



Relativity Designer 2.2

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Contents

Introduction	4
Product description	5
What's New	6
Resolved Issues	7
Installation	9
System requirements	9
Hardware requirements	9
Operating systems supported	9
Software requirements	9
Additional software requirements	10
Downloading the product	10
Restrictions and requirements	10
Installing Relativity Designer Suite	11
What to install	11
Data Manager installation	11
Designer installation	12
Database Administrator installation	12
Installation verification	13
Data Manager verification	13
Designer verification	14
Locating the ODBC Administrator	15
Locating the ODBC Administrator on Windows 7 32-bit	15
Locating the 32-bit ODBC Administrator on Windows 7 64-bit	15
Locating the 64-bit ODBC Administrator on Windows 7 64-bit	16
Post-installation considerations	16
Location of data files	16
Developing a new Relativity catalog	16
Developing an existing Relativity catalog	17
Uninstalling	17
Licensing information	18
To start Micro Focus License Administration	18
Installing licenses	18
If you have a license file	18
If you have an authorization code	19
Updates and SupportLine	20
Further Information and Product Support	20
Information We Need	20
Creating Debug Files	21
Copyright and Disclaimer	22

Introduction

These release notes contain information that might not appear in the Help. Read them in their entirety before you install the product.



Note: This document may contain a number of links to external Web sites. Micro Focus cannot be responsible for the contents of the Web site or for the contents of any site to which it might link. Web sites by their nature can change very rapidly and although we try to keep our links up-to-date, we cannot guarantee that they will always work as expected.

Product description

Relativity 2.2 enables the construction of a true relational database using existing COBOL application data. It provides a full-featured, Windows Open Services Architecture (WOSA), Open Database Connectivity (ODBC)-compliant relational database engine. Thus, Relativity allows SQL-based client access to COBOL application data without moving, converting, replicating, or re-engineering COBOL data files.

With Relativity providing SQL-based access to COBOL data files, any ODBC-enabled client/server development application or tool can be chosen to build applications for decision support, and specialized data processing functions. Relativity enables any working application to benefit from client/server technology without rewriting or migrating that application.

Relativity is available in the following forms:

Designer Suite

The Relativity Designer Suite is a Windows-only development tool which enables you to create Relativity databases. The Suite consists of the following components - the Designer, the Database Administrator, and the Data Manager.

You can import COBOL file record definitions into the database, and then create tables based on those record definitions.

Use the Database Administrator to maintain such things as the table connections, date constants, and character sets used in a Relativity database.

Relativity for Windows Workstations

Relativity for Windows Workstations is Windows-only run-time product and is a single-tier solution required when your ODBC application and COBOL data files reside on the same machine, and the ODBC application is a 32-bit program. Relativity for Windows Workstations requires a Relativity database that was developed using the Designer Suite.

Relativity for Windows Workstations contains the following components - Database Administrator and the Data Manager.

Use the Database Administrator to maintain such things as the table connections, date constants, and character sets used in a Relativity database.

Data Server

The Relativity Data Server is a run-time product which contains the Data Server for a specific platform (Windows or UNIX), and also a platform-specific Data Client.

It is a client/server solution required when your ODBC application is required to access COBOL data files that reside on another machine, or when your ODBC application is a 64-bit program. The Relativity Data Server requires a Relativity database that was developed using the Relativity Designer Suite.

This product also contains a Java Client, which is part of the client/server solution required by JDBC (Java Database Connectivity) applications.

What's New

Relativity offers the following enhancements:

New features in Relativity 2.2

There are no new features included in this release of Relativity.

New features in Relativity 2.1 HotFix 1

There are no new features included in this HotFix.

New features in Relativity 2.1

The following features are new to this release of Relativity:

- [Net Express and Server Express support](#)
- [COBOL syntax files](#)
- [ODBC driver for ADO](#)

Support for Net Express and Server Express

You can now install and Relativity with either Micro Focus Net Express or Server Express.

