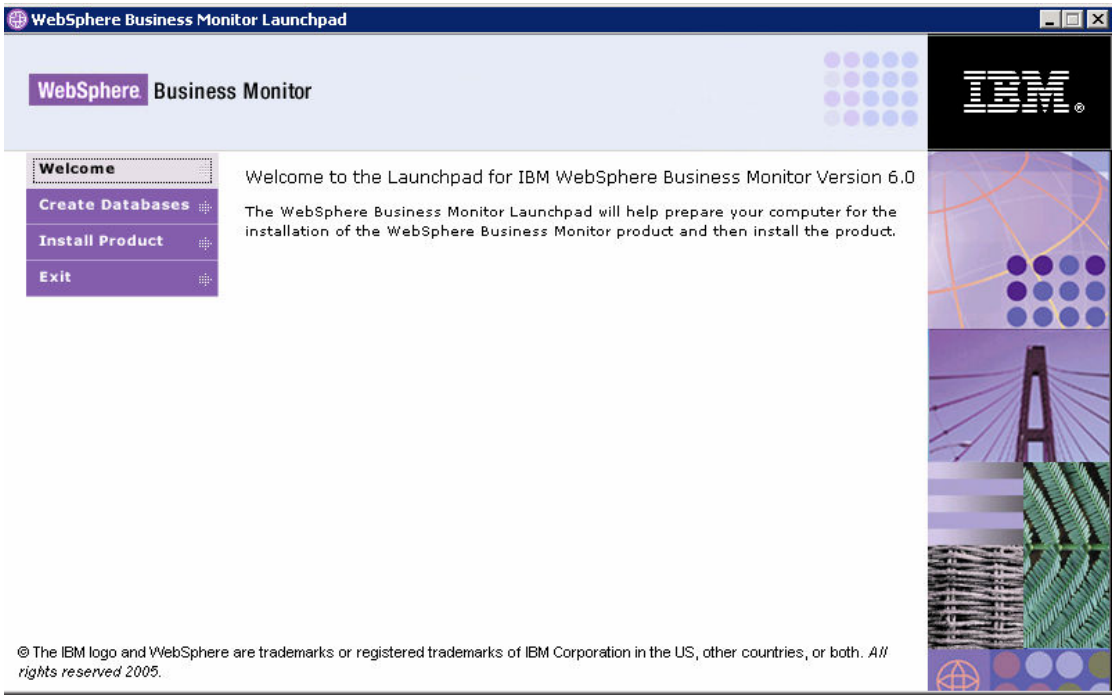


Part 2: Creating the STATE database – installing the pre-requisite DB2

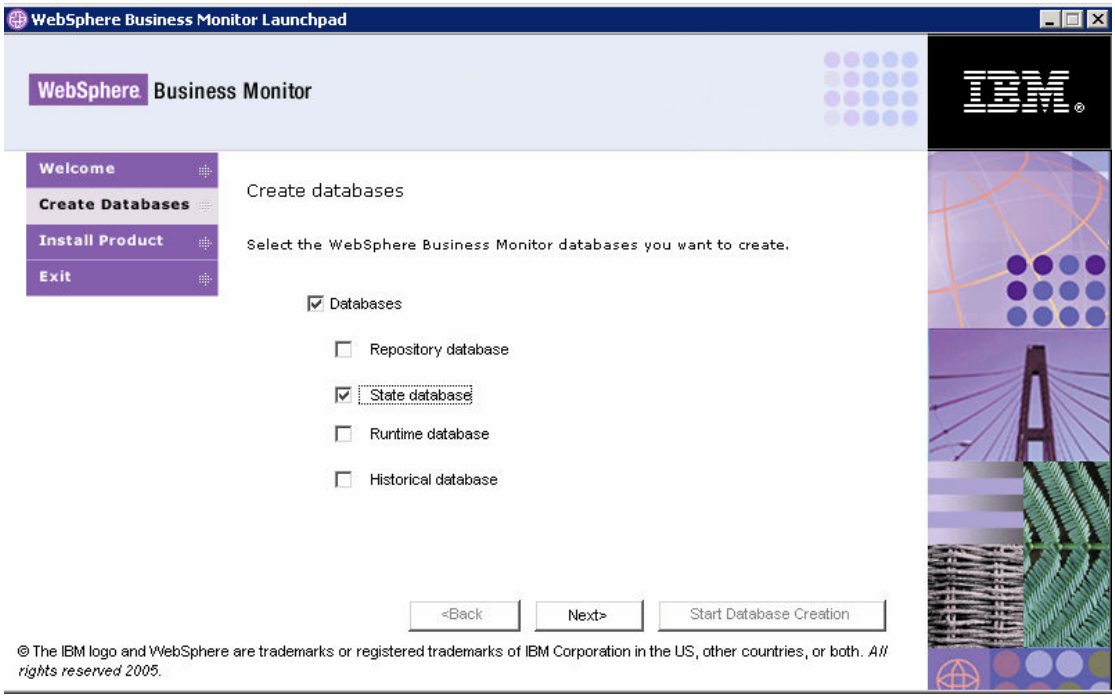
Launchpad enables easy installation of the pre-requisite software for the Monitor Server. It will also be used to install the Monitor Server capability. To begin, the STATE database used by the Monitor Server will be created. The Launchpad will install the pre-requisite DB2, and then create the STATE database.

____ 1. Using the command prompt, open the Launchpad.

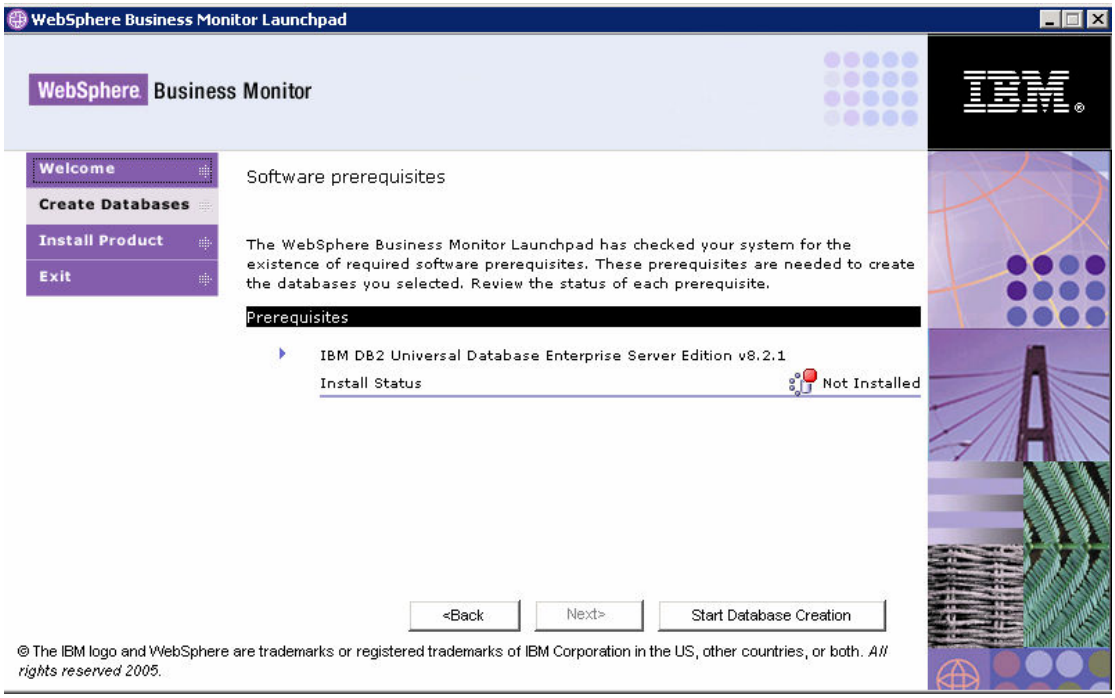
```
cd \CDImage\
launchpad.bat
```



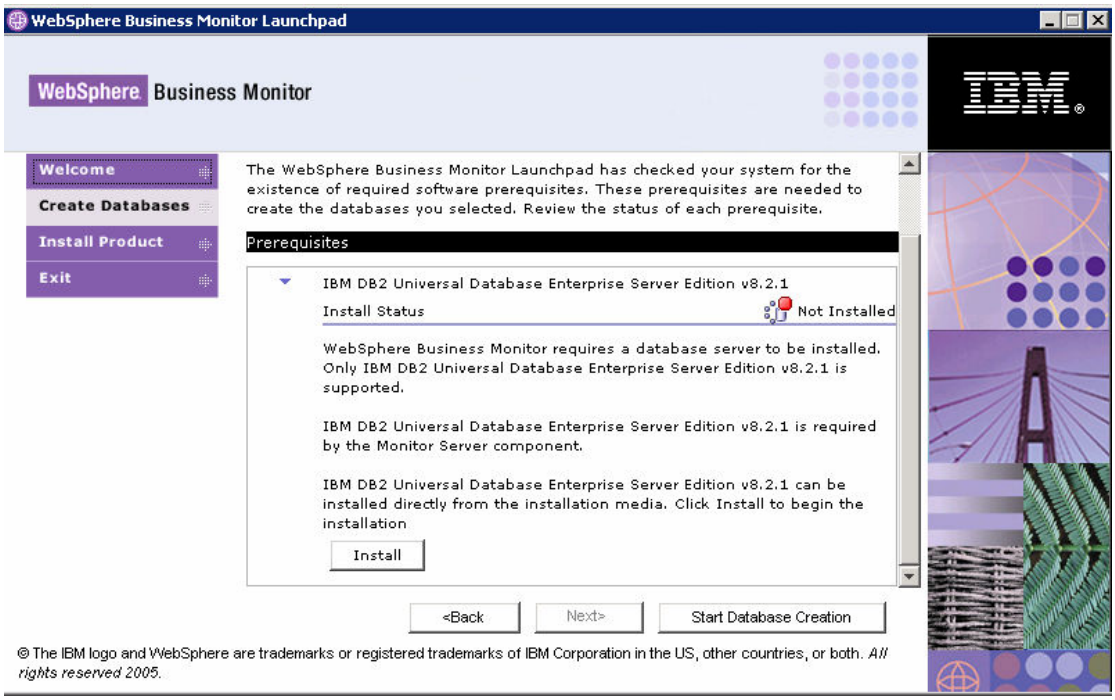
____ 2. Select **Create Databases,** and then select the **State database** checkbox only.



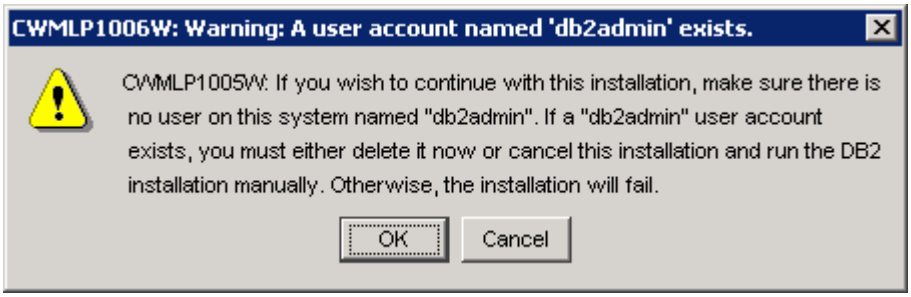
____ 3. Click **Next.**



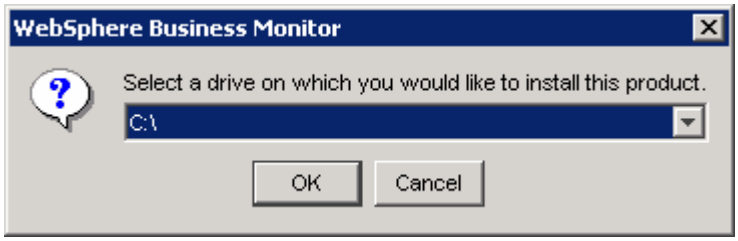
____ 4. The pre-requisite DB2 will show as not installed; the Launchpad will be used to install it. Expand the **IBM DB2 Universal Database Enterprise Server Edition v8.2.1** section and then click **Install.**



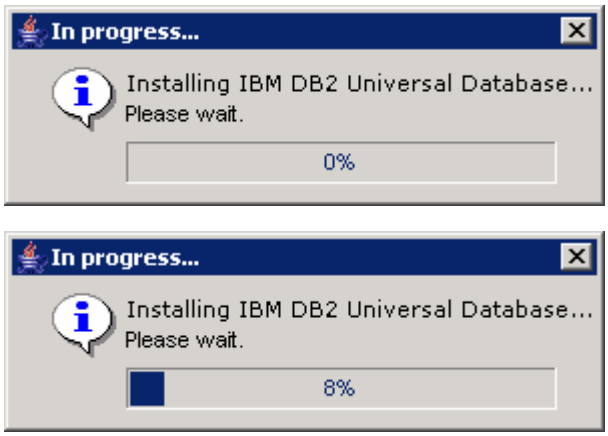
____ 5. A warning message will appear telling you to make sure that the ‘db2admin’ account does not already exist. Be sure to remove any existing “db2admin” userid defined in the system. Click **OK**.



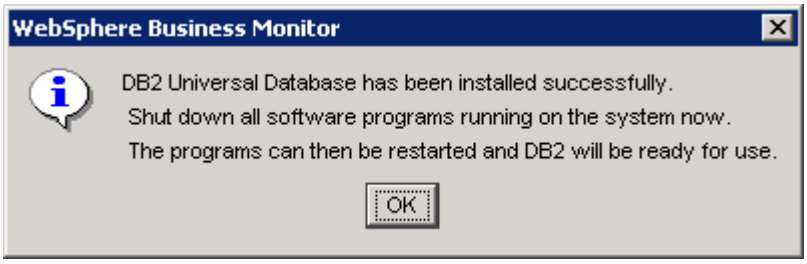
____ 6. Select the drive (the C:\ drive is recommended) to install the product and then click **OK**.



____ 7. Installation will begin and progress silently, as shown:



____ 8. When the installation completes, a popup message will appear stating that DB2 has been installed successfully. The popup also instructs you to restart all running programs so that DB2 may be initialized for use. Click **OK.**



Note: It is very important that you close the Launchpad at this stage. It is also very important that you close the Command Window that you used to start the Launchpad. If you do not perform these steps then your installation will probably fail but you may not detect the problem until much later.

____ 9. You need to close the Launchpad as well as all other applications. Click **Exit.**

____ 10. **Important** – You need to close your command window also – type `exit`, or click the close icon.

Now that DB2 is installed, you can also catalog the remote Repository database. You will perform this step in the next section before later returning to the Launchpad to continue the Monitor Server Installation.

Part 3: Catalog the remote Repository and Runtime databases

Note: Before proceeding with this section, it is essential that the Repository database has already been created on the Dashboard Client. This is done in the other installation lab that describes how to install the Dashboard Client. If this is not yet complete, then switch to the other server and complete the Dashboard Client lab before returning back to this point. You should also ensure that the Repository database is currently available and running on the Dashboard Client.

To continue with creating the databases for the Monitor Server, it is necessary for the Monitor Server to have access to the Repository (REPOS) database. In the scenario shown at the beginning of this lab, you can see that the Repository is created on the Dashboard Client. Therefore you must have completed the Dashboard Client Installation lab before proceeding.

Once the Repository exists on the Dashboard Client, you now need to catalog it on the Monitor Server. Cataloging the remote databases makes them available on the local machine. This can be easily achieved using some simple DB2 administration commands.

Additionally, the Monitor Server will need to be able to access the RUNTIME database at runtime (access is not required during installation but it is a good practice to configure it ahead of time so we will do that now).

Note: If you prefer, you can instead choose to use the graphical DB2 Configuration Assistant tool to catalog the databases, but this is slower than entering the commands, especially for such a simple task. However, for reference the alternative steps to complete configuration using the Assistant can be found in the Appendix. We recommend you follow the instructions below instead.

