



# Relativity Data Server 2.3

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# Introduction



**Note:** These release notes contain information that might not appear in the Help. Read them in their entirety before you install the product. This document may also 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.

The Relativity product set enables the construction of a true relational database using existing COBOL application data. Relativity 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 database development application or tool can be chosen to build applications for ad hoc reporting, decision support, and specialized data processing functions. Relativity enables any working application to benefit from database technology without rewriting or migrating that application.

# Relativity Products

The components detailed in the *Relativity Components* section are available within the following products:

## **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.

# Relativity Components

The Relativity product set consists of three main software components:

## Relativity Designer

The Relativity Designer is an interactive, Windows-based tool that enables the COBOL application developer to define and maintain a relational database system of tables using COBOL data.

The Relativity Designer creates the Relativity catalog by performing the following functions:

- Automatically extracts the definitions of data files from the COBOL programs into the Relativity catalog.
- Collects information regarding the data from the application developer.
- Allows the developer to define relational tables from existing COBOL data items within records of existing COBOL files.

If an owner group has been assigned to the catalog, only users who are members of that owner group may open the data source associated with the catalog using the Relativity Designer. Assignment of an owner thus protects the sensitive data in the catalog exposed by the Relativity Designer from access by users who are not owners. A password-protected log on procedure validates user identities whenever a Relativity data source is opened, as explained in *Providing Data Security*.

## Relativity DBA

The Relativity DBA (Database Administrator) is an interactive, Windows-based tool that enables the system administrator at the end-user location to maintain and manage the Relativity database and the security of the Relativity database.

The Relativity DBA provides the following functions:

- Defining and authorizing users of the database.
- Restricting the view of the data for individual groups of users.
- Maintaining the linkages between tables and physical COBOL data files.
- Defining date constants.
- Merging security and connection information into a new catalog (an optional function controlled by the catalog developer).
- Producing reports on security and connections.

The Relativity DBA can be used only by users who have the **Use Administrator** privilege set for the catalog, or by the catalog owner (who has all privileges set by default). The owner may grant this privilege to one or more administrative groups - see *Defining Group Privileges*.

## Relativity Database Management System

The Relativity Database Management System (DBMS) connects Windows client-based tool products to COBOL data files. It processes SQL requests from the ODBC-enabled application (or tool) and performs the necessary actions to respond to the request with data obtained from the COBOL data files.

The Relativity DBMS comes in two variants: single-tier and a client/server. The single-tier product is named the Relativity Data Manager. The client/server product is named the Relativity Data Client and Relativity Data Server.

## **Relativity Data Manager**

The Relativity Data Manager is a single-tier version of the Relativity DBMS. By single-tier, we mean that the product is installed on a single machine. In this configuration, the COBOL data files are installed on the same machine as the ODBC-enabled application and the Relativity Data Manager.

## **Relativity Data Client and Relativity Data Server**

The Relativity Data Client and Relativity Data Server are a client/server version of the Relativity DBMS. In this configuration, the COBOL data files are typically not on the same machine as the ODBC-enabled application. In this case, the Relativity Data Client is installed on the same machine as the ODBC-enabled application, and the Relativity Data Server is installed on the same machine as the COBOL data files. The Data Server needs to be installed only once and on only the server machine, that is, the machine with the COBOL data files. The Data Client needs to be installed on each client machine that needs access to the data on the server machine. The Data Client sends the SQL requests from the ODBC-enabled application to the Data Server, which then processes the requests and returns only the resulting rows to the Data Client, which in turn returns them to the ODBC-enabled application.

# What's New

This section details the new features added in each release of the Relativity products:

## New features in Relativity 2.3

The following features are new to this release of Relativity:

- [New Designer user interface](#)
- [64-bit Data Server on SUSE](#)
- [SQL\\_C\\_SBIGINT and SQL\\_C\\_UBIGINT support](#)
- [Foreign key support](#)
- [New documentation: Relativity Data Server Utilities on UNIX](#)

### New Designer user interface

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The Relativity Designer has been redesigned with modern user interfaces. The original Designer has been renamed to the Classic Designer and will also be installed in this release, and you can continue to use it; however, we encourage you to transition to the new interface, as the Classic Designer is expected to be removed in a subsequent release.