See *Software Requirements* in these Release Notes for information about which versions of Net Express and Server Express are supported.

COBOL syntax files

The **Source Code Import Wizard** within Relativity Designer invokes the COBOL compiler to generate information about a COBOL program's File Definition and saves it to COBOL syntax file. The wizard then reads the information from that file and imports it into the Relativity catalog.

The COBOL syntax files have a different extension based on which Micro Focus product you have installed Relativity for:

- .CST, if you use Relativity with either Visual COBOL or Enterprise Developer
- .RST, if you use Relativity with either Net Express or Server Express

A new ODBC driver

This release provides a new Relativity ODBC driver which is optimized for ADO support.

When you use Relativity with an ADO application, it is strongly recommended to use the ADO version of Relativity. To do this:

1. Open the ODBC Administrator and click **Add**.

This displays a list of all ODBC drivers installed on your machine.

2. Select a driver that is appropriate for your environment:

- Micro Focus Relativity Data Manager for ADO (32-bit)
- Micro Focus Relativity Data Client for ADO (32-bit)
- Micro Focus Relativity Data Client for ADO (64-bit)

Resolved Issues

Resolved issues in Relativity 2.2

The numbers that follow each issue are the Support Incident Numbers followed by the Reported Problem Incident (RPI) number (in parentheses).

- [Designer](#)
- [Data Manager](#)
- [Data Client](#)

Designer

[Back to the list](#)

- A problem with launching the Relativity Server Administrator from the Designer and DBA Tools menu has been corrected. A problem with locating the Server Administrator help file has also been corrected.
(1105713)

Data Manager

[Back to the list](#)

- Relativity now works properly with Microsoft Word when used as a source for a Microsoft Word mailing list.
(628929)

Data Client

[Back to the list](#)

- The 64-bit Relativity Server Administrator no longer crashes on Windows 10 when it attempts to create a catalog.
(629199)

Resolved issues in Relativity 2.1 HotFix 1

The numbers that follow each issue are the Support Incident Numbers followed by the Reported Problem Incident (RPI) number (in parentheses).

- [Data Manager](#)
- [Designer](#)

Data Manager

[Back to the list](#)

- An INSERT into a table defined on a sequential file no longer fails with COBOL error 48,1 when using the Relativity for ADO driver.
2873824 (1106557)

Designer

[Back to the list](#)

- A problem in the Relativity Designer that caused an error to be reported when importing tables from another catalog is fixed. The error occurred if an imported FD had multiple unnamed FILLER items. The first item was correctly merged, but errors were reported on subsequent FILLER items in the same FD.
2874985 (1106659)

Resolved issues in Relativity 2.1

The numbers that follow each issue are the Support Incident Numbers followed by the Reported Problem Incident (RPI) number (in parentheses).

- [Data Manager](#)
- [Data Server](#)

Data Manager

[Back to the list](#)

- An issue where data files with edited data items, such as PIC -9(6).9(2), would return 0 in columns associated with such data items, if the data item contained EBCDIC characters has been fixed.
2862434 (1105012)
- An INSERT into a table defined on a sequential file no longer fails with COBOL error 48,1.
2849810 (1103083)

Data Server

[Back to the list](#)

- The Data Server no longer writes "Assert" messages to the server.log file.

Other resolved issues:

- 2862434 (1105011)
- 2859204 (1104837)

Installation

System requirements

Hardware requirements

The requirements for this Relativity product are in addition to the requirements of the Micro Focus product you have installed - either Visual COBOL, Enterprise Developer, Net Express or Server Express. See the in-product documentation for details of the respective product's requirements.

The disk space requirements are, approximately:

Platform	Relativity Designer Suite	License Administration tool
x86 Windows platforms	100MB	25MB
x64 Windows platforms	100MB	25MB
UNIX	100MB	100MB

Operating systems supported

For a list of up-to-date operating systems supported, check the *Product Availability* section on the Micro Focus SupportLine Web site: <http://supportline.microfocus.com/prodavail.aspx>.

