

APL64 2025.0.8 Update

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Overview

This document describes the enhancements and bug fixes in the APL64 2025.0.8 Update. Enjoy the new APL64 features. Thanks to the APL64 programmers who provide valuable feedback to the APL64 development team.

Interpreter Modifications

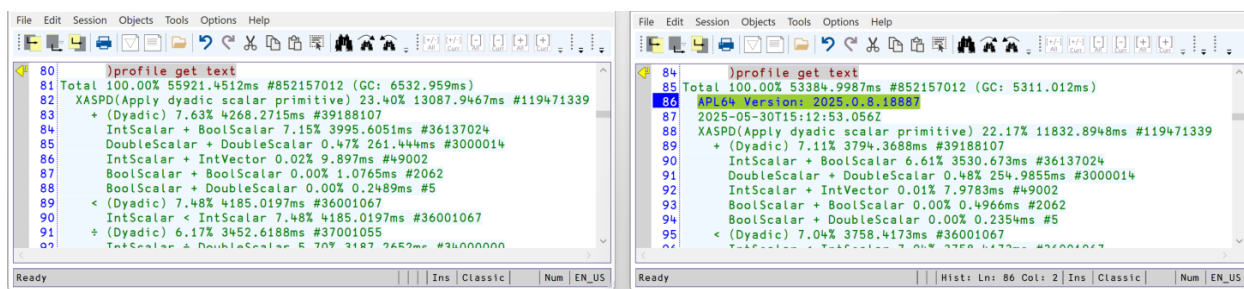
☐ XL: New actions: AddWorksheet , CreateWorkbook, DeleteWorksheet & WsCount

- ☐ xl 'AddWorksheet': Adds the specified worksheet to the specified Excel workbook
- ☐ xl 'CreateWorkbook': Creates a new Excel workbook
- ☐ xl 'DeleteWorksheet': Deletes the specified worksheet from the specified Excel workbook
- ☐ xl 'GetWorksheetCount': Returns the number of worksheets in the specified Excel workbook

☐ PROFILE: APL64 system version number and date/time (UTC) info added to the result

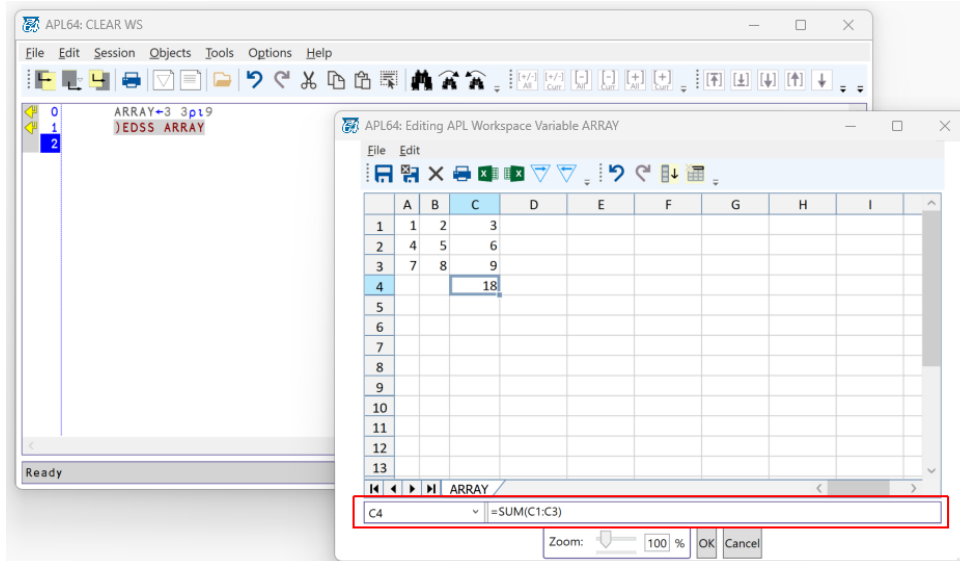
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Developer Version GUI Modifications

