

Micro Focus[®]

Modernization Workbench[™]

Installing MW EE for the Enterprise



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This manual describes how to install and configure Modernization Workbench Enterprise Edition (MW EE), a suite of software products for analyzing, mining, and re-architecting legacy applications. MW EE is deployed in a multiuser environment with access to a database of application *repositories* that describe the objects in your applications and how they interact. Repository setup is the responsibility of a *master user*, leaving team members free to focus on their tasks.

MW EE installations consist of the following components:

- The MW EE Server hosts MW workspace files and related support files.
- MW EE Clients host the link files used to connect to workspaces on the server.
- The MW EE License Server is a FLEXnet product used to manage MW licenses. The license server is packaged with the MW server, but can be installed anywhere in the network.
- The MW EE File Server is an optional product for sites that want to restrict Windows access to workspace source files to master users, while still making the source files available in MW to ordinary users. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze sources in MW, but cannot access them otherwise.

The manual also describes how to install and configure the database client used to connect to repositories, for sites at which the database client is not already installed. A database client must be installed wherever the workbench client or workbench server is installed.

NOTE: For instructions on how to install the Enterprise View Express add-on, see **Managing Application Portfolios** in the workbench documentation set.

Installation Tasks

The table below describes the tasks involved in installing MW EE and the order in which the tasks must be performed.

Task	Order	Notes
Install License Server	1	Packaged with the MW EE Server, but need not be installed on the same machine.
Install Database Client	2	A database client must be installed wherever the workbench client or workbench server is installed. Install only if the database client is not already installed.
Install MW on Server	3	
Install Java add-on on Server	4	Optional.
Install File Server	5	Optional.
Install MW on Clients	6	
Install File Server Clients	7	Optional.

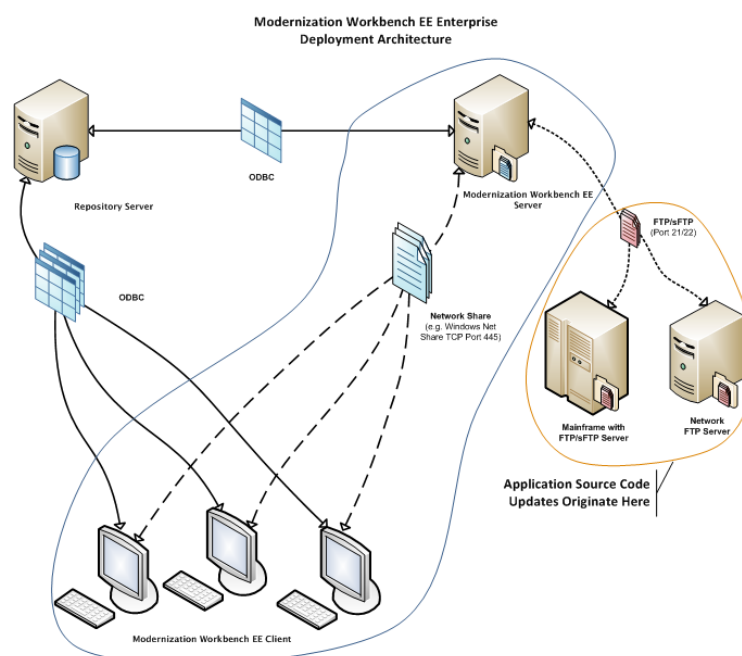
Licensing

Workbench sites manage licenses with a *license server* or a local *license file*. Most sites use a license server because of the flexibility it offers in managing licenses. In place of the traditional license-per-user scheme, the license server oversees a pool of licenses from which it issues licenses dynamically, on a per-product, first-come, first-served basis. In this *floating license* scheme, any user can launch a workbench product as long as the number of licenses for that product has not been exceeded.

The license server can be installed on any machine accessible to MW users. Installing the license server typically is the responsibility of the master user.

Deployment

The figure below shows the standard deployment scenario for MW EE. Nodes inside the blue lasso comprise the product. The role each machine performs and its key relationships are described in the following sections.



Mainframe and Network Server

The mainframe hosts the application to be modeled in MW EE. Application source files are downloaded from the mainframe (and, if necessary, a network server) to the MW EE server via FTP or SFTP.

Repository Server

The Repository Server hosts the database for one or more multiuser repositories, one repository per MW workspace.

NOTE: The database is assumed to be the customer's own. It is not supplied with the product.

This server provides centralized, network-accessible storage for parsed data and analysis output. The MW EE server and client machines access the repository server via ODBC.

MW EE Server

The MW EE Server hosts workspaces, workspace support files (including the copies of application source files the workbench creates at workspace loading), and workspace output. This server leverages multiple processes to enhance parsing performance in online or batch mode.

Parsed data is sent via ODBC to the repository server. Some analysis output is stored on the workbench server as well.

NOTE: The MW Server cannot reside on the same machine as the MW Repository.

MW EE Client

MW EE Clients host the link files that let team members connect to workspaces on the workbench server. These clients access repository data stored in the repository server via ODBC.

Database Setup

Your DBA must set up a DB/2 or Oracle schema for each repository you plan to create. Each workbench user who accesses the repository must supply credentials for a database user with appropriate access privileges to the repository.

DB/2 User Privileges

If your site uses a DB/2 database, your DBA must set up a database schema for each repository you plan to create. Use the scripts provided with MW EE to create the DB/2 database and tablespace, and the required schemas. The scripts are located in the DB2 Scripts folder in the MW EE installation directory.

Creating a Database and Tablespace

Run the following scripts provided with MW EE to create the DB/2 database and tablespace:

- 1) Double-click crtmwdb.cmd to create the database.
- 2) Open crttblspace.cmd in an editor. Replace [ADMINISTRATOR_USER_NAME] and [PASSWORD] with the user name and password of a user with administrative privileges for the database. Save and close the file.
- 3) Double-click crttblspace.bat to create the tablespace.