This product operates on the following platforms:

- Windows XP to Server 2012 R2, and everything in between

Software requirements

This Relativity product requires a Micro Focus COBOL development or deployment product.

Micro Focus COBOL development products:

- Visual COBOL for Visual Studio 2010, version 2.2 Update 2, HotFix 5, or a later HotFix
- Visual COBOL for Visual Studio 2012, version 2.2 Update 2, HotFix 5, or later
- Visual COBOL for Visual Studio 2013, version 2.2 Update 2, HotFix 5, or later
- Visual COBOL for Visual Studio 2015, version 2.3 or later
- Visual COBOL for Eclipse, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Visual Studio 2010, version 2.2 Update 2, HotFix 5, or a later HotFix
- Enterprise Developer for Visual Studio 2012, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Visual Studio 2013, version 2.2 Update 2, HotFix 5, or later
- Enterprise Developer for Visual Studio 2015, version 2.3 or later
- Enterprise Developer for Eclipse, version 2.2 Update 2, HotFix 5, or later
- Net Express 5.1 Update 12*



Note: *This Relativity product has been tested only with the specified maintenance update.

Micro Focus COBOL deployment products:

- COBOL Server for Windows, version 2.2 Update 2, HotFix 5, or later
- Enterprise Server for Windows, version 2.2 Update 2, HotFix 5, or later
- Micro Focus Server 5.1 Update 12*



Note: *This Relativity product has been tested only with the specified maintenance update.

Other requirements

This product requires the latest version of the Micro Focus licensing software.

If you have one of the products listed above installed locally, you do not need to install the licensing software separately, as the product setup file also installs a new license server on the same machine.

Additional software requirements

To ensure full functionality for some Visual COBOL or Enterprise Developer features, you might be required to obtain and install third-party software in addition to the prerequisite software installed automatically by the product setup file. The following information specifies the third-party software required for each feature.

Compiling Java

Either the IBM or the Oracle Java Development Kit (JDK), version 1.5 or later, is required for compiling Java.

After installing the JDK, you need to set up your Java environment.

JDBC Support

Oracle's Java Platform, Enterprise Edition (Java EE) 6 or Java 7 is required to execute the Java Client and develop a JDBC application. You can download Oracle's Java EE from Oracle's Web site and install it anywhere on your machine.



Note: If you are using Java EE 6, it must be a version that contains JDK 6, update 27 as a minimum.

Downloading the product

Use the download links in your Electronic Product Delivery email to download the required Relativity products.

For more information, follow the same links for the installation instructions and the End User License Agreement.

Restrictions and requirements

Before starting the installation on Windows, you should consider the following:

- If, when you install a Relativity product, the machine does not have the Microsoft Visual C++ 2012 Redistributable Run-time already installed, it is installed as part of the Visual COBOL, Enterprise Developer, or Net Express install. The installation of Microsoft Visual C++ 2012 Redistributable Run-time adds a number of .dll files, without digital signatures, into the `winsxs` directory.
- You need to be logged on with a user ID that has write access to the registry structure under `HKEY_LOCAL_MACHINE`, `HKEY_CLASSES_ROOT`, and `HKEY_CURRENT_USER` so that the installation can set the environment appropriately. You also need to be logged on with Administrator privileges.

Installing Relativity Designer Suite


 **Note:** Before installing, see *Restrictions and Requirements*.

This version of the product is a full install.


What to install

You need to install the following files, in the following order:


- The Data Manager install file - `DataManagerx86.msi`. See *Data Manager installation*.

 **Note:** If you plan to use the Data Server product for communications, you do not need to install the Data Manager. Instead, you must install a 32-bit Relativity Data Client in order to communicate with the Data Server. See the Release Notes of Relativity Data Server for more information.

- The Designer install file - `Designerx86.msi`. See *Designer installation*.
- The Database Administrator install file - `DBAx86.msi`. See *Database Administrator installation*.

