Micro Focus
Academic Program 3.0

Release Notes

2017-06-26

Contents

Micro Focus Academic Program 3.0 - Release Notes

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

Overview

The Micro Focus Academic Program brings contemporary software development tools and technologies to COBOL development helping to bridge the gap between the old and the new.

COBOL applications still run many of the world's business systems, therefore teaching the COBOL language is a great way to prepare your university's students for a robust IT career in today's economy.

The Micro Focus Academic Program is designed to support the education and use of the COBOL language within the academic setting. This program supports our academic partner community through the use of our COBOL development tools and materials within the classroom.

This program will enable your university to quickly join this growing league of similar academic organizations in support of the promotion and education of the COBOL language.

Welcome! We're excited to have you join our growing academic community.

Product Description

The Micro Focus Academic Program Edition package comprises the following products:

- Visual COBOL - delivers the richest development experience for COBOL programming. On Windows, Visual COBOL is available for use with Microsoft's Visual Studio or with the Eclipse integrated development environments. On UNIX or Linux, it is available for use with Eclipse. Visual COBOL supports the development and deployment of both JVM COBOL and .NET COBOL, and of native COBOL applications.

  Variants of Visual COBOL include:

  - Visual COBOL for Visual Studio 2012, Visual Studio 2013, Visual Studio 2015 or Visual Studio 2017
  - Visual COBOL for Eclipse (Windows)
- Enterprise Developer - a contemporary development suite for Microsoft Visual Studio or for Eclipse that enables mainframe developers to maintain, develop and modernize mainframe applications regardless of whether these are to be deployed back on the mainframe or onto an alternative platform. Enterprise Developer supports IBM COBOL, IBM PL/I, IBM Assembler, IBM CICS, IBM IMS, IBM JCL, IBM DB2, IBM z/OS file formats and common batch utilities including SORT. This means you can develop and maintain the core mainframe online and batch applications under Enterprise Developer, then deploy them back on the mainframe or migrate them onto one of the Micro Focus production platforms available on UNIX, Linux, or Windows. Variants include:

  - Enterprise Developer for Visual Studio 2012, Visual Studio 20132012, Visual Studio 2015 or Visual Studio 2017
  - Enterprise Developer for Eclipse

Micro Focus Academic Program differs from the full version of these products in a number of ways. The differences are:

- You cannot deploy applications on other machines, so Micro Focus COBOL Server and Enterprise Server are not supplied.
- An authorization code for the Micro Focus Rumba 3270 terminal emulator is not supplied.

For more information, follow the link in the Electronic Product Delivery email for the End User License Agreement.

Reporting Issues

- For the latest information and discussions on this product, or to report issues, visit the *Micro Focus Community* Web site.

Note:

- This document contains 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.
- Check the *Product Documentation* section of the *Micro Focus SupportLine Web site* and the *Micro Focus Infocenter* for any updates to the documentation which might have been uploaded.

Significant Changes in Behavior or Usage

This section describes significant changes in behavior or usage. These changes could potentially affect the behavior of existing applications or impact the way the tools are used.

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

- *AppMaster Builder*
- *CICS Support*
- *Compatibility AddPack*
- *Compiler*
- *Documentation*
- *Enterprise Server*
- *Enterprise Server for .NET*
- *File Handling*
- *IDE*
- *IMS Support*
- *JCL Support*
- *Micro Focus Batch Scheduler Integration*
- *Micro Focus Directory Server*
- *OpenESQL*
- *PL/I Support*
- *Reserved words*
- *SQL: HCO for SQL Server*

AppMaster Builder

Back to the list

- A new parm "STS" can be passed into the Program Generator. This parm tells the Program Painter to issue an error when it encounters a STUB keyword and the stub program is not specified in the application definition. This new parm is specified in the ISPSLIB\SSMPCOM file tailoring skeleton. Do a search for "STUBSCAN" to see where this parm is specified. By default, this new option is not in effect. To turn it on uncomment the line where the value is set to "YES". This feature is only available when

generating programs via the IDE. When using the Distributed Generation Server (DGS) this setting is ignored.

2988372 (1108572)

CICS Support

Back to the list

- The value specified in the LENGTH field of the SEND TEXT command is now honored when the target terminal has its SOSI or PS attributes switched on. This means that trailing spaces will no longer be removed for SOSI/PS terminals.

