21.05 Release Testing

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Planning 21.05 Release Testing

Developed plan based on results of 20.09 and 21.01 release testing:

- 20.09 key results:
    - 21 tutorials (21 out of 17 planned)
    - Tool test results comparison (20.09 vs. previous runs)
    - Approx. 3 out of 350 release notes items
    - Time spent: approx. 2 weeks

- 21.01 key results:
    - 24 tutorials
    - 30 out of 283 release note items
    - Time spent: approx 3 days

Recommendations from 21.01

- Structure
  - More structured testing plan (protocol for what and how to test)
  - Open issues more aggressively (problems should not be postponed/forgotten/lost)
- Too many items *(283 in 21.01, 350 in 20.09)*: not possible to cover all manually
  - Don't have sense of getting things done (list doesn't get smaller)
- Have to prioritize; usually not obvious how
  - Highlighted items were covered in the first place; the rest is hard to rank
- Not clear how to test:
  - Waste time on figuring out how to test
  - Possible duplication of what's done by automated testing (lots!)
  - Not everything is or should be testable on main (e.g. required admin access)
- Many items should not be manually tested
  - Identify the tests that require a human
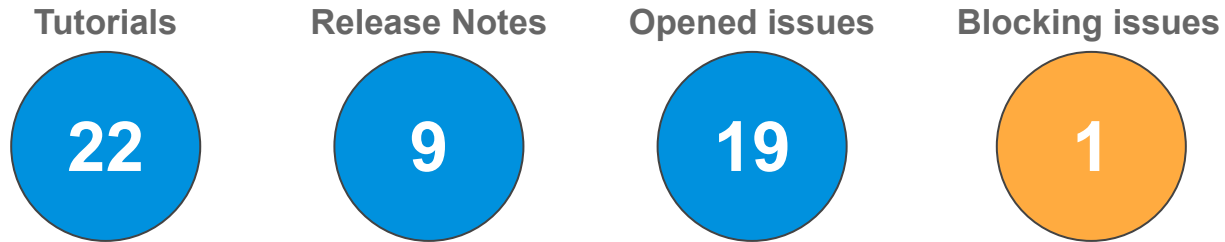
21.05 Release Testing Plan

Scope

- ○ Release notes: use for (loosely-defined) requirements-based testing
  - ○ Dev team curated list of issues
- ○ Pull requests that include instructions for manual testing (43 / 369)
- ○ GTN tutorials: use for scenario-based testing (core, UI, admin, science)