### 64-bit Data Server support for SUSE

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The Relativity Data Server for SUSE has been updated to run as a 64-bit process on SUSE 12. The RUNACTIVE script will determine if a 32-bit or 64-bit COBOL (either Visual COBOL or Server Express) is in use and launch the appropriate Data Server.

### SQL\_C\_SBIGINT and SQL\_C\_UBIGINT support

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The ODBC 3 Relativity Data Manager and Data Client (but not the Relativity Data Manager for ADO, nor the Relativity Data Client for ADO) now support 64-bit C integers SQL\_C\_SBIGINT and SQL\_C\_UBIGINT.



**Note:** This does not include support for 64-bit (BIGINT) columns; however, DECIMAL(20,0) columns will contain a SQL\_C\_SBIGINT.

### Foreign key support

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Relativity has been enhanced to support the ODBC API call `SQLForeignKeys`. The new Designer has the ability to designate a connection between columns in two different tables, creating foreign keys. These are columns that you usually use in joins. Adding this information allows SQL tools to optimize queries that they generate, and to present the foreign key association graphically.



**Note:** It is up to the SQL tool to make use of this information; Relativity does not directly use it, nor validate it. It is up to the database designer to make valid associations.

### New documentation: Relativity Data Server Utilities on UNIX

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New documentation is now available for the RelServerAdmin, RelClientAdmin, RelClientTest, and RelDriverAdmin utilities on UNIX. This document, entitled Relativity Data Server Utilities for UNIX, is

available from the SupportLine Product Documentation page: [www.microfocus.com/documentation/relativity/](http://www.microfocus.com/documentation/relativity/)

### **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 **COBOL FD Importer** 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 2.3

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

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

### Installation

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- Data Server installation now correctly configures COBOL Server 2013. (610408)
- Data Client now uninstalls cleanly. (641421)
- Relativity now uninstalls cleanly when multiple components exists. (641462)
- DBA and Designer installations now create the correct registry keys. (641737)

### Designer

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- ODBC Control Panel now displaying correctly on the Tools menu. (629654)
- The 64-bit ODBC Administrator menu option now available on 64-bit systems. (629655)
- If required, you are now prompted to elevate the privileges in order to run Server Administrator from the Tools menu. (629656)
- A shortcut to the Relativity Designer Samples directory is now included, to make them easier to locate. (629710)
- The Designer no longer hangs when attempting to access the DBMS help file from the Help menu. (629733)
- If required, you are now prompted to elevate the privileges in order to run the 64-bit ODBC Administrator from the Tools menu. (630446)
- Related links in the help topic 'Augmenting the COBOL File Definition in the FD Form' have been fixed. (631007)
- Condition item matching now working correctly. (635635)
- COBOL syntax file now generated correctly during import. (641412)
- The Help file for the classic DBA product now displays correctly. (641424)
- The import process when using a remote CST file now works correctly. (641428)
- The Help file for the DBMS product now displays correctly. (641468)
- Signed numeric edited data items are now handled correctly during import. (1106585)
- Use MAXCOLSUPPORT to override the 256(254 user defined) column limit in the Relativity Database. It's a registry value on Windows, and an ODBC.ini value on UNIX. (1114252)
- Error message relating to Working Storage item updated to be more helpful. (1114406)
- The CST import process now correctly translates numeric value strings into the appropriate catalog data types. (1114501)
- DateTime formats used in a loaded catalog are dynamically turned on so that they are not hidden from the user. (1118541)
- Field offsets now shown in the correct order. (1118543)

## Data Manager

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- Excel 2013 64-bit no longer crashes when trying to connect to a Relativity data source. (631186)
- Data Client no longer crashes when opened under the Designer whilst running/debugging under Visual Studio. (641531)

## Data Client

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- A heavily-loaded Relativity Data Server no longer crashes intermittently on Linux. (1114873)

## 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

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- 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

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

## Data Client

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- 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

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- 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

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- 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

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- 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

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- 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 Data Server | 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:

- AIX 6.1 and 7.1 on PowerPC with Server Express, and AIX 7.2 with Visual COBOL.
- Red Hat 5.5 through to 7.x on x86.
- SUSE SLES 11 through to 12 SP4 on x86 and x64.
- Windows 7 to Server 2012 R2, and everything in between.