  2884877 (1107983)

Compatibility AddPack for Visual COBOL

Back to the list

Compatibility AddPack for Visual COBOL is now deprecated and will not be available with release 3.0 and later.

The Dialog System GUI and run-time components and Dialog System Character Mode (on Windows and UNIX) which were part of the AddPack are now installed as part of Visual COBOL for Visual Studio. The run-time components are installed as part of COBOL Server. These are only included for backward compatibility and Micro Focus does not recommend that you use them for new development.

The other components which were part of the AddPack, the Character-Based Data File Editor, CSBIND and Screens, will be available upon request from Micro Focus SupportLine.

Compiler

Back to the list

- Replacing a partial token no longer causes the second part of the token to appear on a new line. This could happen if the new text was larger than the text being replaced.

  2869185 (1105763)

Documentation

Back to the list

- There have been a number of new reserved words added to the language in this release; these are all in effect under MFLEVEL"19", which is the default level when running under the MF dialect. Any of the following words are now not allowed under default conditions, and you will need to remove/rename them, or specifically configure your environment to allow them: ALLOCATE FREE JSON END-JSON

Enterprise Server

Back to the list

- WEB CONVERSE now supports a value of 0 for the USERLEN and PASSWORDLEN options which matches the behavior on the mainframe. There is no change to the behavior of WEB SEND (client) which is to return LENGERR 139/140 when USERLEN or PASSWORDLEN are 0.

  2989188 (1108602)

Enterprise Server for .NET

Back to the list

- A problem that caused an RTS 173 error while executing a batch job step that performed a COBOL sort (as opposed to EXEC PGM=SORT)when the program terminated using STOP RUN instead of GOBACK has been fixed.

  3105738 (1109359)

IDE

Back to the list

- You can now open data files in RSE configured remote projects using the mfdatatools2 on the remote machine displaying back to an X display. You can configure the remote tools display by clicking Window > Preferences > Micro Focus > X Display. In the X Display (DISPLAY) field, type the display details. In addition, COBOL Explorer displays the Open With Remote Data File Editor context menu item for remote data files.

  2852872 (1104085)
- Enterprise Server sign on credentials which were created on Windows when using the 32-bit versions of Enterprise Developer or Visual COBOL for Eclipse are not compatible with the 64-bit versions of those products, and vice versa. Users are required to re-enter credentials which are not compatible with the current version of the product. You only need to do this the first time they are used in the current product.

  (625819)

- Disabling CICS support from the properties of a file in your project within the IDE now correctly sets the NOCICSECM Compiler directive on that file.

File Handling

Back to the list

- A problem that generated a 39 error when attempting to access a VSAM file via an alternate index PATH element has been fixed.

  2874622 (1106562)
- Under Mainframe emulation, when an empty virgin VSAM file is opened for input or for input/output, a file status of 35 is returned, regardless of the access mode specified.

  2692826 (1093604)
- New PARM option SIGN-EBCDIC documented for MFJSORT.

  2880037 (1107256)
- The MFJSORT ICETOOL emulation now supports the USING parameter in the SELECT operator.

  2821176 (1099529)
- An empty, space-filler record is no longer produced at the end of an ICETOOL listing file.

  (622789)

IMS Support

Back to the list

- Inconsistent results returned to a GET call issued from a PROCOPT=GO application when segments within the same database record were updated and locked by another session. Symptoms included an invalid (GE) status code or the wrong segment returned to a GN call. This has been fixed.

  2862879 (1104899)

- The IMS control page is now secured according to the IMS* entity in MFESMAC.

  2877405 (1107099)

JCL Support

Back to the list

- An emulation of the LE run-time option CBLQDA has been implemented in the form of the environment variable MF_CBLQDA. The default is OFF, but when set ON, QSAM files can be dynamically created.

  3104665 (1109251)

- A new event call to the JCL user exit (MFJUXIT) has been included. The event 'job-queued' (event code 27) occurs when a JCL job has been parsed and put on either the Input Ready queue or the Input Hold queue.

  2990395 (1108734)

- When reading commands, MFFTP now checks the charset (EBCDIC or ASCII) of each concatenated INPUT dataset to determine if it should be translated. The output is written in the charset which appropriate for the dataset.

  2876407 (1106795)

- The PHYSFILE security setting will now be checked when a dataset entry is inserted into the catalog, or when a dynamic PDS member is created.