Approach

- ○ Specific testing protocol
  - ○ When to open an issue (e.g. incorrect/outdated steps that conflict with the current UI)
  - ○ What to ignore (e.g. outdated screenshot colors, UI elements, typos, grammar, style...)
  - ○ How to verify a problem is relevant, verify against previous release, etc.
- ○ Open issues; do not fix bugs
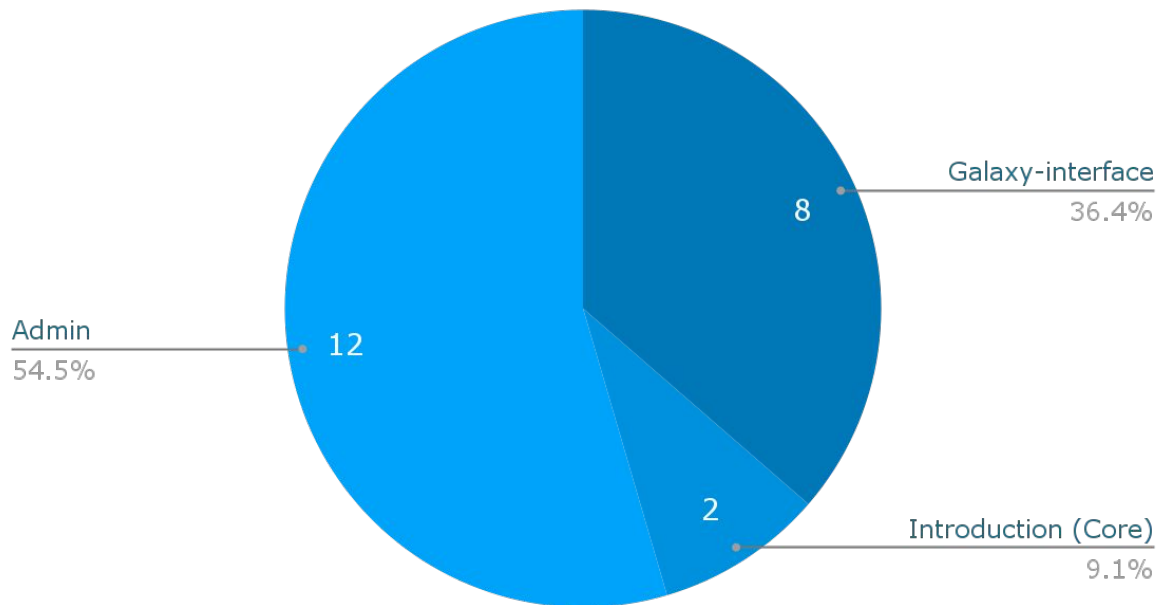- ○ Time commitment: ~2 full days
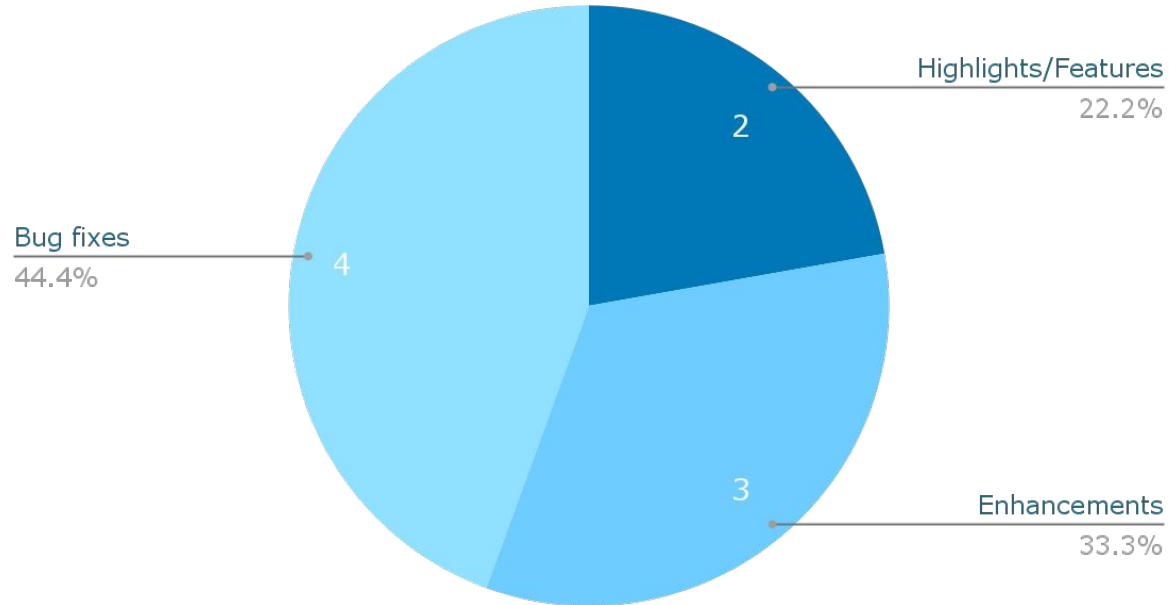
Results: Summary

Tutorials	Release Notes	Opened issues	Blocking issues
22	9	19	1

Results: GTN Tutorials

Covered by the Release Team **22**

21.05 - Tutorials covered

Galaxy-interface 8 36.4%

Admin 12 54.5%

Introduction (Core) 2 9.1%

Results: Release Notes Items

Covered by the Release Team **9** out of **317**

21.05 - Release notes

Highlights/Features
22.2%

2

Bug fixes
44.4%

4

3

Enhancements
33.3%

Results: Opened Issues

Opened issues by the Release Team

19

Blocking issues

1

21.05 - Opened issues by repository

Training material
9.5%

2

- All issues opened in the Galaxy repo.
- No major issues found on tutorials but 2 PRs with typo fixes were opened.

19

Galaxy
90.5%
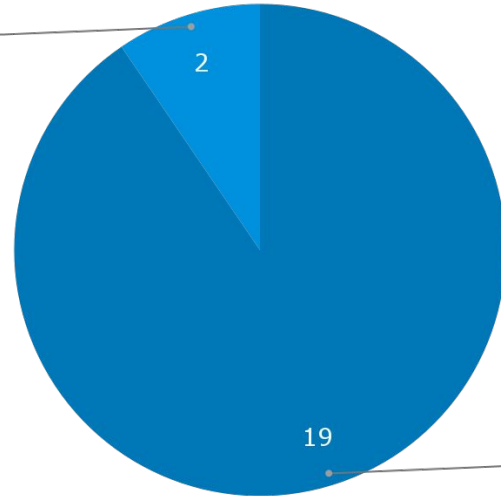
Some Examples of Identified Problems

- UI issues:
  - Mostly some paper-cuts issues around Data Libraries and the Workflow Editor
- Server errors
  - Job handlers acting as workflow schedulers despite presence of explicit workflow schedulers [#11986](#)
- Tutorials
  - Outdated screenshots, outdated and/or inconsistent steps
  - Changes to configs expressed with patch files
  - Minor inconsistencies in style between tutorials
  - Minor typos were fixed on the spot
- Often discovered with irregular/exploratory input by tester
  - Workflow Editor - Connectors and/or noodle maintain incorrect state [#12032](#)

Blocking Issues (#11986) 🚫

① 14 Open ✓ 20 Closed   Author ▾ Label ▾ Projects ▾ Milestones ▾ Assignee ▾ Sort ▾

