

Micro Focus[®]

Modernization Workbench[™]

Installing MW Workgroup Edition



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Contents

- Overview5**
 - Installation Tasks5
 - Deployment6
 - Mainframe and Network Server7
 - Repository Server7
 - MW Server7
 - MW Client7
- Hardware and Software Requirements8**
 - MW Repository Hardware Requirements8
 - MW Repository Software Requirements8
 - MW Server Hardware Requirements9
 - MW Server Software Requirements9
 - MW Client Hardware Requirements10
 - MW Client Software Requirements10
- Installing and Uninstalling Modernization Workbench12**
 - Installing the Oracle Database12
 - Installing the MW Database Client12
 - Installing MW on the Server13
 - Installing the MW File Server (Optional)14
 - Installing MW on the Client14
 - Installing the MW File Server Client (Optional)15
 - Installing the Java Add-On16
 - Uninstalling Modernization Workbench16
- Post-Installation Administrative Tasks17**
 - Configuring Modernization Workbench17
 - Licensing18
 - Application Analyzer Licensing18
 - Business Rule Manager and Application Architect Licensing19
 - Oracle Database Setup19
 - Creating a Shared Folder for Workspaces20
 - File Server Setup20
 - Upgrading Workspaces21
- Troubleshooting the Installation22**
 - Uninstalling Oracle22
 - Troubleshooting Oracle Errors22

ORA-01034: ORACLE not available; ORA-27101	23
ORA-12154: TNS could not resolve service name	23
ORA-12170: TNS: Connect timeout occurred	23
ORA-12505: TNS: listener could not resolve SID	23
Troubleshooting Workspace Access	24

Overview

This manual describes how to install and configure Micro Focus Modernization Workbench (MW) Workgroup Edition, a suite of software products for analyzing, mining, and re-architecting legacy applications:

- Application Analyzer is the base Modernization Workbench product, used to analyze and document legacy systems at both the application and program levels.
- Business Rule Manager mines business logic from program code and encapsulates the logic in *business rules*.
- Application Architect offers a variety of advanced algorithms for "slicing" logic from program source: all the code needed for a computation, for example, or "specialize" a program based on the value of a variable.

All three products are installed with Modernization Workbench. Each product is separately licensed.

MW Workgroup Edition is deployed in a multiuser environment with access to a common repository of application objects. Repository setup is the responsibility of a master user, leaving team members free to focus on their tasks.

MW Workgroup Edition installations consist of the following components:

- The MW Repository is an Oracle database containing up to seven repositories, one per MW workspace.
- The MW Server hosts MW workspace files and related support files.
- MW Clients host the link files used to connect to workspaces on the server.
- The MW Database Client is an Oracle client used to connect with the repository. The database client is packaged with both the MW client and MW server, and must be installed wherever the client or server is installed.
- The MW File Server is an optional product for sites that want to restrict Windows access to application source files. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze source files in MW, but cannot access them otherwise. Only the master user has Windows access to the source files.

