

APL64 2025.0.9 Update is Coming

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Overview

This document describes the enhancements and bug fixes that are planned for the next production update following APL64 2025.0.8. This document will be periodically updated until the next production update is officially released.

Interpreter Modifications

New ☐XL Actions

RenameWorksheet action

The RenameWorksheet action renames the specified worksheet with the specified name.

AddHyperlink action

The AddHyperlink action removes any previous hyperlink in a specified cell and add a new hyperlink.

RemoveHyperlink action

The RemoveHyperlink action removes the hyperlink from a cell, or removes the hyperlinks from a worksheet or workbook.

For more information on these new actions, refer to **Help | APL Language | Using ☐XL**.

New ☐PDIST System Function

The APL64 ☐PDIST system function is an interface to the MathNet [Probability](#) and [MathNet Random](#) toolkits. The ☐PDIST system function provides the Samples action to obtain sample values for many probability distributions using programmer-selected pseudo-random number generators. Refer to **Help | APL Language | Using ☐POST** menu for more information.

New ☐ROUND System Function

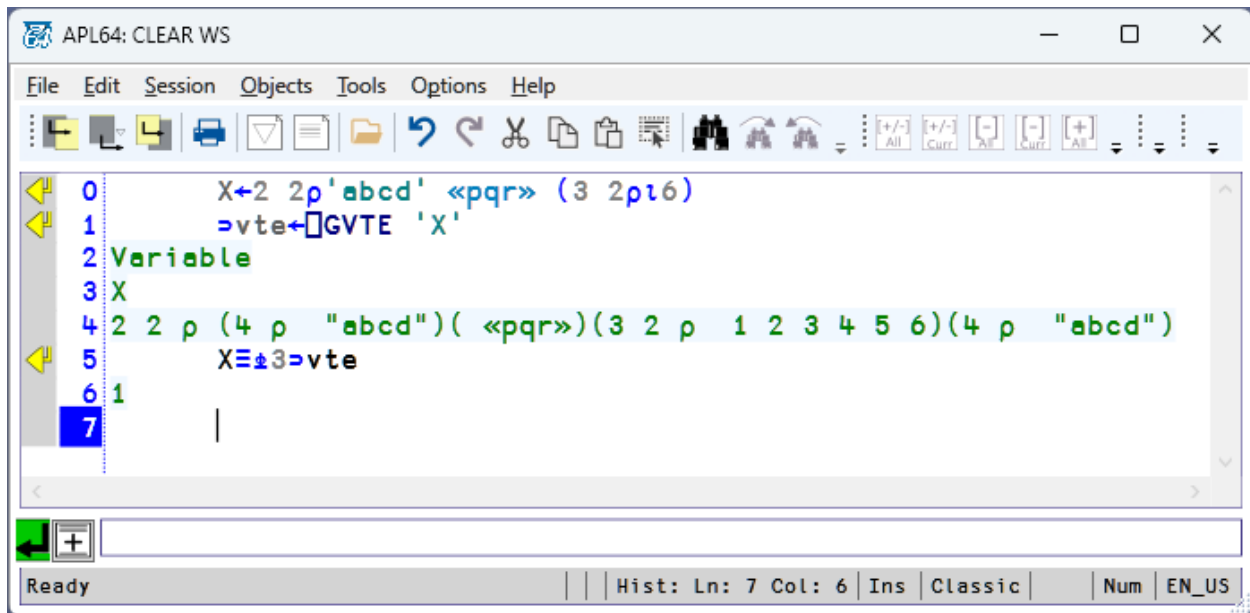
The ☐round system function provides several .Net number rounding options. Refer to **Help | APL Language | System Functions** for more information.

New ☐CFLOCK and ☐CFFLUSH system functions

The ☐cflush system function flushes the file buffers for a tied colossal component file. Refer to **Help | APL Language | System Functions** for more information.

The ☐cflock system function performs a file lock and unlock for a colossal component file. Refer to **Help | APL Language | System Functions** for more information.

New: Use ☐GVTE to obtain an executable 'recipe' for an APL64 variable



New ☐NFE GetLength and IsReadOnly actions

1. New GetLength action will return the length of the specified file.
2. New IsReadOnly action will return a Boolean scalar indicating if the file permission is read only or could not be found.
3. ☐NFE exception messages are now presented as APL-style error messages.

New ☐FnEdHist KBytes action

The result returned is the size, in kbytes, of the function editing history for the function.

☐CSE Modifications

1. Visible and version properties are deprecated
2. properties property now returns property names in lower-case text
3. Recreating a CSE instance restores default values
4. ☐cse 'SetValue' with an APL zero-shape value throws the APL64 data type (with zero shape element) has no representation in .Net

New)CSAVE system command

This system command commits existing function editing history records for functions in the current workspace, and saves the workspace.

DBNull action for ☐SQL/☐SQLite/☐SQLMY/☐SQLDB2: New DBNull action

DBNull returns a value used to specify null values for the ExecInsertQuery and ExecStoredProc actions. DBNull value will also be used as the APL64 value associated with a DBNull value returned from a GetRecord, GetAllRecords, or ExecStoredProc action.