 **Note:** This install is optional. Only install the Database Administrator if you require ongoing maintenance of Relativity databases.

Data Manager installation


 **Note:** The Data Manager is only available on Windows.

The Data Manager is one of the core pieces of the Relativity product. Either the Data Manager or a Data Server/Data Client must be installed in order to use the other Relativity products. The Data Manager is required in situations where the data files are located on the same Windows machine as the ODBC application, and the ODBC application is a 32-bit program. If either of these conditions is false, you will require the Data Server product instead.

The Data Manager requires an installation of other Micro Focus products in order to access data files. If the Data Manager is to be used with the Relativity Designer Suite in order to develop Relativity catalogs, Visual COBOL, Enterprise Developer, Net Express or Server Express must be installed on the same machine as the Data Manager. If the Data Manager is not to be used to develop catalogs, in other words it is being installed in a production environment, you only require an installation of COBOL Server, Enterprise Server or Micro Focus Server.


To install the Relativity Data Manager:

1. Run `DataManagerx86.msi` and follow the wizard instructions to install the prerequisite software and the product.
2. Following installation of the Data Manager, install a license using the Micro Focus License Administration; see *Installing licenses* in these Release Notes for more information.

 **Note:** You must also license the Micro Focus product you have installed Relativity for (either Visual COBOL, Enterprise Developer, Net Express, Server Express, Enterprise Server, COBOL Server, or Micro Focus Server) with its own license.

3. Following installation of a license, use the 32-bit ODBC Administrator to create a data source. The ODBC application will use the data source name to establish a connection to the Relativity Data Manager and a Relativity catalog, which contains information about a Relativity database. See *Data Manager Verification* for more information.

Designer installation

 **Note:** The Designer is only available on Windows.

The Relativity Designer is a program intended to develop and maintain Relativity databases. The Designer does not need direct access to the catalog file for the Relativity database. It performs its work through an existing data source, either through Data Manager or Data Client.


One of the Designer's functions is to import the definitions of file record layouts into the Relativity database. To do this, it requires access to a COBOL development system where it must be one of the following products - Visual COBOL, Enterprise Developer, Net Express or Server Express. The COBOL development system does not need to be installed on the same machine as the Designer; it can also use a development system that is installed on the same machine as a Relativity Data Server. The best solution depends on the location of the source to the COBOL program.

The Designer is a 32-bit ODBC application, and will require a data source created by the Data Manager or the 32-bit Data Client that links to the Relativity database you want to maintain.

To install the Relativity Designer:

1. Run `Designerx86.msi` and follow the wizard instructions to install the prerequisite software and the product.
2. Following installation of the Designer, you need to create a 32-bit data source, as detailed in *Data Manager verification*. If you are creating a data source for an existing Relativity database, all that is necessary is to create the required data sources and associate them with the database catalog file. If you are developing a new database, you must create a new catalog file at the same time that you create the data source; this catalog file must be located on the same machine as the data files, and for the sake of simplicity, in the same directory as the data files.
3. See *Importing Visual COBOL/Enterprise Developer File Definitions into Relativity* in the Relativity Designer Help for details on how to import the file definitions into a Relativity Database, and then to create tables on those file definitions.

Database Administrator installation

 **Note:** The Database Administrator is only available on Windows.

The Database Administrator (DBA) is a program intended to maintain a Relativity database after development. It does not require Visual COBOL or Enterprise Developer to be installed on the same machine.

The DBA is a 32-bit ODBC application used to maintain such things as the table connections, date constants, and character sets used in a Relativity database. It will require a 32-bit Data Manager or 32-bit Data Client data source to a Relativity database in order to maintain it.

To install the Relativity DBA:

1. Run `DBAx86.msi` and follow the wizard instructions to install the prerequisite software and the product.
2. Following the installation of the DBA, create a 32-bit data source, using either the Data Manager or 32-bit Data Client, in order to access and maintain the database; see *Data Manager verification* for more information.
3. See the Relativity DBA Help for details on how to maintain a Relativity database.