### Software requirements

This Relativity product requires one of the following Micro Focus COBOL development products.

- Visual COBOL or Enterprise Developer (including Development Hub and UNIX Components variants), version 5 or later.
- Enterprise Test Server, version 5 or later.
- Net Express or Server Express 5.1 Update 18.

### 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.

If your license server is on the network, you must update it before installing your Relativity product, because the client is not able to communicate with license servers of versions older than 10000.2.660.

Check the version of your license server by running the **Micro Focus Licensing System Administration** tool and selecting **Help > About** (Windows) or option **8 - Get License Details** (UNIX).

You can download the required version of the license server software from the Micro Focus SupportLine Web site: <http://supportline.microfocus.com>.

## 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.

### Compiling Java

Refer to the *Additional Software Requirements* in the product documentation supplied with the COBOL product being used; this will stipulate the minimum required version of Java Development Kit (JDK) required to compile Java, if required, during the import and update processes.

### JDBC Support

Refer to the *Software Requirements* in the product documentation supplied with the COBOL product being used; this will stipulate the minimum required version of Java Platform, Enterprise Edition (Java EE) required to execute the Java Client and develop a JDBC application.

## 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 correct version of the Microsoft Visual C++ Redistributable Run-time already installed, it is installed as part of the Visual COBOL, Enterprise Developer, or Net Express install. This installation adds a number of .dll files, without digital signatures, into the `winsxs` directory.
- Your account must have administrative permissions to install this product. If your account does not have these permissions and cannot obtain them, you will be asked to provide the credentials of an administrator during the installation.

## Installing Relativity Data Server

 **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 Server install file - `DataServerx86.msi` (Windows) or `setup_dataserver_version_platform_x86_64` (UNIX). See *Data Server installation*.

- The Data Client install file appropriate to your system - `DataClientx86.msi`, `DataClientx64.msi` (both Windows) or `setup_dataclient_version_platform_x86_64` (UNIX). See *Data Client installation*.
- The Java Client install file if you plan to use JDBC applications - `jclient.zip`. See *Java Client Installation*.

## Data Server installation

The Data Server is one of the core pieces of the Relativity product; either Data Server or Data Manager must be installed in order to use any of the Relativity products.

A Data Server is required in situations where the data files are located on a different machine from the ODBC application, or if the ODBC application is a 64-bit program. When you install the Data Server, it is also necessary to install a Data Client to communicate with it. While the Data Server itself is a 32-bit program, you require a 64-bit Data Client to enable 64-bit ODBC applications to communicate with the Data Server, even if it is installed on the same machine as the ODBC application.

The Data Server requires an installation of one of the following products in order to access data files - Visual COBOL, Enterprise Developer, Net Express (on Windows) or Server Express (on UNIX).

If the Data Server is to be used with the Relativity Designer Suite in order to develop Relativity catalogs, one of the prerequisite products listed earlier must also be installed either on the same machine as the Data Server, or on the machine on which the Designer is installed (see *Location of the data files* for more information). If either Visual COBOL, Enterprise Developer, Net Express or Server Express is not installed on the machine with the Data Server, then one of these products must be installed on the same machine as the Relativity Designer.

### To install the Relativity Data Server on Windows:

1. Before installing the Data Server, ensure that the Micro Focus COBOL product you are installing Relativity for is installed and licensed.
2. Run `DataServerx86.msi` and follow the wizard instructions to install the prerequisite software and the product.
3. Install a Relativity license using the Micro Focus License Administration tool; see *Installing licenses* for more information.

Following installation of the Data Server, install a Data Client (see *Data Client installation*), after which you should follow the instructions in the *Data Server verification* and *Data Client verification* sections.

### To install the Relativity Data Server on UNIX:

1. Before installing the Data Server, ensure that the Micro Focus COBOL product you are installing Relativity for is installed and licensed.
2. Ensure you are logged on with root privileges.
3. Depending on the prerequisite product you have installed, do one of the following:
  - If you have Visual COBOL or Enterprise Developer installed, execute `cobsetenv` to set up the Visual COBOL or Enterprise Developer environment:
 

```
./opt/microfocus/VisualCOBOL/bin/cobsetenv
```
  - If you have Server Express installed, set `COBDIR`, `PATH` and `Library Path` to your Server Express installation.
4. Change the setup file `./setup_dataserver_version_platform_x86_64` to be executable:
 

```
chmod a+x ./setup_dataserver_version_platform_x86_64
```
5. Run `./setup_dataserver_version_platform_x86_64` and follow the on-screen instructions.
6. Install a Relativity license using the Micro Focus License Administration tool; see *Installing licenses* for more information.

