

New Updates and Bug Fixes Since Production Version 2022.0.4

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GetAplStmtsFromLogFile failed: Cannot deserialize the xml-format information\There is an error in XML document (0, 0). – Case 5968 14

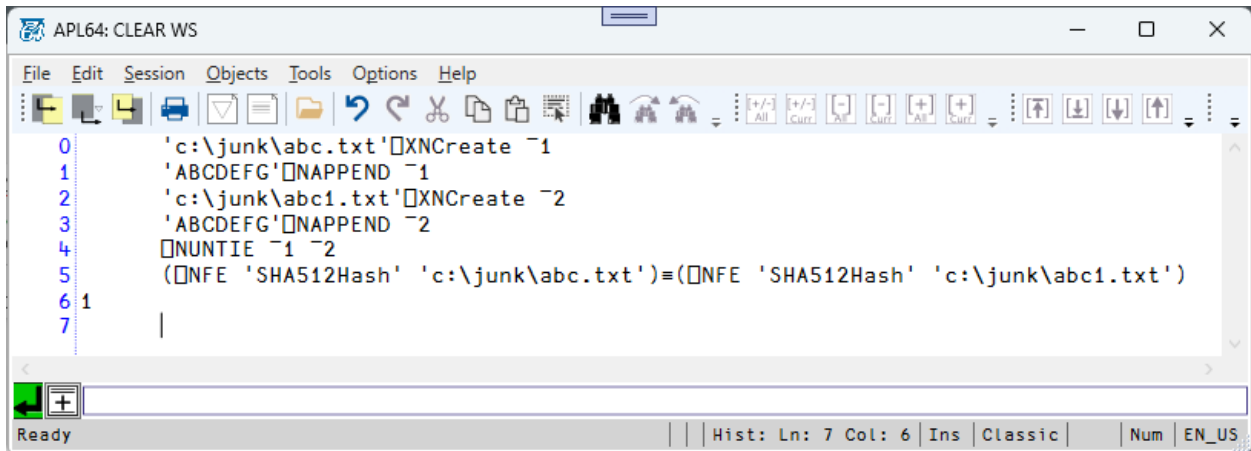
Overview

This document describes the updates and bug fixes incorporated into this 2023.0.1 production release of APL64.

Enhancements

New NFE 'SHA512Hash' action

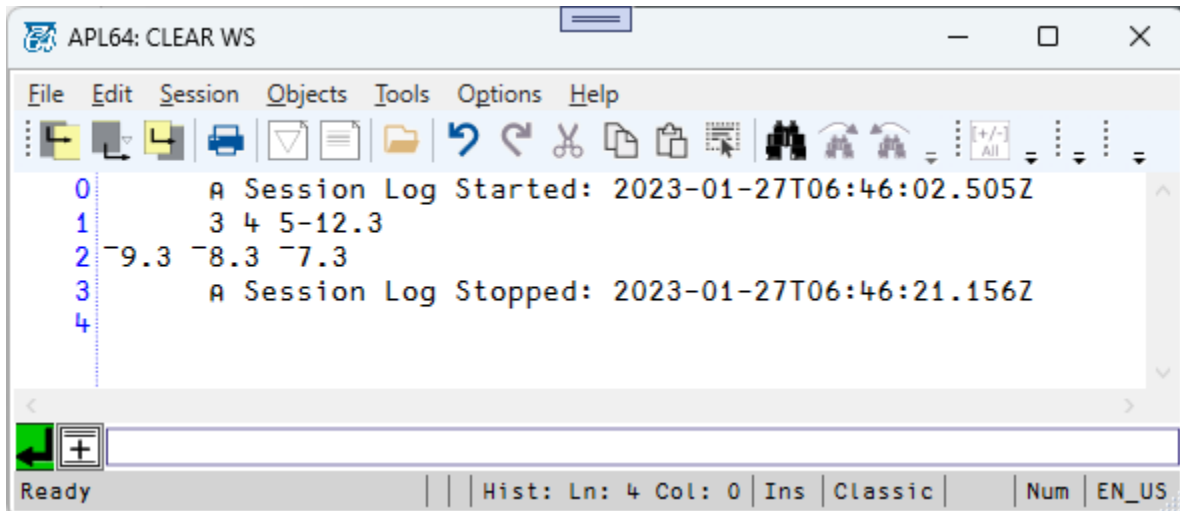
Purpose: To compare two file contents. Refer to [Help | APL Language | Using NFE](#) for the details.



```
0      'c:\junk\abc.txt'⊞XNCreate ~1
1      'ABCDEFGH'⊞NAPPEND ~1
2      'c:\junk\abc1.txt'⊞XNCreate ~2
3      'ABCDEFGH'⊞NAPPEND ~2
4      ⊞NUNTIE ~1 ~2
5      (⊞NFE 'SHA512Hash' 'c:\junk\abc.txt')=⊞NFE 'SHA512Hash' 'c:\junk\abc1.txt')
6 1
7      |
```