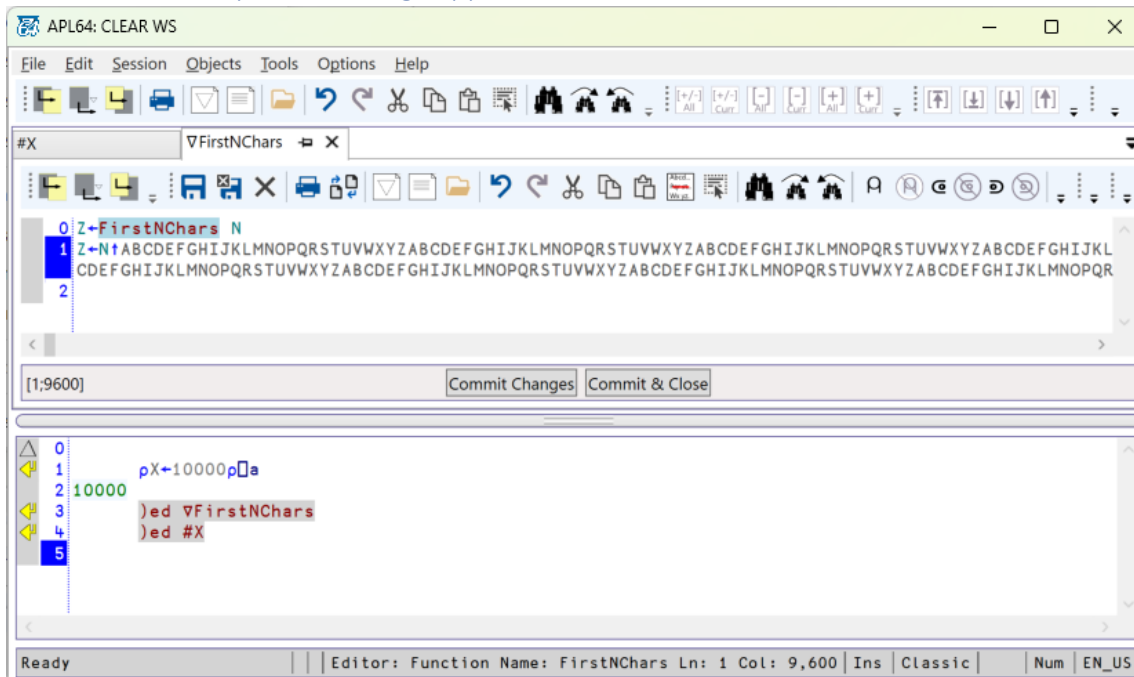
Updates to ☐EDSS and)EDSS: Formula Bar and related user documentation



Documentation was added describing an EDSS worksheet cell can contain a user-entered Excel formula.

The cell formula may be entered directly into the desired cell or entered using the new Formula Bar.

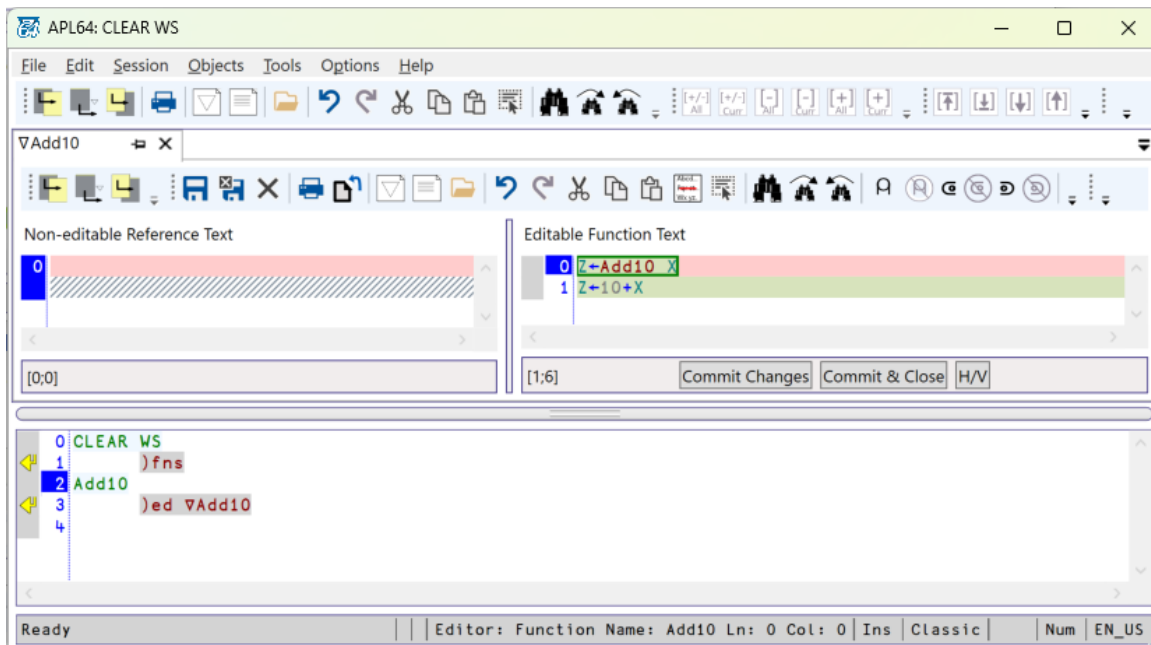
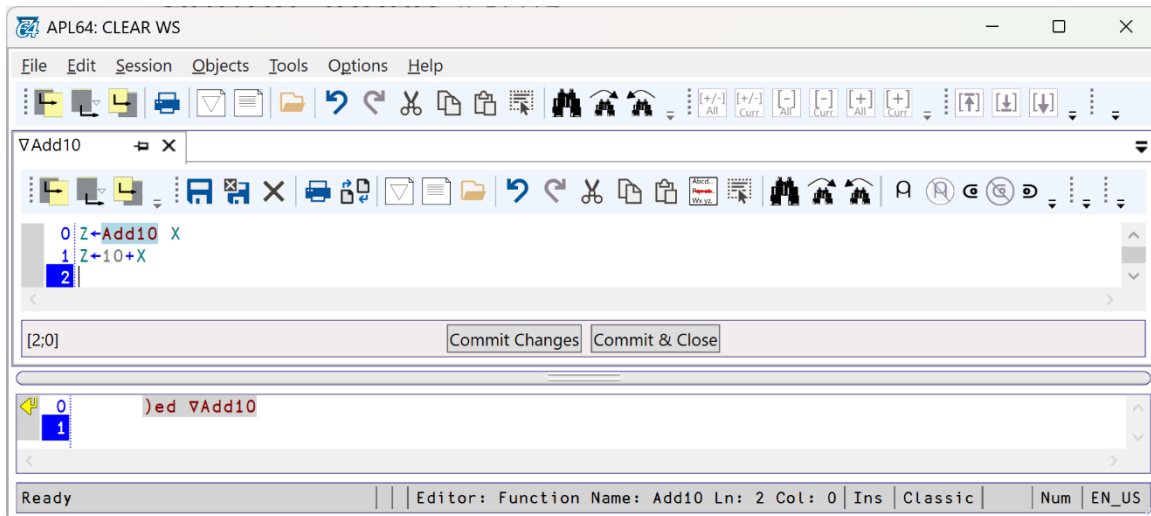
Function Editor: Syntax coloring supported for lines with more than 9600 characters