Installation Tasks

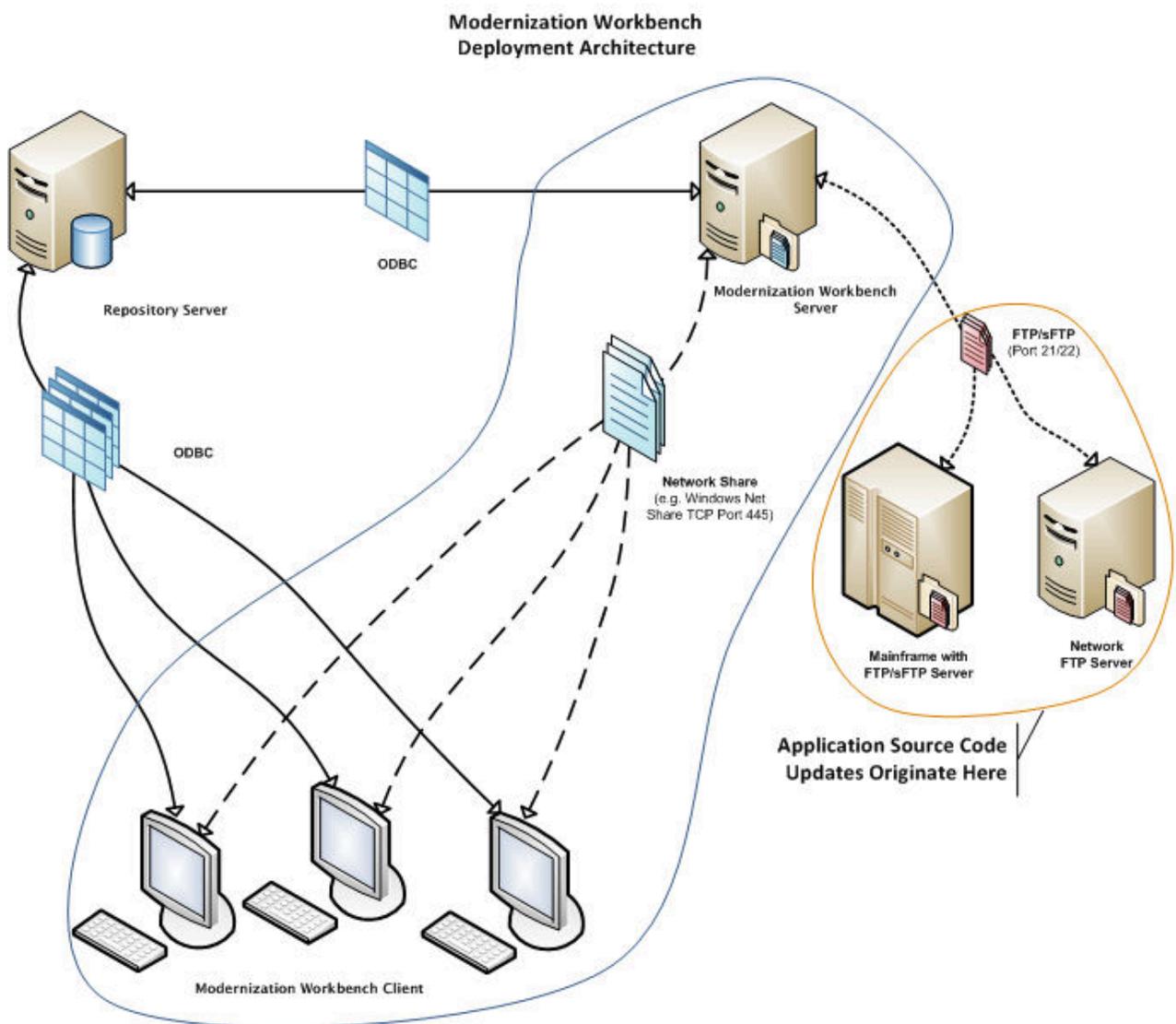
The table below describes the tasks involved in installing MW Workgroup Edition and the order in which the tasks must be performed.

Task	Order	Notes
Install Repository Server	1	
Install Database Client	2	Packaged with both the MW Client and MW Server, and must be installed wherever the client or server is installed.
Install MW on Server	3	
Install Java add-on on Server	4	Optional.

Task	Order	Notes
Install File Server	5	Optional.
Install MW on Clients	6	
Install Java add-on on Clients	7	Optional.
Install File Server Clients	8	Optional.

Deployment

The figure below shows the standard MW deployment scenario. 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 typically hosts the application to be modeled in MW. Application source files are downloaded from the mainframe (and, if necessary, a network server) to the MW server via FTP or SFTP.

Repository Server

The Repository Server hosts the database for one or more multiuser repositories, one repository per MW workspace. This server provides centralized, network-accessible storage for parsed data and analysis output.

MW Server

The MW 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. The installation program is the same for the MW client and MW server.