Session Log Timestamps Displayed

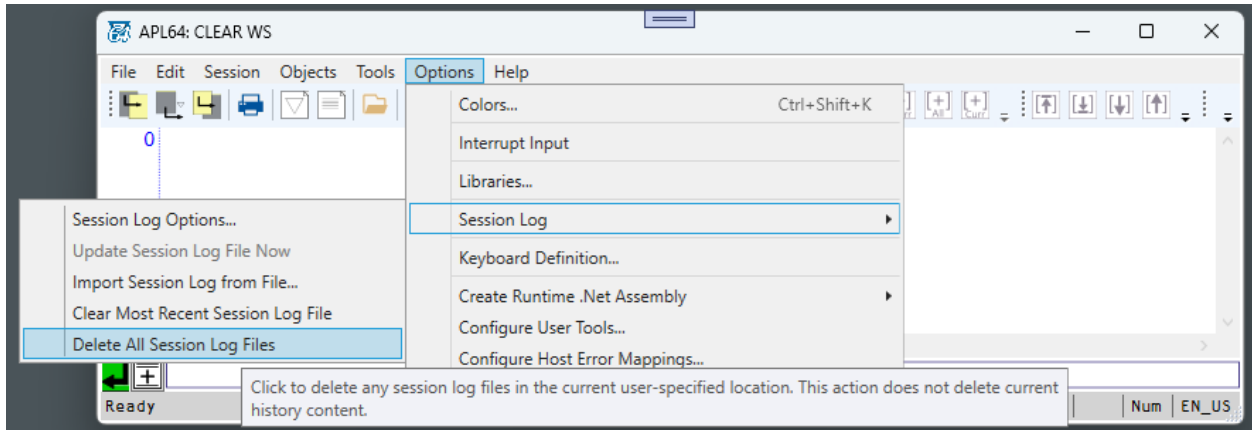
As in APL+Win, the session log start and end timestamps will display in the History log when the session log is enabled.



```
0      A Session Log Started: 2023-01-27T06:46:02.505Z
1      3 4 5-12.3
2      ^9.3 ^8.3 ^7.3
3      A Session Log Stopped: 2023-01-27T06:46:21.156Z
4
```

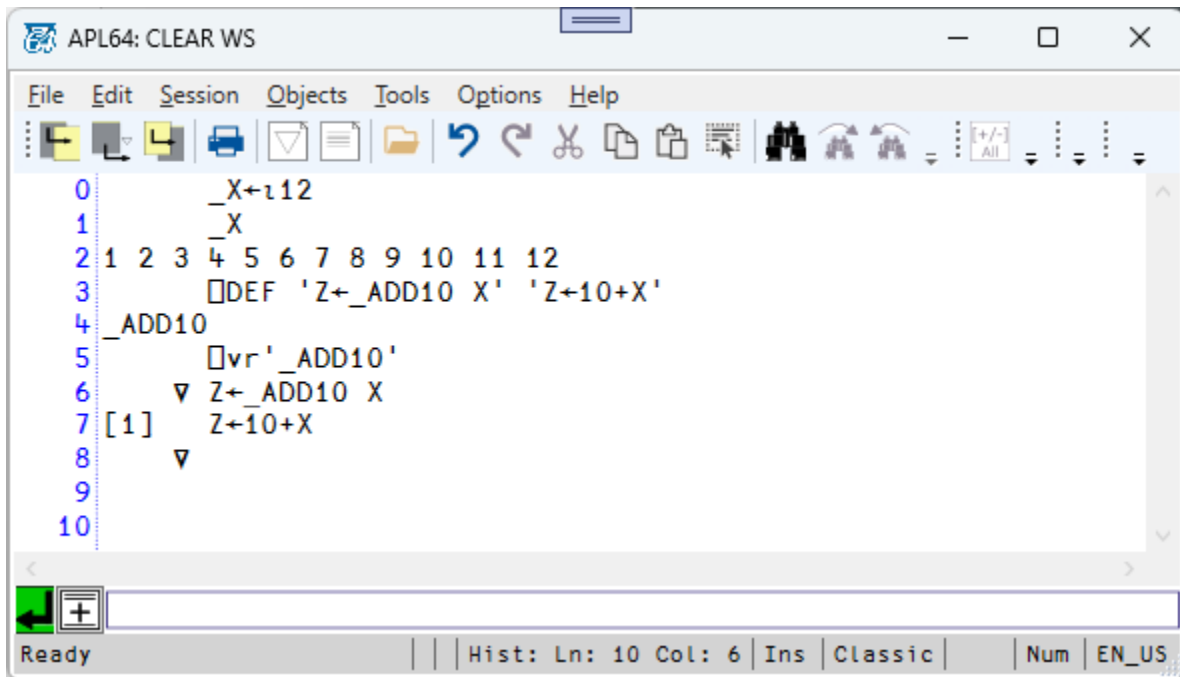
New Options | Session Log | Delete All Session Log Files action

This new menu will delete all session log files in the current user-specified log file location.



Variable and function names can begin with the underscore character

The underscore character (`_`) is permitted as the first character in the name of the object, which extends the available object names compared to APL+Win.

