

CI/CD and DevOps in 3 Weeks

Week 3

Revision 2.3 – 02/04/24

Tech Skills Transformations LLC / Brent Laster

HELPFUL HINT: For some of the labs, you will need to copy code from a file in the "extra" subdirectory of the *greetings-ci* project. To make it easy to copy the code into the editor, you can open a second tab in your browser to the same greetings-ci repository, and bring the file up in the "extra" subdirectory in that second tab. Then you can just copy and paste from the second tab into where you are editing on the first one.

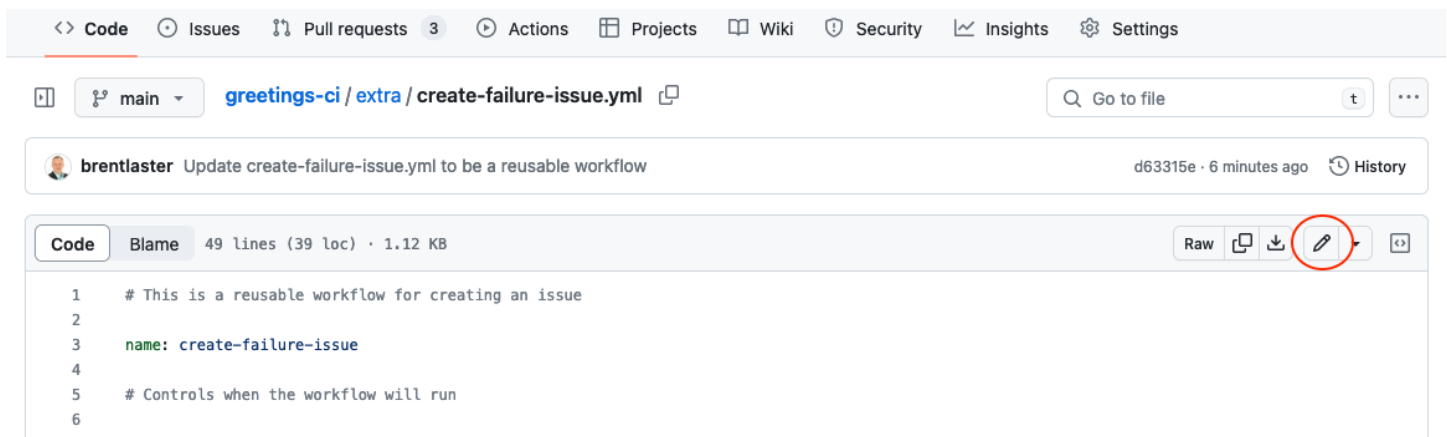
Lab 9: Working with fast feedback and automatically reporting issues

Purpose: Learning how to get fast feedback and automatic failure reporting in our pipeline

(Note: Code for steps 2 and 5 is also in this gist:

<https://gist.github.com/brentlaster/5372bd941e3186a39bd2685c748c1447>)

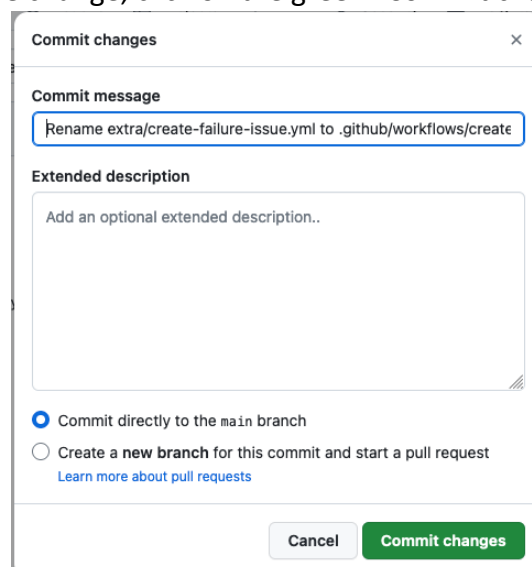
1. Start out in the "**greetings-ci**" repository in GitHub under your **primary GitHub** userid, and in the **main** branch. We're going to leverage a reusable workflow that will be able to automatically create a GitHub issue in our repository. And then we will invoke that workflow from our current workflow.
2. The workflow to create the issue using a REST API call is already written to save time. It is in the main project under "extra/create-failure-issue.yml". You need to get this file in the .github/workflows directory. You can just move it via GitHub with the following steps.
 - a. In the repository, browse to the "extra" folder and to the "create-failure-issue.yml" file.
 - b. Take a few moments to look over the file and see what it does. Notice that:
 - i. It has a workflow_call section in the "on" area, which means it can be run from another workflow.
 - ii. It has a workflow_dispatch section in the "on" area, which means it can be run manually.
 - iii. It has two inputs - a title and body for the issue.
 - iv. The primary part of the body is simply a REST call (using the GITHUB_TOKEN) to create a new issue.
 - c. Click the pencil icon to edit it.



