

Cylc / Rose Update

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Cylc 8 History

Original aims

- Python 2 -> 3
- GTK -> Web UI

Work started Dec 2018 (Melbourne workshop)

Taking a lot longer than we hoped 😞

- GA1 (March 2020): we were aiming to be production ready March 2021
- Impact of pandemic, resourcing, scope

BUT Cylc 8 has many more enhancements than originally planned 😊

Key Rose functionality moved to Cylc

New Cylc functionality to support

- Workflow installation & re-installation from source
- Platforms (login nodes, scheduler, filesystems)
 - Increases reliability and efficiency when working with multiple login nodes
- File installation on remote platforms
- Symlink support to allow workflow directories on different filesystems
 - e.g. data files vs log files
- Cleanup of workflow files
- <https://cylc.github.io/cylc-admin/proposal-rose-suite-run.html>

Replaces and enhances functionality previously provided by Rose

Provides unified way of working for all Cylc users

Handling of tasks and dependencies

Spawn on demand

- Much more efficient and scalable method for handling tasks
- <https://cylc.github.io/cylc-admin/proposal-spawn-on-d.html>

Optional outputs

- Modified graph syntax which allows Cylc to understand the intended paths for a workflow
 - e.g. a task failure doesn't necessarily block a workflow - it may have failure triggers which allow it to recover
- Allows Cylc to immediately flag failures which need intervention
- Gets rid of the requirement for suicide triggers 😊
- Unmodified Cylc 7 workflows still supported
- <https://cylc.github.io/cylc-admin/proposal-new-output-syntax.html>

Authorisation

Workflow owners will be able to grant controlled access to their workflows by other users, for example:

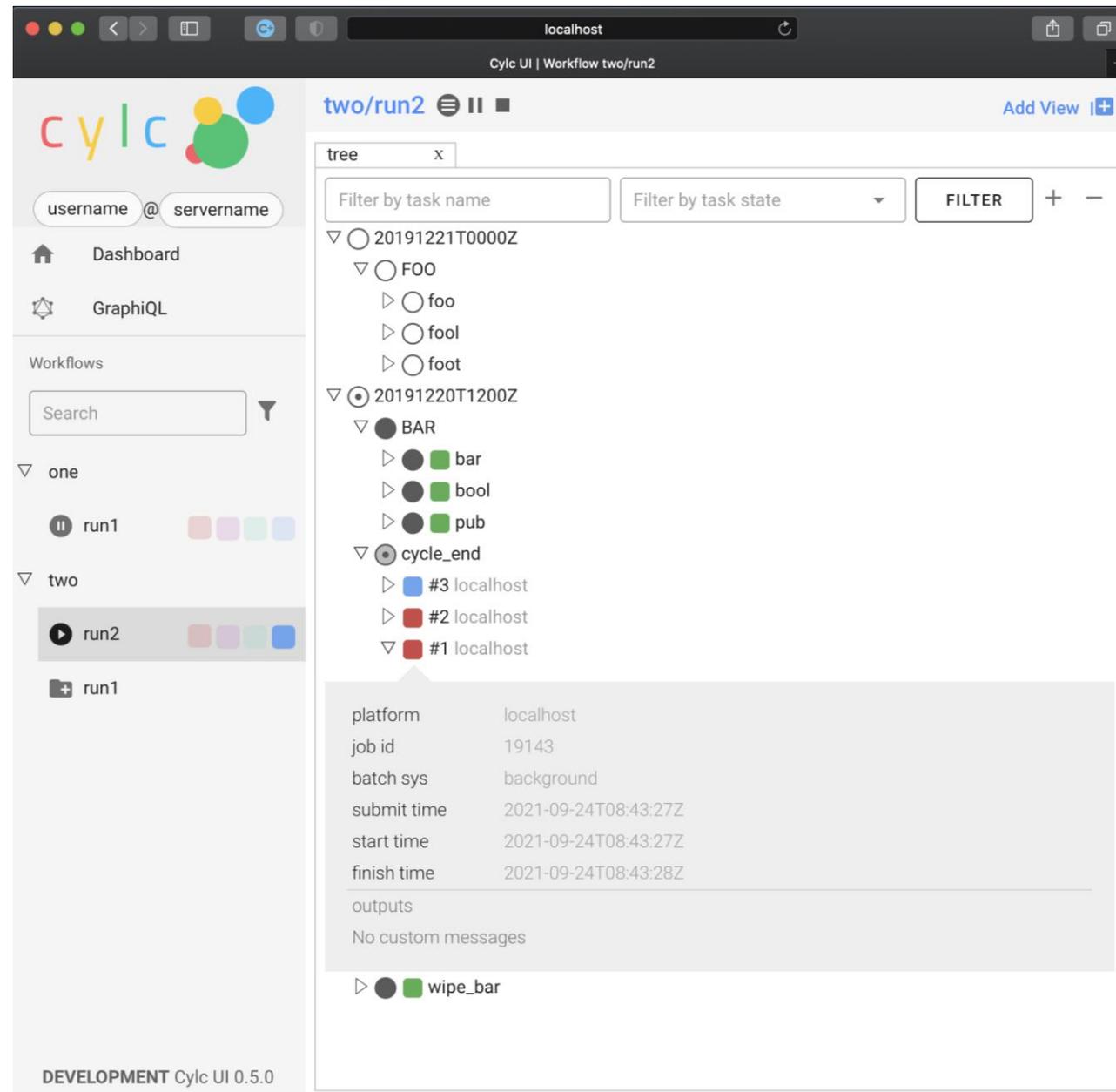
- Grant read-only for monitoring and support
- Grant full access for users permitted to control what is run under this account
 - Typically used where a team supports workflows running under a service account