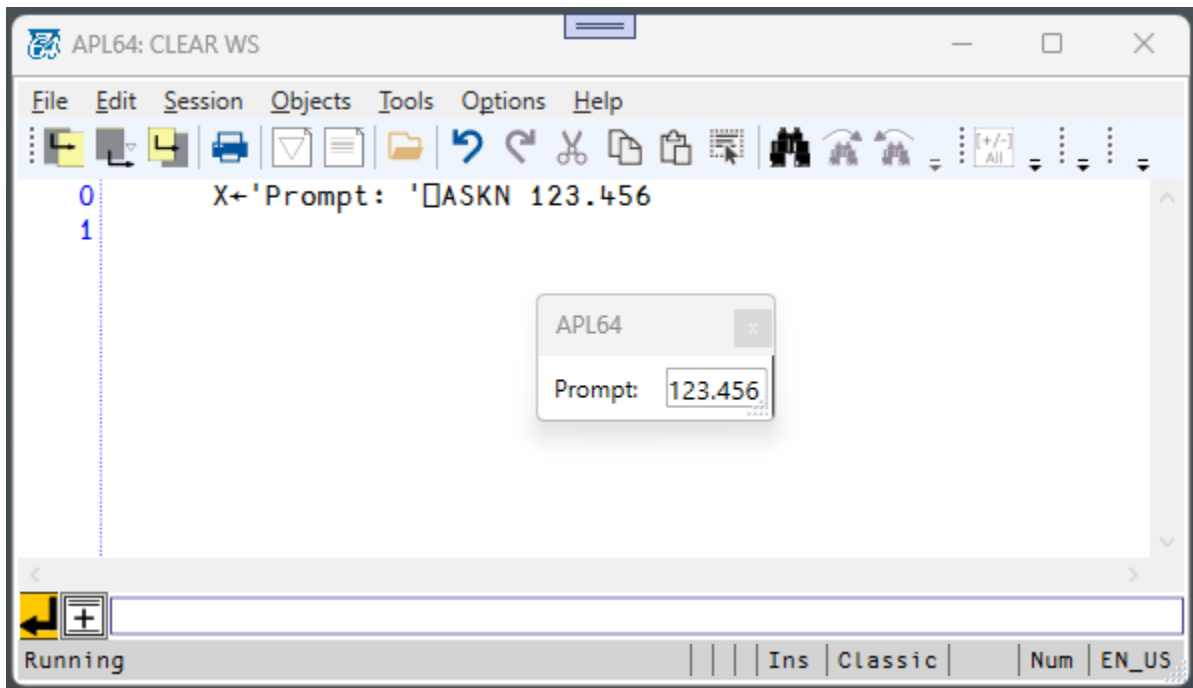
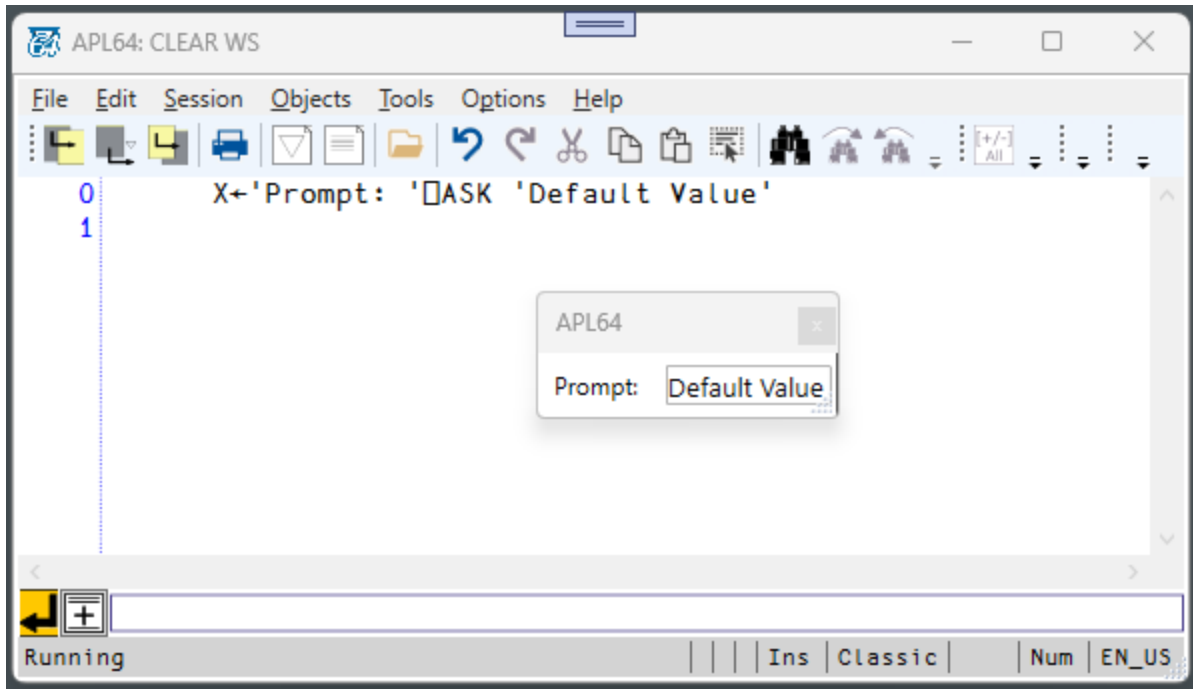


New system functions: `□flock`, `□fflush`, `□nlock`, `□nflush`

Refer to the [Help | APL Language | System Functions](#) for the details.

New system functions `□ask` and `□askn`

Optional replacements for the Quote-Quad input (`□`) and Quad input (`□`) system functions. Refer to the [Help | APL Language | Using □ASK and □ASKN](#) for the details.



Options | History Log | History Log Options Menu Renamed

This menu is now named Options | Session Log | Session Log Options... to more accurately reflects the action of the facility.

□EDITEVENTS/□EDITINFO and documentation updated

- New □EditInfo action: GetEditEventsSubscriptions to obtain the subscriptions created using the □EditEvents system function
- Refer to [Help | APL Language | Using □EditEvents and □EditInfo](#) for detailed documentation.