Function Editor: Commit Changes and Commit & Close buttons added

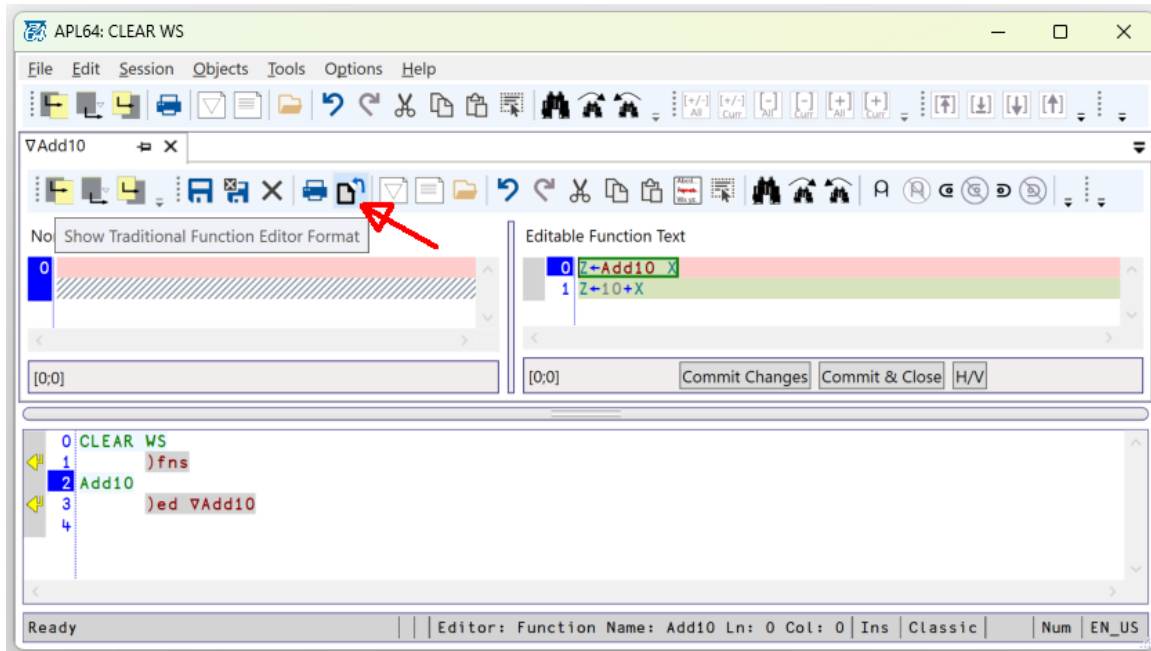
These buttons have been added to the traditional and compare formats of the function editor.