____ 1. Open a DB2 Command Window

__ a. Click **Start > Run**, type `db2cmd` and click **OK**

____ 2. Catalog the remote REPOS database

__ a. Enter the following command

```
db2 catalog tcpip node MONITOR remote <dashboard_client_host_name>
server 50000
```

where `<dashboard_client_host_name>` should be replaced by the DNS name of your Dashboard Client machine, for example:

```
db2 catalog tcpip node MONITOR remote dashboard.pic.uk.ibm.com server
50000
```

__ b. Enter the following commands

```
db2 catalog DB REPOS as REPOS at node MONITOR
db2 catalog DB RUNTIME as RUNTIME at node MONITOR
```

__ c. Enter the following command

```
db2 terminate
```

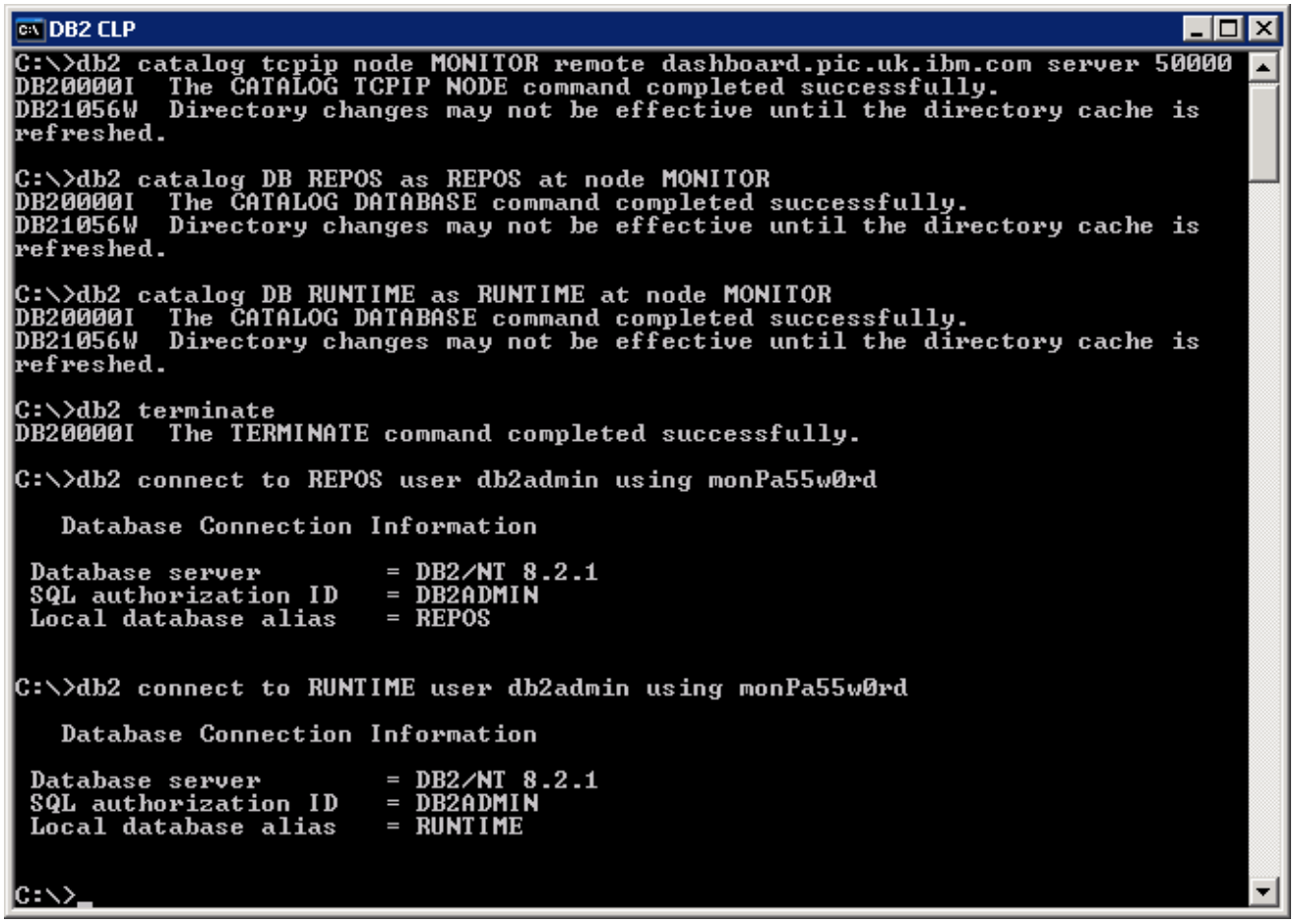
__ d. Enter the following commands

```
db2 connect to REPOS user <dashboard_DB2_userid> using
<dashboard_DB2_password>
db2 connect to RUNTIME user <dashboard_DB2_userid> using
<dashboard_DB2_password>
```

where <dashboard_DB2_userid> and <dashboard_DB2_password> should be replaced by the user ID and password for DB2 on the remote Dashboard Client machine (not on the local Monitor Server):

```
db2 connect to REPOS user db2admin using monPa55w0rd
db2 connect to RUNTIME user db2admin using monPa55w0rd
```

__ e. Your results should look as shown below



Note: If you have already previously cataloged the databases, you will need to uncatalog this old configuration first, before performing the above steps. The following commands allow you to do this:

```
db2 uncatalog db REPOS

db2 uncatalog db RUNTIME

db2 uncatalog node MONITOR

db2 terminate
```

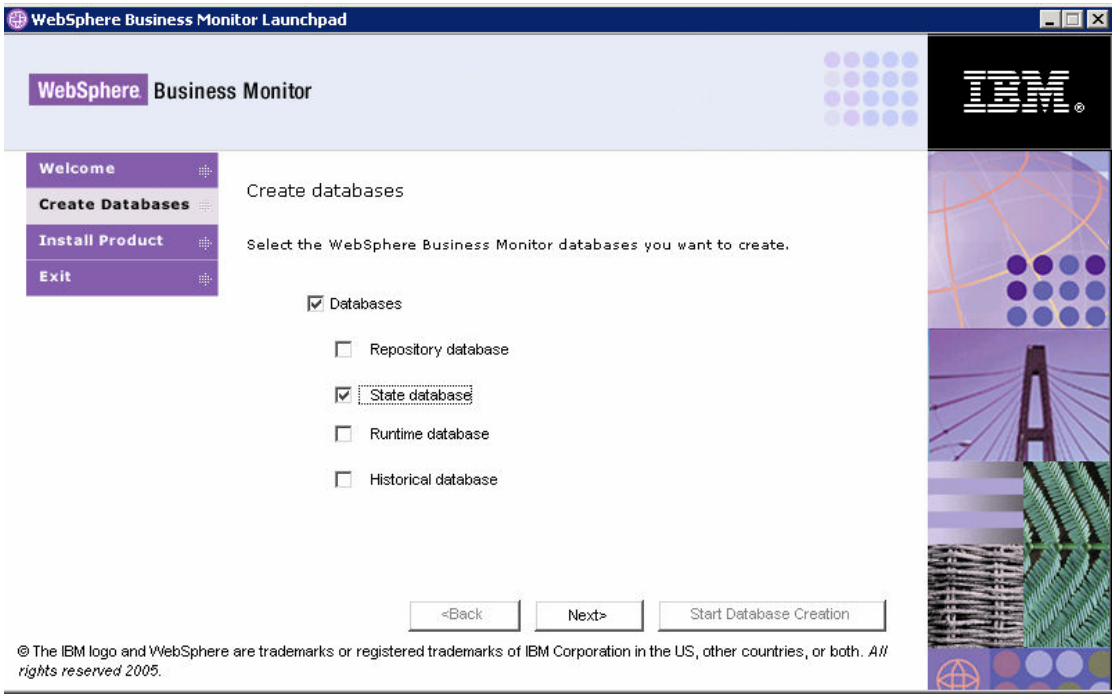
Part 4: Creating the STATE database – continued

Now that the Repository database is cataloged, you can return to creating the STATE database.

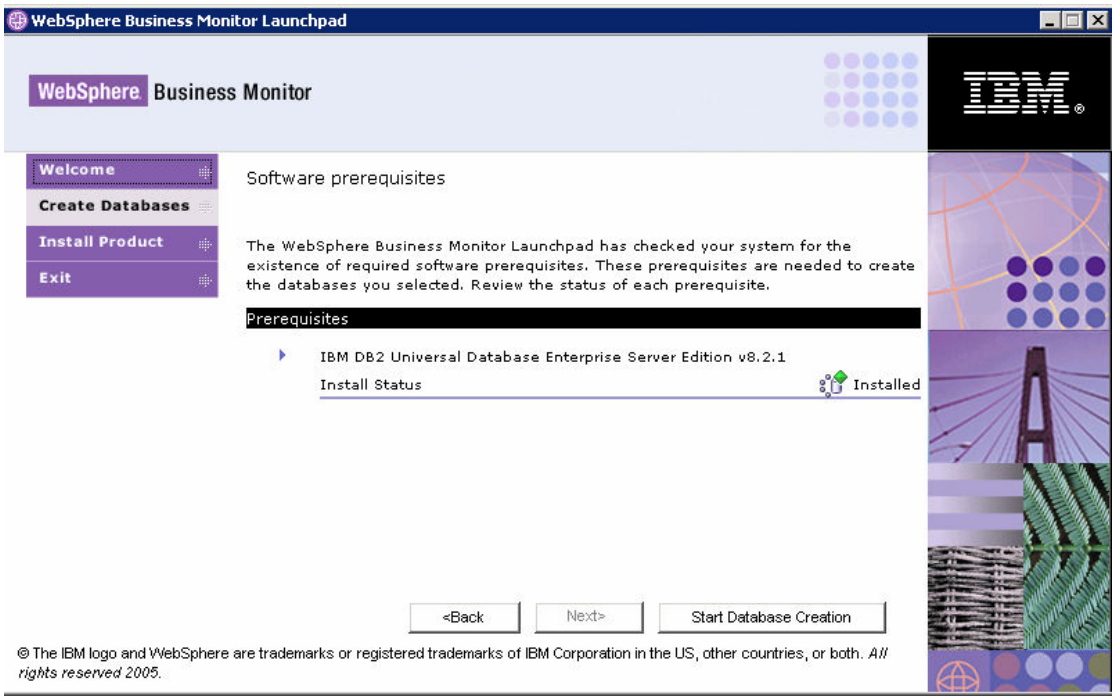
Note: When the Launchpad creates the State database, it will update information in the Repository database at the same time. Therefore you must ensure that the Repository database is available and started on the Dashboard Client machine before proceeding.

____ 1. Open a new Command Window and start the Launchpad as before.

____ 2. Select **Create Databases**, select the **State database** again and click **Next.**

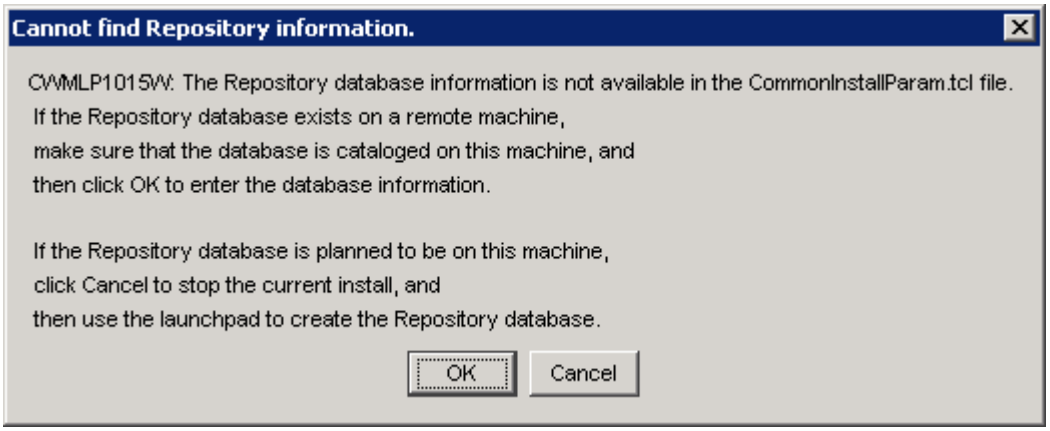


____ 3. Verify that the Launchpad indicates DB2 has been installed.



____ 4. Click **Start Database Creation**.

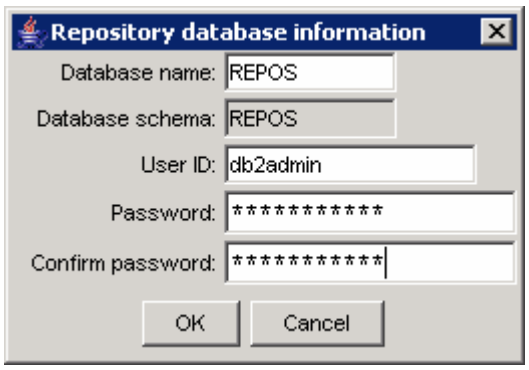
____ 5. You will see the following warning message about the Repository database. This is expected behavior because you have created the Repository database on another (remote) server when you installed the Dashboard Client.



Note: To proceed past this point you must have created the Repository database on the Dashboard Client by following the Dashboard Client installation lab. You must also have cataloged the remote Repository database on the Monitor Server.

