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# TRILINOS AUTOTESTER CHANGES

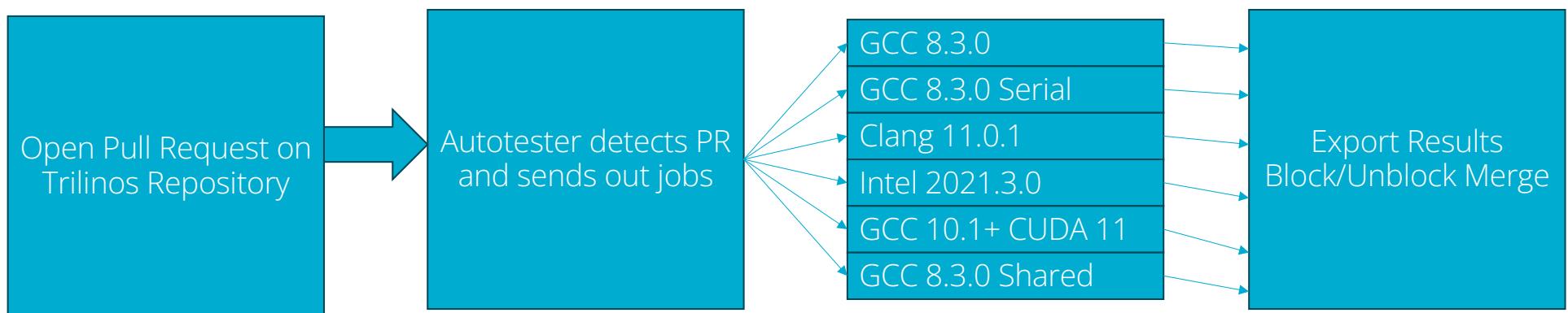
ERIC HO, SAM BROWNE

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SAND2023-11784PE



## CURRENT AUTOTESTER

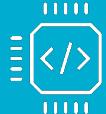




## CHALLENGES WITH CURRENT AUTOTESTER

- Unable to restart individual builds within a PR
  - i.e. GCC build passes and Intel build fails, both must be restarted to pass PR
- Developers cannot monitor in-progress PR test results.
- Test results are published as pass/fail on Github. Test Results are not visible to external developers.
- Solution?



CURRENT AUTOTESTER	 <b>Autotester4GitHub</b>
<ul style="list-style-type: none"> <li>✓ AUTOMATED PR TESTING</li> <li>✓ CONCURRENT PR TEST BUILDS</li> <li>✓ VIEW PR TESTING STATUS</li> </ul>	<ul style="list-style-type: none"> <li>✓ AUTOMATED PR TESTING</li> <li>✓ CONCURRENT PR TEST BUILDS</li> <li>✓ VIEW PR TESTING STATUS</li> <li>✓ GITHUB ACTIONS INTEGRATION</li> <li>✓ EXPORT RESULTS TO GITHUB AND CDASH</li> <li>✓ REAL-TIME PROGRESS TRACKING</li> <li>✓ CONTAINERIZED PR TESTS WITH DOWNLOADABLE DOCKER IMAGES</li> <li>✓ RESTART INDIVIDUAL PR BUILDS</li> </ul>



