

# Yamcs Studio Release Notes

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# Preface

This document contains release notes for the changes in each release of Yamcs Studio up through Yamcs Studio 1.7.6.

The documentation included in source and binary distributions may not be fully up to date with respect to release note entries because integration of the documentation occurs at release build time. For the most up-to-date release notes, please refer to the online documentation instead.

# 1. Changes in 1.7

## Changes in 1.7.6 (2024-10-07)

- Fix permission check issue against Yamcs 5.10.x
- Support import/execution of files in Yamcs v5.10.3 updated command stack format ( \*.ycs). Note that only command steps are recognized.
- Fix stack validation issue when attempting to send an empty string argument

## Changes in 1.7.5 (2024-06-30)

- Show units for array elements
- Fix missing newline after command CSV header
- Improve default processor selection to ignore replays/backfilling
- Command History: Regroup information in Command Detail dialog
- Show actual alarm limits, instead of default limits in PV Info dialog of Parameter PV
- Add a preference setting to allow changing the initial stack wait to a value other than 0
- Script API:
  - Add `Yamcs.getAcquisitionStatus(pv)`
  - Add `Yamcs.getGenerationTime(pv)`
  - Add `Yamcs.getReceptionTime(pv)`
  - Add `Yamcs.getParameterInfo(pv)`

## Changes in 1.7.4 (2024-02-08)

- Fix hook-all widget actions
- Turn aggregate values into JSON (it was a custom string before)
- Update Yamcs client library, fixing a SPNEGO refresh issue

## Changes in 1.7.3 (2023-09-21)

- Fixes a Windows-only path resolution issue that was introduced in v1.7.2

## Changes in 1.7.2 (2023-09-21)

- Fix misc. render issues introduced in v1.7.0
- Fix `opi_file` property update on Linking Container #126

## Changes in 1.7.1 (2023-08-02)

- Allow bypassing excessive confirmation dialogs, when arming multiple commands that have a specified significance

## Changes in 1.7.0 (2023-08-01)

- Adds two new actions: “Run Command”, and “Run Command Stack”. Both run as a background job.
- Adds a “Commanding” preference page, where an alternative preferred namespace can be defined. This can be useful if you have an alternative naming scheme. Where possible, the alternative names are shown in both the Command History and Command Stack views.
- Rework of the Command Stack view:
  - It is now possible to select multiple commands, and arm/run them all at once.
  - It is now also possible to run commands out of order (selection-based).
  - Fixed delays can be configured at either stack or command level, and are awaited before advancing to the next command.

## 2. Changes in 1.6

### Changes in 1.6.7 (2023-06-15)

- Fix a Linux-only click-issue when attaching workspace scripts
- Run click actions also for Choice Button or Radio Box widgets. Previously they were ignored.

### Changes in 1.6.6 (2023-05-01)

- Fix race on PV value when clicking Action Button, coming from a Text Input.
- Expand PVUtil.getStatus output for Yamcs parameter PVs from LOW/HIGH to LOLO/LOW/HIGH/HIHI
- Recognize ops:// prefix in scripted commands

### Changes in 1.6.5 (2023-04-03)

- Run command stacks in the background rather than forcing a progress window
- Add parallel support for import/export of \*.yxs command stacks
- Show a message when a command triggered from a script failed to be submitted
- Add PVUtil.getUnits(pv) to Script API
- When applicable, return LOW or HIGH indication for Yamcs parameter PVs when using PVUtil.getStatus(pv)
- Add Yamcs.getMonitoringResult(pv) to Script API to access the monitoring result of a Yamcs parameter PV. This may provide more specific information than the more general PVUtil.getSeverityString(pv)
- Fixes a token refresh issue that could occur when connecting to an authenticated server

### Changes in 1.6.4 (2023-02-15)

- Fix issue with default workspace not restoring to latest. #122
- Add Basic Auth option to connection dialog. #118
- Make it impossible to delete the predefined color names Disconnected, Invalid, Minor and Major, and fix a bug where it was not possible to modify their color preference.
- Fix an issue when opening a standalone OPI for a second time. #98
- Add a view that lists open standalone OPIs.



- Fix the context menu on standalone OPIs.
- Unminimize a standalone OPI when opening it via an Action Button.
- Add a new Format Type: Time String (Unix Millis) to Text Update and Text Input widgets. It allows to render a value in milliseconds as a time string.
- Make the use of decimal separator more consistent. In certain regions, there was a mixup between the use of , and .. Going forward the default locale is set to en\_US and so always uses . as the decimal separator.