Full logging of which user issued each command (improved accountability)

Cylc UI server converted to a Jupyter Server extension

- "Jupyter Server provides the backend for Jupyter web applications like Jupyter notebook, JupyterLab"
- Reduced complexity and maintenance
- Provides support for running standalone without JupyterHub
- Allows other extensions (e.g. JupyterLab) to run alongside the Cylc UI

Web UI



The screenshot displays the Cylc UI web interface. The top navigation bar includes the Cylc logo, a user profile section with 'username @ servername', and a 'two/run2' workflow header with an 'Add View' button. The left sidebar contains navigation links for 'Dashboard' and 'GraphQL', and a 'Workflows' section with a search bar and a list of workflow runs: 'one' (with 'run1' paused) and 'two' (with 'run2' running and 'run1' available). The main content area shows a tree view of the 'two/run2' workflow. The tree is filtered to show the '20191220T1200Z' cycle, which includes a 'BAR' task with sub-tasks 'bar', 'bool', and 'pub', and a 'cycle_end' task with sub-tasks '#3 localhost', '#2 localhost', and '#1 localhost'. A tooltip for the '#3 localhost' task displays the following details:

platform	localhost
job id	19143
batch sys	background
submit time	2021-09-24T08:43:27Z
start time	2021-09-24T08:43:27Z
finish time	2021-09-24T08:43:28Z
outputs	
custom messages	No custom messages

The bottom of the interface shows the version 'DEVELOPMENT Cylc UI 0.5.0'.

Terminal UI

A fully featured
alternative to the
Web UI

```
oliver — python3.7 ~/mambaforge/envs/cylc8/bin/cylc tui two — 63x38
two/run2 - running ( 4■ )
TUI is experimental and may break with large flows

- two/run2
  - ○ 20191224T1200Z
    + ● BAR
      ○ cycle_end
    + ● ■ wipe_bar
  - ○ 20191225T0000Z
    + ○ F00
```