## SEE EXACTLY HOW PR TESTS ARE EXECUTED

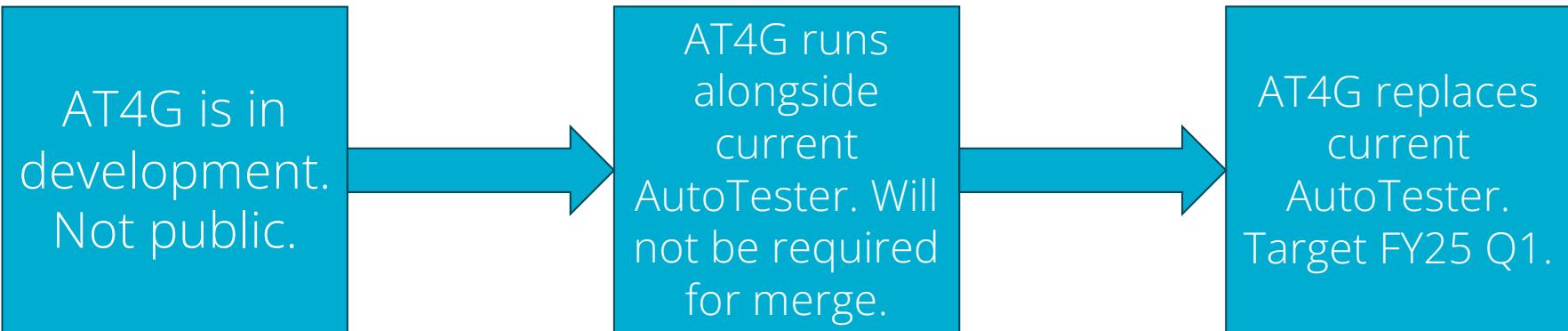


## HOW DOES THIS AFFECT TRILINOS DEVELOPERS?

- Hopefully, it doesn't
- Reduced time: PR opened -> Ability to Merge
- Streamlined test results
- Access to containerized test environments

