

**WA2088 WebSphere Application
Server 8.5 Administration on
Windows**

Classroom Setup Guide

Web Age Solutions Inc.

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Part 1 - Minimum Hardware Requirements

- 2.5 GHz Pentium
- 2 GB Memory (4 GB recommended)
- 20 GB disk space
- Network connectivity to the internet
- Each machine must have a static host name

Part 2 - Minimum Software Requirements

- One of the following Windows versions:
 - Windows XP Professional with SP3
 - Windows Server 2003 with SP2
 - Windows Vista (Business, Enterprise, or Ultimate)
 - Windows Server 2008 with SP1
- Internet Explorer 7 or Internet Explorer 8
- Adobe Acrobat Reader
- WinZip
- Apache JMeter 2.3.4*
- IBM DB2 V9.5 Express Edition *
- IBM WebSphere Application Server Network Deployment v8.5 *#
- IBM WebSphere Application Server v8.5 Supplement *
- IBM WebSphere MQ v7.5 Trial *

* - indicates software provided as part of the courseware.

- indicates software that the client must have licenses to use the product.

Part 3 - Software Provided

You will receive the following files:

- **WA2088_1.ZIP**
- **WA2088_2.ZIP**

All other software listed under Minimum Software Requirements is either commercially licensed software that you must provide or software that is freely available off the Internet.

Part 4 - Important Ghosting or Imaging Information

Some of the software installed for this course will not function after changing the computer hostname. As such, cloning or imaging should not be used on a fully installed system.

You can save time by extracting the contents of the USB memory stick to C:\ on a clean OS install (no other software installed) and then imaging that hard drive. After restoring the image to the other computers and changing the hostnames, you can then install the software on each computer individually by following the instructions that are detailed later in this document.

Part 5 - Instructions

__1. Ensure that a user that is a member of the Administrators group is available for the students to use during class.

__2. Extract both the **WA2088_1.ZIP** and **WA2088_2.ZIP** files to C:\

__3. Review that the following folders were created:

- C:\LabFiles
- C:\Software\DB2 v9.5 Express Edition
- C:\Software\jakarta-jmeter-2.3.4
- C:\Software\WAS ND v85
- C:\Software\WebSphere MQ v7.5 Trial

__4. Review the following file was created.

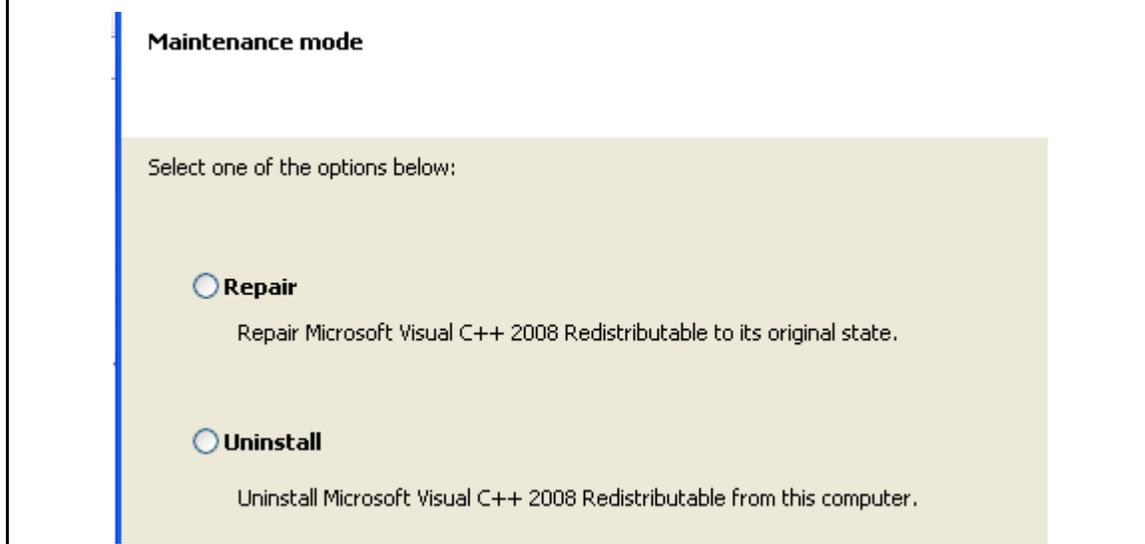
- C:\Software\vcredist_x86.exe

Part 6 - Installing Microsoft Visual C++ 2008 Redistributable

1. Execute `vcredist_x86.exe` from `C:\Software\` folder.
2. On the first screen click the **Next** button.



Note: If you get the screen below as the first screen of the installation program you do not need to install the software. Click the **Cancel** button and confirm you want to cancel the installation.



3. Check the checkbox to accept the license and click the **Install** button.
4. Click **Finish** when the message **Setup Complete** appears.

Visual C++ 2008 Redistributable has been installed.

Part 7 - Installing DB2 v9.5 Express Edition

Note: You cannot use ghosting or disk imaging to install this software. You must install the software on each machine separately.

