COBOL Analyzer 7.0

Release Notes

Contents

COBOL Analyzer Release Notes - Version 7.0

These release notes contain a summary of the major features of COBOL Analyzer Version 7.0, 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

Change Analyzer Improvements

Performance and usability improvements make it easier to get a report of all affected items from the change candidate fields. Menu item labels, pane titles, and tooltips in Change Analyzer have been improved to make easier to understand and use the tool.

The programs pane is renamed to Changed Candidates and now only shows the programs that return results from the step 1 search for candidate field declarations. Select the program to see the change candidate declarations, and then run step 2 to populate the list for each declaration with the affected fields.

We removed the restrictions on the number of programs and starting points for step 2 analysis to find affected fields.

Support for the JSON export format has been added.

.NET/JVM COBOL Support

Support for .NET/JVM COBOL has been added. These applications can be registered and verified in the workspace. Select the ".NET/JVM COBOL" dialect in the Workspace Options before verifying. Most applications migrated from native COBOL should be supported. The limitation in this first iteration of the .NET/JVM COBOL support is that classes and methods are not supported.

Nested Programs Support for COBOL

Nested programs within a single COBOL source file are now supported. Nested programs can be analyzed for advanced code searches, program control flow, and flowchart. The initial support for nested programs does not include support for advanced analysis features like impact analysis, dead code, and Logic Analyzer.

Fortify Security Analysis Export (MBS)

The ability to export sources for analysis in Fortify has been added. A new menu item called "Export for Fortify Security Analysis (MBS)" is added to the Reports menu in the main window of COBOL Analyzer. It is used to create and save a Mobile Build Session (MBS) using already verified COBOL files. The MBS includes COBOL files and all copybooks required. Once created, the MBS is saved to a single file with

.mbs extension. The resulting .mbs file can be imported into Fortify Static Code Analyzer (SCA) or Fortify on Demand (FoD) for security analysis.

To create an MBS, follow the steps below:

1. Select the Project(s) (containing verified COBOL files) or select verified COBOL files from Repository browser
2. Select "Export for Fortify Security Analysis (MBS)…" from "Reports"
3. In the pop-up window select the desired location and name for the resulting .mbs file and press "Save"

A batch script and REST API are added for this feature as well. The .bj script is FortifyMBSExport.bj in the installation \Scripts\BRP folder. The details on creating the Fortify MBS through the REST API endpoint are as follows:

Endpoint: http://localhost:1248/api/workspaces/{WorkspaceName}/FortifyMBSExport

Name: FortifyMBSExport

Description: "Export Fortify MBS"

Method: GET

Parameters: Project (If not provided, will execute the operation on the whole workspace.)

Expose RXP queries via REST

The Query Repository feature is now available through the REST API.

Get a list of all available queries at this location:
http://localhost:1248/api/workspaces/{WorkspaceName}/GenericQueryRepository

Execute any query given by name at this location:
http://localhost:1248/api/workspaces/{WorkspaceName}/GenericQueryRepository/{QueryName}

Documentation in Swagger UI is accessed at this location:
http://localhost:1248/api/docs#/Workspace/get_api_workspaces__WorkspaceName__GenericQueryRepository__QueryName_

Added Support for PostgreSQL

PostgreSQL support is now available when creating workspaces. PostgreSQL version 13 is supported. Follow these points as a minimum guide to set up the PostgreSQL database for an EA workspace.

- Make sure the 32-bit psqlODBC driver is installed.
- Use pgAdmin to create a database on the PostgreSQL server for the EA workspace.
- Add the PostgreSQL ODBC Driver to the ODBC Data Sources (32-bit). Unicode is recommended.

Usability

Look and Feel

Improvements to the overall user experience have been made. New controls for the various panes in tools like Interactive Analysis are added for more flexibility for the layout in the window. This includes moving panes out to a new window and moving panes to tabs in the same area. The options dialog has been improved to allow for easier resizing.

Code Search Query Interface

The user interface for creating code search queries has been revised to make queries more readable and easier to create. The choices for possible values for types to search and some construct attributes like Kind for declarations and statements are now shown in dropdowns instead of popup windows. The choices are strongly typed (string, integer, enum, etc.) to help avoid creating incorrect queries. Query parameters can be added for running queries in the main application, the Web application, or in with the batch scripts. And there are now Undo and Redo buttons available when creating and editing queries.

REST API Documentation Using Swagger UI

A more readable view of the features available through the REST API has been introduced. Go to this location to see the documentation using Swagger UI: http://localhost:1248/api/docs#/

Other Enhancements and Changes

- C/C++ relaxed parsing is now available. This means more information about verified sources is returned even if header files are missing.
- The Portability Assessment report has been updated with new and revised queries and enhanced reports. The view of the Portability Assessment report from the Code Search Reports dialog has also been improved so that all reports, including multi-step code search query reports, are now available to be selected.

Non-Functional Changes

- Windows 7 and Windows 8 / 8.1 are no longer supported.

Upgrades from Previous Versions

Important: All workspaces must be upgraded after installing CA 7.0. Before upgrading, we recommend you contact SupportLine for the latest COBOL Analyzer updates and best practices for workspace upgrades.

Before performing the upgrade on important workspaces, be sure to backup 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.