Action

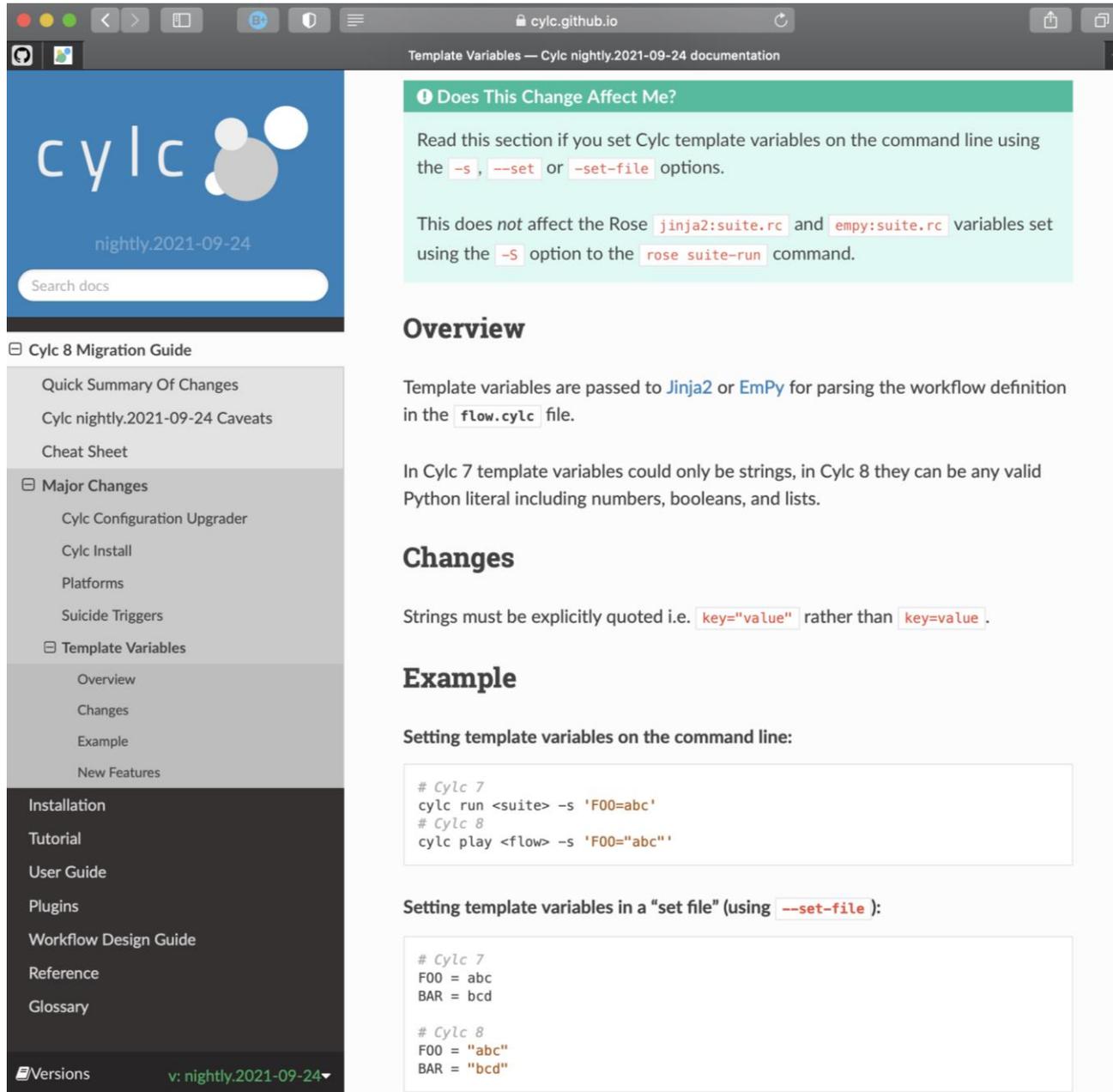
< ■ cancel)	>
< pause	>
< resume	>
< reload	>
< stop	>

q to close

```
quit: q help: h context: enter tree: - ← + → navigation: ↑
↓ ↑ ↵ Home End filter: F f s r R
```