__1. Login as a user with local administrative rights.

__2. Run **setup.exe** from the **C:\Software\DB2 v9.5 Express Edition** folder.

Note: If installing on Windows Vista or Windows Server 2008 run the setup as the administrator account by right clicking the file and selecting '**Run as administrator**'.

__3. On the window that appears click the link for “**Install a Product**” along the left side.



Install a Product

Click Install New to launch the DB2 Setup wizard for the desired product and to install to a new location. If you want to upgrade, migrate, or add features to an existing installation, click Install with Existing. You can also launch other product installations by clicking Install for a corresponding product.

DB2 Express Version 9.5

DB2 Express Edition contains a full-function DB2 data server, which provides an entry-level solution for the Small and Medium Business (SMB) market. It comes with simplified packaging, and is easy to install from within an application. It is available on Linux and Windows platforms, is fully scalable, and has all the autonomic manageability features of its higher priced family of products. DB2 Express incorporates a native XML data store and delivers flexible access to XML data using SQL, and standard reporting tools.

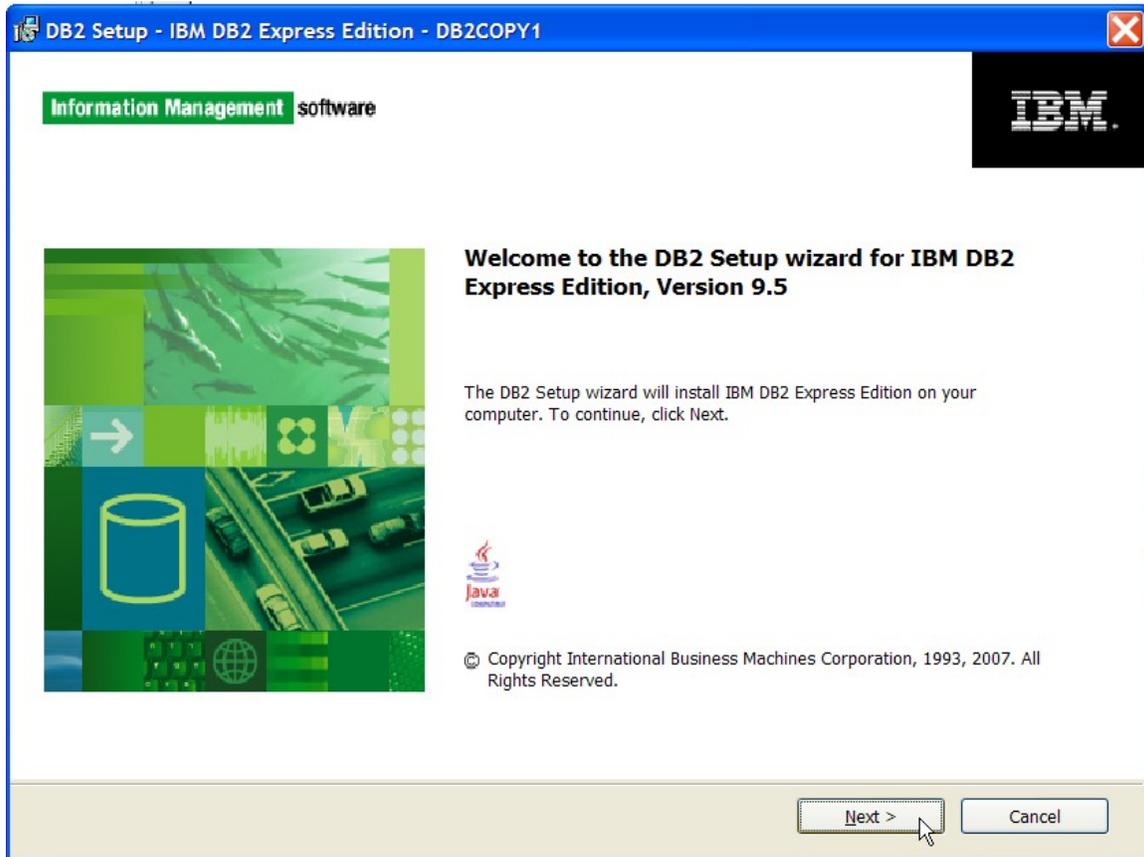
Optional features for DB2 Express are available that provide additional advanced product capabilities such as performance, workload management, and data federation. Please see <http://www.ibm.com/db2> for more information.