Following installation of the Data Server, install a Data Client (see *Data Client installation*), after which you should follow the instructions in the *Data Server verification* and *Data Client verification* sections.

### To start the Data Server:

Use the following commands to start the Data Server after installation:

Windows:

The Data Server is installed as a service and is set to start when Windows starts. Configure this behavior from the Windows Services Manager.

UNIX:

Ensuring that you have root privileges, run the following command:

```
./opt/microfocus/DataServer/RUNACTIVE
```

## Data Client installation

A Data Client is required to communicate with a Data Server. The following versions of the Data Client are available:

- A 32-bit version and a 64-bit version for Windows
- A 32-bit version and a 64-bit version for UNIX

Install a Data Client on the machine containing the ODBC application, which is typically on a different machine from the Data Server with which it communicates, but there are two exceptions:

- On Windows, if a 64-bit ODBC application is in use, a Data Server and a 64-bit Data Client must be installed on the same machine to support the 64-bit ODBC application;
- On UNIX, if the ODBC application and the data files both reside on the same machine, both a Data Server and a Data Client must be installed on the same machine, as there is not a Relativity Data Manager available on UNIX.

A Data Client does not require any of the following Micro Focus COBOL products to be installed on the same machine as it does not access the data files directly - Visual COBOL, Enterprise Developer, Net Express, Server Express, COBOL Server, Enterprise Server or Micro Focus Server.

### To install a 32-bit Data Client on Windows:

1. Run `DataClientx86.msi` and follow the wizard instructions to install prerequisite software and the product.
2. After installation of a Data Client, run the **Relativity Server Administrator** from the Control Panel to define any Data Servers that the Data Client needs to access:
  - a. From the Windows **Start** menu, select **Control Panel**.  
 **Note:** If the Control Panel is displaying **Category** view, switch to **Icon** view.
  - b. Start the **Micro Focus Relativity Server Admin (32-bit)**.
  - c. To define a Data Server, on the **Select Server** screen, click **New**, enter the network name of where the Data Server resides, and the port number to use to connect, and then click **OK**.
3. Following installation of the Data Client, you should follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

### To install a 64-bit Data Client on Windows:

1. Run `DataClientx64.msi` and follow the wizard instructions to install prerequisite software and the product.
2. After installation of the Data Client, run the Relativity Server Administrator from the Control Panel to define any Data Servers that the Data Client needs to access:

- a. From the Windows **Start** menu, select **Control Panel**.



**Note:** If the Control Panel is displaying **Category** view, switch to **Icon** view.

- b. Double-click **Micro Focus Relativity Server Admin**.
  - c. To define a Data Server, on the **Select Server** screen, click **New**, enter the network name of where the Data Server resides, and the port number to use to connect, and then click **OK**.
3. On completion of the Data Client installation, follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

#### To install a 32-bit Data Client on UNIX:

1. Ensure you are logged on with *root* privileges.
2. Change the setup file to be executable with the following command:

```
chmod a+x setup_dataclient_version_platform_x86_64
```

3. Run `setup_dataclient_version_platform_x86_64` and follow the on-screen instructions.

```
./setup_dataclient_version_platform_x86_64
```

In order to complete the installation of a Data Client, it is necessary to install an ODBC driver manager, such as iODBC or unixODBC.

4. If necessary, download and install one of the aforementioned driver managers.
5. Enter the commands below:
  - a. `PATH=$PATH:/opt/microfocus/DataClient/bin`
  - b. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataClient/lib:/usr/lib`
  - c. `export PATH LD_LIBRARY_PATH`
  - d. `reldriveradmin --install-driver --directory /opt/microfocus/DataClient/lib`
6. If necessary, add a rule to the firewall manager to open TCP/IP on port 1583.
7. On completion of the Data Client installation, follow the instructions in the *Data Server verification* and *Data Client verification* sections to create the necessary data sources.