Documentation

Improved and updated but still more to do



The screenshot shows a web browser window displaying the Cylc documentation page for 'Template Variables' in the 'nightly.2021-09-24' version. The page has a dark blue header with the Cylc logo and a search bar. A sidebar on the left contains a navigation menu with categories like 'Cylc 8 Migration Guide', 'Major Changes', 'Template Variables', and 'Installation'. The main content area features a green callout box titled 'Does This Change Affect Me?' which explains that setting template variables on the command line using `-s`, `--set`, or `--set-file` options does not affect variables set using the `-S` option to the `rose suite-run` command. Below this, there are sections for 'Overview', 'Changes', and 'Example'. The 'Overview' section states that template variables are passed to Jinja2 or EmPy for parsing workflow definitions. The 'Changes' section notes that in Cylc 8, template variables can be any valid Python literal, not just strings. The 'Example' section provides two code snippets: one for setting variables on the command line and another for setting them in a 'set file' using the `--set-file` option.

Does This Change Affect Me?

Read this section if you set Cylc template variables on the command line using the `-s`, `--set` or `--set-file` options.

This does *not* affect the Rose `jinja2:suite.rc` and `empy:suite.rc` variables set using the `-S` option to the `rose suite-run` command.

Overview

Template variables are passed to [Jinja2](#) or [EmPy](#) for parsing the workflow definition in the `flow.cylc` file.

In Cylc 7 template variables could only be strings, in Cylc 8 they can be any valid Python literal including numbers, booleans, and lists.

Changes

Strings must be explicitly quoted i.e. `key="value"` rather than `key=value`.

Example

Setting template variables on the command line:

```
# Cylc 7
cylc run <suite> -s 'F00=abc'
# Cylc 8
cylc play <flow> -s 'F00="abc"'
```

Setting template variables in a "set file" (using `--set-file`):

```
# Cylc 7
F00 = abc
BAR = bcd

# Cylc 8
F00 = "abc"
BAR = "bcd"
```

Cylc 8 Timescales

April 2021: First beta release

Aiming for:

- Oct 2021: Cylc 8 release candidate (feature freeze)
 - heavy user testing
- Late 2021: Cylc 8.0 release 

Priorities during 2022:

- Ensure Cylc 8 is ready for production use
 - all essential features complete and any critical bugs fixed
- Add other missing features (e.g. graph view, cylc review, edit run)
- Replace rose edit