New ☐WSE actions: AsyncCall, AsyncWait, AsyncFoFi, CallNow, and ☐Progress

☐WSE has been enhanced to support asynchronous, parallel operations using a pool of ☐WSE server instances. The AsyncCall and AsyncWait actions are used to set up and control multiple ☐WSE server instances to run APL functions asynchronously. The ☐WSE CallNow action and the ☐Progress system function are used to communicate between an APL client instance and ☐WSE server instances. The

AsyncFoFi action is used when the 'Fan Out / Fan In' programming structure is used in APL64 for asynchronous programming. Learn more about these APL64 enhancements from the **Help | APL Language | Using  WSE** menu item.

New  CSE example: Create a .Net dll and use it with the  CSE

In this example, a .Net Standard library assembly is created and used in APL64 via  CSE, the C# Script Engine. A .Net Standard library assembly is inherently cross-platform. The APL64  CSE can be used to load and use such a library with APL64.

APL64 Developer Version GUI Modifications

Note: APL64 XML Configuration file

Your current APL64 XML configuration file will load properly in this update version. However, once the configuration file is saved in this version, the same APL64 XML configuration file will not load in prior versions.

The focus will remain in the floating editor window after executing a keyboard shortcut

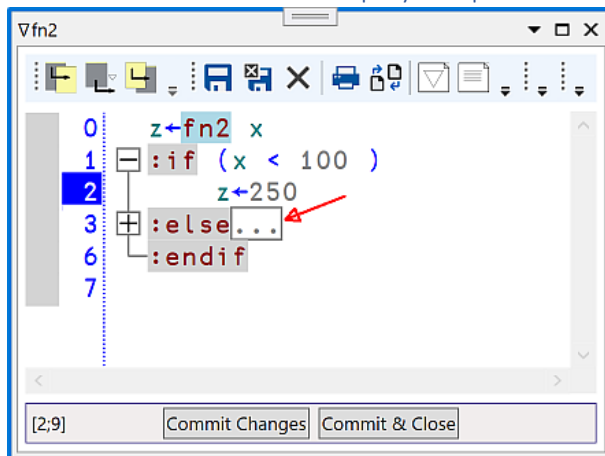
This applies to the keyboard shortcuts: Ctrl+Shift+S (Save Workspace), Ctrl+Shift+C (Copy Workspace), Ctrl+Shift+L (Load Workspace) and Ctrl+Shift+R (Clear Current Workspace).

The focus can remain in the Find/Replace dialog when pressing the Enter/Return key repeatedly

When the **Edit | Use Legacy Find Match Enter Key Action** menu item is checked, the default, and the Enter/Return key is pressed in the Find/Replace dialog, the next match, if any, will be selected with the focus remaining in the Find/Replace dialog. When unchecked, the Enter/Return key has no effect.

The function editor now expands a collapsed region when code is entered on the collapsed line

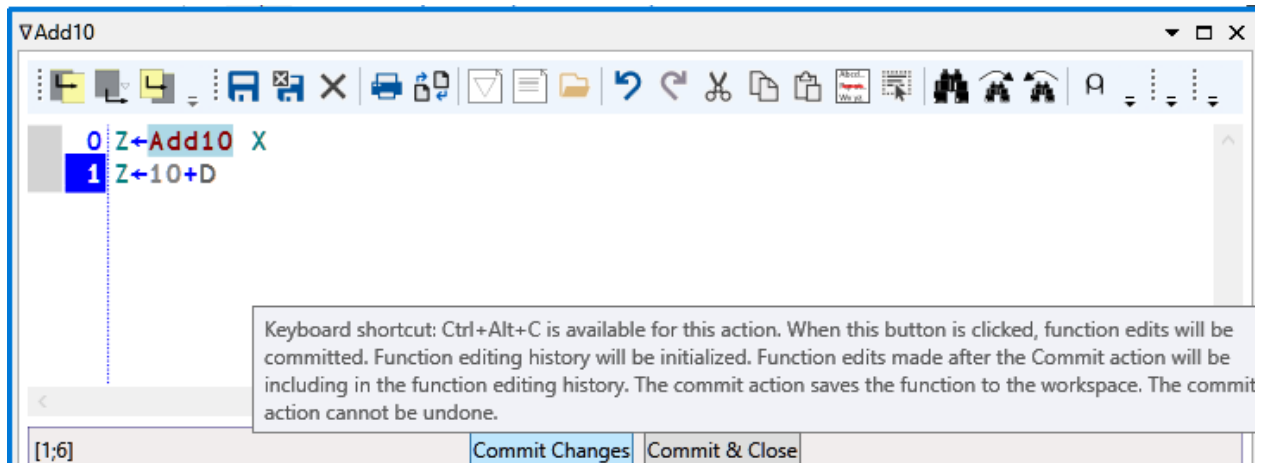
The function editor now displays ellipsis to indicate a collapsed region