You can modify the database (mwdbrtwdb), buffer pool (mwbp), and tablespace (mwtblsp) names if you wish. Make sure to modify the names in any scripts that reference them.

*NOTE: The tablespace page size must be 32K. For performance reasons, you may want to specify a second tablespace for use in storing database indexes. Users specify both tablespaces when they create an MW workspace. For instructions on how to create a workspace, see **Getting Started** in the workbench documentation set.*

Creating a Schema

Set up a DB/2 schema for each repository you plan to create. Run the following scripts provided with MW EE to create a schema:

- 1) Open crtschema.cmd in an editor. Replace [ADMINISTRATOR_USER_NAME] and [PASSWORD] with the user name and password of a user with administrative privileges for the database. Replace each instance of [SCHEMA_NAME] with the name of the schema and [USER_NAME] with the database user name. Save and close the file.
- 2) Double-click crtschema.bat to create the schema.

Repeat these steps for each schema you need to create.

Each workbench user who accesses a repository must supply credentials for a database user with appropriate access privileges to the schema. These credentials are typically those for the Windows domain user. The table below shows the required privileges.

Type	Privilege
Database Privileges	BINDADD CREATETAB CONNECT IMPLICIT_SCHEMA

Type	Privilege
Schema Privileges	CREATEIN DROPIN ALTERIN
Tablespace Privileges	USE OF

Oracle User Privileges

If your site uses an Oracle database, your DBA must set up a database schema for each repository you plan to create. Each workbench user who accesses the repository must supply the name and password of a database user with appropriate access privileges to the schema. The table below shows the required privileges.

Type	Privilege
Roles	GATHER_SYSTEM_STATISTICS (required only for Compute Database Statistics method. See <i>Getting Started</i> in the workbench documentation set.)
System Privileges	CREATE TRIGGER CREATE SEQUENCE CREATE SESSION CREATE SYNONYM CREATE VIEW ALTER SESSION QUERY REWRITE
Object Privileges	SELECT on SYS.V_\$INSTANCE SELECT on SYS.V_\$SESSION SELECT on SYS.V_\$PARAMETER

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Hardware and Software Requirements

The following sections describe the hardware, disk space, operating system, and software requirements for MW EE installations.

NOTE: Hardware requirements for the database client are shown in the tables for the workbench client and workbench server. Software requirements for the database client are the same as the software requirements for the workbench client and workbench server. Hardware and software requirements for the file server are the same as the hardware requirements for the workbench client and workbench server.

Repository Server Hardware Requirements

The table below lists the hard drive storage requirements for the Repository Server. For other hardware recommendations, check with support services.

Type	Recommendation	Notes
Hard Drive Storage	Variable	Minimum of 20GB disk space needed for the software installation of the RDBMS and the MW template database. Plus approximately 60X the size in bytes of the application source code modeled in MW.

Repository Server Software Requirements

The table below lists the software requirements for the Repository Server.

Software	Notes
RDBMS	DB/2 9.5 Oracle 10g, 11g

License Server Hardware Requirements

The table below lists the hardware requirements for license server installations. The license server can run on the same machine as the MW EE Server with negligible performance impact. Alternatively, you can install and run the license server on any network-accessible resource. The license server implements Acrecco Software's FLEXnet Manager product. (Acrecco Software is Macrovision's former Software Business Unit.)

Type	Recommendation	Notes
Processor	1.0 GHz (or higher)	Typically consumes no more than a few seconds per client machine per day.
Physical Memory	512 MB RAM	Memory used is under 4 MB.
Virtual Memory	1GB	
Hard Drive Storage	10 GB (or higher)	The license manager and associated utility programs and license files occupy under 30 MB of disk space. <i>NOTE: Log files produced by the license server can accumulate. Production of log files can be suppressed if necessary.</i>

License Server Software Requirements

The table below lists the software and operating system requirements for license server installations. The license server implements Acreso Software's FLEXnet Manager product. (Acreso Software is Macrovision's former Software Business Unit.)

NOTE: Although Acreso Software does not officially support FLEXnet Manager on Windows XP, Micro Focus has successfully run the license server on Windows XP in its testing environment. There is nothing FLEXnet Manager requires in a Windows server operating system (Windows Server 2003, for example) that is not in Windows XP.

Software	Notes
Operating System	Microsoft Windows Vista (Business, Enterprise, Ultimate) Microsoft Windows Server 2003, Service Pack 1 and R2 Microsoft Windows Server 2000 Microsoft Windows XP (see note above)

MW EE Server Hardware Requirements

The table below lists the hardware requirements for MW EE Server installations. Hardware requirements may vary depending on the size of the application you are analyzing.

Type	Recommendation	Notes
Processor	2.6 GHz Dual Core or 2x 3.0+ GHz Processors	Dual processing capability recommended using multiple cores in a processor or using separate physical processors.
Physical Memory	3GB RAM	
Virtual Memory	1GB to 3GB	

Type	Recommendation	Notes
Hard Drive Storage	Variable	Approximately 40X size in bytes of the application source code modeled in MW . Minimum of 200MB disk space for the MW software. Minimum of 115MB for the Java add-on. Minimum of 200MB disk space for the database client.

MW EE Server Software Requirements

The table below lists the software requirements for MW EE Server installations.

Software	Notes
Operating System	Microsoft Windows XP Professional, Service Pack 2 or higher Microsoft Windows Server 2003
Database Client	One configured ODBC data source name (DSN) per database schema that contains a workspace.
Internet Explorer 6.0 or higher (optional)	
Microsoft Office (optional)	Required by MW tools with reporting capabilities to save to Microsoft Office file formats.
Microsoft Visio (optional)	Required to generate output as Microsoft Visio .VSD files. <i>NOTE: Visio .VDX files are XML-based and may be generated without Visio being installed on the MW EE client.</i>
JRE 1.5.0 or higher (optional)	Required for Java add-on. Can be installed after the add-on is installed.

MW EE Client Hardware Requirements

The table below lists the hardware requirements for MW EE Client installations. Hardware requirements may vary depending on the size of the application you are analyzing.

Type	Recommendation	Notes
Processor	3.0 GHz Processor	Single processor (single or dual core).
Physical Memory	1GB RAM	
Virtual Memory	1GB to 3GB	
Hard Drive Storage	Variable	Minimum of 200MB disk space for the MW software. Minimum of 200MB disk space for the database client.

MW EE Client Software Requirements

The table below lists the software requirements for MW EE Client installations.

Software	Notes
Operating System	Microsoft Windows XP, Service Pack 2 or higher Microsoft Windows 2000, Service Pack 4 +
Database Client	One configured ODBC data source name (DSN) per database schema that contains a workspace.
Internet Explorer 6.0 (or higher)	Required to view HTML report outputs on the MW EE Client. Required as a client of the Enterprise View Express module.

Software	Notes
Microsoft Office (optional)	Required by MW tools with reporting capabilities to save to Microsoft Office file formats.
Microsoft Visio (optional)	Required to generate output as Microsoft Visio .VSD files. <i>NOTE: Visio .VDX files are XML-based and may be generated without Visio being installed on the MW EE Client.</i>

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Installing and Uninstalling MW EE

Before running an installation program described in this section, make sure you have administrative permissions for the machine on which you are performing the installation. If you do not have administrative permissions, the installation program will not let you continue.

Installing the License Server

Install the license server before you install the MW EE Server. Although the license server is packaged with the MW EE Server, it need not be installed on the same machine. Installing the license server typically is the responsibility of the master user.

TASK

1. In the license server installation folder, double-click the install-1.bat file. The MW License Manager dialog opens.
2. The MW License Manager dialog prompts you to email your host name and host ID to the license key center. Click **OK**, then email the requested information to the specified address. You will receive a license file from the license key center in return. Save the file in the folder for the license server installation on your hard drive.
3. Double-click the install-2.bat file in the folder for the license server installation on your hard drive. The license server installation begins transferring files to your machine. When the installation completes, check lmdebug.log in the license server folder for any problems with the installation.
4. Ordinarily, the default port number for the license server (27000) is acceptable. If you need to modify the port number, open the license file

in an editor and append the new port number (preceded by a blank space) to the SERVER line.

AFTER COMPLETING THIS TASK: Consult the **License Administration Guide** installed with the license server for advanced license server administration.

Installing the Database Client

Before installing the workbench client or server, you must have installed and configured the client software for the RDBMS in use at your site. If the RDBMS client software is not already installed on your machine, follow the instructions in this section to install it.

Installing the DB/2 Client

Follow the instructions in this section to install the DB/2 client.

TASK

1. Double-click the setup.exe program for the DB/2 client installation. The Welcome screen opens. Click **Install a Product**.
2. A screen prompts you to select the product you want to install. Under IBM Data Server Client, click **Install New**.
3. The DB/2 Setup Wizard opens. **Click Next**.
4. The Software License Agreement screen opens. Read the License Agreement carefully. Click **I accept the terms in the license agreement** to accept its terms, then click **Next**.
5. A screen prompts you to select the installation type. Select **Typical**, then click **Next**.
6. A screen prompts you to install the IBM Data Server Client. Select **Install IBM Data Server Client on this computer**, then click **Next**.

7. A screen prompts you to select an installation folder. To accept the prefilled value, click **Next**. To specify a different folder, click **Change** and follow the substeps below.
 - a Navigate the folder structure to find a suitable location. If the destination folder does not exist, the installation creates it.
 - b Click **OK** to exit the screen and return to the installation folder screen.
 - c Click **Next** in the installation folder screen.
 8. A screen prompts you to enable operating system security for DB/2 objects. Unless otherwise instructed by your system or database administrator, deselect **Enable operating system security**, then click **Next**.
 9. A screen prompts you to start copying installation files to your computer. Click **Install** to begin transferring files to your machine. A progress meter indicates the progress of the transfer.
 10. When the transfer is complete, a screen informs you that setup is complete. Click **Next**.
 11. A screen prompts you to install additional products. Click **Finish**.
-

Installing the Oracle Client

You will need the following information from your DBA to install and configure Oracle client software:

- The TNS Service Name for the database your workspace repositories will be stored in.
- The host name for the computer on which the database resides.
- The port number for communications with the host, if it is not the standard port number.
- A database user ID and password.

TASK

1. Double-click the setup.exe program for the Oracle client installation. The Welcome screen opens.
2. Click **Next**. The Select Installation Type screen opens. Select Custom.
3. Click **Next**. The Specify Home Details screen opens. Enter an alternate name and path for the installation, if desired. Otherwise, accept the defaults.

4. Click **Next**. The Available Product Components screen opens. Select the following components:
 - SQL *Plus
 - Oracle JDBC/THIN Interfaces
 - Oracle Windows Interfaces. Deselect every choice under Oracle Windows Interfaces except Oracle ODBC Driver.
 - Oracle Call Interface (OCI)
 - Oracle Net
5. Click **Next**. The installer checks for prerequisites to ensure your environment meets the minimum requirements for installation. Resolve any flagged items, if necessary.
6. Click **Next**. Review the Summary screen to confirm your selections. Use the Back button to correct any errors. When you are satisfied that all the information is correct, click **Install**.
7. When installation completes, the Oracle Net Configuration Assistant is launched.
8. Click **Next**. The Naming Methods Configuration screen opens. Verify that Local Naming is shown in the Selected Naming Methods field.
9. Click **Next**. The Net Service Name Configuration screen opens. In the **Service Name** field, enter the TNS Service Name for the database your workspace repositories will be stored in. This name is provided by your DBA.
10. Click **Next**. The Select Protocols screen opens. Select TCP.
11. Click **Next**. The TCP/IP Protocol screen opens. Enter the host name for the computer on which the Oracle database resides. This name is provided by your DBA. Use the standard port number of 1521 unless otherwise instructed by your DBA.
12. Click **Next**. The Test screen opens. Select **Yes, perform a test**.
13. Click **Next**. You should receive a message that the test did not succeed. This is because the default login used for the test is the Oracle SYSTEM login. You must change the user name and password to those provided by your DBA.
14. Click **Change Login**. In the Change Login dialog, enter the user ID and password provided by your DBA.
15. Click **OK**. You should now receive a message that the connection test was successful. If the test remains unsuccessful, click **Change Login** and confirm that you entered the correct credentials as provided by your DBA. If problems persist, contact your DBA for assistance.
16. Click **Next**. The Net Service Name screen opens.

17. The **Net Service Name** field is prefilled with the TNS Service Name you specified in Net Service Name Configuration screen. Click **Next**. The Additional Net Service Names screen opens.
 18. In the Additional Net Service Names screen, configure additional TNS Service Names, one per database instance you need to connect with. This step is optional. Select **Yes** to configure additional TNS Service Names. Select **No** to complete the configuration.

NOTE: If you need to connect to additional database instances at a later date, you can add TNS Service Names by manually editing the `tnsnames.ora` file. See your DBA for details.
 19. Click **Next**. Then click **Next** on the following two screens to complete the Oracle Net Configuration.
 20. On the Oracle Net Configuration completion screen, click **Finish** to exit the Net Configuration Assistant.
 21. The Oracle Installer window opens. Click **Exit**. You are prompted to confirm that you want to exit. Click **Yes**.
-

Installing MW on the MW EE Server

The MW EE Server hosts MW workspace files and related support files. Follow the instructions in this section to install MW on the server.

NOTE: Do not install MW on the same machine as the MW repository.

TASK

1. In the installation folder for the product, double-click the `setup.exe` program. The Welcome screen opens.
2. Click **Next**. The License Agreement screen opens. Read the License Agreement carefully. Click **I accept the terms in the license agreement** to accept its terms, then click **Next**.
3. The Customer Information screen opens. Enter your user name and organization in the **User Name** and **Organization** fields, respectively. Click **Next**.

4. The Destination Folder screen opens. Choose an installation folder. To accept the prefilled value, click **Next**. To specify a different folder, click **Change** and follow the substeps below.
 - a Navigate the folder structure to find a suitable location. If the destination folder does not exist, the installation creates it.
 - b Click **OK** to exit the Change Current Destination Folder screen and return to the Destination Folder screen.
 - c Click **Next** in the Destination Folder screen.
 5. The Ready to Install the Program screen opens. Click **Install** to begin transferring files to your machine. A progress meter indicates the progress of the transfer.

*NOTE: To make changes to the settings, click **Back** repeatedly until you find the information you are looking for, make the required changes, then click **Next** until you return to the Ready to Install the Program screen.*
 6. When the transfer is complete, the Setup Complete screen opens. Click **Finish**.
-

Installing the Java Add-On

To install the Java add-on, double-click Java.Addon.exe in the installation folder for the product.

Installing the MW EE File Server (Optional)

The MW EE File Server is an optional product for sites that want to restrict Windows access to workspace source files to master users, while still making the source files available in MW to ordinary users. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze sources in MW, but cannot access them otherwise.

If you use the file server, it must be installed on the same machine as the MW server. The file server installation is packaged on the same CD as the server.

TASK

1. In the file server installation folder, double-click the setup.exe program. The Welcome screen opens.
 2. Click **Next**. The License Agreement screen opens. Read the License Agreement carefully. Click **I accept the terms in the license agreement** to accept its terms, then click **Next**.
 3. The Destination Folder screen opens. Choose an installation folder. To accept the prefilled value, click **Next**. To specify a different folder, click **Change** and follow the substeps below.
 - a Navigate the folder structure to find a suitable location. If the destination folder does not exist, the installation creates it.
 - b Click **OK** to exit the Change Current Destination Folder screen and return to the Destination Folder screen.
 - c Click **Next** in the Destination Folder screen.
 4. The Setup Type screen opens. Choose **Custom**, then click **Next**.
 5. The Custom Setup screen opens. Choose RMW File Server, then click **Next**.
 6. The Ready to Install the Program screen opens. Click **Install** to begin transferring files to your machine. A progress meter indicates the progress of the transfer.

*NOTE: To make changes to the settings, click **Back** repeatedly until you find the information you are looking for, make the required changes, then click **Next** until you return to the Ready to Install the Program screen.*
 7. When the transfer is complete, the Setup Complete screen opens. Click **Finish**.
-

Installing MW on an MW EE Client

MW EE Clients host the link files used to connect to workspaces on the server. Follow the instructions in this section to install MW on a client.

TASK

1. In the installation folder for the product, double-click the setup.exe program. The Welcome screen opens.
 2. Click **Next**. The License Agreement screen opens. Read the License Agreement carefully. Click **I accept the terms in the license agreement** to accept its terms, then click **Next**.
 3. The Customer Information screen opens. Enter your user name and organization in the **User Name** and **Organization** fields, respectively. Click **Next**.
 4. The Destination Folder screen opens. Choose an installation folder. To accept the prefilled value, click **Next**. To specify a different folder, click **Change** and follow the substeps below.
 - a. Navigate the folder structure to find a suitable location. If the destination folder does not exist, the installation creates it.
 - b. Click **OK** to exit the Change Current Destination Folder screen and return to the Destination Folder screen.
 - c. Click **Next** in the Destination Folder screen.
 5. The Ready to Install the Program screen opens. Click **Install** to begin transferring files to your machine. A progress meter indicates the progress of the transfer.

*NOTE: To make changes to the settings, click **Back** repeatedly until you find the information you are looking for, make the required changes, then click **Next** until you return to the Ready to Install the Program screen.*
 6. When the transfer is complete, the Setup Complete screen opens. Click **Finish**.
-

Installing the MW EE File Server Client (Optional)

The MW EE File Server is an optional product for sites that want to restrict Windows access to workspace source files to master users, while still making the source files available in MW to ordinary users. Ordinary users can view and analyze sources in MW, but cannot access them otherwise.

If you use the file server, the file server client must be installed on the same machine as the MW client. The file server client installation is packaged on the same CD as the client.

TASK

1. Choose one of the following options:
 - If you are installing the file server client from the Micro Focus FTP site, copy the installation folder for the file server client to your hard drive. In the folder, double-click the setup.exe program. The Welcome screen opens.
 - If you are installing the file server client from CD, insert the CD into your CD-ROM drive. The CD autoruns and the Welcome screen opens.

NOTE: If the CD does not autorun, double-click the setup.exe program in the installation folder for the file server client on the CD.

2. Click **Next**. The License Agreement screen opens. Read the License Agreement carefully. Click **I accept the terms in the license agreement** to accept its terms, then click **Next**.
3. The Destination Folder screen opens. Choose an installation folder. To accept the prefilled value, click **Next**. To specify a different folder, click **Change** and follow the substeps below.
 - a Navigate the folder structure to find a suitable location. If the destination folder does not exist, the installation creates it.
 - b Click **OK** to exit the Change Current Destination Folder screen and return to the Destination Folder screen.
 - c Click **Next** in the Destination Folder screen.
4. The Setup Type screen opens. Choose **Custom**, then click **Next**.
5. The Custom Setup screen opens. Choose **RMW File Client**, then click **Next**.

6. The Ready to Install the Program screen opens. Click **Install** to begin transferring files to your machine. A progress meter indicates the progress of the transfer.

*NOTE: To make changes to the settings, click **Back** repeatedly until you find the information you are looking for, make the required changes, then click **Next** until you return to the Ready to Install the Program screen.*

7. When the transfer is complete, the Setup Complete screen opens. Click **Finish**.
-

Uninstalling MW EE

Follow the instructions below to uninstall an MW EE product. Make sure to close any open MW EE programs before running the uninstall program.

TASK

1. Choose **Start:Settings:Control Panel**.
 2. In the Control Panel window, double-click the **Add/Remove Programs** icon.
 3. In the Add/Remove Programs window, select the product you want to uninstall, then click **Remove**. You are prompted to confirm that you want to uninstall the product. Click **Yes**.
 4. When the uninstall process completes, it prompts you to restart your computer. Click **Yes** to restart immediately, click **No** if you plan to restart later.
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Uninstalling the License Server

Double-click the uninstall.bat file in the folder for the license server to uninstall the license server.

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Post-Installation Administrative Tasks

Before you can work in MW, you must complete the basic administrative tasks described in this section. You are prompted to perform the first of these tasks, specifying the license location, when you complete the installation.

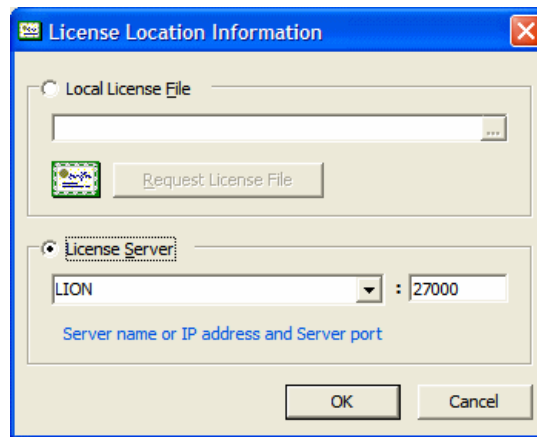
Specifying the License Location

Check with your license administrator to see whether your site uses a license server or a local license file. If you use a license server, the administrator will provide you with the system name or IP address of the server host and its port number.

TASK

1. Open the License Location Information dialog:
 - If you are installing MW EE, click **Finish** in the Setup Complete screen. The License Location Information dialog opens.
 - If you have previously specified the license location and want to modify it, choose **Start:Programs:Micro Focus:Modernization Workbench Administration**. The Administration tool opens. In

the **Administer** menu, choose **Connect to License Location**. The License Location Information dialog opens.



2. Choose the license location:

- If you use a local license file, click **Local License File**, then specify the location of the file in the text field. Use the ... button to browse for the file. When you are satisfied with your entries, click **OK**.

*NOTE: If you do not have a local license file, click **Request License File**. The license key center opens in a Web browser. Follow the instructions in the license key center to request a license file.*

- If you use a license server, click **License Server**, then select (or manually enter) the server name or IP address in the combo box, and enter the port number in the adjacent text field. When you are satisfied with your entries, click **OK**.

AFTER COMPLETING THIS TASK: MW connects to the license server whenever you start a workbench session. If you are unable to access a workbench feature, it may be because you have lost network connectivity with the host or because Windows firewall on the host is blocking access to the license server.

Configuring the Workbench

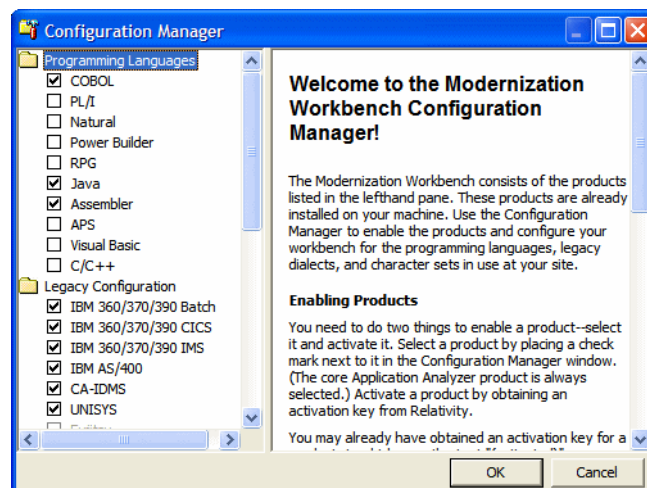
Use the Configuration Manager in the workbench Administration tool to configure workbench options and displays for the programming languages, dialects, character sets, and products in use at your site.

If you configure your workbench for Cobol, for example, you will see only the workbench options and displays appropriate for Cobol modernization. If it turns out that you need to configure your workbench for PL/I as well, you can always come back to the Configuration Manager and select PL/I in addition to Cobol.

TASK

1. Open the Configuration Manager window.
 - If you are installing MW EE, the Configuration Manager window opens after you finish specifying the license location.
 - If you have previously installed MW EE and want to reconfigure it, choose **Start:Programs:Micro Focus:Modernization Workbench Administration**. The Modernization Workbench Administration window opens. In the **Administer** menu, choose **Configure Workbench**. The Configuration Manager window opens.

*NOTE: If the workbench is open, you are prompted to exit. Click **OK**, then close the workbench.*



2. Select each programming language, dialect, and character set currently in use at your site. Select each workbench product you want to use at your site. The core Application Analyzer product is always selected.

Select **Additional Tools** to enable tools not used in typical workbench configurations. When you are satisfied with your choices, click **OK**.

NOTE: If you modify your workbench configuration, make sure to upgrade workspaces created under the previous configuration.

Configuring an ODBC Data Source Name

An ODBC data source name (DSN) is a set of credentials for connecting with a database instance. Before you can work in MW, you must configure a DSN for the database that holds your workspace repositories.

Configuring a DB/2 ODBC Data Source Name

You will need the following information from your DBA to configure a DB/2 ODBC data source name (DSN):

- The name of the database your workspace repositories will be stored in.
- The host name for the computer on which the database resides.
- The port number for communications with the host, if it is not the standard port number.

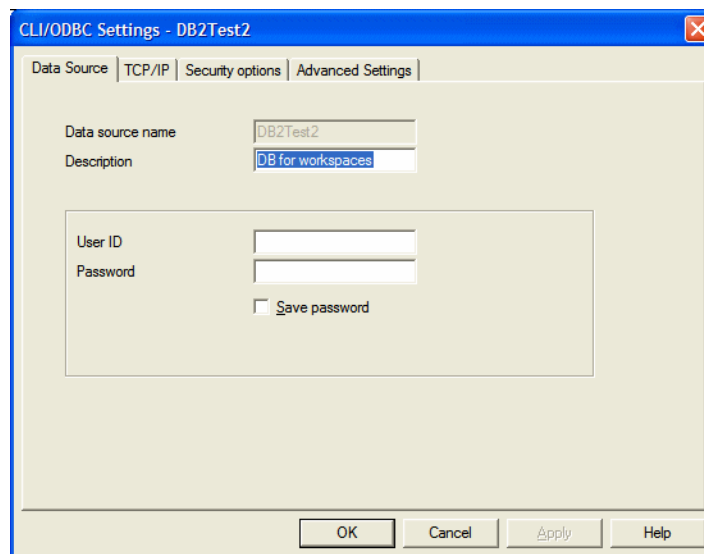
*NOTE: Keep the DSN handy. You will need to specify it when you create an MW workspace. For instructions on how to create a workspace, see **Getting Started** in the workbench documentation set.*

TASK

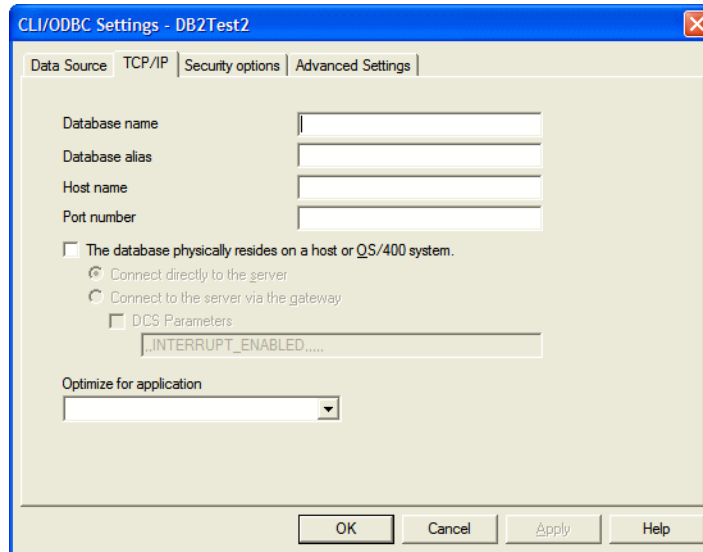
1. In the Windows Control Panel, double-click **Administrative Tools**. The Administrative tools window opens.
2. Double-click **Data Sources (ODBC)**. The ODBC Data Source Administrator window opens.
3. Select the System DSN tab and click **Add**. The Create New Data Source window opens.
4. Select IBM DB2 ODBC DRIVER - DB2COPY1 and click **Finish**. The ODBC IBM DB2 Driver configuration dialog opens.



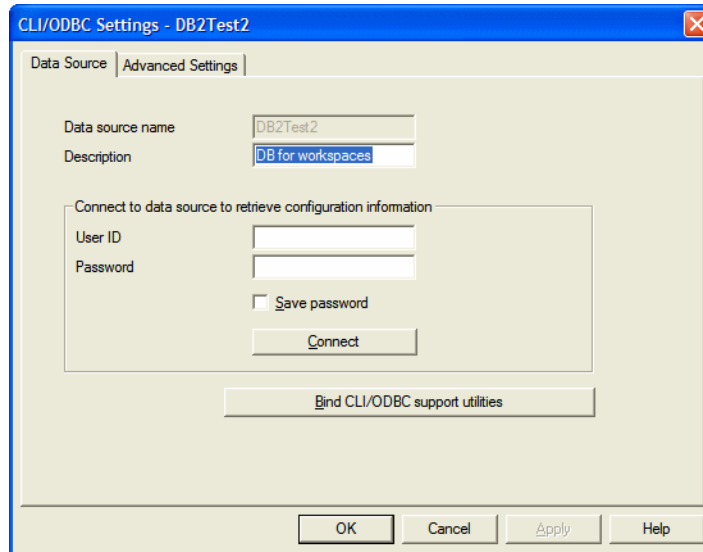
5. In the **Data Source Name** field, enter a name of your choice to identify the data source. If your DBA has supplied a common DSN for use across the enterprise, enter it here.
6. In the **Description** field, enter an optional description for the data source.
7. In the **Database alias** field, select an existing database alias from the drop-down, then click **OK**.
8. If a database alias has not been defined, click **Add**. The CLI/ODBC Settings window opens.



9. In the Data Source tab, the **Data source name** and **Description** fields are prefilled with the information you supplied in the ODBC IBM DB2 Driver configuration dialog. In the **User ID** field, enter your domain user name. In the **Password** field, enter your domain user password. The fields are case-sensitive.
10. Select the TCP/IP tab.



11. Specify the following information on the TCP/IP tab:
 - In the **Database name** field, enter the name of the database your workspace repositories will be stored in.
 - In the **Database alias** field, enter a database alias.
 - In the **Host name** field, enter the host name for the computer on which the database resides.
 - In the **Port number** field, enter the port number for communications with the host. Use the standard port number of 50000 unless otherwise instructed by your DBA.
12. Click **OK**. You are returned to the ODBC Data Source Administrator window. Select the new data source name and click **Configure**. The CLI/ODBC Settings window for the data source opens.



13. In the Data Source tab, the **Data source name** and **Description** fields are prefilled with the information you supplied in the ODBC IBM DB2 Driver configuration dialog. In the **User ID** field, enter your domain user name. In the **Password** field, enter your domain user password. The fields are case-sensitive. Click **Connect** to test the database connection. You are notified that the connection was created successfully. Click **OK**.

NOTE: If you receive an error, verify the driver configuration settings and retest the connection. See your DBA if the problem persists.

14. Click **OK** to exit the CLI/ODBC Settings window. Then click **OK** again to exit the ODBC Data Source Administrator window.

Configuring an Oracle ODBC Data Source Name

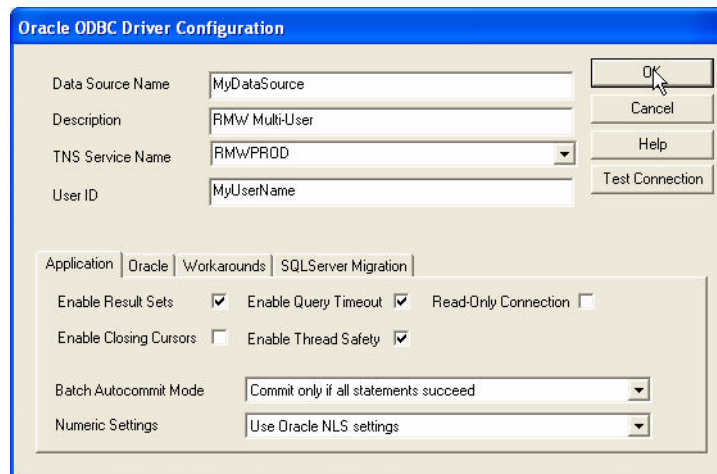
To configure an Oracle Data Source Name (DSN), you must have specified a TNS Service Name for the database your workspace repositories will be stored in. This is the TNS Service Name you entered when you installed the repository client. You will also need to obtain a database user ID and password from your DBA to configure the Oracle DSN.

*NOTE: Keep the DSN handy. You will need to specify it when you create an MW workspace. For instructions on how to create a workspace, see **Getting Started in the workbench documentation set**.*

TASK

1. In the Windows Control Panel, double-click **Administrative Tools**. The Administrative tools window opens.

2. Double-click **Data Sources (ODBC)**. The ODBC Data Source Administrator window opens.
3. Select the System DSN tab and click **Add**. The Create New Data Source dialog opens.
4. Select an appropriate Oracle driver and click **Finish**. The Oracle ODBC Driver Configuration window opens.



5. Specify the following information in the Oracle ODBC Driver Configuration window:
 - In the **Data Source Name** field, enter a name of your choice to identify the data source. If your DBA has supplied a common DSN for use across the enterprise, enter it here.
 - In the **Description** field, enter an optional description for the data source.
 - In the **TNS Service Name** drop-down, select the TNS Service Name for the database your workspace repositories will be stored in. If no choices are shown, or if you are unsure which name to select, contact your DBA.
 - In the **User ID** field, enter the database user ID supplied by your DBA.
6. Click **Test Connection**. The Oracle ODBC Driver Connect window opens.
7. In the Oracle ODBC Driver Connect window the **Service Name** and **User ID** fields are prefilled with the information you supplied in the Oracle ODBC Driver Configuration window. Enter the password for your user ID and click **OK**. You are notified that the connection was created successfully. Click **OK**.

NOTE: If you receive an error, verify the driver configuration settings and retest the connection. See your DBA if the problem persists.

8. Click **OK** to exit the Driver Configuration window. Then click **OK** again to exit the ODBC Data Source Administrator window.
-

Creating a Shared Folder for Workspaces

The folder in which you plan to create workspaces must be shared with team members. It's typically more convenient to share the folder before you create workspaces, but you can do it afterward if necessary, then refresh the workspace path as described in *Getting Started* in the workbench documentation set.

Follow the instructions below to create a shared folder for workspaces. You must be an administrator to create a shared folder.

TASK

1. On the MW server machine, create a folder for MW workspaces. Select the folder and choose **Sharing and Security** in the right-click menu. The Properties dialog for the folder opens. In the Sharing tab for the Properties dialog, select **Share this folder on the network** (or, on a machine in a Windows domain, **Share this folder**). Enter the share name in the **Share name** field and click **Apply**.

NOTE: Do not embed spaces in the share name. Doing so may cause other users to be unable to access the folder.

2. Click **Permissions**. The Permissions for *Folder* dialog opens. Specify the appropriate permissions for users sharing the folder and click **OK**.
-

File Server Setup

The MW EE File Server is an optional product for sites that want to restrict Windows access to workspace source files to master users, while still making the source files available in MW to ordinary users. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze sources in MW, but cannot access them otherwise.

Follow the instructions below to set up workspace folder privileges. You must be an administrator to perform the first two steps.

NOTE: If your site uses the MW EE File Server, you cannot configure master users on MW client machines. All users on client machines must be ordinary users.

TASK

1. On the MW server machine, open **Settings:Control Panel:Administrative Tools:Computer Management**. In the Computer Management window, create two groups, MWMasters and MWUsers. The MWMasters group should contain master users, including the administrator. The MWUsers group should contain ordinary users and, if you use the Three-Group Security Policy, subject matter experts (SMEs).

NOTE: Group names are arbitrary. You can use any names you want.

2. On the MW server machine, create a folder for MW workspaces. Select the folder and choose **Sharing and Security** in the right-click menu. The Properties dialog for the folder opens. In the Sharing tab for the Properties dialog, select **Share this folder on the network** (or, on a machine in a Windows domain, **Share this folder**). Enter the share name in the **Share name** field and click **Apply**.

NOTE: Do not embed spaces in the share name. Doing so may cause other users to be unable to access the folder.

3. On the Security tab for the Properties dialog, give full access permissions for the shared folder to the MWMasters and MWUsers groups and to the local SYSTEM account, then click **OK**.
4. Create a new workspace in the shared folder. After defining the connection parameters on the Connection tab, click the Security tab and choose **Secure sources access via RMW file server**. The server name should be the name of the MW server machine. Leave the port number value as is, then click **OK**.

*NOTE: For complete instructions on creating a new workspace, see **Getting Started** in the workbench documentation set.*

5. In the folder for the workspace, right-click the Sources subfolder and choose **Properties**. In the Sources Properties dialog, click the Security tab. On the Security tab, click **Advanced**. In the Advanced Security Settings for Sources dialog, deselect **Inherit from parent...** A Security dialog opens. In the Security dialog, click **Copy**. You are returned to the Advanced Security Settings for Sources dialog.
6. In the Advanced Security Settings for Sources dialog, select **Replace permission entries...** In the Permission entries list, select the MWUsers group and click **Remove**.
7. In the Advanced Security Settings for Sources dialog, click **Add**. The Select Computer, User, or Group dialog opens. In the Select Computer, User, or Group dialog, enter MWMasters (or whatever name you chose for the MW master users group) and click **OK**. The Permission Entry for Sources dialog opens. For the **Full Control** setting, check **Allow**, then click **OK**. You are returned to the Advanced Security Settings for Sources dialog.
8. In the Advanced Security Settings for Sources dialog, click **OK**. You are prompted to continue. Click **Yes**. In the Sources Properties dialog, click **OK**.

Upgrading Workspaces

When you modify your workbench configuration, you must *upgrade* every workspace created with the previous configuration. Only the master user can upgrade a workspace.

TASK

1. Choose **Start:Programs:Micro Focus:Modernization Workbench Administration**. The Modernization Workbench Administration window opens.
 2. In the Administration window, choose **Upgrade Workspace** in the **Administer** menu. The Upgrade workspace dialog opens, where you can choose the workspace to upgrade.
-

5

Troubleshooting the Installation

Follow the instructions in this section to troubleshoot an MW EE installation.

Troubleshooting Oracle Errors

Follow the instructions in this section to troubleshoot common Oracle errors.

ORA-00958: name is already used by an existing object

This error occurs because the schema for the workspace was created with an Oracle ID already used to create another schema. A unique Oracle ID must be used to create an Oracle schema.

ORA-01034: ORACLE not available; ORA-27101: shared memory realm does not exist

These errors occur because the Oracle instance is not running. You could be receiving ORA-27101 because you tried to modify database parameters such as SGA size.

Troubleshooting the License Server

If users are unable to access a workbench feature and, in particular, if they receive error -96, Windows firewall on the license server host may be blocking access to the license server. You will see Windows Security Alerts on the host

asking whether Windows Firewall should keep blocking the programs `lmgrd` and `RTIRMW` daemon. Click **Unblock**.

Troubleshooting Workspace Access

The folder in which you plan to create workspaces must be shared with team members. If users are unable to access workspaces, it may be because:

- You have not shared the folder for workspaces. Share the folder, then refresh the workspace path as described in *Getting Started* in the workbench documentation set.
- You shared the folder for workspaces after creating a workspace. Refresh the workspace path as described in *Getting Started* in the workbench documentation set.
- You embedded spaces in the value of the **Share name** field for the folder. Remove the spaces, then refresh the workspace path as described in *Getting Started* in the workbench documentation set.