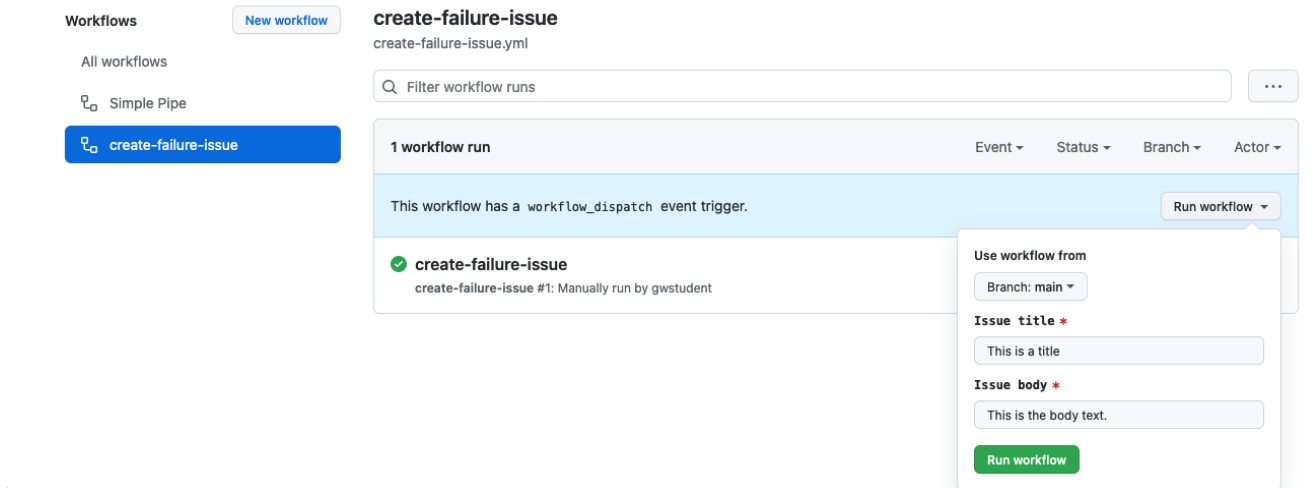
- d. In the filename field at the top, change the name of file. Use the backspace key to backspace over "extra/" making sure to backspace over the word. Then type in the path to put it in the workflows ".github/workflows/create-failure-issue.yml".



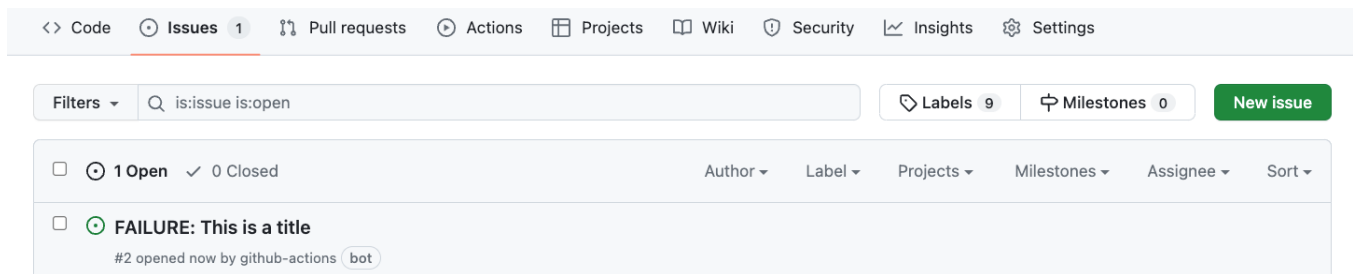
- e. To complete the change, click on the green "Commit changes" button.



3. (Ignore if you get a 404 error.) Go back to the Actions tab. You'll see a new workflow execution due to the rename. Also, in the Workflows section on the left, you should now see a new workflow titled "create-failure-issue". Click on that. Since it has a workflow_dispatch event trigger available, we can try it out. Click on the "Run workflow" button and enter in some text for the "title" and "body" fields. Then click "Run workflow".



4. After a moment, you should see the workflow run start and then complete. If you now click on the Issues tab at the top, you should see your new issue there.



