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TRILINOS AUTOTESTER CHANGES

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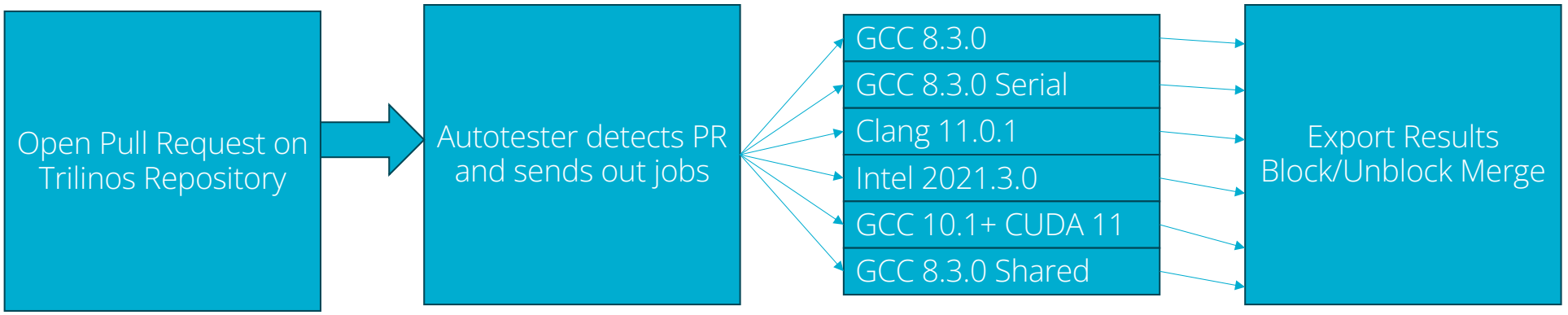
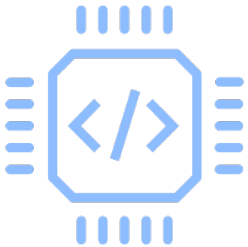
CURRENT AUTOTESTER

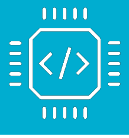


CHALLENGES WITH CURRENT AUTOTESTER

- 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?



Autotester4GitHub

CURRENT AUTOTESTER	 Autotester4GitHub
✓ AUTOMATED PR TESTING ✓ CONCURRENT PR TEST BUILDS ✓ VIEW PR TESTING STATUS	✓ AUTOMATED PR TESTING ✓ CONCURRENT PR TEST BUILDS ✓ VIEW PR TESTING STATUS ✓ GITHUB ACTIONS INTEGRATION ✓ EXPORT RESULTS TO GITHUB AND CDASH ✓ REAL-TIME PROGRESS TRACKING ✓ CONTAINERIZED PR TESTS WITH DOWNLOADABLE DOCKER IMAGES ✓ RESTART INDIVIDUAL PR BUILDS

SEE EXACTLY HOW PR TESTS ARE EXECUTED

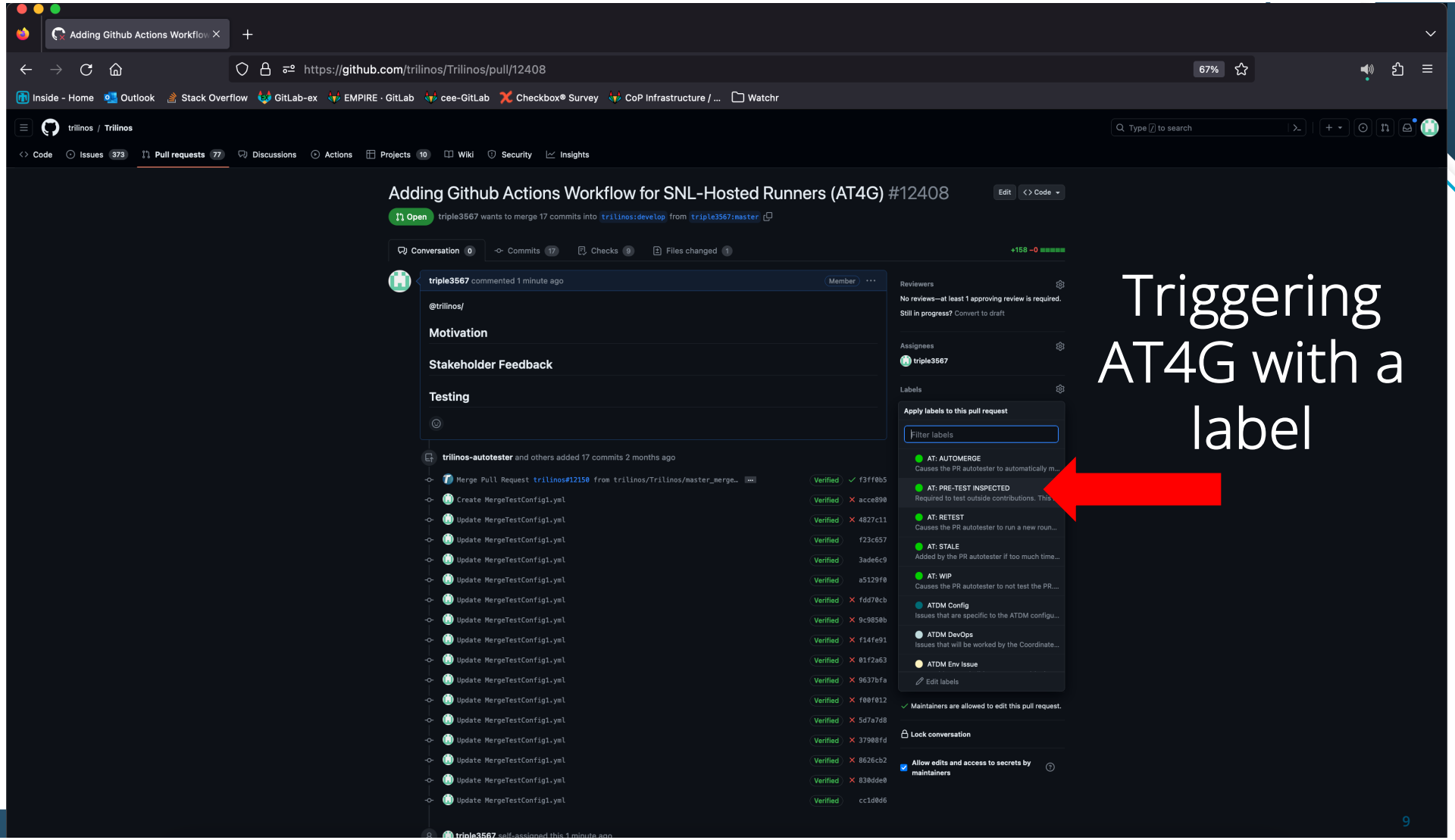
```yaml
  trilogpu01-gcc:
    runs-on: [self-hosted, trilogpu01]
    container:
      image: [redacted]/github-actions-trilinos-containers/
      options: --shm-size=16g
    steps:
      - name: env
        env:
          GITHUB_CONTEXT: ${{ toJson(github) }}
        run: |
          env
      - name: module list
        shell: bash
        run: |
          bash -l -c "module list"
          printenv PATH
      - name: Cancel Previous Runs
        uses: styfle/cancel-workflow-action@0.11.0
        with:
          access_token: ${{ github.token }}
      - name: make dirs
        working-directory: /
        run: |
          mkdir -p /home/Trilinos/src/Trilinos
          mkdir -p /home/Trilinos/install
      - name: clone trilinos
        uses: actions/checkout@v3
        with:
          path: /__w/Trilinos/Trilinos/src/Trilinos
      - name: move trilinos
        working-directory: /__w/Trilinos/Trilinos/src/Trilinos
        run: |
          mv -f * /home/Trilinos/src/Trilinos
      - name: configure trilinos
        working-directory: /home/Trilinos/build/
        run: |
          bash -l -c "./configure.sh"
      - name: CMakeCache.txt
        if: always()
        working-directory: /home/Trilinos/build/
        run: |
          bash -l -c "cat CMakeCache.txt"
      - name: build trilinos
        working-directory: /home/Trilinos/build/
        run: bash -l -c "make -j8 && make install -j8"
      - name: ctest
        working-directory: /home/Trilinos/build/
        run: bash -l -c "ctest -j2"
```

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

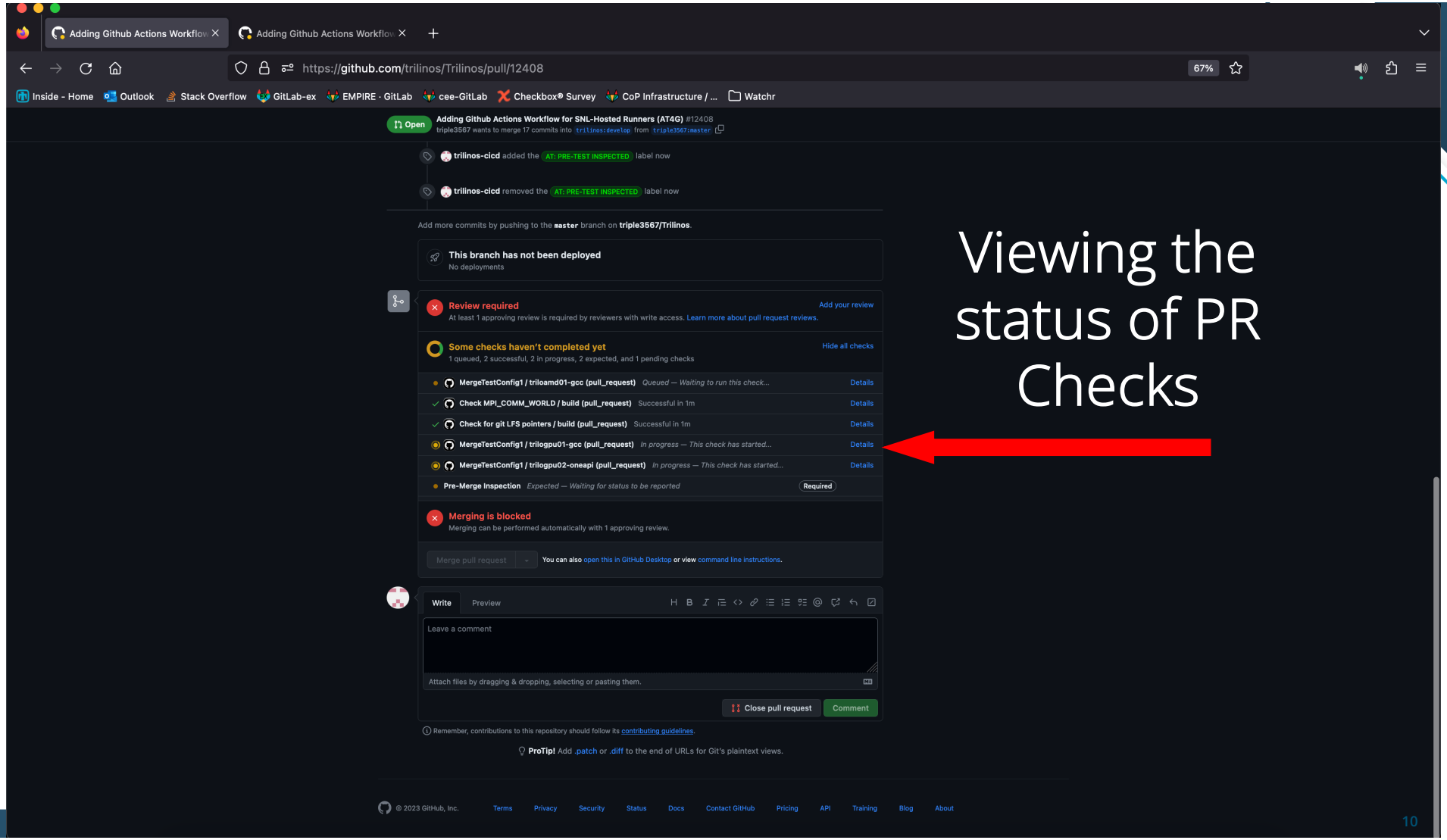
CURRENT STATUS AND FUTURE PLANS

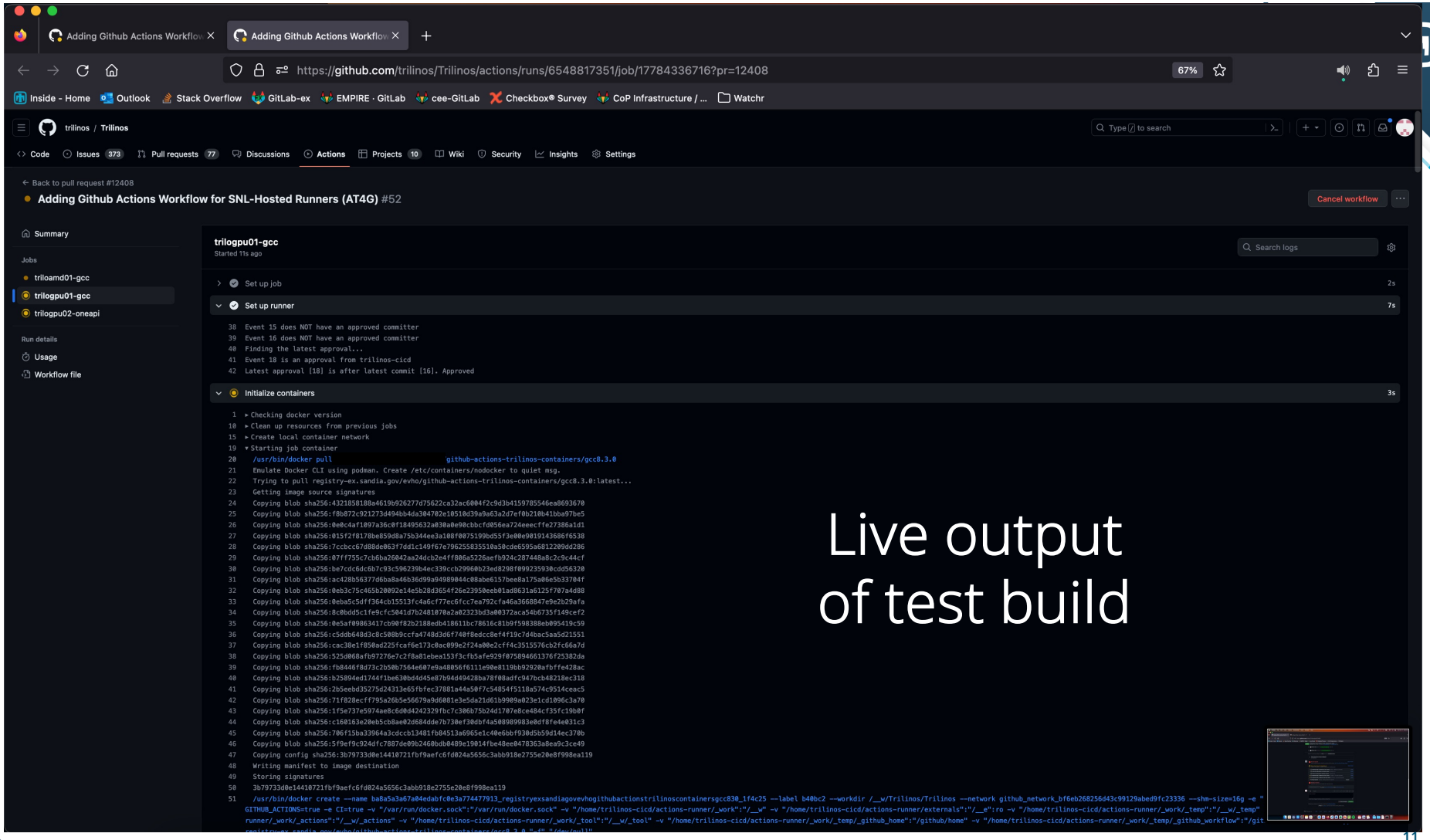
DEMO

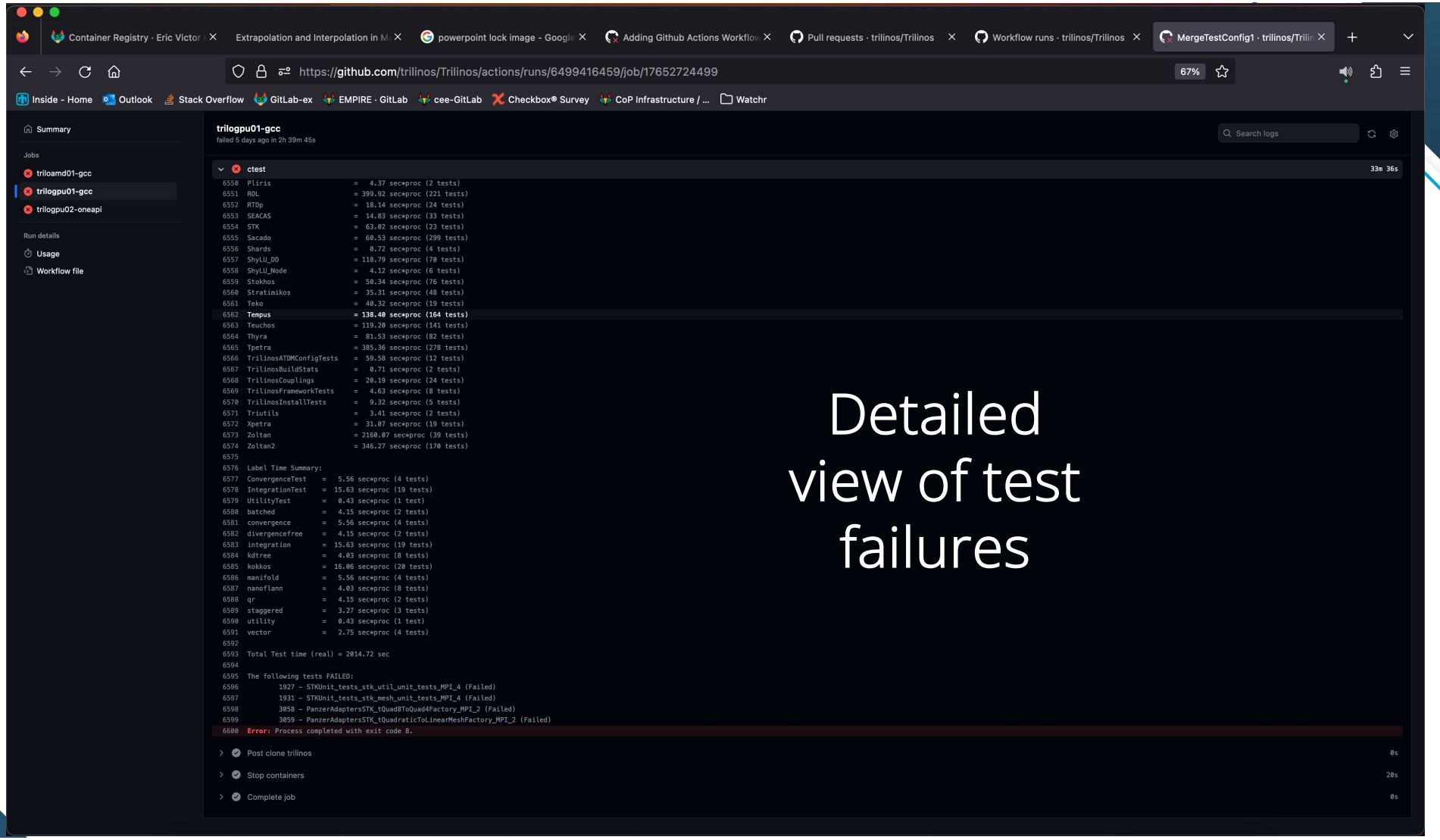


Triggering AT4G with a label

Viewing the status of PR Checks




Adding Github Actions Workflow
Adding Github Actions Workflow
https://github.com/trilinos/Trilinos/actions/runs/6548817351/job/17784336716?pr=12408
67%
Inside - Home
Outlook
Stack Overflow
GitLab-ex
EMPIRE · GitLab
cee-GitLab
Checkbox® Survey
CoP Infrastructure / ...
Watchr
trilinos / Trilinos
Type [/] to search
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
triloamd01-gcc
trilogpu01-gcc
trilogpu02-oneapi
Run details
Usage
Workflow file
trilogpu01-gcc
Started 11s ago
Search logs
Set up job
2s
Set up runner
7s
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
Initialize containers
3s
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 CLI using podman. Create /etc/containers/nodocker to quiet msg.
22 Trying to pull registry-ex.sandia.gov/evho/github-actions-trilinos-containers/gcc8.3.0:latest...
23 Getting image source signatures
24 Copying blob sha256:4321858188a4619b926277d75622ca32ac6004f2c9d3b4159785546ea8693670
25 Copying blob sha256:f8b872c921273d494bb4da304702e10510d39a9a63a2d7ef0b210b41bba97be5
26 Copying blob sha256:0e0c4af1097a36c0f18495632a030a0e90cbbcfd056ea724eeecffe27386a1d1
27 Copying blob sha256:015f2f8178be859d8a75b344ee3a108f0075199bd55f3e00e9019143686f6538
28 Copying blob sha256:7ccbcc67d88de863f7dd1c149f67e796255835510a50cde6595a6812209dd286
29 Copying blob sha256:07ff755c7cb6ba26042aa24dcb2e4ff806a5226aefb924c287448a8c2c9c44cf
30 Copying blob sha256:be7cdc6dc6b7c93c596239b4ec339ccb29960b23ed8298f09235930cdd56320
31 Copying blob sha256:ac428b56377d6ba8a46b36d99a94989044c08abe6157bee8a175a06e5b33704f
32 Copying blob sha256:0eb3c75c465b20092e14e5b28d3654f26e23950eeb01ad8631a6125f707a4d88
33 Copying blob sha256:0eba5c5dff364cb15513fc4a6cf77ec6fcc7ea792cfa46a3668847e9e2b29afa
34 Copying blob sha256:8c0bdd5c1fe9cfc5041d7b2481070a2a02323bd3a00372aca54b6735f149cef2
35 Copying blob sha256:0e5af09863417cb90f82b2188edb418611bc78616c81b9f598388eb095419c59
36 Copying blob sha256:c5ddb648d3c8c508b9ccfa4748d3d6f740f8edcc8ef4f19c7d4bac5aa5d21551
37 Copying blob sha256:cac38e1f850ad225fcaf6e173c0ac099e2f24a00e2cff4c3515576cb2fc66a7d
38 Copying blob sha256:525d068afb97276e7c2f8a81ebea153f3cfb5afe929f0758946613 76f25382da
39 Copying blob sha256:fb8446f8d73c2b50b7564e607e9a48056f6111e90e8119bb92920afbffe428ac
40 Copying blob sha256:b25894ed1744f1be630bd4d45e87b94d49428ba78f08adfc947bcb48218ec318
41 Copying blob sha256:2b5eebd35275d24313e65fbfec37881a44a50f7c54854f5118a574c9514ceac5
42 Copying blob sha256:71f828ecff795a26b5e56679a9d6081e3e5da21d61b9909a023e1cd1096c3a70
43 Copying blob sha256:1f5e737e5974ae8c6d0d4242329fbc7c306b75b24d1707e8ce484cf35fc19b0f
44 Copying blob sha256:c160163e20eb5cb8ae02d684dde7b730ef30dbf4a50898983e0df8fe4e031c3
45 Copying blob sha256:706f15ba33964a3cdccb13481fb84513a6965e1c40e6bbf930d5b59d14ec370b
46 Copying blob sha256:5f9ef9c924dfc7887de09b2460bdb0489e19014fbe48ee0478363a8ea9c3ce49
47 Copying config sha256:3b79733d0e14410721fbf9aefc6fd024a5656c3abb918e2755e20e8f998ea119
48 Writing manifest to image destination
49 Storing signatures
50 3b79733d0e14410721fbf9aefc6fd024a5656c3abb918e2755e20e8f998ea119
51 /usr/bin/docker create --name ba8a5a3a67a04edabfc0e3a774477913_registryexsandiagovevhogithubactionstrilinoscontainersgcc830_1f4c25 --label b40bc2 --workdir /__w/Trilinos/Trilinos --network github_network_bf6eb268256d43c99129abed9fc23336 --shm-size=16g -e "GITHUB_ACTIONS=true -e CI=true -v "/var/run/docker.sock":"/var/run/docker.sock" -v "/home/trilinos-cicd/actions-runner/_work":"/__w" -v "/home/trilinos-cicd/actions-runner/externals":"/__e":ro -v "/home/trilinos-cicd/actions-runner/_work/_temp":"/__w/_temp" runner/_work/_actions":"/__w/_actions" -v "/home/trilinos-cicd/actions-runner/_work/_tool":"/__w/_tool" -v "/home/trilinos-cicd/actions-runner/_work/_temp/_github_home":"/github/home" -v "/home/trilinos-cicd/actions-runner/_work/_temp/_github_workflow":"/git
Live output
of test build



Detailed view of test failures

QUESTIONS?