COBOL Analyzer 7.0 supports upgrades of workspaces from these versions:

- 6.0 GA and any HF version – Can be upgraded directly to 7.0
- 5.0 GA and any HF version – Can be upgraded directly to 7.0
- 4.0 GA and any HF version – Must be upgraded to 6.0 first before upgrading to 7.0

Upgrading workspaces that use a copy of the sources under the workspace folder (non-in-place – Typically created with a version prior to 4.0), is not supported. If you are running a version earlier than 4.0, we recommend creating a new workspace.

Important: Apache Tomcat needs to be upgraded to version to 9.0.33 due to the Tomcat Ghostcat vulnerability found in earlier versions. If you have an earlier version from a previous COBOL Analyzer install you should uninstall the old Apache Tomcat version and install the 9.0.33 version found with the CA installer files in the Packages\ApacheTomcat folder. The Apache Tomcat version will not be upgraded automatically by the CA installer.

Note: Upgraded SQL Server workspaces will have a backup RWP file with a name like *.rwp.bak after the upgrade. This is due to the need to update the connection properties for opening the workspace. This update is done automatically with no input needed from the user. The .rwp.bak file will have the old connection properties for reference, and it can safely be deleted.

Updating the CA Web Client

After installing COBOL Analyzer 7.0, follow these steps to continue using the CA Web client. If COBOL Analyzer was installed with the **Install Web Client** option, steps 1 through 6 below can be skipped.

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

Updating the Eclipse Plugins

Follow these steps after installing CA 7.0 to continue using the Clipper View and Search Assistant plugins in the Eclipse IDE.

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** > **Install New Software**.
4. Click the **Add** button next to the **Work with** combo selection.
5. Click **Archive** and point to the `EAIntegration.repository.zip` file in `[CA install directory]\Bin`. Then add a name in the **Name** field and click **Add**.
6. In the Install window, check the box for **COBOL Analyzer Access**. Click **Next**.
7. Click **Next** again.
8. Accept the license agreement and when prompted, restart Eclipse.

Silent Install

The following command can be used to perform a silent install of the product. This command will execute the installation to the default location with the default selections of SQL Server Express install enabled and Install Web Client disabled:

```
start COBOLAnalyzer70.exe /s /v"/qn"
```

The following command will install with the default options plus the Install Web Client will be enabled:

```
start COBOLAnalyzer70.exe TomcatCheckbox=1 /s /v"/qn"
```

The parameters to disable the default selection of the SQL Server Express install is `SQLExpressCheckbox=0`. This is shown in the following command as an example of how to disable these default selections and can be used along with the TomcatCheckbox parameter:

```
start COBOLAnalyzer70.exe SQLExpressCheckbox=0 /s /v"/qn"
```

The install location can be changed with the InstallFolder parameter. The following command shows an example of using the InstallFolder parameter to install to any location:

```
start COBOLAnalyzer70.exe InstallFolder="D:\Install\Micro Focus\COBOL Analyzer" /s /v"/qn"
```

Important Notes

- After installing CA version 7.0 with the **Install Web Client** option selected, if the Apache Tomcat service does not start automatically, it can be started from the Services application. There you can also set the **Startup Type** to `Automatic` if it is set to `Manual`.

- When installing a new version of CA with the **Install Web Client** option checked over a previous version, newer versions of the Adopt OpenJDK JRE may be installed and older versions will be left untouched by the CA installer. For Apache Tomcat, if an older JRE version is present Tomcat will continue to use the older version of the JRE. Note that the latest version of the JRE will always be used by default for verification of Java files in a workspace.
- When using CA on Windows Server 2019 it may be necessary, depending on the security settings, to do one of the following in order to access a workspace local to that machine:
    - Before creating a workspace share the folder or a parent folder that will contain the `.rwp` file and workspace folder.
    - Before creating a workspace add security permissions for the user account to the folder where the workspace will be created.
    - Add security permissions for the user account to the workspace folder that is on the same level as the `.rwp` file.

Updates and SupportLine

Our website gives up-to-date information of contact numbers and addresses.

Contacting Micro Focus

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- 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.

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Appendix I: COBOL Analyzer Features per Client

The web client provides a subset of the features available in the Windows desktop application. The table below shows the features that are available in each client. Note that this is not a full feature list for the desktop application.

Capability	Desktop Application	Web Interface
System Level Objects		
Repository Browser	Yes	Yes
Search Assistant	Yes	Yes
Repository Queries	Yes	Yes
Reference Reports	Yes	No
Diagrammer (project)	Yes	No
Diagrammer (object)	Yes	Yes
CRUD Report (project)	Yes	No
CRUD Report (object based)	Yes	Yes
Complexity Metrics	Yes	Overview charts only
Syntactical Analysis		
Code Search	Yes	Yes, execute only
Source pane with navigation	Yes	Yes
Program Control Flow	Yes	No
Code Search Reports	Yes	Yes, execute only
Migration Reports	Yes	Yes, execute only
Quality Reports	Yes	Yes, execute only

Business Rules	Yes, licensed separately	Yes, view and edit only
Advanced Analysis Options		
Change Analyzer (full)	Yes	No
Change Analyzer (single data item)	Yes	Yes
Impact Analysis	Yes	Yes
Execution Path Analysis	Yes	No