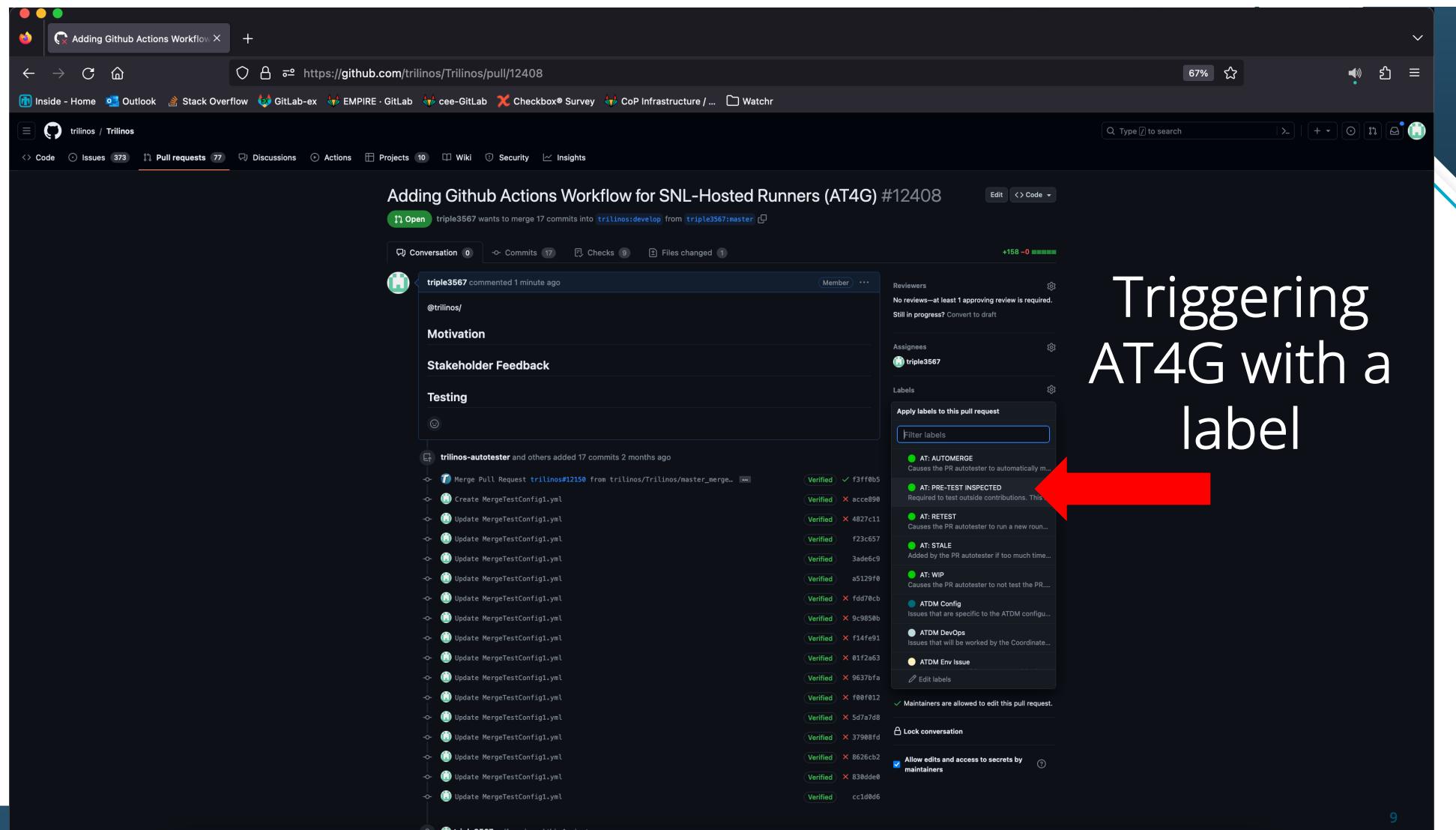


## CURRENT STATUS AND FUTURE PLANS





# DEMO



Adding Github Actions Workflow for SNL-Hosted Runners (AT4G) #12408

triple3567 commented 1 minute ago

**Motivation**

**Stakeholder Feedback**

**Testing**

trillinos-autotester and others added 17 commits 2 months ago

- Merge Pull Request trillinos#12158 from trillinos/Trilinos/master\_merge... Verified ✓ f3ffeb5
- Create MergeTestConfig1.yml Verified ✗ acce898
- Update MergeTestConfig1.yml Verified ✗ 4827c11
- Update MergeTestConfig1.yml Verified ✓ f23c657
- Update MergeTestConfig1.yml Verified ✓ 3ade6c9
- Update MergeTestConfig1.yml Verified ✓ a5129f8
- Update MergeTestConfig1.yml Verified ✗ fdd7e6b
- Update MergeTestConfig1.yml Verified ✗ 9c9850b
- Update MergeTestConfig1.yml Verified ✗ f14fe91
- Update MergeTestConfig1.yml Verified ✗ 012a63
- Update MergeTestConfig1.yml Verified ✓ 9637bfa
- Update MergeTestConfig1.yml Verified ✓ f00f012
- Update MergeTestConfig1.yml Verified ✗ 5d7a7d8
- Update MergeTestConfig1.yml Verified ✓ 37980fd
- Update MergeTestConfig1.yml Verified ✗ 8626cb2
- Update MergeTestConfig1.yml Verified ✗ 830de0
- Update MergeTestConfig1.yml Verified ✓ cc1d0d6

Reviewers  
No reviews—at least 1 approving review is required.  
Still in progress? Convert to draft