## Changes in 1.6.3 (2022-11-02)

- Fix Combo not showing selected value with items are numeric and writing to a local PV.
- Add Show Low/High property to Text Update and Text Input widgets. It displays an up/down arrow when the value is too high or low.
- Add support for showing cascaded command info (i.e. command attributes relayed from an upstream server).
- Add a script function to write a text file to a Yamcs bucket.
- Mark replay range in purple.

## Changes in 1.6.2 (2022-05-31)

- Add script syntax coloring
- Show TC validation on string minChars/maxChars
- Show TC validation on binary minBytes/maxBytes
- Fixed issue with bullet color of acks other than Q, R, S

## Changes in 1.6.1 (2022-03-02)

- Use with Yamcs v5.6.0
- Allow Image widget to reference a URL (http:// or https://)
- Allow Image widget to reference an object in a Yamcs bucket. E.g. ys://my-bucket/some/object references the object some/object in the bucket my-bucket.
- General cleanup in “OPI Examples” project (if you re-add it to your workspace)
- Fix issue where some dialog toolbars were not visible on some version of macOS
- Fix a font loading issue on Windows with the default Liberation Sans font

There were a few internal changes, so if a view appears to not work, try closing and reopening it.

## Changes in 1.6.0 (2021-11-19)

- Use platform-independent datetime selectors
- Full rewrite of Archive view #7
- Add FileUtil.openDirectoryDialog for use in scripts

- Reduce the time required to import past commands in Command History view
- Release binaries now include a version for ARM-based macs.

Along with this release, all scripts and widgets are now fully specified online:

- <https://docs.yamcs.org/yamcs-studio/widgets/>
- <https://docs.yamcs.org/yamcs-studio/scripts/api/>

## 3. Changes in 1.5

### Changes in 1.5.9 (2021-07-30)

- Fix Archive view (again)
- Fix handling of boolean arguments
- Fix “S” (Sent) column always showing grey bullet in Command History view

### Changes in 1.5.8 (2021-07-19)

- Add source filter to Event Log #110
- Start removal process of redundant Acknowledge\_Released and PTV Command History columns:
  - New workspaces: no longer present in default columns.
  - Existing workspaces: you may choose to get rid of them by opening the “Configure Columns” dialog of the Event Log view and clicking “Restore Defaults”.
- Fix clear of Event Log when a filter is active.
- Fix Linux issue where ACK bullets are not visible when selecting a line.

### Changes in 1.5.7 (2021-07-07)

- Make formatting of float-type values more consistent with Yamcs (for example: keep 838.12 instead of 838.1199951171875) #109
- Print integer-type values without decimal part (for example: 3 instead of 3.0) #109
- Print stdout of externally run commands in Console Log view.

### Changes in 1.5.6 (2021-06-09)

- Adds a build for Linux AArch64.
- Embedded JDK was upgraded from Java 11 to Java 15 (Yamcs Studio remains compatible with Java 11 or later, including non-LTS versions).
- Fixes a command-related permission issue when using with Yamcs v5.5.x or later.

## Changes in 1.5.5 (2021-04-12)

- Fixes the formatting of UINT64 values that use the sign bit.
- Fixes an unexpected timeout issue when using the “Write PV” action.

## Changes in 1.5.4 (2021-02-15)

- It is no longer possible to store passwords unencrypted. Previously stored passwords will automatically be deleted, you can now store passwords using the OS keyring (tested OK on Windows and macOS, mixed results on Linux). If no password can be found, the implementation falls back to a login prompt.
- The connection manager now accepts a Server URL as input, instead of the previous host/port/tls fields. This makes it possible to connect to Yamcs servers that run on a context path.
- The Thermometer bulb label is now visible even when its dimensions exceed the bulb area.
- Fixed Studio not automatically switching to a newly started replay.
- Fix range check on TC float arguments not working properly.
- Fix Q/R/S acknowledgment indicators not updated when issuing multiple commands.

## Changes in 1.5.3 (2020-11-27)

- Fix Linux-only render issue in Archive view (#95)
- Fix dynamically added column values in Command History view
- Restore clearance indicators (if enable on server).
- If defined, show TC argument descriptions via tooltip.

## Changes in 1.5.2 (2020-10-29)

- Fixes writeability of Parameter PVs following display refresh.
- Fixes a Windows-only issue causing annotation/tags right-click to not function. #93
- Fixes the ‘Switch Processor’ dialog.
- Fixes display state not getting reset when switching context on the same connection.