Install New

IBM Database Add-Ins for Visual Studio 2005

__4. Click the **Install New** button.

__5. Wait while DB2 prepares the setup. At the first screen of the DB2 setup click **Next**.

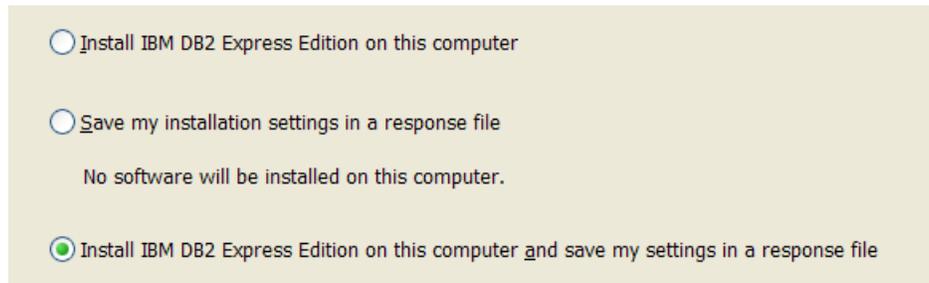


__6. Accept the terms of the license and click the **Next** button.

__7. Select a **Custom** install and click **Next**.

<input type="radio"/> Typical:	Approximately 590 - 800 MB
<input type="radio"/> Compact:	Approximately 340 - 550 MB
<input checked="" type="radio"/> Custom:	Approximately 340 - 800 MB

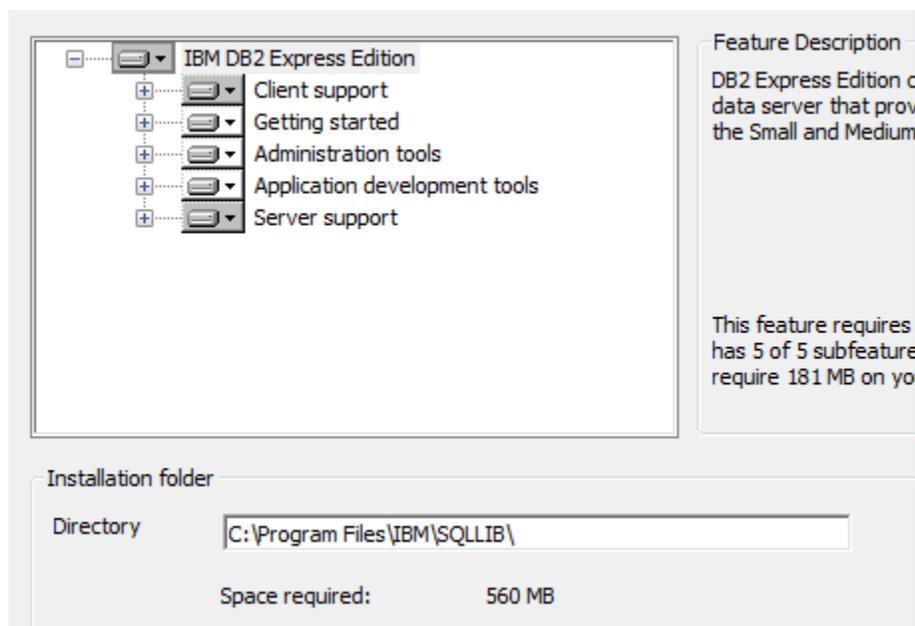
__8. Leave the default installation options and click the **Next** button.



The screenshot shows three radio button options for the installation process:

- Install IBM DB2 Express Edition on this computer
- Save my installation settings in a response file
No software will be installed on this computer.
- Install IBM DB2 Express Edition on this computer and save my settings in a response file

__9. Leave the default features and installation directory and click **Next**.

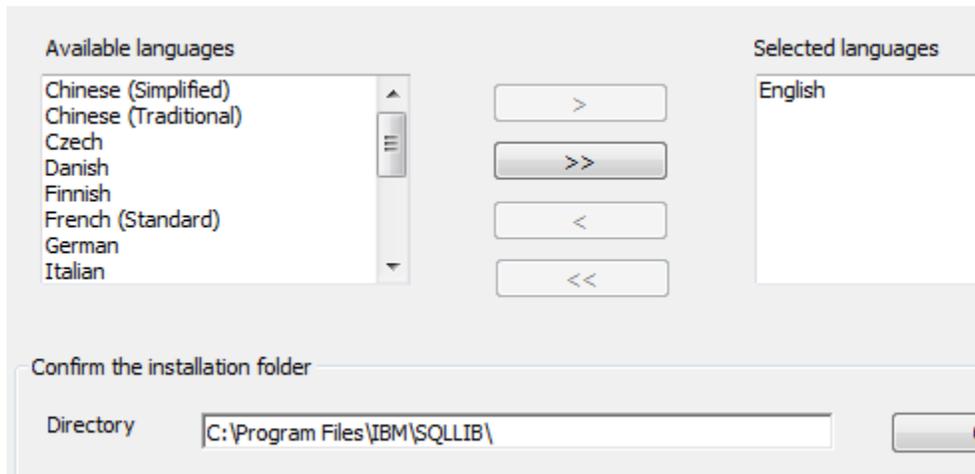


The screenshot displays the feature selection and installation folder configuration for IBM DB2 Express Edition:

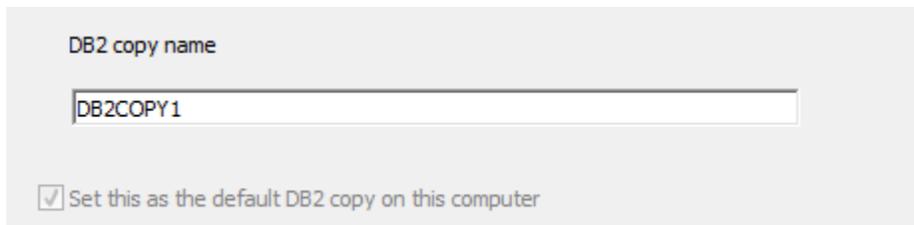
- Feature Selection:** A tree view shows 'IBM DB2 Express Edition' expanded, with five sub-features selected: Client support, Getting started, Administration tools, Application development tools, and Server support.
- Feature Description:** A text box on the right provides a description of the DB2 Express Edition data server and its requirements.
- Installation folder:** A section labeled 'Installation folder' contains a text box for the 'Directory' set to 'C:\Program Files\IBM\SQLLIB\' and a label 'Space required: 560 MB'.

Note: Your default installation directory may be slightly different on 64-bit OS.

__10. Leave the default language and again the default installation folder and click the **Next** button.



__11. Leave the default DB2 copy name and click the **Next** button.



__12. Leave the default Information Center option and click the **Next** button.

__13. Enter **db2admin** for the username and password. **Be sure to leave the domain property default to use a local account.** Click the **Next** button. Click **Yes** if asked to create the user.

Local user or Domain user account

LocalSystem account

Use the same user name and password for the remaining DB2 services

User information

Domain: None - use local user account

User name: db2admin

Password: *****

Confirm password: *****

Note: If you can't use this password because of password policies use a password that will satisfy password policies. Make sure to tell the instructor that the DB2 software was installed with a different user and/or password.

__14. Click **Next** to accept the defaults under the configure DB2 instances.

DB2 Instances:

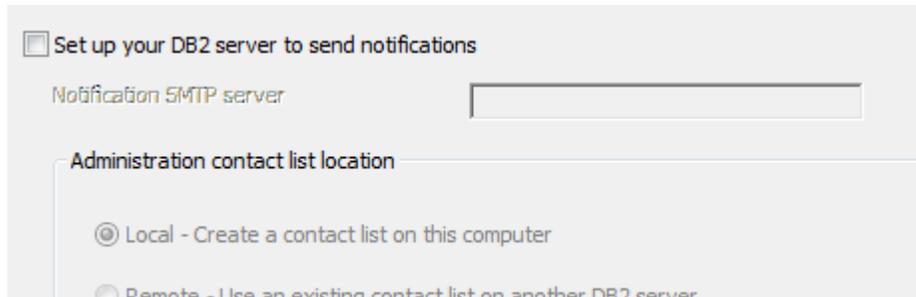
DB2

Configure...

Instance description

The default instance, DB2, stores application data.

- __15. Leave the default option for the DB2 tools catalog and click the **Next** button.
- __16. Uncheck **Set up your DB2 server to send notifications** and click **Next**.

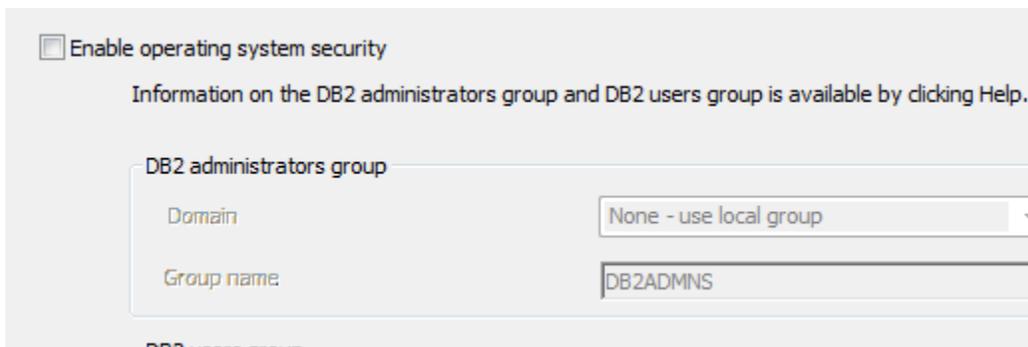


The screenshot shows a configuration window with the following elements:

- An unchecked checkbox labeled "Set up your DB2 server to send notifications".
- A text input field labeled "Notification SMTP server" which is currently empty.
- A section titled "Administration contact list location" containing two radio button options:
 - A selected radio button labeled "Local - Create a contact list on this computer".
 - An unselected radio button labeled "Remote - Use an existing contact list on another DB2 server".

The *Enable operating system security for DB2 objects* page will appear.

- __17. Uncheck **Enable operating system security** and click **Next**.