Assignees  
triple3567

Labels

Apply labels to this pull request

Filter labels

- AT: AUTOMERGE
- AT: PRE-TEST INSPECTED
- AT: RETEST
- AT: STALE
- AT: WIP
- ATDM Config
- ATDM DevOps
- ATDM Env Issue

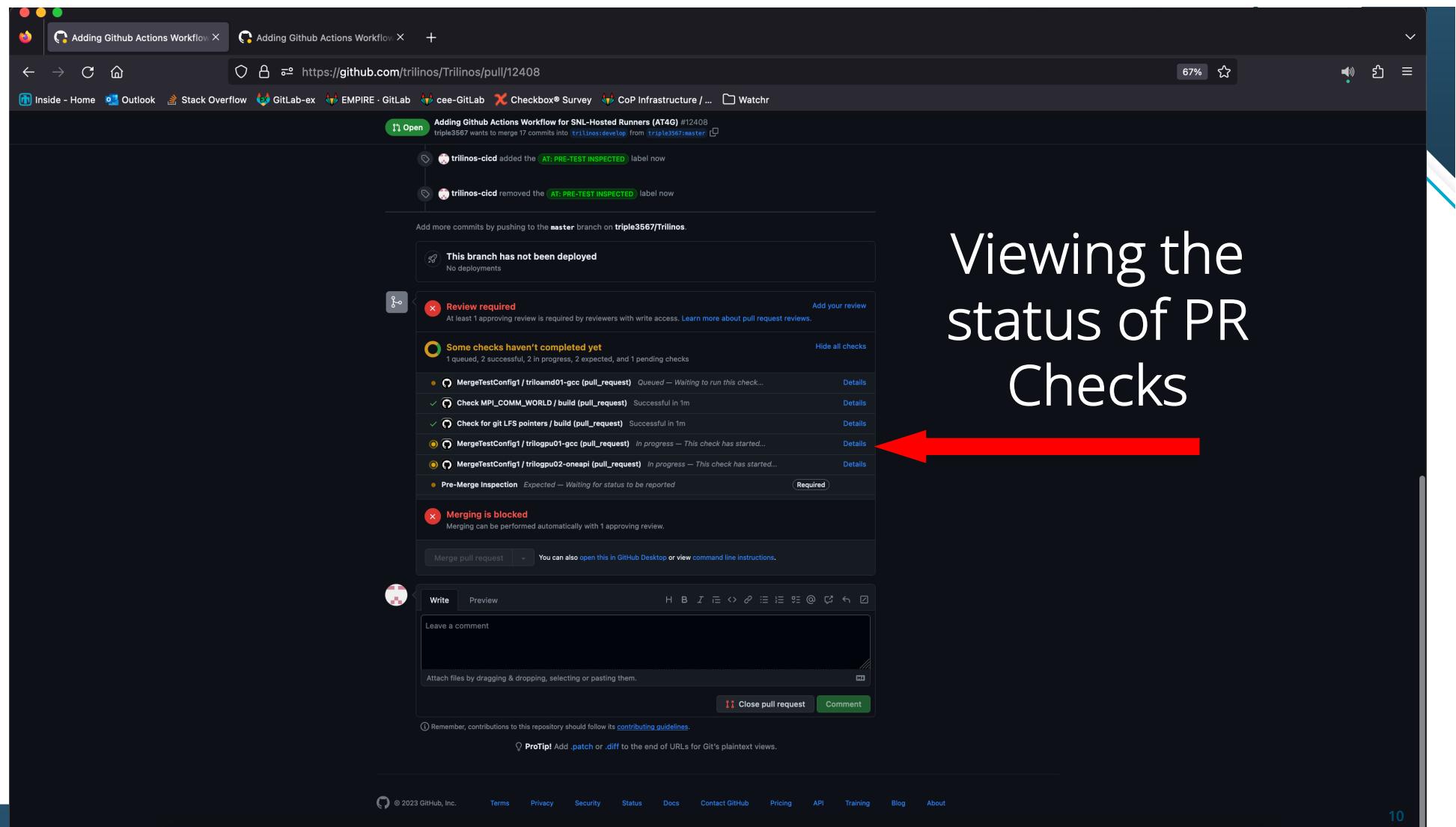
✓ Maintainers are allowed to edit this pull request.

Allow edits and access to secrets by maintainers

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# Triggering AT4G with a label

# Viewing the status of PR Checks



A screenshot of a GitHub pull request page for a Trilinos repository. The page shows a list of CI checks for a pull request. A red arrow points to the 'Merging is blocked' section, which indicates that merging is blocked by a review requirement. The page also shows other sections like 'This branch has not been deployed' and 'Some checks haven't completed yet'.

Adding GitHub Actions Workflow for SNL-Hosted Runners (AT4G) #12408

triple3567 wants to merge 17 commits into `trilinos:develop` from `triple3567:master`

trilinos-cicd added the `AT:PRE-TEST INSPECTED` label now

trilinos-cicd removed the `AT:PRE-TEST INSPECTED` label now

Add more commits by pushing to the `master` branch on `triple3567/Trilinos`

This branch has not been deployed

No deployments

Review required

At least 1 approving review is required by reviewers with write access. [Learn more about pull request reviews](#).

