



# COBOL Analyzer 2.1

Release Notes

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# Contents

|   |           |
|---|-----------|
| <b>COBOL Analyzer Release Notes - Version 2.1</b> ..... | <b>4</b>  |
| <b>What's New</b> .....                                 | <b>5</b>  |
| COBOL Analyzer Product Enhancements .....               | 5         |
| Diagrammer in Interactive Analysis .....                | 5         |
| Invalidation Performance Improvement .....              | 5         |
| Program Control Flow Enhancements .....                 | 5         |
| Generic API/Legacy.xml Enhancements .....               | 5         |
| Batch Interface to Run Code Search Reports .....        | 6         |
| Easier Deployment of the Web Client .....               | 6         |
| Other Enhancements and Changes .....                    | 6         |
| Silent Install Procedure .....                          | 7         |
| <b>Upgrades from the Previous Version</b> .....         | <b>8</b>  |
| <b>Updating the CA Web Client</b> .....                 | <b>9</b>  |
| <b>Updating the Eclipse Plugins</b> .....               | <b>10</b> |
| <b>Important Notes</b> .....                            | <b>11</b> |
| <b>Resolved Issues</b> .....                            | <b>12</b> |
| <b>Updates and SupportLine</b> .....                    | <b>17</b> |
| Contacting Micro Focus .....                            | 17        |
| Information Needed by Micro Focus SupportLine .....     | 17        |
| <b>Copyright and Disclaimer</b> .....                   | <b>18</b> |

# COBOL Analyzer Release Notes - Version 2.1

These release notes contain a summary of the major features of Micro Focus COBOL Analyzer Version 2.1, as well as late-breaking information about the product.

Before using COBOL Analyzer, please read the *Getting Started* manual in the online help to gain an understanding of the user interface and tool metaphor. For more detail on the behavior, usage and limitations of COBOL Analyzer, please refer to the online help.

# What's New

## COBOL Analyzer Product Enhancements

COBOL Analyzer product enhancements listed below include many code search usability enhancements and improvements, new workspace build and maintenance features, new reports for migrations and performance optimization, enhanced charts, and a new Getting Started screen to help guide new users.

### Diagrammer in Interactive Analysis

A new Diagrammer pane is now available in the Interactive Analysis window to give a quick view of the neighborhood of the selected program. You can switch the diagram to show a diagram of include files used by the program, called programs, or data flow. To redraw the diagram for a different program, first switch to that program and then click the **Rebuild Diagram** button in the Diagrammer pane.

### Invalidation Performance Improvement

The performance of the invalidation process has been improved. This will speed up runs of the batch refresh process by spending less time during the invalidation of updated sources and starting reverification of the sources sooner.

To make sure your Microsoft SQL Server database is configured to take advantage of this change, the **Service Broker > Broker Enabled** option should be **True** for the database. You also need to make sure that the AsyncExecQueue queue exists under **Service Broker > Queues** and the AsyncExecService service exists under **Service Broker > Services** for the database.

Note that we recommend you use the Invalidate Workspace feature in the administration tool if you have a workspace with a very large number of verified source files that need to be invalidated as it will be much faster.

### Program Control Flow Enhancements

The graph in the Program Control Flow pane in Interactive Analysis has been improved to show the structure of the paragraph calls in the order they are seen in the source from top to bottom. In other words, whenever possible the first called paragraph will be shown to the top right of the starting paragraph, the second called paragraph would be displayed as the line and node below the first, and so on. Also, fall thru paragraphs will be shown under the previous paragraph, instead of to the right of it to convey they are reached by a fall thru and not a call.

### Generic API/Legacy.xml Enhancements

#### Using the name of data item instead of its value

The ability to extract the name of a data item, rather than its value, has been added to the Generic API analysis feature. This is supported by the new `name` type in the `arg` element. For example:

```
<arg var='FileName' param='2' type='name' />
```

This specifies that the variable `%FileName` should be set to the name of the 2nd parameter of the matched CALL statement.