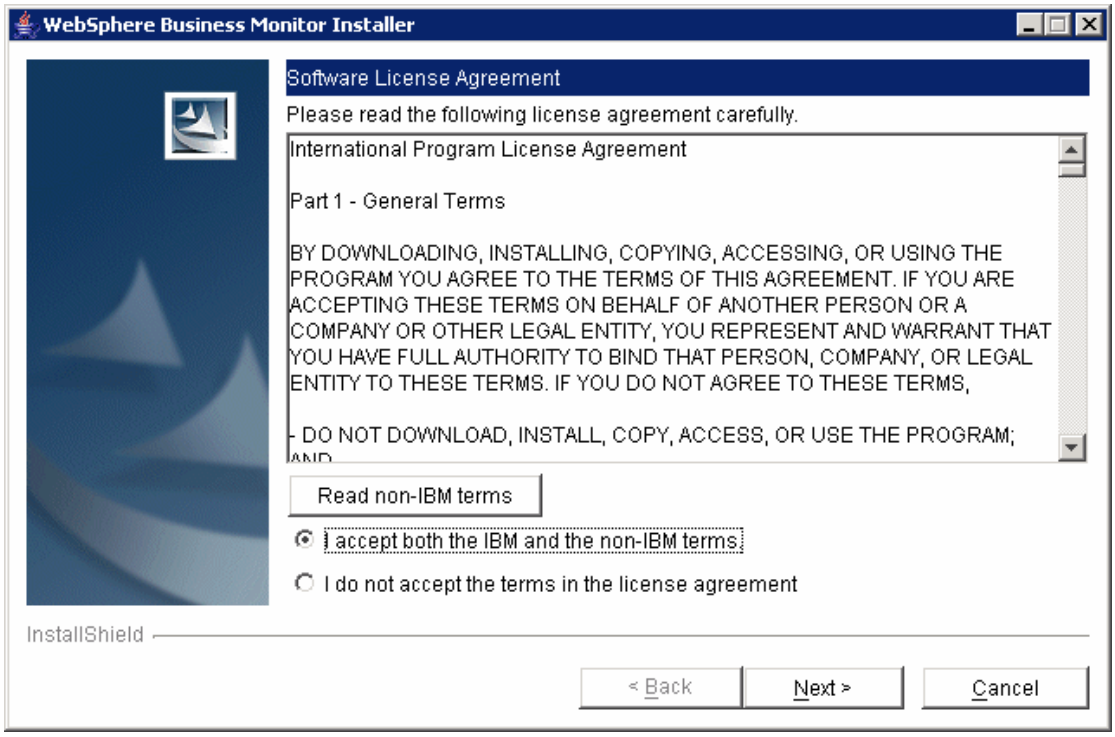
____ 6. Click **OK**

____ 7. Complete the dialog for the Repository database as shown below

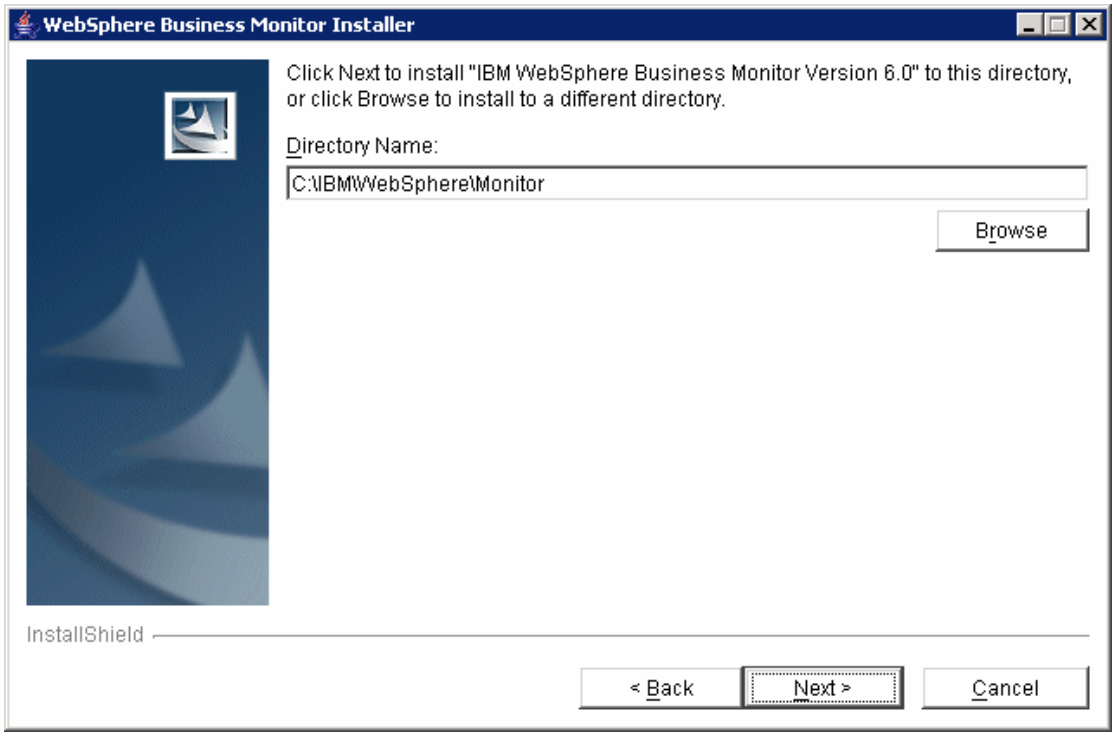


____ 8. Click **OK**

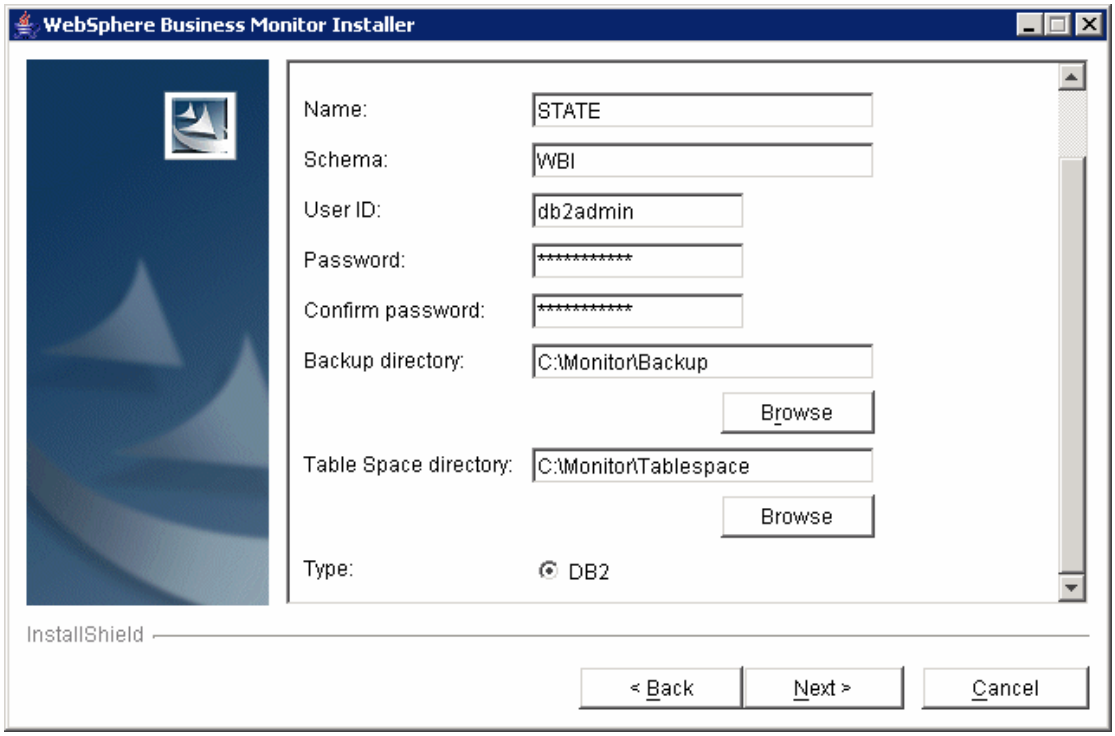
____ 9. Read and accept the license agreement and the non-IBM terms and then click **Next**.



____ 10. Accept the default directory and then click **Next.**

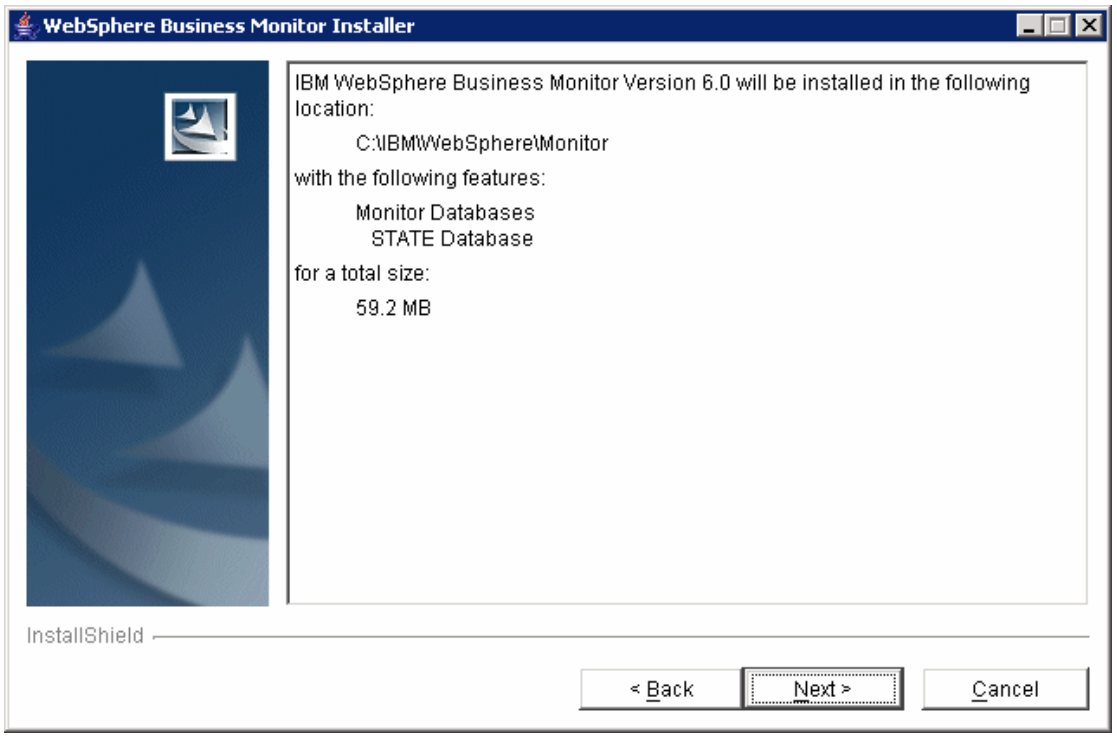


____ 11. Specify the database information for the STATE database -- enter and confirm the password for the db2admin userid. The default password is **monPa55w0rd,** unless it was changed after installing DB2. Two *existing* directories must be specified on the file system for storing database backups and table spaces (therefore you may need to manually create these directories first). The directory names can be typed or navigated to by clicking **Browse** to select them. Click **Next** after the directories are selected.



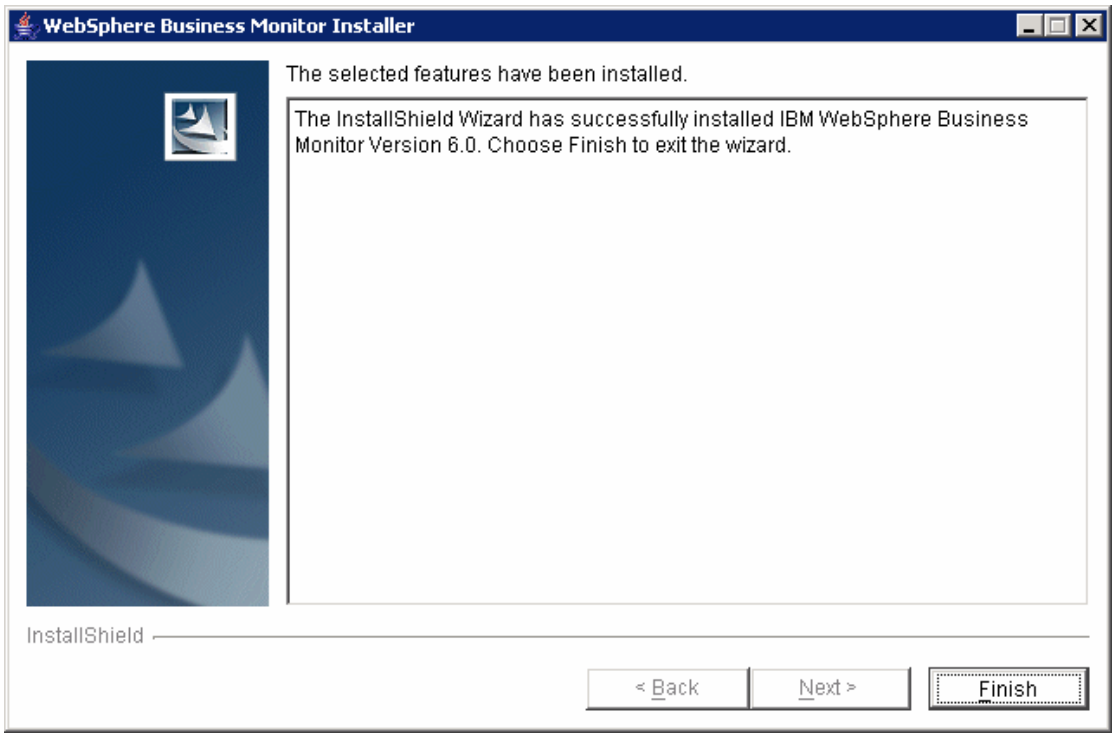
____ 12. Review the summary, and then click **Next** to start the database creation.

Important: When the database is being created, there will be multiple windows opening and closing as the scripts execute. It is recommended that the keyboard and mouse are not used until this has completed.

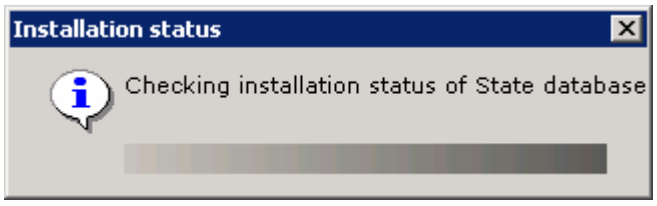


____ 13. The database creation will proceed silently.

____ 14. When the installation is complete, click **Finish**.

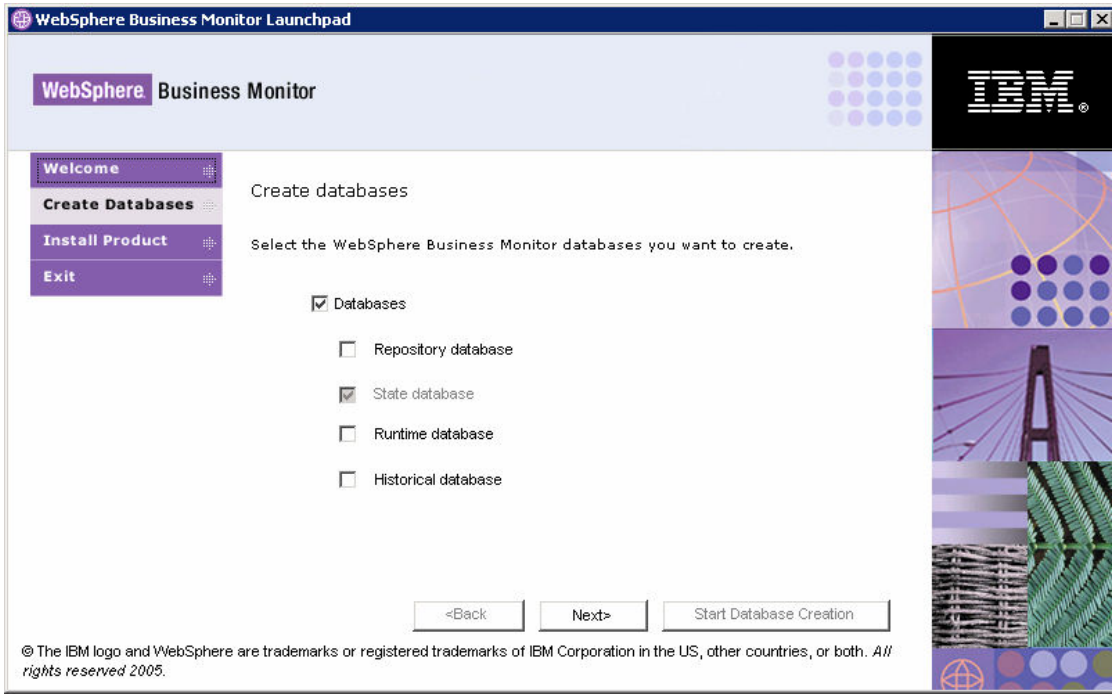


____ 15. The installer will now check the status of the database.



Note: The DB2 Control Center can also be used to confirm that all databases were created (**Start > All Programs > IBM DB2 > General Administration Tools > Control Center**). Under the "All Databases" folder, there should be three databases listed, STATE, RUNTIME and REPOS. RUNTIME and REPOS are the previously cataloged remote databases.

____ 16. When the windows close and only the Launchpad appears, the database creation is complete.



Part 5: Catalog the State database on the Dashboard Client

When you deploy business measures model to your WebSphere Business Monitor installation, you will execute scripts for data replication between the STATE, RUNTIME and HISTORY databases. Some of these scripts will execute on the Dashboard Client machine, but will need to be able to access the STATE database you just created on the Monitor Server.

Therefore you will now catalog the STATE database on the Dashboard Client machine so that it can connect to the Monitor Server's STATE database remotely.

Note: If you prefer, you can instead choose to use the graphical DB2 Configuration Assistant tool to catalog the database, but this is slower than entering the commands, especially for such a simple task. However, for reference you can use similar steps as shown in the Appendix if you prefer to use the Configuration Assistant. If you do this be sure to run the Configuration Assistant on the Dashboard Client, and catalog the State database, not the Repository. We recommend you follow the instructions below instead.