## Changes in 1.5.1 (2020-10-13)

- Fixes a packaging issue with v1.5.0 causing errors in scripts and rules (#92)
- Fixes an issue on macOS where the first row of trigger PVs was not immediately visible
- Further improves the connect/disconnect logic

## Changes in 1.5.0 (2020-09-28)

- Requires Yamcs 5
- Additional client-side validations are performed when adding stacked commands
- A new `state:// datasource` was added. This provides a few PVs for in-display access to client state (e.g. connected instance, processor, username)
- Add `appendRow` and `revealRow` operations to table widget #90
- A new `raw:// datasource` was added. This allows subscribing to the raw value of Yamcs parameters.
- Fix status line showing `Offline` when it's not.
- The values of non-connected Text Inputs are now automatically accepted when an action button is click and that input is focused.
- Yamcs Studio no longer requires the external installation of a JRE, it bundles a minimal OpenJDK 14 JRE (~ 30 MB). If desired, you can override this in the `Yamcs Studio.ini` file.

Side note 1: v1.4.0 was an internal release. This v1.5.0 release brings additional changes to the internal PV handling (rewrite of datasource aggregation logic).

Side note 2: This release bumps the Tycho library to v2, this implies that you can no longer use a Java 8 version to compile from source. We recommend Java 11.

## 4. Changes in 1.3

### Changes in 1.3.4 (2020-03-30)

- Memory improvements for Archive and other views (thanks @tomvanbraeckel)
- Refresh Archive after adding an annotation (#88)
- When confirming a significant stacked command, 'Cancel' is by default selected instead of 'OK'.
- Adds missing newlines in a command history CSV export.
- Allow to override the OPI used for the Probe dialog through preferences.
- Fixes overlap and font issues in the default probe OPI.

### Changes in 1.3.3 (2020-02-19)

- Update to Yamcs v4.10.7
- Fix issue with probe dialog not working on Windows
- Add sound control options in toolbar
- Exported stacks only contain user-selected assignments
- Fix stack export issue on JDK 11
- When starting a replay, use the active selection as default range

### Changes in 1.3.2 (2019-11-25)

- Support saving connections, even when not connecting.
- Add support for Kerberos authentication.
- Add temporary workaround for recent Archive Browser action enablement quirks.

### Changes in 1.3.1 (2019-11-05)

- Update to Yamcs 4.10.4

### Changes in 1.3.0 (2019-09-24)

- Fix JDK8 compatibility issue in Archive View

- Make it possible to connect to Yamcs without an instance
- Show changed argument defaults in stack table
- Fix single-line comments in external scripts
- Fix connection with unsaved password
- This version should be run against Yamcs v4.10.3 or higher

## 5. Changes in 1.2

### Changes in 1.2.6 (2019-06-14)

- Adapt to API change in alarm subscription
- This version should be run against Yamcs v4.10.0 or higher

### Changes in 1.2.5 (2019-05-08)

- Allow SSL/TLS connection to Yamcs.
- Support new parameter value type 'ENUMERATED'.
- Support JDK11.
- Fix url-issue when addressing array entries.

### Changes in 1.2.4 (2019-04-15)

- Automatically load last few entries when loading Command History view.
- Don't use spinner input widget for entering integer command arguments outside of java int range.
- Support interpreting "superuser" attribute.

### Changes in 1.2.3 (2019-04-02)

- Add support for arrays and aggregates (requires Yamcs v4.9.2 or higher)
- Fix highlight issue with opsnames
- Group acks and verifiers under Stages.
- Make it possible to disarm after arm
- Fix not possible to enter negative integer command argument

### Changes in 1.2.2 (2019-03-19)

- Fix stack copy/paste
- Allow executing stack automatically
- Fix probe dialog not working



- Fix event log and archive issues related to instance switch
- Support autocompletion on opsname
- Support script function where command arguments are passed as dictionary

## Changes in 1.2.1 (2019-01-09)

- Fix importPackage-related leak
- Make importPackage calls optional in user scripts
- Fix event log not clearing