## Getting the value of a variable from an external CSV file

A new Generic API function called "lookup" has been added to get the value of a variable from a lookup table in a comma-separated value (CSV) file. The function uses the following format:

```
lookup, <file>, <keyCol>, <valueCol>, <variable>
```

The CSV file is located on the disk at <file>. For each line in that file, <keyCol> specifies the column (counted from 0) containing the key to match against <variable> and <valueCol> specifies the column containing the value to return. If <keyCol> is an empty string, column 0 is assumed. If <valueCol> is an empty string, column 1 is assumed. If no matching row is found in the file, an empty string is returned.

## Batch Interface to Run Code Search Reports

A new batch interface for running Code Search Reports is now available. The new `CodeSearchReport.bj` can be found in the `[EA install directory]/Scripts/BRP`. The three required parameters are `Workspace`, `ReportName` for the name of the code search report to run, and `Project` for the project context for the report. The optional `Folder` parameter is for the location where the HTML output of the report will be saved. If the `Folder` parameter is not used, the HTML report will not be created. Here is an example command to run a code search result named Code Rules in batch:

```
"C:\Program Files (x86)\Micro Focus\Enterprise Analyzer\Bin\Brave.exe" "C:\Program Files (x86)\Micro Focus\Enterprise Analyzer\Scripts\BRP\CodeSearchReport.bj" "C:\logs\log.txt" "Workspace=C:\workspaces\Workspacel.rwp" "ReportName=Code Rules" "Project=Workspacel.rwp" "Folder=C:\reports"
```

## Easier Deployment of the Web Client

The COBOL Analyzer 2.1 installer has a new option available to deploy the COBOL Analyzer Web application. Selecting this **Install Web Client** option will install the Apache Tomcat Web server as well as the JRE if they are not already present, and deploy the `EAWeb.war` file automatically. This new option replaces the previous option to install Apache Tomcat which required that you manually copy the `CAWeb.war` file to the appropriate directory and then restart Apache Tomcat to deploy the application.

Note that after the installation the COBOL Analyzer Web Service will still need to be configured with a Log On user. See the *Updating the CA Web Client* section below, starting at step 7 for details on how to configure the service. Then you can use the Configure Web Service feature in the CA Administration tool to make a workspace accessible through CA Web.

## Other Enhancements and Changes

- ACUCOBOL - The **Graphical System** workspace option for the ACUCOBOL dialect is now enabled by default.
- Diagrammer - You can now drag-and-drop objects from the browser to the diagram pane to draw object-based diagrams.
- Diagrammer - You can now open Interactive Analysis for relevant objects in the diagram from the right-click context menu.
- Diagrammer - A new **Job Stream To JCL** scope has been added.
- Code Search - A new query for detecting misalignment in COBOL group data item declarations has been added to the `Quality Assessment` folder in the search library. Note that the new query is not run with the Quality Assessment report.
- Line numbers have been added to the source view in CA Web.
- The name of the `.war` file for the Web client has been changed to `CAWeb.war`.
- The HP3000 COBOL dialect has been added to the **Workspace Options > Verification > Legacy Dialects** for COBOL File.
- `ApplyPCF.bj` - You can now add objects to multiple projects by including multiple projects on a single line.

- `ApplyPCF.bj` - You can now configure new objects for sharing with a new optional parameter called "Sharing".
- The Portability Assessment report has been updated with new reports and improved with some report adjustments.
- BRM - The business rule report names have been adjusted to convey the context of each report. The new report names are:

Business Rule Report (selected rules)

Process Outline Report (selected program)

Coverage Report (all rules)

- A new menu item for opening the Repository Browser has been added to the **View** menu in the main window.
- The folder selection dialog has been added to several features to improve usability.
- Microsoft SQL Server 2016 is now supported as a database for workspaces.
- The Windows Server 2016 operating system is now supported.



**Important:** If you are using Windows Server 2016 and plan to use the SQL Server Express database that is included with the installation, we recommend using SQL Server 2016 Express instead and disabling the Microsoft SQL Server Express install option when installing COBOL Analyzer.

## Silent Install Procedure

A new parameter that will run the Configuration Manager without displaying or prompting for user input is now available when performing a silent install. The "`ShowConfig=0`" parameter can be used to hide the Configuration Manager when `/i /quiet` options are used for silent install.