____ 1. **Important:** Switch to the Dashboard Client server that you created in the previous installation lab.

____ 2. Open a DB2 Command Window

__ a. Click **Start > Run**, type `db2cmd` and click **OK**

____ 3. Catalog the remote STATE database

__ a. Enter the following command

```
db2 catalog tcpip node MONITOR remote <monitor_server_host_name>
server 50000
```

where `<monitor_server_host_name>` should be replaced by the DNS name of your Monitor Server machine, for example:

```
db2 catalog tcpip node MONITOR remote monitor.pic.uk.ibm.com server
50000
```

__ b. Enter the following command

```
db2 catalog DB STATE as STATE at node MONITOR
```

__ c. Enter the following command

```
db2 terminate
```

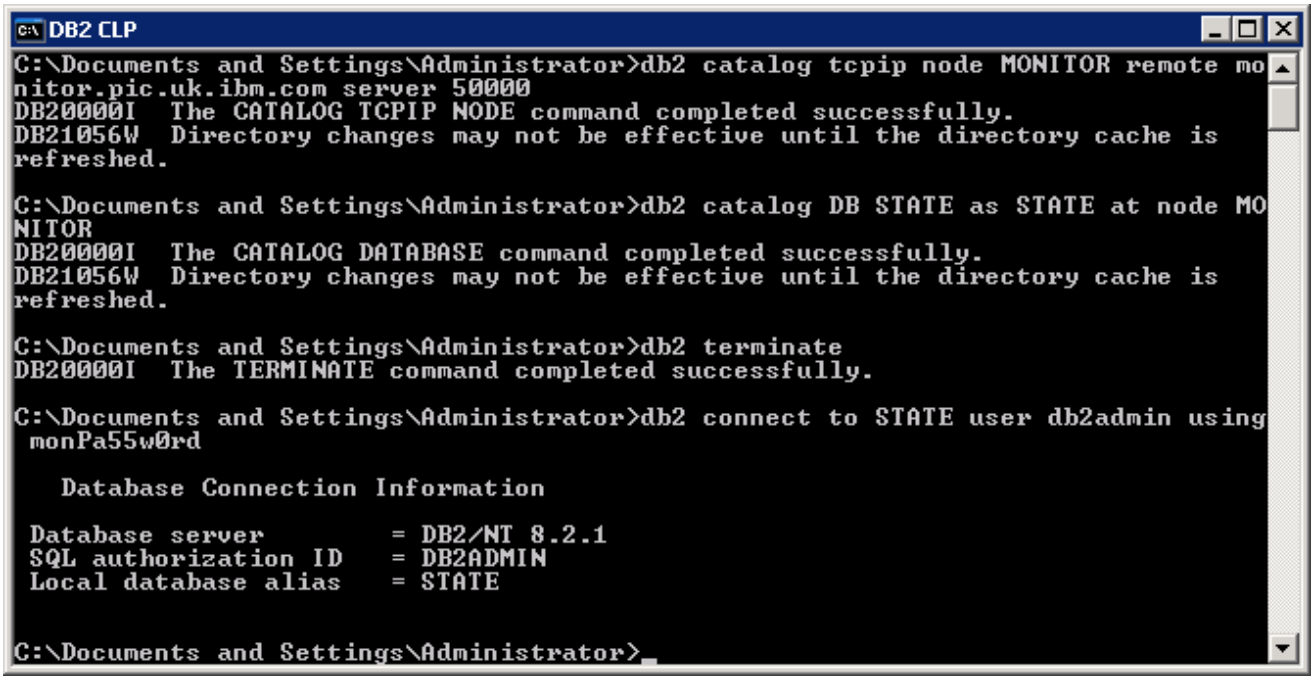
__ d. Enter the following command

```
db2 connect to STATE user <monitor_DB2_userid> using
<monitor_DB2_password>
```

where `<monitor_DB2_userid>` and `<monitor_DB2_password>` should be replaced by the user ID and password for DB2 on the remote Dashboard Client machine (not on the local Monitor Server):

```
db2 connect to STATE user db2admin using monPa55w0rd
```

__ e. Your results should look as shown below



Note: If you have already previously cataloged the database, you will need to uncatalog this old configuration first, before performing the above steps. The following commands allow you to do this:

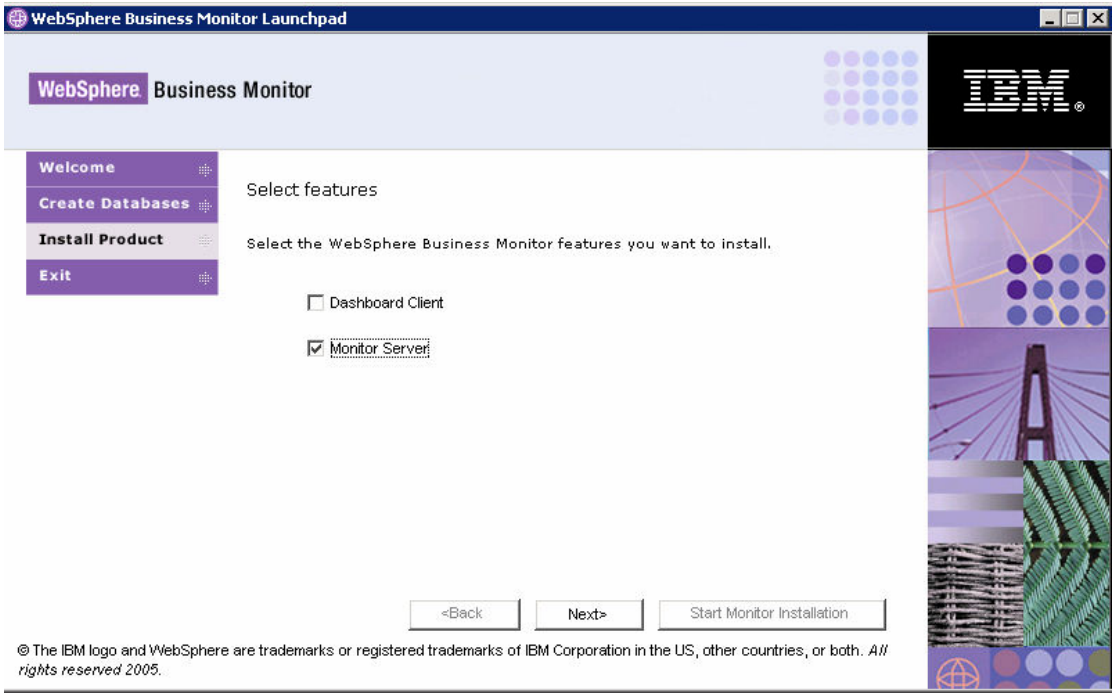
```
db2 uncatalog db STATE

db2 uncatalog node MONITOR

db2 terminate
```

Part 6: Installing the Monitor Server

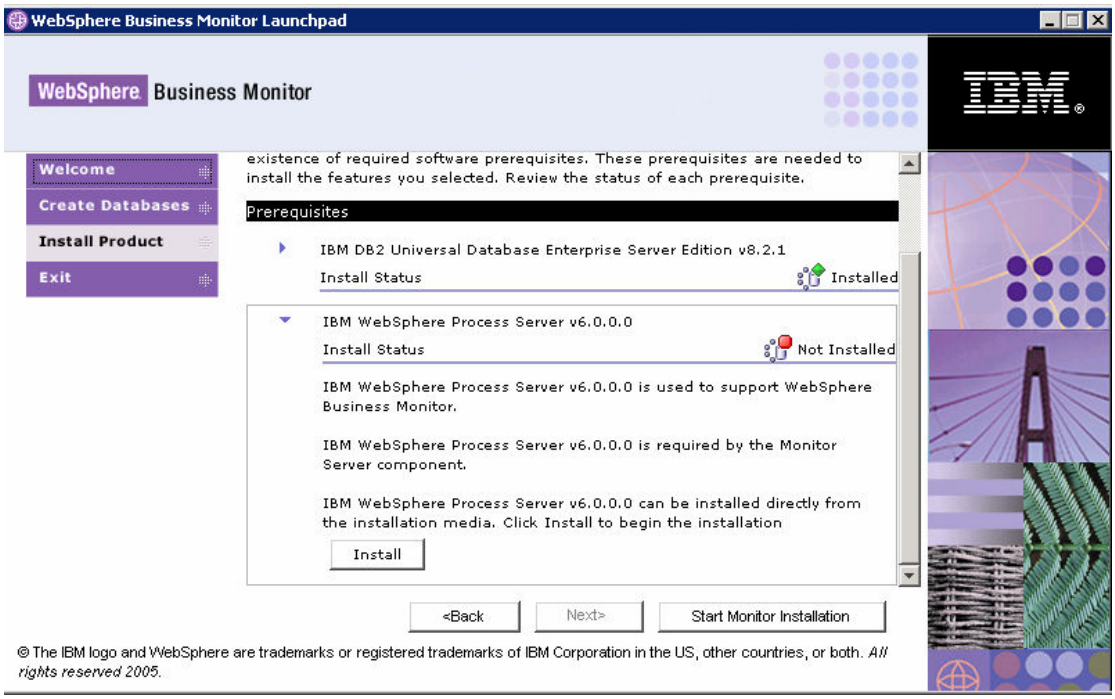
The Launchpad will also be used to install the WebSphere Business Monitor. Specifically, the remaining pre-requisite (WebSphere Process Server) will be installed and then the Monitor Server functionality will be installed on top of that. This will complete the installation of the Monitor Server.

____ 1. From the Launchpad (refer to the beginning of the lab if you need to re-open it) click **Install Product** on the left hand menu.

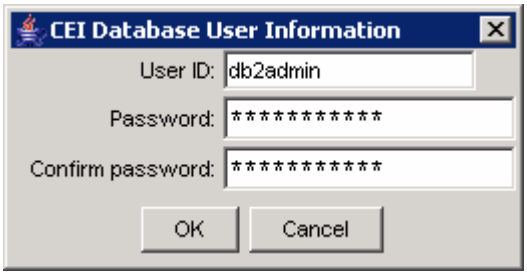
____ 2. Select the **Monitor Server** checkbox and then click **Next.**



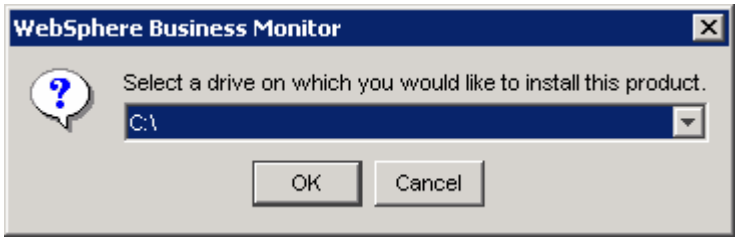
____ 3. Notice that the DB2 pre-requisite is already installed from the databases that were created earlier. Expand the **IBM WebSphere Process Server v6.0.0.0** section and then click **Install.**



____ 4. The installer needs a userid and password for the CEI user. Enter '**db2admin**' and '**monPa55w0rd**' for the passwords, unless the defaults were changed (in which case, supply the correct values). Click **OK.**

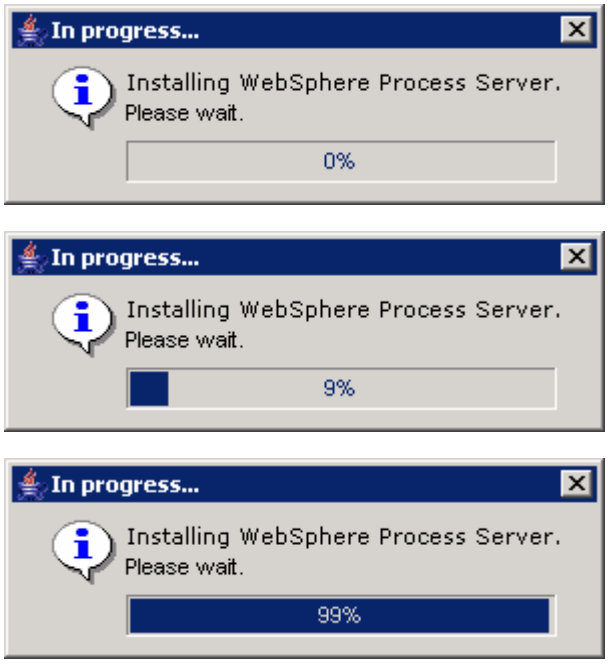


____ 5. Select the installation drive – we use the default C:\.

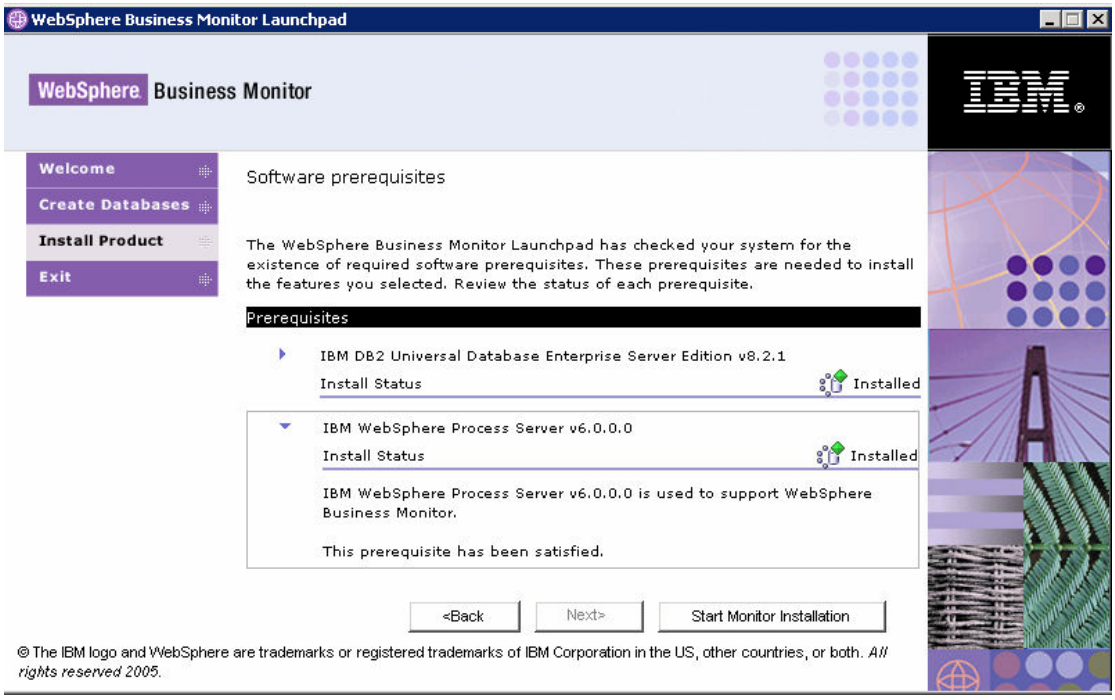


____ 6. The installation will begin and progress silently, as shown below.

Be patient: the installation will take a while to complete (approximately an hour).

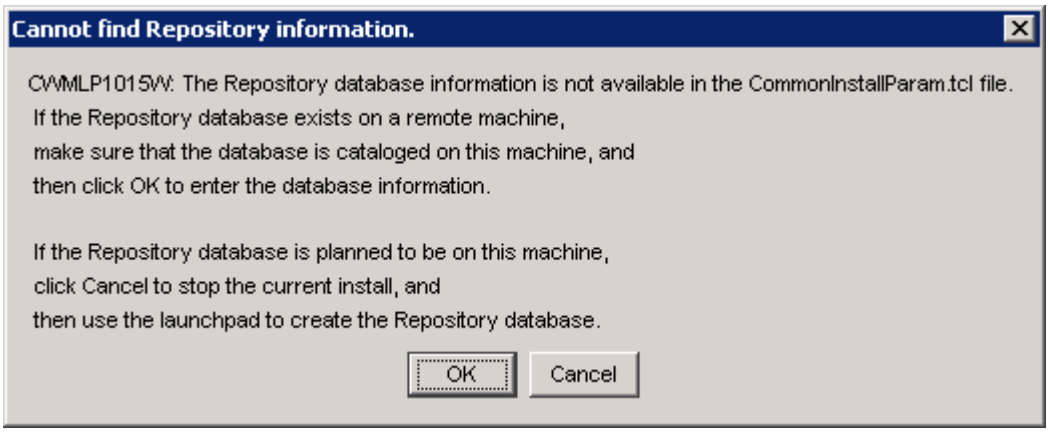


____ 7. When the installation completes, verify that the Launchpad indicates WebSphere Process Server is installed.

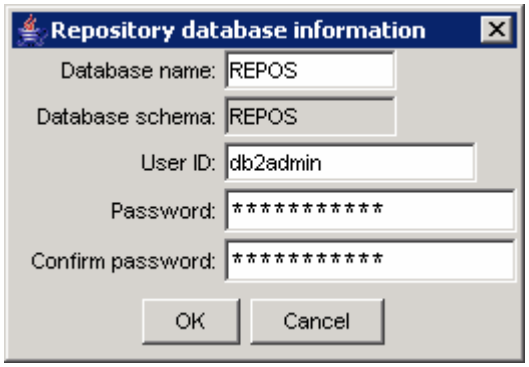


____ 8. Click the **Start Monitor Installation** button.

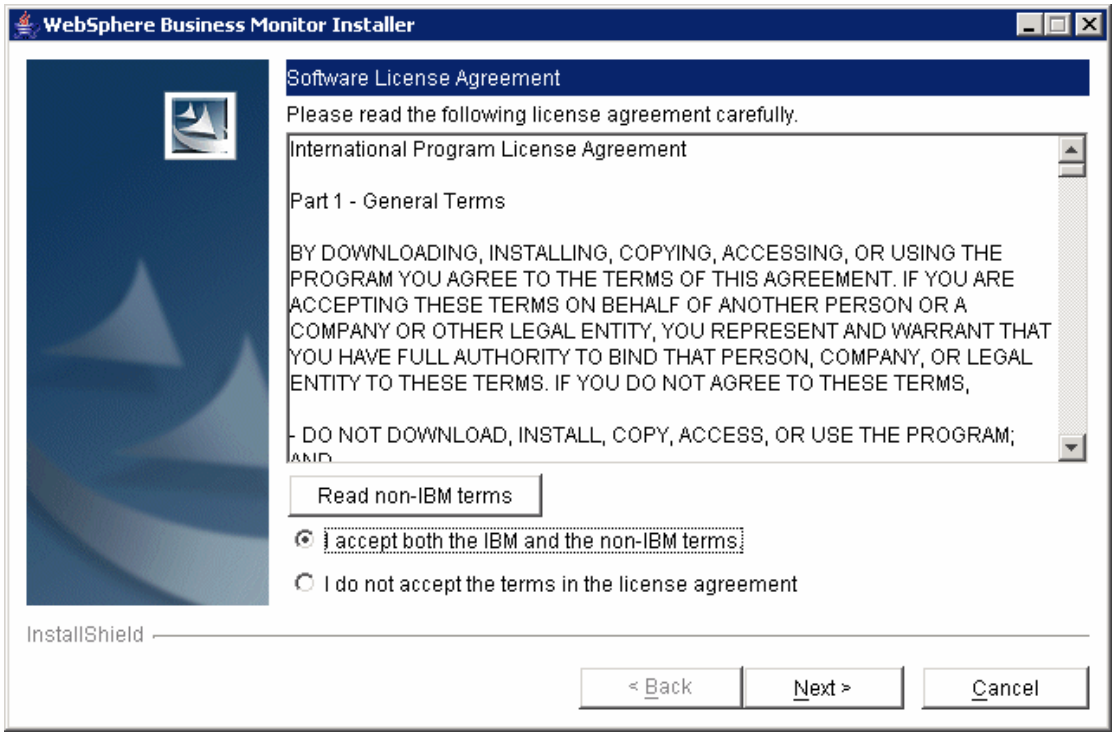
____ 9. You will be prompted with the same warning as earlier about the Repository database. Click **OK**.



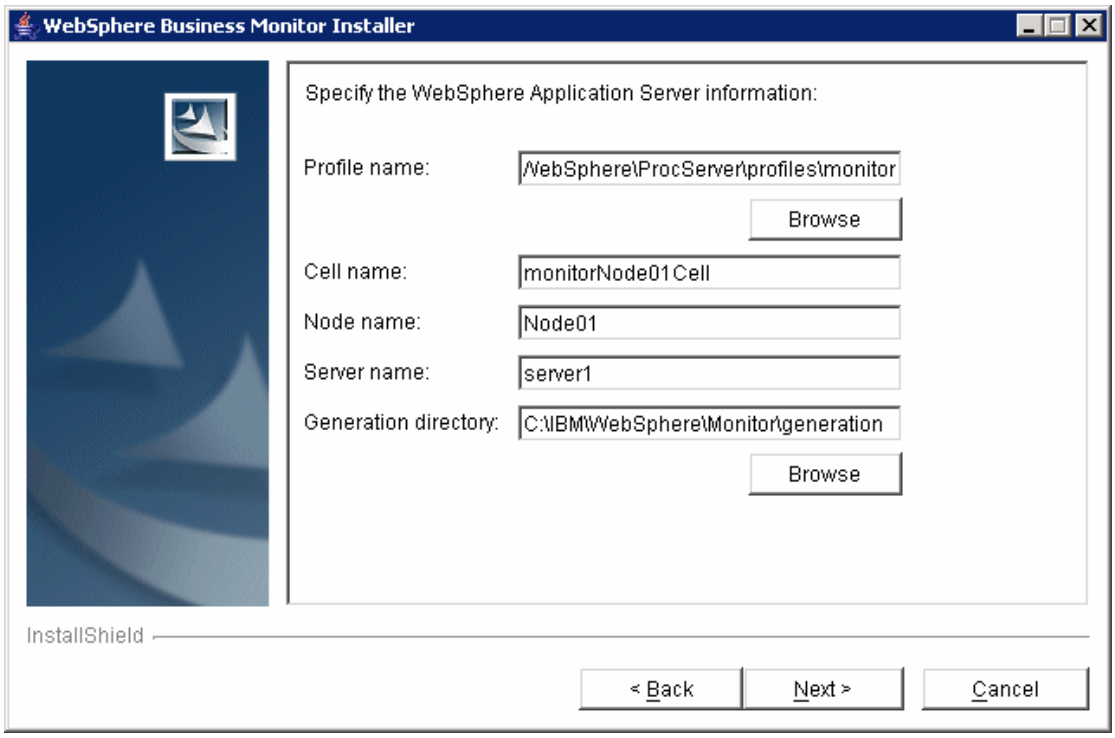
____ 10. Specify the information for the remote Repository database as shown below:



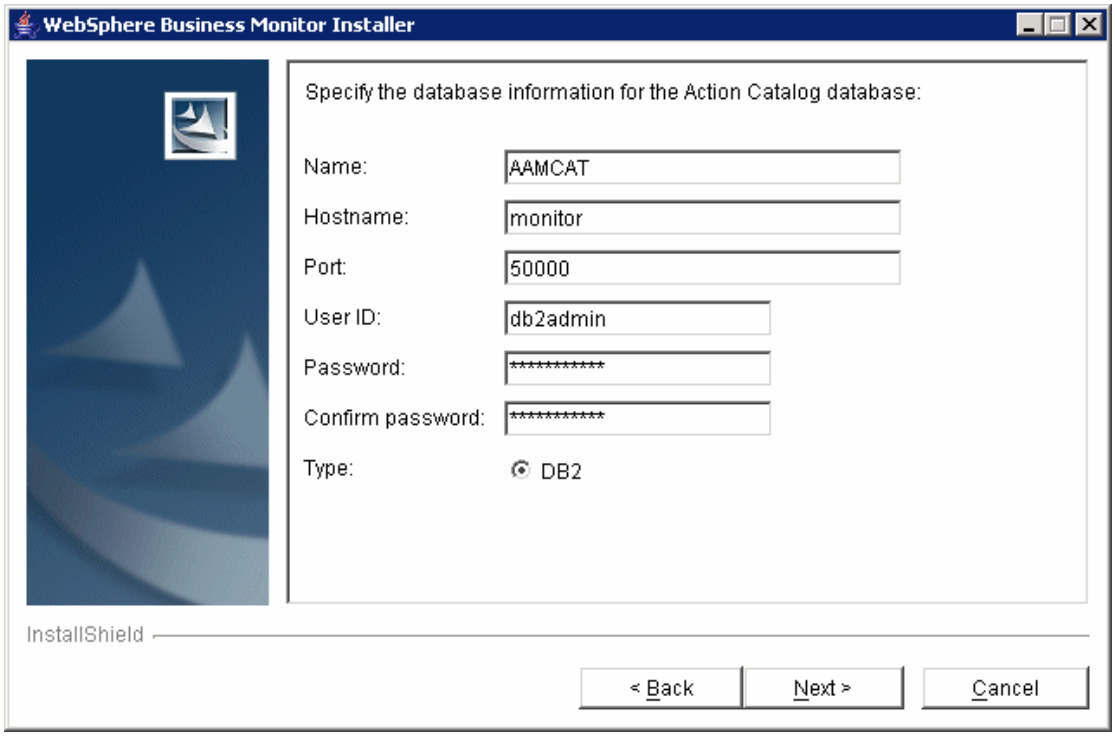
____ 11. Read and accept the license agreement and non-IBM terms. Click **Next**.



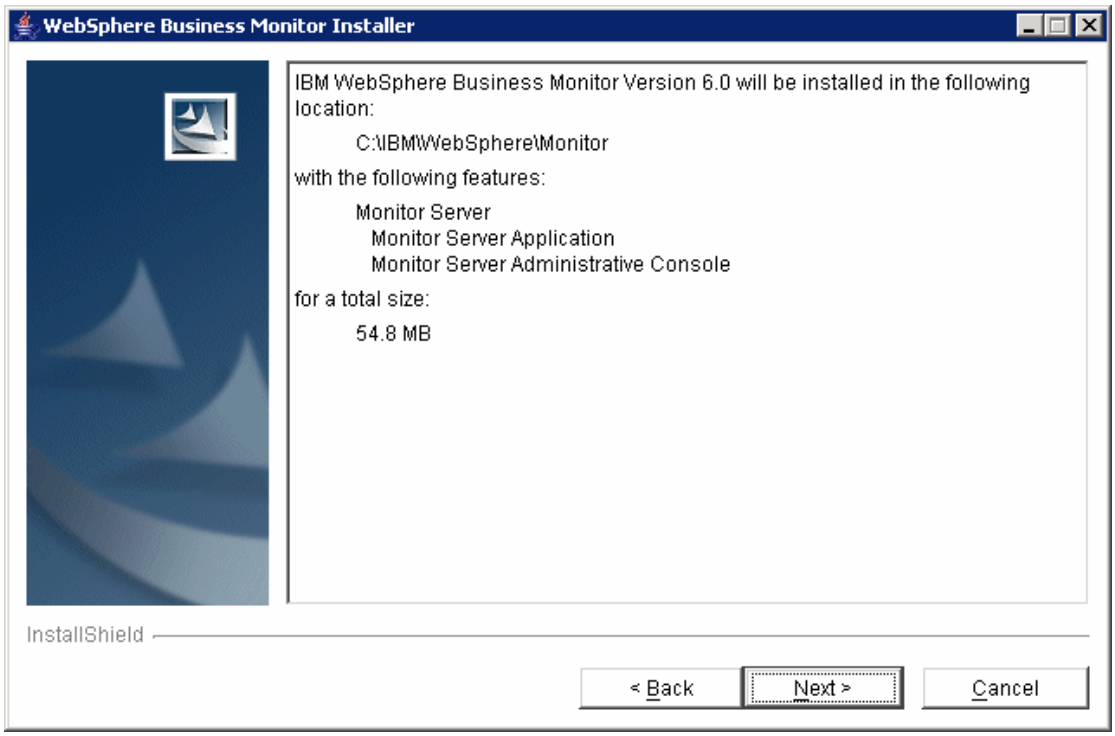
____ 12. Review the WebSphere Application Server information. Click **Next.**



____ 13. Provide and confirm the password for DB2 (the default is '**monPa55w0rd**' on Windows) and then click **Next.**

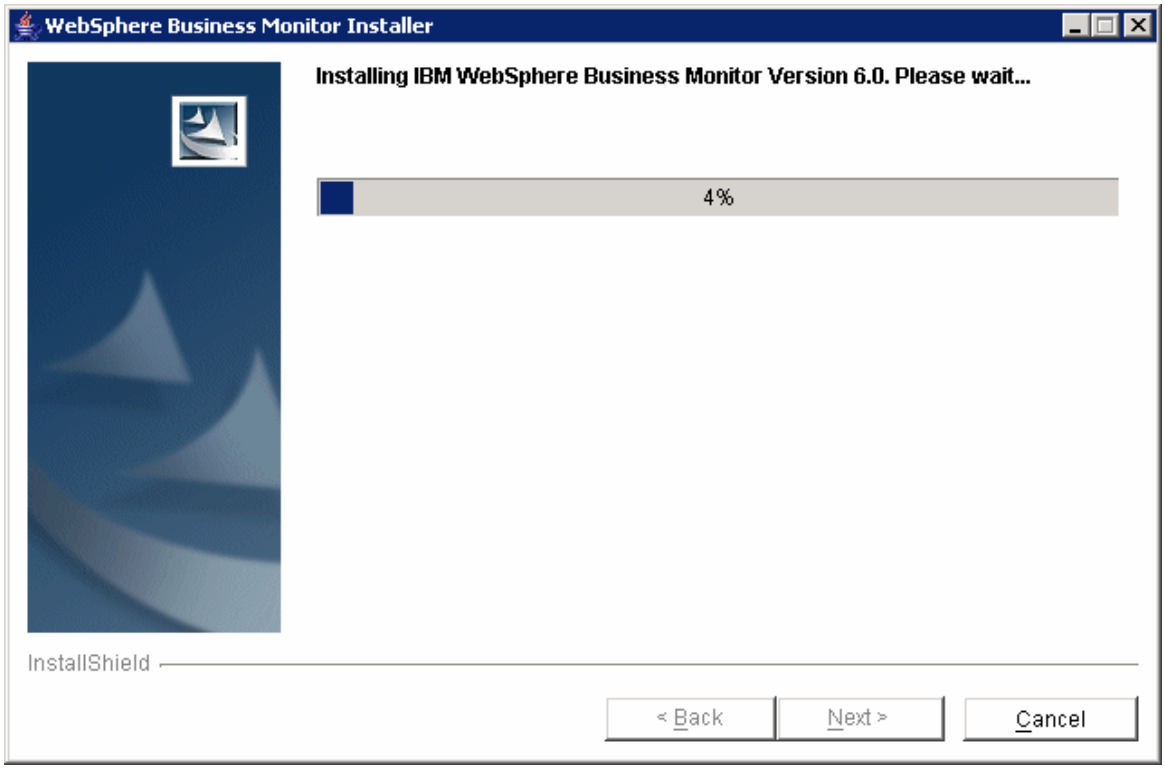


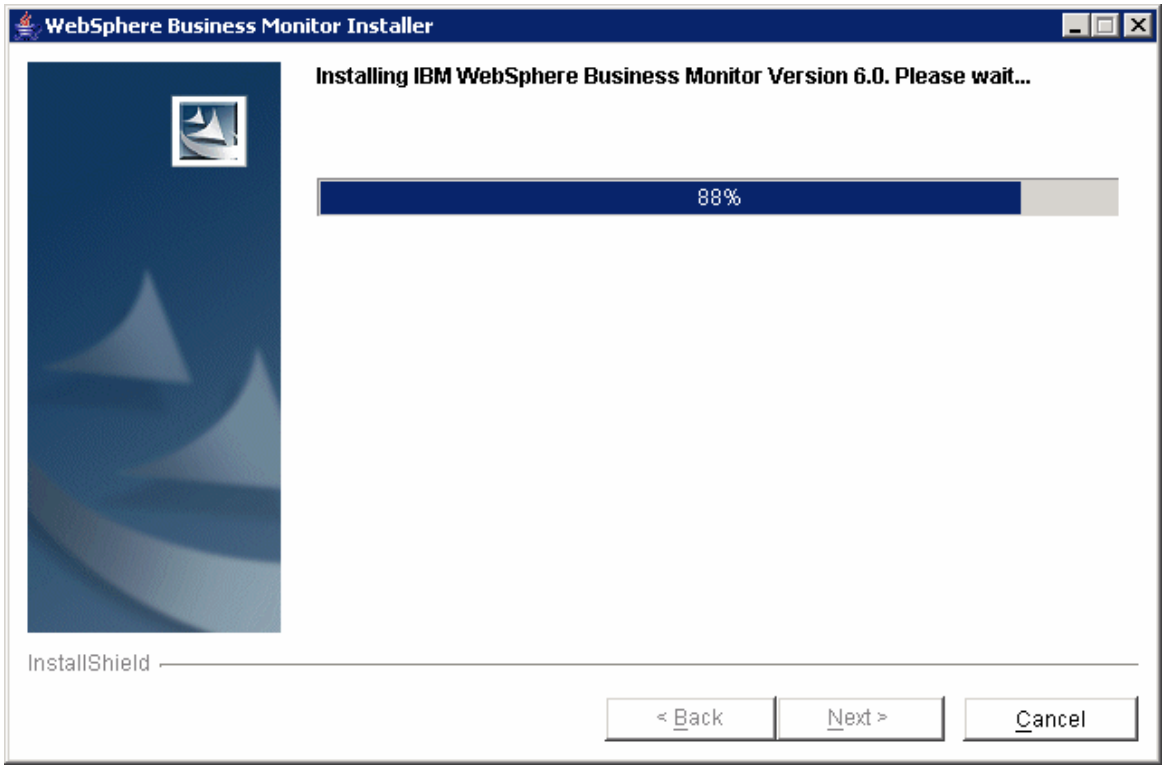
____ 14. Review the summary and then click **Next** to start the installation.