□SKD and documentation updated

- Resolved spurious exceptions when XML deserializing a □SKD instance
- New □SKD actions: ToFileXml and FromFileXml
- New menu: [Help | APL Language | Using □SKD](#) for detailed documentation.

Performance of □Rowfind system function is improved

The display of the MessageBox warning is now avoided when importing an empty session log file

Bug Fixes

APL64 failed to load an APL+Win workspace when the workspace was last saved with `⎕pr` set to an empty vector – Case 5909

Symptom: The error message **WS FILE ERROR: Could not load workspace: LENGTH ERROR** when loading the APL+Win workspace. E.g.,

```
11
12      )XLOAD 64 EASYW.W3
13 WS FILE ERROR: Could not load workspace: LENGTH ERROR
14
```

APL64 may be unresponsive when loading an APL+Win workspace – Case 5905

Symptom: Upon loading the workspace, APL64 was unresponsive with **Running** displayed in the status bar when multiple APL64 versions were installed.

The Info-ZIP dynamic load libraries `zip32.dll` and `unzip32static.dll` were not included in APL64 – Case 5918

Symptom: The Zip Class that provides facility for building archives of files and extracting files from those archives could not be instantiated with the `⎕wi` system function in APL64.

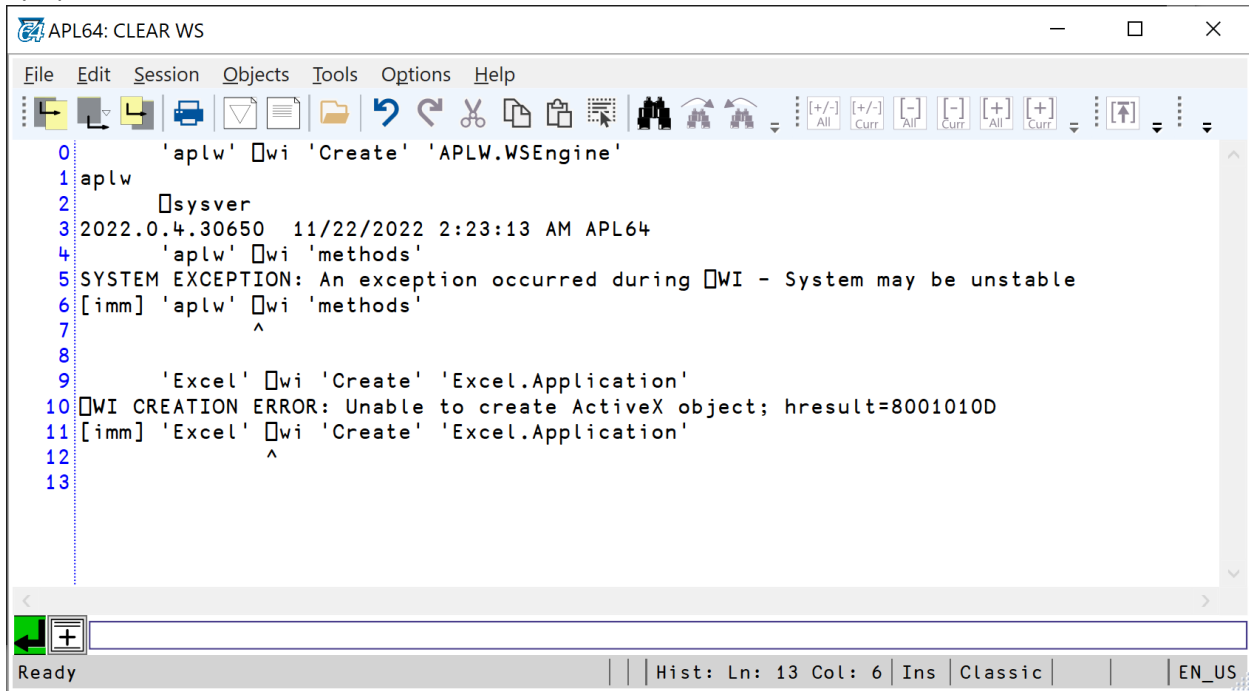
Bug in `⌈ORDLOC` (aka user command function `CMDORDLOC` in file `ucmds2.sf`) – Case 5885

Symptom: The example below identified the highlighted line that was incorrect:

```
      )clear
CLEAR WS
      ⎕sysver
2022.0.4.30650 11/22/22 23:18:18 APL64
      ⌈ordloc
*** ⚠DEB shadowed by ⌈ORDLOC; not changed
*** ⚠FOPEN shadowed by ⌈ORDLOC; not changed
*** ⚠FTNUM shadowed by ⌈ORDLOC; not changed
*** ⚠GETOPT shadowed by ⌈ORDLOC; not changed
*** ⚠IFERRIN shadowed by ⌈ORDLOC; not changed
*** ⚠MATIOTA shadowed by ⌈ORDLOC; not changed
*** ⚠MATRIFY shadowed by ⌈ORDLOC; not changed
*** ⚠OUT shadowed by ⌈ORDLOC; not changed
*** ⚠OVER shadowed by ⌈ORDLOC; not changed
Locals reordered in ⚠PDEF
* No locals in ⚠PNames
*** ⚠SHADOWED⚠TIEUF not a function
*** ⚠UCASE shadowed by ⌈ORDLOC; not changed
*** ⚠UCMD shadowed by ⌈ORDLOC; not changed
*** ⚠UCMD2 shadowed by ⌈ORDLOC; not changed
```