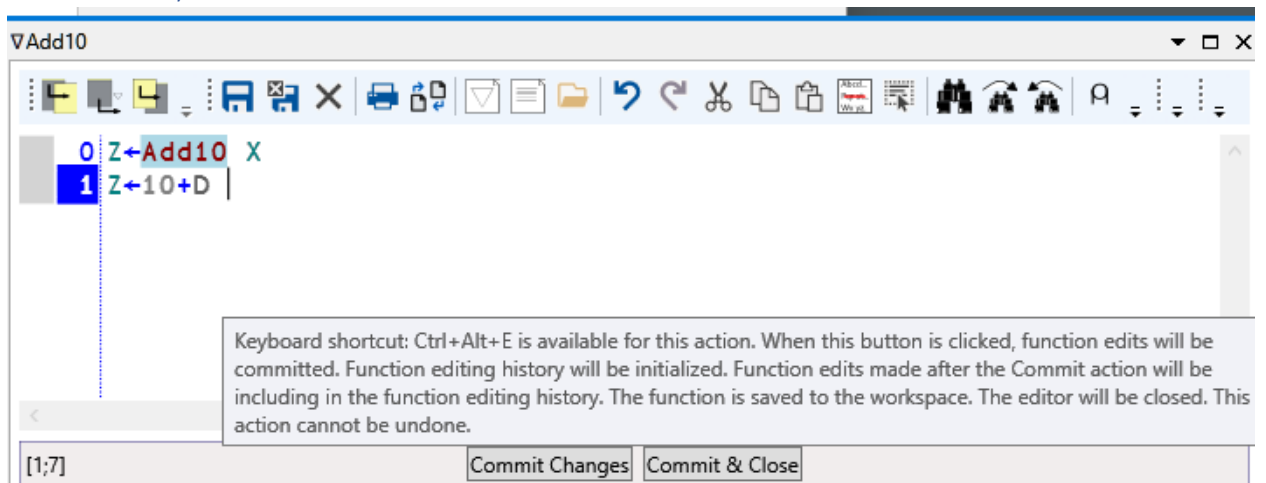
The output of a user-defined Tool is now directed to the pane with the keyboard focus

In prior versions, the output always appeared in the History pane.

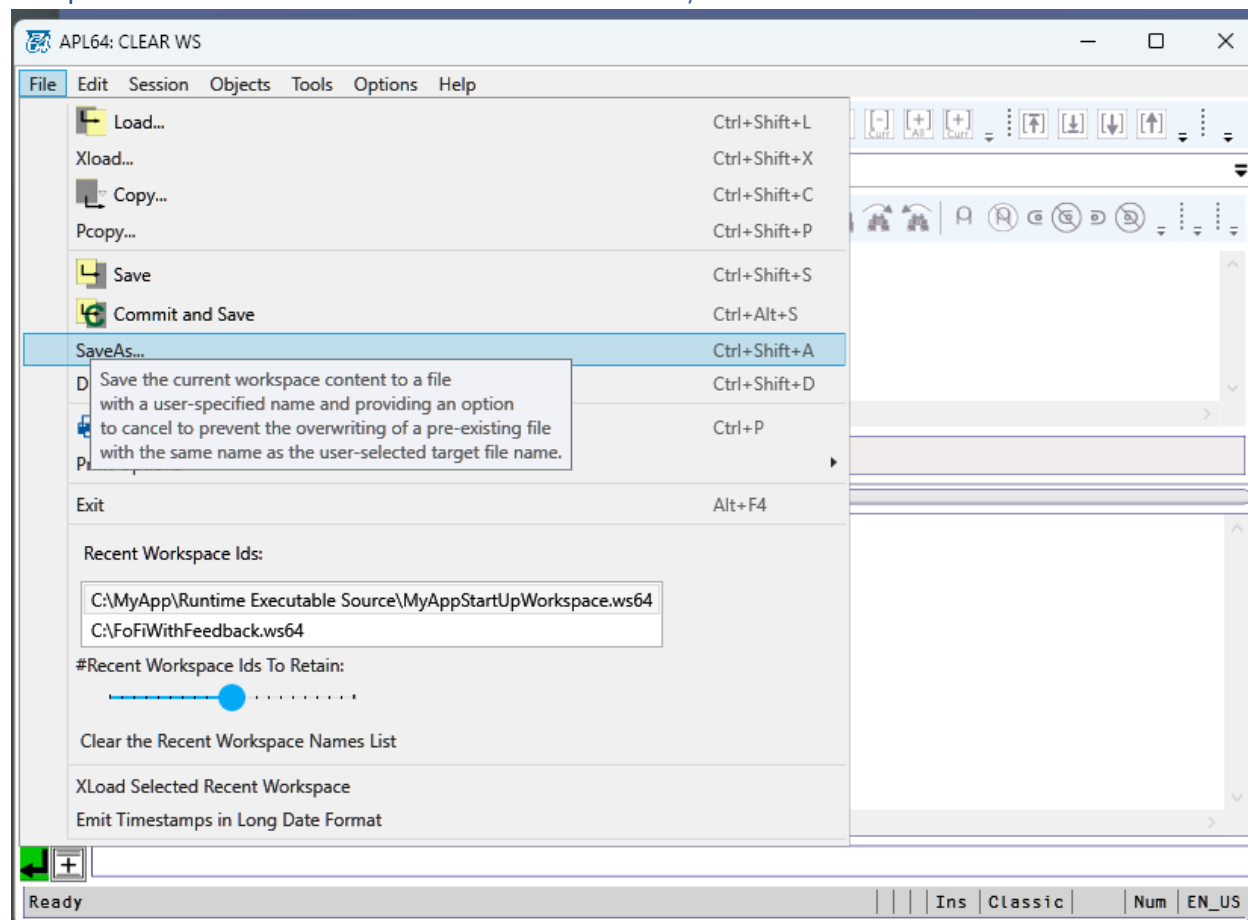
Ctrl+Alt+C keyboard shortcut for Commit Changes button in the function editor



Ctrl+Alt+E keyboard shortcut for the Commit & Close button in function editor



File | Commit and Save menu item and Ctrl+Alt+S keyboard shortcut



Replace dialog (Ctrl+H) Tab Key Order for TextToFind and ReplacementText Fields

When focus is in the 'Text to Find' field, the Tab key moves the focus to the 'Replacement Text' field.