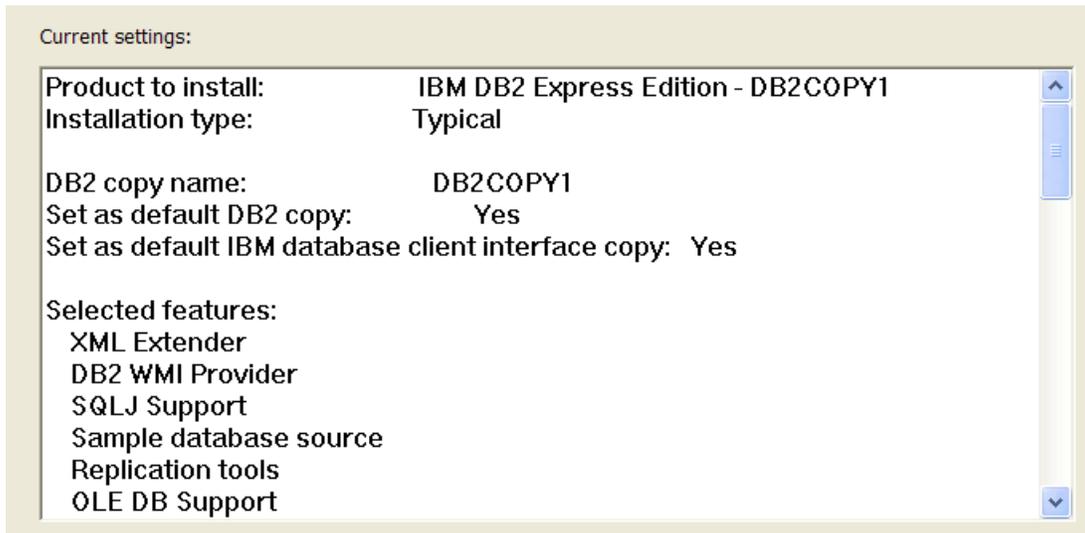


The screenshot shows a configuration window with the following elements:

- An unchecked checkbox labeled "Enable operating system security".
- A text label: "Information on the DB2 administrators group and DB2 users group is available by clicking Help."
- A section titled "DB2 administrators group" containing:
 - A "Domain" dropdown menu set to "None - use local group".
 - A "Group name" text input field containing "DB2ADMNS".
- Partially visible text below: "DB2 users group".

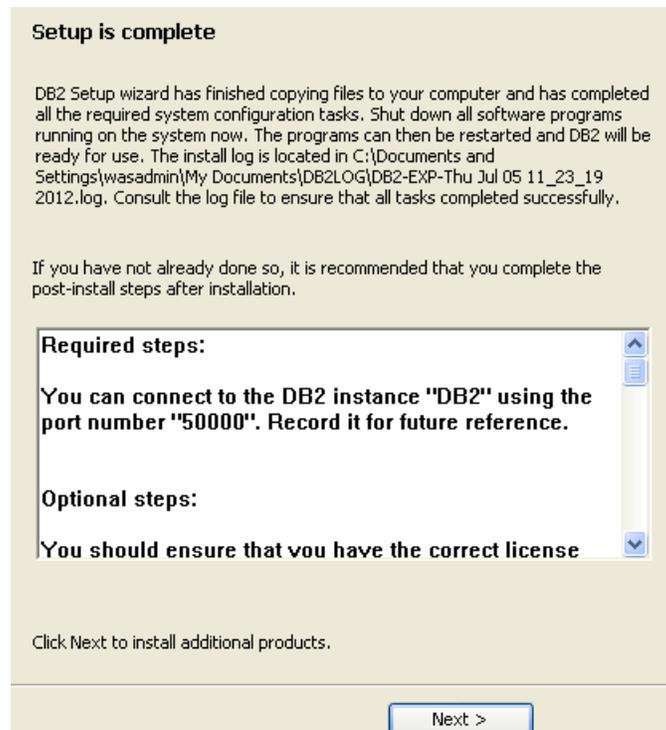
Note: This step is very critical on Windows Vista/7 computers as it makes it easier to work with DB2 from multiple user accounts.

__18. Click the **Install** or **Finish** button to install.



__19. If you are prompted by Windows User Account Control continue to install.

__20. Wait a bit while the software installs. Once the installation completes click the **Next** button.



__21. Click **Finish** when presented with optional additional products to install.



__22. If you are prompted to check for updates click **No**.

__23. Close the First Steps utility if it opens.

__24. Restart the machine and login as the user '**db2admin**' with the password '**db2admin**'.

__25. Open a command prompt by clicking on **Start -> Run**, enter **cmd** and click **OK**.

__26. Enter the following command to switch directories:

```
cd C:\Program Files\IBM\SQLLIB\bin
```

Note: You may need to change this command slightly if the product was installed to a different default location. Most commonly this would be:

```
cd C:\Program Files (x86)\IBM\SQLLIB\bin
```

__27. Enter the following command to create the sample database. This may take some time.

```
db2samp1
```

__28. Make sure you get messages indicating the creation of the database is complete.

```
C:\Documents and Settings\db2admin>cd C:\Program Files\IBM\SQLLIB\bin
C:\Program Files\IBM\SQLLIB\BIN>db2samp1
  Creating database "SAMPLE"...
  Connecting to database "SAMPLE"...
  Creating tables and data in schema "DB2ADMIN"...
  Creating tables with XML columns and XML data in schema "DB2ADMIN"...
  'db2samp1' processing complete.

C:\Program Files\IBM\SQLLIB\BIN>
```