Installation verification

By verifying the installation of each product in the Relativity Designer Suite, you also undertake the initial setup.

The following instructions assume that you have run all required product installations for Relativity Designer Suite. It is useful to have an ODBC-enabled application, such as Microsoft Access, also installed to fully verify the installation.

Data Manager verification

After Data Manager is installed, you need to create a data source name to establish a connection to the Data Manager and the Relativity catalog.

1. Open the 32-bit ODBC Administrator (see *Locating the ODBC Administrator*).

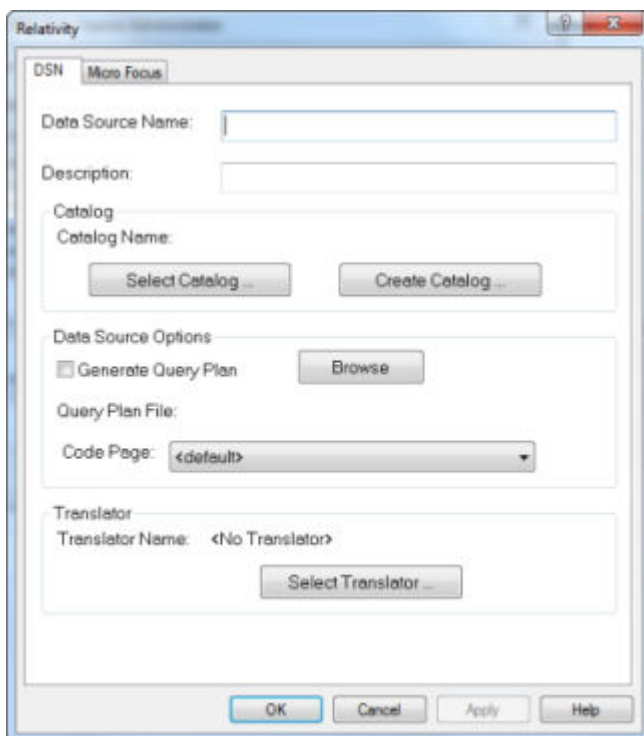
The **ODBC Data Source Administrator** window appears.

2. Click **Add**.

The **Create New Data Source** window appears.

3. Scroll down through the list of installed ODBC drivers and select **Micro Focus Relativity Data Manager (32-bit)**, and then click **Finish**.

The **Relativity** window appears.




4. In the **Data Source Name** field, enter **Verify**.

5. Click **Select Catalog**.

The **Select Catalog for Data Source** window appears.

6. Navigate to %PUBLIC%\Documents\Micro Focus\Relativity Data Manager\Samples\MF\Verify.

 **Note:** Windows XP users should use %ALLUSERSPROFILE%\Documents\Micro Focus \Relativity Data Manager\Samples\MF\Verify instead.

7. Select `verify.rcg`, and then click **Open**.

The **Relativity** window appears.


8. Click **OK** twice to close the **Relativity** and **ODBC Data Source Administrator** windows.

At this point, the Relativity driver has been loaded, it has opened a Relativity catalog, and a Relativity database has been created. This has thoroughly exercised the installation; however, as an extra step, start a 32-bit ODBC application, open the Verify datasource, and then execute the following SQL query:

```
SELECT * FROM BACKORDER
```

The result should show the BACKORDER table that started life as a COBOL data file.

Designer verification

 **Note:** This verification assumes that you have completed the Data Manager or Data Client verification, and have created a data source named *Verify*.