The Find/Replace dialogs will no longer scale when the containing Pane/Editor is scaled

This change will prevent the Find/Replace dialogs from obscuring parts of the containing editor/pane's content.

Clicking Replace selected text button in the Replace dialog now replaces the currently selected match instead of the next matched item

File | Clear the Recent Workspace Names List menu

When clicked, the workspace names in Objects | Recent Workspace Ids list will be cleared.

Objects | Editors Pane Format | Minimize Editors Pane when all Editors are Floated

If this option is checked, the editors pane area will be minimized (but not collapsed) when the only editors are floating editors. The Editor Pane does not entirely collapse so that the user can drag and manually dock a floating editor pane to the session.

Objects | Editors Pane Format | Maximize Editor or History Pane

This option enables maximizing the editor/History pane when it is selected in Active Panes (Ctrl+Tab). If checked, the editors (or history) pane will be maximized when a docked editor (or history) pane is selected by Ctrl+Tab. The editors pane will also be maximized when a new docked editor is opened.

Text selections are clearly illustrated when no syntax coloring is chosen

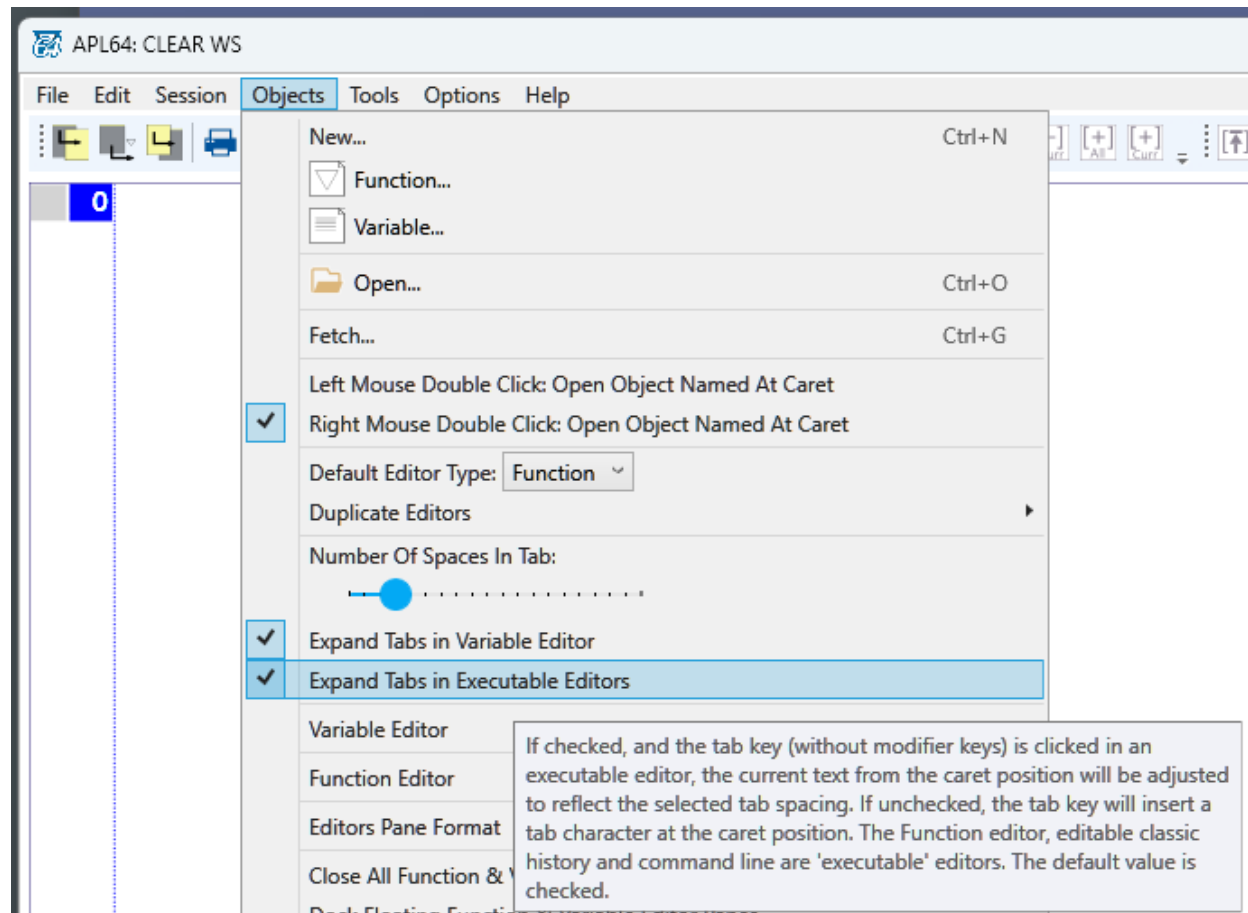
When the Options | Colors dialog is used to select no syntax coloring, text selections are now clearly illustrated.