5. Now that we know that our new workflow works as expected, we can make the changes to the previous workflow to "call" this if we fail. Edit the pipeline.yml file and add the following lines as a new job and set of steps at the end of the workflow. (For convenience, these lines are also in the file "extra/create-issue-on-failure.txt" if you want to copy and paste from there.). Commit your changes when done.

create-issue-on-failure:

needs: test-run

permissions:
issues: write

if: always() && failure()
uses: ../github/workflows/create-failure-issue.yml
with:
title: "Automated workflow failure issue for commit \${github.sha}"

```
body: "This issue was automatically created by the GitHub Action workflow ** ${\n  github.workflow }} **"
```

greetings-ci / .github / workflows / pipeline.yml in main

Edit Preview Spaces 2 No wrap

```
64
65 test-run:
66
67   runs-on: ubuntu-latest
68   needs: build
69
70   steps:
71   - name: Download candidate artifacts
72     uses: actions/download-artifact@v3
73     with:
74       name: greetings-jar
75
76   - name: Execute test
77     shell: bash
78     run: |
79       chmod +x ./test-script.sh
80       ./test-script.sh ${\n  needs.build.outputs.artifact-tag || github.event.inputs.myVersion }} ${\n
81
82 create-issue-on-failure:
83
84   needs: test-run
85
86   permissions:
87     issues: write
88
89   if: always() && failure()
90   uses: ../github/workflows/create-failure-issue.yml
91   with:
92     title: "Automated workflow failure issue for commit ${\n  github.sha }}"
93     body: "This issue was automatically created by the GitHub Action workflow ** ${\n  github.workflow
```

6. To have this executed via the "if" statement, we need to have a failure. Let's try some different input with special characters that may not print out as expected. Go to the Actions menu, and then select our main "Java CI with Gradle" workflow. Click on the "Run workflow" button and enter text like below: (that's two backslashes between the "de" and "f"). As long as you have two backslashes somewhere, this should fail.

abc de\\f ghi

Workflows [New workflow](#)

All workflows

Java CI with Gradle

[create-failure-issue](#)

pipeline.yml

Filter workflow runs

72 workflow runs

Event Status Branch Actor

This workflow has a workflow_dispatch event trigger. [Run workflow](#)

- Java CI with Gradle**
 Java CI with Gradle #72: Manually run by gwstudent2
- fix: version 3**
 Java CI with Gradle #71: Commit 5f772be pushed by gwstudent2 [main](#)
- fix: version2**
 Java CI with Gradle #70: Commit 55e9356 pushed by gwstudent2 [main](#)
- Java CI with Gradle**

2 hours ago

Use workflow from

Branch: [main](#)

Input Version

1.0.1

Input Values

abc def ghi

[Run workflow](#)

7. After the workflow run completes for this, there should be a failure in our testing. This will in turn, cause our other workflow to create an issue. You can verify the failure in testing by looking at the logs.

<> Code Issues 2 Pull requests Actions Projects Wiki Security

← Java CI with Gradle

Java CI with Gradle #20

Summary

Jobs

- build
- test-run**
- create-issue-on-failure

Run details

Usage

Workflow file

test-run

failed 2 minutes ago in 2s

- Set up job
- Download candidate artifacts
- Execute test**
 - 1 ▶ Run chmod +x ./test-script.sh
 - 5 abc
 - 6 **Error:** Process completed with exit code 1.
- Complete job

8. And you can see the run of the reusable workflow if you select the "create-issue-on-failure" job.

[Code](#)
[Issues 2](#)
[Pull requests](#)
[Actions](#)
[Projects](#)
[Wiki](#)
[Security](#)
[Insights](#)
[Settings](#)