Some checks haven't completed yet

1 queued, 2 successful, 2 in progress, 2 expected, and 1 pending checks

- `MergeTestConfig1 / triloam01-gcc (pull_request)` Queued – Waiting to run this check... [Details](#)
- `Check MPI_COMM_WORLD / build (pull_request)` Successful in 1m [Details](#)
- `Check for gil LFS pointers / build (pull_request)` Successful in 1m [Details](#)
- `MergeTestConfig1 / trilogpu01-gcc (pull_request)` In progress – This check has started... [Details](#)
- `MergeTestConfig1 / trilogpu02-oneapi (pull_request)` In progress – This check has started... [Details](#)
- `Pre-Merge Inspection` Expected – Waiting for status to be reported [Required](#)

Merging is blocked

Merging can be performed automatically with 1 approving review.

Merge pull request [You can also open this in GitHub Desktop or view command line instructions.](#)

Write Preview

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

[Close pull request](#) [Comment](#)

Remember, contributions to this repository should follow its [contributing guidelines](#).

ProTip! Add `.patch` or `.diff` to the end of URLs for Git's plaintext views.

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Adding GitHub Actions Workflow X Adding GitHub Actions Workflow X

https://github.com/trilinos/Trilinos/actions/runs/6548817351/job/17784336716?pr=12408

67%  

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trilinos / Trilinos

Code Issues 373 Pull requests 77 Discussions Actions Projects 10 Wiki Security Insights Settings

Back to pull request #12408

Adding GitHub Actions Workflow for SNL-Hosted Runners (AT4G) #52

Cancel workflow ...