## Changes in 1.2.0 (2018-10-01)

- New
  - The looks of the Event Log can be changed using custom rules
  - An OPI file can be marked as the active 'schema'. Properties of this schema's widgets become defaults while editing other displays.
  - Named OPI fonts/colors are now stored to user preferences. The initial list of named colors is less opinionated. Liberation Sans is the new default font.
  - Yamcs Studio no longer auto-creates an example project. Instead examples can be manually added to your workspace via `File > New > Example...`
  - Replay options have been extended to support range limiting, step-by-step replay and arbitrary speed factors.
  - Application logs are now automatically persisted to `~/.config/yamcs-studio/logs` (rotated)
  - Column changes in Command History and Event Log are saved to user preferences.
  - When opening Yamcs Studio, the last used workspace is reopened.
  - The Links view now indicates IN and OUT data counters in different columns, as introduced in Yamcs v4.7.
- Bug fixes
  - Fix importPackage support in Action scripts

## 6. Changes in 1.1

### Changes in 1.1.0 (2018-07-20)

- New
  - Parameter with datasource EXTERNAL1-3 support writes
  - Boolean widgets of type Enum compare string value of On/Off State property to determine state
- Bug fixes
  - Fix issue with wrong workspace selection
  - Fixes automatic opening of Displays to always open in Display Runner window
  - Loads parameters over multiple requests for large MDBs

## 7. Changes in 1.0

### Changes in 1.0.6 (2019-06-18)

- Fix single-line comments in external scripts
- Fix connection with unsaved password
- Allowing specifying command arguments as dict
- Fix duplicate identity issue in cmd stack copy/paste functionality

### Changes in 1.0.5 (2019-01-09)

- Fix importPackage support in Action scripts
- Fix importPackage-related leak
- Make importPackage calls optional in user scripts

### Changes in 1.0.4 (2018-07-20)

- New
  - Add transitional support for deprecated sw:// PVs
- Bug fixes
  - Fix issue with wrong workspace selection
  - Fix `-workspace` flag
  - Fixes connectivity with Yamcs v3 (uses yamcs-client v3.4.5)
  - Fixes automatic opening of Displays to always open in Display Runner window

### Changes in 1.0.3 (2018-06-26)

- New
  - Add support for Yamcs `timestamp` datatype
  - #54 Add static entries in Window menu for directly opening Display Builder or Display Runner
  - Use qualified names in command tree
  - Use nashorn instead of rhino for JavaScript execution (under review)
  - Improved consistency in the formatting of timestamps

- Bug fixes
  - Fixes an issue with writing to Yamcs local parameters
  - Print error causes directly in studio log (no stacktrace)
  - Fix issue where a runner window could end up being duplicated
  - Fix issue with assigning argument of parent command containers
  - By default, hide default command arguments

## Changes in 1.0.2 (2018-04-04)

- Restores script access to org.csstudio.swt.\*
- Fixes an issue where dropdown boxes did not keep their selection on Windows and OSX

## Changes in 1.0.1 (2018-03-28)

- Improve compatibility with older Yamcs instances
- Allow running with Java 9 or 10 (in addition to Java 8)

## Changes in 1.0.0 (2018-03-26)

- Compatible with both Yamcs v3.4.x and v4.x
- By default, Yamcs Studio will now open in Editor mode (on a new or reset workspace)
- The perspective switcher in the top-right toolbar was removed. Instead the Editor and the Runtime operate in distinct windows. Switching between the two types of windows can be done via a new button in the main toolbar.
- The 'Navigator' tree view was replaced with an identical looking 'Explorer' view. This Explorer view has better default open actions. In a Runtime window, double clicking will open an OPI file in runtime mode. In an Editor window, double clicking will open an OPI file in editor mode.
- Plot series max count was increased from 20 to 30.
- An issue was fixed where plots with formulas would not show data when replaying past data.
- The right-click "Show PV Info" popup was updated to show raw parameter values
- The right-click "Show PV Info" popup will now update its content as new parameter values are incoming (note that for non-parameter PVs the data will not currently update).
- The Probe popup (also available via the right-click menu of any PV widget) was refactored and now uses the MDB static alarm ranges (where applicable) to show a more meaningful meter.
- Yamcs Studio will now attempt auto-reconnection when connection to Yamcs is lost.
- Logging was refactored. Only INFO or worse are visible directly inside Yamcs Studio via the Console view. Debug logging (including stacktraces) are available via stdout/err.
- PV autocomplete suggestions will now also include yamcs-'local' parameters, such as system parameters.
- The event log uses different icons to be compatible with a recent change in Yamcs. The 3 old levels INFO, WARNING and ERROR are replaced by the new levels INFO, WATCH, WARNING, DISTRESS, CRITICAL and SEVERE. The ERROR state is matched to SEVERE.