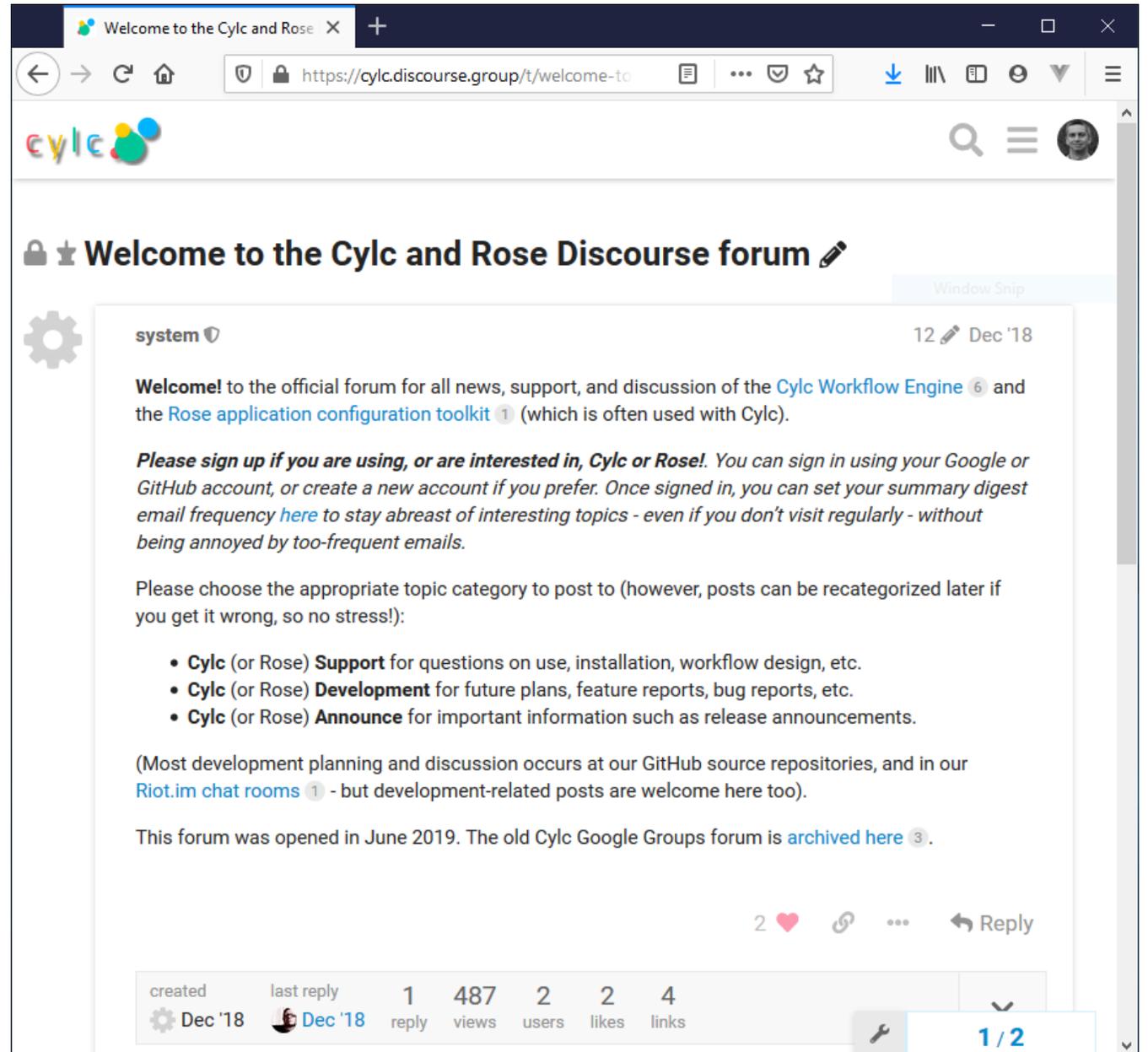
Discourse Forum

<https://cylc.discourse.group/>

Follow the latest Cylc 8 news

Get help

Ask questions



Welcome to the Cylc and Rose Discourse forum

system 12 Dec '18

Welcome! to the official forum for all news, support, and discussion of the [Cylc Workflow Engine](#) and the [Rose application configuration toolkit](#) (which is often used with Cylc).

Please sign up if you are using, or are interested in, Cylc or Rose! You can sign in using your Google or GitHub account, or create a new account if you prefer. Once signed in, you can set your summary digest email frequency [here](#) to stay abreast of interesting topics - even if you don't visit regularly - without being annoyed by too-frequent emails.

Please choose the appropriate topic category to post to (however, posts can be recategorized later if you get it wrong, so no stress!):

- **Cylc (or Rose) Support** for questions on use, installation, workflow design, etc.
- **Cylc (or Rose) Development** for future plans, feature reports, bug reports, etc.
- **Cylc (or Rose) Announce** for important information such as release announcements.

(Most development planning and discussion occurs at our GitHub source repositories, and in our [Riot.im chat rooms](#) - but development-related posts are welcome here too).

This forum was opened in June 2019. The old Cylc Google Groups forum is [archived here](#).

2 ❤️ 🔗 ... ↩ Reply

created	last reply	1	487	2	2	4
Dec '18	Dec '18	reply	views	users	likes	links

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THE CONSORTIUM

Coordinated by CNRS-IPSL, the IS-ENES3 project
gathers 22 partners in 11 countries



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°824084



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