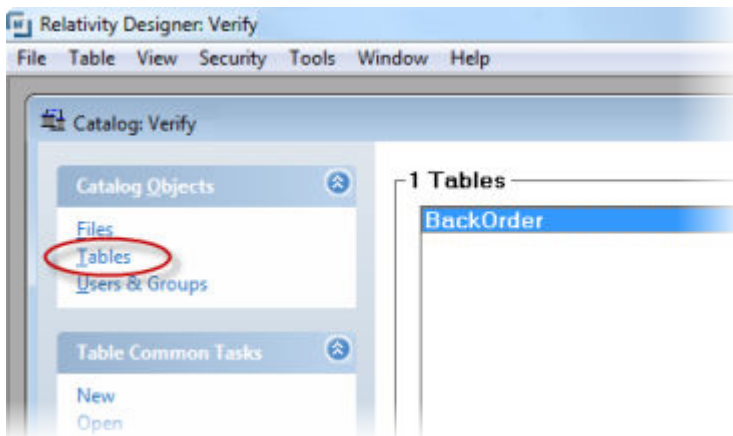
1. On the Windows Start menu, select **All Programs > Micro Focus Relativity Designer > Designer**.

The **Welcome To Relativity** window appears.

2. Select **Existing**, select **Verify** from the list of data sources, and then click **OK**.
3. If the **Logon** window appears, click **OK**.

 **Note:** The Verify catalog has no security defined on it.

4. In the **Catalog** window, on the left hand side, click the catalog object **Tables**.



A list of tables appears on the right-hand side of the **Catalog** window.

5. Double-click the table **BackOrder**.

The **BackOrder Table** window appears.

Column Name	Index
ProductNumber	✓
ProductSize	✓
Color	✓
PricePerUnit	
Price4OrMore	
BackOrderQuanti	
DateStockExpect	

6. Right-click this window and select **Show Table Contents**.

A **BackOrder** window appears with the contents of the **BackOrder** table.

Locating the ODBC Administrator

The Windows ODBC Administrator is an important utility due to its role of creating data sources.

Locating the ODBC Administrator on Windows 7 32-bit

On a 32-bit Windows machine:

1. From the **Start** menu, open the **Control Panel**.
2. Do one of the following:
 - If the Control Panel is displaying in **Category** view, select **System and Security**, and then **Administrative Tools**.
 - If the Control Panel is displaying in **Icons** view, select **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.

The **ODBC Data Source Administrator** screen appears.

Locating the 32-bit ODBC Administrator on Windows 7 64-bit

Creating a 32-bit data source for the Relativity Data Manager or the Relativity 32-bit Data Client requires a 32-bit ODBC administrator on 64-bit Windows. Unfortunately, that is not the default ODBC administrator on a 64-bit Windows 7 machine. To start the required ODBC Administrator, follow the procedure below:

1. From the **Start** menu, in the **Search programs and files** box, type `odbc`.
2. In the results box, double-click **ODBC Data Source Administrator (32-bit)**.

The **ODBC Data Source Administrator** screen appears.

 **Tip:** To speed up access to this utility, right-click **ODBC Data Source Administrator (32-bit)** and select **Pin to Taskbar** or **Pin to Start Menu**.

Locating the 64-bit ODBC Administrator on Windows 7 64-bit

Creating a 64-bit data source for the Relativity 64-bit data client requires a 64-bit ODBC administrator on 64-bit Windows.

To start the correct administrator:

1. From the **Start** menu, open the **Control Panel**.
2. Do one of the following:
 - If the Control Panel is displaying in **Category** view, select **System** and **Security**, and then **Administrative Tools**.
 - If the Control Panel is displaying in **Icons** view, select **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.

The **ODBC Data Source Administrator** screen appears.

Post-installation considerations

The steps you must perform after installation depend upon the location of the data files, if you are developing a Relativity catalog, and if you have an existing Relativity catalog or not.