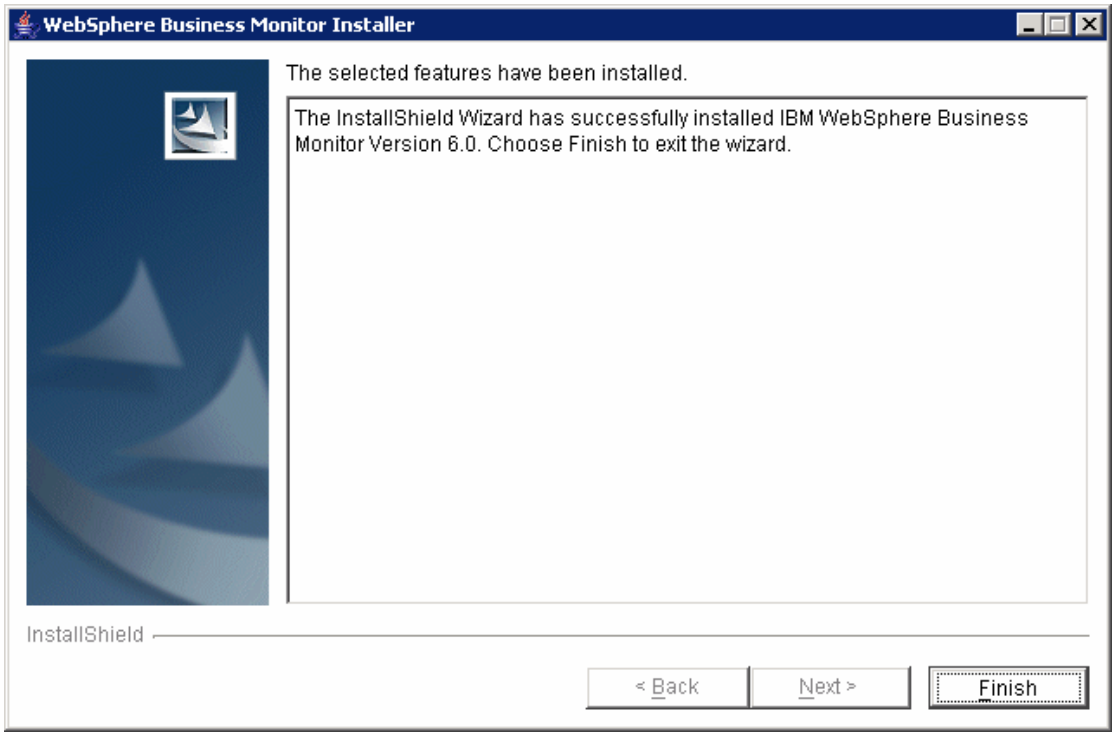
____ 15. The installation will begin and progress silently, as shown below.

Be patient: the installation will take a while to complete. It may also seem to stop at certain progress percentages, for example at 42%.

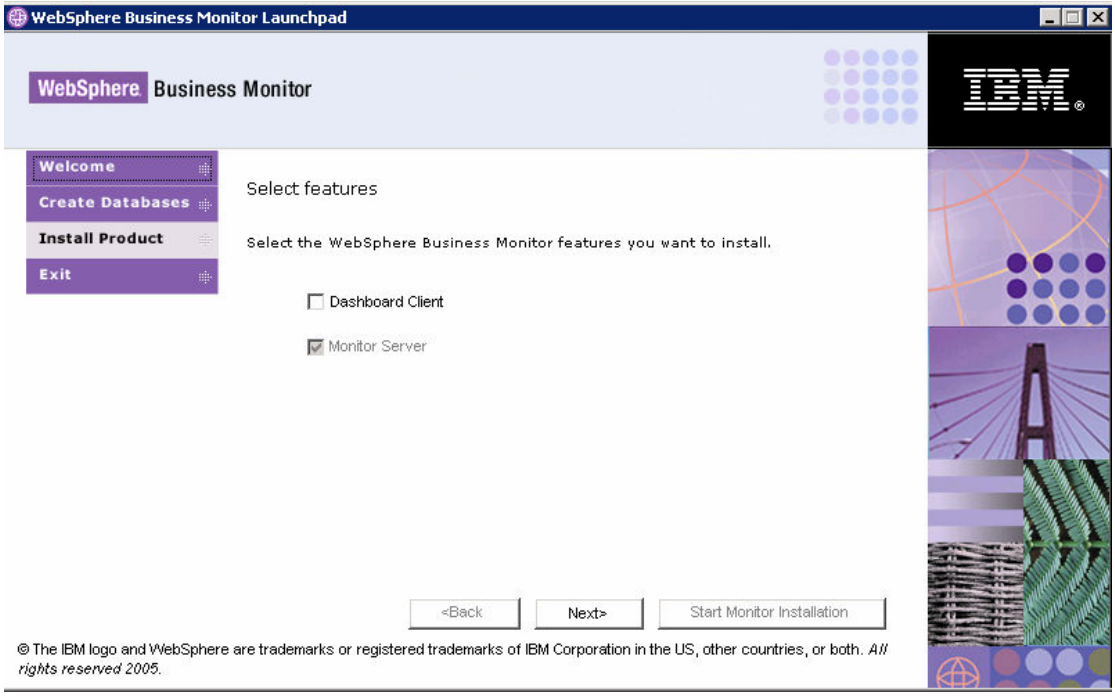




____ 16. After the installation completes, click **Finish.**



____ 17. Click **Exit** (located in the frame to the left) to close the Launchpad.



Part 7: Testing the installation

After the installation, a basic test can be conducted to validate that the server is working correctly.

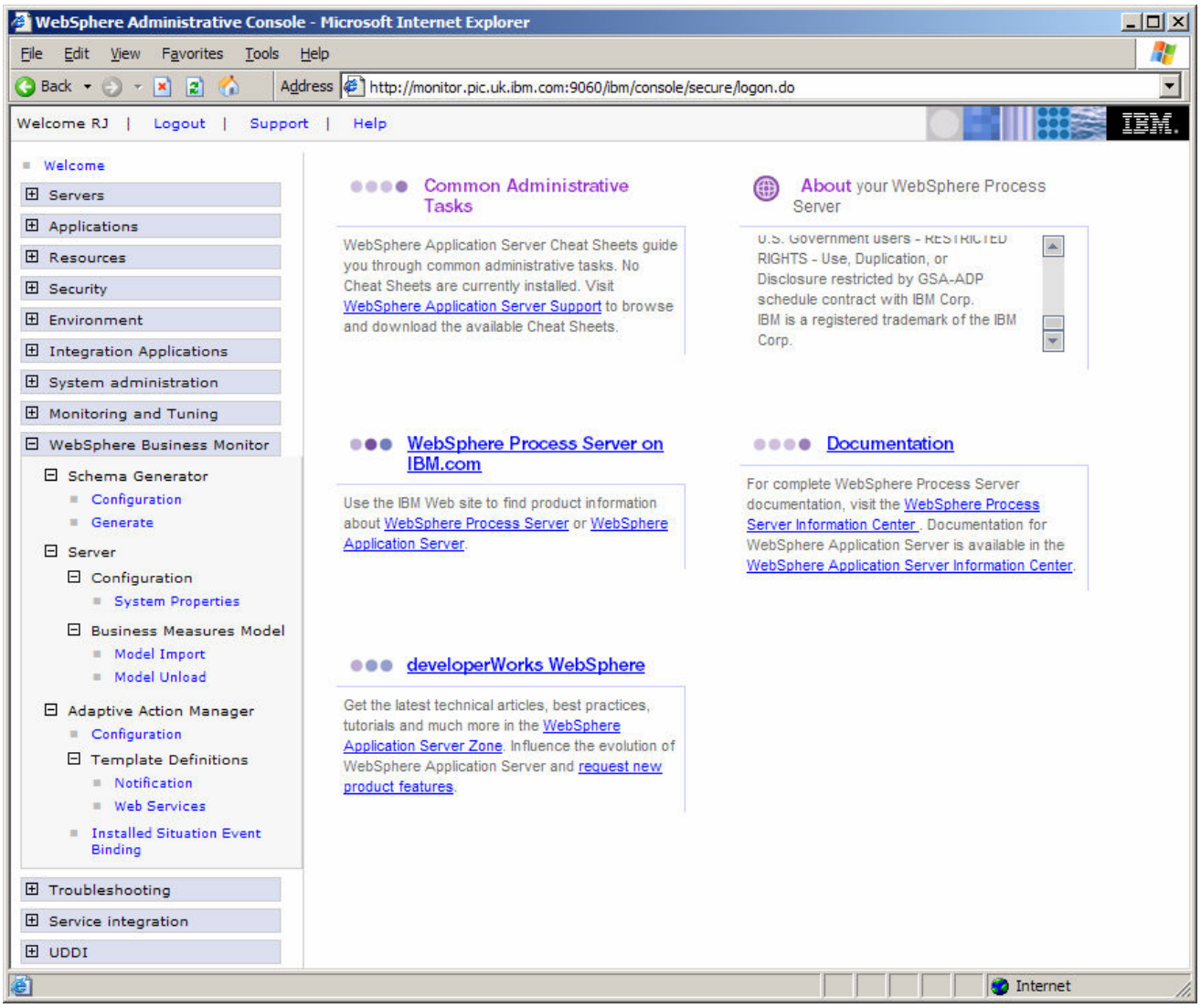
____ 1. Start the server, if it is not already running.

__ a. Select **Start > All Programs > IBM WebSphere > Process Server v6.0 > profiles > monitor > Start the server,** and then wait for the command window to close.

____ 2. Confirm that the Administrative Console has the WebSphere Business Monitor capability.

__ a. Log into the Administrative Console by selecting **Start > All Programs > IBM WebSphere > Process Server v6.0 > profiles > monitor > Administrative Console,** and then specifying any user and clicking the **Log in** button.

__ b. Notice the WebSphere Business Monitor section to the left of the webpage. Expand this section (and all subsections), and compare the available options with the picture below. If the settings match, the installation tests successfully.



What you did in this exercise

In Part 1, the necessary zip files were obtained and extracted into the correct directory structure for the Launchpad.

In Part 2, the Launchpad was used to install the DB2 pre-requisite.

In Part 3, the DB2 Configuration Assistant was used to catalog the remote REPOS and RUNTIME databases that were already installed on the Dashboard Client.

In Part 4, the Launchpad was used to create the STATE database for the Monitor Server.

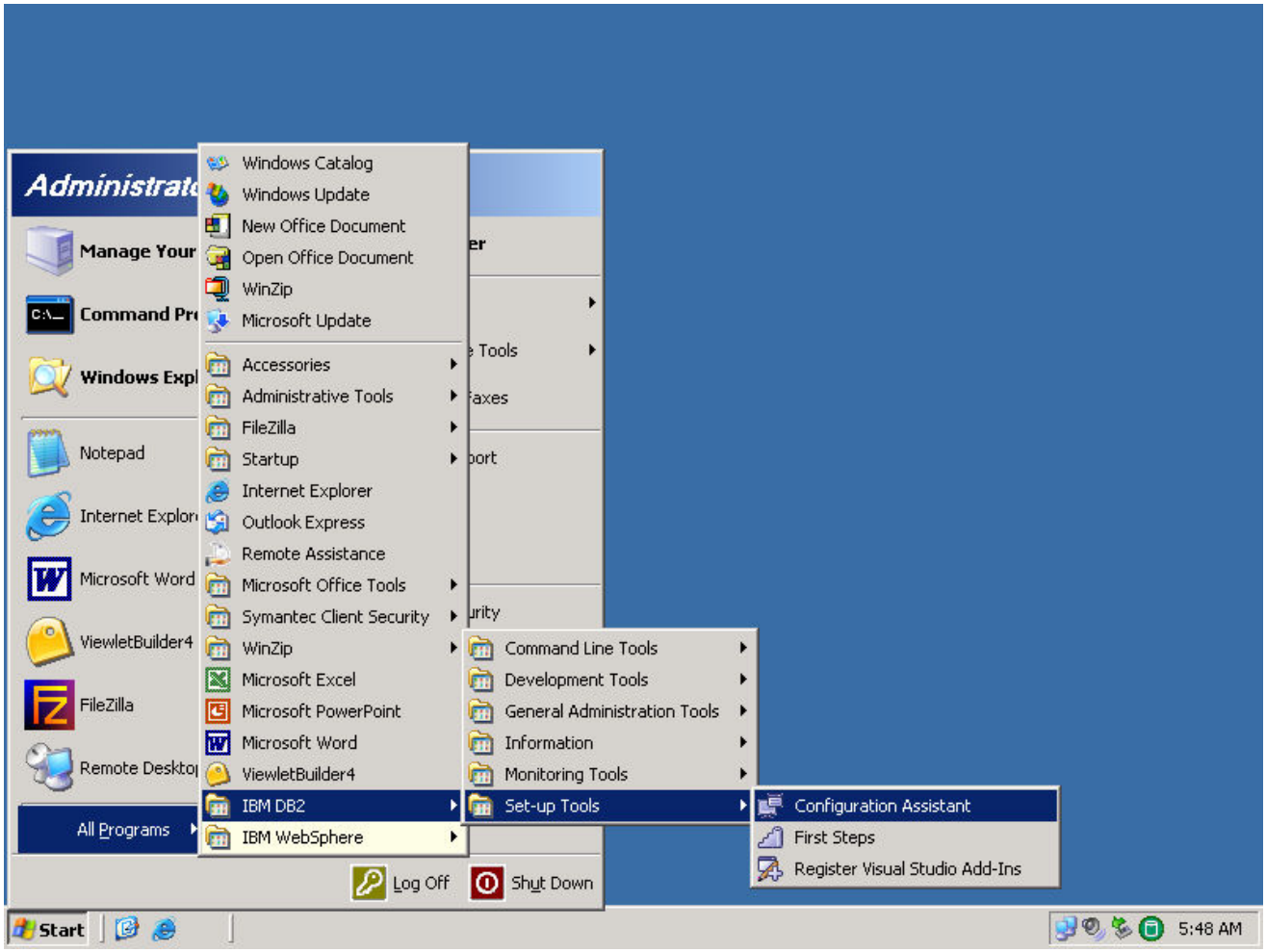
In Part 5, the remaining pre-requisite, WebSphere Process Server, was installed. The WebSphere Business Monitor Server was then installed on top of the WebSphere Process Server.

In Part 6, the installation was tested.