Find/Replace with Existing Selection: Scope is now set to 'Selection'

When the Find/Replace tool is presented and there is a current selection in the text to be searched/replaced, the Find/Replace Scope option will be set to 'Selection'.

Options | Tabs menu section

The layout of this section is improved. These options control how tabs are inserted in the editors when the Tab key is clicked.



The **Objects | Number of Spaces in Tab** menu has a new minimum value setting of 1

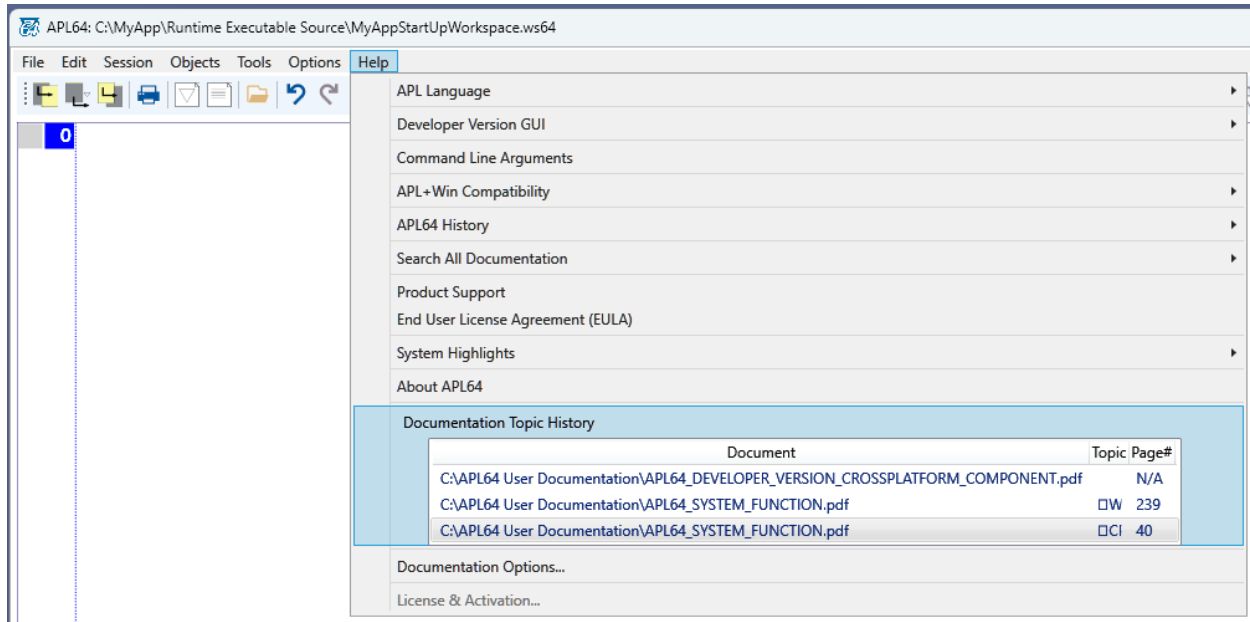
The toolbar height are consistent when multiple editors are opened

The input caret wasn't visible after the Replace All action in the Replace tool

After the Replace All action is used, the caret will be placed in the text after the last replacement made.

Access to system highlights is now asynchronous to reduce the APL64 Developer start-up time

Help | Documentation Topic History improved format



Blank entries in the Documentation Topic History are no longer present.

Improvements for User Documentation Files Downloaded to the Workstation

New Download dialog provides information while downloading user documentation

APL64: Documentation File Download

Documentation File Source	Exist Locally	Downloaded	Can't Download
http://apl2000.com/APL64/UserDocumentation/APL64_APL_PRIMITIVE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_SYSTEM_FUNCTION.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_SYSTEM_VARIABLE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_SYSTEM_COMMAND.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_FUNCTION.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_VARIABLE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_USER_COMMAND.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_NETWORK_INTERFACE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_□CSE_QUICK_START_V1.0.0.0.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_□CSE_MANUAL_V1.0.0.0.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_REST_WEB_SERVICE_HTTPCLIENT.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_CONTROL_STRUCTURE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_LIBRARY_DEFINITIONS.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_USING_□NFE.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/USING_□XL.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_USING_□XML.pdf	☐	☐	☐
http://apl2000.com/APL64/UserDocumentation/APL64_USING_□PATH.pdf	☐	☐	☐

Local Documentation Path: C:\apldoc3

File Downloading:

Files Not Downloaded: 0

Documentation Timeout: 10

Select All Select None Download Cancel

Improved viewing of APL64 documentation stored locally on the workstation

By containing a local HTTP server within the APL64 Developer version instance, the default browser can now be used with local APL64 documentation files. The F1 key for context-sensitive documentation now displays the proper page for local documentation files, just like using the on-line documentation files.

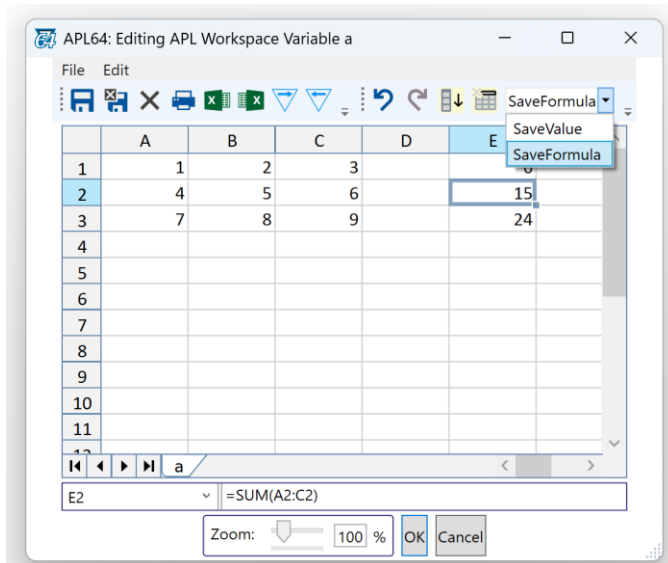
The default browser is recommended for accessing local documentation files. Adobe Acrobat (Reader) is not recommended as the default viewer for local documentation files, because it does not properly open a local documentation file to the correct page unless Adobe Acrobat is closed after each use of the F1 key.

Improvements to EDSS Worksheet

Cell formulas may be saved as the formula text or the evaluated value of the formula

Supported with the new SaveValue/SaveFormula combo box on the EDSSI dialog window.

When saving an EDSS worksheet to an APL variable, an option (SaveValue/SaveFormula) is provided to save the cell values which contain a formula as the evaluated value of the cell formula or the text representation of the cell formula.



Hyperlinks in worksheets which are imported to EDSS are preserved in the EDSS dialog
 Preserves hyperlinks when importing an Excel worksheet
 Hyperlinks may be edited in the EDSS dialog. Only the hyperlink display text can be saved to an APL variable.

WRE and CPC Utility

New WRE Output Type: Single Exe File Excluding .Net Runtime

The output is a single, exe-format file containing the APL64 programmer-selected application specific files and the APL64 runtime files, without the .Net Runtime files. When this WRE output is deployed to an end user workstation, that workstation must have the appropriate .Net runtime installed.

APL64: Create Windows Runtime Executable

Runtime Workspace Filename: * C:\MyApp\Runtime Executable Source\MyAppStartUpWorkspace.ws64

EXECUTABLE CONTENT

Runtime Windows Executable Target Folder: * Browse

Runtime Executable Name: * Same as Runtime Workspace Name

Digital signature command: Digitally sign output

WRE Output Type: * Single Exe File Excluding .Net Runtime

APL64 xml-format Configuration File: Browse Include APL64 xml-format Configuration File

APLNow32 adf-format Configuration File: C:\NetCore\bin\Debug\net9.0\APLNow32.adf Browse Include APLNow32 adf-format Configuration File

APLNow32 ini-format Configuration File: C:\Users\joebf\source\repos\APLNowLLC\APL64\NetCore\bin\Debug\net9.0\APLNow32.ini Browse Include APLNow32 ini-format Configuration File

APLNow32 Manifest File: C:\Users\joebf\source\repos\APLNowLLC\APL64\NetCore\bin\Debug\net9.0\APLNow32.exe.Manifest Browse Include APLNow32 manifest File

Additional Files Required for the Application

Source Path Base Target Path Target Path Suffix Overwrite

Add One Required File Add Multiple Required Files Add Folder of Required Files Remove All Required Files

ASSEMBLY META-DATA

Properties.Details: File Description:

Properties.Details: Product Name:

Properties.Details: Copyright: * ©

Properties.Details: File Version:

Properties.Details: Version: Same as File Version

Assembly.Info: Company Name:

Assembly.Info: Application Description: Same as File Description

Assembly.Info: Version: Same as File Version

Assembly.Info: Neutral Language:

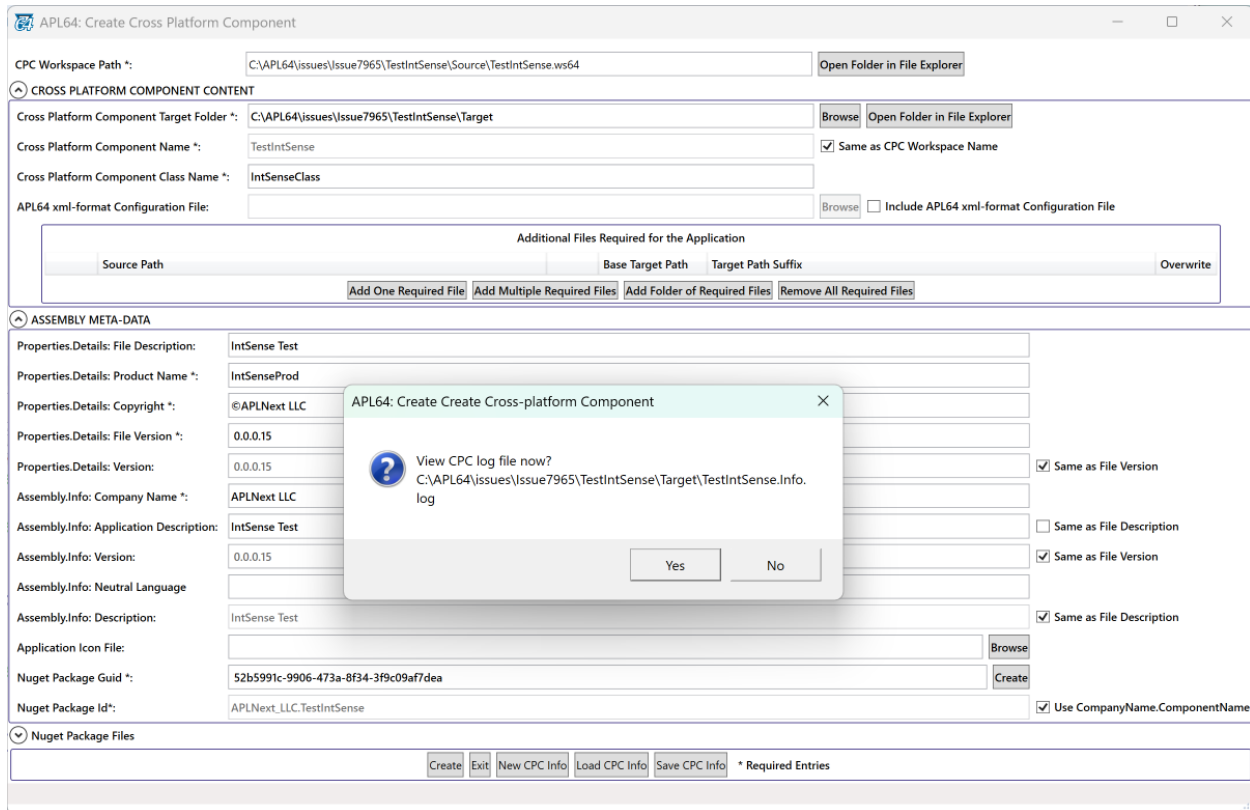
Assembly.Info: Description: Same as File Description

Application Icon File: Browse

Create Exit New WRE Info Load WRE Info Save WRE Info * Required entries

Option to view the log file created by the WRE and CPC Tools

After using the Create option in these tools, a prompt will be presented to indicate if the log file should be displayed.

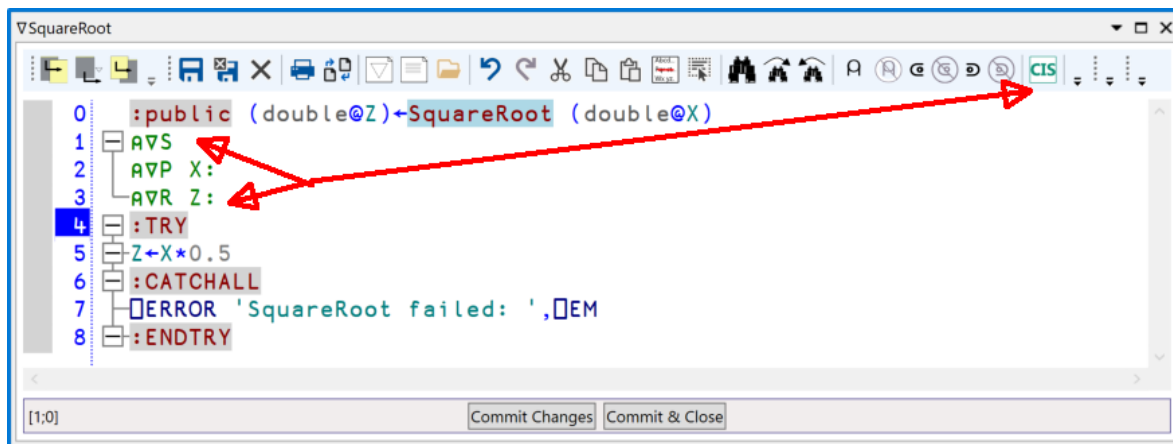


New requirement for WRE Creation

The APL64 startup workspace must be loaded prior to starting the WRE creation tool. The 'Open Folder in File Explorer' button in the WRE creation tool has been removed.

CPC Creation Tool can create Intellisense Documentation

The CPC creation tool will use public comments in public functions to create .Net Intellisense information for an APL64 cross-platform component. An 'Intellisense scaffold' of APL public comments can be created for a public function using the `□cpcis` system function or the 'CIS' toolbar button in the function editor. The 'Intellisense scaffold' can be completed by the APL64 programmer based on the design of the public function.