APL64 didn't successfully create ActiveX servers like APL+Win's APLW.WSEngine and Microsoft's Excel and Word – Case 5947

Symptom:

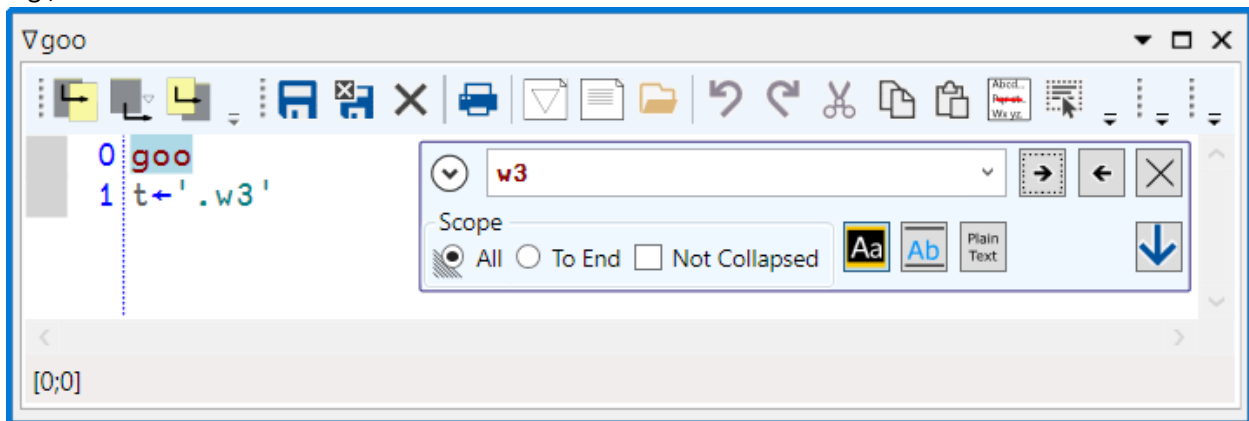


```
APL64: CLEAR WS
File Edit Session Objects Tools Options Help
0 'aplw' □wi 'Create' 'APLW.WSEngine'
1 aplw
2 □sysver
3 2022.0.4.30650 11/22/2022 2:23:13 AM APL64
4 'aplw' □wi 'methods'
5 SYSTEM EXCEPTION: An exception occurred during □WI - System may be unstable
6 [imm] 'aplw' □wi 'methods'
7 ^
8
9 'Excel' □wi 'Create' 'Excel.Application'
10 □WI CREATION ERROR: Unable to create ActiveX object; hresult=8001010D
11 [imm] 'Excel' □wi 'Create' 'Excel.Application'
12 ^
13
```

Ready | Hist: Ln: 13 Col: 6 | Ins | Classic | EN_US

The Find tool with Whole matching selected didn't find "w3" with a leading period – Case 5923

E.g.,



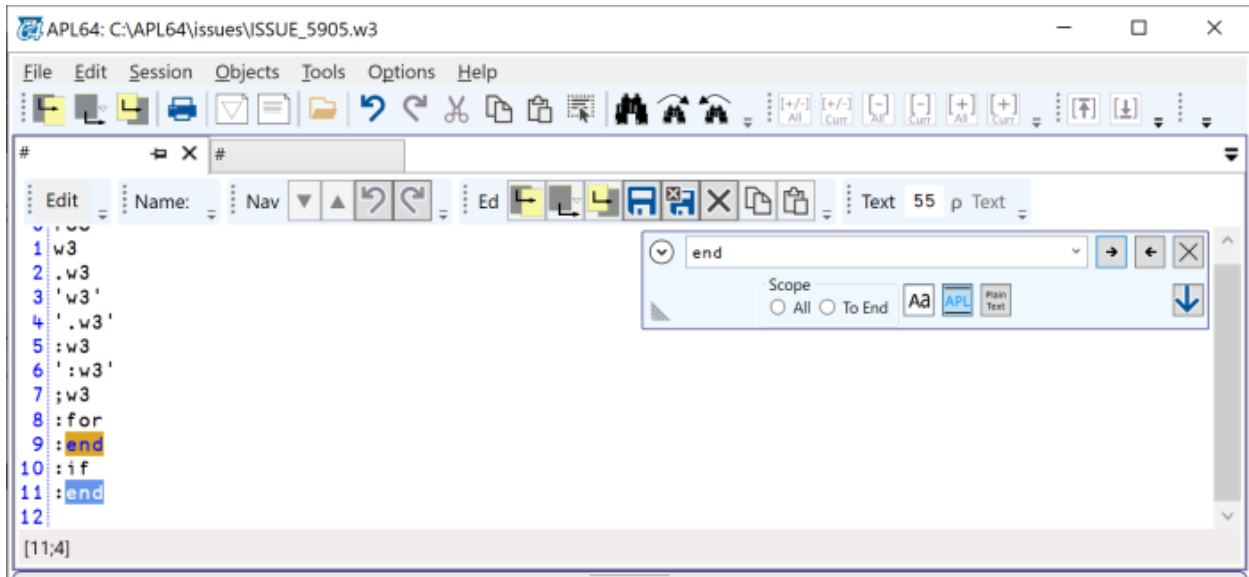
```
▽goo
0 goo
1 t←'.w3'
```

Find dialog: Search for **w3**, Scope: All To End Not Collapsed, Match type: **Aa** (Whole)