## Java Client installation

The Relativity Java Client is intended to provide access to a Relativity Server data source from a Java JDBC application.

#### To install the Java Client on Windows and UNIX:

1. Unzip `jclient.zip` to a directory that is accessible to your JDBC application; this should be a directory on the CLASSPATH.

This directory is one in which the Java runtime environment or web server will have access.

2. After the installation, follow the directions in `reljdbc.htm` to complete the installation.

## Installation verification

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

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

## Data Server verification

The following instructions enable you to create the server data source used by the client ODBC applications. You only need to create the server data source once, from one of your clients. It is preferable

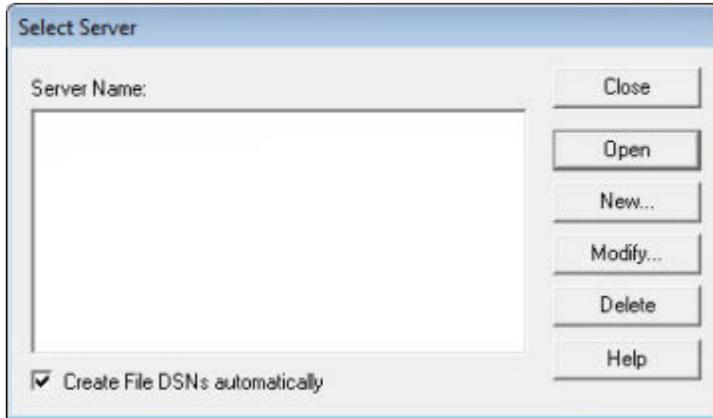
to do this from a Windows client, but if you do not have any Windows clients, follow the instructions in the *UNIX* section.

**Windows:**

The following instructions assume the 32-bit Data Client is being used on a 64-bit Windows machine, and are applicable if you are connecting to a Data Server on both a Windows or a UNIX platform.

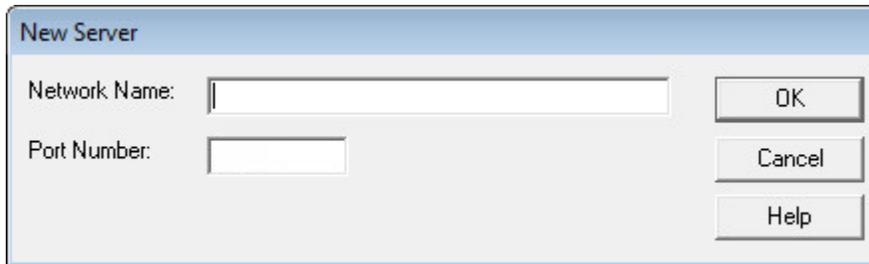
1. On the Data Client machine, open the **Control Panel**.
2. If the Control Panel is displaying in Category view, change to Icons view.
3. Double-click **Micro Focus Relativity Server Admin (32-bit)** to start it.
4. If the **User Account Control** message box appears, click **Yes**.

The **Select Server** screen appears.



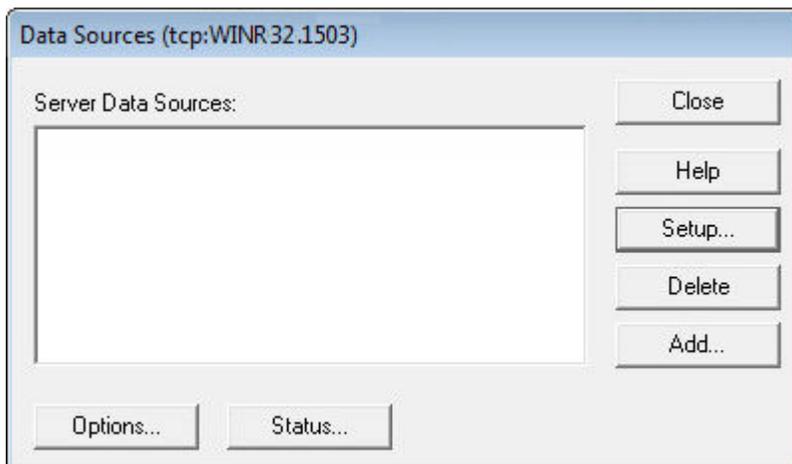
5. Click **New**.