  2857819 (1104844)

Micro Focus Batch Scheduler Integration

Back to the list

- MFBSI no more requires that the name of the last folder specified in the path in MFBSI_DIR matches the name of the target Enterprise Server region. It is now possible to specify any directory path in MFBSI_DIR. You must use the same value for MFBSI_DIR in both the Enterprise Server configuration and for MFBSIJCL execution. When the name of the last folder specified in the path in MFBSI_DIR does not match the name of the target Enterprise Server region, you need to specify the region name in one of the following ways: 1. From the mfbsijcl command line, using the parameter REGION=ESRegionName. 2. In an MFBSI configuration file, in a line containing REGION=ESRegionName. You can specify this either in the default configuration file, mfbsi.cfg located using the path specified by MFBSI_DIR, or using a custom location or configuration file and the following parameter: CFG=[path]/name[.ext] See your product help for more details.

  2869805 (1105939)

Micro Focus Directory Server

Back to the list

- In the Enterprise Server Administration HTML GUI, the "Scripts" page functionality is only available if administration access is restricted and the logged on user has sufficient authority.

  3101625 (1109025)

- Some additional CSRF security measures have been added to the Enterprise Server Administration HTML GUI.

  3101205 (1108916)

OpenESQL

Back to the list

The new OpenESQL OPTIMIZECURSORS SQL compiler directive option is turned on by default for both ADO.NET (DBMAN=ADO) and ODBC (DBMAN=ODBC). For ADO.NET, this reduces cursor memory consumption thereby providing optimal performance. This also ensures that, for ODBC, embedded SQL cursors that use WITH HOLD and FOR UPDATE clauses have the same data integrity across all databases.

If your applications require the OpenESQL preprocessor to use the behavior provided in an earlier release, compile them using OPTIMIZECURSORS=NO.

PL/I Support

Back to the list

- PUT output-items of type POINTER are now output as a hexadecimal string rather than a fixed bin integer value.

   (623184)

- Enterprise Developer 3.0 includes some changes that result in a significant performance improvement when assigning a null character string '' to arithmetic data items, pointers, and structures. In versions of the product earlier than 3.0, pointer = ''; assigned the value sysnull(). This has been fixed and null() is now assigned. See the product help for details about the -setnull compiler option.

   (627517)

- Previously, if writing output to a CTLASA (PRINT) file with the optional LINE(x) parameter having a value of x that was less than the current line, PL/I did not generate ASA Control characters to end of page and emit the output on the first line of the new page. This no longer occurs.

   2871278 (1106114)

Reserved words

Back to the list

- There have been a number of new reserved words added to the COBOL language; these are all in effect under MFLEVEL"19", which is the default level when running under the MF dialect. Any of the following words are now not allowed under default conditions, and you will need to remove/rename them, or specifically configure your environment to allow them:

   ALLOCATE
   FREE
   JSON
   END-JSON

SQL: HCO for SQL Server

Back to the list

- The HCOSS Assess Application Migration tool now enables you to view the original DB2 SQL and the converted TSQL together in both the HCOSS tool itself and in any exported CSV files.

Known Issues

Refer to the *Known Issues and Restrictions* topic in the *Product Information* section of your product Help.

In addition, note the following:

- *Azure support*
- *Debugging*
- *Enterprise Server*
- *Eclipse*
- *Micro Focus Rumba*
- *Resource Adapters*
- *REST/JSON IMTK implementation and the same-origin policy (SOP)*

- *Visual Studio*

Azure support

- When compiling COBOL Azure Role projects in Visual COBOL for Visual Studio 2013 you receive warnings at build time and the code fails to execute when deployed to Azure.

  To work around this issue, you need to manually add the code below to the configuration section of the `Web.config` file in your project for Web Roles or in the `app.config` file for Worker Roles:

```
<runtime>
      <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
          <dependentAssembly>
              <assemblyIdentity name="Microsoft.Data.Services.Client"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
              <bindingRedirect oldVersion="0.0.0.0-5.7.0.0"
newVersion="5.7.0.0" />
          </dependentAssembly>
          <dependentAssembly>
              <assemblyIdentity name="Microsoft.Data.OData"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
              <bindingRedirect oldVersion="0.0.0.0-5.7.0.0"
newVersion="5.7.0.0" />
          </dependentAssembly>
          <dependentAssembly>
              <assemblyIdentity name="Microsoft.Data.Edm"
publicKeyToken="31bf3856ad364e35" culture="neutral" />
              <bindingRedirect oldVersion="0.0.0.0-5.7.0.0"
newVersion="5.7.0.0" />
          </dependentAssembly>
          <dependentAssembly>
              <assemblyIdentity name="Newtonsoft.Json"
publicKeyToken="30ad4fe6b2a6aeed" culture="neutral" />
              <bindingRedirect oldVersion="0.0.0.0-8.0.0.0"
newVersion="8.0.0.0" />
          </dependentAssembly>
      </assemblyBinding>
</runtime>
```

  This information is added automatically when you create COBOL Azure projects in Visual Studio 2015 or later.