← Java CI with Gradle

Java CI with Gradle #20 Re-run jobs

Summary

Jobs

- build
- test-run
- create-issue-on-failure
- create_issue_on_failure

Run details

Usage

Workflow file

create-issue-on-failure / create_issue_on_failure succeeded 3 minutes ago in 1s

Search logs

Set up job 0s

Create issue using REST API 2s

```

1 ▶ Run curl --request POST \
12 % Total % Received % Xferd Average Speed Time Time Time Current
13 Dload Upload Total Spent Left Speed
14
15 0 0 0 0 0 0 0 0 0:00:01 0:00:01 0:00:01 0
16 100 2954 100 2727 100 227 2436 202 0:00:01 0:00:01 0:00:01 2639
17 100 2954 100 2727 100 227 2436 202 0:00:01 0:00:01 0:00:01 2639
18 {
19 "url": "https://api.github.com/repos/brentlaster/greetings-ci/issues/6",
20 "repository_url": "https://api.github.com/repos/brentlaster/greetings-ci",
21 "labels_url": "https://api.github.com/repos/brentlaster/greetings-ci/issues/6/labels{/name}",
22 "comments_url": "https://api.github.com/repos/brentlaster/greetings-ci/issues/6/comments",
23 "events_url": "https://api.github.com/repos/brentlaster/greetings-ci/issues/6/events",
24 "html_url": "https://github.com/brentlaster/greetings-ci/issues/6",
25 "id": 1702889750,
26 "node_id": "I_kwD0JdUAc85lgAKw",
27 "number": 6,

```

9. You can also verify the new issue got created as a result of the failure through the logs of that job and by looking in the Issues menu at the top.

[Code](#)
[Issues 5](#)
[Pull requests](#)
[Discussions](#)
[Actions](#)
[Projects](#)
[Wiki](#)
[Security](#)

Automated workflow failure issue for commit 3d1d1ca2a645955953cc2a6978aba577319dd2b7 #7 Edit New issue

Open github-actions bot opened this issue 4 minutes ago · 0 comments

github-actions bot commented 4 minutes ago

This issue was automatically created by the GitHub Action workflow **Java CI with Gradle**

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development: Create a branch for this issue or link a pull request.

Notifications: Customize

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

END OF LAB

Lab 10 – Securing inputs

Purpose: In this lab, we'll look at how to plug a potential security hole with our inputs.

1. Switch to the pipeline.yml file in the .github/workflows directory and look at the "test-run" job and in particular, this line in the "Execute test" step:

```
./test-script.sh ${github.event.inputs.myVersion || needs.build.outputs.artifact-tag} ${github.event.inputs.myValues}

83
84 - name: Execute test
85   shell: bash
86   run: |
87     chmod +x ./test-script.sh
88     ./test-script.sh ${github.event.inputs.myVersion || needs.build.outputs.artifact-tag} ${github.event.inputs.myValues}
89
90 create-issue-on-failure:
```

2. When we create our pipelines that execute code based on generic inputs, we must be cognizant of potential security vulnerabilities such as injection attacks. This code is subject to such an attack. To demonstrate this, go back to the Actions tab, select the “Java CI with Gradle” workflow, and, using the workflow_dispatch event for the workflow, put in a version and pass in the following as the arguments in the “Input Values” field (NOTE: That is two backquotes around ls -la) ``ls -la``

The screenshot shows the GitHub Actions interface for the 'Java CI with Gradle' workflow. The workflow has a 'workflow_dispatch' trigger. A modal is open for running the workflow, showing the 'Input Values' field with the command ``ls -la`` entered. The workflow runs list shows several previous runs, including a failed one and two successful ones.

3. After the run completes, click through the run to the job to the log and look at the output of the “test-run” step. Notice that it ran successfully, but it has actually run the ``ls -la`` command directly on the runner system. The command was innocuous in this case, but this could have been a more destructive command.

The screenshot shows the GitHub Actions log for the 'Java CI with Gradle' workflow. The log shows the output of the 'test-run' step, which is the command ``ls -la``.

Code Issues 6 Pull requests Actions Projects Wiki Security Insights

Java CI with Gradle Java CI with Gradle #46 Re-run all jobs

Summary

Jobs

- build
- test-run
- create-issue-on-failure

test-run
succeeded 1 hour ago in 2s

Search logs

- Set up job 1s
- Download candidate artifacts 0s
- Execute test 0s

```

1 ▶ Run chmod +x ./test-script.sh
5 total
6 16
7 drwxr-xr-x
8 drwxr-xr-x
9 drwxr-xr-x
10 3
11 3
12 3
13 runner
14 runner
15 runner

```

4. Let's fix the command to not be able to execute the code in this way. We can do that by placing the output into an environment variable first and then passing that to the step. Edit the *pipeline.yaml* file and change the code to look like the following (pay attention to how things line up):

```

env:
  ARGS: ${ github.event.inputs.myValues }
run: |
  chmod +x ./test-script.sh
  ./test-script.sh ${ github.event.inputs.myVersion || needs.build.outputs.artifact-tag } "$ARGS"

```

```

77
78     - name: Set up JDK 17
79       uses: actions/setup-java@v4
80       with:
81         java-version: '17'
82         distribution: 'temurin'
83
84     - name: Execute test
85       shell: bash
86       env:
87         ARGS: ${ github.event.inputs.myValues }
88       run: |
89         chmod +x ./test-script.sh
90         ./test-script.sh ${ github.event.inputs.myVersion || needs.build.outputs.artifact-tag } "$ARGS"
91
92
93     create-issue-on-failure:

```

5. Commit back the changes and wait till the action that's run for the push has completed.
6. Now, you can execute the code again with the same arguments as before. (Actions menu and select workflow.)