[0;0]

The documentation for □WSLIB incorrectly cited ".w3" for the file extension – Case 5924

The APL Token matching option in the Find tool incorrectly found words with a leading colon – Case 5934



The function's line statements didn't display correctly in the Instruction column in]WSTIME – Case 5940

E.g.,

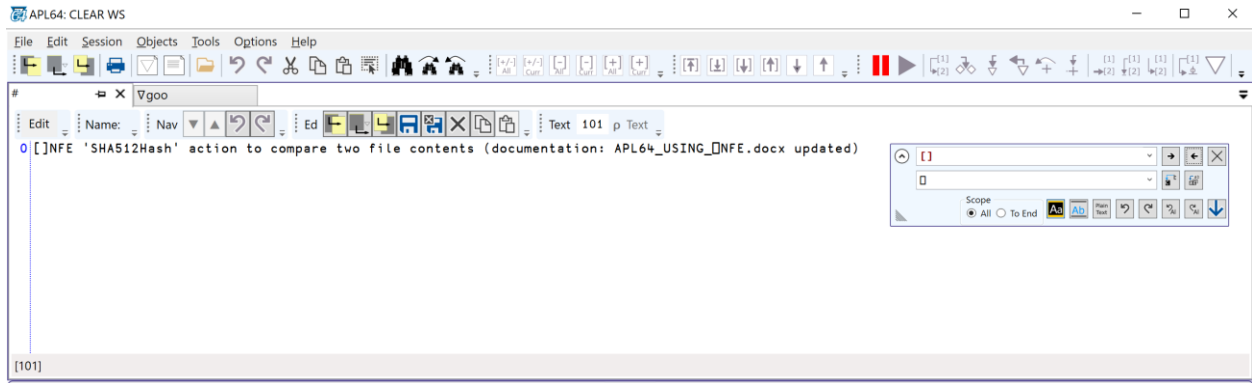
The screenshot shows the 'Line timings for sortARRAY' window. It contains a table with the following data:

Line	All	Here	Iter	Instruction
sortARRAY	193.145	78.727	6383	
sortARRAY[1]	0.000	0.000	0	
sortARRAY[2]	128.824	14.403	6383	k
sortARRAY[3]	47.394	47.394	6382	ā
sortARRAY[4]	16.901	16.901	6382	Ä

The Instruction column contains characters that are not properly displayed, likely due to encoding issues.

The Find tool failed to locate a string when the Find was followed with a Replace – Case 5926

E.g.,



Pressing the F1 key on `[]NREAD` to invoke the context help with local documentation may cause APL64 to abort with "APL64 has stopped working" – Case 5970

Note that if documentation files are located on the user's workstation, instead of accessing the APL64 web server, the F1 context-sensitive documentation action cannot open to the specified page because of an Adobe pdf-format file limitation.

The Shift+Tab keystroke didn't work in either input text fields in the Find tool – Case 5948

The double left mouse click on a control structure element didn't include the colon in the selection – Case 5949

The Tab key in the Find tool could exit the Find tool leaving the focus in the APL64 session – Case 5963

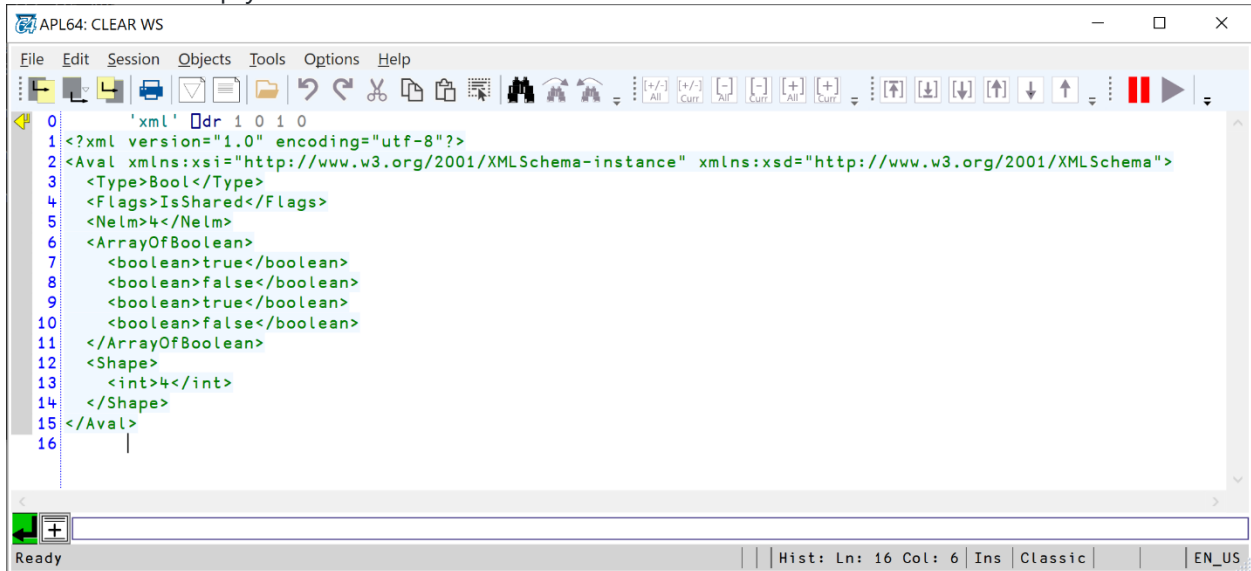
If there is any problem in a handler called by `[]EditEvents`, the APL64 system became unresponsive – Case 5870