Debugging

- When debugging `.gnt` code on early builds of Windows 10 and Windows Server 2016, execution fails to stop at COBOL breakpoints. To resolve this, you should install the most recent Windows updates for your operating system, as this problem is only known to be present with the earlier versions.

- When debugging a remote program, the performance of the network, specifically the latency between the local and remote machines, will have an effect on the responsiveness of Eclipse. Whenever Eclipse has to show the new execution position, a number of messages are sent from the remote machine, over the network, to get the required information. The effect of this is that it can take a few seconds after a Step command is issued before Eclipse has updated the screen and is ready for the next command.

  You can mitigate this delay by closing any unnecessary debug views. For instance, by closing the Expressions view and the Variables view, the number of messages that are sent is reduced, which allows Eclipse to update quicker.

- Large programs can suffer from a large delay the first time that the program is displayed in the debugger and an expression is evaluated. You can reduce this delay by following these steps:

  1. Create a text file called `debugconfig.xml`.
  2. Add the following lines, and then save the file:

```
<?xml version="1.0" encoding="utf-8" ?>
<NativeDebuggerOptions>
   <DebugOption Option="REMOTECHECKER" Value="yes"/>
</NativeDebuggerOptions>
```

3. At a command or shell prompt, set the environment variable DEBUG_CONFIG to the full path name for `debugconfig.xml`.

4. Start Eclipse from the same command or shell prompt.

- Remote debugging does not work for programs running on AIX or HP machines, if you are trying to debug using Visual COBOL installed on a Linux machine.

Enterprise Server

- On Windows 10, if you are using Microsoft's EDGE browser to access the Enterprise Server Administration GUI, issues with EDGE can cause the automatic refresh feature to display a dialog asking whether you want to resubmit a form. To work around this issue, cancel the resubmit request and then refresh the server list page or the Home page of Enterprise Server Administration. You can also turn off the automatic refresh by setting the **Auto-refresh interval** setting on the Home page of Enterprise Server Administration to 0.

Eclipse

- If you are upgrading your license from Visual COBOL for Eclipse Personal Edition (v2.2 or earlier) to Visual COBOL, or from Visual COBOL Connect (v2.2.1 or later) to Visual COBOL, any existing projects compiled to either .exe or .dll files using the old license must be updated in order to recreate the `.cobolBuild` file. You can do this done by adding or removing files from the project or by deleting the `.cobolBuild` file. Updating the project in this way ensures Eclipse will fully build the executable files.

- Opening a COBOL or a PL/I project in Visual COBOL modifies the `.cobolProj` and `.pliProj` files. Once modified the `.cobolProj` and `.pliProj` files are is no longer backward compatible with older versions of Visual COBOL. This prevents you from opening the same projects in earlier versions of Visual COBOL.

    Note: Micro Focus recommend that you backup your `.cobolProj` and `.pliProj` filesfile before opening projects created in earlier versions of Visual COBOL.

Micro Focus Rumba

- On versions of Windows Vista and later, Enterprise Server listens only on the IPv4 loopback address (127.0.0.1). As a result, an attempt to connect to localhost with a TN3270 emulator such as Micro Focus Rumba may fail. To work around this issue, in your emulator's configuration use 127.0.0.1 in preference to localhost or your host machine's name.

- The embedded Rumba display is only available if you are using:

    - Visual COBOL for Visual Studio 2012 with Rumba 9.4 or earlier. If a newer version of Rumba is installed, you need to use Rumba Desktop instead.
    - Visual COBOL for Visual Studio 2013, Visual Studio 2015 or Visual Studio 2017 with Rumba 9.5 or later. If an earlier version of Rumba is installed, you need to use Rumba Desktop instead.