The **New Server** screen appears.



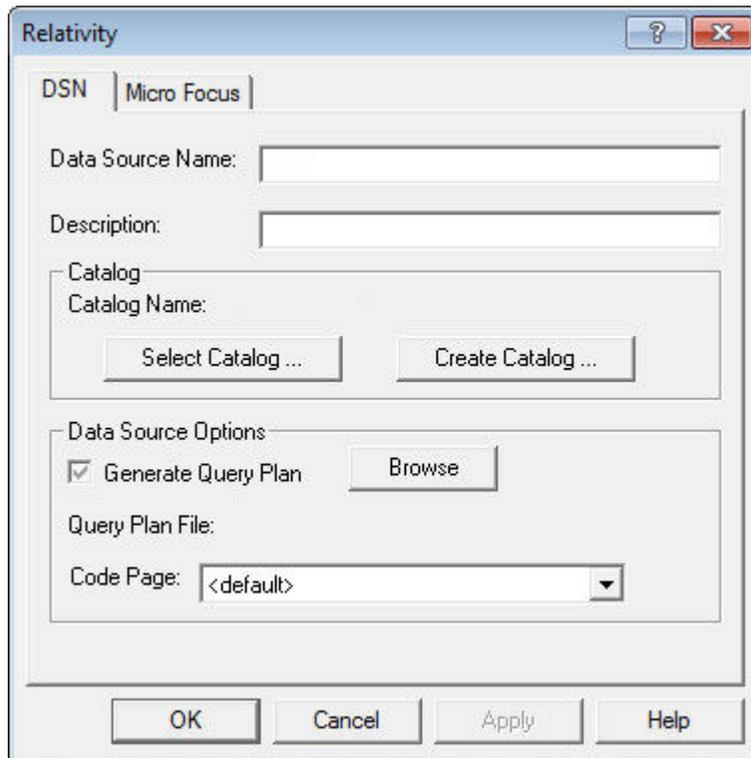
6. Enter the network name of the Data Server to use. If necessary, change the **Port Number** field to the correct port number (the default is 1583). Click **OK**.

If you have entered the correct details, the **Data Sources** screen appears.



7. Click **Add**.

The **Relativity** screen appears.



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

9. Click **Select Catalog**.

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

10. Do one of the following:

- If connecting to a Windows server, navigate to %PUBLIC%\Documents\Micro Focus \Relativity Data Server\Samples\MF\Verify, select `verify.rcg`, and then click **OK**.
- If connecting to a UNIX server, navigate to `samples/mf/verify`, select `verify.rcg`, and then click **OK**.

The **Relativity** screen appears.

11. Click **OK**.

12. Click **Close** twice to close the **Data Sources** and the **Select Server** screens.

After you have created the server data source, you must create a client data source on each client machine; see *Data Client verification*.

#### UNIX:

If you only have UNIX data clients, you must create the server data source from the Data Server itself. On the command line, enter the following:

1. `PATH=$PATH:/opt/microfocus/DataServer/2.3.0/bin`
2. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataServer/2.3.0/lib:/usr/lib`
3. `export PATH LD_LIBRARY_PATH`
4. `relserveradmin --add-data-source Verify --server-name ServerName.1583 --catalog demo/cobol/verify/verify.rcg --type MF`

After you have created the server data source, you must create a client data source on each client machine; see *Data Client verification*.