Enabling `Session | Classic History Format | Is Editable` moved the caret position in the History – Case 5897

E.g.,

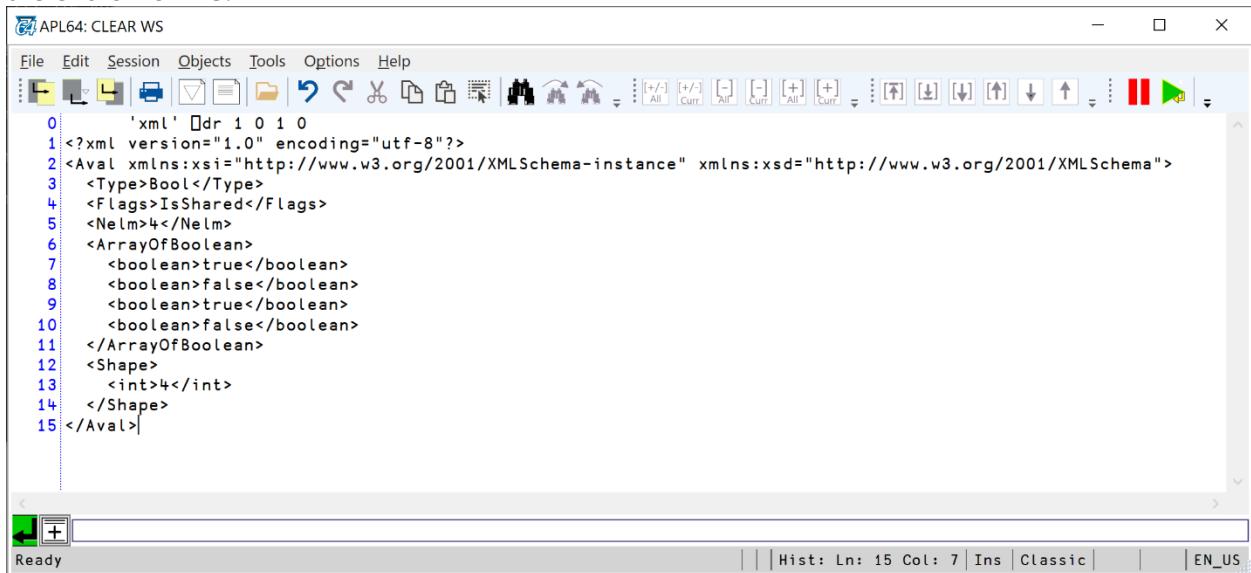
Before enabling `Session | Classic History Format | Is Editable`, note the caret is positioned on

row 16 that is empty:



```
0 'xml' □dr 1 0 1 0
1 <?xml version="1.0" encoding="utf-8"?>
2 <Aval xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
3 <Type>Bool</Type>
4 <Flags>IsShared</Flags>
5 <Nelm>4</Nelm>
6 <ArrayOfBoolean>
7   <boolean>>true</boolean>
8   <boolean>>false</boolean>
9   <boolean>>true</boolean>
10  <boolean>>false</boolean>
11 </ArrayOfBoolean>
12 <Shape>
13   <int>4</int>
14 </Shape>
15 </Aval>
16 |
```

After enabling **Session | Classic History Format | Is Editable**, note the caret is now positioned at the end of row 15:



```
0 'xml' □dr 1 0 1 0
1 <?xml version="1.0" encoding="utf-8"?>
2 <Aval xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
3 <Type>Bool</Type>
4 <Flags>IsShared</Flags>
5 <Nelm>4</Nelm>
6 <ArrayOfBoolean>
7   <boolean>>true</boolean>
8   <boolean>>false</boolean>
9   <boolean>>true</boolean>
10  <boolean>>false</boolean>
11 </ArrayOfBoolean>
12 <Shape>
13   <int>4</int>
14 </Shape>
15 </Aval>|
```

Odd syntax coloring in non-editable History for 'xml' □dr 1 0 1 0 – Case 5894

Symptom: This was observed after unchecking **Session | Classic History Format | Is Editable** then executing 'xml' □dr 1 0 1 0

```

20
21 'xml' ⍎dr 1 0 1 0
22 <?xml version="1.0" encoding="utf-8"?>
23 <Aval xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
24 <Type>Bool</Type>
25 <Flags>IsShared</Flags>
26 <Nelm>4</Nelm>
27 <ArrayOfBoolean>
28 <boolean>>true</boolean>
29 <boolean>>false</boolean>
30 <boolean>>true</boolean>
31 <boolean>>false</boolean>
32 </ArrayOfBoolean>
33 <Shape>
34 <int>4</int>
35 </Shape>
36 </Aval>
37

```

'xml' ⍎dr 1 0 1 0 failed to execute when it executed again in the History while syntax colored – Case 5896