- Commit Changes: When this button is clicked, function edits will be committed.
- Commit & Close: When this button is clicked, function edits will be committed and the editor will close. The keyboard shortcut Ctrl+Shift+E is available for this action.



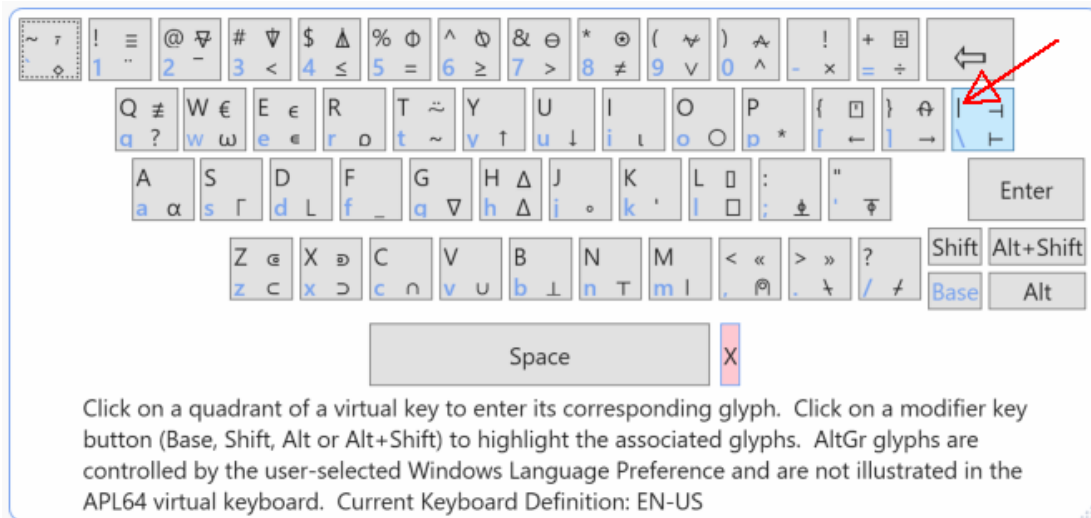
Function Editor: Toolbar icon for the traditional editor format

The toolbar icon to select the function editor traditional format is now distinct from the toolbar icon to select the function editor compare format:



Decimal Unicode 124 and 8739 are now available on EN-US and EN-UK keyboards

For the EN-US and EN-UK keyboard definitions, because APL64 is Unicode aware, APL64 distinguishes between □av[124+□io] (decimal Unicode 124) and □av[254+□io] (decimal Unicode 8739). Decimal Unicode 8739 is the Unicode glyph specified for the APL Magnitude and Residue primitive functions. Therefore, unlike APL+Win, the glyph for Magnitude and Residue is available only by using Alt+M. For the EN-US and EN-UK keyboards Shift+\ generates the decimal Unicode 124 glyph. In the APL64 font, the decimal Unicode 124 and 8739 glyphs appear graphically identical.



In prior versions for the EN-US and EN-UK keyboard definitions, the Magnitude and Residue glyph resulted from the Alt+M and Shift+\ keystrokes. Therefore, the Virtual Keyboard has been modified so that it is consistent with the physical keyboard operation.

A statement executed in the History pane no longer moves the focus to the Debug Pane

When the interpreter state is suspended and the Debug pane is visible, executing an APL statement, or clicking Enter/Return in the History pane will not move the focus to the Debug while that APL statement is being processed by the interpreter.

A statement executed in the History pane no longer transiently hides the Debug pane

When the interpreter state is suspended and the Debug pane is visible, executing an APL statement, or clicking Enter/Return in the History pane will cause the Debug/SI panes to be transiently hidden. The Session | Debug | Automatically Show Debug/SI Panes when Suspended option now operates as expected.

Editors and Debug/SI pane horizontal splitter bar values are now saved

When the horizontal splitter bars for docked editors or Debug/SI panes are moved by the programmer, these values are now saved in the APL64 configuration file.

Main Window Toolbar Height no longer changes

The height of the main window toolbar no longer changes when the focus moves to a floating editor pane while in debug mode.

Edit | Add Inline Comment and Edit | Delete Inline Comment Submenus

These menu items now use the inline comment glyphs:

Add Inline Comment	▶	Start Ⓐ	Ctrl+Alt+Z
Delete Inline Comment	▶	End Ⓑ	Ctrl+Alt+X

WRE and CPC Utility Modifications

WRE (Windows Runtime Executable) and CPC (Cross-platform Component) provide the APL64 runtime technology.

