



# Installing Enterprise Workload Manager on Windows 2003 Server

*IBM Virtualization Engine technology adoption series*



*Lee Cheng  
Joseph Pu  
ISV Business Strategy and Enablement  
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## Abstract

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*This white paper provides an easy-to-follow, step-by-step guide for installing and configuring IBM Virtualization Engine Enterprise Workload Manager (EWLM) 2.0, domain manager and the managed-server products. You will focus on the installation and configuration of EWLM domain manager on Microsoft Windows 2003 Server only. The steps are similar for other platforms, such as the IBM AIX 5L™ and Linux® operating systems.*

## Introduction

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Virtualization improves IT resource utilization by allowing system administrators to access and manage resources across a heterogeneous environment. These resources are available virtually, as a single pool, rather than by physical location. The IBM® Virtualization Engine™ is a set of technologies and systems services that lead you into on-demand computing and, therefore, simplify IT resource management by virtualizing data, applications, servers and network resources.

IBM Virtualization Engine Enterprise Workload Manager (EWLM) 2.0 is a product in the IBM Virtualization Engine solution that can monitor and manage distributed heterogeneous workloads to achieve user-defined business goals. The first release of EWLM offers the following performance-monitoring capabilities with the help of instrumented middleware:

- Dynamic detection of system and application topologies to identify the likely origin of performance problems rapidly and efficiently
- Construction of an end-to-end view of business transactions and the processing segments performed by each participating middleware product
- Support for user-defined performance goals in policies that are similar to service-level agreements
- Support for middleware and software vendors to instrument their applications with the Open Group Application Response Measurement (ARM) 4.0 application programming interfaces (APIs), which EWLM requires for applications to take full advantage of its functionality

This release of Virtualization Engine EWLM 2.0 introduces IBM POWER5™ processor-based CPU resource-management functionality. Over time, EWLM capabilities will expand to more automation and integration with other system resource tools, such as the IBM Tivoli® Intelligent Orchestrator and Tivoli Provisioning Manager.

For details about IBM Virtualization Engine and EWLM, see the IBM eServer™ Software Information Center: [http://publib.boulder.ibm.com/infocenter/eserver/v1r1/en\\_US/index.htm?info/veicinfo/eicarplangeneral.htm](http://publib.boulder.ibm.com/infocenter/eserver/v1r1/en_US/index.htm?info/veicinfo/eicarplangeneral.htm).

## Planning for the EWLM installation

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The EWLM installation requires you to:

- Ensure that your system meets the minimum hardware and software requirements.
- Complete a planning checklist for your platform.

You can accomplish both of these tasks by following the directions that are provided under “EWLM” at the IBM eServer Software Information Center:

[http://publib.boulder.ibm.com/infocenter/eserver/v1r1/en\\_US/index.htm?info/veicinfo/eicarplangeneral.htm](http://publib.boulder.ibm.com/infocenter/eserver/v1r1/en_US/index.htm?info/veicinfo/eicarplangeneral.htm).



At this Web site, you can find detailed information about the hardware and software required to use EWLM. For example, an IBM eServer™ xSeries® system with a 2-gigahertz processor, 512 megabytes of memory and 2 gigabytes of disk space can be the domain manager for a domain of up to 50 managed servers with moderate policy definitions. You can also find the planning worksheets at this site that help you adequately plan your EWLM implementation strategy.

## Acquiring the installation images

To get the set of Virtualization Engine installation CDs, you must purchase the product through IBM or your IBM Business Partner.

## Installing EWLM

ELWM configuration requires that you have the following privileges:

- Your user ID must be able to act as part of the operating system (that is, it must be in a Microsoft® Windows® Administrator group).
- You must be able to log on as a service.
- You must be able to log onto the Microsoft Windows system as an *Administrator*.

To ensure that you have these privileges, perform the following steps:

1. Click **Start > Settings > Control Panel > Administrative Tools > Local Security Policy > Local Policies > user Rights Assignments**.
2. Create a user, such as **tester**.
3. Make the **tester** user part of the **Administrator** group.
4. Figure 1 shows how the **Users**' subdirectory changes in this example, with the addition of the **tester** user. (**Note:** The EWLM domain manager installation creates other users.)

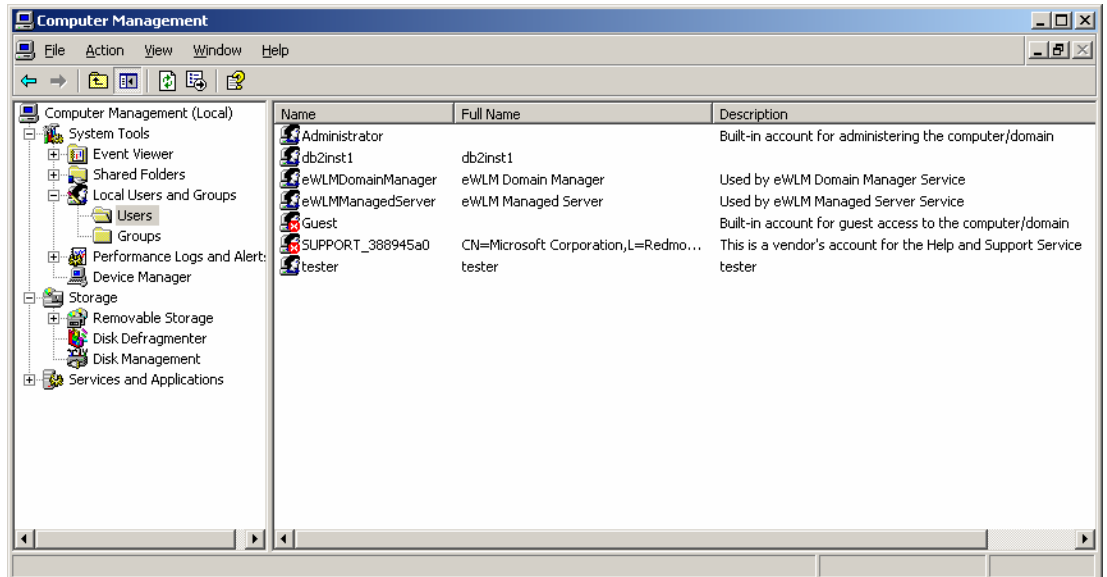


Figure 1. Users' subdirectory.

5. Figure 2 shows the **Groups** subdirectory used in this example.

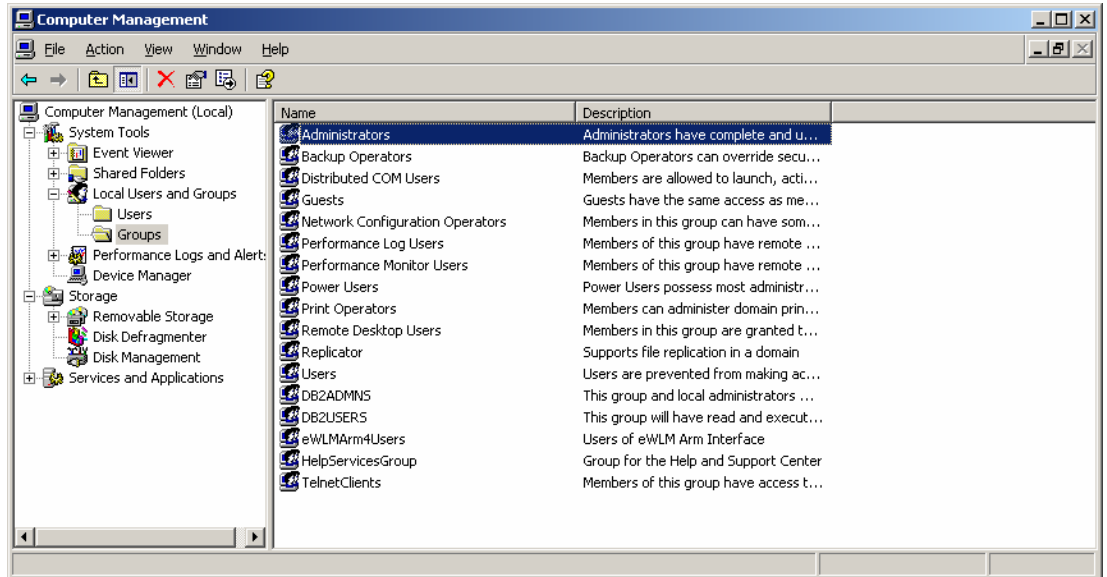


Figure 2. "Groups" subdirectory

6. Figure 3 shows the **Administrator** group that is used in this example:

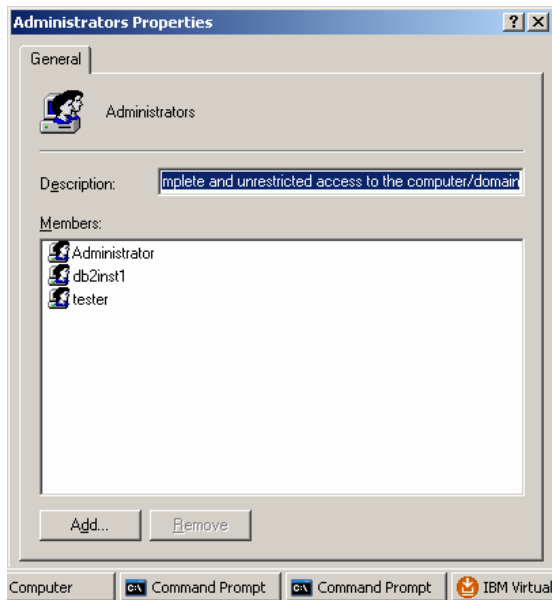


Figure 3. Administrator Group

7. Figure 4 shows the **db2admns** group that is used in this example. (**Note:** The member is created automatically.)

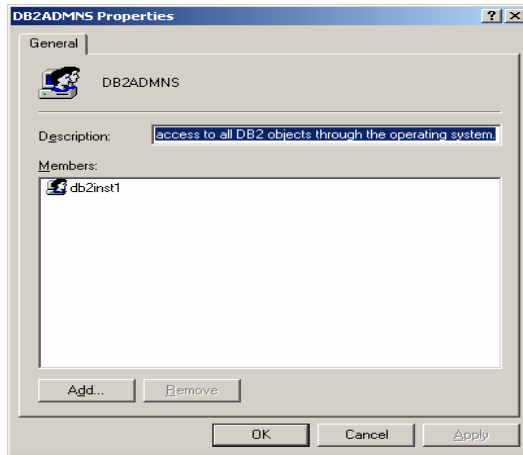


Figure 4. The *db2admns* group

8. Figure 5 shows an example of a **DB2USERS** screen. (**Note:** No members are created automatically.)

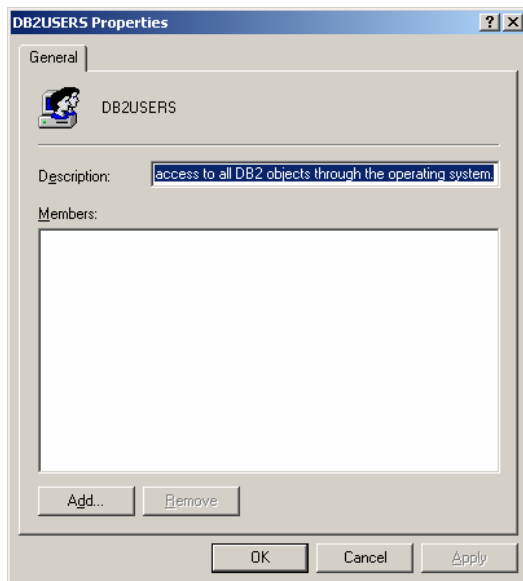


Figure 5. No members are in the *DB2USERS* group.

9. Figure 6 shows the system resources used in this example.

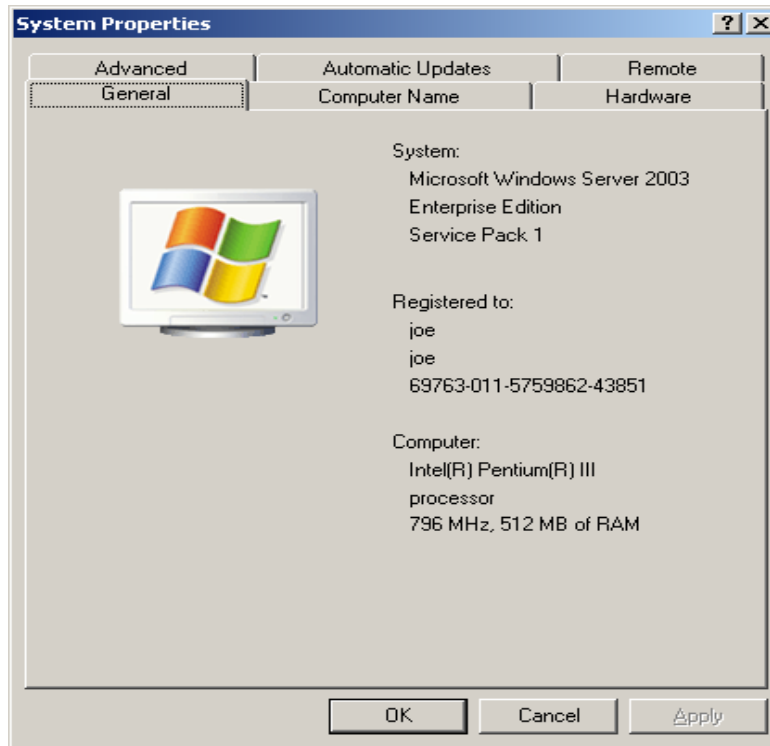


Figure 6. System Properties (information)

10. Log in as Administrator.
11. Ensure that you have at least 4 gigabytes of disk space. Copy all installation image files into one directory. These image files include the common run time that is shared by all Virtualization Engine components and the EWLM domain manager product.
12. Run the `tracert <host name>` command to ensure that you have the correct host name and IP address to use in the installation and configuration process.
13. Check the managed server or domain manager level by examining the `<EWLM home>/vefixlvl.xml` file. (**Note:** This information will be useful after the installation.)
14. Start the installation process by running the `installVEWin.bat` command in the installation directory where you copied all of the installation images.

15. Click **Next** (see Figure 7).

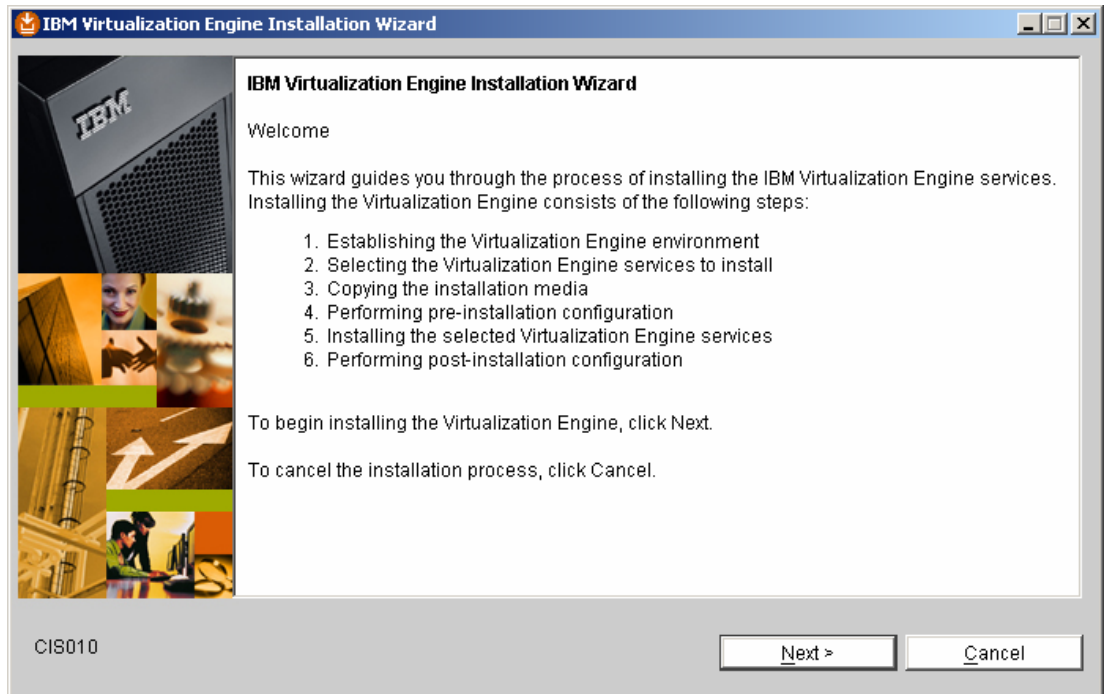


Figure 7. The Welcome page for the IBM Virtualization Engine Installation Wizard

16. Accept the license agreement (see Figure 8):

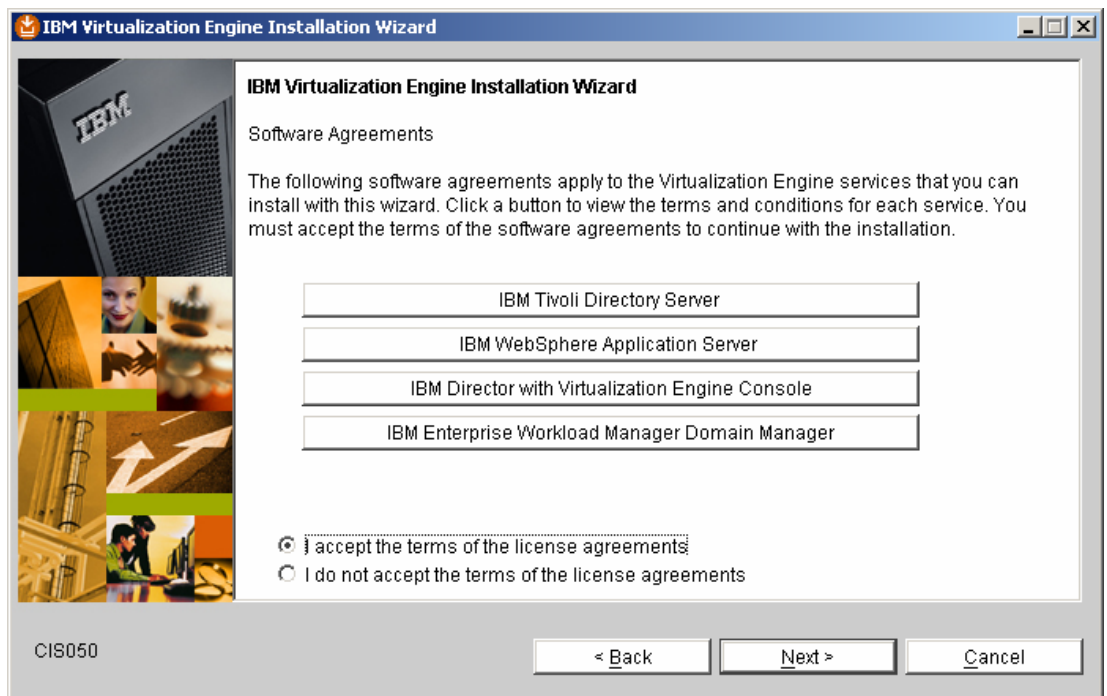


Figure 8. Accept the software license agreement



17. Accept the default destination directory. Click **Next** (see Figure 9).

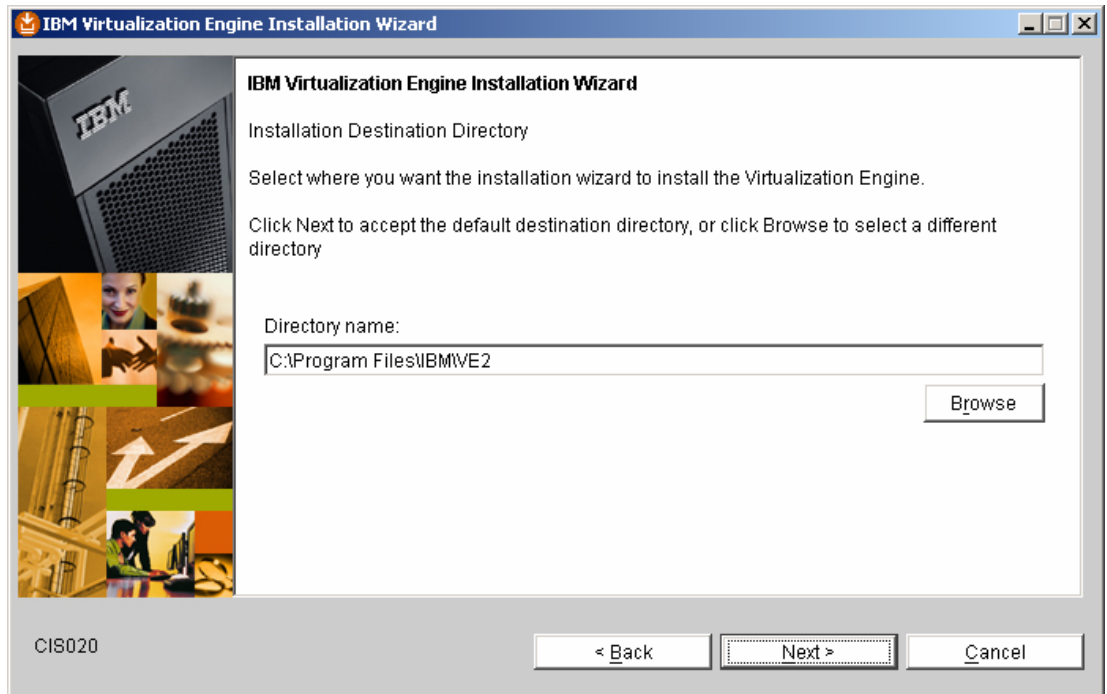


Figure 9. Accept default destination directory

18. Accept the default destination directory for log files. Click **Next** (see Figure 10).

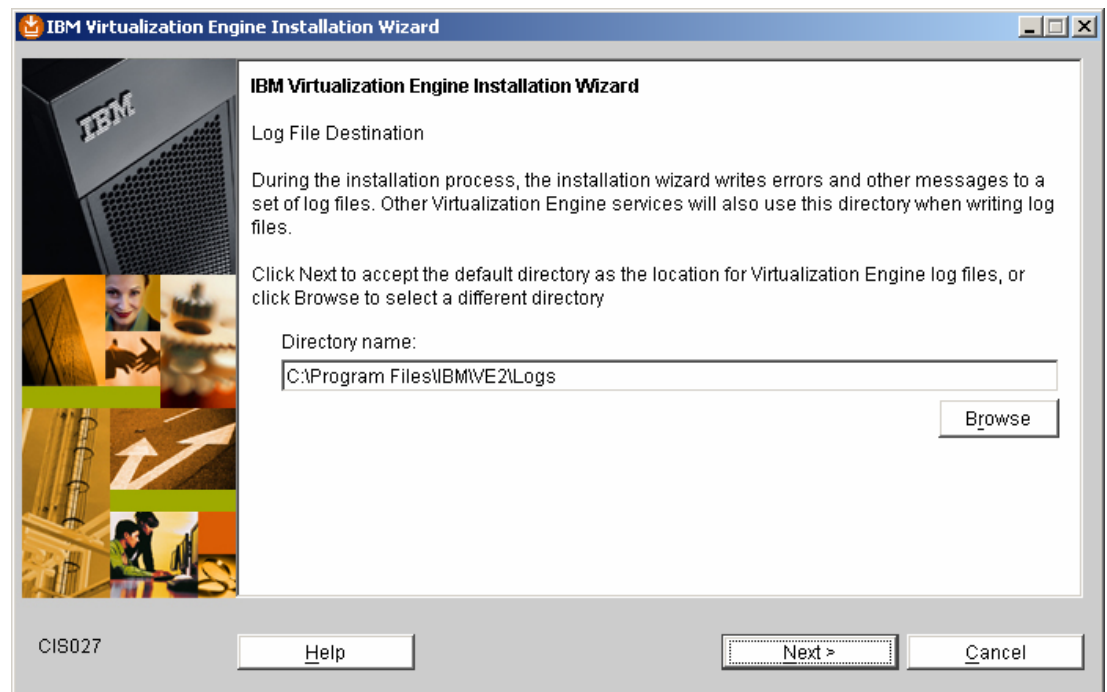


Figure 10. Accept default log file destination directory

19. Assume that you do not have an existing directory server. Select **Install IBM Tivoli Directory Server on this system** and click **Next** (see Figure 11).

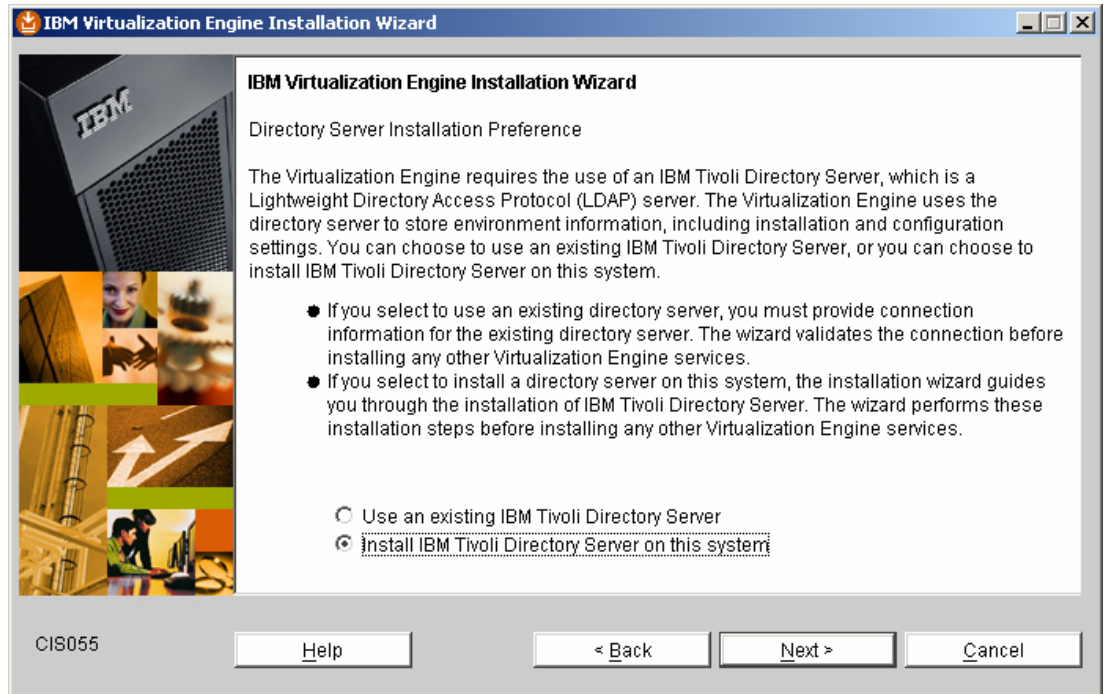


Figure 11. Select a directory server installation preference

The installation wizard takes a few minutes to perform the installation tasks. It also requires an automatic restart of the client operating system (see Figure 12).

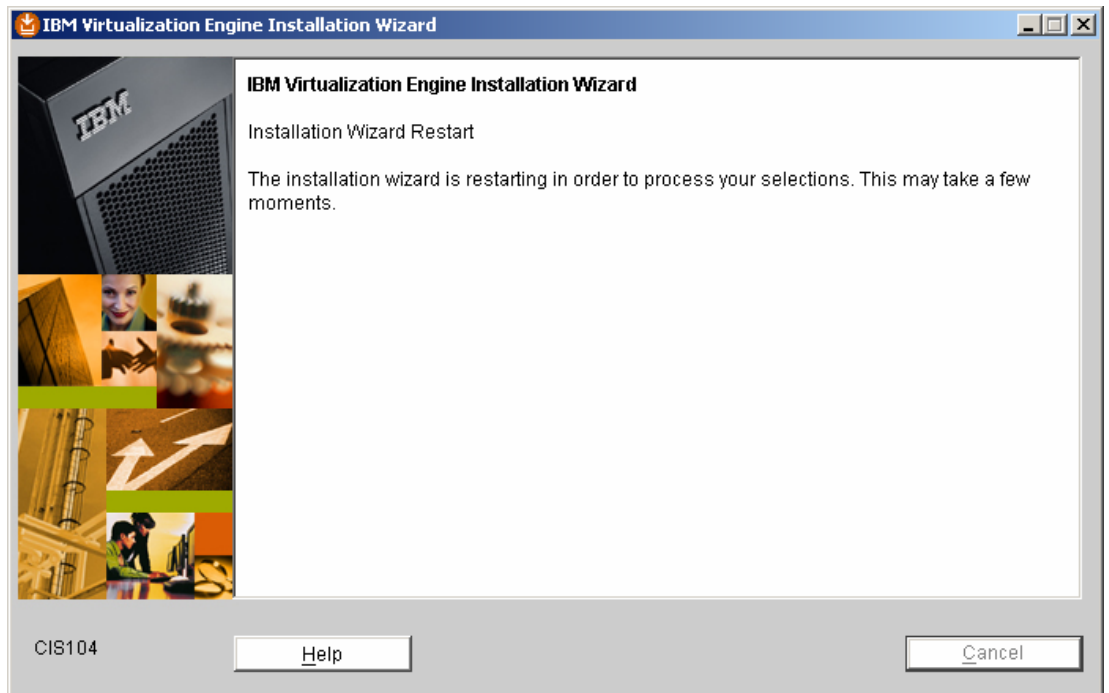


Figure 12. The Virtualization Engine Installation Wizard performs several tasks.

Then, the Installation Wizard determines whether to copy additional media (see Figure 13).

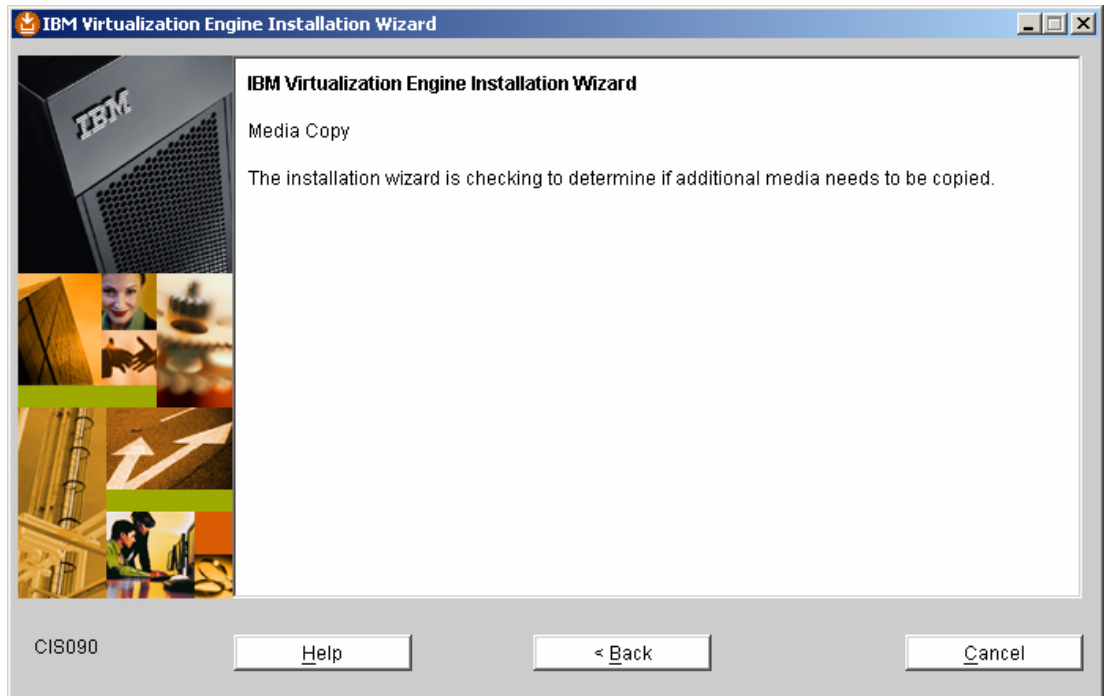


Figure 13. Installation Wizard checks for the necessity of copying additional media

20. Click **Next** (see Figure 14).

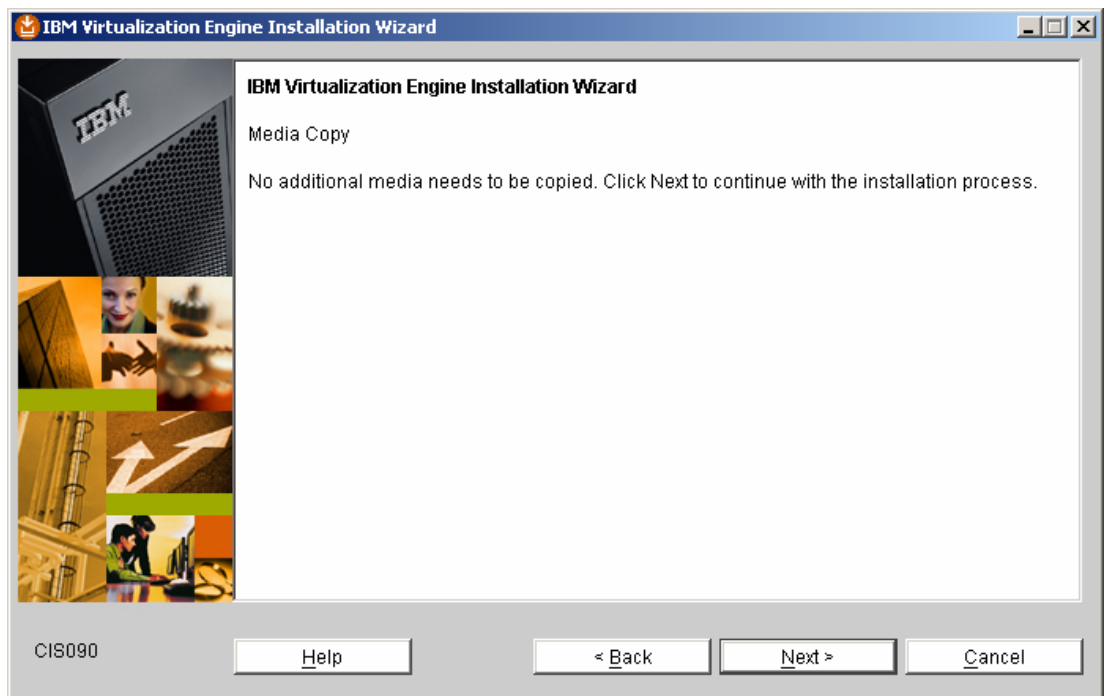


Figure 14. Installation process

The installation process restarts automatically with the following display (see Figure 15).

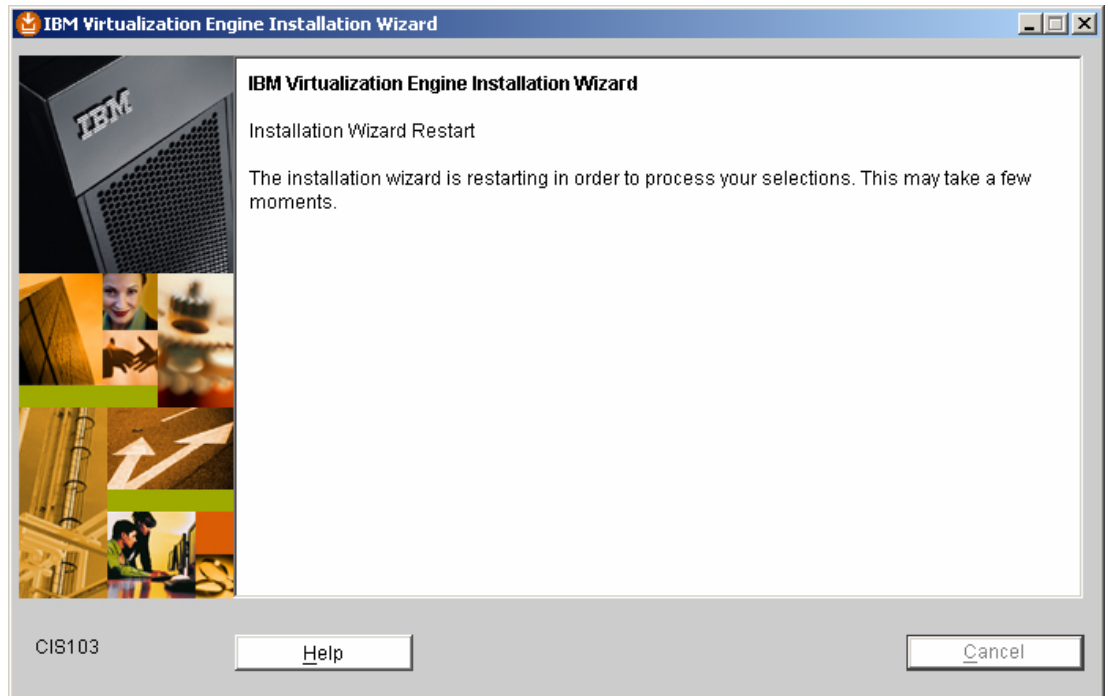


Figure 15. Installation Wizard restarts

In Figure 16, the Installation Wizard unpacks installation files.

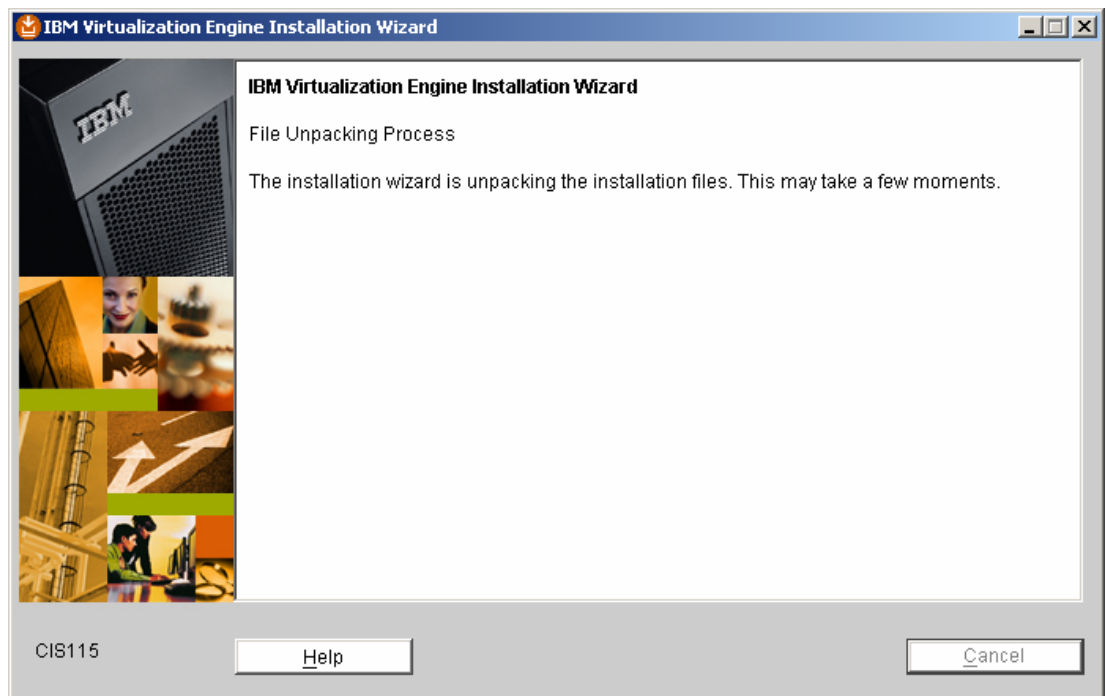


Figure 16. Unpacking installation files

21. Select **Create a new operating system user ID for the DB2 instance owner** (see Figure 17).

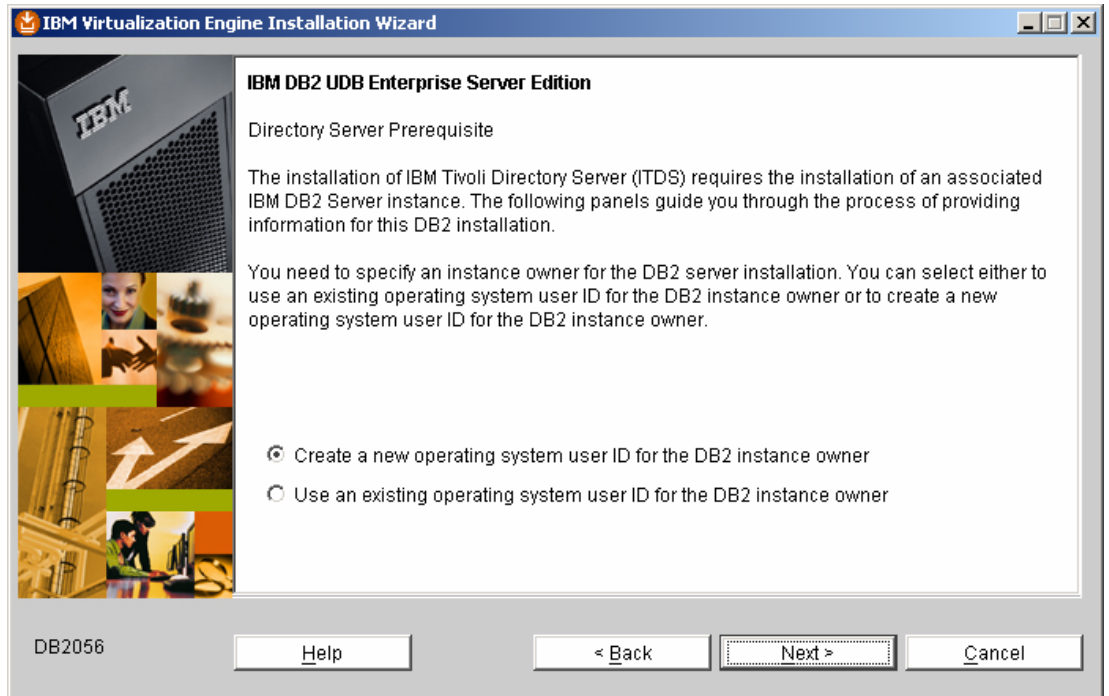


Figure 17. Creating a new operating system user ID for the DB2 instance owner

22. For this example installation, type a user ID called `db2inst1` instead of the default user ID “vedbusr” (see Figure 18).



Figure 18. Create the `db2inst1` user ID

23. For the directory server ports, accept the default values and click **Next** (see Figure 19).

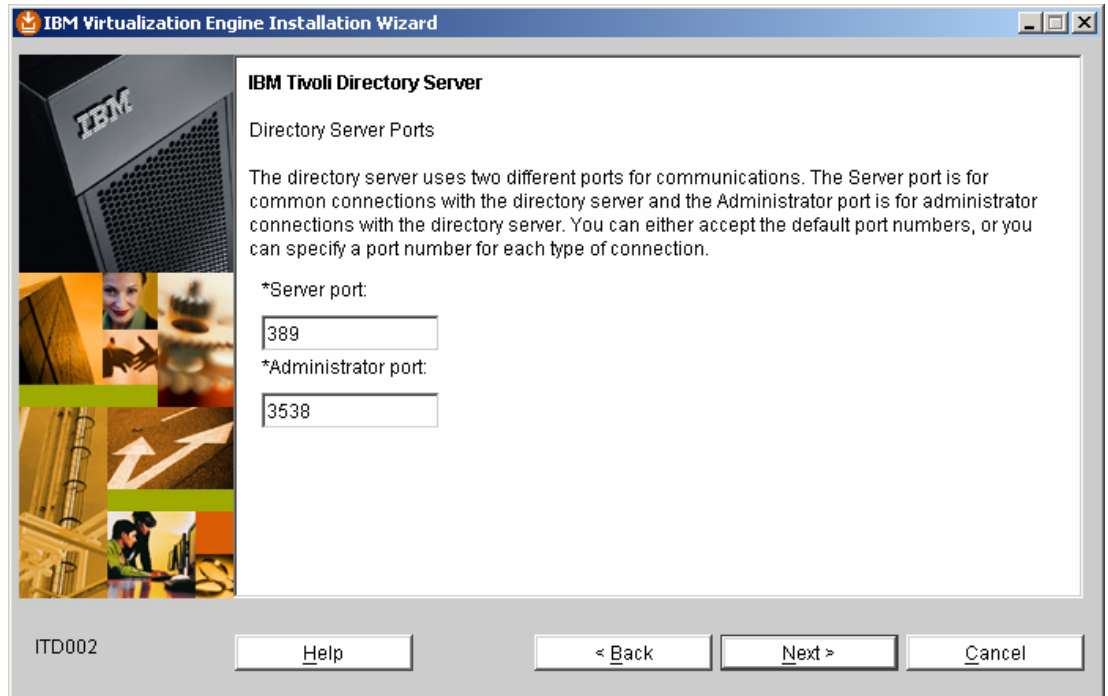


Figure 19. Accept default values for directory server ports

24. Type an encryption seed string of your choice. This example uses `veewlmveewlm` (see Figure 20). Click **Next**.

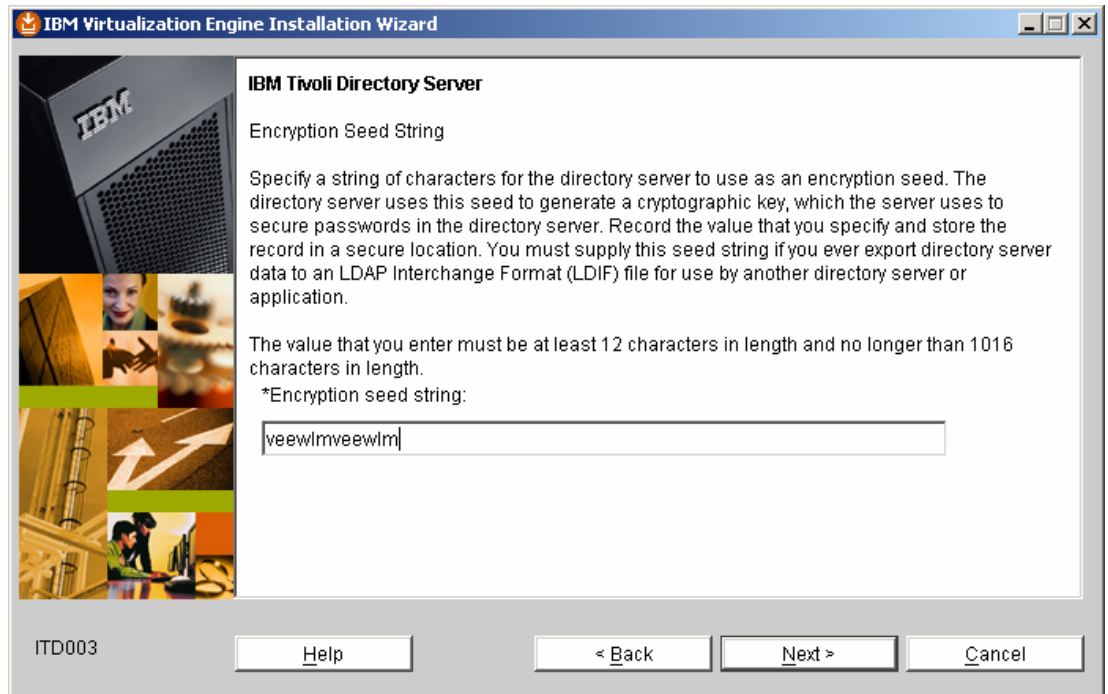


Figure 20. Enter an encryption seed string

25. Type a user ID for the operating system. (This example uses `tester` as the user ID.) Then, create the password of your choice for this ID (see Figure 21). Click **Next**.

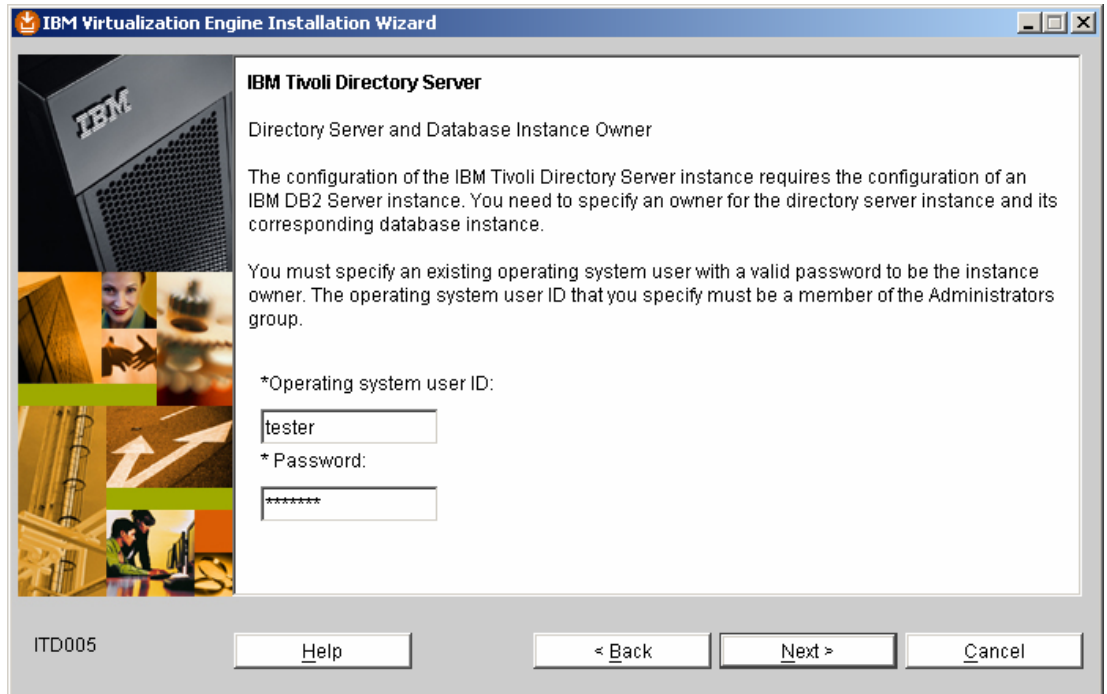


Figure 21. Create an operating system user ID and password

26. Create a directory server password of your choice (see Figure 22).

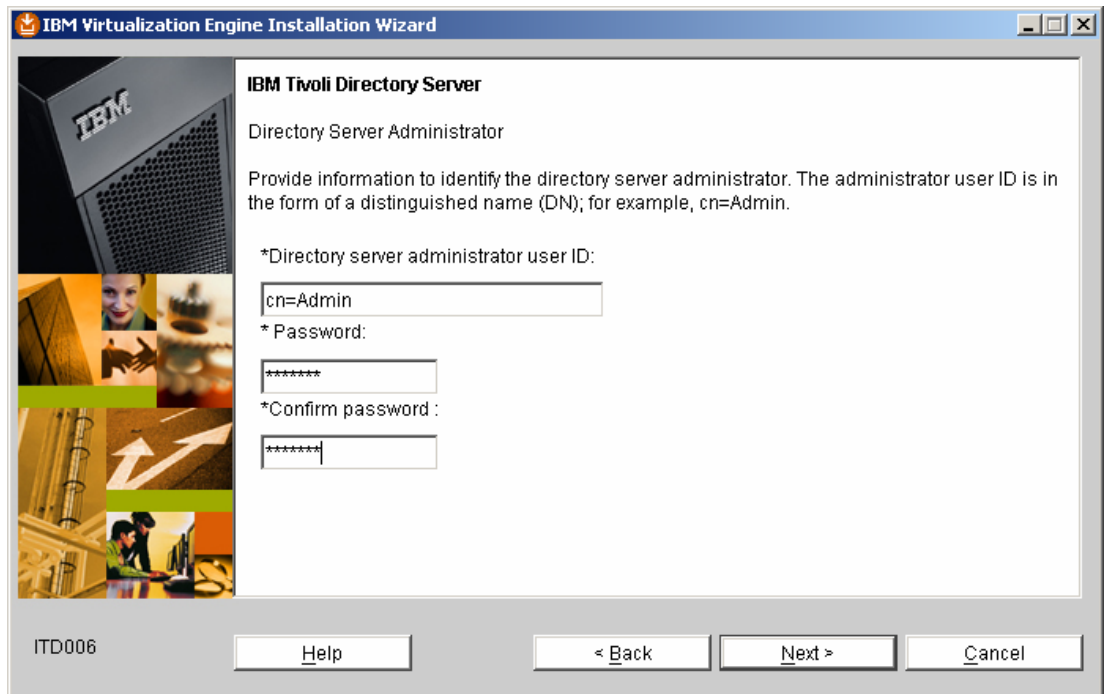


Figure 22. Create directory server password

Figure 23 provides a summary of items for installation.

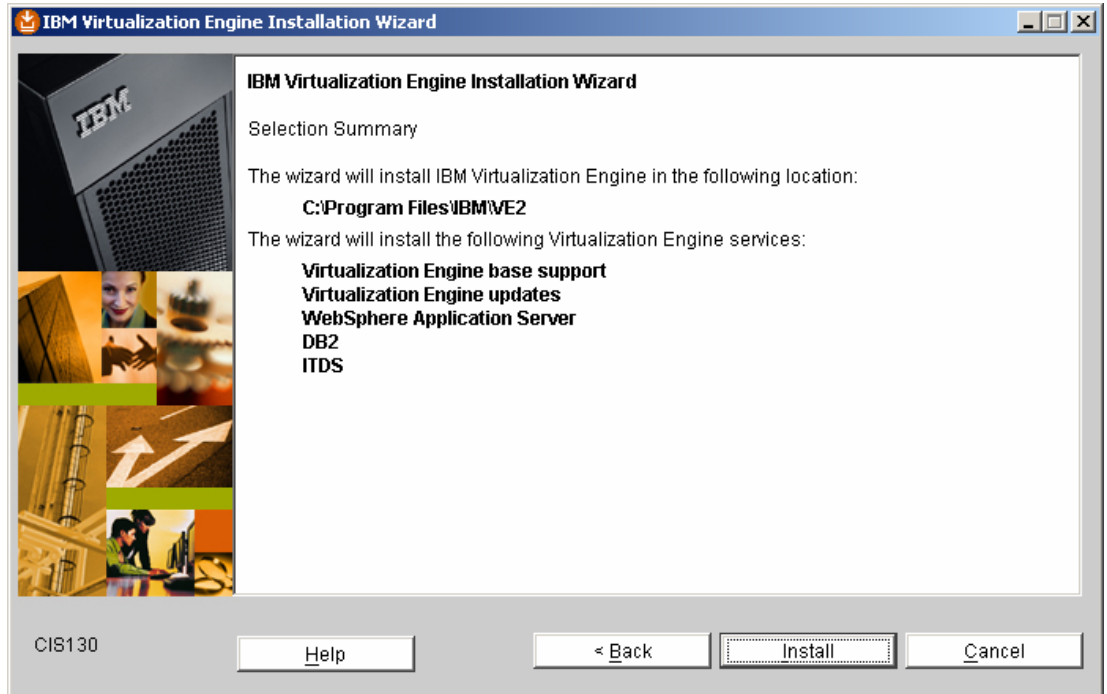


Figure 23. Summary of Virtualization Engine services for installation

The Virtualization Engine base component installation starts (see Figure 24).

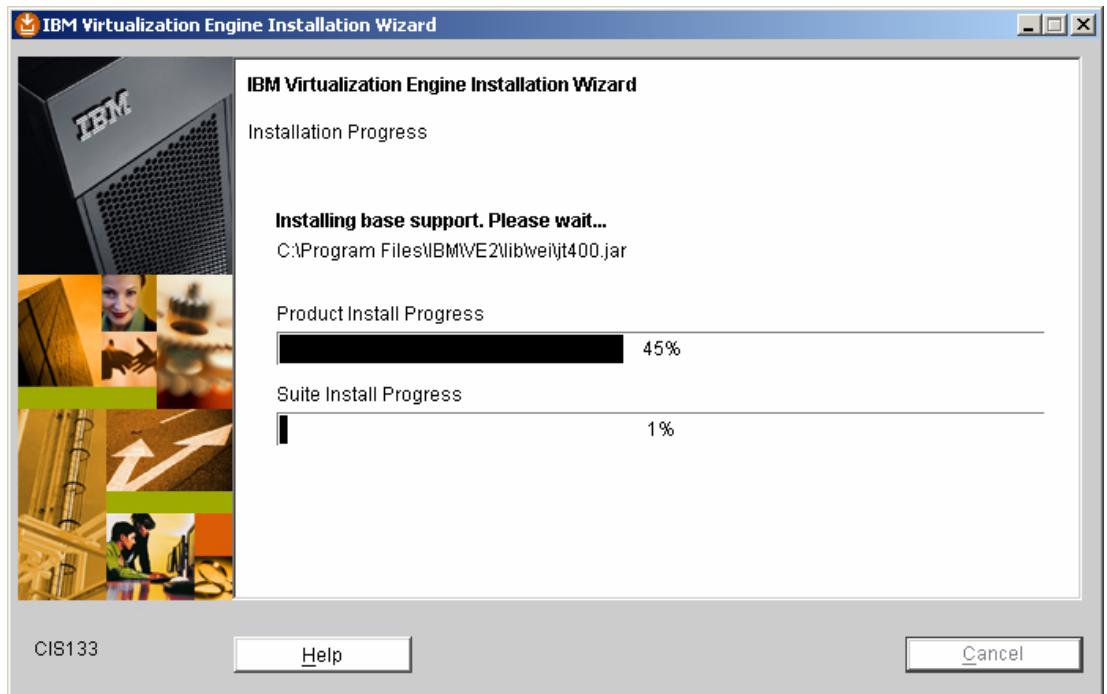


Figure 24. Installing base support



27. After the base installation completes, move to the IBM DB2<sup>®</sup> software installation by clicking **Next** (see Figure 25).

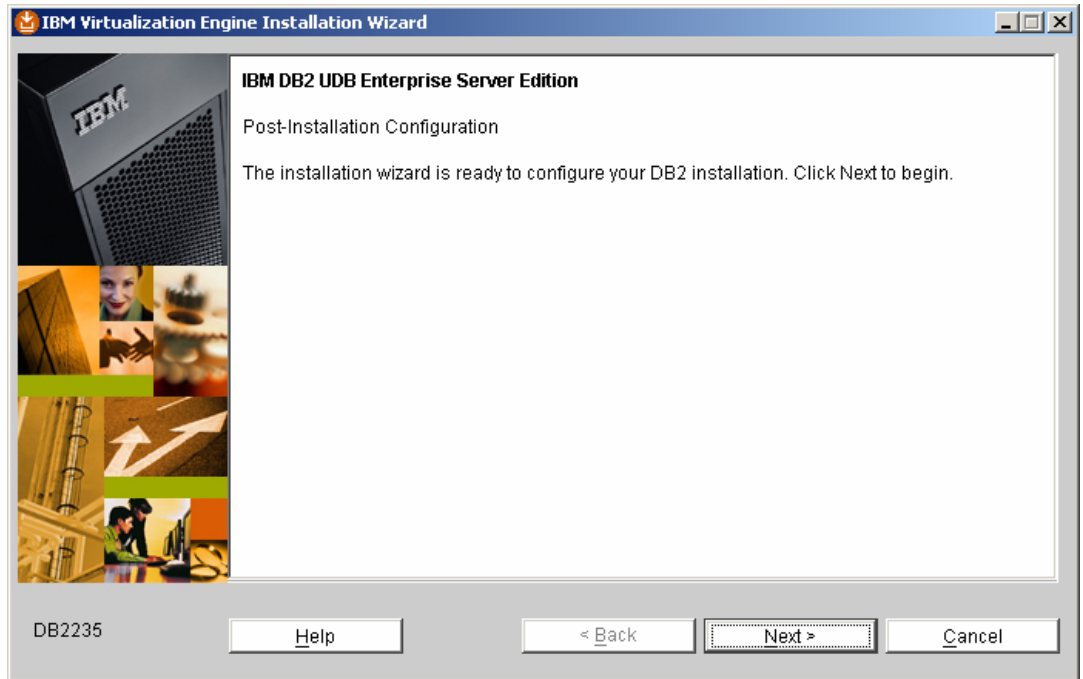


Figure 25. Ready to configure DB2 installation

The Installation Wizard processes three, quick, automatic steps and then presents a DB2 configuration summary (see Figure 26).

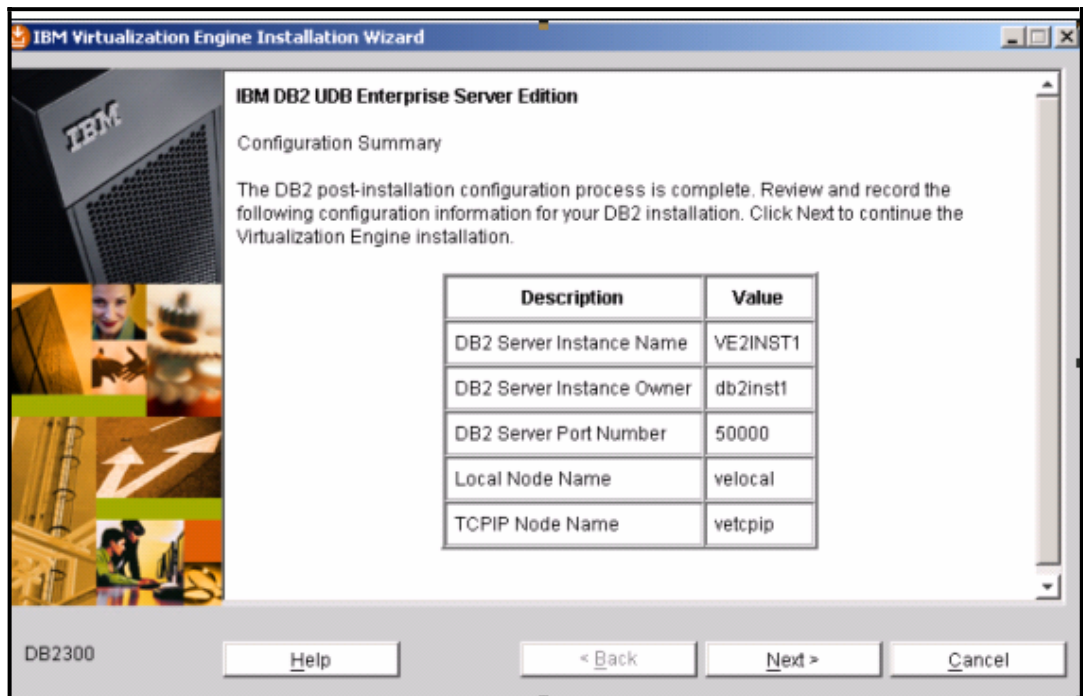


Figure 26. DB2 configuration summary

IBM Tivoli Directory Server starts (see Figure 27).

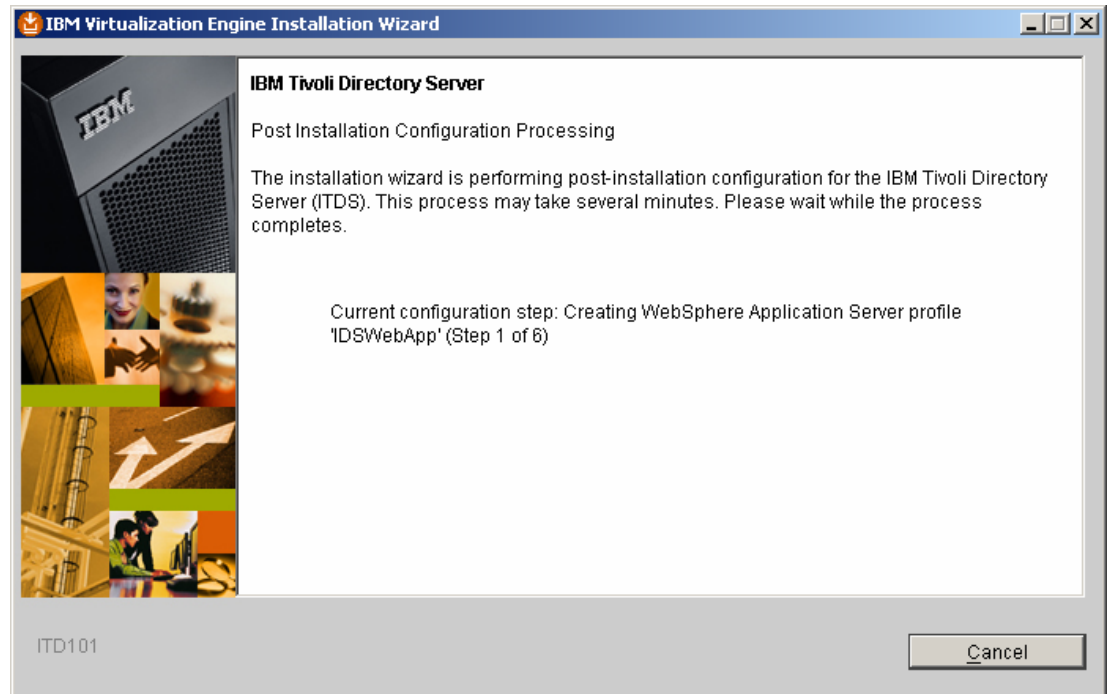


Figure 27. Tivoli Directory Server begins

The Installation Wizard completes six steps automatically. Figure 28 illustrates step 2 (of 6) where the wizard is deploying the Web Administration Tool.

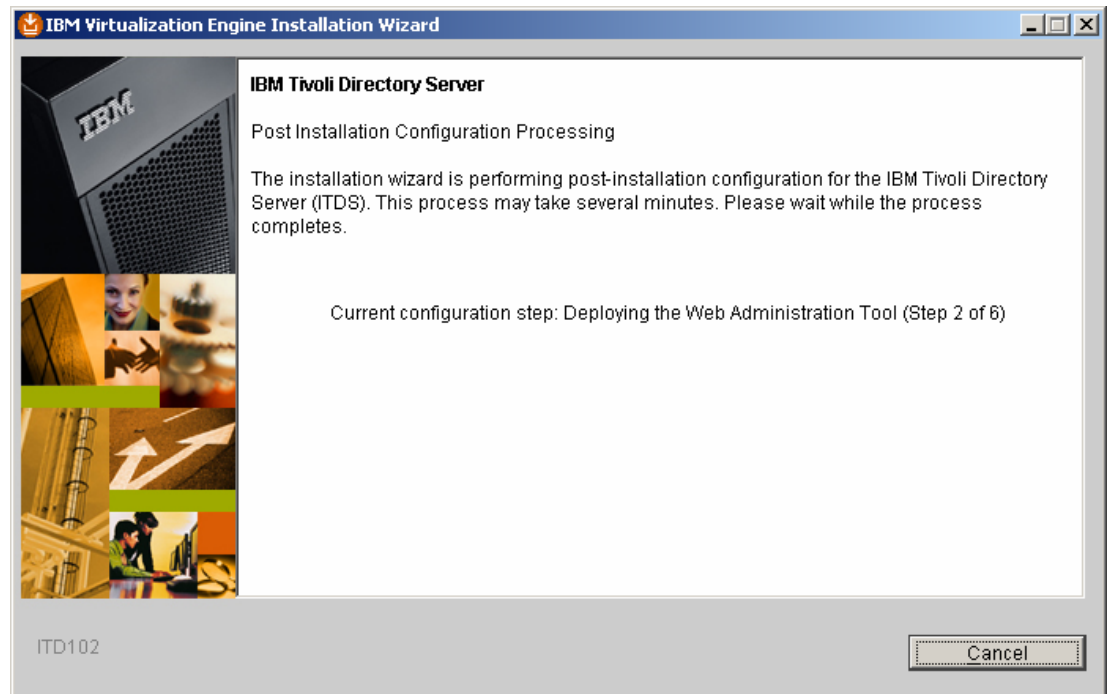


Figure 28. Deploying the Web Administration Tool

28. The Registration panel represents the completion of this part of the Virtualization Engine Installation Wizard. Click **Next** (see Figure 29).

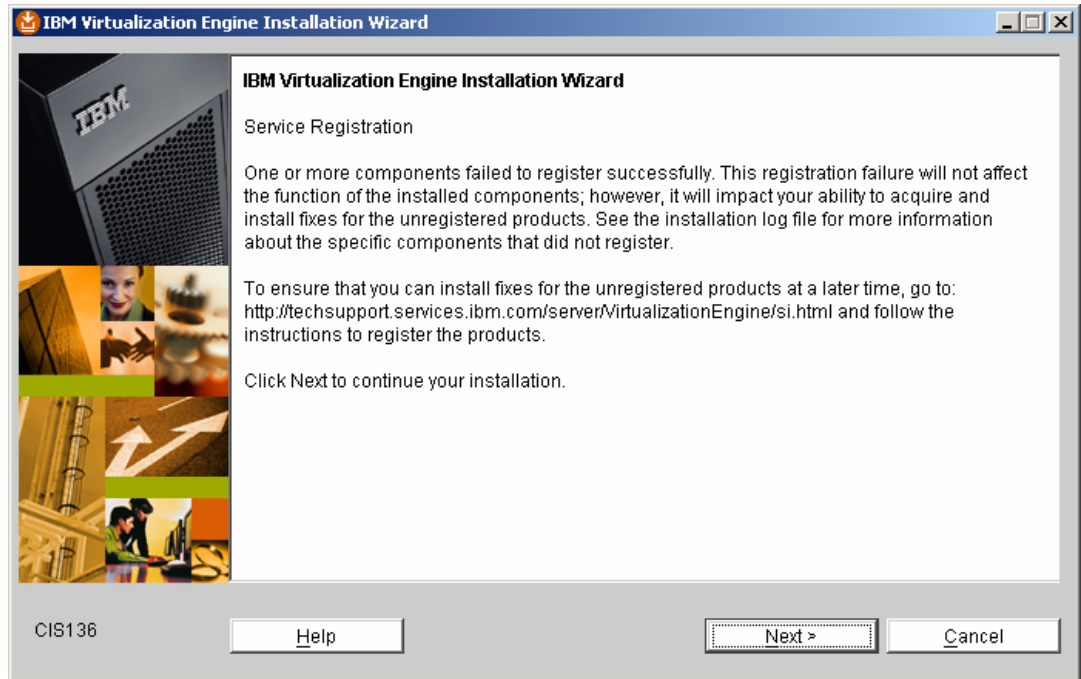


Figure 29. Registration panel completed

29. You might get a message that explains, “One or more components failed to register successfully.” Ignore this panel and click **Next**. Then, click **Finish** (see Figure 30). As mentioned earlier, a reboot is required to continue with this wizard.

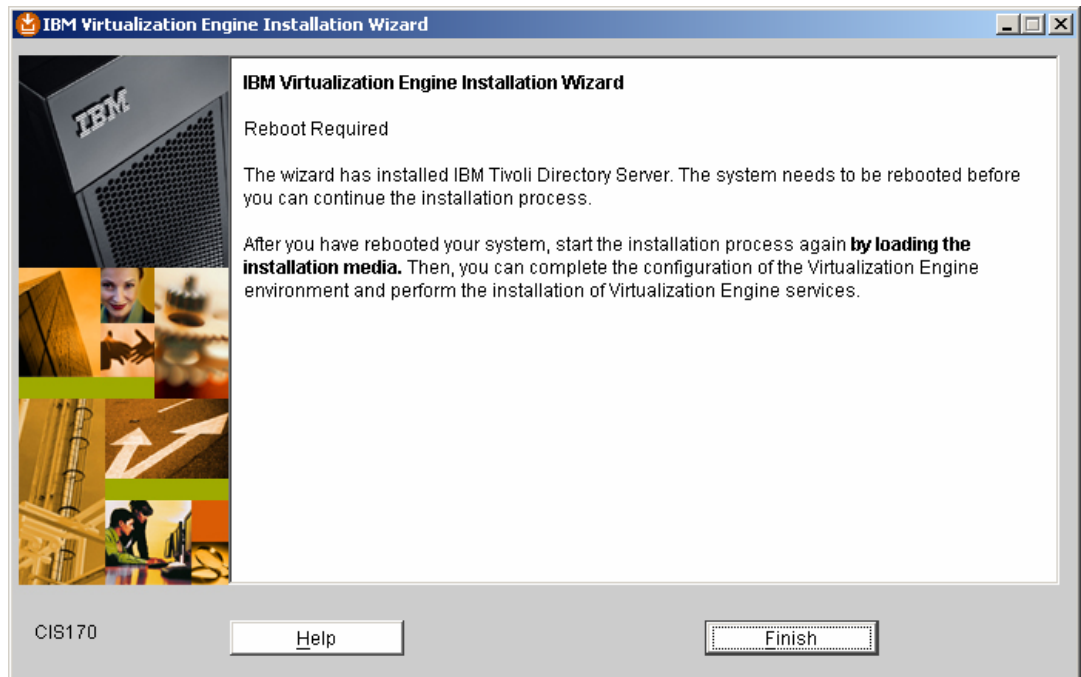


Figure 30. Successful Virtualization Engine installation

30. When you see a screen that says, “Environment Configuration Complete,” ensure that **Continue with the Virtualization Engine installation** is selected; then click **Next** (see Figure 31).

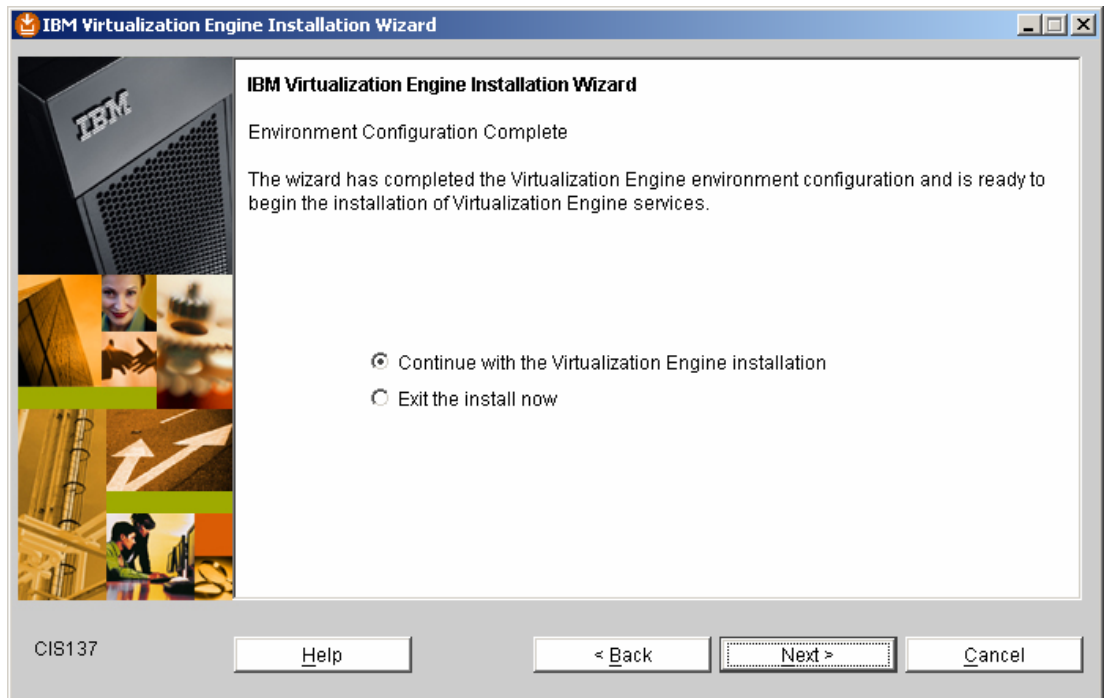


Figure 31. Ready to install Virtualization Engine services

31. Now, you will be setting up the Virtualization Engine Environment. Click **Next** (see Figure 32).

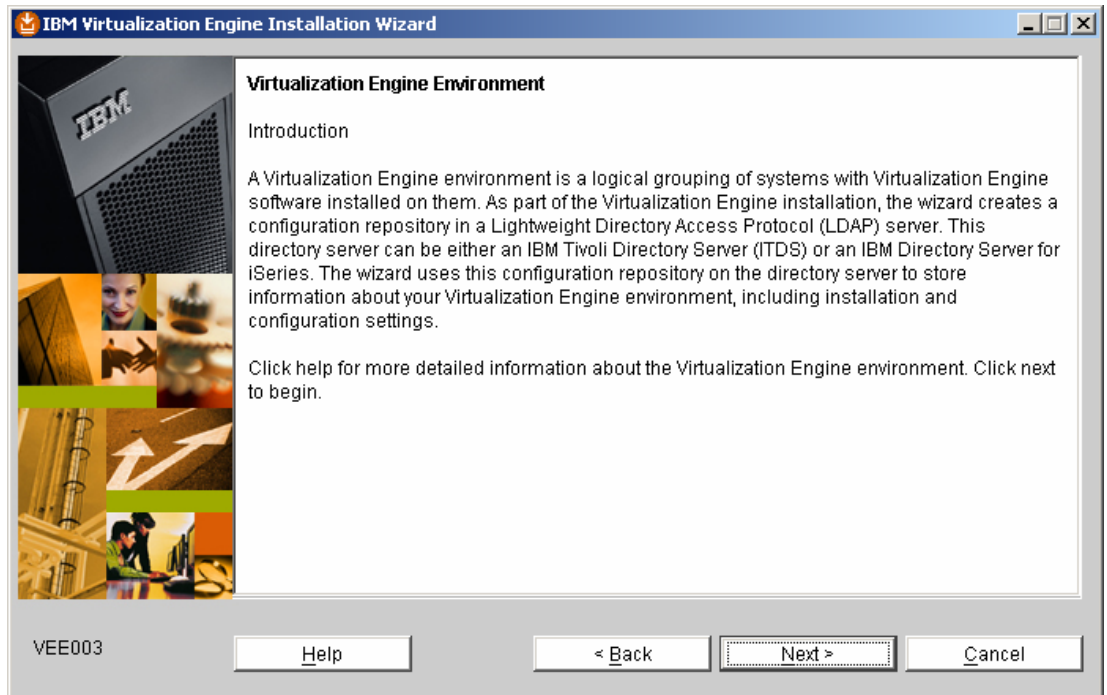


Figure 32. To begin setting up the Virtualization Engine environment, click **Next**

32. All of the environment fields are filled in automatically. Click **Next** (see Figure 33).

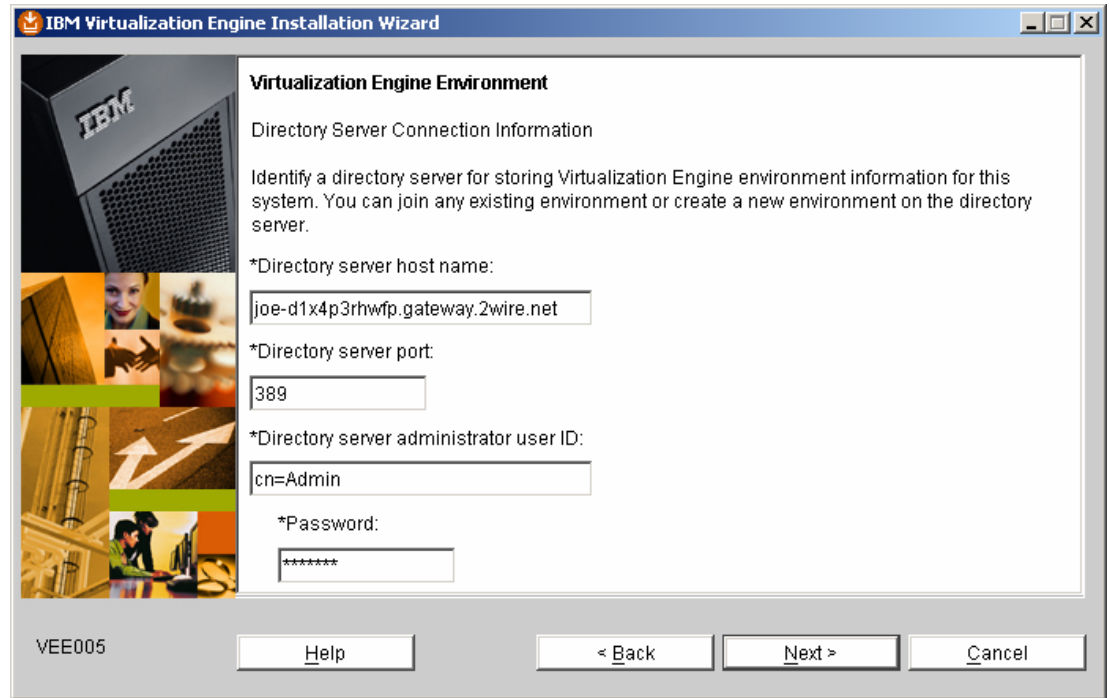


Figure 33. Directory Server connection information is populated automatically

33. Type your own name for **New environment name** and click **Next** (see Figure 34)

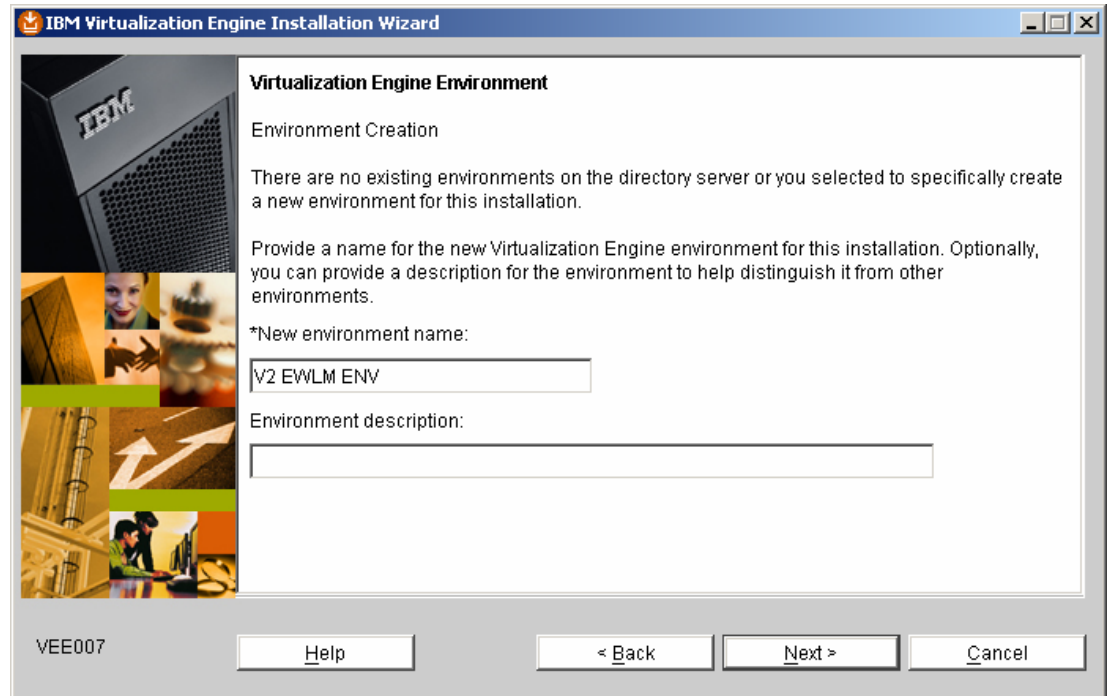


Figure 34. Provide an environment name

34. Select **IBM Enterprise Workload Manager Domain Manager** and click **Next** (see Figure 35).

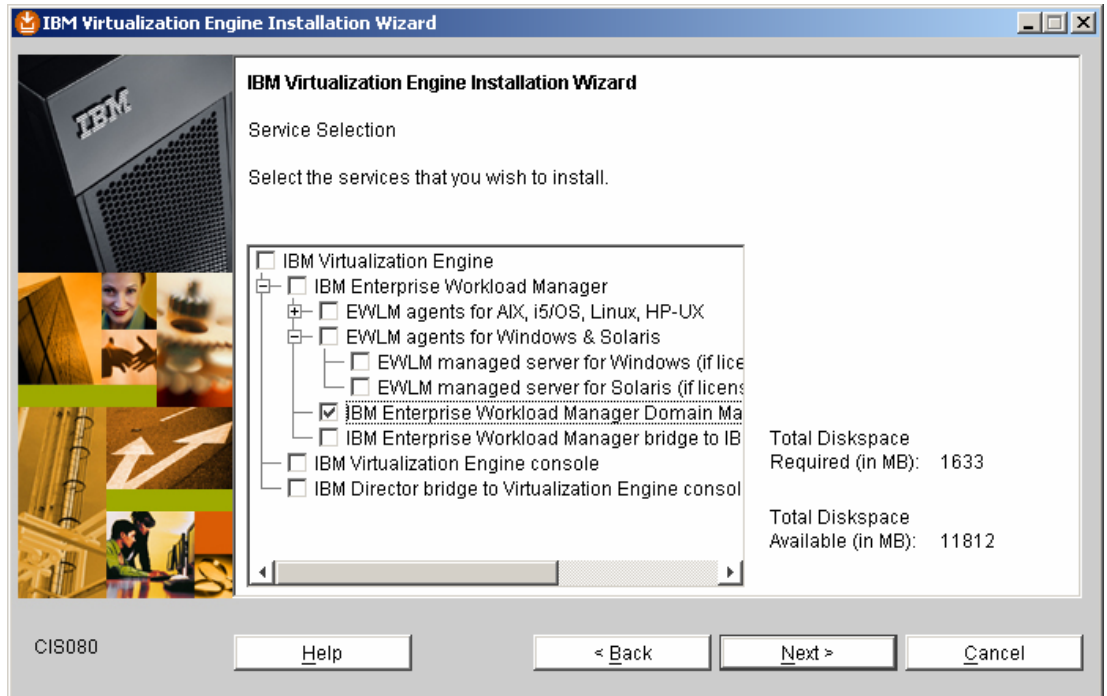


Figure 35. Select the services that you wish to install

35. Review the Service Selection Summary and then click **Next** (see Figure 36).

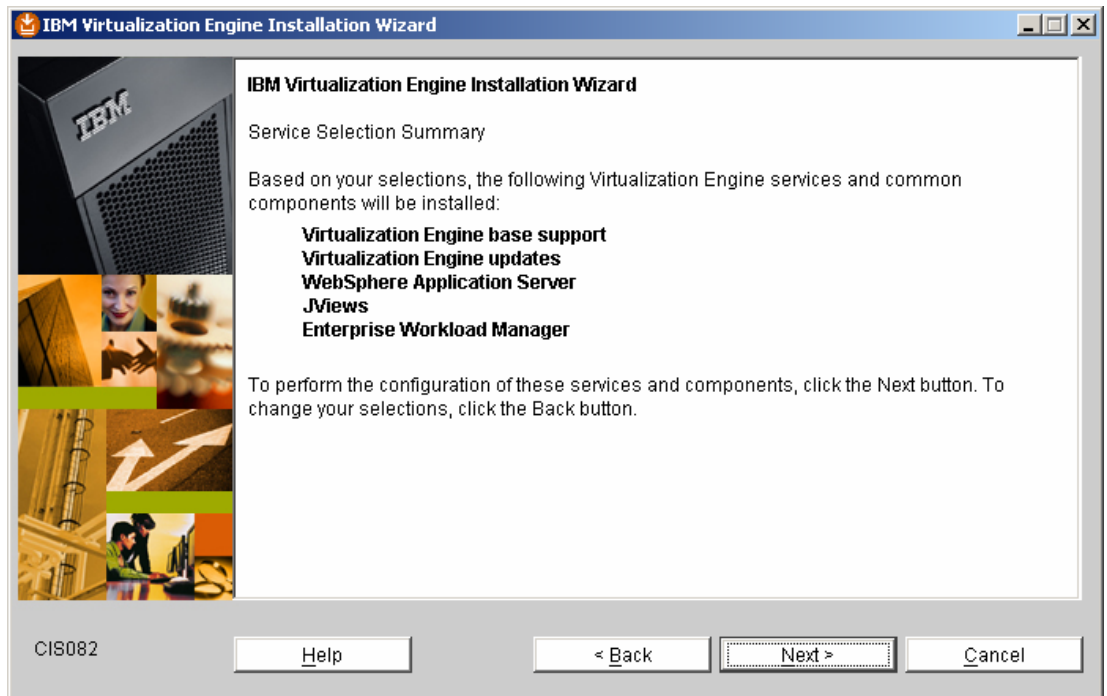


Figure 36. Summary of chosen services

36. The wizard now begins to copy the media that is related to the Virtualization Engine installation. When you see this introductory message screen, click **Next** (see Figure 37).

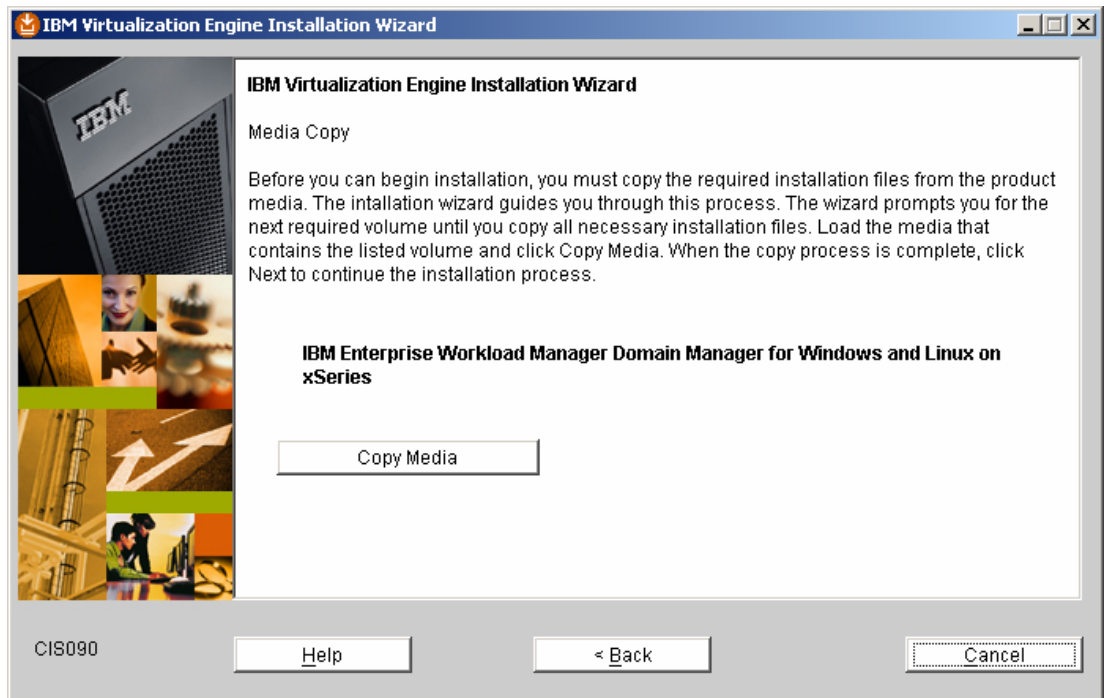


Figure 37. Copy media

The wizard displays a progress panel (see Figure 38).

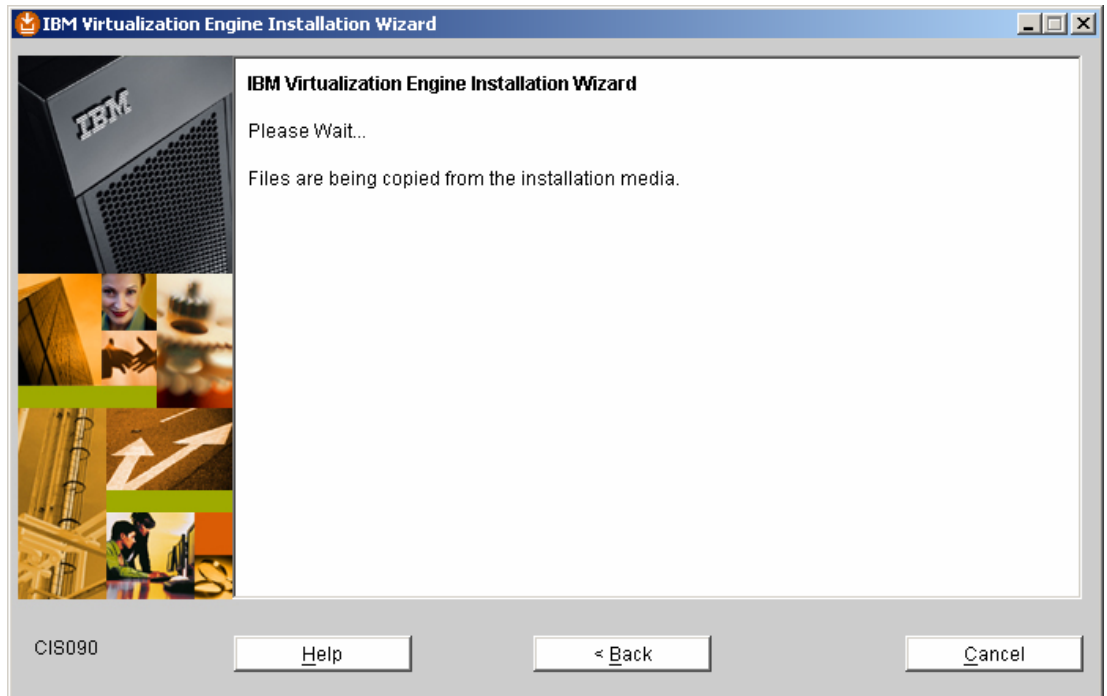


Figure 38. Copying of files from installation media

37. After the wizard copies all the media, you see this screen. Click **Next** (see Figure 39).

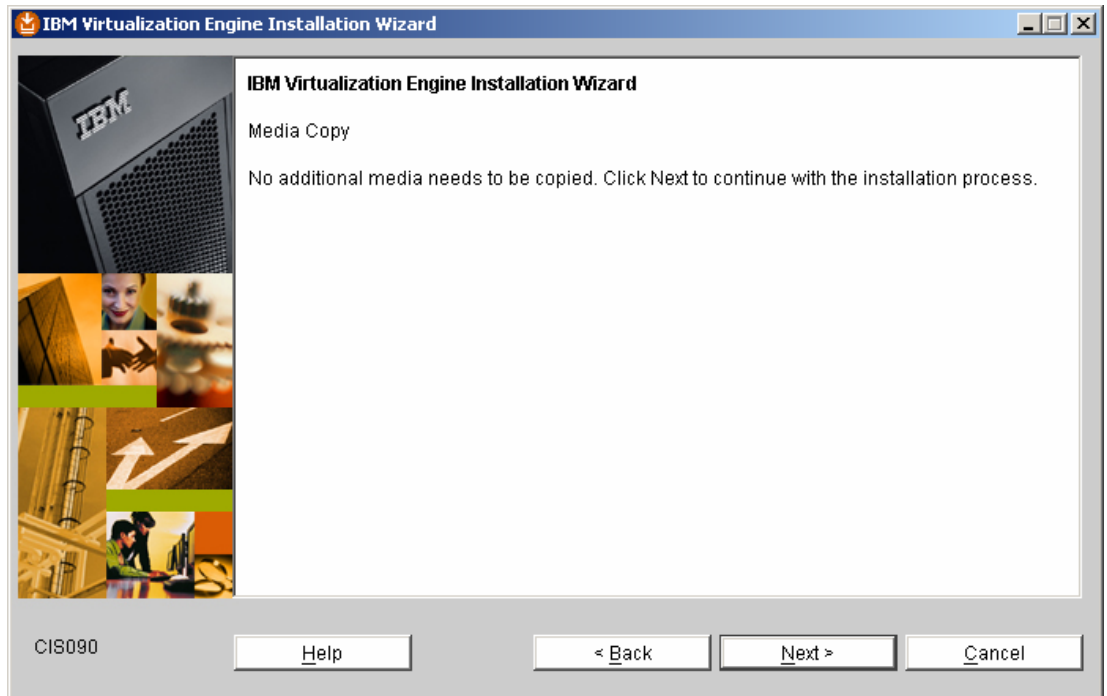


Figure 39. Click **Next** to continue installation process

38. The next screen (see Figure 40) is an informational screen. You do not need to take any action.

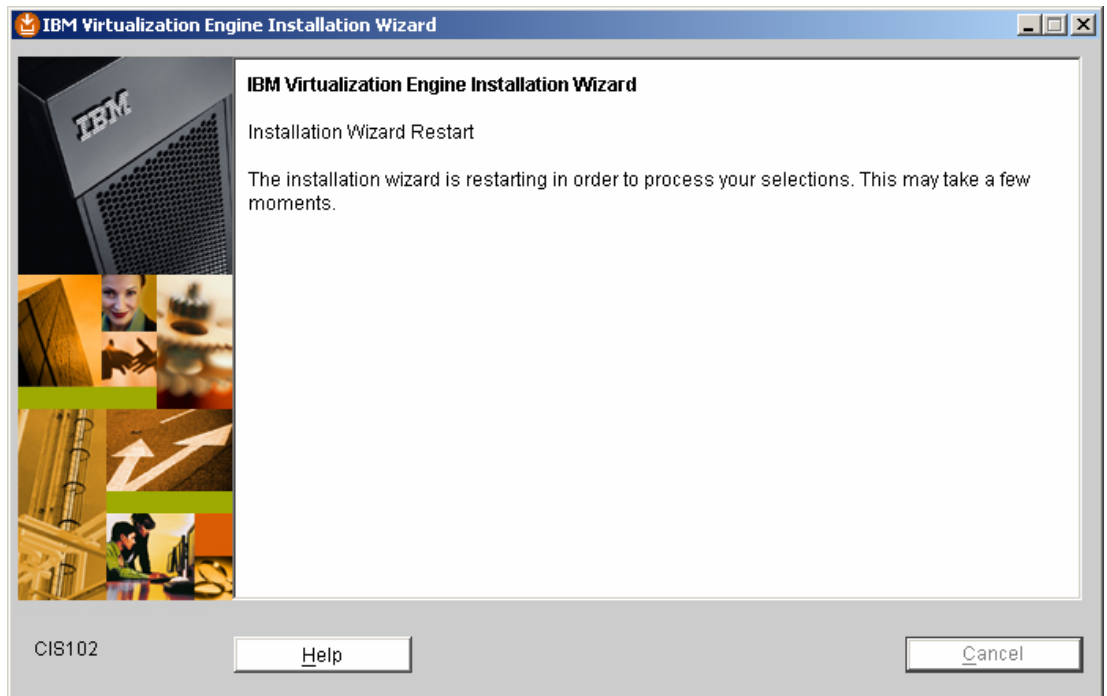


Figure 40. Restarting of Installation Wizard in order to process your selections



39. Read the screen that explains the need for an identity mapping repository. Then click **Next** (see Figure 41).

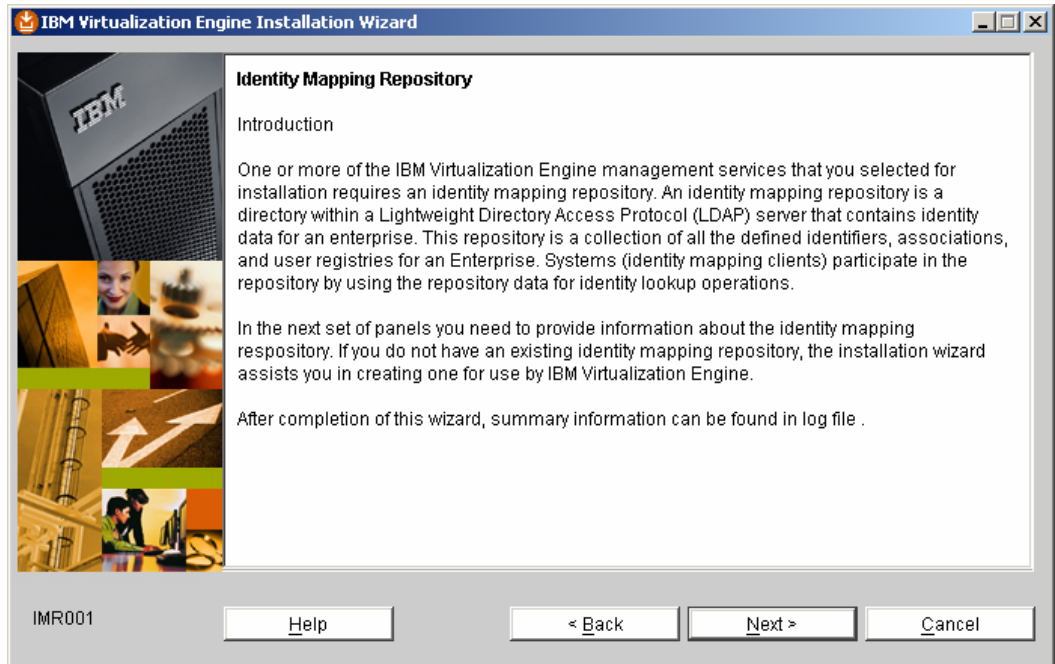


Figure 41. Identity Mapping Repository

40. In the next set of panels, you must provide details about the identity mapping repository. If you do not have an existing identity mapping repository, select **Create a new identity mapping repository** and the installation wizard creates one for you. Then, click **Next** (see Figure 42).

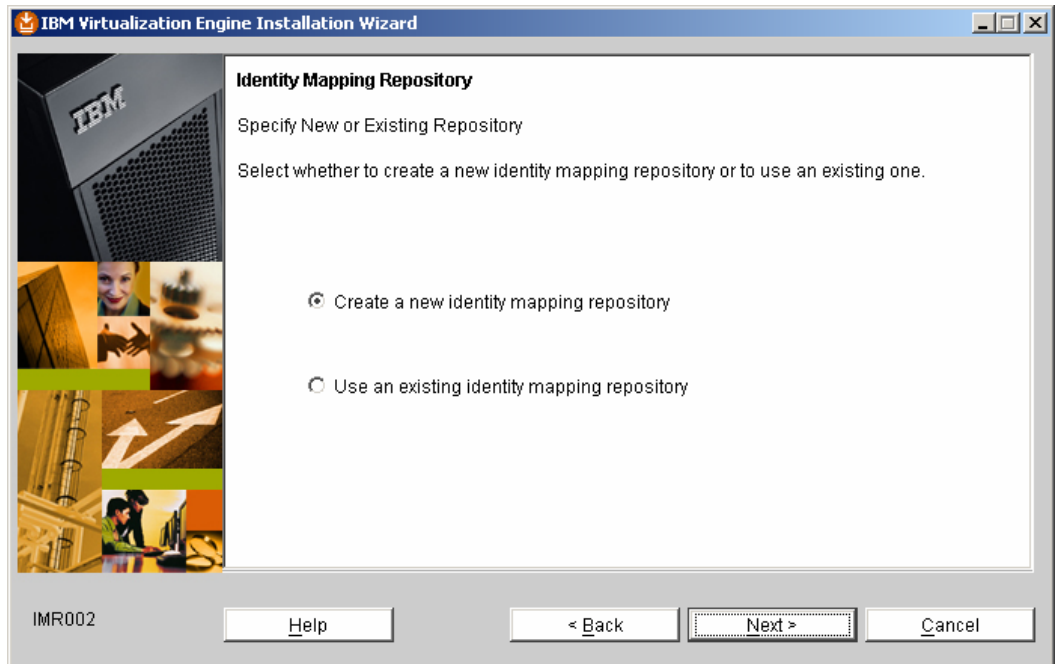


Figure 42. Specify new or existing repository

41. Select the default option **Use recommended default values to configure the server for identity mapping** and click **Next** (see Figure 43).

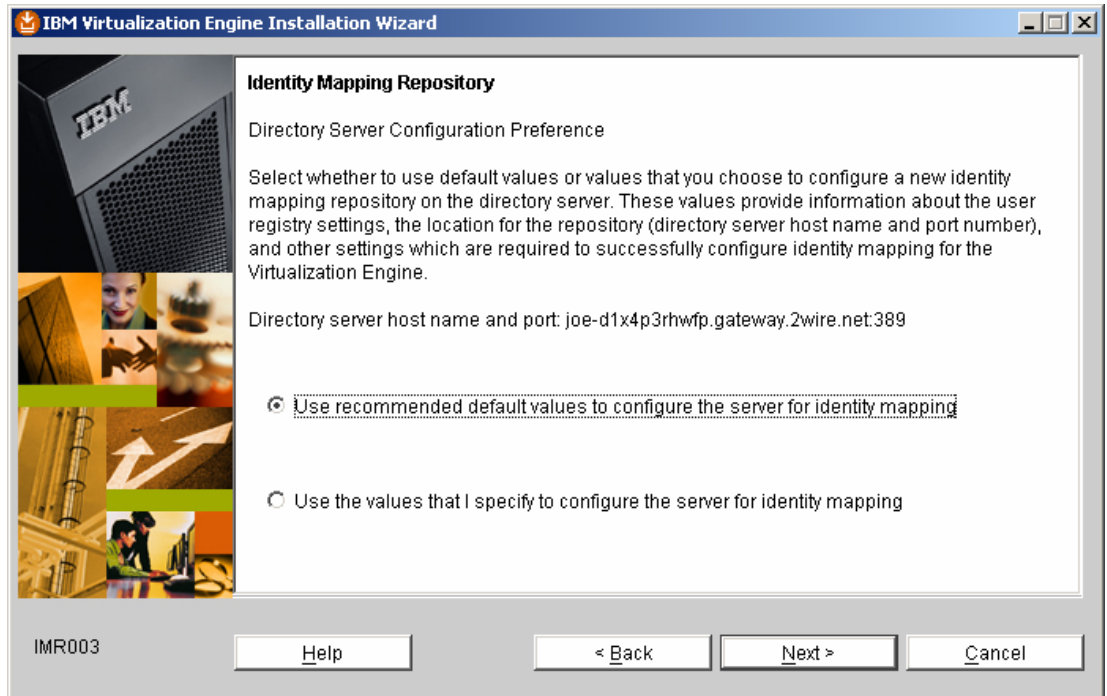


Figure 43. Select the default value

42. The wizard displays a Configuration Summary for the identity mapping repository. Click **Next** (see Figure 44).

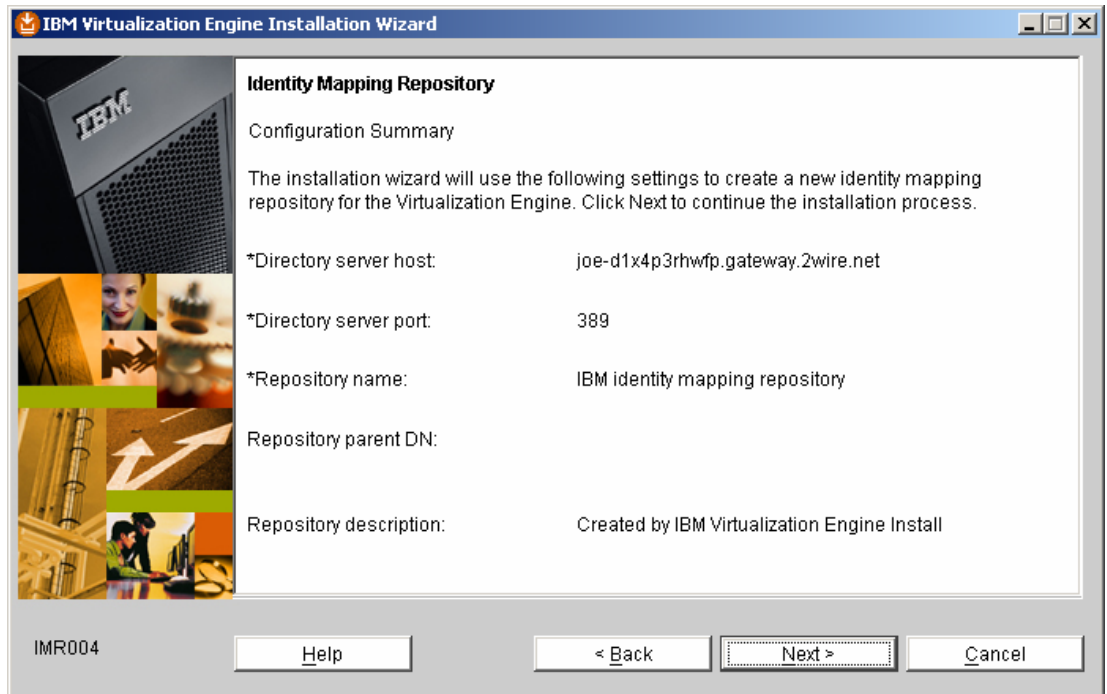


Figure 44. Identity Mapping Repository Configuration Summary

43. Now, the wizard asks you to provide a directory name in which it will store the EWLM domain manager information. If this directory does not already exist, EWLM creates it. Accept the default and click **Next** (see Figure 45).

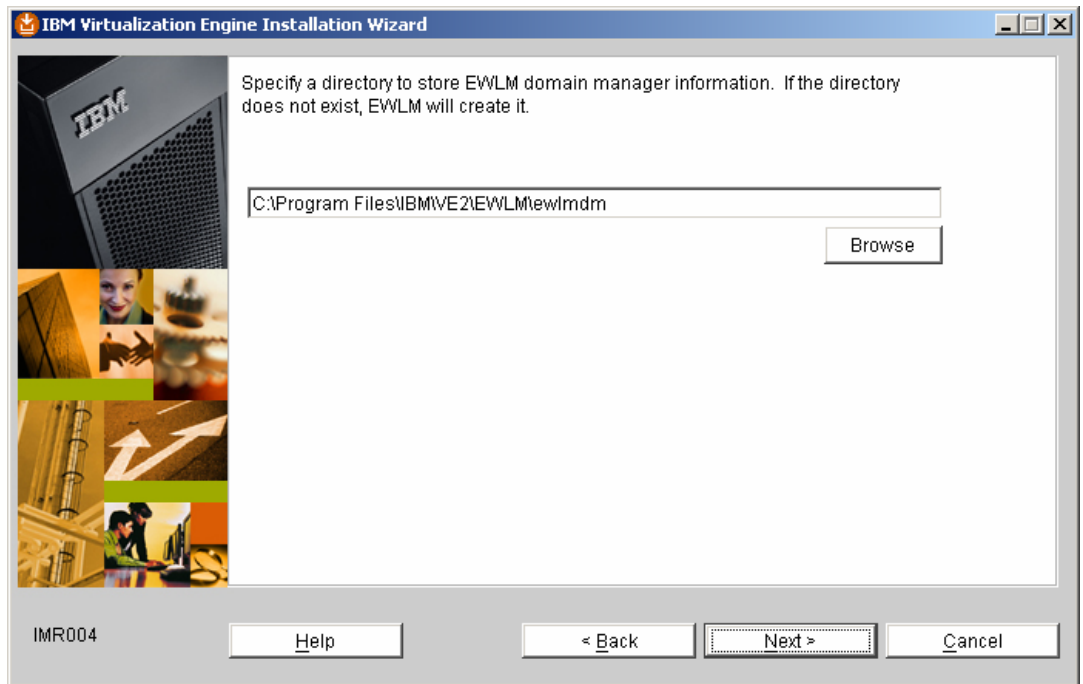


Figure 45. Specify a directory to store EWLM domain manager information

44. The wizard displays a selection summary listing the Virtualization Engine services to install. Click **Install** and the wizard installs these services. (See Figure 46).

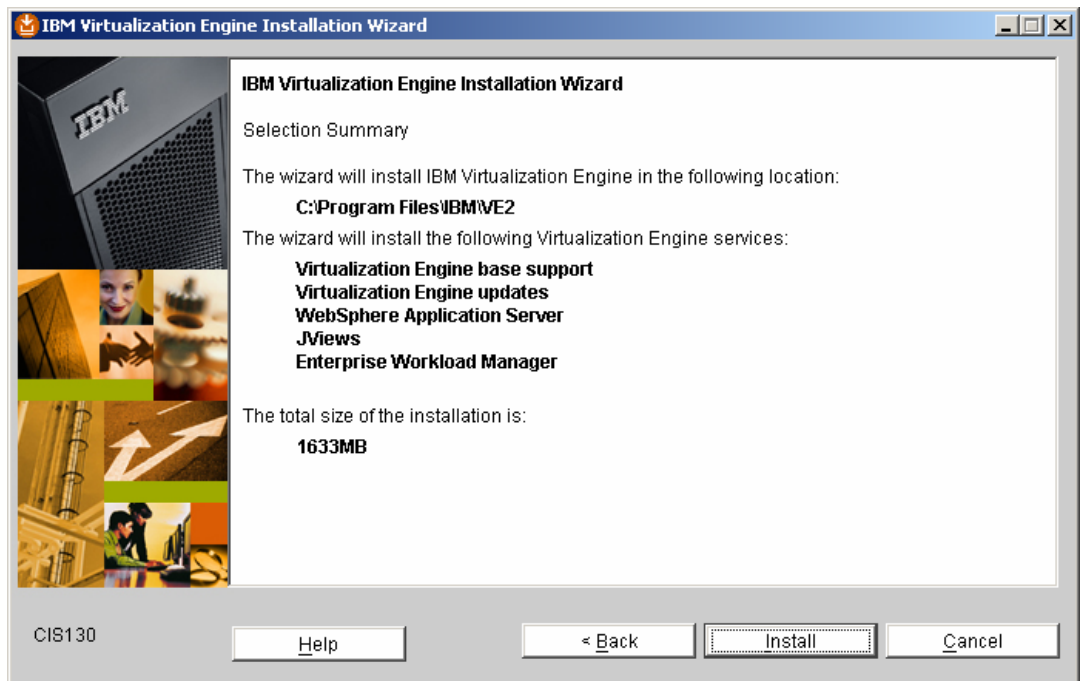


Figure 46. Selection summary of services for installation

45. After the wizard installs the Virtualization Engine services, the next step is to perform a post-installation system setup. Click **Next** (see Figure 47).

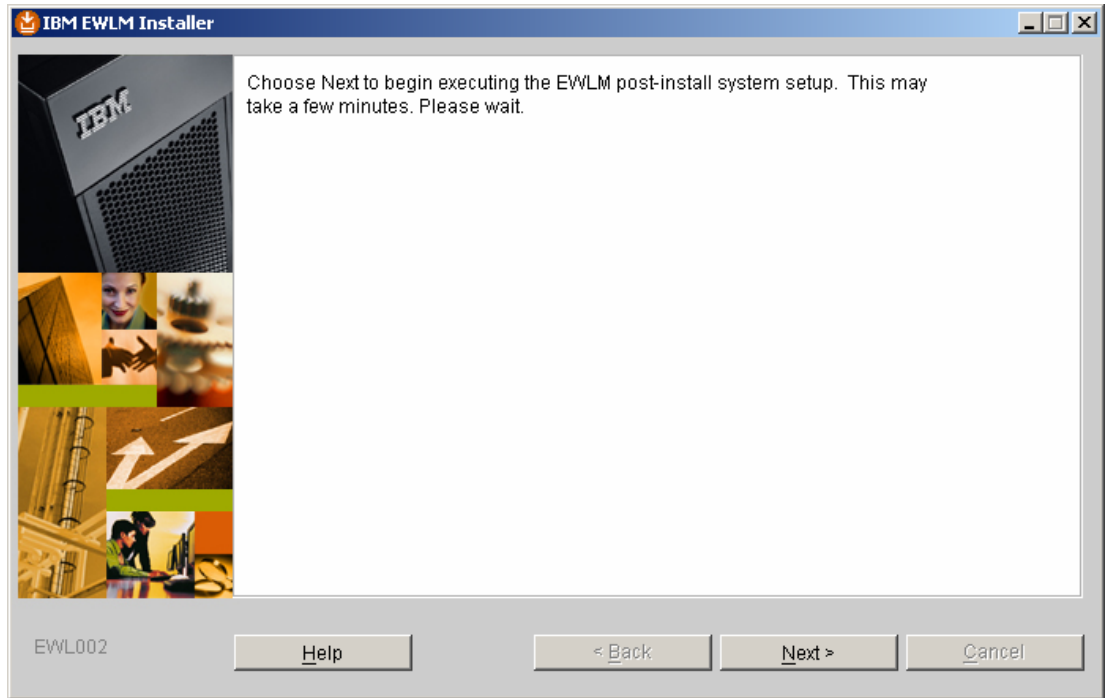


Figure 47. Click **Next** to begin EWLM post-installation system setup

## Configuring EWLM domain server

The next requirement in the installation process is configuring the EWLM domain manager. If you do not want to perform the configuration now, you can stop the installation and resume the domain manager configuration later. In either case, you need to understand some EWLM configuration terms.

### EWLM configuration terms

The next several screens in the installation display the terms defined below:

**Configuration ID:** This identifies the domain manager instance in use. Many domain manager commands require this domain manager Configuration ID.

**adminUser – Administrator:** This is the administrator for the EWLM domain manager and IBM WebSphere® instance. This example uses *root* as the adminUser. If you use another administrator, such as “ewlmadm,” that is what you need to specify here.

**adminPW - <password for the adminUser >:** This is the password for the user ID that you specified for *adminUser* (see the preceding definition).

**wasPorts – 5775:** This assigns WebSphere Application Server ports on the domain manager. The number you specify becomes the first in a range of 15 ports used by the EWLM WebSphere Application Server instance. You need to verify that no other applications use them.

**jmxport/jp – 5800:** This is the port number used for any communication between the EWLM Control Center and the EWLM domain manager. Again, you need to verify that this port is not already in use.

### Opting to configure EWLM domain server now

In this example, you continue with the EWLM domain manager installation.

1. Select **Now** to launch the configuration wizard and then click **Next** (see Figure 48).

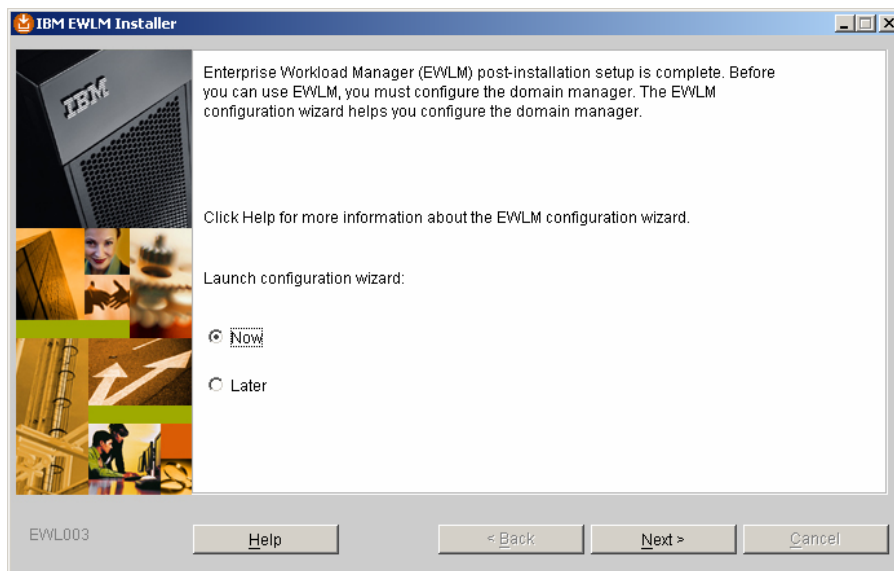


Figure 48. Configure the domain manager

2. Accept the default **Create domain manager and Control Center** option. Click **Next** (see Figure 49).

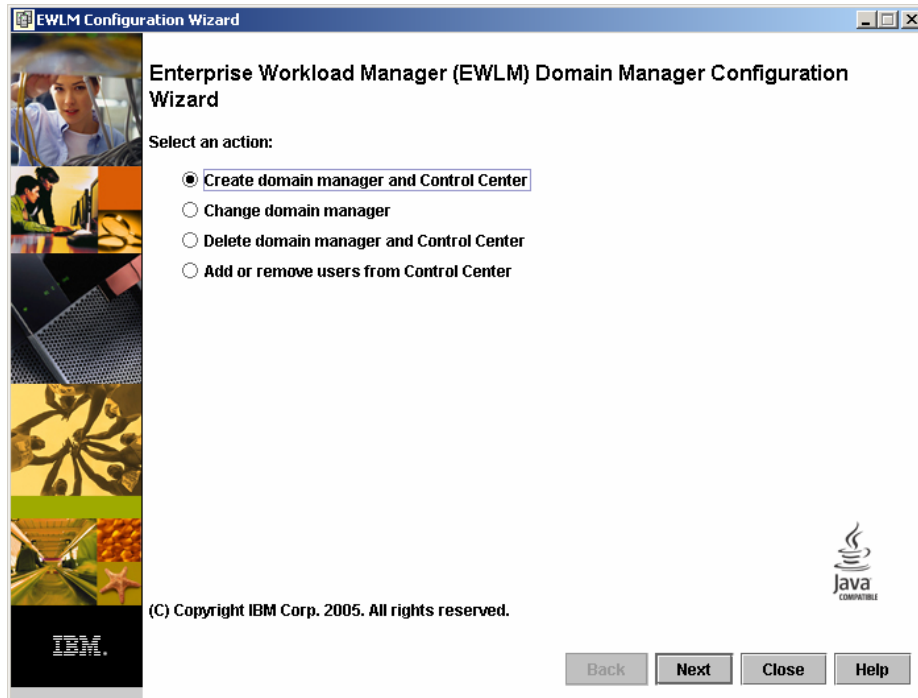


Figure 49. Accept Create domain manager and Control Center

3. Type an ID name of your choice. The `ewlmdm` configuration ID is used here as an example (see Figure 50). Click **Next**.

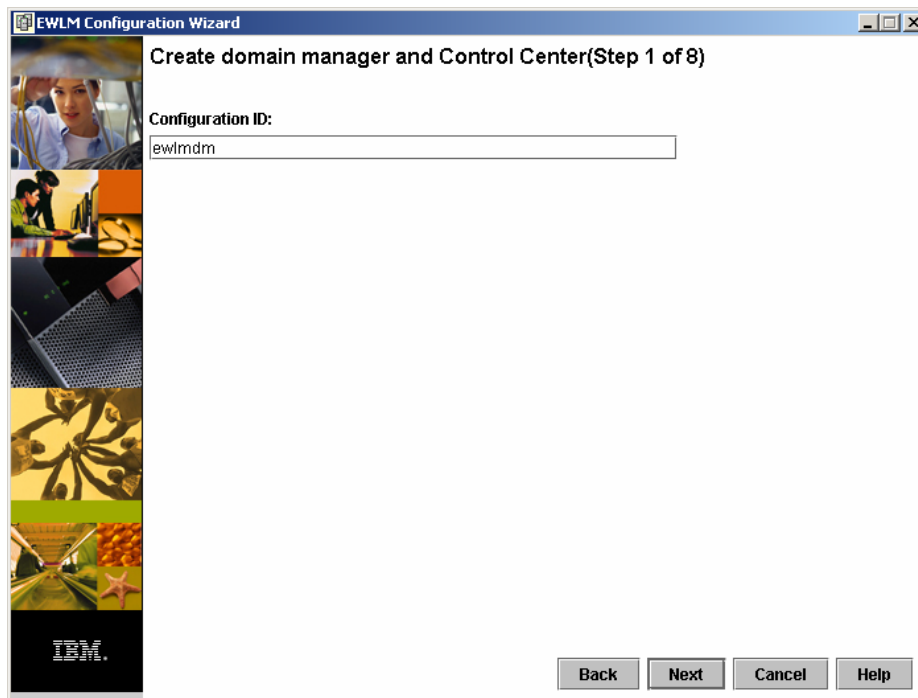


Figure 50. Provide configuration ID (Step 1 of 8)

4. Type a domain name of your choice. Then, type the IP address of the system where the domain manager was installed earlier (see Figure 51). Click **Next**.

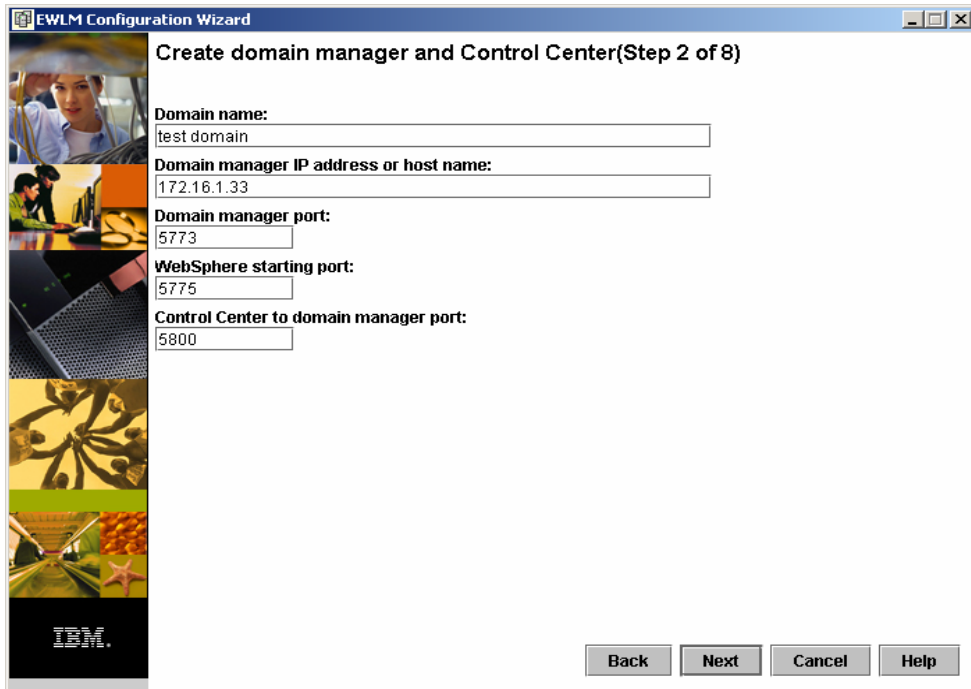


Figure 51. Create domain manager and Control Center (Step 2 of 8)

5. Click **Next** to select the default security level of **None** (see Figure 52). (**Note:** You should answer this according to your security considerations and needs.)

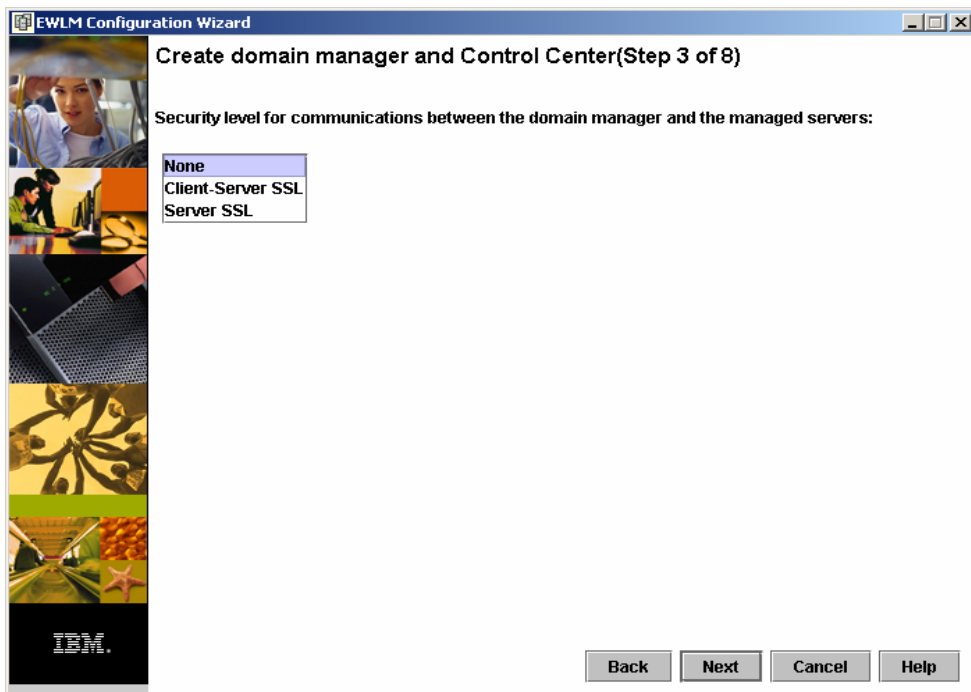


Figure 52. Create domain manager and Control Center (Step 3 of 8)

- In this example, **Next** is clicked to select the **EWLM default** choice (see Figure 53. Create domain manager and Control Center (Step 4 of 8)). (**Note:** You should answer this according to your security considerations and needs.)

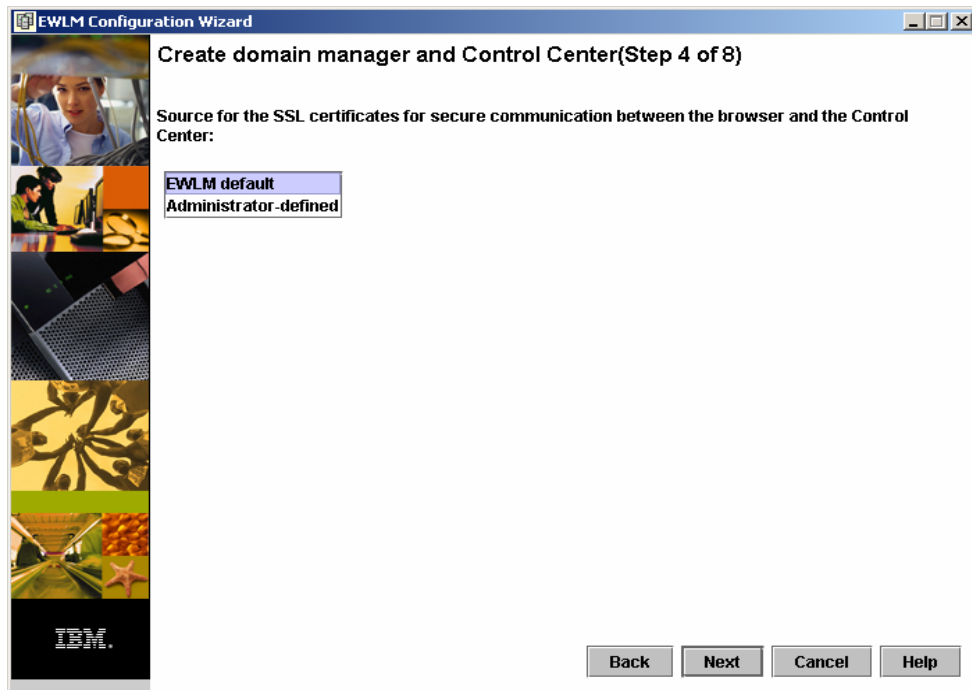


Figure 53. Create domain manager and Control Center (Step 4 of 8)

- Click **Next**. For the purposes of this example, nothing is selected on this screen (see Figure 54). (**Note:** Answer this according to your firewall considerations and needs.)

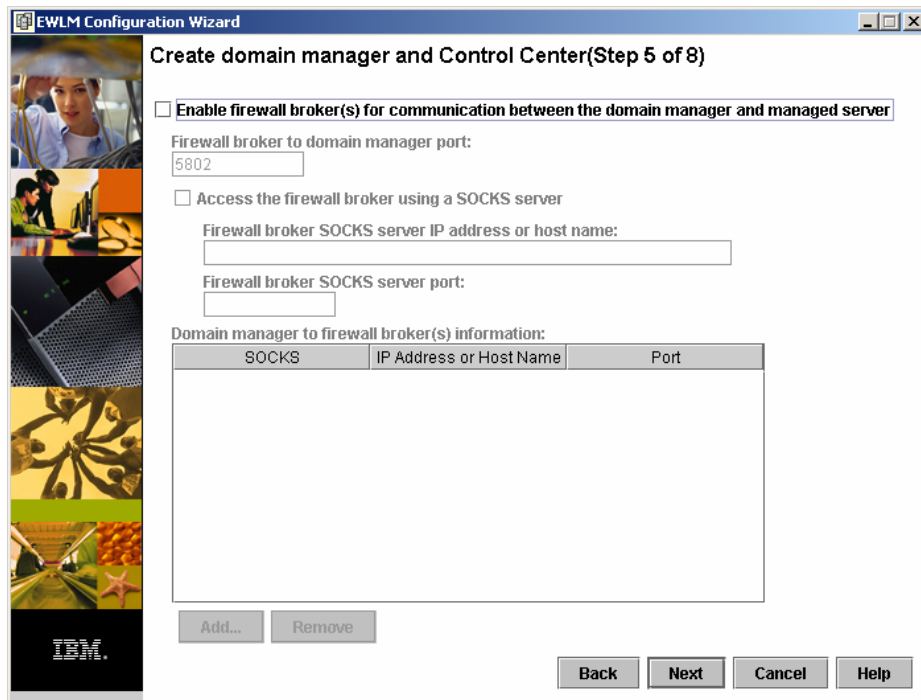




Figure 54. Create domain manager and Control Center (Step 5 of 8)

8. Type the Windows Administrator ID and password for WebSphere. Then, click **Next** (see Figure 55).

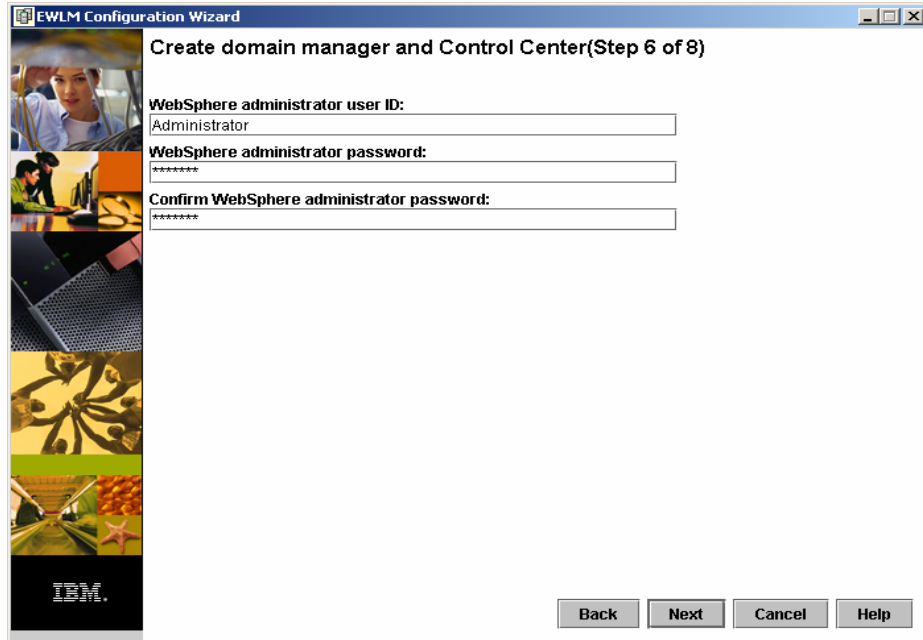


Figure 55. Create domain manager and Control Center (Step 6 of 8)

9. Type the Windows Administrator ID for the three EWLM roles (Administrator users, Operator users and Monitor users). Then, click **Next** (see Figure 56. Create domain manager and Control Center (Step 7 of 8)).

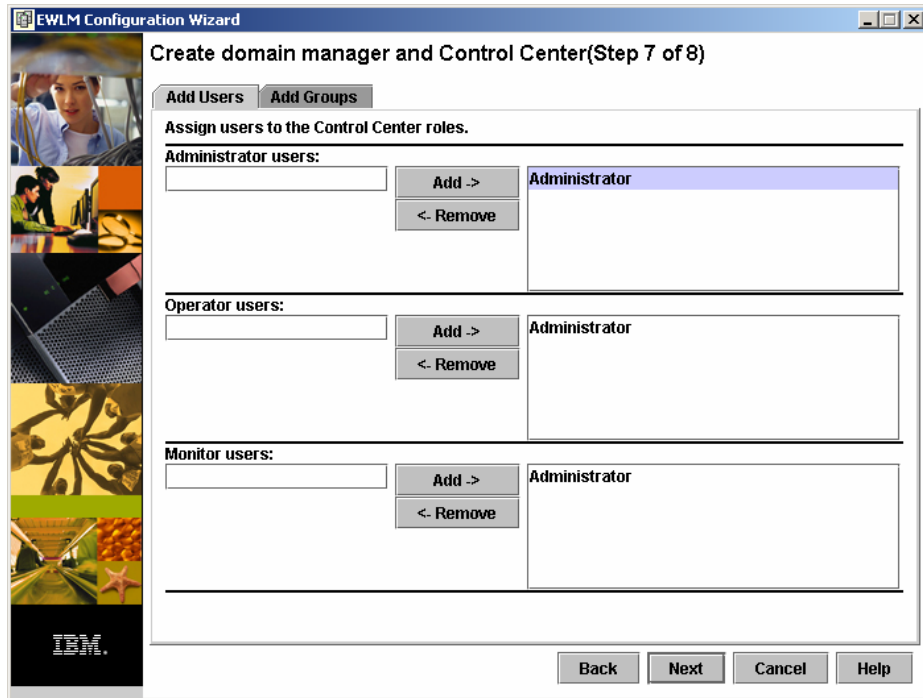


Figure 56. Create domain manager and Control Center (Step 7 of 8)

10. Click the “Start the domain manager and the Control Center” check box. Then, click **Finish** (see Figure 57).

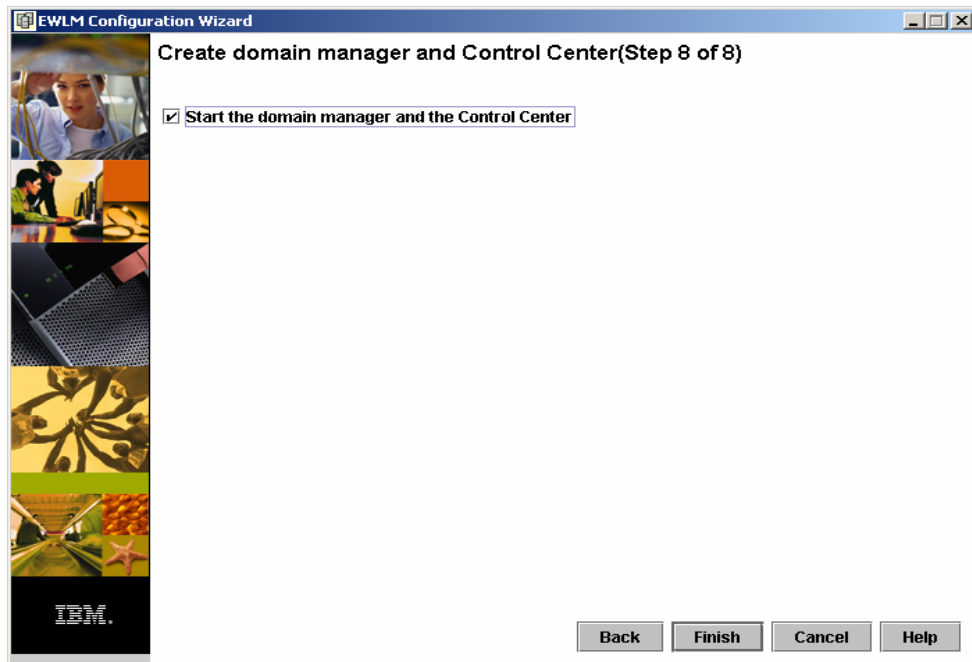


Figure 57. Create domain manager and Control Center (Step 8 of 8)

Figure 58 and Figure 59 show the configuration output, based on the previous steps.

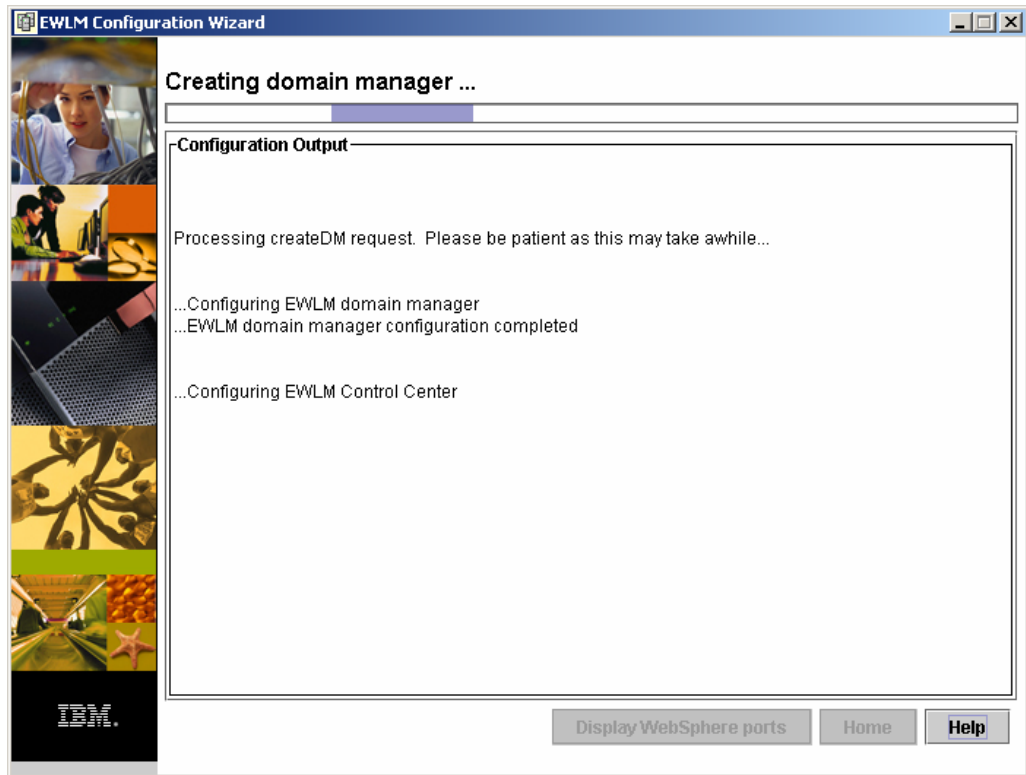


Figure 58. Processing the create domain manager request: Configuring EWLM domain manager

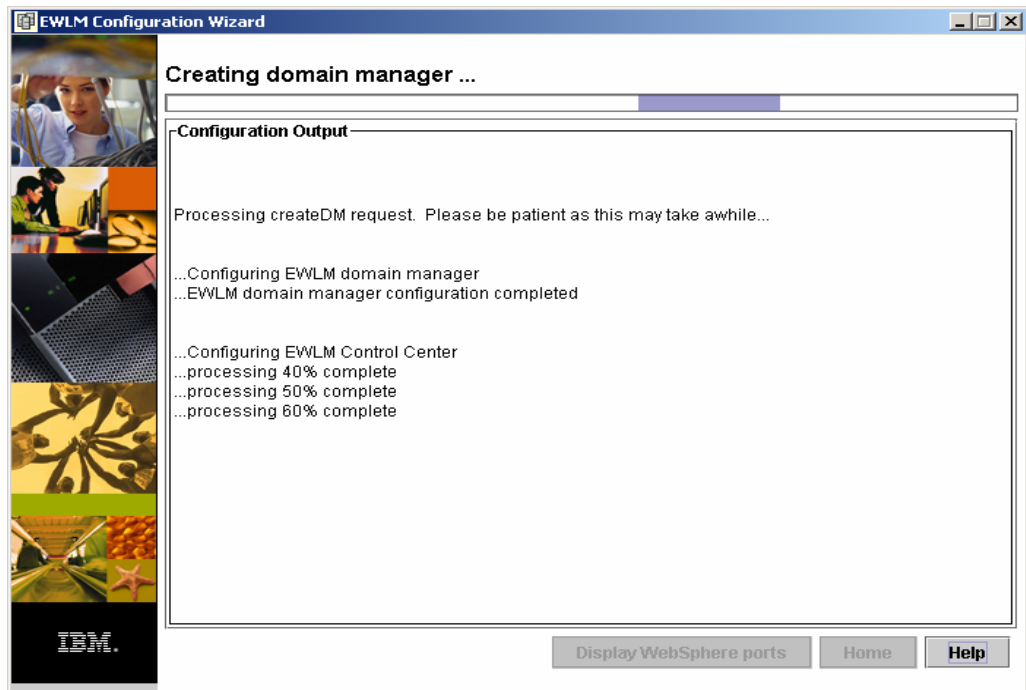


Figure 59. Processing the create domain manager request: Configuring EWLM Control Center

Figure 60 shows the progress screen for adding and removing users and groups to the Control Center.

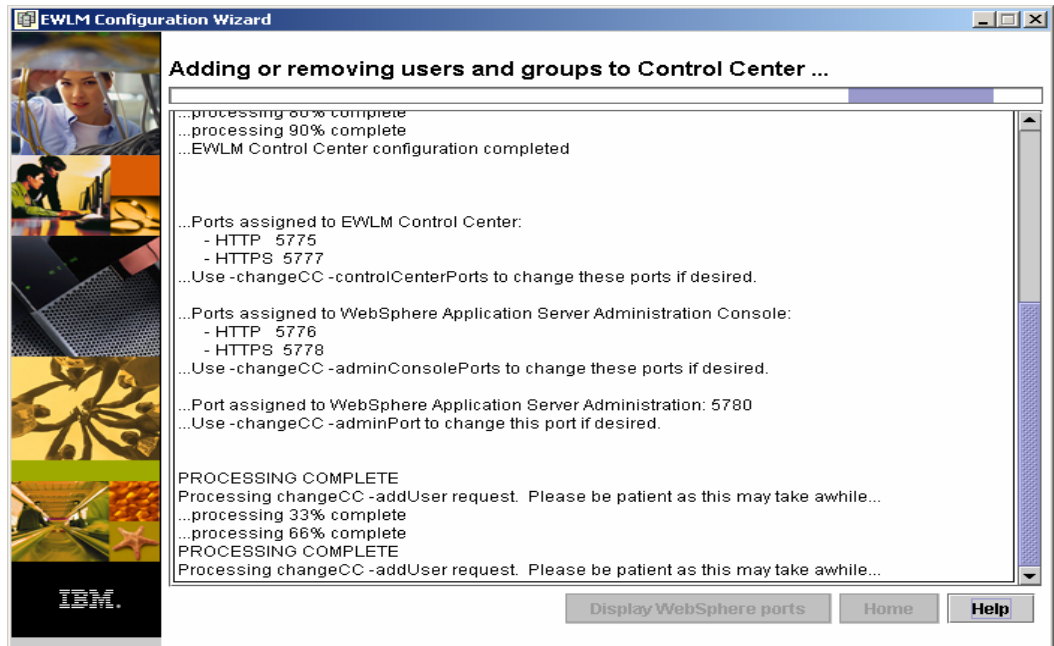


Figure 60. Adding or removing users and groups to the Control Center

Figure 61 shows that the Domain manager configuration is complete.

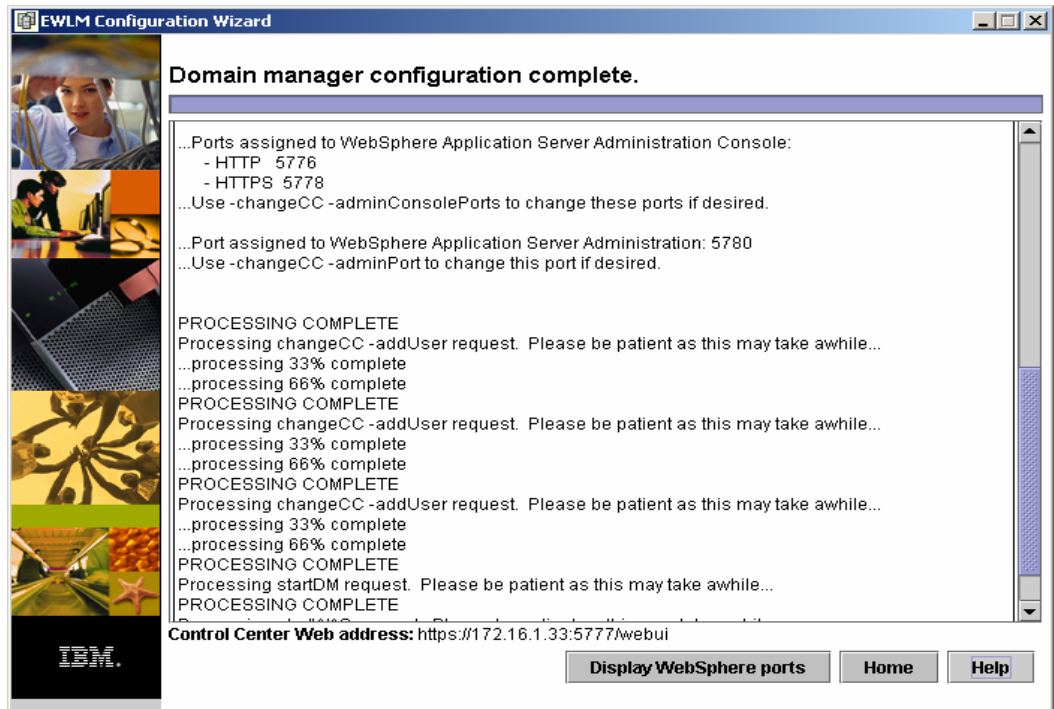


Figure 61. Domain manager configuration complete

## Opting to configure the EWLM domain server later

You can defer the EWLM domain manager configuration until a later time. If you choose this option, be sure to refresh your understanding of the configuration terms explained earlier.

1. To start the domain manager configuration later, run the configuration-wizard GUI tool by entering the following:

```
C:\program files\IBM\VE\EWLM\bin\configWizzardDM.sh
```

Or, use the equivalent EWLM command-line interface (see Figure 62 for command output):

```
>createDM.bat <DM name> -adminUser Administrator -adminPW <passwd>  
>-wasPorts 5775 -jp 5800 -ma <host name> -mp 5773 -auth None
```

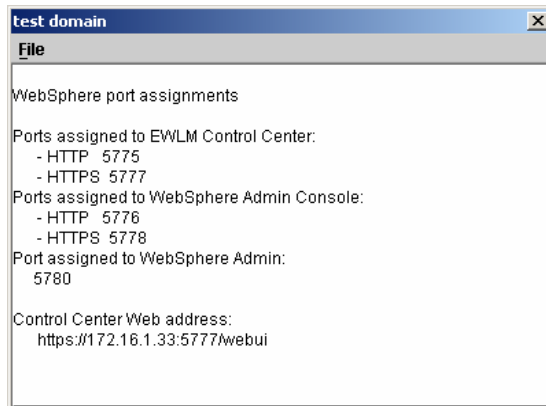


Figure 62. Test domain file: WebSphere port assignments

2. Figure 63 by entering the following command:

```
>cd \program files\IBM\VE2\ewlm\bin  
>displayDM.bat ewlmdm <the domain manager configuration ID>
```

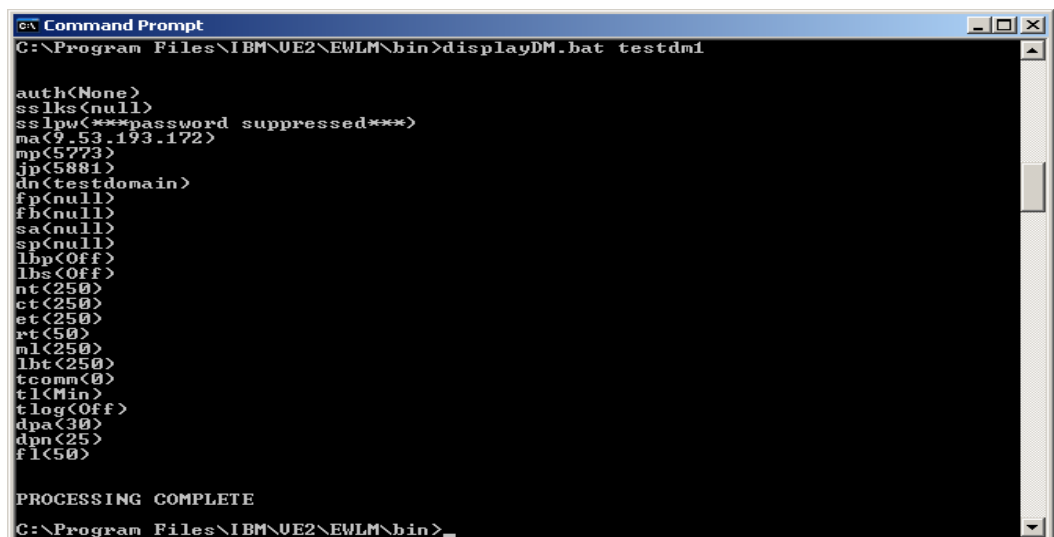


Figure 63. Response screen

The displayed values have the following meanings:

- **auth:** Authority level
- **sslks:** SSL key store
- **ma:** Domain manager address
- **mp:** Domain manager port
- **jp:** Jmx port
- **dn:** Domain name
- **fp:** Firewall broker port
- **fb:** Firewall broker list
- **sa:** Socks host
- **sp:** Socks port
- **lbp:** LB public port
- **lbs:** LB secure port
- **nt;** Communication trace
- **ct:** Component trace
- **et:** Event trace
- **rt;** Reporting trace
- **ml:** Message log
- **lbt:** Load balancing trace
- **tcomm:** Trace distribution hub broker
- **tl:** Trace level
- **tlog:** Trace plug-in
- **dpa:** Dump retention age
- **dpn:** Dump retention quantity
- **fl:** Failure limit

3. It is also possible to check:

- The various user roles for using the Control Center (see Figure 64)
- The various ports used by the domain manager (see Figure 64)

```

C:\Program Files\IBM\UE2\EWLM\bin>displayCC.bat -users testdm1 -adminUser Administrator -adminPW junk123
Processing displayCC request. Please be patient as this may take awhile...
...processing 33% complete
Role: Administrator
Mapped Users: Administrator
Role: Operator
Mapped Users: Administrator
Role: Monitor
Mapped Users: Administrator
...processing 66% complete
PROCESSING COMPLETE

C:\Program Files\IBM\UE2\EWLM\bin>displayCC.bat -ports testdm1 -adminUser Administrator -adminPW junk123
Processing displayCC request. Please be patient as this may take awhile...
...processing 33% complete
...Ports assigned to EWLM Control Center:
- HTTP 5775
- HTTPS 5777
...Use -changeCC -controlCenterPorts to change these ports if desired.
...Ports assigned to WebSphere Application Server Administration Console:
- HTTP 5776
- HTTPS 5778
...Use -changeCC -adminConsolePorts to change these ports if desired.
...Port assigned to WebSphere Application Server Administration: 5780
...Use -changeCC -adminPort to change this port if desired.
...processing 66% complete
PROCESSING COMPLETE
C:\Program Files\IBM\UE2\EWLM\bin>

```

Figure 64. Checking the different user roles



## Verifying EWLM and Control Center work

You can verify that your EWLM domain manager is installed and configured correctly.

1. Open a browser from any PC client on the network. Then, specify the URL with the domain manager host name and port number that is assigned to the EWLM Control Center in your environment:

`https://<Domain Manager hostname>:5777/webui`

This brings up the Control Center (see Figure 65).

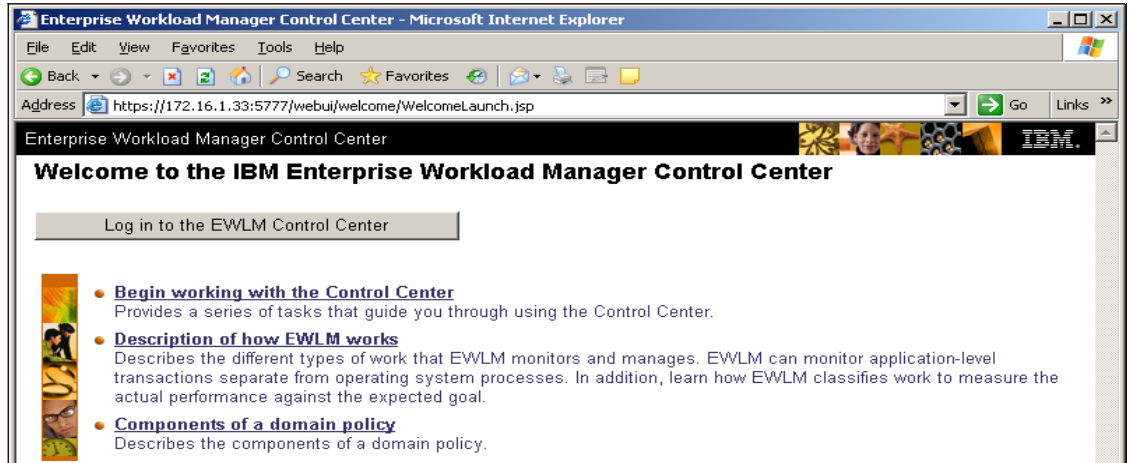


Figure 65. Log in to the EWLM Control Center

2. Enter one of the user IDs that is mapped to the EWLM Control Center role. In this sample environment, it is *Administrator* (see Figure 66).

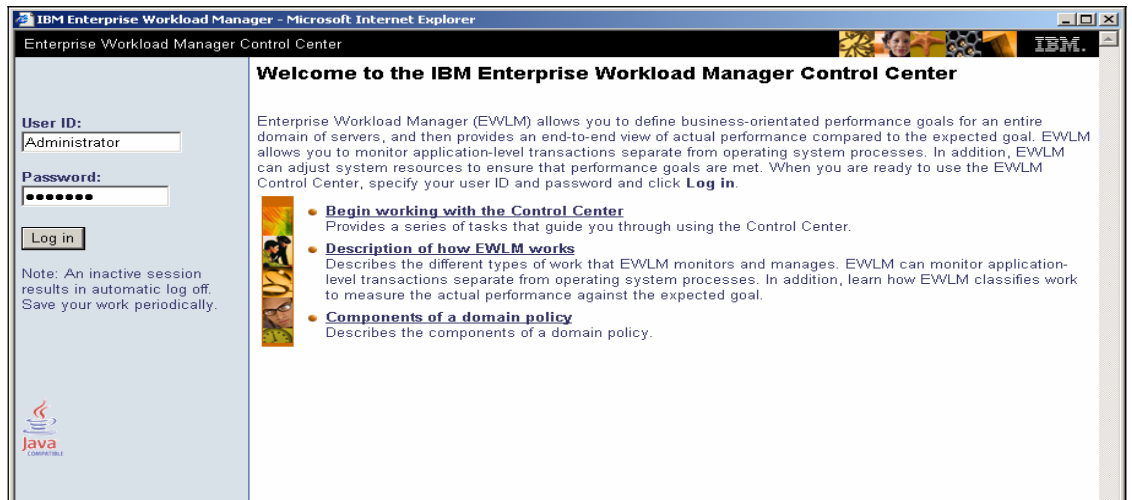


Figure 66. Log in as Administrator



A successful login will bring up a top-level Control Center page (see Figure 67).



Figure 67. Top-level Control Center page

EWLM domain manager has a runtime dependency on LDAP and DB2. In this installation example, all of these components are installed on a single Windows 2003 Server system and are presented as services. To ensure a successful invocation of EWLM domain manager, it is a good practice to check the state of these services from the Windows Services panel.

Figure 68 and Figure 69 show the state details of these services.

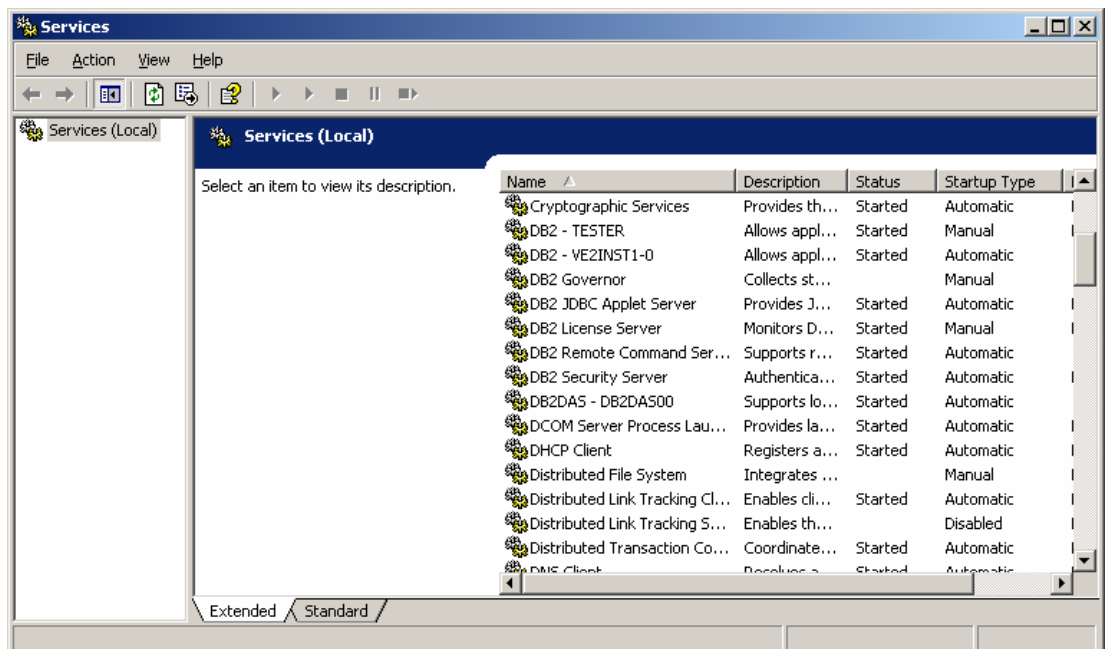


Figure 68. Services (Local) screen

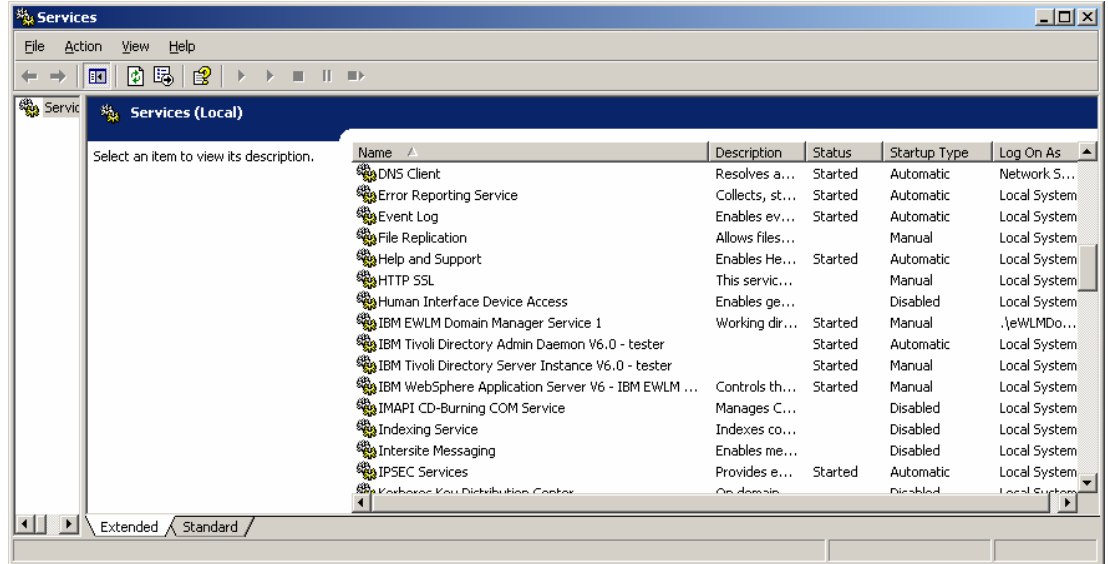


Figure 69. Select service to view description

3. From the PC client, select the following:

**Start -> Administrator -> Services**

The start sequences are as follows:

- a. Start DB2 – Tester
  - b. Start IBM Tivoli Directory Server instance
  - c. Start IBM WebSphere Application Server V6
  - d. Start IBM EWL domain manager Service 1
4. After changing the IP address for the domain manager, you must update the **hosts** file (Windows\system32\drivers\etc\hosts) accordingly.

For example, an entry in the file looks like this:

```
38.25.63.10      x.acme.com
```

## Installing EWLM managed server

Now, you can move on to the EWLM managed server (MS) installation process.

1. There are three files in the EWLM domain manager product package. Put all three of these files into one directory and run the EWLMMSSWin.exe program (see Figure 70).

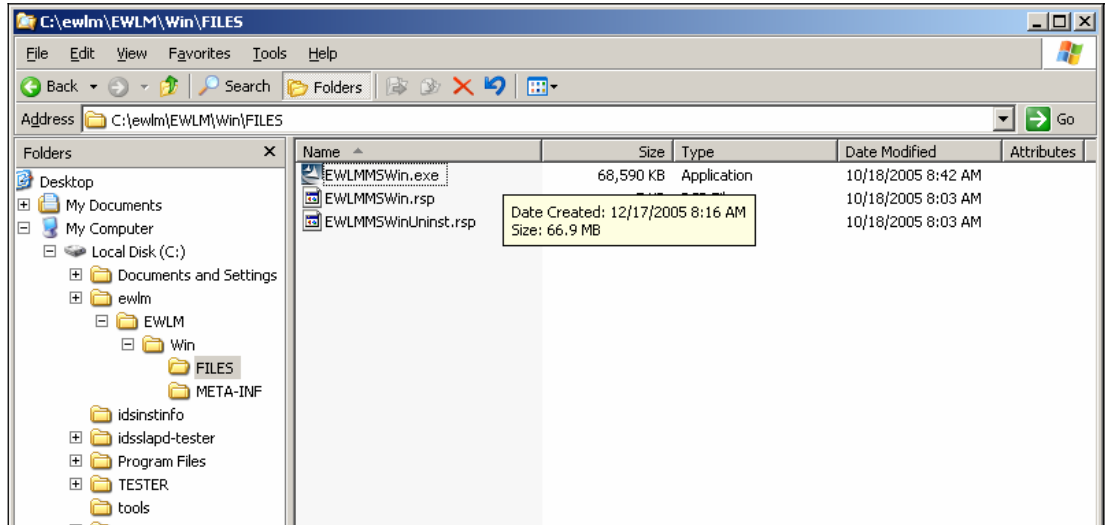


Figure 70. The EWLMMSSWin.exe program

You can now install the IBM EWLM managed server. Click **Next** (see Figure 71).



Figure 71. Ready to install IBM Enterprise Workload Manager

2. Accept the default directory name and click **Next** (see Figure 72):

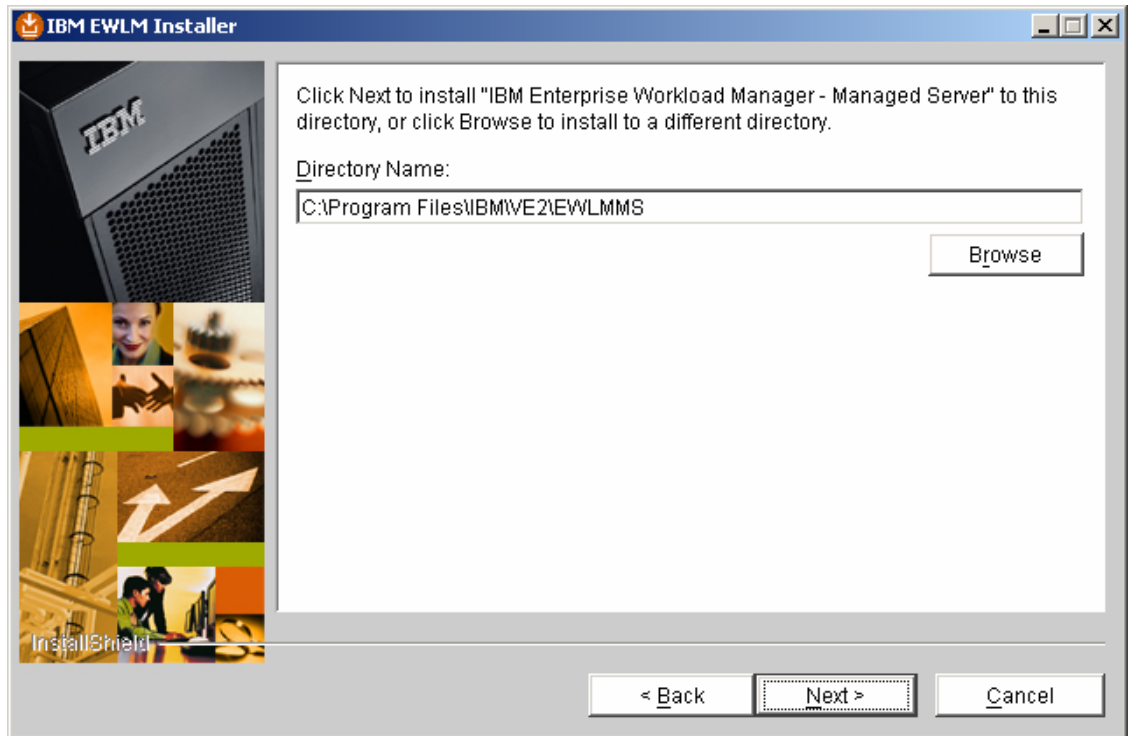


Figure 72. Use default directory name

3. Accept the default directory again by clicking **Next** (see Figure 73).

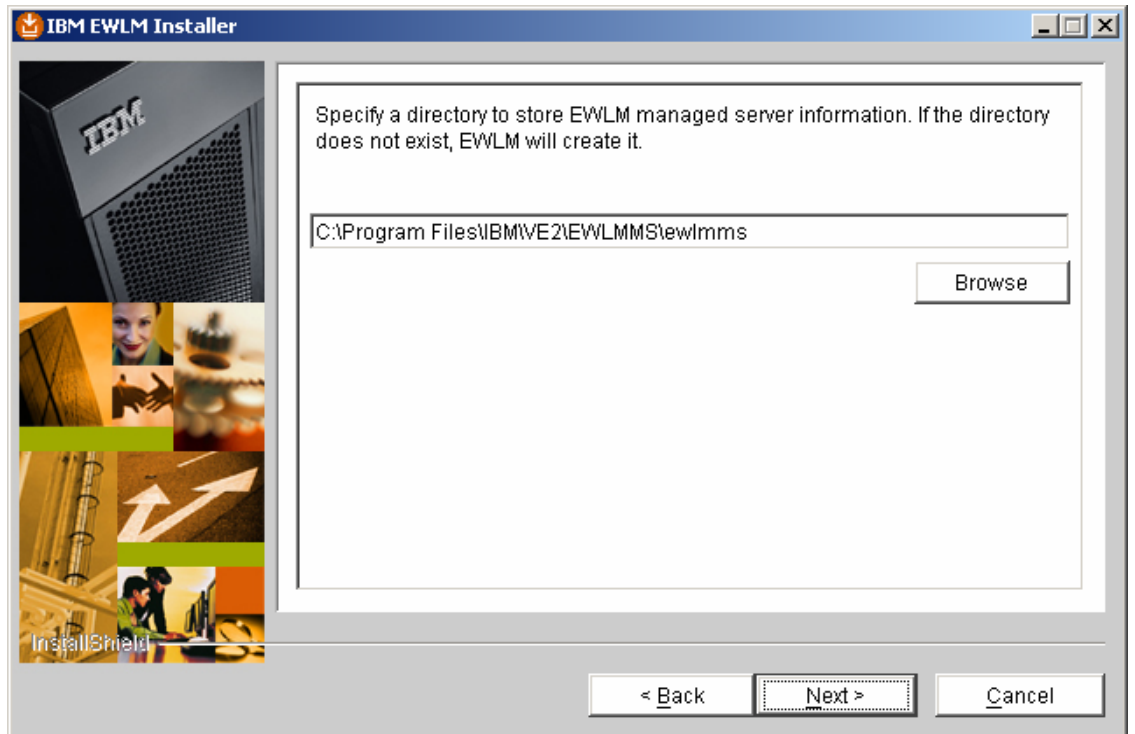


Figure 73. Accept the default directory again

4. Select the **Managed Server** option and click **Next** (see Figure 74).

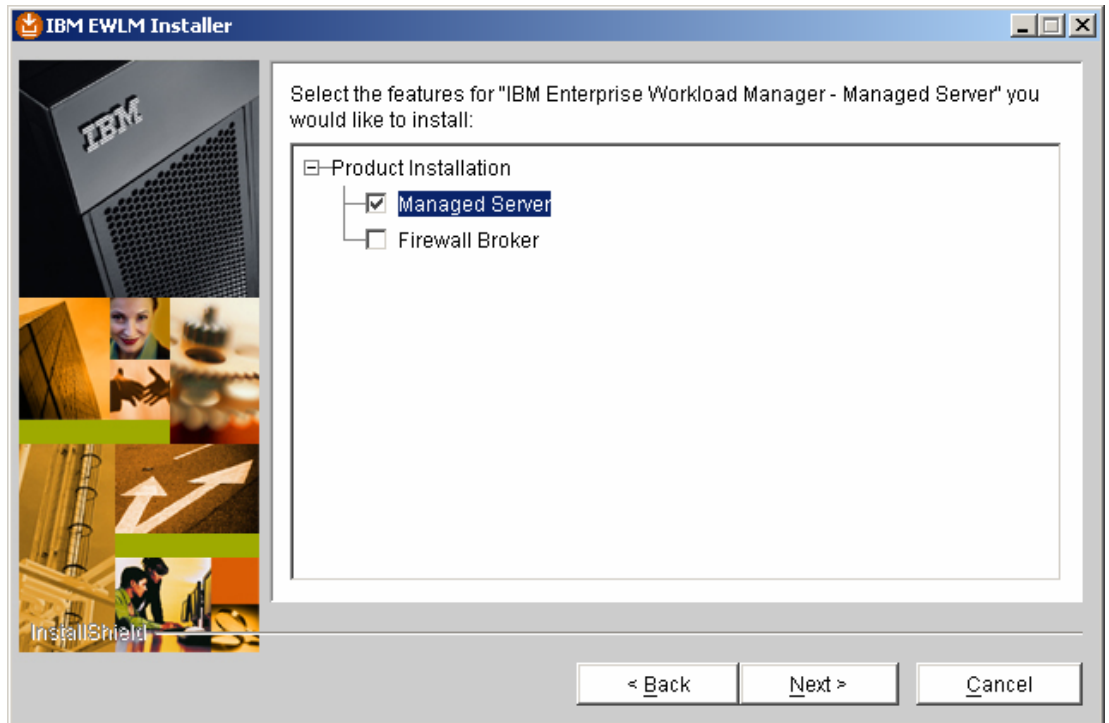


Figure 74. Select **Managed Server**

5. Review the EWLM manager server summary information and then click **Next** (see Figure 75).

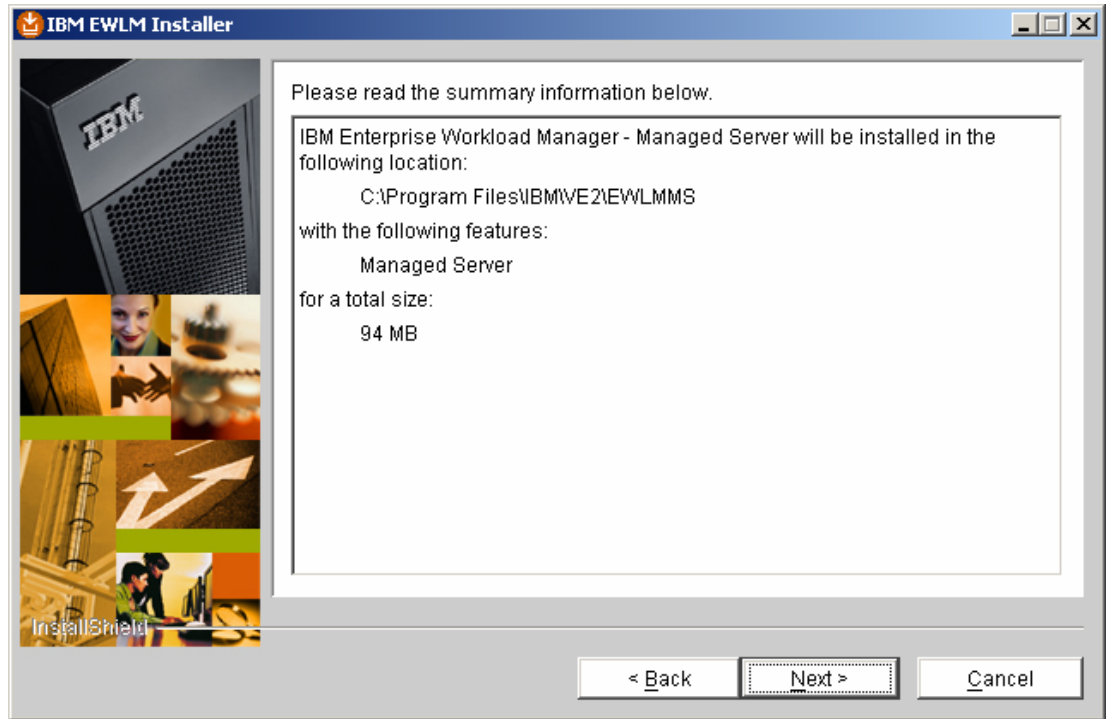


Figure 75. Directory and features of the managed server

6. After reading this explanatory message, click **Next** (see Figure 76).

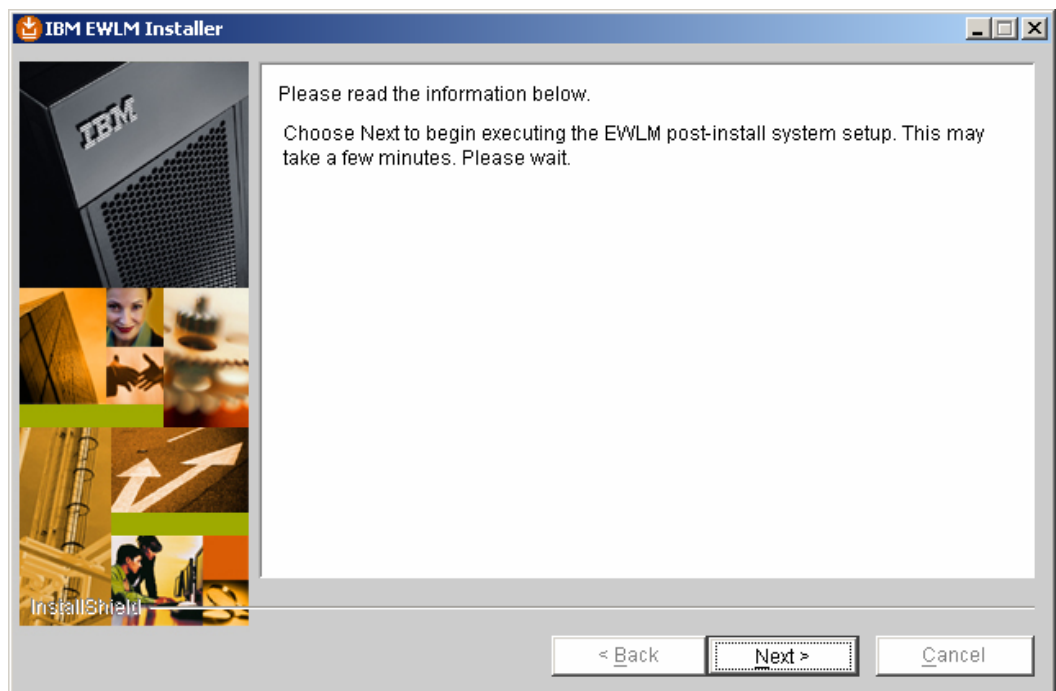


Figure 76. **Next** begins the EWLM post-install system setup

## Configuring EWLM managed server

You can launch the EWLM managed server configuration wizard now or choose to do so later (just as you can for the ESLM domain server configuration).

### Opting to configure EWLM domain server now

In this example, you continue with the EWLM managed manager installation.

1. To launch the EWLM managed server configuration wizard, accept the **Now** default and click **Next** (see Figure 77).

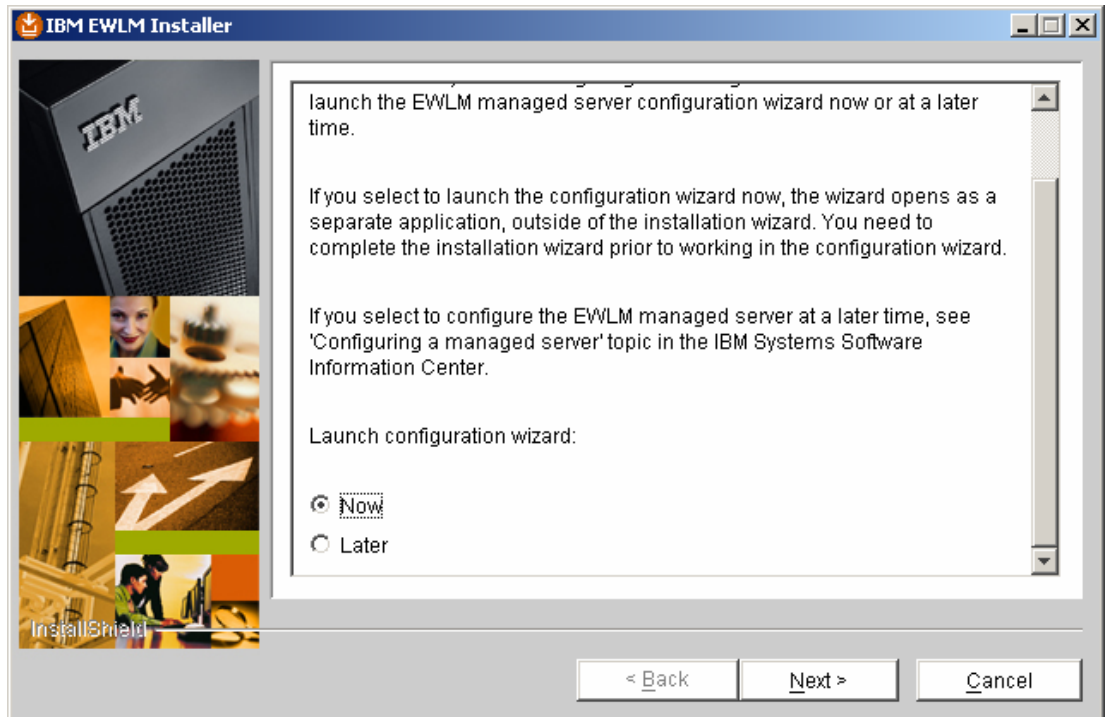


Figure 77. Selecting **Now** launches the EWLM managed server configuration wizard

2. Select **Reboot now** and click **Next** (see Figure 78).

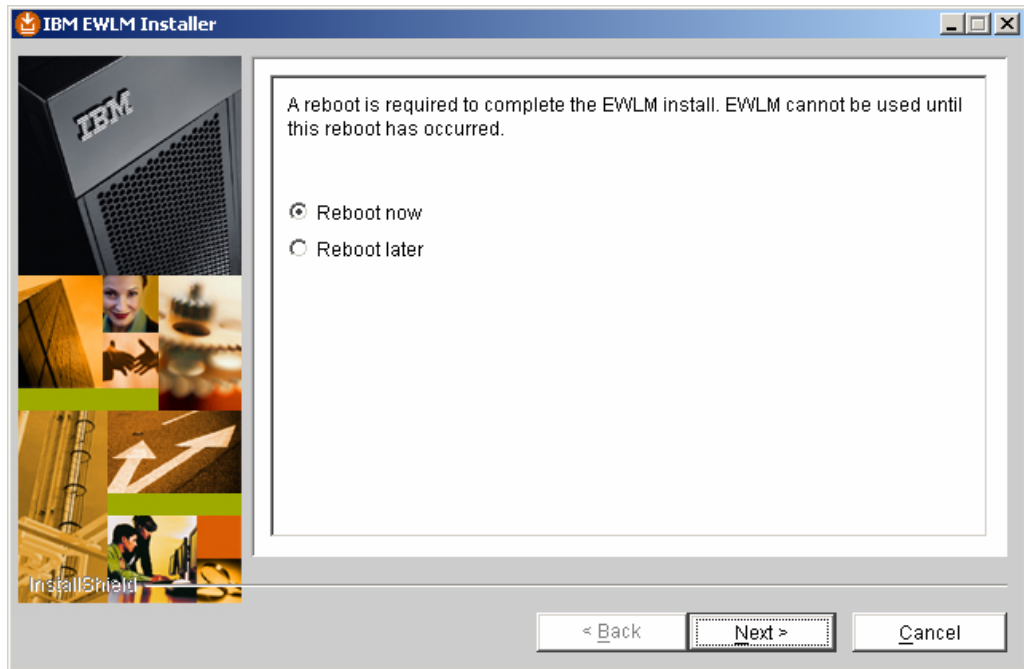


Figure 78. Reboot required for the EWLM configuration

3. Click **Finish** to complete the EWLM managed server installation (see Figure 79).

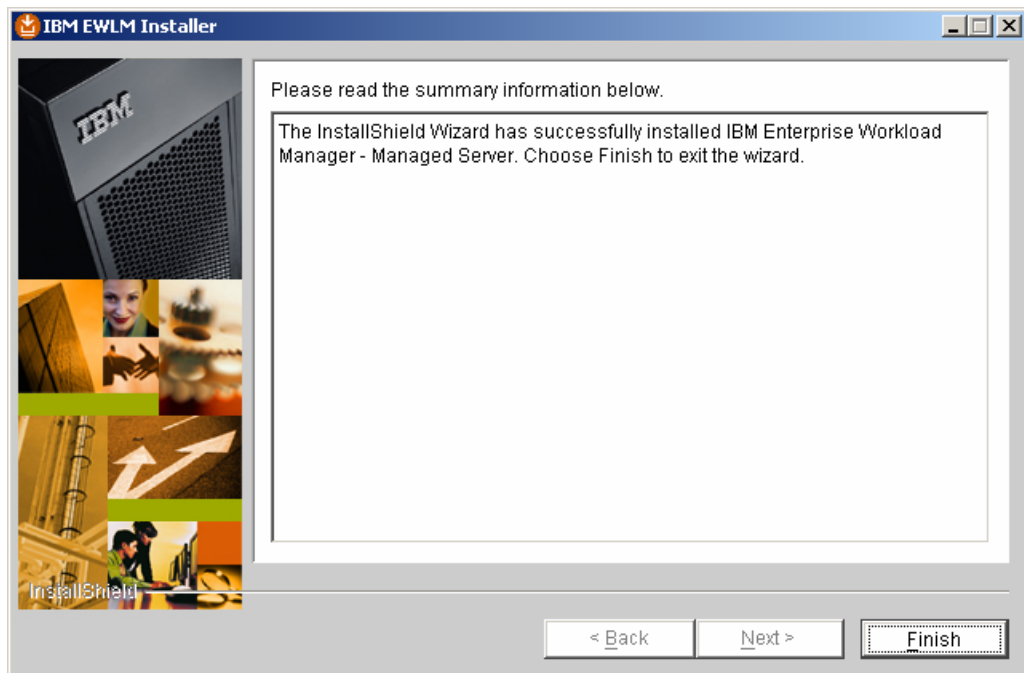


Figure 79. Successful installation of managed server

4. Now, configure the managed-server environment by running the following command:  
`c:\Program Files\IBM\VE2\EWLMMS\bin\configWizardMS.bat .`



5. You will see the screen shown in Figure 80. Select **Create managed server** and click **Next**.

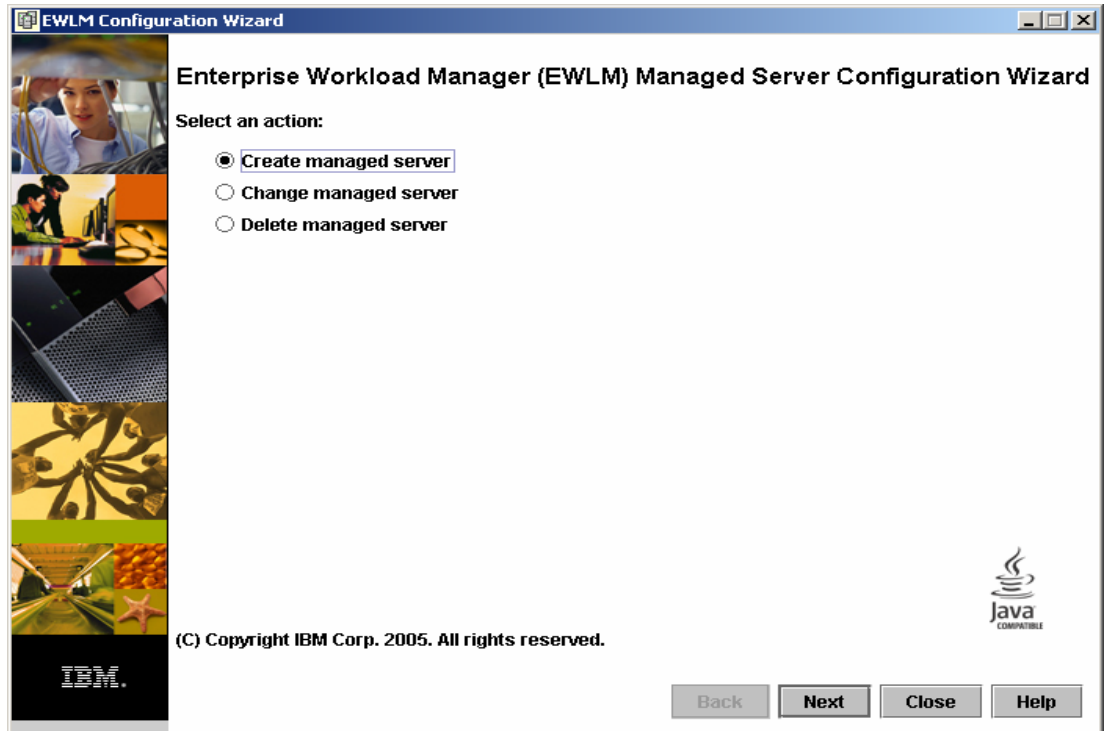


Figure 80. Create managed server

6. Type your configuration ID. This example uses ewlmms as the ID (see Figure 81).

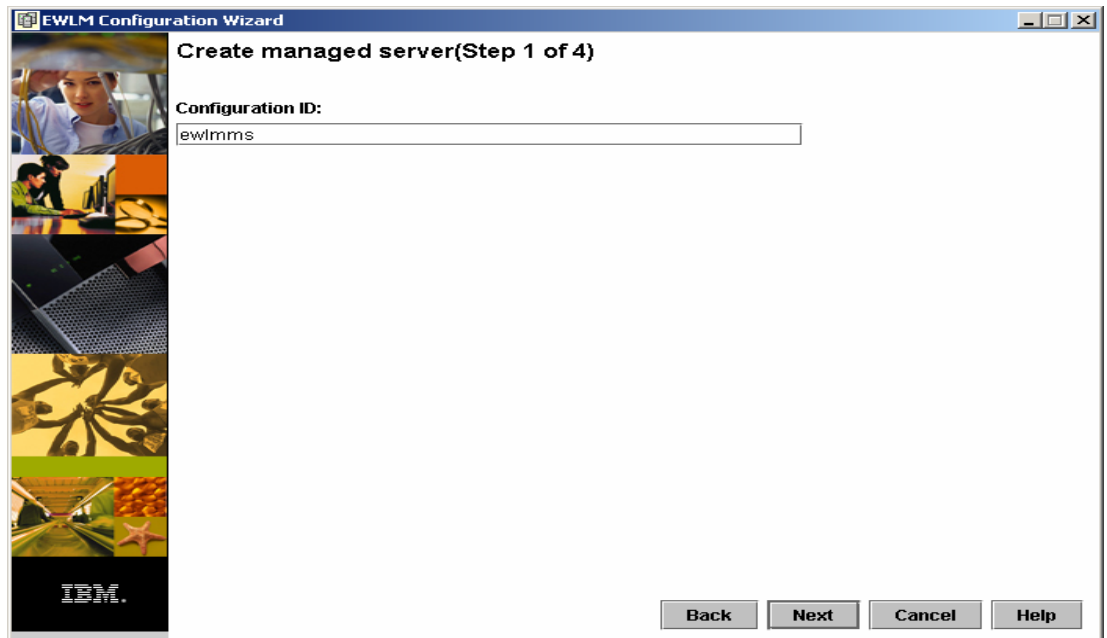


Figure 81. Type ID of choice

7. Enter the system's IP address. In this example, it is 172.16.1.33 (see Figure 82).

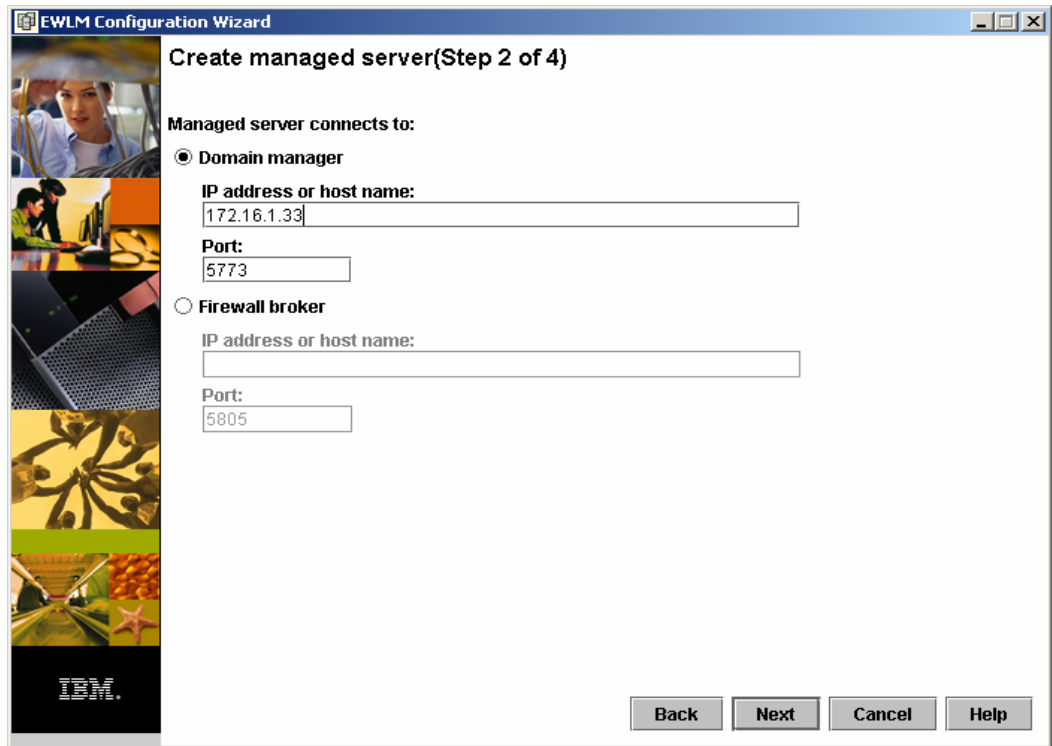


Figure 82. System's IP address

8. Select **None** as the security level for communication between the managed server and domain server. Then click **Next** (see Figure 83).

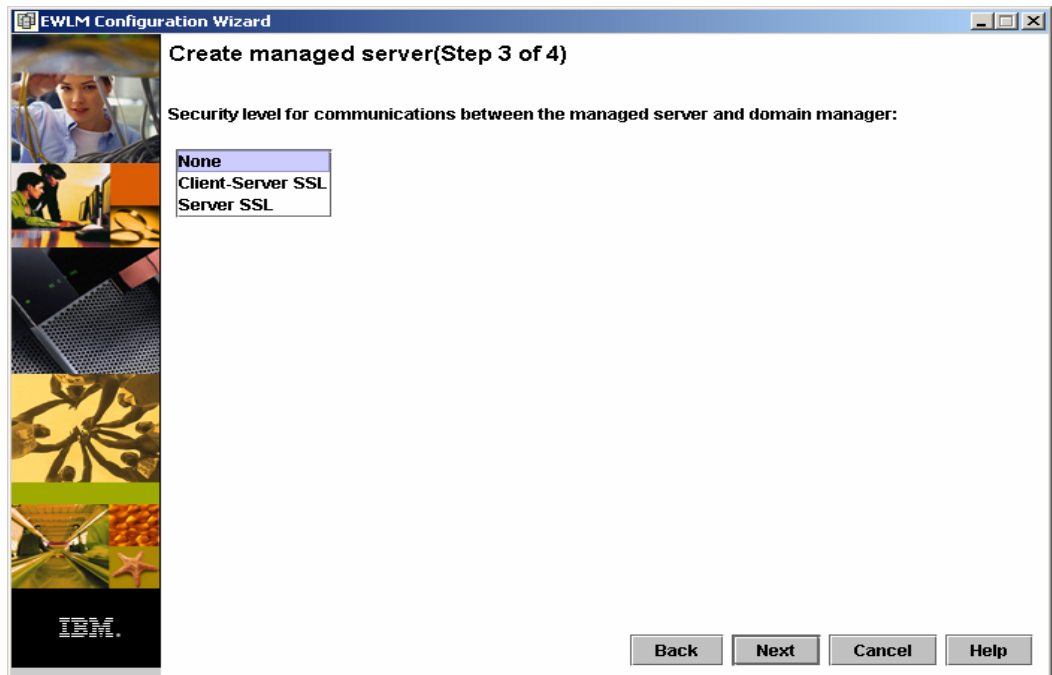


Figure 83. Choosing security level between managed server and domain manager

- You can ignore the proxy server prompt and click **Finish** (see Figure 84).

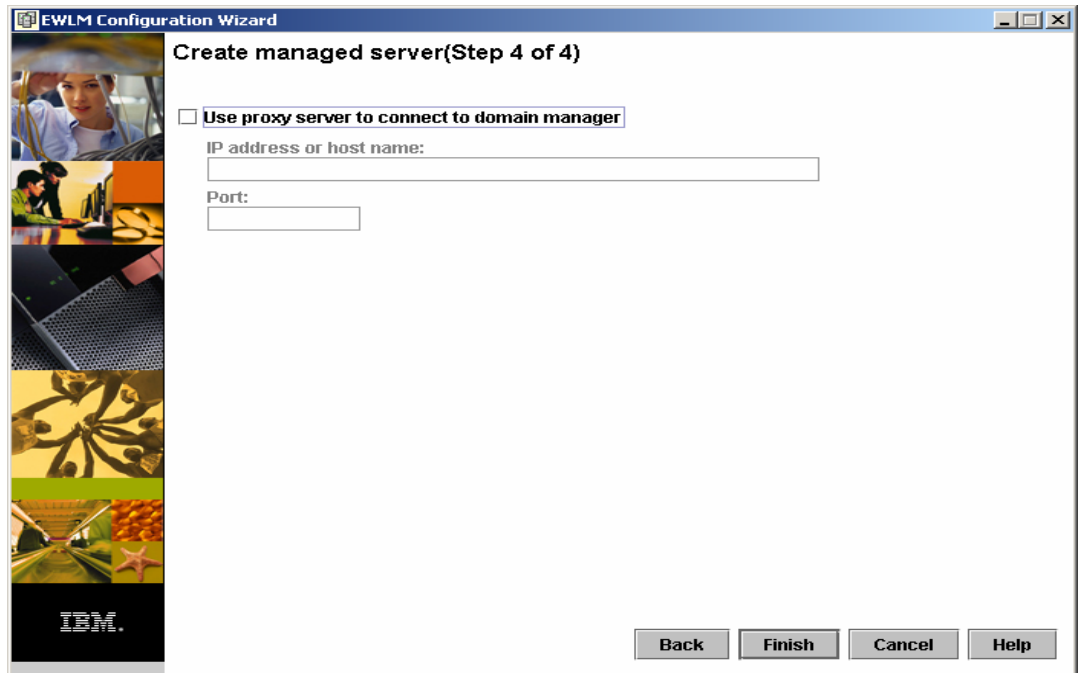


Figure 84. Configuration steps complete

Finally, the wizard presents the screen shown in Figure 85 (a successful installation).

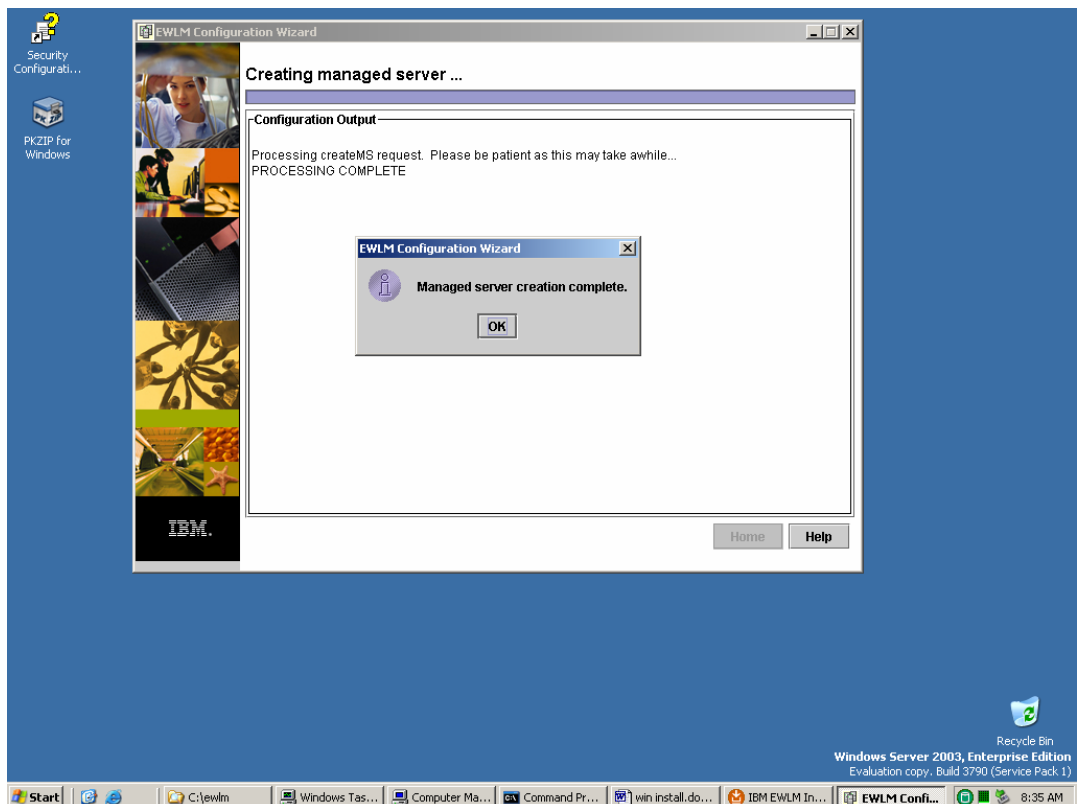


Figure 85. Successful creation of a managed server

## Using the EWLM Control Center

The following two screen captures (Figure 86 and Figure 87) show how to start the EWLM domain manager and managed-server processes. The first step is to start a special WebSphere Application Server instance because EWLM domain manager runs in a WebSphere environment.

1. Enter the following commands:

```
>cd c:\program Files\IBM\VE2\EWLM\bin
>startwas.bat ewlmdm
>startdm.bat ewlmdm
```

```

c:\ Command Prompt
07/22/2005 10:56 AM          3,050 startDM.bat
07/22/2005 10:57 AM          1,979 startWAS.bat
          2 File(s)          5,029 bytes
          0 Dir(s) 12,014,075,904 bytes free

C:\Program Files\IBM\VE2\EWLM\bin>startwas.bat ewlmdm
Processing startWAS request. Please be patient as this may take awhile...
Server started successfully.
PROCESSING COMPLETE

C:\Program Files\IBM\VE2\EWLM\bin>startdm.bat ewlmdm
Processing startDM request. Please be patient as this may take awhile...
PROCESSING COMPLETE

C:\Program Files\IBM\VE2\EWLM\bin>cd ....\ewlmms
C:\Program Files\IBM\VE2\EWLMMS>cd bin
C:\Program Files\IBM\VE2\EWLMMS\bin>dir *.bat
Volume in drive C has no label.
Volume Serial Number is 3810-1544

Directory of C:\Program Files\IBM\VE2\EWLMMS\bin

```

Figure 86. How to start the EWLM domain manager and managed server

2. Start the EWLM managed server process by entering the following command (see Figure 87):

```
>startms.bat ewlmms
```

```

c:\ Command Prompt - startms.bat ewlmms
PROCESSING COMPLETE

C:\Program Files\IBM\VE2\EWLM\bin>cd ....\ewlmms
C:\Program Files\IBM\VE2\EWLMMS>cd bin
C:\Program Files\IBM\VE2\EWLMMS\bin>dir *.bat
Volume in drive C has no label.
Volume Serial Number is 3810-1544

Directory of C:\Program Files\IBM\VE2\EWLMMS\bin
07/22/2005 10:49 AM          1,644 changeMS.bat
07/22/2005 10:50 AM          2,097 configWizardMS.bat
07/22/2005 10:51 AM          3,078 createMS.bat
07/22/2005 10:52 AM          2,145 deleteMS.bat
07/22/2005 10:55 AM          1,651 displayMS.bat
12/17/2005 08:30 AM          1,313 ewlmms_environment.bat
07/22/2005 10:57 AM          3,232 startMS.bat
07/22/2005 10:59 AM          1,742 stopMS.bat
          8 File(s)          16,902 bytes
          0 Dir(s) 12,017,094,656 bytes free

C:\Program Files\IBM\VE2\EWLMMS\bin>startms.bat ewlmms

```

Figure 87. Starting the managed server process

From the EWLM Control Center, you can view (or disable) an EWLM-managed server in the EWLM domain (see Figure 88).

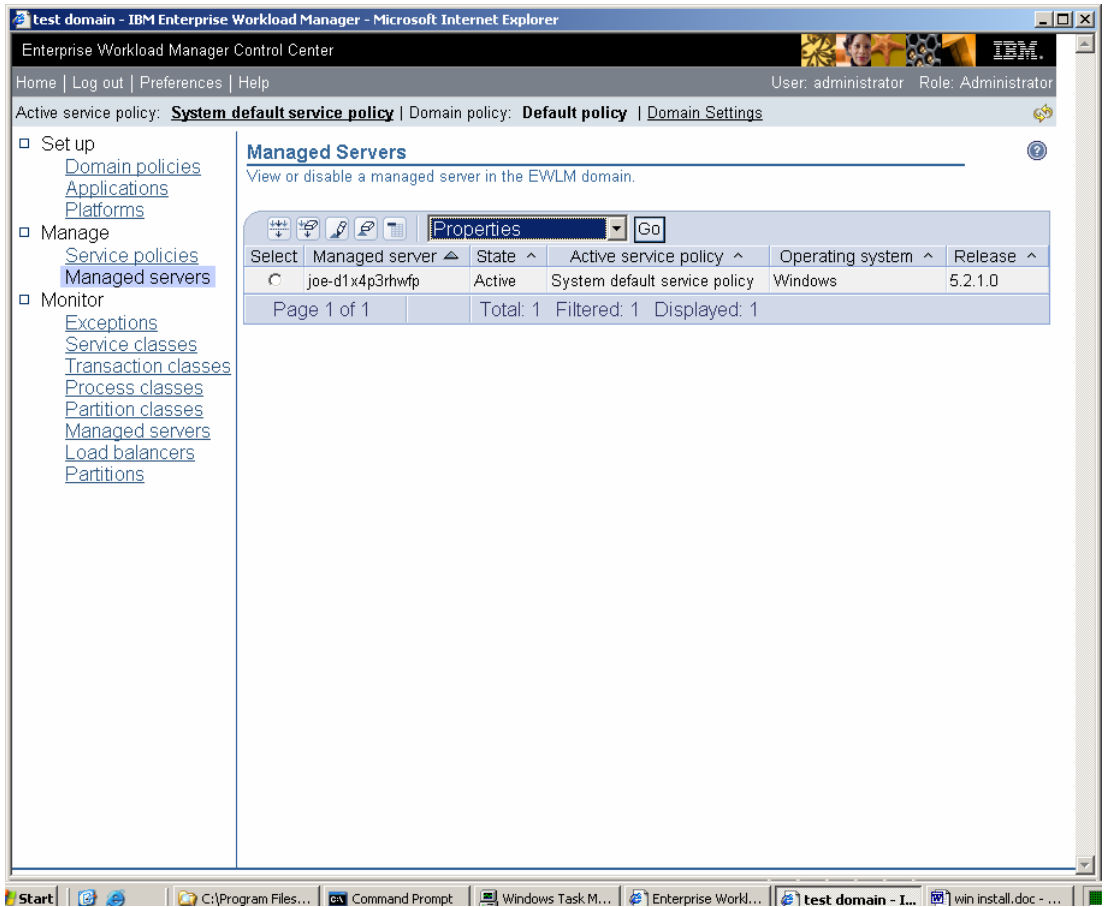


Figure 88. View or disable a managed server



## Summary

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You should now have a better understanding of how to install the IBM Enterprise Workload Manager products, including the EWLM Virtualization Engine domain manager and managed server components on a Microsoft Windows 2003 Server.



## Resources

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These Web sites provide useful references to supplement the information contained in this document:

- IBM eServer iSeries™ Information Center  
<http://publib.boulder.ibm.com/series/>
- IBM System p™ and AIX Information Center  
<http://publib.boulder.ibm.com/infocenter/pseries/index.jsp>
- IBM Publications Center  
[www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US](http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US)
- IBM Redbooks™  
[www.redbooks.ibm.com/](http://www.redbooks.ibm.com/)
- IBM eServer Software Information Center  
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## About the authors

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Lee Cheng currently works as a senior consultant for System p and IBM AIX® software vendors. She provides support in the areas of application benchmarks, performance tuning, application porting and internationalization. Before joining the System p Independent Solution Vendor (ISV) Technical Support group, she was a developer for compilers and the AIX system-management component. She holds an MS in Computer Science from the University of Kentucky.

Joseph Pu is an AIX technical consultant in the IBM Systems group. His focus is in the area of AIX performance, tuning and sizing. Joe has extensive experience in software development, from graphics to software simulation. He started his AIX development experience more than 10 years ago. Joe graduated from the University of Texas at Austin, with a degree in Computer Science. He can be reached at [joepu@us.ibm.com](mailto:joepu@us.ibm.com).



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