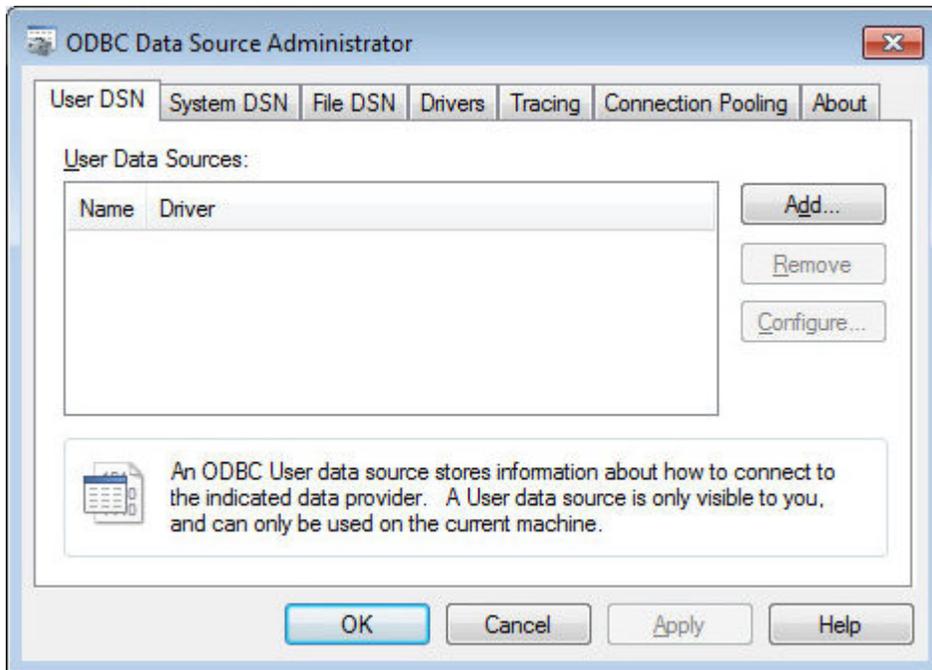
## Data Client verification

Follow these instructions on each data client after you have created the server data source, as detailed in *Data Server verification*.

### Windows:

1. Open the ODBC Administrator (see *Locating the ODBC Administrator*).

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

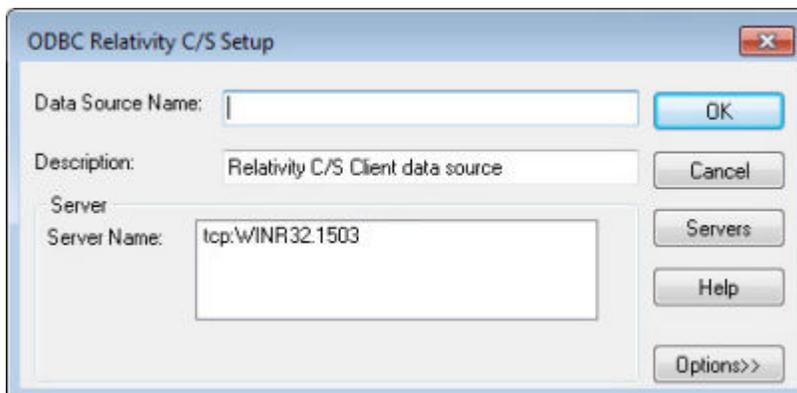


2. Click **Add**.

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

3. Select **Micro Focus Relativity Data Client** from the list of drivers, and then click **Finish**.

The **ODBC Relativity C/S Setup** screen appears.



4. In the **Data Source Name** field, enter **Verify**, then in the **Server Name** list box, select the name used to create the Verify server data source (which you created in *Data Server verification*).

A Server DSN list box appears, listing the server data source names on the server.

5. Select **Verify**, and then click **OK**.
6. Click **OK** again to close the **ODBC Data Source Administrator** screen.



**Note:** In this example, the names of the server data source and the client data source are the same; whilst this is a helpful technique, it is not a requirement.

At this point, the Relativity driver has been loaded, it has opened a Relativity catalog, and a Relativity database has been created. This has very thoroughly exercised the installation; however, as an extra step, start a 32-bit ODBC application, open the Verify data source, 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.

## UNIX:

On the command line of your UNIX data client, enter the following:

1. `PATH=$PATH:/opt/microfocus/DataClient/bin`
2. `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/microfocus/DataClient/lib:/usr/lib`
3. `export PATH LD_LIBRARY_PATH`
4. `relclientadmin --add-data-source Verify --server-name ServerName.1583 --server-data-source-name Verify --type S`



**Note:** In this example, the names of the server data source name and the client data source are the same; whilst this is a helpful technique, it is not a requirement.

## Locating the ODBC Administrator

The Windows ODBC Administrator is an important utility due to its role of creating data sources. You must open the correct version of the ODBC Administrator appropriate to the bitism of data source that you require.

### Windows 7

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.

On a 64-bit Windows machine:

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 one of the procedures below:

- To open the 32-bit ODBC Administrator:
  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**.

- To open the 64-bit ODBC 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.

### Windows 10 and later

You start the desired ODBC Administrator from the **Start** menu - locate the **Administrative Tools** group (from the **Start** menu, you can start to type the group name and the option should appear), and then select **ODBC Data Sources (32-bit)** or **ODBC Data Sources (64-bit)**, depending on the type of data source to maintain.

## Post-installation considerations

The steps you must perform after installation depend upon the location of the data files.

### 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.)

## 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**.
  - If the Control Panel is displaying in **Icons** view, double-click **Programs and Features**.

4. Select one of the following products and click **Remove** or **Uninstall**:

- Micro Focus Relativity Data Client (32-bit)
- Micro Focus Relativity Data Client (64-bit)
- Micro Focus Relativity Data Server

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
```

### UNIX - Micro Focus Relativity Data Server

To uninstall the Micro Focus Relativity Data Server on UNIX:

1. Log in as root, and change directory to the Relativity Data Server's installation directory with the following commands:

```
cd /opt/microfocus/DataServer  
cd `cat .active`
```

2. If the Data Server to be uninstalled is currently running, stop it with the following command:

```
./STOP
```

3. Finally, perform the uninstall with the following commands:

```
cd ..  
`cat .active`/bin/Uninstall_Relativity_DataServerx.y.sh
```

where *x.y* represents the version number.

### UNIX - Micro Focus Relativity Data Client

To uninstall the Micro Focus Relativity Data Client on UNIX:

1. Log in as root, and change directory to the Relativity Data Client's installation directory with the following commands:

```
cd /opt/microfocus/DataClient/bin
```

2. Perform the uninstall with the following command:

```
Uninstall_Relativity_DataClientx.y.sh
```

where *x.y* represents the version number.

# 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

#### Windows 8.1

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

#### Windows 10 and Later

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

### UNIX

Log on as root, and from a command prompt type:

```
/var/microfocuslicensing/bin/cesadmintool.sh
```

## Installing licenses

You need either a license file (with a `.mflic` extension) or an authorisation code which consists of a string of 16 alphanumeric characters.

### If you have a license file

#### Windows

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**.

## UNIX

1. Start the Micro Focus License Administration tool and select the **Manual License Installation** option by entering 4.
2. Enter the name and location of the license file.

# 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.

## Windows

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.

## UNIX

1. Start Micro Focus License Administration.
2. Select the **Online Authorization** option by entering 1 and pressing **Enter**.
3. Enter your authorization code at the **Authorization Code** prompt and then press **Enter**.

## 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.

## Windows

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**.

## UNIX

In order to authorize your product you must have the following:

- Access to a computer which is connected to the Internet.
- Your authorization code (a 16-character alphanumeric string).
- The machine ID. To get this, start the Micro Focus License Administration tool and select the **Get Machine Id** option by inputting 6. Make a note of the "Old machine ID".

If you have previously received the licenses and put them in a text file, skip to step 6.

1. Open the Micro Focus license activation web page <http://supportline.microfocus.com/activation> in a browser.
2. Enter your authorization code and old machine ID and, optionally, your email address in the **Email Address** field.
3. Click **Generate**.
4. Copy the licenses strings from the web page or the email you receive into a file.
5. Put the license file onto your target machine.
6. Start the Micro Focus License Administration tool and select the **Manual License Installation** option by inputting 4.
7. Enter the name and location of the license file.

# 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. Go to <https://supportline.microfocus.com/websync/productupdatesearch.aspx>
- The *Examples and Utilities* section of the Micro Focus SupportLine Web site, including demos and additional product documentation. Go to <https://supportline.microfocus.com/examplesandutilities/index.aspx>.
- The *Support Resources* section of the Micro Focus SupportLine Web site, that includes troubleshooting guides and information about how to raise an incident. Go to <https://supportline.microfocus.com/supportresources.aspx>

To connect, enter <https://www.microfocus.com> in your browser to go to the Micro Focus home page, then click **Support & Services > Support > Support Resources > All Support Resources by Product**. In the **Browse by Product** field, click the product you require, and then click **Log into SupportLine**.



**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, <https://www.microfocus.com/support-and-services/contact-support/>. 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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