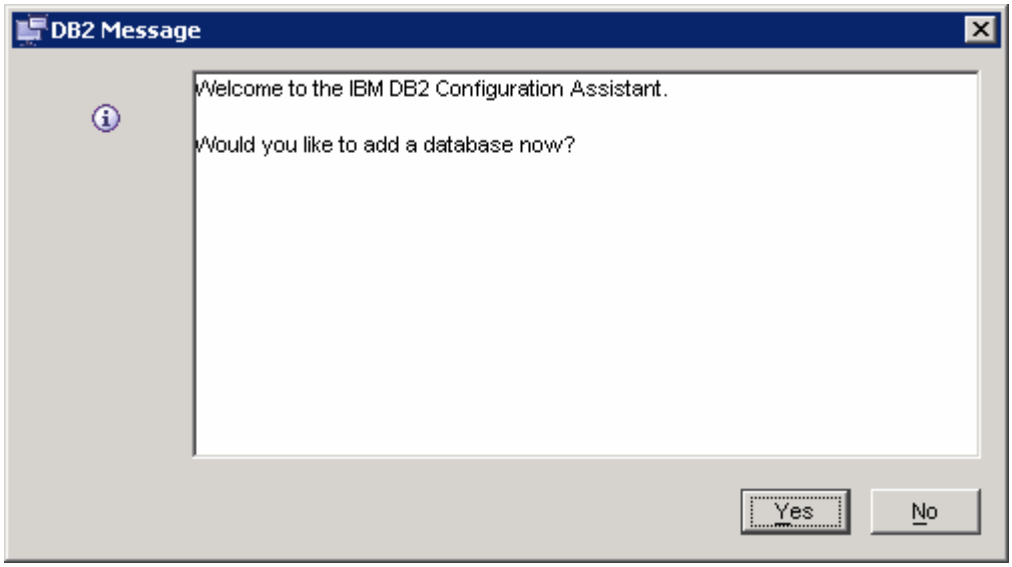
Appendix – How to catalog the Repository database using the DB2 Configuration Assistant

This section describes the alternative method for cataloging the Repository database using the graphical DB2 Configuration Assistant instead of administration commands at the command prompt.

____ 3. To start the IBM DB2 Configuration Assistant, go to the start menu and select **Start > All Programs > IBM DB2 > Set-up Tools > Configuration Assistant.**

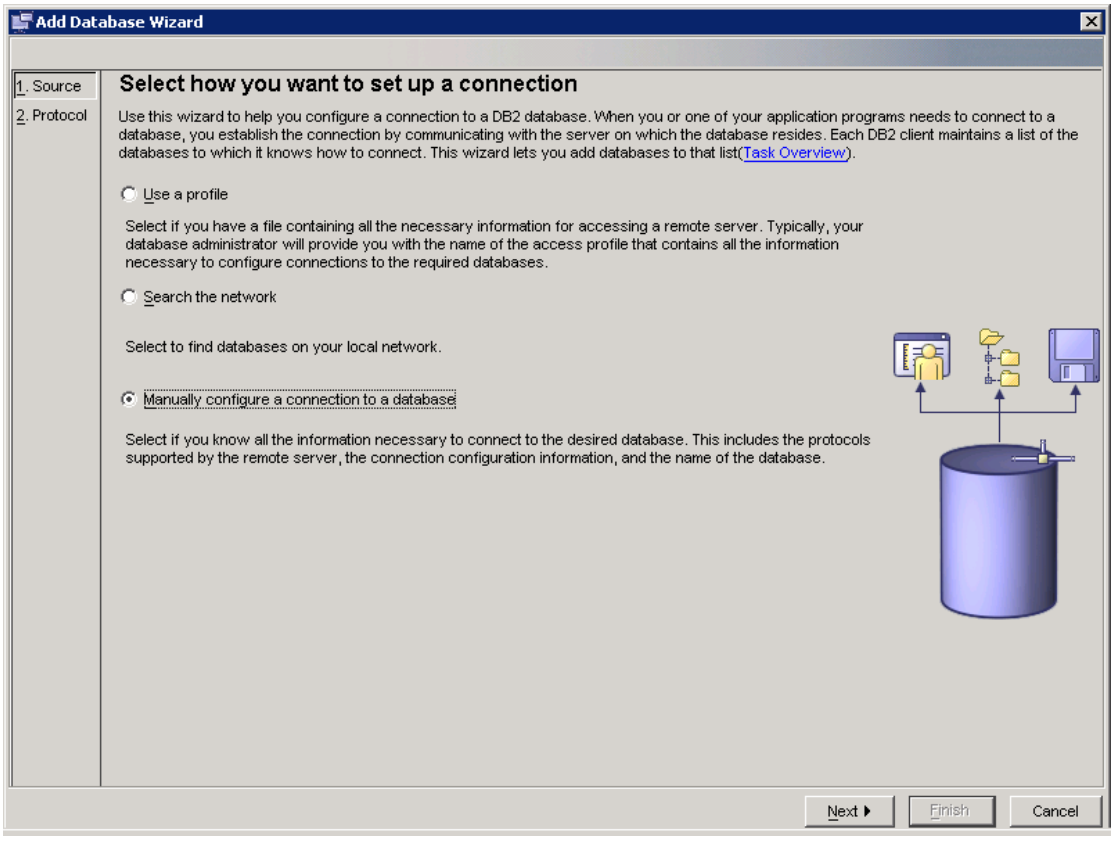


____ 4. When prompted by the Configuration Assistant, select **Yes** to add a database.

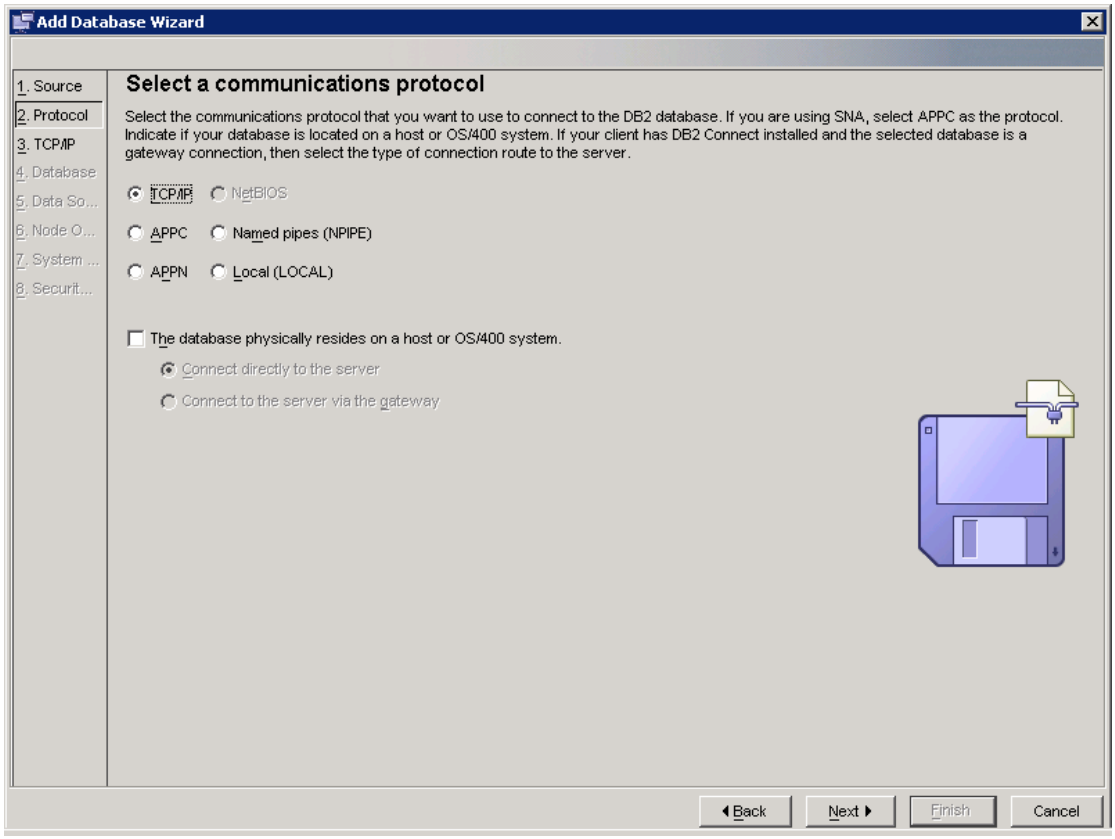


Note: If no prompted appears asking whether you want to add a database, right click in the white space and choose **Add Database Using Wizard…** from the context menu.

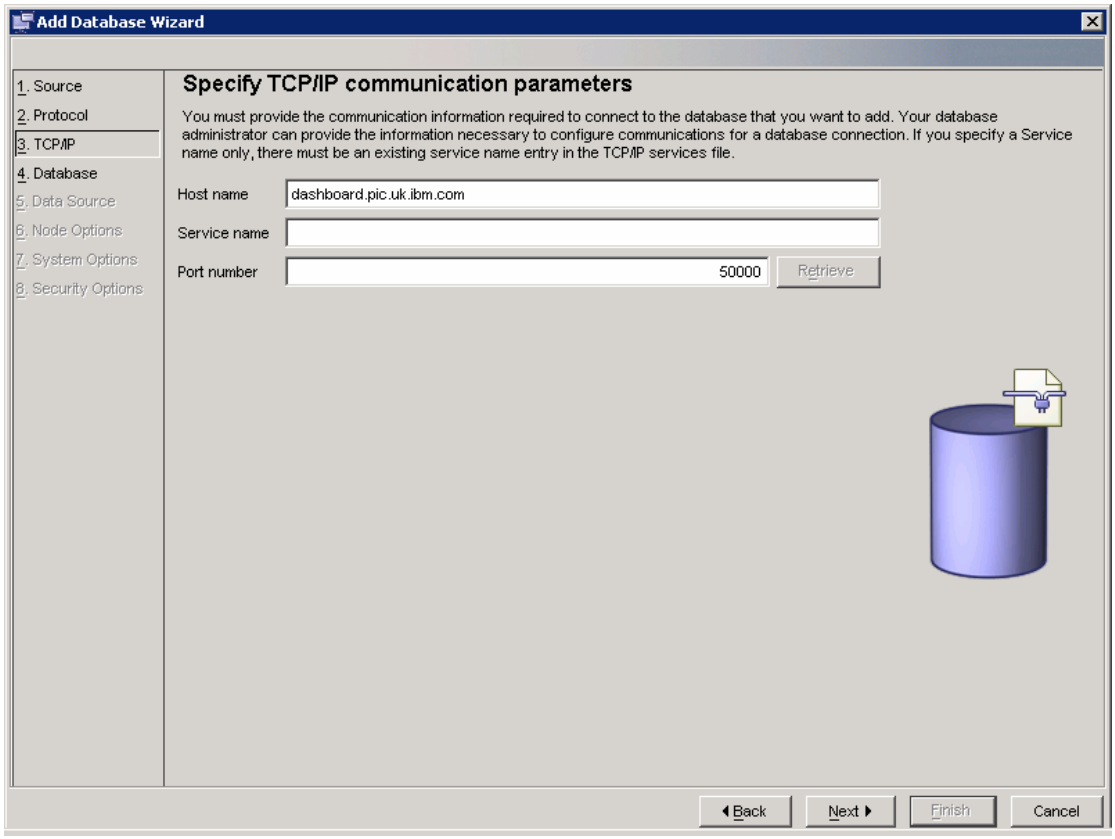
____ 5. Select **Manually Configure a Connection to a database** and click **Next.**



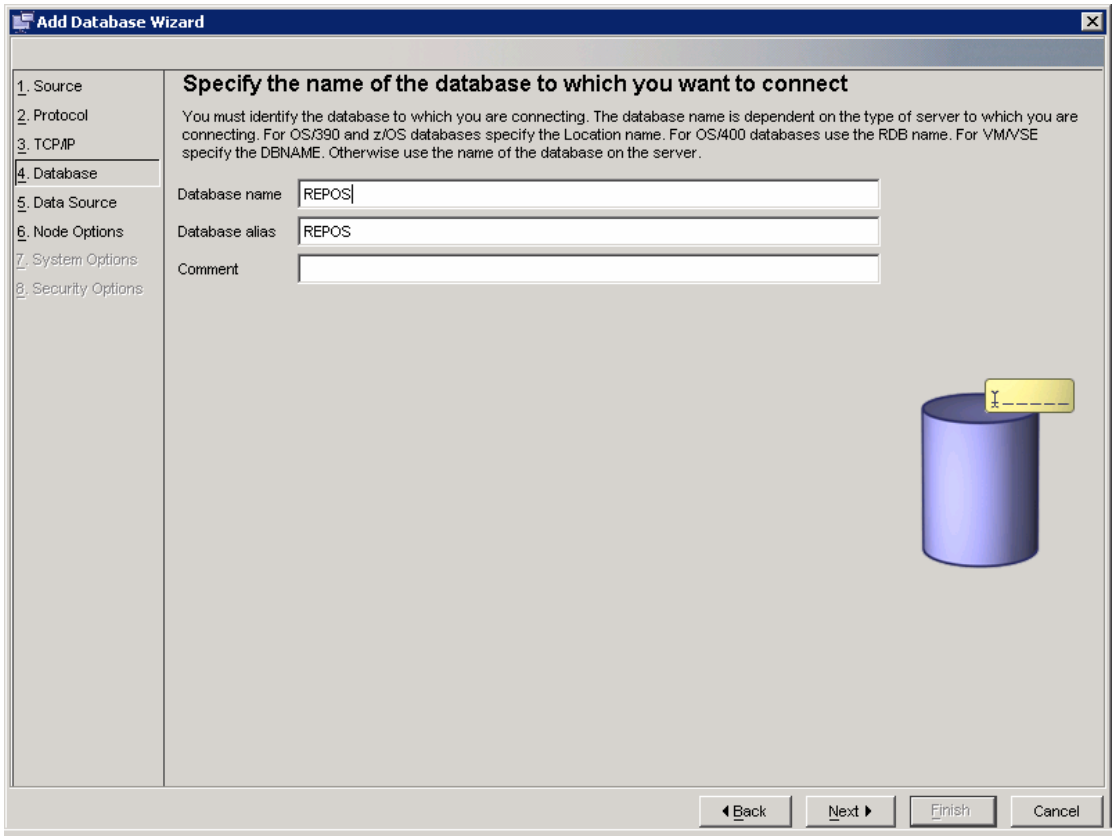
____ 6. Select **TCP/IP** and click **Next.**



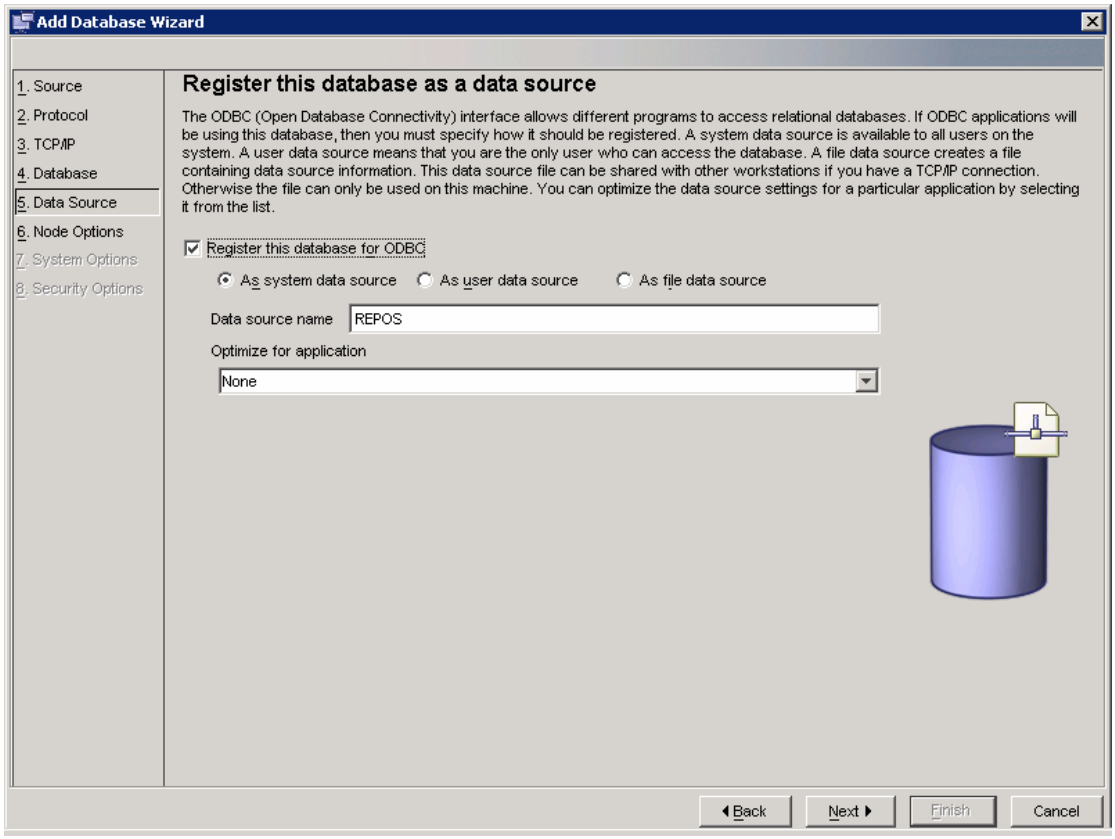
____ 7. Enter the DNS of your Dashboard Client in the Host name field. Enter the port number for DB2 on your Monitor Server in the Port number field (the default value is 50000, which will be unchanged if the Launchpad was used when installing the Dashboard Client). Click **Next.**