For example, the full command to run the COBOL Analyzer installer silently is:

```
COBOLAnalyzer21.exe /i /quiet "ShowConfig=0"
```

# Upgrades from the Previous Version

All workspaces must be upgraded after installing COBOL Analyzer 2.1. Before upgrading, we recommend that you contact SupportLine for the latest COBOL Analyzer updates. SupportLine is also available to give guidance on best practices for workspace upgrades. Before performing the upgrade on important workspaces, be sure to back up the database and the workspace folder along with the `.rwp` file. If you experience any issues or errors with the workspace upgrade process, please contact SupportLine with a description of the problem and include the contents of the Upgrade folder from the workspace as an attachment.



# Updating the CA Web Client

After installing COBOL Analyzer 2.1, follow these steps to continue using the CA Web client.

1. Stop the Apache Tomcat service.
2. Delete CAWeb.war and the CAWeb folder from C:\Program Files (x86)\Apache Software Foundation\Tomcat\webapps.
3. Delete everything in the ... \Tomcat\temp folder.
4. Delete everything in the ... \Tomcat\work\Catalina\localhost folder.
5. Copy the CAWeb.war file from [CA install directory]\Web Client into the ... \Tomcat \webapps folder.
6. Start the Apache Tomcat service.
7. In the properties for the COBOL Analyzer Web Service, go to the **Log On** tab, choose **This account** and enter the account of a user with access to CA and the workspace.
8. Restart the COBOL Analyzer Web Service.



**Note:** The browser clients might need to hard refresh the CA Web page with **Ctrl+R** to get the latest version.



**Note:** Due to an incompatibility between Java 8 and Tomcat 6.0, you might need to uninstall Tomcat 6.0 and install the Apache Tomcat 7.0.62 that is included with the CA 2.1 installer.



**Note:** When using CA Web in Internet Explorer, disable compatibility mode.

# Updating the Eclipse Plugins

Follow these steps after installing CA 2.1 to continue using the Clipper View and Search Assistant plugins.

1. On the CA server, in the properties for the COBOL Analyzer Web Service, go to the **Log On** tab, choose **This account** and enter the account of a user with access to CA and the workspace. Restart the COBOL Analyzer Web Service.
2. Open Eclipse or Enterprise Developer on the client machine.
3. Go to **Help > About Eclipse**.
4. Click the **Installation Details** button.
5. Select **COBOL Analyzer Access** and click **Uninstall**.
6. Click **Finish** and when prompted, restart Eclipse.
7. When Enterprise Developer/Eclipse opens again, click **Help > Install New Software**.
8. Click the **Add** button next to the **Work with combo** selection.
9. Click **Archive** and point to the `CAIntegration.repository.zip` file in `[CA install directory]\Bin`. Then add a name in the **Name** field and click **OK**.
10. In the Install window, check the box for **COBOL Analyzer Access**. Click **Next**.
11. Click **Next** again.
12. Accept the license agreement and when prompted, restart Eclipse.

# Important Notes

- If you experience an issue with the Micro Focus License Manager not functioning properly after installing version 2.1, uninstall License Manager and reinstall it from the COBOL Analyzer installer Packages\SentinelRMSLicenseManager folder.
- When installing COBOL Analyzer on Windows 8, Windows 10, Windows Server 2012, or Windows Server 2016, you might receive an error that says the .NET Framework 3.5 could not be installed. In this case, you must enable the .NET Framework 3.5 on the operating system. To do this:

1. Ensure that you have the installation media for your operating system accessible on the machine or on a mounted ISO.
2. Start a command prompt as an administrator by locating it on the **Start** menu, right-clicking, and selecting **Run as administrator**.
3. For Windows 8, Windows 10, or Windows Server 2012, enter the following command:

```
Dism.exe /online /enable-feature  
/featurename:NetFX3 /source:F:\sources\sxs /LimitAccess
```

where *F:* is your installation media drive.

4. For Windows Server 2016, enter the following command:

```
Dism /online /enable-feature /featurename:NetFX3 /  
featurename:NetFx3ServerFeatures /Source:F:\sources\sxs /LimitAccess
```

where *F:* is your installation media drive.