WRE creation option to exclude the .Net Runtime

The WRE creation dialog provides a new option, 'WRE Output Type', to include/exclude the .Net Runtime from the resulting WRE:

APL64: Create Windows Runtime Executable

Runtime Workspace Filename: *

EXECUTABLE CONTENT

Runtime Windows Executable Target Folder: *

Runtime Executable Name: * ☒ Same as Runtime Workspace Name

Digital signature command: ☐ Digitally sign output

WRE Output Type: *

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

APLNow32 adf-format Configuration File: ☒ Include APLNow32 adf-format Configuration File

APLNow32 ini-format Configuration File: ☒ Include APLNow32 ini-format Configuration File

APLNow32 Manifest File: ☒ Include APLNow32 manifest File

Additional Files Required for the Application

Source Path	Base Target Path	Target Path Suffix	Overwrite
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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:

* Required entries

Available WRE .Net Runtime options:

APL64: Create Windows Runtime Executable

Runtime Workspace Filename: *

EXECUTABLE CONTENT

Runtime Windows Executable Target Folder: *

Runtime Executable Name: * ☒ Same as Runtime Workspace Name

Digital signature command: ☐ Digitally sign output

WRE Output Type: *

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

APLNow32 adf-format Configuration File: ☒ Include APLNow32 adf-format Configuration File

APLNow32 ini-format Configuration File: ☒ Include APLNow32 ini-format Configuration File

APLNow32 Manifest File: ☒ Include APLNow32 manifest File

Additional Files Required for the Application

Source Path	Base Target Path	Target Path Suffix	Overwrite
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Description of the WRE .Net Runtime options:

Self-contained Exe Including All Dependencies

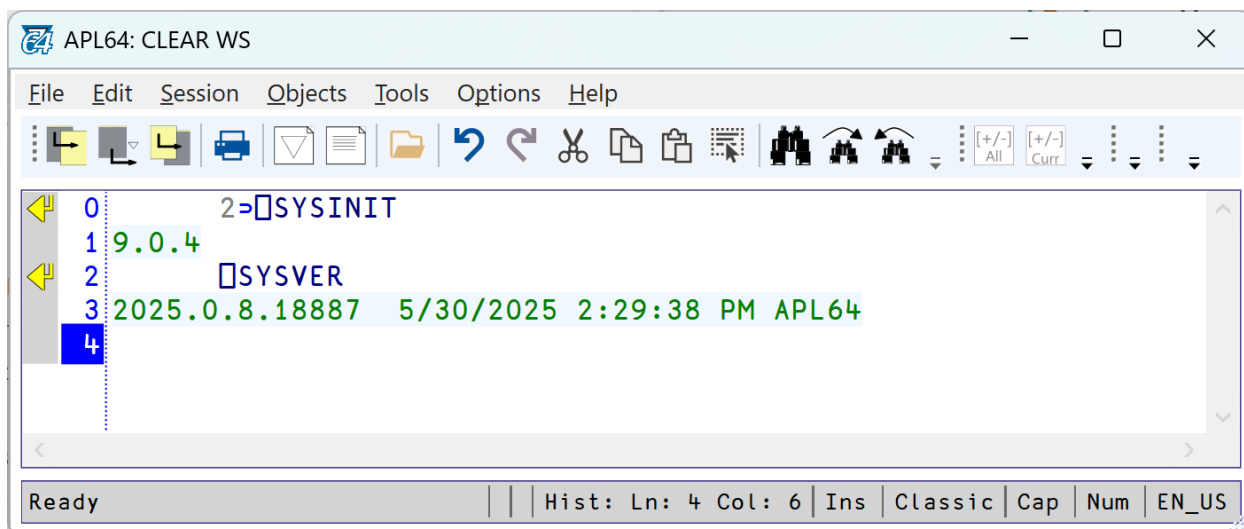
The output is a single Windows exe-format file which is ready to run on the target workstation. The exe-format file contains the APL64 runtime files and the appropriate .Net Runtime libraries. Because this option produces a ready-to-run application, no additional components need to be installed on the target workstation by the end user of the WRE.

Folder of Files Without .Net Runtime

This new option creates a folder of files which the APL64 programmer may use to deploy the WRE application without including the .NET Runtime libraries, reducing the resulting WRE by approximately 150 MB.

Using this option requires that the appropriate version of the .NET Runtime libraries is installed on the target workstation by the WRE end user. When the WRE application is run, missing .NET Runtime libraries will be detected, and a prompt to download and install them will be presented.