Workflows New workflow **Java CI with Gradle**
pipeline.yml

All workflows

Java CI with Gradle

create-failure-issue

Filter workflow runs

75 workflow runs

Event Status Branch Actor

This workflow has a workflow_dispatch event trigger. Run workflow

- ✓ **fix: security update**
Java CI with Gradle #75: Commit 0f3f6df pushed by gwstudent2 main
- ✓ **Java CI with Gradle**
Java CI with Gradle #74: Manually run by gwstudent2
- ✗ **Java CI with Gradle**
Java CI with Gradle #73: Manually run by gwstudent2
- ✓ **Java CI with Gradle**

Use workflow from
Branch: main
Input Version
1.0.3
Input Values
`'ls -la'`
Run workflow

2 hours ago

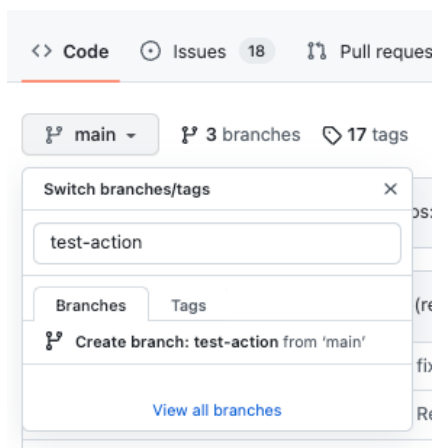
7. Notice that this time, the output did not run the commands, but just echoed them back out as desired.

END OF LAB

Lab 11 – Separating out jobs into a separate action

Purpose: In this lab, we'll look at how to separate our testing job into a separate action.

- We're going to make our test script into a composite action. To do this, let's first create a new branch to work with called "test-action". In the "Code" tab, click on the branch dropdown that says "main". Then in the text area that says, "Find or create a branch...", enter the text "test-action". Then click on the **"Create branch: test-action from 'main'"** link.



- You should now be on the "test-action" branch. The "test-script.sh" file will be the basis for our new composite action. So, let's move it to a separate local area for local actions. Select the test-script.sh file, edit it, and then click in the name path area and add **".github/actions/test-action"** to the path as shown below.

The screenshot shows the GitHub repository interface for the 'greetings-ci' repository. The breadcrumb navigation shows the path: greetings-ci / .github / actions / test-action / test-script.sh. The file is open in the 'test-action' branch. The code editor shows a shell script with the following content:

```
1 # Simple test script for greetings jar
2
3 set -e
4
5 java -jar build/libs/greetings-ci-$1.jar ${@:2} > output.bench
6 IFS=' ' read -ra ARR << "${@:2}"
7 for i in "${ARR[@]"; do
8     grep "^$i$" output.bench
9 done
10
```

- Click on the green button to commit your changes in the "test-action" branch. Notice that no workflows were kicked off because we don't have events defined in our workflow related to the "test-action" branch.
- Now, let's create the action.yml file to allow our test action to be used as an actual action. The file is already in the "extra" directory. You can just open it and rename it as in the last step. Select the file "extra/action.yml". Take a look at the contents to try and understand it. Then edit it and rename as you did in the previous step – adding ".github/actions/test-action" to the path.

The screenshot shows the GitHub repository interface for the 'greetings-ci' repository. The breadcrumb navigation shows the path: greetings-ci / .github / actions / test-action / action.yml. The file is open in the 'test-action' branch. The code editor shows the following content:

```
1 name: 'Test Action'
2 description: 'Runs a simple execution to validate compiled built deliverable'
3 author: 'attende'
4 inputs:
5   artifact-version: # semantic version of the artifact from build
6     description: 'built version of artifact'
7     required: true
8     default: '1.0.0'
9   arguments-to-print: # rest of arguments to echo out
10     description: 'arguments to print out'
11 runs:
12   using: "composite"
13   steps:
14     - name: Download candidate artifacts
15       uses: actions/download-artifact@v3
16       with:
17         name: greetings-jar
18     - id: test-run
19       env:
20         ARGS: ${ inputs.arguments-to-print }
21       run: |
22         chmod +x ${ github.action_path }/test-script.sh
23         ${ github.action_path }/test-script.sh ${ inputs.artifact-version } "$ARGS"
24       shell: bash
25
```

- Commit your changes via the "Commit changes..." button.