E.g.,

```

0
1 'xml' ⍎dr 1 0 1 0
2 <?xml version="1.0" encoding="utf-8"?>
3 <Aval xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
4 <Type>Bool</Type>
5 <Flags>IsShared</Flags>
6 <Nelm>4</Nelm>
7 <ArrayOfBoolean>
8 <boolean>>true</boolean>
9 <boolean>>false</boolean>
10 <boolean>>true</boolean>
11 <boolean>>false</boolean>
12 </ArrayOfBoolean>
13 <Shape>
14 <int>4</int>
15 </Shape>
16 </Aval>
17 <?xml version="1.0" encoding="utf-8"?>
18 SYNTAX ERROR
19 [imm] <?xml version="1.0" encoding="utf-8"?>
20
21

```

While debugging a function, row numbers for labels were not automatically updated when moved to a different row after saving the function in the editor – Case 5901

⊕'(1 2 3',⍎tcnul,'4 5 6)' produced a result different from APL+Win – Case 5988

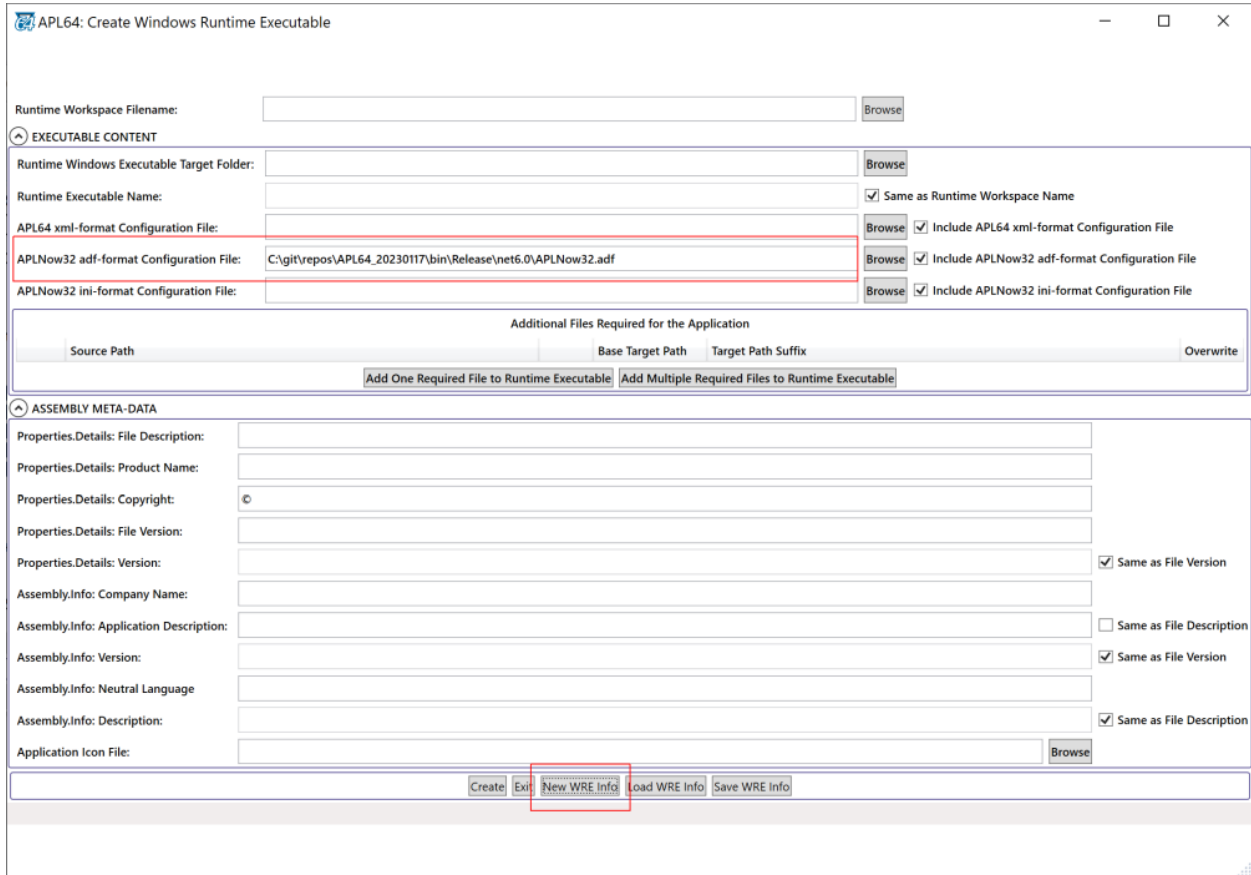
E.g.,

```
APL+Win - [Clear WS]
File Edit View Objects Walk Tools Options Window Help
⌘ '(1 2 3',⊞tcnul,'4 5 6)'  
SYNTAX ERROR  
⌘ (1 2 3  
  ^  
Ready 5 6 UNI
```

```
APL64: CLEAR WS  
File Edit Session Objects Tools Options Help  
0  
1 ⌘ '(1 2 3',⊞tcnul,'4 5 6)'  
2 SYNTAX ERROR  
3 [imm] ⌘ (1 2 34 5 6)  
4   ^  
5  
Ready | Hist: Ln: 5 Col: 6 | Ins | Classic | EN_US
```

The New WRE info button in Create Windows Runtime Executable didn't clear the "APLNow32 adf-format Configuration File" field – Case 6008

E.g.,



GetApStmtsFromLogFile failed: Cannot deserialize the xml-format information\There is an error in XML document (0, 0). – Case 5968

E.g.,

This occurred when exiting APL64 after having just clicked the option **Options | History Log | Clear Most Recent History Log File**:

