

New Enhancements and Bug Fixes Since Production Version 2023.0.2

Table of Contents

Overview	3
Enhancements/Changes	3
The build process was further optimized for the production release of APL64.....	3
User documentation updated for <code>⎕SQL</code> : Example illustrating a get table column info. Query	3
Inline comments with new glyphs: <code>⌘</code> <code>⌘</code>	3
Updates to <code>⎕XML</code>	3
<code>⎕WORDREPL</code> enhanced to support programmer control of characters in an APL whole word	3
Improved performance for the expression <code>2>/1 0</code>	4
New option in the Executed Statements History dialog to specify selected entry in the list.....	4
New option in Documentation Options dialogue to open default viewer application	4
Bug Fixes	5
<code>⎕DxB 0 1ρ'</code> returned DOMAIN ERROR.....	5
<code>⎕ROWFIND</code> returned SYSTEM ERROR:Exception: Index was outside the bounds of the array	5
Applying <code>⎕LJUST</code> or <code>⎕RJUST</code> to a matrix of all blanks caused APL64 to hang	5
Workspaces failed to load in the 2023.0.2 Update with the message: WS FILE ERROR: Could not load workspace: DEFN ERROR	5
<code>)COPY</code> and <code>⎕COPY</code> APL64 reported NOT FOUND and 0, respectively, for duplicate names in the list of object names.....	5
A <code>:FOR</code> control structure example with two control variables and three expressions returned LENGTH ERROR	5
<code>⎕WORDREPL</code> corrected to support the words with <code>#</code> , <code>⎕</code> and <code>Δ</code> characters	6
A scalar left argument to <code>⎕rowfind</code> produced error message: "SYSTEM ERROR:Exception: Index was outside the bounds of the array.".....	6
APL64 Incompatibility with APL+Win with <code>Without</code> function.....	6
Names of the downloaded documents in the Documentation Options dialog didn't display	6
<code>⎕WORDREPL</code> reported DOMAIN ERROR instead of RANK ERROR like in APL+Win	6
The execute primitive didn't complete when in the <code>⎕EditEvents</code> 'EditStarted' handler.....	7
<code>⎕editevents 0</code> and <code>⎕editevents ''</code> returned error message SYSTEM ERROR:Exception: Object reference not set to an instance of an object.....	7
The DROP operation displayed the timestamp of the saved workspace instead of the timestamp of the operation.....	7
Output wasn't suppressed (in the history) for an empty array with rank > 1	7

□cn with an empty array argument was incorrectly reported as a string data type instead of a character	7
APL64 SYSTEM ERROR resulted when setting)EVLEVEL in the workspace	7
□wordrepl executed a second time after modifying □wordrepla could return the error "SYSTEM ERROR:Exception: Object reference not set to an instance of an object."	7
Printing the history in the non-editable history caused the APL64 system to crash.....	7
A ⚡'□UCMD "any valid user command"' returned a SYNTAX ERROR.....	7
□COPY returned a SYSTEM ERROR when specifying an object name with a wildcard character (e.g., * or ?)	7

Overview

This document describes the updates and bug fixes incorporated into this 2023.0.8 production release of APL64.

Enhancements/Changes

The build process was further optimized for the production release of APL64

The benefit of this is the first execution of the APL statement should run noticeably faster in this release of APL64 than in previous releases.

User documentation updated for [SQL: Example illustrating a get table column info. Query](#)

Inline comments with new glyphs: [☞ ☜](#)

Inline comments are useful in commenting out some characters in a line while leaving others to be meaningful. Inline comments are denoted by the left ([☞](#)) and right ([☜](#)) block symbols glyphs that look similar in theme to the existing comment glyph [☞](#). The left ([☞](#)) block symbol glyph is displayed with the Alt+Shift+Z keystroke and right ([☜](#)) block symbol glyph is displayed with the Alt+Shift+X keystroke.

Refer to the section Inline comments in the User Manual for additional details.

Note: The new block comment symbol glyphs [☞](#) and [☜](#) are not included [AV](#) that is limited to 256 glyphs.

Updates to [XML](#)

1. Descendant and DescendantAndSelf methods: Improve exception message when user-provided descendant# is not found
2. New methods implemented: DocParse, EltRemove, GetXmlText
3. User documentation updated: APL64_USING_[XML.docx](#)

[WORDREPL](#) enhanced to support programmer control of characters in an APL whole word

The new system variable [WORDREPLA](#) contains the list of characters to designate which are part of an APL whole word. These are its attributes:

- [WORDREPLA](#) is the APL64 character vector which contains the characters which can constitute word elements in the [WORDREPL](#) system function
- [WORDREPLA](#) may be modified by the APL64 programmer
- [WORDREPLA](#) may be localized in an APL64 programmer-defined function

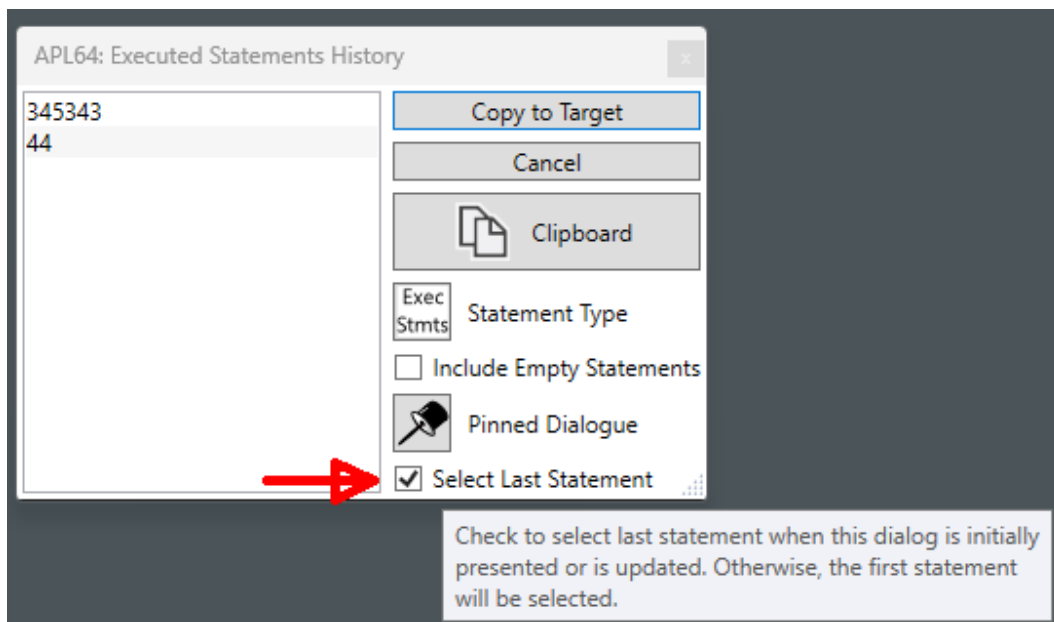
- When an APL64 instance is created, a workspace is loaded or the workspace is cleared, WORDREPLA is initialized to the default value
- The default value of WORDREPLA can be obtained by getting its value in a clear workspace
- WORDREPLA is saved with the workspace.

Improved performance for the expression 2>/1 0

APL64 took so much longer than APL+Win to execute the same expression.

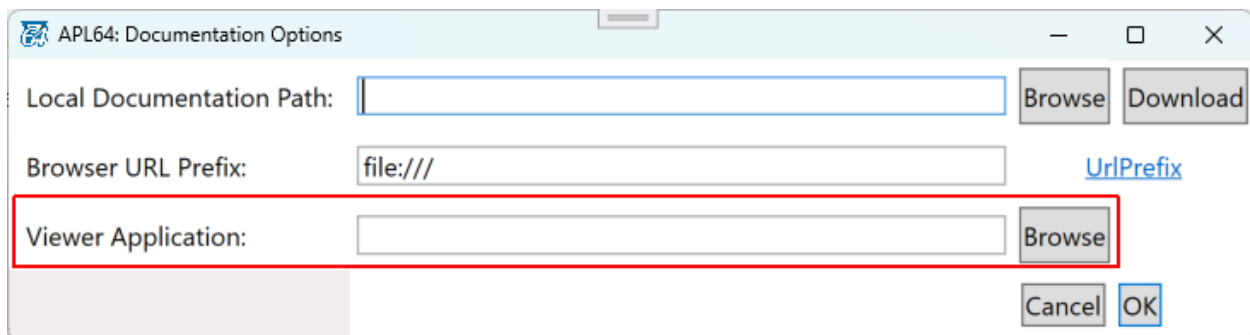
New option in the Executed Statements History dialog to specify selected entry in the list

The default behavior is the first item in the list when the setting isn't checked. To replicate the behavior in APL+Win, you'll want to check this option for the last item in the list to be selected corresponding to the most recently executed statement.



New option in Documentation Options dialogue to open default viewer application

If this field specifies the Adobe PDF Reader or Acrobat executable on the user's workstation, the local documentation page will open when the F1 (context-sensitive documentation keystroke) is clicked.



Bug Fixes

DxB 0 1p' returned DOMAIN ERROR

Affected functions were DEB, DLB, DLTB and DTB.

ROWFIND returned SYSTEM ERROR:Exception: Index was outside the bounds of the array

This occurred when assigning WORDREPLA, even with its default value, then executing WOROEPL more than once.

Applying LJUST or RJUST to a matrix of all blanks caused APL64 to hang

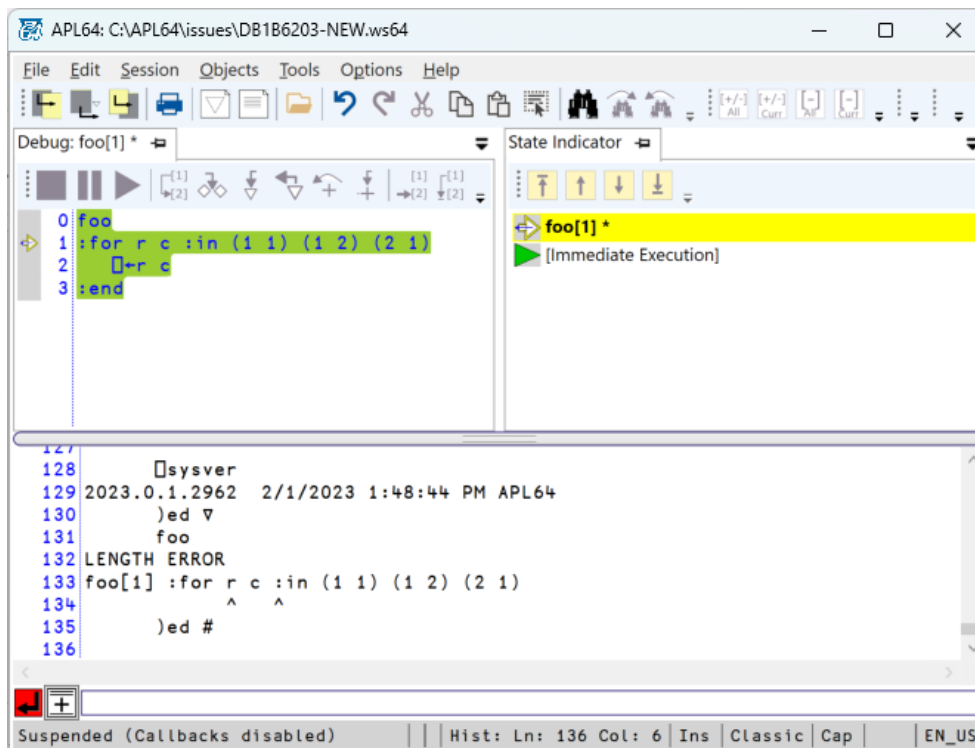
Workspaces failed to load in the 2023.0.2 Update with the message: WS FILE ERROR: Could not load workspace: DEFN ERROR

This occurred when the header for a function localized a deprecated system variable like SEG.