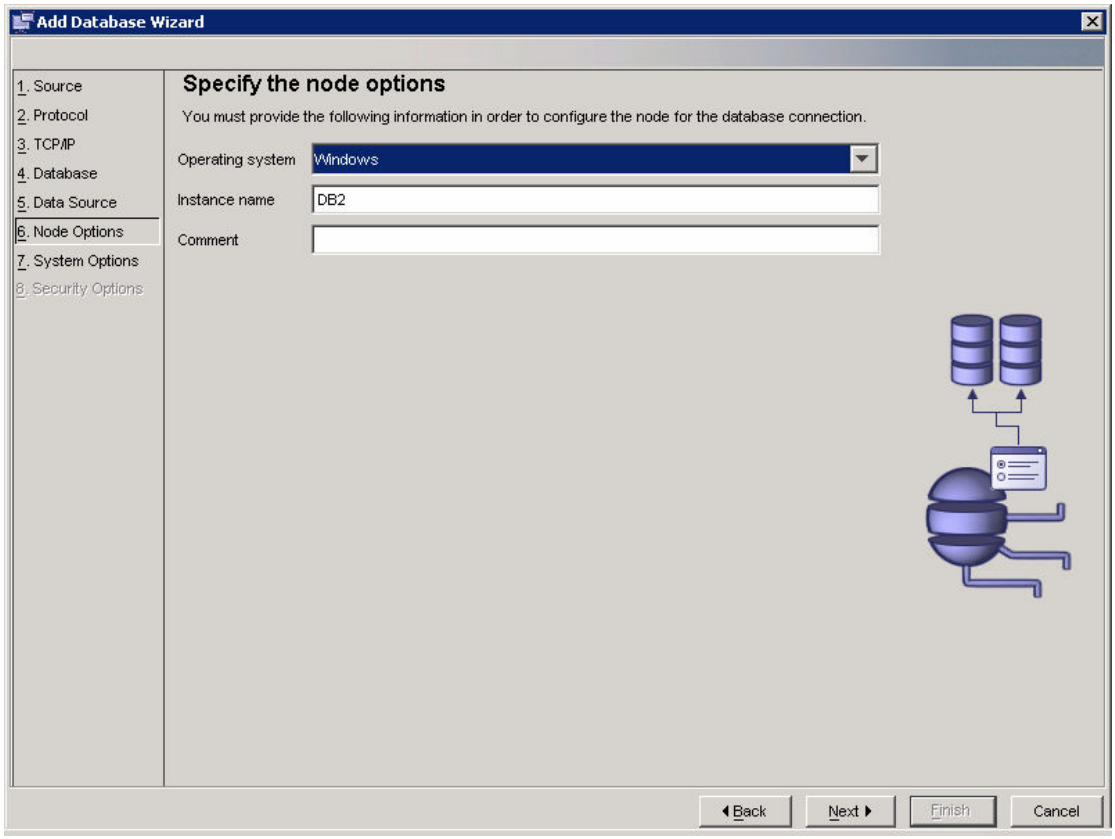
____ 8. Enter **REPOS** for the database name. The database alias field will auto-fill with the same value. Click **Next**.



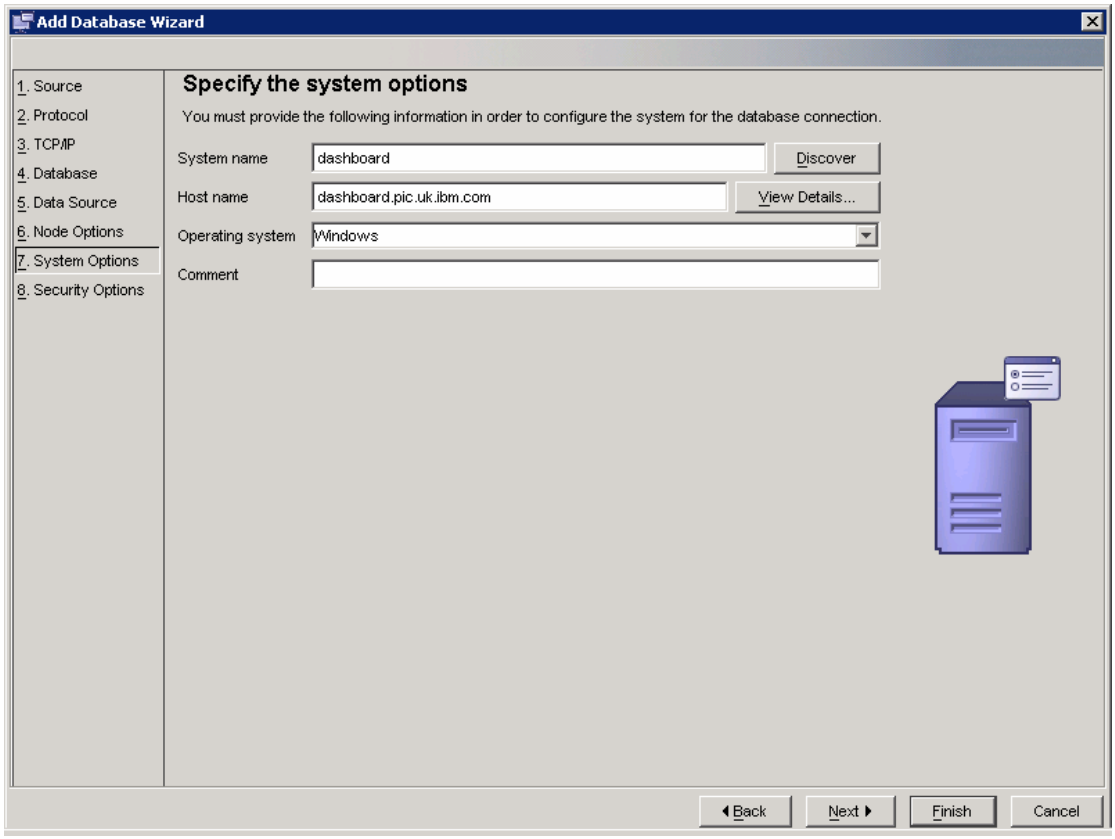
____ 9. Accept the defaults for registration of the datasource and click **Next.**



____ 10. Select **Windows** from the Operating System dropdown box. Click **Next.**

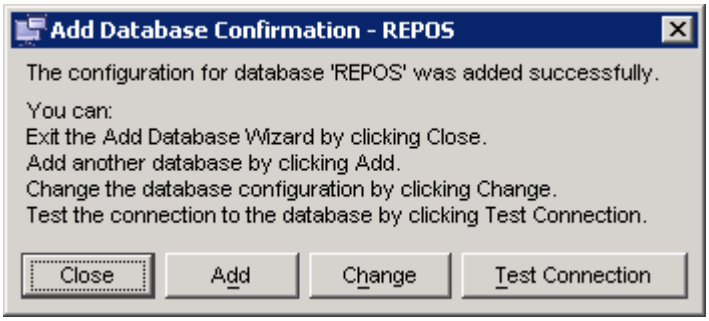


____ 11. Enter the first part of the Dashboard Client's DNS name in the System name field. Click **Next.**

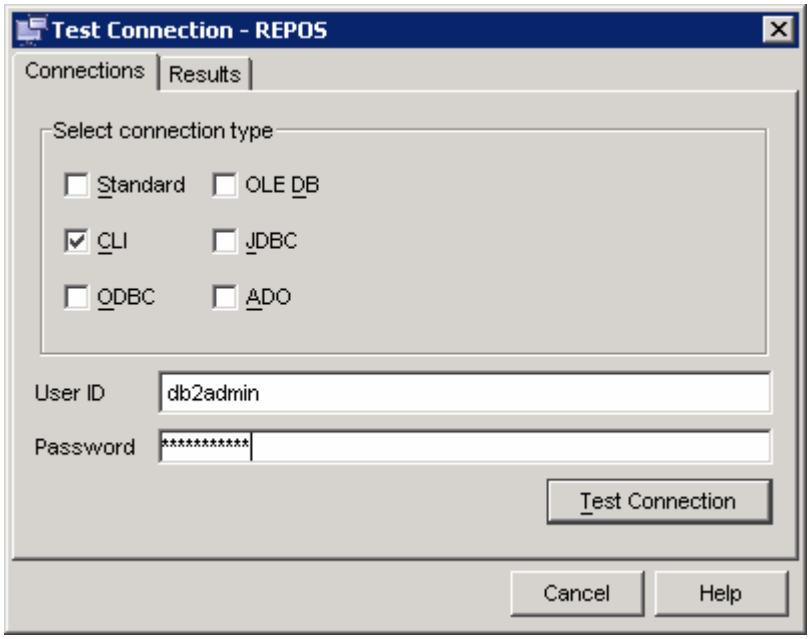


____ 12. Accept the default security options and click **Finish.**

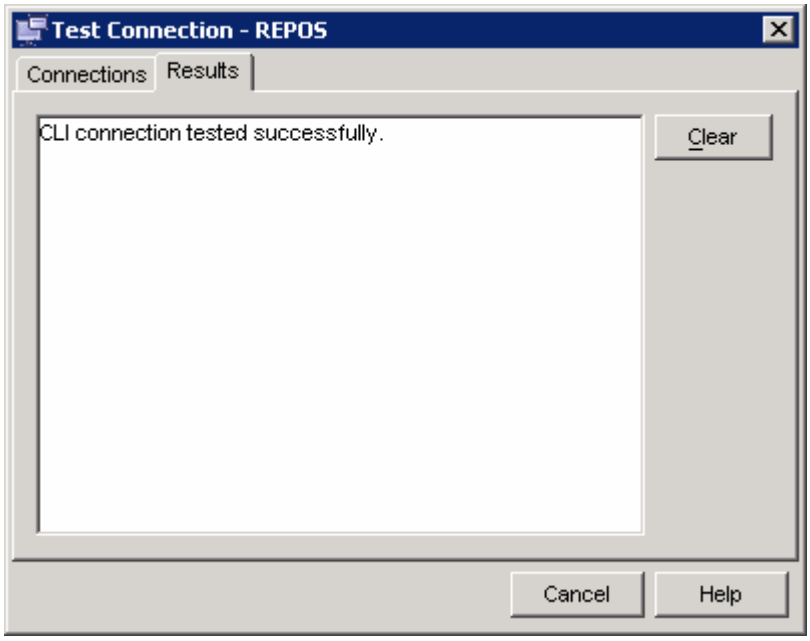
____ 13. Click **Test Connection.**



____ 14. Enter the userid and password for DB2 on the Monitor Server. The defaults are to **db2admin** and **monPa55w0rd**.

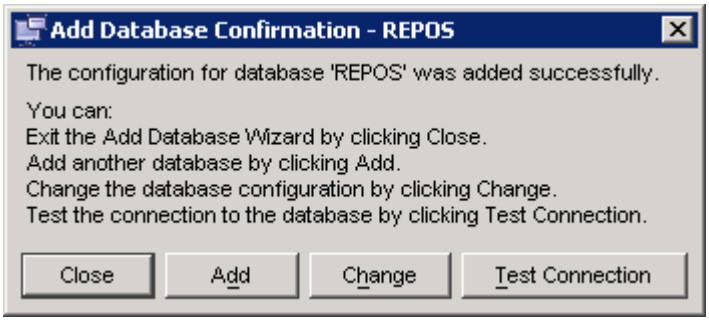


____ 15. Click **Test Connection.**

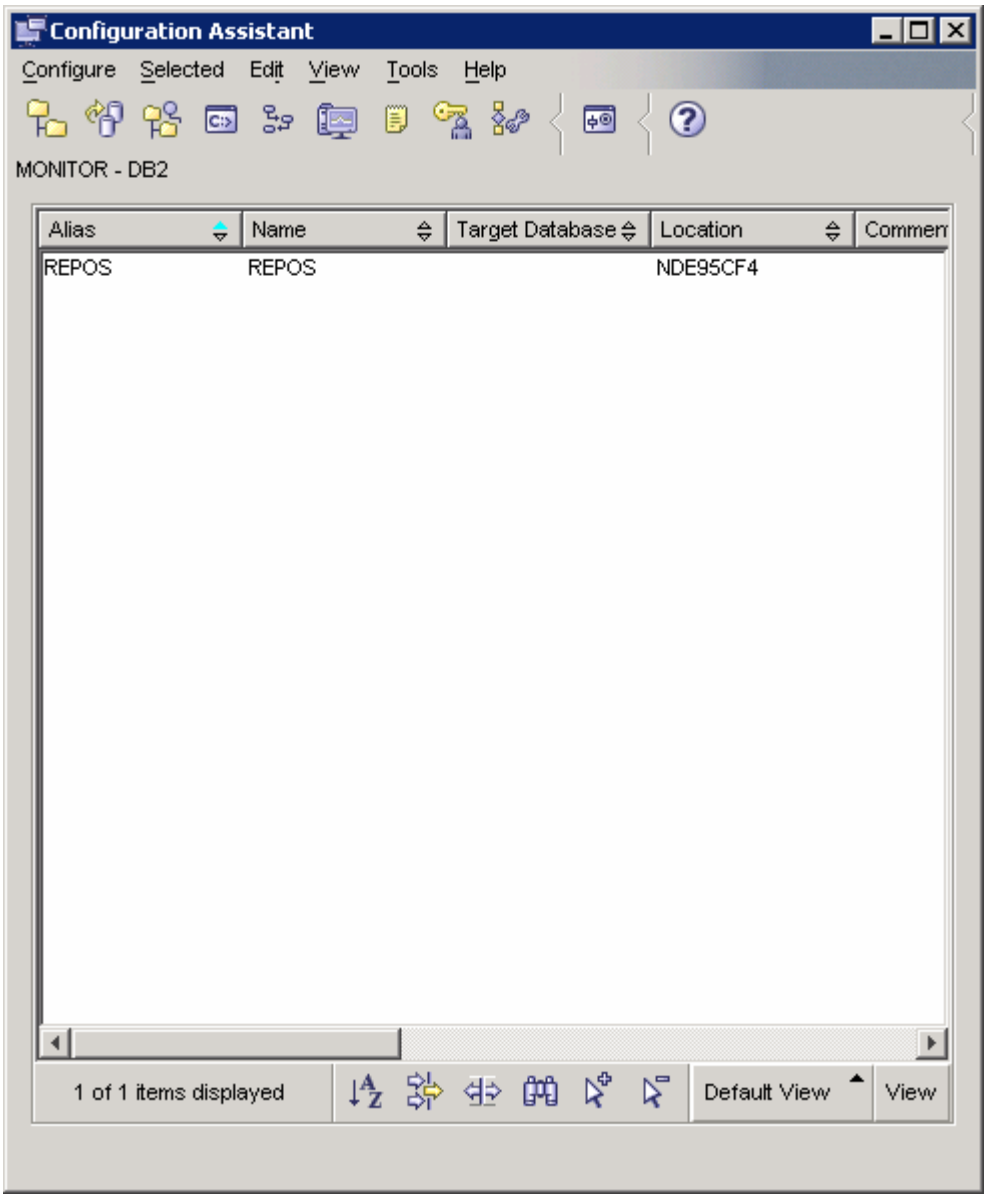


____ 16. Click **Cancel** to clear the test results.

____ 17. Click **Close** on the Add Database Confirmation dialog.



____ 18. You should see the REPOS database successfully cataloged:



____ 19. Right click to add another database and perform the equivalent steps for the RUNTIME database:

____ 20. When both databases are cataloged, close the DB2 Configuration Assistant

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