# Resolved Issues

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

- *CA - Administration*
- *CA - Analysis - Diagrammer*
- *CA - Backend - Analysis - Cobol*
- *CA - Backend - Analysis - Cobol - Advanced*
- *CA - Backend - Analysis - EmbeddedSQL*
- *CA - Backend - Parsing - Cobol*
- *CA - Backend - Parsing - Cobol/HP 3000*
- *CA - Backend - Parsing - Cobol/MicroFocus*
- *CA - Backend - Parsing - DDL*
- *CA - Backend - Parsing - EmbeddedSQL*
- *CA - Backend - Verification*
- *CA - Batch Refresh Process*
- *CA - Business Rules*
- *CA - EAWeb*
- *CA - Homonyms*
- *CA - HyperView - Callie*
- *CA - HyperView - Clipper*
- *CA - IDE*
- *CA - IDE - Project Operations*
- *CA - IDE - Repository Browser*
- *CA - Installation*
- *CA - Plugins*
- *CA - Reports - Portability Assessment*
- *CA - Upgrade*
- *CA - User Interface*

## **CA - Administration**

- Code Search queries and Custom Reports are no longer removed from the workspace when the Invalidate Workspace functionality is used.  
2883683 (1107843)

## **CA - Analysis - Diagrammer**

- An issue where the conditions on a relationship in a Diagrammer scope were not applied to the diagram has been fixed.  
3104258 (1109411)

## **CA - Backend - Analysis - Cobol**

- An issue with the MOVE BY GIVING statement causing a verification error has been fixed.  
2885896 (1108203)

### **CA - Backend - Analysis - Cobol - Advanced**

- An issue that would cause incorrect results in Generic API patterns when an asterisk appeared in the data has been corrected.

2881520 (1107506)

### **CA - Backend - Analysis - EmbeddedSQL**

- An issue with parentheses around the SQL SELECT statements when used with the UNION operator has been fixed.

2879406 (1107238)

### **CA - Backend - Parsing - Cobol**

- Support for type="name" attribute in arg element for Generic API has been added.

2989230 (1108727)

- An issue where verification using the RM/COBOL dialect was reporting missing copybooks has been fixed.

2884481 (1107933)

### **CA - Backend - Parsing - Cobol/HP 3000**

- An issue that caused undeclared identifier verification errors was addressed with the fix to allow blanks within names for SOURCE-COMPUTER and OBJECT-COMPUTER.

3106769 (1109472)

- Blanks within names for SOURCE-COMPUTER and OBJECT-COMPUTER are now supported. Blanks are still not allowed for PROGRAM-ID as per compiler vendor specification.

(627974)

### **CA - Backend - Parsing - Cobol/MicroFocus**

- An issue where the call of system routine X'91' for Micro Focus COBOL reported an error has been fixed.

2885875 (1108202)

### **CA - Backend - Parsing - DDL**

- SQLID no longer influences the synonym's name.

3102193 (1109082)

### **CA - Backend - Parsing - EmbeddedSQL**

- A problem caused by a bracketed query within an IN expression has been fixed.

2887125 (1108297)

- A problem with DB2 syntax not recognized by the embedded SQL parser in COBOL has been fixed.

2879716 (1107316)

### **CA - Backend - Verification**

- If the number of extensions in the registration options for copybooks is over 24, an error message will appear on the activity log and the verification of the COBOL program will stop. Note this restriction does not apply to the ACUCOBOL dialect.

2881000 (1107469)

## CA - Batch Refresh Process

- A new batch interface for Code Search Report execution has been created. The new script can be found in "Scripts/BRP/CodeSearchReport.bj". It requires three parameters and one is optional. The required ones are "Workspace", "ReportName" (the name of the Code Search Report) and "Project" ( the project over which the report will be executed). The optional parameter is "Folder" - this will be the output directory where the HTML report will be stored. If there is no value provided for "Folder", the HTML report won't be created.

2988865 (1108570)

- An issue when linking COBOL and C with the MFCobolCLink.bj script has been fixed.

2886302 (1108222)

- ApplyPCF.bj now accepts a new option parameter called "Sharing", with possible values "Yes" or "No", to control the sharing of newly created projects in applied PCF files.

2878999 (1107137)

- An issue with running RXP queries in batch with RXP.bj has been fixed.

2878027 (1107132)

- ApplyPCF.bj now supports PCF files with multiple projects on a single line like:

```
COBOL "SOURCES\test.CBL" "Prj1"  
"Prj2"
```

This will include test.cbl into both Prj1 and Prj2 projects.

2877879 (1106970)

## CA - Business Rules

- Business names are now correctly applied when creating rules from a list.