MW Client

MW 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.



Note: The installation program is the same for the MW client and MW server.

Hardware and Software Requirements

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

MW Repository Hardware Requirements

The table below lists the hardware requirements for MW Repository installations. An embedded version of Oracle is installed with the repository. Hardware requirements may vary depending on the size of the application you are analyzing.

Type	Requirement	Notes
Processor	2 x 2.6 GHz	2 physical processors containing single or multiple cores.  Note: The MW Repository may not be installed on a machine with more than 2 physical processors (occupying 1 socket each).
Physical Memory	4GB RAM	
Virtual Memory	1GB to 3GB	
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.
Hard Drive Requirements	2 or more physical hard drive partitions, fast drives recommended	Enables segmenting data I/O operations for performance-tuning optimizations.

MW Repository Software Requirements

The table below lists the software requirements for MW Repository installations. An embedded version of Oracle is installed with the repository.

Type	Requirement
Operating System	<p>Microsoft Windows XP Professional, Service Pack 3 or higher, 32-bit and 64-bit</p> <p> Note: Windows XP Professional has a limit of ten simultaneous connections, permitting no more than ten simultaneous MW sessions.</p> <p>Microsoft Windows Server 2003, 32-bit and 64-bit</p> <p>Microsoft Windows Vista, 32-bit</p> <p>Microsoft Windows Server 2008, 32-bit and 64-bit</p>

MW Server Hardware Requirements

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

Type	Requirement	Notes
Processor	2.6 GHz Dual Core or 2x 3.0+ GHz Processors	Dual processing capability with multiple cores in a processor or separate physical processors.
Physical Memory	3GB RAM	
Virtual Memory	1GB to 3GB	
Hard Drive Storage	Variable	<p>For MW workspaces, approximately 40X size in bytes of the application source code modeled in MW (for example, 100MB source = 4GB).</p> <p>For MW software, minimum 200MB.</p> <p>For Java add-on, minimum 115MB.</p> <p>For database client, minimum 200MB.</p>

MW Server Software Requirements

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

Type	Requirement
Operating System	<p>Microsoft Windows XP Professional, Service Pack 3 or higher, 32-bit and 64-bit</p> <p>Microsoft Windows Server 2003, 32-bit and 64-bit</p> <p>Microsoft Windows 7, 32-bit and 64-bit</p> <p>Microsoft Windows Vista, 32-bit</p>

Type	Requirement
	Microsoft Windows Server 2008, 32-bit and 64-bit
Database Client	For Oracle or DB/2, one configured ODBC data source name (DSN) per database instance.
Internet Explorer 6.0 or higher (optional)	Required to view HTML report outputs.
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.  Note: Visio .VDX files are XML-based and may be generated without Visio being installed on the MW client.
JRE 1.5.0 or higher (optional)	Required for Java add-on.

MW Client Hardware Requirements

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

Type	Requirement	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	For MW software, minimum 200MB. For Java add-on, minimum 115MB. For database client, minimum 200MB.

MW Client Software Requirements

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

Type	Requirement
Operating System	Microsoft Windows XP Professional, Service Pack 3 or higher, 32-bit and 64-bit Microsoft Windows Server 2003, 32-bit and 64-bit Microsoft Windows 7, 32-bit and 64-bit Microsoft Windows Vista, 32-bit Microsoft Windows Server 2008, 32-bit and 64-bit

Type	Requirement
Database Client	For Oracle or DB/2, one configured ODBC data source name (DSN) per database instance.
Internet Explorer 6.0 or higher (optional)	Required to view HTML report outputs.
Microsoft Office (optional)	Required by MW tools with reporting capabilities to save to Microsoft Office file formats.
Microsoft Visio (optional)	<p>Required to generate output as Microsoft Visio .VSD files.</p> <p> Note: Visio .VDX files are XML-based and may be generated without Visio being installed on the MW Client.</p>
JRE 1.5.0 or higher (optional)	Required for Java add-on.

Installing and Uninstalling Modernization Workbench

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.

 **Note:** You can run the Windows Installer (.msi) installation programs "silently." That's particularly useful when you are installing clients on a network. Check with support services for the appropriate sequence of commands.

Installing the Oracle Database

The Oracle database packaged with Modernization Workbench stores up to seven MW repositories, one repository per predefined schema. The embedded version of Oracle supplied with the database limits the number of users and does not provide database administration tools. The repository should only be installed with the assistance of Micro Focus on-site personnel.

 **Note:** Make sure that Oracle is not already installed. Failure to completely uninstall a previous version of Oracle will cause errors in MW operations.

1. In the repository installation folder, double-click the setup_32.cmd file. A command window opens.
2. Enter the drive for binary files in the **Select drive for binaries** field, or accept the default. Press Enter.
3. Enter the drive for data files in the **Select drive for data** field, or accept the default. Press Enter.
4. Enter the System Global Area (SGA) size in megabytes in the **SGA size field**, or accept the default. The SGA size must be at least 128 megabytes. Press Enter. The repository server installation begins transferring files to your machine.

 **Note:** If you receive a Windows Security Alert during the installation asking if you want to keep blocking the program, click **Unblock**.

Installing the MW Database Client

Install the database client wherever you install the workbench client or workbench server. You will need the following information to install the repository client:

- The TCP/IP host name for the machine on which the repository resides.
 - The TCP/IP port number for communications with the host, if it is not the standard port number, 1521.
 - The SID of the database instance for the repository, RTI.
1. In the repository client installation folder, double-click the Oracle ODBC 11R1.msi 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 Database Server screen opens:
 - In the **Database Server** field, enter the TCP/IP host name for the machine on which the repository resides.
 - In the **Port** field, enter the TCP/IP port number for communications with the host, if it is not the standard port number, 1521.
 - In the **SID** field, enter the SID of the database instance for the repository, RTI.
5. Click **Next**. The Ready to Install the Program screen opens. Click **Install** to begin transferring files to your PC. 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**.

If you need to modify database server information, run Change Program for the Repository Client in the Add or Remove Programs window in the Windows Control Panel.

Installing MW on the Server

The MW Server hosts MW workspace files and related support files. Follow the instructions in this section to install MW on the server. The Micro Focus License Manager is packaged with the installation.

 **Note:** The MW Server cannot reside on the same machine as the MW Repository. The installation program is the same for the MW client and MW server.

1. In the installation folder for the product, double-click the setup.exe program.
 - If the prerequisite software is installed on your machine, the Welcome screen opens.
 - If the prerequisite software is not installed on your machine, the Modernization Workbench Setup screen prompts you to install the missing software. Click **Install**. When the software been installed, 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 File Server (Optional)

The MW File Server is an optional product for sites that want to restrict Windows access to application source files. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze source files in MW, but cannot access them otherwise. Only the master user has Windows access to the source files. If you use the file server, it must be installed on the same machine as the MW server.

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 the Client

MW 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. The Micro Focus License Manager is packaged with the installation.



Note: The installation program is the same for the MW client and MW server.

1. In the installation folder for the product, double-click the setup.exe program.

- If the prerequisite software is installed on your machine, the Welcome screen opens.
 - If the prerequisite software is not installed on your machine, the Modernization Workbench Setup screen prompts you to install the missing software. Click **Install**. When the software been installed, 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 File Server Client (Optional)

The MW File Server is an optional product for sites that want to restrict Windows access to application source files. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze source files in MW, but cannot access them otherwise. Only the master user has Windows access to the source files. If you use the file server, the file server client must be installed on the same machine as the MW client.

1. In the file server client 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 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**.

Installing the Java Add-On

Follow the instructions below to install the Java add-on. If you are installing in a distributed environment, make sure to install the add-on on MW clients as well as the MW server.

1. In the installation folder for the product, double-click the setup.exe program.
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 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.

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

Uninstalling Modernization Workbench

Follow the instructions below to uninstall a Modernization Workbench product. Make sure to close any open MW programs before running the uninstall program.

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.

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, configuring the workbench, when you complete the installation.

Configuring Modernization Workbench

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

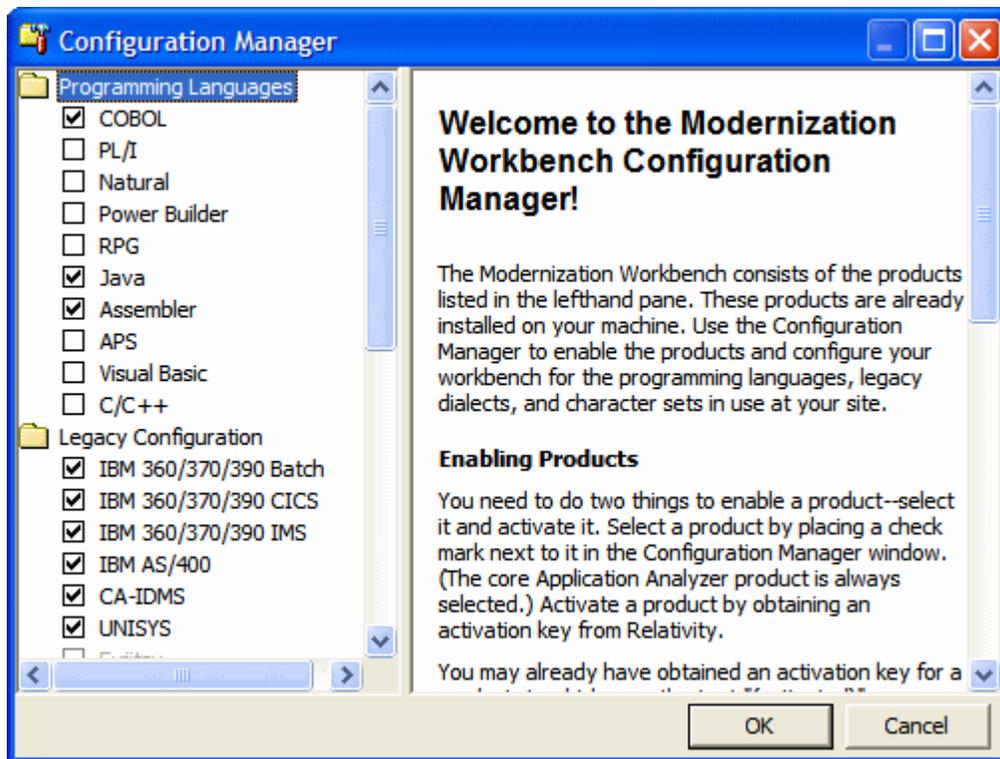
If you configure your workbench for Cobol, for example, you will see only the workbench options and displays appropriate for Cobol modernization. If it turns out that you need to configure your workbench for PL/I as well, you can always come back to the Configuration Manager and select PL/I in addition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

1. Open the Configuration Manager window.

- If you are installing MW, the Configuration Manager window opens after you finish the installation.
- If you have previously installed MW 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 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.

Licensing

All three Modernization Workbench products (Application Analyzer, Business Rule Manager, and Application Architect) are installed with the workbench. Each product is separately licensed. Follow the instructions in the topics linked below to manage your licenses for MW products.

Application Analyzer Licensing

Application Analyzer users are issued 30-day trial licenses at installation, so that they can work in the product out-of-the-box. A Sentinel RMS license server is installed with the product.

Depending on the licensing model in use at your site, you can manage your license:

- Locally, using the installed Sentinel RMS license server.
- Remotely, using a Sentinel RMS license server that has been configured to manage licenses centrally.

 **Note:** The remote license server uses the same software as the local license server that is installed with Application Analyzer.

Each time you start Application Analyzer during the trial period, the Micro Focus Licensing System Administration tool notifies you how much of the trial period remains and prompts you to enter a code authorizing a full license:

- If you use a local license server, enter the 16-character license authorization code for Application Analyzer in the **Authorization** field of the Trial License window, then click **Authorize**.
- If you use a remote license server, click **Advanced** on the Trial License window, then click **Change** in the **License server** field. Enter the IP address or server name of the license server, then click **Save**.

 **Note:** You can start the Licensing System Administration tool at any time by choosing **Start > Programs > Micro Focus License Manager > License Management System**.

Your License System Administrator can tell you which licensing model your site uses and provide you with the name of the remote license server if needed. For complete information, including how to configure a remote license server, refer to the help provided with the Licensing System Administration tool.

 **Note:** Application Analyzer licenses provide support for a subset of the parsers available in Modernization Workbench. If you need support for additional parsers, contact support services.

Business Rule Manager and Application Architect Licensing

Trial licenses are not provided for Business Rule Manager and Application Architect. Before you can work in these products, you must enter the 16-character license authorization code for the product. Each product is separately licensed.

Choose **Start > Programs > Micro Focus License Manager > License Management System**. In the Licensing System Administration tool, click the Authorize tab, then enter the authorization code in the **Enter authorization code** field and click **Authorize**.

Oracle Database Setup

The Oracle database packaged with Modernization Workbench supports up to seven workspace repositories, one repository per schema. The schema names and ODBC data source name (DSN) are predefined.

When you create an MW workspace, you provide three key pieces of information:

- The ODBC data source name (DSN). The data source name for all workspaces that use the Oracle database is RMW_Repository.
- A unique database schema name. Choose from seven predefined schema names:
 - RMWUSER1 through RMWUSER5, which together share a 30GB tablespace. Use these schemas for smaller workspaces that together contain no more than 75,000 source files.
 - RMWUSERM, which is assigned a 24GB tablespace. Use this schema for a workspace that contains between 25,000 and 50,000 source files.
 - RMWUSERL, which is assigned a 30GB tablespace. Use this schema for a workspace that contains between 50,000 and 75,000 source files.



Note: Tablespace usage may vary based on file complexity, type, programming language, and other characteristics. Tablespace limits are extensible, so check with Micro Focus support services before concluding that an application is too large for an available schema.

- A unique database user name, which must be the same as the database schema name. The password for the user name is identical to the user name. So the user name and password for the schema RMWUSER1 should both be RMWUSER1.

Each user who connects to the workspace must provide all three pieces of information. For complete instructions on creating and connecting to workspaces, see *Getting Started* in the workbench documentation set.

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.

1. On the MW server, create a folder for MW workspaces.
2. 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. 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 File Server is an optional product for sites that want to restrict Windows access to application source files. As long as you set up workspace folder privileges correctly, ordinary users can view and analyze source files in MW, but cannot access them otherwise. Only the master user has Windows access to the source files.

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 File Server, you cannot configure master users on MW client machines. All users on client machines must be ordinary users.

1. On the MW server machine, open **Settings > Control Panel > Administrative Tools > Computer Management**. In the Computer Management window, create two groups, MW Masters and MWUsers. The MWUsers 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.

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

Troubleshooting the Installation

Follow the instructions in this section to troubleshoot a Modernization Workbench installation.

Uninstalling Oracle

Failure to completely uninstall a previous version of Oracle will cause errors in MW repository operations. Follow the instructions in this section to uninstall a previous version of Oracle.



Note: Uninstalling Oracle should only be undertaken by on-site support services personnel and only with the explicit permission of the client.

1. Make a backup of the `tnsnames.ora` and `sqlnet.ora` files in the `ORACLE_HOME\NETWORK\ADMIN` folder.
2. Choose **Start > Programs > Oracle Installation Products > Universal Installer**. In the Universal Installer dialog, click **Deinstall Products**, then follow the prompts.
3. Choose **Start > Settings > Control Panel > Add/Remove Programs**. In the Add or Remove Programs window, verify that Oracle has been removed. If Oracle still appears in the list, remove it.
4. Choose **Start > Run**. Type `regedit` in the **Open** combo box and click **OK**. Delete the folders `HKEY_CURRENT_USER\SOFTWARE\ORACLE` and `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE` from the registry.