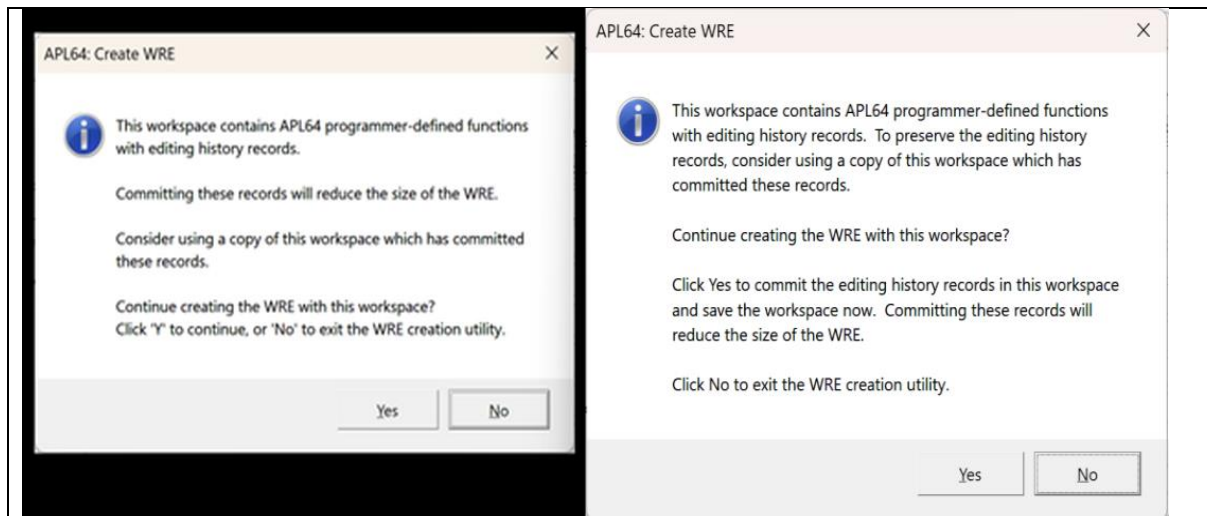
The output is a folder named 'Publish' containing the Windows exe-format file and the APL64 runtimes files necessary for the application. Because this option does not include the .Net runtime, the deployed application will not run unless the appropriate version of the .Net Runtime is installed on the target workstation. The APL64 programmer may determine the appropriate version of the .Net Runtime from the second element of `⎕SYSINIT`:



Option to commit function editing history within the CPC and WRE utilities

When the WRE or CPC creation dialog is presented, the functions in the loaded workspace will be checked for APL64 programmer editing modifications which have not yet been committed. These un-committed editing modifications increase the size of those functions. The message box which alerts the APL64 programmer now contains an option to commit these function editing changes, save the workspace and minimize the size of those functions in the WRE or CPC runtime application.

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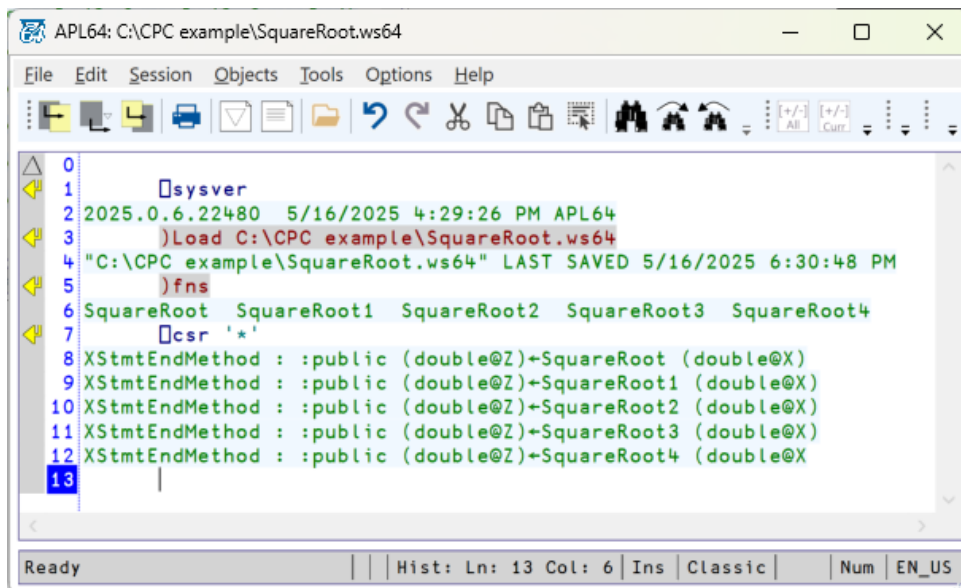
☐ CSR Extra new line character in the result removed
 Prior version with extra new line character:

```

0
1      □sysver
2 2025.0.5.18789 4/10/2025 2:26:25 PM APL64
3      )fns
4 SquareRoot SquareRoot1 SquareRoot2 SquareRoot3 SquareRoot4
5      □csr '*'
6 XStmtEndMethod : :public (double@Z)+SquareRoot (double@X)
7
8 XStmtEndMethod : :public (double@Z)+SquareRoot1 (double@X)
9
10 XStmtEndMethod : :public (double@Z)+SquareRoot2 (double@X)
11
12 XStmtEndMethod : :public (double@Z)+SquareRoot3 (double@X)
13
14 XStmtEndMethod : :public (double@Z)+SquareRoot4 (double@X)
15
  