__29. Close the command prompt window.

__30. Open a DB2 command line processor by selecting **Start -> Programs -> IBM DB2 -> DB2COPY1 (Default) -> Command Line Tools -> Command Line Processor.**

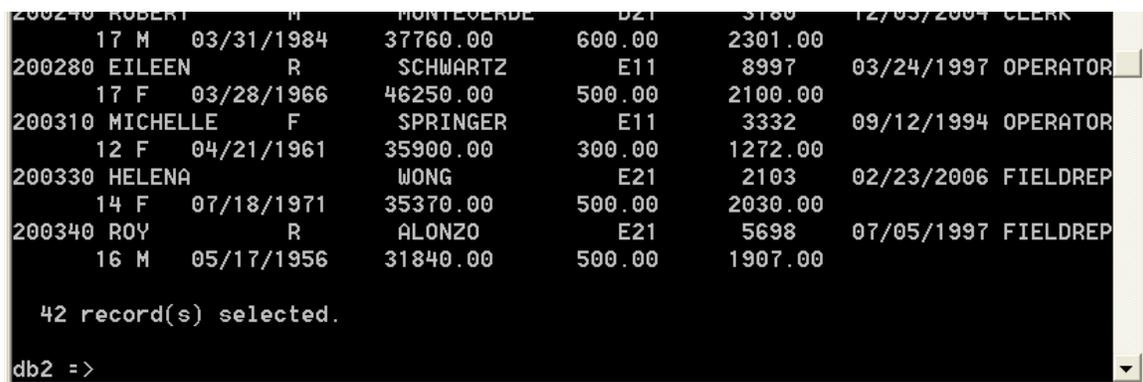
__31. Enter the following to connect the database:

```
connect to sample user db2admin using db2admin
```

__32. Enter the following to connect the query the table:

```
select * from employee
```

__33. Make sure you see the screen below displaying all the information in the employee table.



```
200240 ROBERT      M      MONTEVERDE      D21      3180      12/03/2004 CLERK
      17 M      03/31/1984      37760.00      600.00      2301.00
200280 EILEEN        R      SCHWARTZ        E11      8997      03/24/1997 OPERATOR
      17 F      03/28/1966      46250.00      500.00      2100.00
200310 MICHELLE      F      SPRINGER        E11      3332      09/12/1994 OPERATOR
      12 F      04/21/1961      35900.00      300.00      1272.00
200330 HELENA        WONG      E21      2103      02/23/2006 FIELDREP
      14 F      07/18/1971      35370.00      500.00      2030.00
200340 ROY           R      ALONZO          E21      5698      07/05/1997 FIELDREP
      16 M      05/17/1956      31840.00      500.00      1907.00

      42 record(s) selected.
db2 =>
```

__34. Enter **quit** and hit Enter.

__35. Enter **exit** and hit Enter to close the Command Line Processor.

DB2 v9.5 Express Edition is installed.

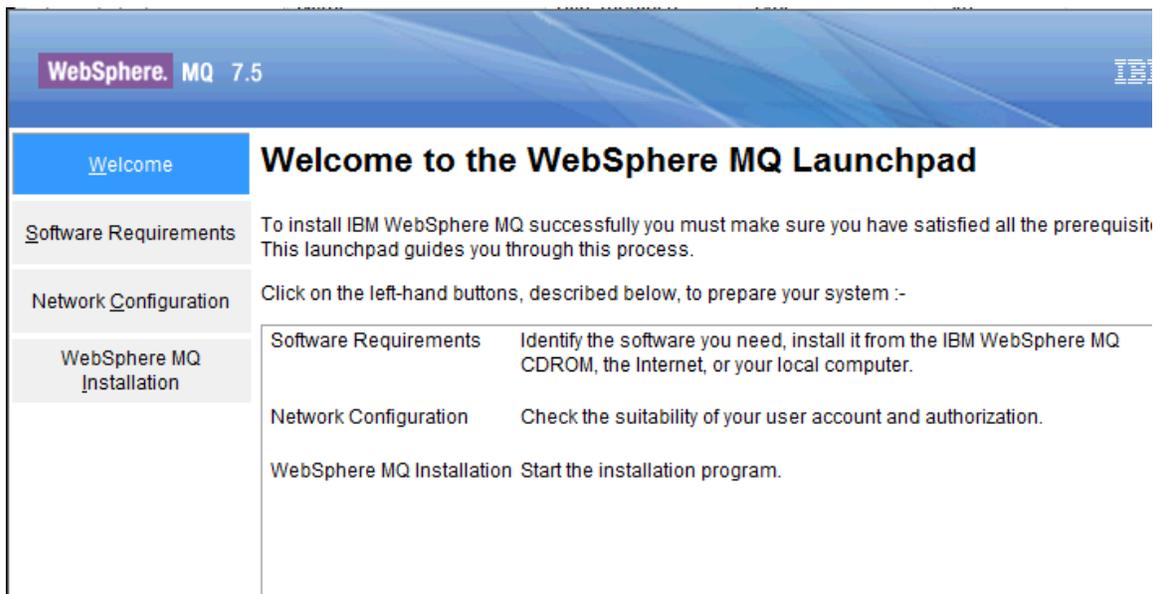
Part 8 - Installing WebSphere MQ v7.5 Trial

Note: This is a trial version and should not be installed more than 60 days before the class.