6. This is all we need for our basic composite action. Notice that we've essentially copied over a couple of steps (line 13 on) into our composite action that were in the original workflow file. So, we can go back and modify the original workflow file to use our new action. **Still in the "test-action" branch, edit the file "greetings-ci/.github/workflows/pipeline.yml".**
7. Replace the current steps of test-run, with the new set as shown below (checking alignment). Notice that we need to add a checkout action here to have the necessary pieces from our test-action directory present for the action to get to. Then we just call our new action passing in the parameters.

```

- uses: actions/checkout@v3

- name: run-test
  uses: ../github/actions/test-action
  with:
    artifact-version: ${ github.event.inputs.myVersion || needs.build.outputs.artifact-tag }
    arguments-to-print: ${ github.event.inputs.myValues }

68
69     test-run:
70
71     runs-on: ubuntu-latest
72     needs: build
73
74     steps:
75
76     | - uses: actions/checkout@v3
77
78     - name: run-test
79       uses: ../github/actions/test-action
80       with:
81         artifact-version: ${ github.event.inputs.myVersion || needs.build.outputs.artifact-tag }
82         arguments-to-print: ${ github.event.inputs.myValues }
83
84     create-issue-on-failure:
85

```

7. We need to make one code update in our workflow file due to an issue with the action that can cause the pull request merge to fail. Temporarily, we will add a parameter to the changelog action to tell it not to do a pull since that causes issue when trying to do it on a pull request. Edit the .github/workflows/pipeline.yml file and add the two lines in bold as shown below as a parameter for the action. **Commit the change to the test-action branch when done.**

```

- name: Conventional Changelog Action
  uses: TriPSs/conventional-changelog-action@v4
  with:
    skip-git-pull: "true"

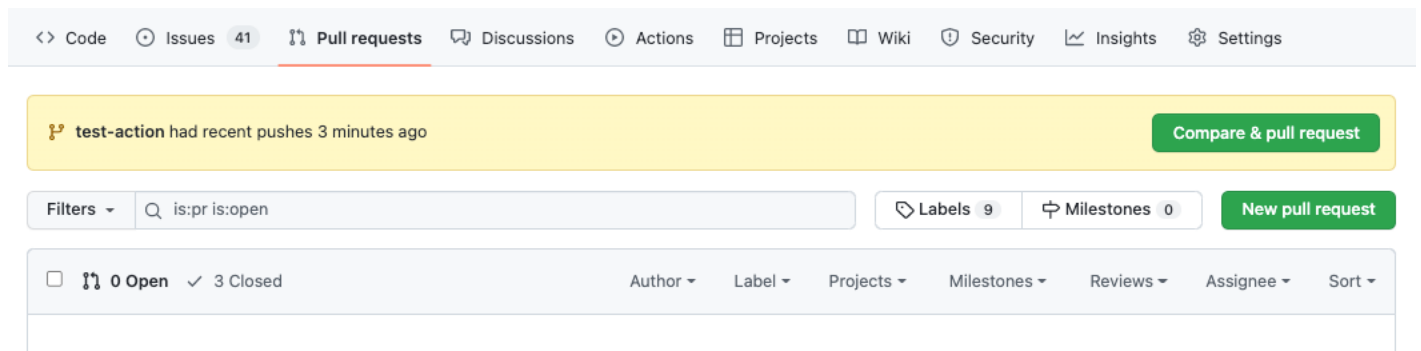
```

```

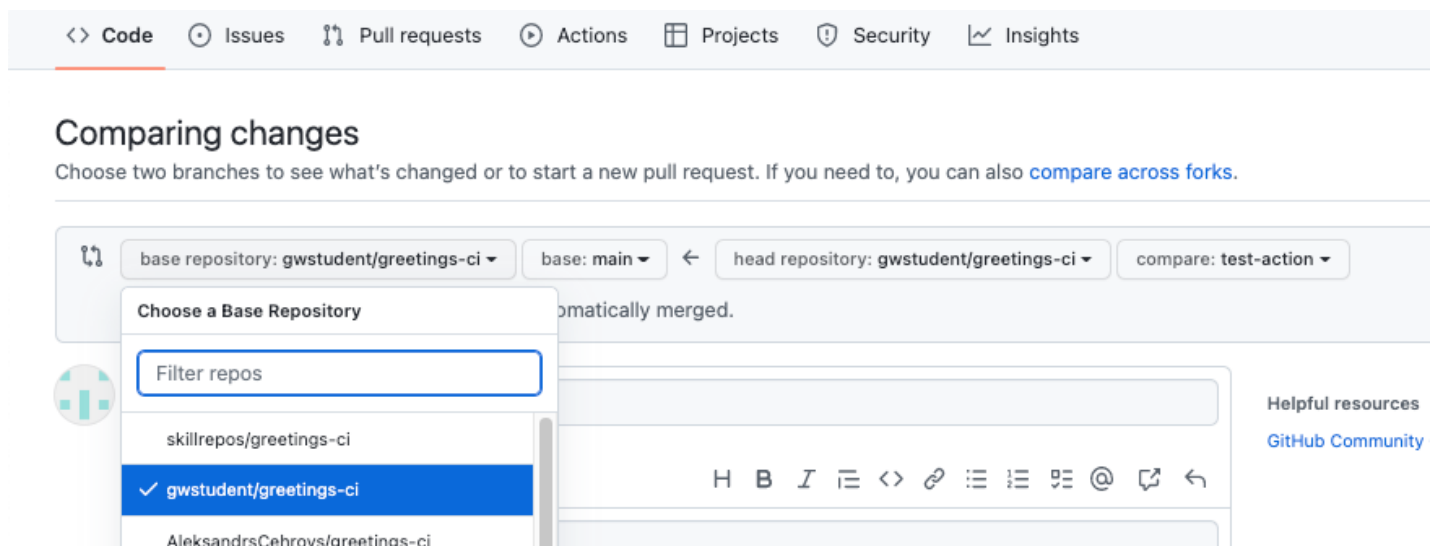
37
38     - name: Conventional Changelog Action
39       id: changelog
40       uses: TriPSs/conventional-changelog-action@v5.1.0
41       with:
42         skip-git-pull: "true"
43
44     - name: Set up JDK 17
45       uses: actions/setup-java@v4