Location of data files

- If the data files exist on a Windows machine, and the 32-bit ODBC application is installed on the same machine, you only need to create a data source using the Windows ODBC administrator.
- If the data files exist on a Windows machine, and the 64-bit ODBC application is installed on the same machine, you must create a server data source using the Data Server for Windows, and then create a client data source using the 64-bit Data Client that references the server data source. (There is not a 64-bit Data Manager.)
- If the data files exist on a Windows machine that is separate from the ODBC application, you must create a server data source on the Windows machine containing the data files, install the Data Client on each client machines containing the ODBC application, and then create a client data source on each that references the server data source.
- If the data files exist on a UNIX machine, you must create a server data source on the UNIX machine containing the data files, install the Data Client on each machine containing the ODBC application, and then create a client data source on each that references the server data source. (There is not a single-tier Data Manager for UNIX.)

Developing a new Relativity catalog

If you are developing a new Relativity catalog, you must install the Designer, and, if you do not have an existing catalog, create a new data source that references an empty catalog. Follow the directions in *Location of Data Files* for the type of data sources to create based upon the location of the data files.

In the case of development, the ODBC application is the Designer, and it must reside on a Windows machine, but note that it uses a data source to locate the Relativity catalog; thus, you will be able to develop with data files that are located on a remote server machine.

To develop a new Relativity catalog, see the Relativity Designer's help file for How-To information on developing the catalog.

Developing an existing Relativity catalog

If you are upgrading Relativity, and have an existing Relativity catalog, you only need to create a data source that references the existing catalog.

If you are installing this catalog at an end-user site, do not install the Designer; although you might want to install the Relativity DBA on an administrator's machine to allow maintenance of user IDs and catalogs. See the Relativity DBA's help file for How-To information on maintaining the catalog at an end-user site.

Uninstalling

Windows - all components

To uninstall one or more Relativity products from Windows:

1. Log in with the same user ID you used when you installed the product.
2. From the **Start** menu, open the **Control Panel**.
3. Do one of the following:
 - If the Control Panel is displaying in **Category** view, click **Uninstall a program** under **Programs** (or **Add/Remove Programs** on older versions of Windows).
 - If the Control Panel is displaying in **Icons** view, double-click **Programs and Features**.



Note: On older versions of Windows, such as Windows XP, ensure that **Show Updates** is selected, so that any HotFixes are listed.

4. Select one of the following products and click **Remove** or **Uninstall**:
 - Micro Focus Relativity Data Manager
 - Micro Focus Relativity DBA
 - Micro Focus Relativity Designer
5. Click **Yes** to confirm.
6. If required, repeat from step 4 to uninstall further products.

This process only removes files that the installation software installed. If the product directory has not been removed, delete any unwanted files and sub-directories within it using Windows Explorer. The following folders might not be removed:

- The *Micro Focus product name* folder in the Start menu - you can delete this manually.
- %systemdrive%\Users\Public\Documents\Micro Focus - this includes the binaries and the log files of the samples you have built.
- %ProgramData%\Micro Focus - this includes some data files used by the Micro Focus licensing tool.
- %Program Files%\Micro Focus - you can delete this manually.

Some registry entries are also not removed by the uninstallation process and you need to manually delete them.

To uninstall a product from the command line, you need the installation file, and you need to execute the following command:

```
msiexec /x install-file.msi
```

Licensing information

To use Relativity, you need to purchase and install a license for it. To buy a license, contact your sales representative or Micro Focus SupportLine.

In addition, the Micro Focus product you have installed Relativity for (either Visual COBOL, Enterprise Developer, Net Express, Server Express, Enterprise Server, COBOL Server, or Micro Focus Server) must also be licensed with its own license.



Note:

- If you have purchased a license for a previous release of Relativity, that license will also enable you to use this release.
- Your entitlement for using this product is governed by the Micro Focus End User License Agreement and by your product order. If you are unsure of what your license entitlement is or if you wish to purchase additional licenses, contact your sales representative or Micro Focus SupportLine.

Relativity uses the Micro Focus License Administration software for installing and managing your Micro Focus licenses. See the instructions in the following sections about how to install the Relativity license.