① Workflow Editor - Connectors and/or noodle maintain incorrect state `area/UI-UX` `area/workflows` `kind/bug`
#12032 opened 6 days ago by ksuderman ⬚ 21.05

① Libraries: exporting `all datasets in current folder` (as a collection) only exports the visible datasets at the current
page `area/UI-UX` `area/libraries` `kind/bug` `paper-cut`
#12014 opened 7 days ago by davelopez ⬚ 21.05

① Invalid file upload causes missing file name in History panel `area/UI-UX` `area/client` `area/upload` `kind/bug` `minor`
#12008 opened 7 days ago by ksuderman ⬚ 21.05

① Libraries: the `select all` checkbox when adding datasets to a library from history doesn't behave as expected   💬 1
`area/UI-UX` `area/libraries` `kind/bug` `paper-cut`
#12006 opened 7 days ago by davelopez ⬚ 21.05

① Libraries: editing a library from `page>1` displays the description of the library at the same row but at `page=1`
`area/UI-UX` `area/libraries` `kind/bug` `paper-cut`
#12005 opened 7 days ago by davelopez ⬚ 21.05

① Libraries: non-admin users with `edit` permission can not change the library name or delete `area/UI-UX` `area/libraries`   ⬆ 1   🧑
`kind/bug` `paper-cut`
#12004 opened 7 days ago by davelopez ⬚ 21.05

① Libraries: non-admin users with `manage` permission cannot really manage. `area/UI-UX` `area/libraries`
#12003 opened 7 days ago by davelopez ⬚ 21.05

① Job handlers acting as workflow schedulers despite presence of explicit workflow schedulers `kind/bug`   🚫
#11986 opened 9 days ago by mvdbeek ⬚ 21.05

① Show all running jobs on Admin -> jobs page `area/UI-UX`   🧑   💬 2
#11717 opened on Mar 24 by Slugger70 ⬚ 21.05

① Component property mutation `kind/bug`
#11636 opened on Mar 16 by dannon 📋 1 of 4 ▬▬▬▬▬ ⬚ 21.05

① RuleBuilder Nested List Tutorial Returns an Empty List `area/dataset-collections` `kind/bug`   💬 1
#11437 opened on Feb 22 by assuntad23 ⬚ 21.05

Testing Process Analysis

Tutorials

- No major issues found.

Release notes

- The Dev-team curated release notes greatly helped in focusing
- Automated classification of items based on PR template
  - Identify items that require manual testing and avoid those that provide automated tests
- Not always clear how to test:
  - The PR template helped a lot in many cases
  - Still some PR don't fill out the required steps to test when there are no automated tests
  - Written by domain experts for domain experts

Testing Process Analysis

Improvements compared to 21.01:

- ○ Much easier with curated list of issues
    - ○ But we didn't cover as many issues
- ○ The PR template was really helpful to identify items that required manual testing
    - ○ Some PRs don't specify the manual testing steps
- ○ Testing on AnVIL and GVL instances
    - ○ Slows down the process
- ○ Availability of VMs very helpful for Admin testing
- ○ 100% focus on testing the release

Burn Rates						
Release	# People	Days	Notes	Tutorials	NPP/day	TPP/day
20.09	3	14	3	21	0.071	0.5
21.01	5	2	30	24	3.000	2.4
21.05	4	2	9	22	1.125	2.75

Discussion of Ideas for Improvement

- Remove the Tool Tests from the plan as they are already automated
- Narrow down the Tutorial list to reduce overlapping when they touch similar parts of Galaxy
- Use of labels to simplify classification instead of parsing the PR body
- PR template merged: https://github.com/galaxyproject/galaxy/pull/11530
    - Asks for details on how to test + encourages writing accompanying tests
    - Screenshots for UI features!
- Idea: tag PRs that need special attention
    - [test: on main], [test: eu], [test: admin required] etc.
- Overall, a greater focus on automated testing
    - Automate tutorials with Selenium for testing?
        - Determine pre- and post-tutorial test VM state
    - Can we require tests for new features and fixed bugs?
        - Related long term goal: lower the bar for writing tests to make ^ possible
- Let's use Sentry to hunt for problems!
- Idea: side-by-side testing new/previous release of select items, as needed
    - Use VMs? Use test vs. main?

Ideas for Improvement: Automation

1. Release notes can be generated with a one liner if issues tagged
   gh pr list --label test/manual …
2. Can filter by:
   --state merged
   --search milestone:21.05
   --search merged:\>2021-05-27
   --search created:\<2021-05-27
3. Can output JSON and format with a Go template
4. Add to Makefile so becomes part of release process

Ideas for Improvement: Process

1. Start earlier. Much earlier.
2. Pick 21.09 team now
   - at least coordinator
   - rest of team at least two weeks before code freeze
3. Stress that team has been curated by PI's
4. Automate team selection
   - scrape participant pool from WG spreadsheet
   - random.select N names
5. N based amount of testing to be done
   - can be guestimated based on `gh pr list` outputs

Discussion