```

8. Finally, let's merge in the "test-action" branch to the "main" branch. Click on the top-level "Pull requests" menu. You should see a yellow bar with text that indicates the "test-action" branch had recent pushes. Click on the green "Compare & pull request" button.



9. As we've done before, **change the "base" portion to be the current repo (not skillrepos)**. After this, it should show that you can merge from the "test-action" branch to the "main" branch of your "greetings-ci" repository. Fill in an appropriate comment starting with "feat:" and then **click the green "Create pull request" button**.



Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).

base: main ← compare: test-action ✓ **Able to merge.** These branches can be automatically merged.

feat: move test script to composite action

Write Preview H B I E < > 🔗 📄 📁 📧 ↩

Leave a comment

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

Create pull request

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Development ⓘ

- With the Pull Request created, the automated merge checks should run and succeed. After that, you can click on the "Squash and merge" button to complete the merge. (Select "Squash and merge" from the down arrow on the right of the green button if needed.). Confirm when asked. The merge should complete, and the Pull Request should be closed.

Open feat: move test script to composite action #45

gwstudent wants to merge 42 commits into `main` from `test-action`

Require approval from specific reviewers before merging
Ensure specific people or teams approve pull requests before they're merged into your main branch. **Add rule** ✕

✓ **All checks have passed** [Hide all checks](#)
2 successful and 1 skipped checks

✓ **Java CI with Gradle / build (pull_request)** Successful in 31s [Details](#)

✓ **Java CI with Gradle / test-run (pull_request)** Successful in 4s [Details](#)

⌚ **Java CI with Gradle / create-issue-on-failure (pull_request)** Skipped [Details](#)

✓ **This branch has no conflicts with the base branch**
Merging can be performed automatically.