2872229 (1106237)

- Business name replacement in rules has been fixed to use correct business name on entities.

2872229 (1108180)

- An issue with carriage returns in extended rule attributes with type longtext has been fixed.

2872079 (1106215)

- The names of the reports from the Rules pane have been improved to communicate the scope of the report.

2871844 (1106193)

- A progress bar is now shown when running Source Synchronization.

2871841 (1106181)

- A performance issue when you select and move multiple rules to a different rule set has been fixed.

2871702 (1106158)

- An issue with column ordering of the Business Rule Report has been fixed, and I/O Data Element and Control Conditions have been added as optional columns.

2871052 (1106553)

- The display of I/O data elements and control conditions in the Business Rule Report has been improved.

2871052 (1106172)

- Sorting on columns in the I/O Data Elements window is now possible.

2870076 (1105897)

### **CA - EAWeb**

- The behavior of the Web client when no workspace is configured has been improved.  
2799448 (1096735)

### **CA - Homonyms**

- The order of the paths in the Homonyms Search Path options is now correctly used when finding a copybook.  
2989647 (1108781)

### **CA - HyperView - Callie**

- An issue with the selection of complex EVALUATE statements has been fixed.  
3101290 (1108919)
- The graph in the Program Control Flow pane has been improved to better resemble the structure of the paragraph flow from left to right and top to bottom.  
2862707 (1105296)

### **CA - HyperView - Clipper**

- An issue where a Code Search query that searched for a construct with descendants would not run has been fixed. For example, "Conditional Expression (with descendants)".  
3108305 (1109622)
- Translations of Code Search query names and descriptions are now displayed correctly.  
2882737 (1107656)
- The "Operations with Different Data Types - Conditions" Code Search query under the Quality Assessment folder has been split into 2 different queries to reduce the execution time of the query.  
(626266)

### **CA - IDE**

- An issue with charts showing "Invalid data" has been fixed.  
3102141 (1109096)
- An issue with missing objects erroneously appearing in a project has been fixed.  
2864787 (1105103)
- A new option to change the default chart view has been added in Options > User Preferences > Environment tab > Chart Viewer section.  
(623628)

### **CA - IDE - Project Operations**

- Include Directly Referencing Objects option is not performed anymore on system copybooks to prevent unwanted includes of programs into the target project.  
2887844 (1108408)

### **CA - IDE - Repository Browser**

- The "Called by" relationship in the Repository Browser was changed so it can also show custom relationships.  
2881852 (1107758)

### **CA - Installation**

- "ShowConfig=0" can be used to hide the Configuration Manager when /i /quiet options are used for silent install.

2991281 (1108814)

### **CA - Plugins**

- An issue with adding Code Search queries from multiple plug-ins has been fixed. Now all folders and queries will be added.

2885047 (1108392)

### **CA - Reports - Portability Assessment**

- CICS queries have been removed from the Portability Assessment report.

3101303 (1108920)

- Sorting on numeric columns now works correctly.

2869257 (1105775)

- Several reports have been added to or changed in Portability Assessment.

2865430 (1105925)

### **CA - Upgrade**

- Code Search queries imported from plug-ins will now be correctly displayed in the Code Search library. A Workspace upgrade is required.

2885048 (1108105)

### **CA - User Interface**

- An issue where starting the product would be delayed at the splash screen for an unusually long time can be caused by a connection problem with the license server. A message will now be displayed over the splash screen if this happens. Check that the authorization server URL is correct in the Micro Focus License Administration and that it is accessible.

2990525 (1108861)



# Updates and SupportLine

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

## Contacting Micro Focus

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Visit Micro Focus SupportLine at <http://supportline.microfocus.com> for up-to-date support news and access to other support information. First time users may be required to register to the site.

## Information Needed by Micro Focus SupportLine

When contacting Micro Focus SupportLine, please include the following information if possible. The more information you can give, the better Micro Focus SupportLine can help you.

- The name and version number of all products that you think might be causing an issue.
- Your computer make and model.
- System information such as operating system name and version, processors, and memory details.
- Any detailed description of the issue, including steps to reproduce the issue.
- Exact wording of any error messages involved.
- Your serial number or works order (WO) 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, or on the box in which the product was supplied, and on the red card supplied in the DVD case .

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