```

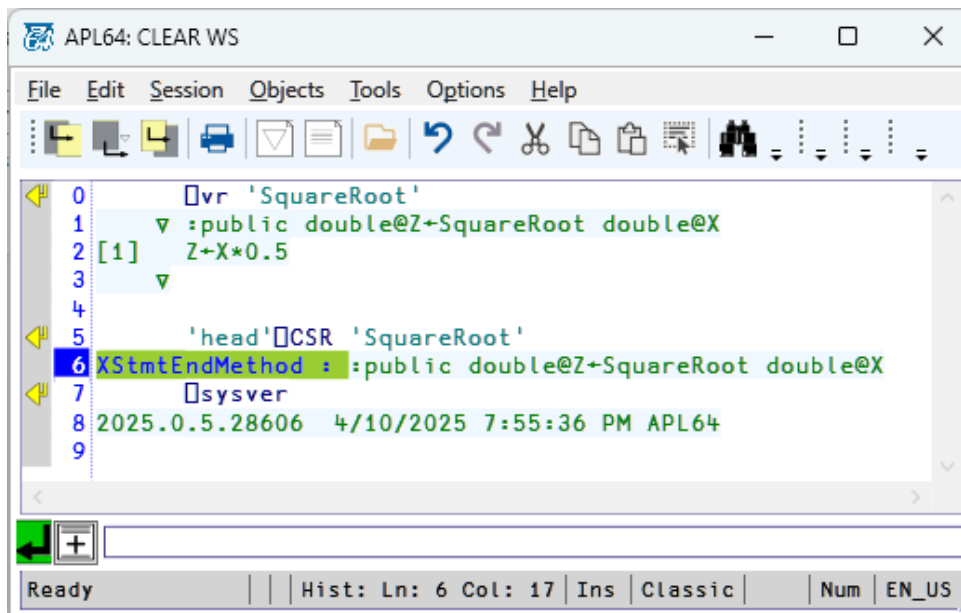
The screenshot shows the APL64 software interface. The title bar indicates the file path is 'C:\CPC example\SquareRoot.ws64'. The menu bar includes File, Edit, Session, Objects, Tools, Options, and Help. The toolbar contains various icons for file operations and editing. The main window displays a workspace with code. The code includes a sysver line, a fns line, and several XStmtEndMethod lines. The status bar at the bottom shows 'Ready', 'Hist: Ln: 15 Col: 6', 'Ins', 'Classic', 'Num', and 'EN_US'.

Update version without extra new line character:

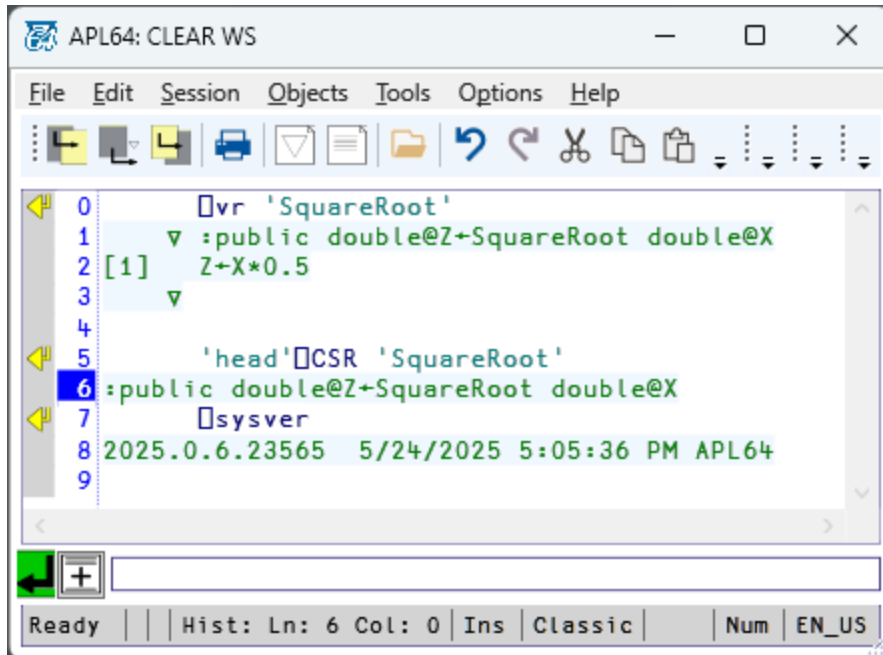


```
0
1  □sysver
2  2025.0.6.22480  5/16/2025 4:29:26 PM APL64
3  )Load C:\CPC example\SquareRoot.ws64
4  "C:\CPC example\SquareRoot.ws64" LAST SAVED 5/16/2025 6:30:48 PM
5  )fns
6  SquareRoot SquareRoot1 SquareRoot2 SquareRoot3 SquareRoot4
7  □csr '*'
8  XStmtEndMethod : :public (double@Z)+SquareRoot (double@X)
9  XStmtEndMethod : :public (double@Z)+SquareRoot1 (double@X)
10 XStmtEndMethod : :public (double@Z)+SquareRoot2 (double@X)
11 XStmtEndMethod : :public (double@Z)+SquareRoot3 (double@X)
12 XStmtEndMethod : :public (double@Z)+SquareRoot4 (double@X)
13
```

□ CSR: 'XStmtEndMethod' output prefix removed for 'head' option



```
0  □vr 'SquareRoot'
1  ▽ :public double@Z+SquareRoot double@X
2  [1] Z+X*0.5
3  ▽
4
5  'head' □CSR 'SquareRoot'
6  XStmtEndMethod : :public double@Z+SquareRoot double@X
7  □sysver
8  2025.0.5.28606  4/10/2025 7:55:36 PM APL64
9
```



Bug Fixes

[⍎xfstie operation failed with "HOST ERROR Open 30359 0" message under Linux/Wine](#)

An example of the complete error message:

HOST ERROR Open 30359 0 -2147024809 Empty path name is not legal. (Parameter 'path')

[⍎rowfind corrected for one-column Unicode array right argument](#)

[Creating ⍎WSE within a ⍎WSE is not supported in APL64](#)

A domain error is now thrown instead of a system exception.

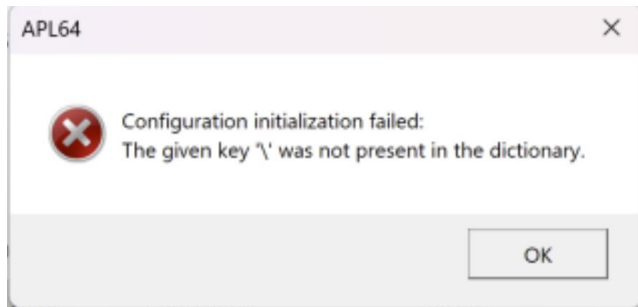
[Ctrl+/ and Ctrl+Shift+/ keyboard shortcuts and toolbar button operation fixed](#)

These keyboard shortcuts to insert and remove the comment symbol did not function properly when the caret appeared without a selection on the row above or below the row(s) that was currently selected.

[APL64 can now run from a network drive that is not mapped to a drive letter](#)

Exceptions are no longer thrown from the APL64 developer or WRE versions.

Typical exception for the APL64 developer system:



Typical exception for a WRE:



[Help | About APL64 shows 'N/A' for null assembly attributes](#)

If a .Net assembly has a null Title, Description, Company, Copyright, or FileVersion, the **Help | About APL64** grid will show 'N/A' for those attributes instead of throwing an exception.

[Roll function \(?\) result corrected for a floating point argument](#)

[Partition function result corrected 0-element nested right argument](#)

Miscellaneous

[Silent Activation: Command line arguments for Internet Proxy Information](#)

New APL64 command line arguments which apply only to the APL64 developer version are available to set the Internet Proxy Information when 'silent' activation is used. Refer to the command line arguments below in **Help | APL Command Line Arguments** further information:

- ActivationWebProxyType
- ActivationProxyServerUrl
- ActivationProxyServerUserName
- ActivationProxyServerUserPassword
- ActivationWebProxyType

□DEF and □VR documentation updated to reflect the new 'InclLFD', 'XML' and 'JSON' formats
Refer to □DEF and □VR in **Help | APL Language | System Functions** for more information.

□STRING documentation updated

- The FORMAT action description has been removed, because it is currently not implemented.
- The SPLIT action is now bookmarked in the documentation.