Summary

Jobs

- triloadm01-gcc
- triloggpu01-gcc**
- triloggpu02-oneapi

Run details

Usage

Workflow file

triloggpu01-gcc Started 11s ago

Set up job

Set up runner

Initialize containers

Search logs

2s

7s

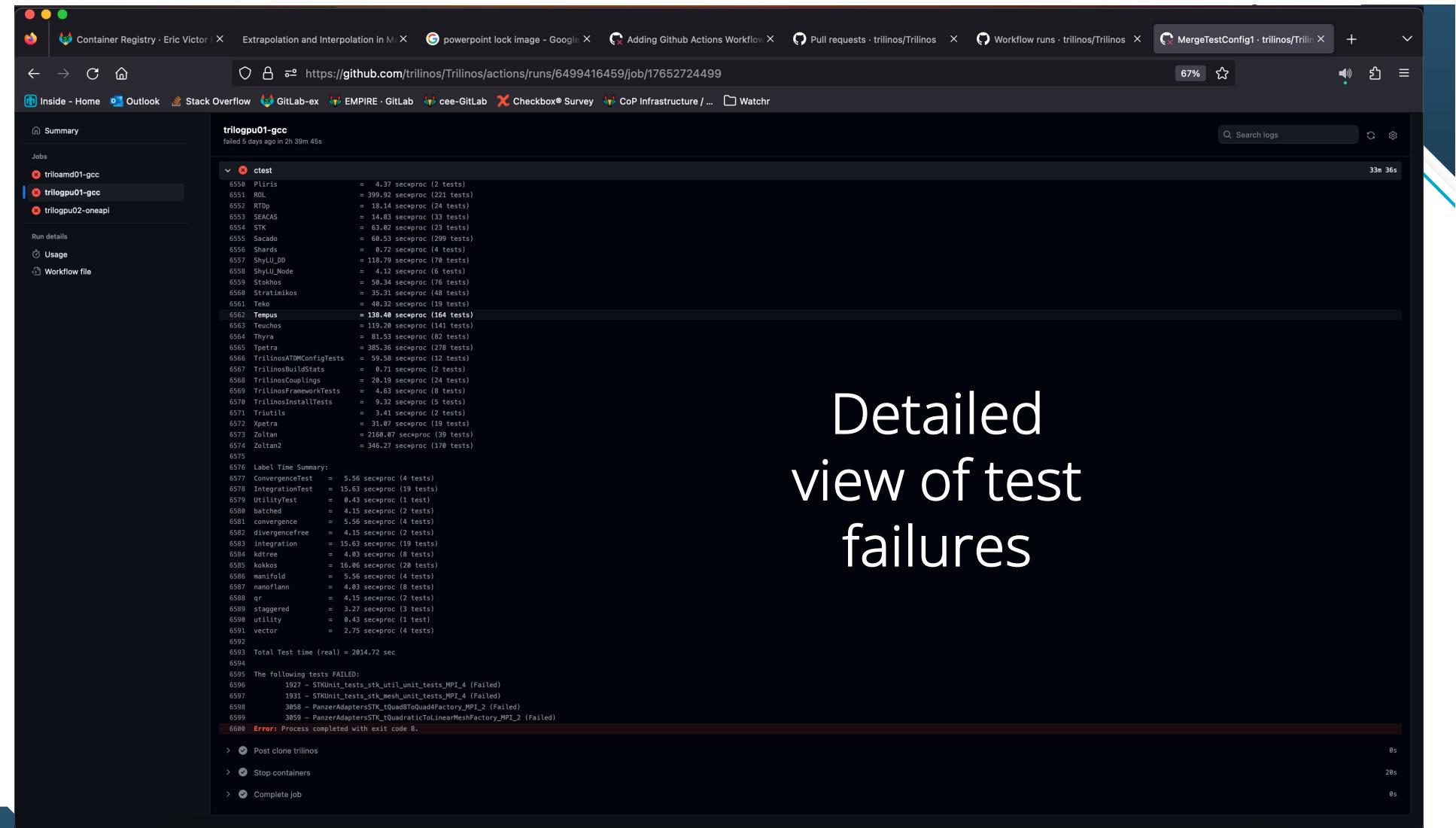
3s

38 Event 15 does NOT have an approved committer  
39 Event 16 does NOT have an approved committer  
40 Finding the latest approval...  
41 Event 18 is an approval from trilinos-cicd  
42 Latest approval [18] is after latest commit [16]. Approved