)COPY and COPY APL64 reported NOT FOUND and 0, respectively, for duplicate names in the list of object names

A :FOR control structure example with two control variables and three expressions returned LENGTH ERROR

E.g.,



WORDREPL corrected to support the words with #, and Δ characters

, and Δ characters." data-bbox="114 110 743 336"/>

```
0      '#hello/#world/hello/you' WORDREPL '#hello hello'
1 #world you
2      '/hello/world/hello/you' WORDREPL 'hello hello'
3  $\Delta$ world you
4      '/hello/ $\Delta$ world/hello/you' WORDREPL 'hello hello'
5  $\Delta$ world you
6
7
8
```

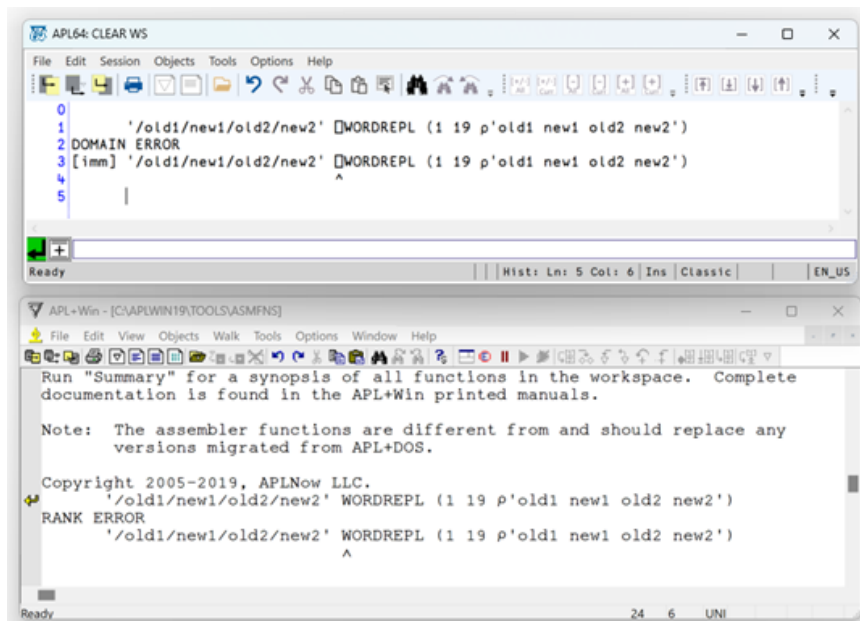
A scalar left argument to rowfind produced error message: "SYSTEM ERROR:Exception: Index was outside the bounds of the array."

APL64 Incompatibility with APL+Win with Without function

APL64 conforms to APL+Win behavior.

Names of the downloaded documents in the Documentation Options dialog didn't display
The shaded area in the red rectangle should display the filenames as they're downloaded from the remote location.

WORDREPL reported DOMAIN ERROR instead of RANK ERROR like in APL+Win
E.g.,



```
0      '/old1/new1/old2/new2' WORDREPL (1 19  $\rho$ 'old1 new1 old2 new2')
1
2 DOMAIN ERROR
3 [imm] '/old1/new1/old2/new2' WORDREPL (1 19  $\rho$ 'old1 new1 old2 new2')
4
5      |
```

```
Run "Summary" for a synopsis of all functions in the workspace. Complete
documentation is found in the APL+Win printed manuals.

Note: The assembler functions are different from and should replace any
versions migrated from APL+DOS.

Copyright 2005-2019, APLNow LLC.
 $\blacktriangleright$  '/old1/new1/old2/new2' WORDREPL (1 19  $\rho$ 'old1 new1 old2 new2')
RANK ERROR
'/old1/new1/old2/new2' WORDREPL (1 19  $\rho$ 'old1 new1 old2 new2')
      ^
```

The execute primitive didn't complete when in the `⎕EditEvents` 'EditStarted' handler

`⎕editevents 0` and `⎕editevents "` returned error message SYSTEM ERROR:Exception: Object reference not set to an instance of an object

The DROP operation displayed the timestamp of the saved workspace instead of the timestamp of the operation

Output wasn't suppressed (in the history) for an empty array with rank > 1

`⎕cn` with an empty array argument was incorrectly reported as a string data type instead of a character

APL64 SYSTEM ERROR resulted when setting `⎕EVLEVEL` in the workspace
This occurred when `⎕na` functions were in the workspace.

`⎕wordrepl` executed a second time after modifying `⎕wordrepla` could return the error "SYSTEM ERROR:Exception: Object reference not set to an instance of an object."

Printing the history in the non-editable history caused the APL64 system to crash

A `⎕ϕ` `⎕UCMD` "any valid user command" returned a SYNTAX ERROR

`⎕COPY` returned a SYSTEM ERROR when specifying an object name with a wildcard character (e.g., * or ?)