Under `HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI`, there may be keys `OraDbversion_home1`, `Oracle` in `OraDbversion_home2`, or other Oracle keys. Delete the registry entries with those keys.

Under `HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI\ODBC Drivers`, look for keys `Oracle` in `OraDbversion_home1` or `Oracle` in `OraDbversion_home2`. Delete the registry entries with those keys. Do not delete the entry with the key `Microsoft ODBC for Oracle`.

5. Choose **Start > Settings > Control Panel > System**. In the System Properties window, click the **Advanced** tab, then click **Environment Variables**. In the System variables group box, delete the environment variables `ORACLE_HOME` and `TNS_ADMIN`. Edit the `PATH` environment variable to remove any folder path that contains the string `oracle`. Edit the `PATH`, `CLASSPATH`, and `PERL5LIB` environment variables to remove any folder path that contains the string `oracle`.
6. Choose **Start > Settings > Control Panel > Administrative Tools > Services**. In the Services window, verify that Windows services with names starting with `oracle` are not running. Some examples of such services are `OracleJobSchedulerORCL` and `OracleOraDbversionhome1TNSListener`. If the services still are running, stop them.
7. Delete the `\Oracle` and `\Program Files\Oracle` folders on your hard drive.

Troubleshooting Oracle Errors

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

ORA-01034: ORACLE not available; ORA-27101

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.

ORA-12154: TNS could not resolve service name

This error is always related to your local copy of tnsnames.ora. Check the file in *REPOSITORY_CLIENT_HOME*\RMWRepository Client. It should contain the following entry:

```
RMW_REPOSITORY=
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP)(HOST=hostname)(PORT = 1521))
  )
  (CONNECT_DATA = (SID=RTI))
)
```

where *hostname* is the TCP/IP host name of the machine hosting the MW repository.

If tnsnames.ora exists in the correct location and does not contain syntax errors, then this error indicates that another Oracle version is installed on the machine. Uninstall the Oracle version.

ORA-12170: TNS: Connect timeout occurred

This error occurs because of firewall issues, database down, listener down, network trouble, and the like. Contact your system administrator or on-site support services personnel for assistance.

ORA-12505: TNS: listener could not resolve SID

This error occurs when the SID specified in the connection was not found in the listener's tables. Check listener.ora in *ORACLE_HOME*\NETWORK\ADMIN on the machine hosting the MW repository. It should contain the following entries:

```
SID_LIST_LISTENER =
(SID_LIST =
(SID_DESC =
(SID_NAME = PLSExtProc)
(ORACLE_HOME = C:\Oracle\RMW21_10201\home)
(PROGRAM = extproc)
)
)
LISTENER =
(DESCRIPTION_LIST =
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1))
  (ADDRESS = (PROTOCOL = TCP)(HOST = hostname)(PORT = 1521))
)
)
```

If listener.ora exists in the correct location and does not contain syntax errors, then this error indicates that another Oracle version is installed on the machine. Uninstall the Oracle version.

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.

Index

C

- client hardware requirements 10
- client installation 14
- client software requirements 10
- Configuration Manager 17

D

- database client installation 12
- database installation 12
- database uninstallation 22
- deployment scenario 6

F

- file server client installation 15
- file server installation 14
- file server setup 20

I

- installation overview 5
- installation tasks 5

J

- Java add-on installation 16

L

- licensing 18, 19

O

- Oracle database installation 12
- Oracle database setup 19
- Oracle database uninstallation 22

R

- repository hardware requirements 8
- repository software requirements 8

S

- server hardware requirements 9
- server installation 13
- server software requirements 9
- shared folder setup 20

U

- uninstallation 16
- upgrading workspaces 21