To start Micro Focus License Administration

Windows 7 and Earlier

- From your desktop, click **Start > All Programs > Micro Focus License Manager > License Administration**

Windows 8, 8.1, and Windows Server 2012

- From the **Start** screen, click the **License Administration** tile

Windows 10 and Later

- Click **Start > Micro Focus License Manager > License Administration**

Installing licenses

You need either a license file (with a `.mflic` extension) or an authorisation code which consists of a 16-digit string of letters and numbers.

If you have a license file

1. Start Micro Focus License Administration.
2. Click the **Install** tab.
3. Do one of the following:
 - Click **Browse** next to the **License file** field and select the license file (which has an extension of `.mflic`).
 - Drag and drop the license file from Windows Explorer to the **License file** field.

- Open the license file in a text editor, such as Notepad, then copy and paste the contents of the file into the box below the **License file** field.

4. Click **Install Licenses**.

If you have an authorization code

Authorizing your product when you have an Internet connection



Note:

- It is not possible to install licenses remotely. You must be logged into the machine on which you are installing the licenses.

The following procedure describes how to authorize your product using a local or network license server. The license server is set up automatically when you first install the product.

1. Start Micro Focus License Administration.
2. Click the **Install** tab.
3. Type the authorization code in the **Enter authorization code** field.
4. Click **Authorize**.

If you change the name of the machine running your license server after it has granted licenses, the licenses stop working.

Authorizing your product when you don't have an Internet connection

This method of authorization is required if the machine you want to license does not have an Internet connection or if normal (automatic) authorization fails.

1. Start Micro Focus License Administration.
2. Click **Manual Authorization** on the Install page.
3. Make a note of the contents of the **Machine ID** field. You will need this later.
4. Do one of the following:
 - If your machine has an Internet connection, click the SupportLine Web link in the Manual Authorization Information window.
 - If your machine does not have an Internet connection, make a note of the Web address and type it into a Web browser on a machine that has an Internet connection.

The Micro Focus SupportLine Manual product authorization Web page is displayed.

5. Type the authorization code in the **Authorization Code** field. The authorization code is a 16-character alphanumeric string supplied when you purchased your product.
6. Type the Machine ID in the **Machine ID** field.
7. Type your email address in the **Email Address** field.
8. Click **Generate**.
9. Copy the generated license string (or copy it from the email) and paste it into the box under the **License file** field on the Install page.
10. Click **Install Licenses**.

Updates and SupportLine

Our Web site gives up-to-date details of contact numbers and addresses.

Further Information and Product Support

Additional technical information or advice is available from several sources.

The product support pages contain a considerable amount of additional information, such as:

- The *Product Updates* section of the Micro Focus SupportLine Web site, where you can download fixes and documentation updates.
- The *Examples and Utilities* section of the Micro Focus SupportLine Web site, including demos and additional product documentation.
- The *Support Resources* section of the Micro Focus SupportLine Web site, that includes troubleshooting guides and information about how to raise an incident.

To connect, enter <http://www.microfocus.com> in your browser to go to the Micro Focus home page, then click *Support*.



Note: Some information may be available only to customers who have maintenance agreements.

If you obtained this product directly from Micro Focus, contact us as described on the Micro Focus Web site, www.microfocus.com. If you obtained the product from another source, such as an authorized distributor, contact them for help first. If they are unable to help, contact us.

Also, visit:

- The Micro Focus Community Web site, where you can browse the Knowledge Base, read articles and blogs, find demonstration programs and examples, and discuss this product with other users and Micro Focus specialists.
- The Micro Focus YouTube channel for videos related to your product.

Information We Need

However you contact us, please try to include the information below, if you have it. The more information you can give, the better Micro Focus SupportLine can help you. But if you don't know all the answers, or you think some are irrelevant to your problem, please give whatever information you have.

- The name and version number of all products that you think might be causing a problem.
- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
- Your serial number. To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus.

Creating Debug Files

If you encounter an error when compiling a program that requires you to contact Micro Focus SupportLine, your support representative might request that you provide additional debug files (as well as source and data files) to help us determine the cause of the problem. If so, they will advise you how to create them.

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