1 > Checking docker version  
10 > Clean up resources from previous jobs  
15 > Create local container network  
19 > Starting job container  
20 > /usr/bin/docker pull github-actions-trilinos-containers/gcc8.3.0  
21 Emulate Docker CLT using podman. Create /etc/containers/nodocker to quiet msg.  
22 Trying to pull registry-ex.sandia.gov/evo/github-actions-trilinos-containers/gcc8.3.0:latest...  
23 Getting image source signatures  
24 Copying blob sha256:4321858188a6198926277075622ca32x:6084f2c2d3b4159785584e8093670  
25 Copying blob sha256:188b72c921273d494bb4da384782x:10510d39a9a63x:207f0b21041bb979e05  
26 Copying blob sha256:b15c4f109736c0f18495632a308a0e9ccba4c056ea724eefccf7e738a81d1  
27 Copying blob sha256:b15c7f17178be859d875b344e3a188f00751994d5f57fe9e0b9143586f6358  
28 Copying blob sha256:77cc057d7488ae0e3377d1c149f67e79625583551058cde6559a5e17209dd4286  
29 Copying blob sha256:87f75575c9bba26042x:24dc02e4ff1806a5276ae1b974c287448a8c2c94c4f  
30 Copying blob sha256:b7e7cd56d0b7c93c062394e339cc929966b23ed8298f99923539cd56328  
31 Copying blob sha256:a428b5d7776ba8a4636d09a0498844e0ab6157ebea175a80e5b33794f  
32 Copying blob sha256:b7e3c75c456208921a65b2843654726e23958ebe1a8d831a6125f707a4d88  
33 Copying blob sha256:b7e45c5d7f364c1551fc4a6c777e6f77e0a792cfa63668847e02929fa  
34 Copying blob sha256:b7e45c5f1eefccf50417b2481878a0a32323bd3a083772a54b673f149c4f2  
35 Copying blob sha256:b7e45c5f9863417c908f8272188ed619611bc7861c8110f598388e095191c59  
36 Copying blob sha256:5196b48483c8c5880cfaf7483346f7449f8edc8e4f19c7d4ba5ca5d21551  
37 Copying blob sha256:rac38e1958ad225ccaf6173ca8c99c724a8e2cff4c3515756c2f7c667d  
38 Copying blob sha256:7254068a1097276e721881e1e1513c3:fbfa5e929f675894661376f25382d  
39 Copying blob sha256:18a4468a7d772b5b07554e07e9a48856f6111e90e8119b0e929a7f1ff4298c  
40 Copying blob sha256:125b94a1d744f1f1e30d4445e87904d494298a78f100d4f947cb4b219e31b  
41 Copying blob sha256:265a353775d2431365f5f1eefccf37881a4d4f754854f5118574c514ec5c  
42 Copying blob sha256:71f12828ccf7f95a268e556719ad64881e356d2161b999a023e1cd1896e378  
43 Copying blob sha256:5165f77375e974a8e0c6d04242329fb7c386b75b24d1787e8e484f735f190e0f  
44 Copying blob sha256:1601363e20e8a0e5c8a0e2d6844de7739e130abf1a5e89589983ed0f87e4a031c3  
45 Copying blob sha256:706f153a23994a2cc12481fb84513e965540e65bfb930d559d14e378b  
46 Copying blob sha256:59e4f9c974d4f7878e4909464680b0a489a19814fb48e04783637a0e99c3c49  
47 Copying config chs256:3b79733d0e14410721fb19aefcf6f602a56563:3a0510e275520e8f998ea19  
48 Writing manifest to image destination  
49 Storing signatures  
50 3b79733d0e14410721fb19aefcf6f602a56563:3a0510e275520e8f998ea19  
51 /usr/bin/docker create --name ba8a3a3d7a4ed0bf4e3a74477913 --label b40b2 --workdir /\_w/Trilinos/Trilinos --network github\_network\_bf6eb208256d43c99129abed9fc23336 --shm-size=16g -e "GITHUB\_ACTIONS=true" -e CI=true -e "/var/run/docker.sock"="/var/run/docker.sock" -e "/home/trilinos-cicd/actions-runner/\_work?"/\_w" -e "/home/trilinos-cicd/actions-runner/\_externals?"/\_w" -e "/home/trilinos-cicd/actions-runner/\_work/\_temp?"/\_w/\_temp" -e "/runner/\_work/\_actions?"/\_w/\_actions" -e "/home/trilinos-cicd/actions-runner/\_work/\_tool?"/\_w/\_tool" -e "/home/trilinos-cicd/actions-runner/\_work/\_github\_home?"/github/home" -e "/home/trilinos-cicd/actions-runner/\_work/\_temp/\_github\_workflow?"/git

Live output of test build





A screenshot of a GitHub Actions test run log. The log is for the job `trilogpu01-gcc`, which failed 5 days ago in 2h 39m 45s. The log shows a detailed list of test results for various components like Pliris, ROL, RTOp, SEACAS, STK, Sacado, Shards, ShyLU\_D0, ShyLU\_Node, Stokhos, Stratimikos, Teko, Tempus, Teuchos, Thryra, Tpetra, TrilinosATDMConfigTests, TrilinosBuildStats, TrilinosCouplings, TrilinosFrameworkTests, TrilinosInstallTests, Triutils, Xpetra, Zoltan, and Zoltan2. The `Tempus` component shows a failure with a duration of 138.40 secproc (164 tests). The log also includes a `Label Time Summary` and a `Total Test time (real)` of 2014.72 sec. A red box highlights the final line: `6608 Error: Process completed with exit code 8.` Below the log, there are three buttons: `Post clone trilinos`, `Stop containers`, and `Complete job`. The status bar at the bottom right shows 0s for each of these buttons.

# Detailed view of test failures



# QUESTIONS?