__1. Login as a user with local administrative rights.

__2. Run **Setup.exe** from the **C:\Software\WebSphere MQ v7.5 Trial** folder. Confirm any security prompts that appear. The **WebSphere MQ Launchpad** should open up.

Note: If installing on Windows 7 or Vista you must right-click the **setup.exe** program and select **Run as administrator**.



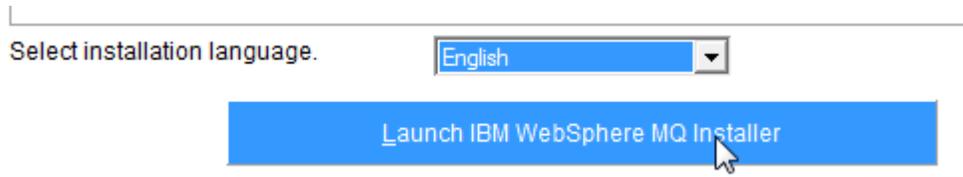
__3. Click on **Software Requirements** in the navigation bar.

__4. Make sure you do not see any items with a red 'X'. What you see may be slightly different than what is shown below.

Welcome	<h2>Software Requirements for WebSphere MQ on Windows Vista x64</h2>
Software Requirements	<p>The following software is required for a full installation. If you are only installing selected components on this system, refer to the installation instructions for prerequisite software.</p>
Network Configuration	<p>Click the plus (+) buttons to expand the details about the status of each item.</p>
WebSphere MQ Installation	<p><input type="checkbox"/> Microsoft Windows Vista x64 (R) ✔ OK</p>

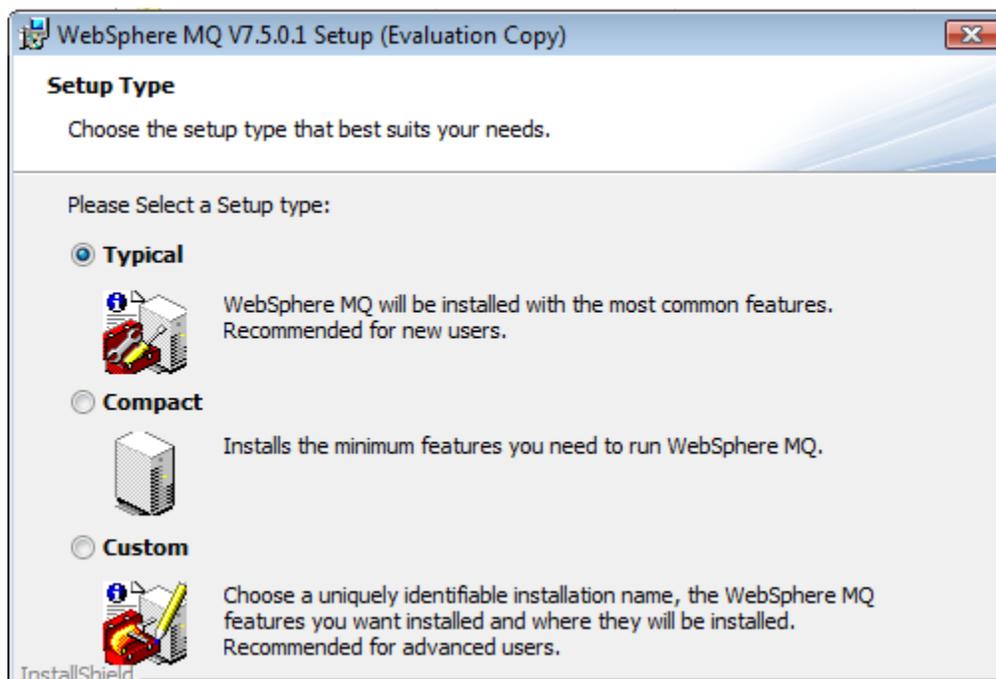
__5. Now proceed to installing WebSphere MQ by clicking on **WebSphere MQ Installation** on the left menu.

__6. Click on the **Launch IBM WebSphere MQ Installer** button.



__7. Accept the license agreement and press the **Next** button.

__8. Leave **Typical** selected and click **Next**.



__9. Click the **Install** button to begin the installation.

__10. The installation will take several minutes. Once it is complete press the **Finish** button.

__11. The installation program will open up the **Prepare WebSphere MQ Wizard** window. Click **Cancel**.

__12. Confirm that you want to cancel the wizard by clicking the **OK** button.

__13. Open the Windows Control Panel by selecting **Start -> Control Panel** or **Start -> Settings -> Control Panel** depending on your Windows version.

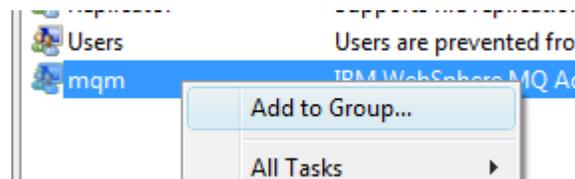
__14. If you are using Windows XP, Vista, or 7 switch to the “Classic View” by clicking the link on the left side of the Control Panel.

__15. Double click the **Administrative Tools** group to open this category.

__16. Double click the **Computer Management** icon to open it. Confirm the security prompt if it appears.

__17. On the left expand **System Tools** → **Local Users and Groups** and select **Groups**.

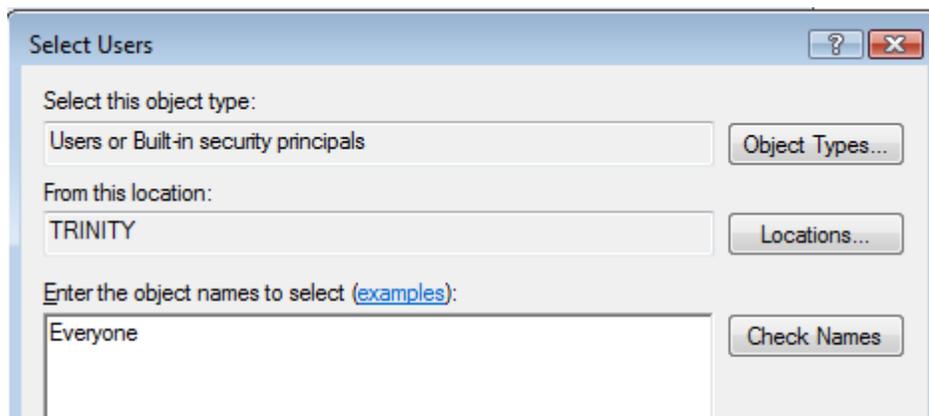
__18. Right click the '**mqm**' group and select '**Add to Group**'.



Note: If the steps vary slightly depending on your version of Windows perform whatever steps are necessary to accomplish the goal of adding users to the 'mqm' group.

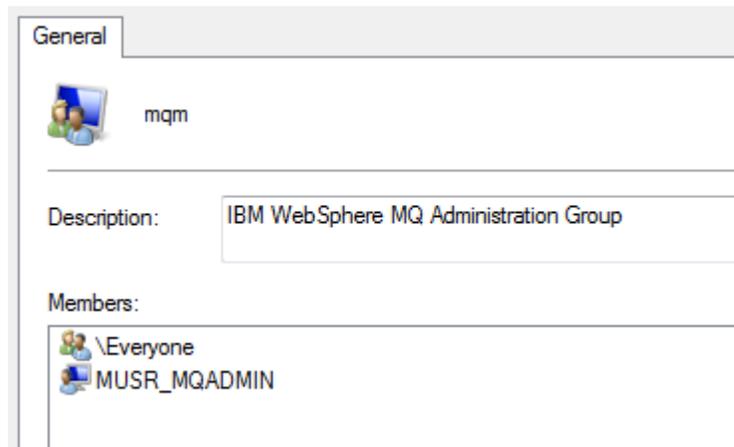
__19. On the dialog that appears click the '**Add**' button.

__20. On the dialog to add to the group enter a value of '**Everyone**' and click the **OK** button.



Note: Normally you would probably not grant access to everyone to the 'mqm' group. You might only need to add the user that runs the WebSphere servers. We are doing this nly because it is the easiest way to configure the security we will need for labs.

__21. Make sure the special group 'Everyone' is listed in the members of the 'mqm' group and click the **OK** button.



__22. Close the computer management tool.

__23. Restart the computer.

Installation verification of WebSphere MQ v7.5 Trial

__1. Login as the same user you used to install WebSphere MQ.

__2. You should see an icon in your system tray with a green icon which indicates that WebSphere MQ is running.



__3. To verify the installation was successful, open a command prompt by selecting Start → Programs → Accessories → Command Prompt.

__4. Enter the following command:

```
crtmqm TESTQM
```

__5. You should see the following message. If you get an error that the command is not recognized you have not rebooted the machine after installation.

```
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Windows\system32>crtmqm TESTQM
There are 90 days left in the trial period for this copy of WebSphere MQ.
WebSphere MQ queue manager created.
Directory 'C:\Program Files (x86)\IBM\WebSphere MQ\qmgrs\TESTQM' created.
The queue manager is associated with installation 'Installation1'.
Creating or replacing default objects for queue manager 'TESTQM'.
Default objects statistics : 77 created. 0 replaced. 0 failed.
Completing setup.
Setup completed.

C:\Windows\system32>_
```

__6. Close the command prompt window.

You have successfully installed WebSphere MQ v7.5 Trial.

Congratulations. The installation of WA2088 WebSphere Application Server 8.5 Administration on Windows has been completed.