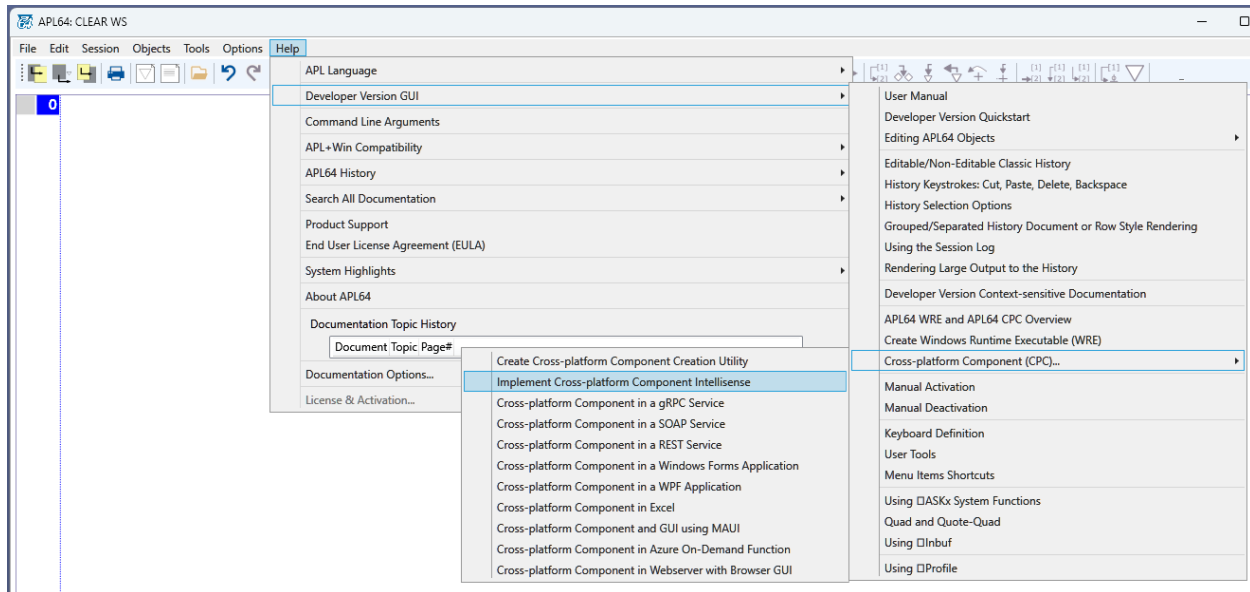


New ☐CSR and ☐CPCIS system functions

THE ☐csr system function returns the name(s) or header(s) of the public functions in the current workspace.

The ☐cpcis system functions creates an IntelliSense scaffold to be used in public functions included in an APL64 cross-platform component (CPC).

For detailed documentation on these system functions, use the **Help | Developer Version GUI | Cross-Platform Component | Implement Cross-platform Component IntelliSense** menu item in the APL64 developer version.



New ☐WRE PropValue Action

The PropValue action will get and optionally set the properties in the WRE xml-format configuration file in the current APL64 instance. These properties correspond to the **Options | Create Runtime .Net Assembly | Create Windows Runtime Executable** dialog. The property names are not case sensitive. The ☐WRE New and PropValue actions may be used to create and modify the WRE xml-format configuration file in under program control.

New ☐CPC PropValue Action

The ☐CPC PropValue action will get, and optionally set, the properties in the CPC xml-format configuration file in the current APL64 instance. These properties correspond to the **Options | Create Runtime .Net Assembly | Create Cross-platform Component** dialog. The property names are not case sensitive. The ☐CPC New and PropValue actions may be used to create and modify the CPC xml-format configuration file under program control.

CPC Example Documentation Updated: CPC WebServer with an HTML Browser-based GUI

Refer to **Help | Developer Version GUI | Cross-platform Component (CPC)... | Cross-platform Component in Webserver with Browser GUI**

Bug Fixes

[Ctrl+F12 keyboard short cut action corrected](#)

When debugging, the Ctrl+F12 keyboard short cut didn't open the suspended function in the editor on the suspended line

[□def and □fx now initialize function editing history](#)

When re-defining an APL64 function using these system functions, the pre-existing function editing history is initialized to minimize workspace memory used.

[Exception returned for □NFE 'Create' action with 'rw' for FileAccess or FileShare specifications](#)

[□NFE 'encoding' action documentation now indicates that it has a result](#)

[□deb and □dltb exception message texts have been made consistent](#)

[Disclose of an array containing Unicode characters returned a NONCE ERROR](#)

For example, ⌵'abcΣΩx' threw a NONCE ERROR exception.

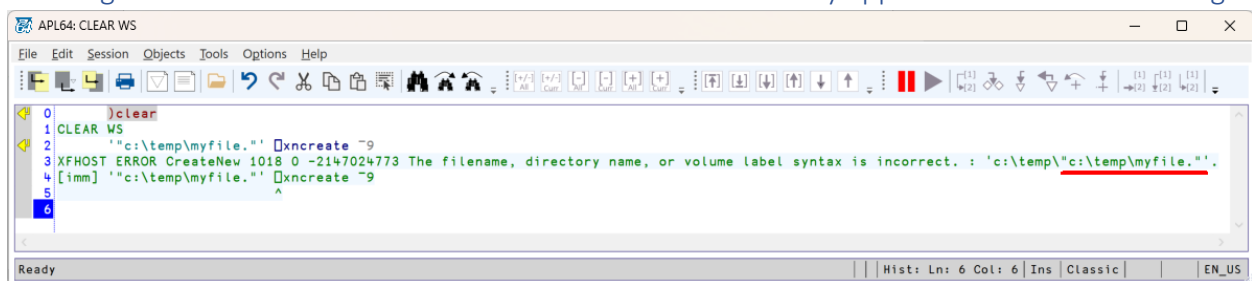
[Options | Configure Host Error Mappings dialog didn't reopen](#)

After using the Configure Host Error Mappings dialog to add a new user-defined host error message, and closing the dialog, the dialog would not re-open.

[Branch primitive didn't work across the APL64 / APLNow32 callout boundary](#)

This problem could prevent exception handling of □wi exceptions.

[Creating files with invalid characters in the file name erroneously appeared in the error message](#)



[The right & up arrow keys did not control the zoom percentage for the Zoom slider in EDSS worksheet editor](#)

[The Ctrl+MouseWheel scroll action did not update the Zoom slider in the EDSS worksheet editor](#)