Resource Adapters

- Trying to deploy the local resource adaptor `mfcobol-localtx.rar` to WebLogic may fail with a ClassCastException. To work around this issue, you need to deploy `mfcobol-xa.rar` first, then need to undeploy this file and deploy the local one, `mfcobol-localtx.rar`. If there are issues deploying using the WebLogic GUI, you can use the command line. If there are issues with this as well, try reducing the length of the command (for example, by moving the file to a location with a shorter path).

REST/JSON IMTK implementation and the same-origin policy (SOP)

- HTTP requests sent from scripts within a web browser to REST services deployed on an enterprise server might fail due to the same-origin policy (SOP). Some browsers might implement (or support plugins that implement) techniques for relaxing SOP such as cross-origin resource sharing (CORS) that enable sending cross-origin requests successfully. For REST services, Enterprise Server does not implement a method for relaxing SOP. This means that browsers that implement CORS (or any other SOP relaxation technique) might still forbid requests made from scripts due to Enterprise Server not implementing the equivalent technique on the server side.

Visual Studio

- The Visual Studio 2017 option **Lightweight Solution Load** is not supported for COBOL. It must not be used with solutions that contain COBOL projects as it could result in problems with building the projects properly.

- In certain installation scenarios, after you install Visual COBOL for Visual Studio 2015, the COBOL language service can be uninstalled. This results in the following features missing from the COBOL editor: colorization, IntelliSense for COBOL and any other COBOL language support. This is an issue with Visual Studio's MEF component cache becoming corrupted.

  To resolve this issue and restore COBOL language support in the editor:

  1. From a command prompt, navigate to `C:\Program Files (x86)\Microsoft Visual Studio 14.0\Common7\IDE`.
  2. Execute the following commands:
     ```
     devenv /updateconfiguration
     ```
     And then:
     ```
     devenv /clearcache
     ```

Installation

System Requirements

Hardware Requirements

In general, most modern machines will have the required processor and available RAM to run the Micro Focus products under Windows effectively. For planning purposes, you should consider having a minimum of 2GB of RAM though Micro Focus recommends at least 4GB of RAM for optimal performance.

Visual COBOL and Enterprise Developer for Visual Studio

Visual COBOL and Enterprise Developer have the following requirements in addition to the requirements of Microsoft Visual Studio. See the Visual Studio documentation for details of the Microsoft requirements.

The disk space requirements are:

Product	Maximum Disk Space Requirements	Sentinel RMS License Manager
Visual COBOL	1.2GB	75MB
Enterprise DeveloperEnterprise Developer	2.3GB	75MB

Note: This includes the space needed to cache information locally so that you can modify the installation without the original source media.

Visual COBOL and Enterprise Developer for Eclipse on Windows

The disk space requirements are:

Product	Maximum Disk Space Requirements	Sentinel RMS License Manager
Visual COBOL	3.7GB	75MB
Enterprise Developer	4.5GB	75MB

Note: This includes the space needed to cache information locally so that you can modify the installation without the original source media.

Operating Systems Supported

Note: If you are using Visual COBOL or Enterprise Developer on a 64-bit operating system, you can produce either 32-bit or 64-bit applications.

For a list of the operating systems each individual product in this package supports, check the *Product Availability* section on the Micro Focus SupportLine Web site: *http://supportline.microfocus.com/ prodavail.aspx*.

• Visual COBOL for Visual Studio is not supported on versions of Windows earlier than Windows 7.

Software Requirements

Note: This product includes OpenSSL version 1.0.2j.

Windows

Note: The setup file will check your machine for whether the prerequisite software is installed and will install any missing prerequisites and the product components.

Visual COBOL and Enterprise Developer for Visual Studio:

This product requires Microsoft's Visual Studio - either the Visual Studio Integrated Shell or a more advanced version of Visual Studio.

The following advanced editions of Visual Studio are required:

Professional, Premium, or Ultimate (for Visual Studio 2012)
Professional, Premium, Ultimate or Community Edition (for Visual Studio 2013)
Professional, Enterprise or Community Edition (for Visual Studio 2015)

If there is no Visual Studio installed on your machine, the setup file for Visual COBOL for Visual Studio 2012 or 2013 will install the Visual Studio Integrated Shell.

Important:

• A problem with Microsoft's Windows 10 prevents installing the Visual Studio 2013 Shell on that version of the OS. You must install an advanced edition of Visual Studio 2013 on Windows 10 before you start the installation of Visual COBOL for Visual Studio 2013.

• Code generation issues in Microsoft's 64-bit JIT (just-in-time) compiler delivered as part of .NET Framework version 4.6 can result in incorrect execution of some COBOL code compiled to .NET. Version 4.6 of the .NET Framework is currently shipped as default with Visual Studio 2015 and Microsoft's Windows 10. The problems include incorrect execution of MOVE and STRING

statements applied to alphanumeric operands, and incorrect execution of the ROUNDED phrase for arithmetic statements.

Some of these issues only seem to be reproducible in COBOL language applications compiled to .NET and some can be reproduced in other languages (C# or Visual Basic).

These problems have been reported and acknowledged by Microsoft and it is our belief that they either have resolutions or are working on fixes for all of them. For further information about these issues and guidelines on how to disable the latest version of the 64-bit JIT compiler, see *RyuJIT Bug Advisory* and *Troubleshooting RyuJIT*.

As of October 2015, Microsoft have released the following updates that address these issues with the .NET Framework 4.6:

- Hotfix rollup 3088955 for the .NET Framework 4.6 on Windows Server 2012 and Windows 8 - see: *http://www.microfocus.com/docs/links.asp?vc=mskb3088955*.
- Hotfix rollup 3088956 for the .NET Framework 4.6 on Windows Server 2012 R2 and Windows 8.1 - see: *http://www.microfocus.com/docs/links.asp?vc=mskb3088956*
- Hotfix rollup 3088957 for the .NET Framework 4.6 on Windows 7 SP1, Windows Server 2008 SP2, Windows Server 2008 R2 SP1, and Windows Vista SP2 - see: *http://www.microfocus.com/docs/links.asp?vc=mskb3088957*.
- Cumulative update 3093266 for Windows 10: September 30, 2015 (available through Windows Update) - see: *http://www.microfocus.com/docs/links.asp?vc=mskb3093266*.

- Visual COBOL for Visual Studio 2015 does not support Visual Studio 2015 Shell as the Shell has a number of restrictions to COBOL development. The Visual Studio 2015 Shell is not included in the setup for Visual COBOL for Visual Studio 2015 and before you start the installation, ensure that there is an advanced edition of Visual Studio 2015 installed on your machine.

✏️ **Note:**

- On Windows 8.1 RT, Windows 8.1 or Windows Server 2012 R2, you must have the Windows update KB 2919355 before you install Visual Studio 2015. Download KB 2919355 from the *Microsoft Download Center*.
- Microsoft Visual Studio Express Edition is not supported.
- You can download the Visual Studio Integrated Shell from the *Microsoft Download Center*. If you choose to install the Shell, ensure you run the installer to complete the installation - run `vsintshell.enu.exe` from the location where you installed the download.

  Note that some Visual Studio features might not be available with the Shell. This includes WCF or the Visual Studio 2013 Connected IDE experience in the Visual Studio 2013 Shell - the help for more details.

The following software is also required:

- Microsoft Windows SDK is required if you are using the Visual Studio Shell. See the *Microsoft Download Center* and search for Windows SDK.
- Microsoft .NET Framework 4.5. This is included with Visual Studio 2012.
- Microsoft .NET Framework 4.5.1. This is included with Visual Studio 2013.
- Microsoft .NET Framework 4.6. This is included with Visual Studio 2015.

Visual COBOL and Enterprise Developer for Eclipse:

The following requirements apply to both Visual COBOL and Enterprise Developer:

- The setup file installs Visual COBOL and the 64-bit Eclipse 4.6.0.

  Some earlier versions of Eclipse are also supported. See *Installing Visual COBOL into other instances of Eclipse* in the *Advanced Installation Tasks*.

Note: If you are installing Visual COBOL into Eclipse 4.5, or 4.6, you must install the Eclipse Target Management plugins into the Eclipse IDE for Java EE Developers package (32-bit):

1. Click **Help** > **Install New Software** in Eclipse and add a new repository for the location `http://download.eclipse.org/tm/updates/4.0`.
2. Expand **RSE 3.8 Main Features**, check **RSE Terminals UI (Deprecated)** and complete the installation of the plugin.

- Visual COBOL installs fully only on 64-bit Windows platforms. On 32-bit Windows, the setup file does not install some of the components. See *Issues with the Installation* in *Known Issues and Restrictions*.
- Visual COBOL supports both the 32-bit and the 64-bit Eclipse. You can use the 64-bit Eclipse to create both 32-bit and 64-bit applications.

The setup file will check your machine for whether the prerequisite software is installed and will install any missing prerequisites and the product components.

- Oracle's Java Platform (64-bit) version 1.8.92 or above is required to run the Eclipse IDE. Java 7 and 8 (32 or 64-bit versions) are supported for executing JVM COBOL code and for native COBOL and Java interoperability. You can download Oracle's Java EE from *Oracle's web site* and install it anywhere on your machine.

  Note: If Java 7 is installed on your machine, you can skip installing Java 8. Run the setup file with the `skipjre=1` command line option to do this.

- Visual COBOL requires:

  - A 32-bit Java installation if using the 32-bit Eclipse.
  - A 64-bit Java installation if using the 64-bit Eclipse.

- The setup file also installs .NET Framework v4.6.2 and the Microsoft's Visual C++ 2010 and 2012 Redistributables.

Installation Restrictions and Requirements

Before starting the installation you should be aware of the following:

- Visual COBOL and COBOL Server cannot coexist on the same machine.
- Visual COBOL and Enterprise Developer cannot coexist on the same machine regardless of which IDE (Visual Studio or Eclipse) you install.
- If, when you install Visual COBOL for Visual Studio , the machine does not have Microsoft Visual C++ Redistributable Runtime already installed, it is installed as required by Visual COBOL. The installation of Microsoft Visual C++ Redistributable Runtime adds a number of `.dll` files, without digital signatures, into the `winsxs` directory.
- If, when you install Visual COBOL for Visual Studio 2013, the machine does not have Microsoft Visual C++ 2012 Redistributable Runtime already installed, it is installed as required by Visual COBOL. The installation of Microsoft Visual C++ Redistributable Runtime adds a number of `.dll` files, without digital signatures, into the `winsxs` directory.
- You need to be logged in with a user-ID that has write access to the registry structure under HKEY_LOCAL_MACHINE, HKEY_CLASSES_ROOT, and HKEY_CURRENT_USER so the installation software can set the environment appropriately. You also need to be logged on with Administrator privileges.
- If you are installing this as an upgrade, make sure that none of the product files are in use when you start the installation. Also, the Visual Studio Help Viewer must not be opened.
- You need to be logged in with a user-ID that has write access to the registry structure under HKEY_LOCAL_MACHINE, HKEY_CLASSES_ROOT, and HKEY_CURRENT_USER so the installation software can set the environment appropriately. You also need to be logged on with Administrator privileges.
- Before installing this product , make sure that any existing Micro Focus Directory Server (MFDS) or CCITCP2 Windows service (on Windows) from an existing product is stopped and uninstalled. On Windows, do this as follows:

1. Stop the service, using either the Windows Service Management Console GUI or from a command line prompt by typing: `net stop mf_ccitcp2` Only one instance of the MFDS or CCITCP2 service can run on a Windows machine.
2. Uninstall the MFDS or CCITCP2 service.

    For MFDS, from a command line prompt enter: `mfds -u`

    For CCITCP2: `ccitcp2 -u`

To run an earlier version of MFDS as a service after you have installed a later version:

1. Stop and uninstall the MFDS service, as described above.
2. Reinstall the earlier version, as follows:

    a. Open a Visual COBOL command prompt.
    b. Install the service. Enter the following command: `mfds -i`
    c. Start the service. Enter the following command: `net start mf_ccitcp2`

    📝 **Note:** The two versions use different paths for environment and registry values, so the list of configured Enterprise Servers might be different depending on which version has been started, since, by default, different MFDS data repositories are used.

MFDS 5.1 and later are able to import or use Enterprise Server configuration data generated by earlier versions of MFDS, but 5.0 or earlier versions of MFDS might not be able to read data generated by later versions.

It is possible to run MFDS from a command prompt ("mfds") rather than as a service, but by default the "mfcobol" port is used (86) and this can only be used by one process at a time

Downloading the Products

1. Use the download links in your Electronic Product Delivery email.

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

Installing the Products

Use the individual setup files to install each product from the Micro Focus Academic Program package as follows:

Windows

1. Run the *productname*`.exe` file and follow the wizard instructions to complete the installation.

After Installing

Visual COBOL and Enterprise Developer for Visual Studio

You are now ready to run Visual COBOL or Enterprise Developer. From the Windows taskbar click **Start > All Programs > Micro Focus *Product Name* > *Product Name* for Visual Studio**. (The Start menu is not available on Windows 8, Windows 8.1, and Windows Server 2012. You use the Start screen to invoke programs.)

Refer to the *Start Here* and *Product Information* sections in your product Help. Here, you will find information on getting started including tutorials and demonstration programs.

*   To view the help in Visual Studio 2012, ensure that the Visual Studio Help Library is pointing to local help. From the Visual Studio menu click **Help > Set Help Preferences > Launch in Help Browser**.

Visual COBOL and Enterprise Developer for Eclipse

If you have used Eclipse from the same workspace before, the Eclipse perspective settings are not reset after installing any Micro Focus product. To pick up any new features, you must reset the perspective you are working with after installation:

1. Open the existing workspace with this product.

    You may receive some warnings or errors which you can ignore.
2. Make sure you are in the perspective you need to reset by clicking **Window** > **Perspective** > **Open Perspective** > **Other**.
3. From the **Open Perspective** dialog box, click the perspective you want to reset.
4. Click **OK**.
5. Click **Window** > **Perspective** > **Reset Perspective**.
6. When prompted, click **Yes**.
7. Reapply any customizations.

Installing X Windows on Windows

Some features of Visual COBOL for Eclipse and Enterprise Developer for Eclipse on Windows require an X Windows installation, so Micro Focus ViewNowX is provided with the product. To install, run the file `ViewNow_X_Server.exe` in your Visual COBOL installation. By default this will be in the `%ProgramFiles(x86)%\Micro Focus\Visual COBOL for Visual Studio 2012\ViewNowX` folder.

ViewNowX requires that your client machine has Microsoft Visual C++ 2008 SP1 Redistributable Package (x86) installed. If it is missing from your machine, the ViewNowX installation will offer a link to download the package.

Repairing

Windows

If any product files, registry settings or shortcuts are accidentally removed at any point, you can perform a repair on the installation to replace them.

To repair your installation on versions of Windows Vista or later:

1. From the **Control Panel**, click **Uninstall a program** under **Programs**.
2. Right-click your Micro Focus product and select **Repair**.

UNIX

If a file in the installation of the product becomes corrupt, or is missing, we recommend that you reinstall the product.

Uninstalling

Windows

To uninstall the product, you cannot simply delete its files from your hard disk. To uninstall the product:

1. Log in with the same user-ID as you used when you installed the product.
2. Click **Uninstall a program** under **Programs** in **Control Panel**.
3. Select the product and click **Remove** or **Uninstall** as appropriate.

When you uninstall, the only files deleted are those that the installation software installed. If the product directory has not been removed, delete any unwanted files and subdirectories within it using Windows Explorer.

Note: The installer creates separate installations for Visual COBOL, Enterprise Developer, Enterprise Server for .NET, and Micro Focus License Administration. Uninstalling only Visual COBOL does not automatically uninstall Enterprise Server for .NET, the Micro Focus License Manager or any of the prerequisite software.

Enterprise Server for .NET must be uninstalled before you remove Visual COBOL. To completely remove the product you must uninstall the Micro Focus License Manager as well.

You can optionally remove the prerequisite software. For instructions, check the documentation of the respective software vendor.

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

The following folders might not be removed:

- `Micro Focus Product Name` folder in the Start menu - you can delete it manually.
- `%systemdrive%\Users\Public\Documents\Micro Focus` - includes the binaries and the log files of the samples which you have built.
- `%ProgramData%\Micro Focus` - includes some data files used by the Micro Focus licensing system.
- `%Program Files%\Micro Focus` - you can delete it manually.

Copyright and Disclaimer

Copyright © Micro Focus 2017. All rights reserved.

The only warranties for this product and any associated updates or services are those that may be described in express warranty statements accompanying the product or in an applicable license agreement you have entered into. Nothing in this document should be construed as creating any warranty for a product, updates, or services. The information contained in this document is subject to change without notice and is provided "AS IS" without any express or implied warranties or conditions. Micro Focus shall not be liable for any technical or other errors or omissions in this document. Please see the product's applicable end user license agreement for details regarding the license terms and conditions, warranties, and limitations of liability.

Any links to third-party websites take you outside Micro Focus websites, and Micro Focus has no control over and is not responsible for information on third party sites.