Squash and merge You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

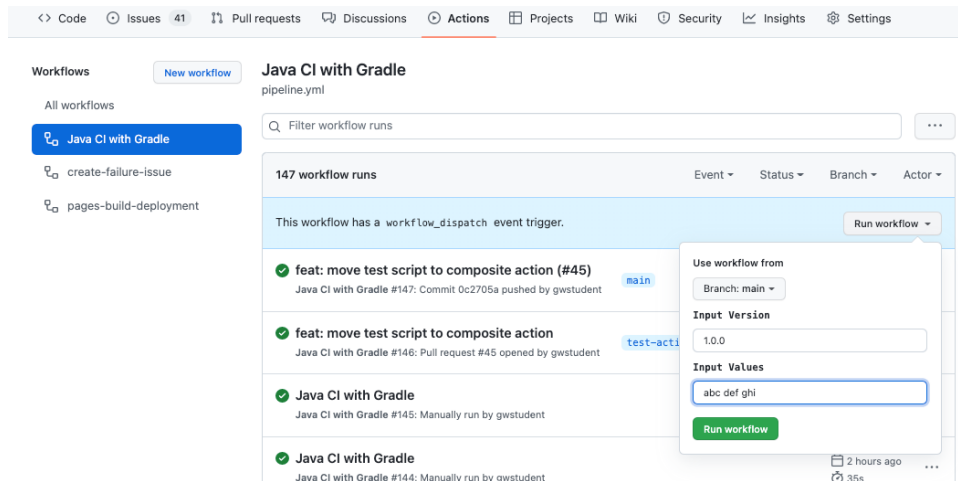
- After the operation finishes, the workflow should have run. Now, we need to remove the extra lines we added for the changelog action. Remove the lines shown in strikethru below while editing the file pipeline.yml in the main branch and then committing the change.

- name: Conventional Changelog Action
- uses: TriPSS/conventional-changelog-action@v5.1.0

~~with:~~

~~skip-git-pull: "true"~~

12. (Optional) Workflow runs will have occurred because of the changes. But if you want to try out the merged code with the action more fully, you can do a manual workflow run as before.

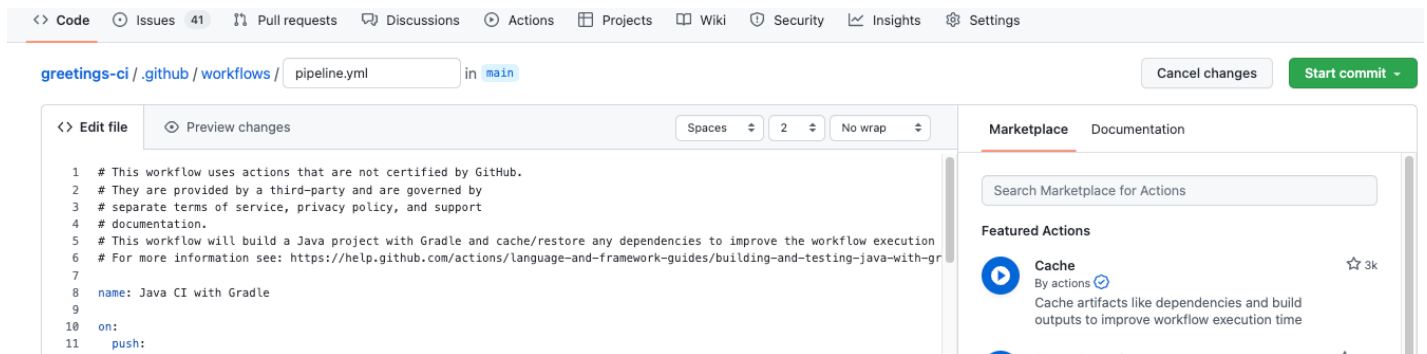


END OF LAB

Lab 12 – Adding Environments and Releases

Purpose: In this lab, we'll look at how to add staging (blue, green) and production environments and releases.

1. Let's add some deploy jobs to our pipeline.yaml file. **Edit the .github/workflows/pipeline.yaml file.** For simplicity, we can just do this **in the main branch**.



2. We can illustrate blue/green deployment with new branches such as "blue" and "green". So, let's modify the "on:" section first to run the workflow on a push to any of these. Modify the **on: push:** command to be like the following.

```
on:
  push:
    branches: [ "main", "blue", "green" ]
  pull_request:
    branches: [ "main" ]
```

3. You can also remove the "pull_request" portion.

```
9
10 on:
11   push:
12     branches: [ "main", "blue", "green" ]
13   workflow_dispatch:
14     inputs:
15       myVersion:
```

4. Now, let's add the job for deploying a "stage" environment/release. **This job can be inserted between the "test-run" job and the "create-issue-on-failure" job.** The code for this job is already done for you and can be copied from the file [extra/deploy-stage.txt](#) You can go to the same repository in another tab, open that file, and then just copy and paste. (Note double-check that the "create-issue-on-failure" job name didn't get moved to the end of the paste.)

(Note: You may need to add a space or two at the front of the first line of output once pasted to get it to line up correctly.)

This code essentially does the following:

- Waits for the build and test jobs to complete (line 79)
- Checks to see if the branch being pushed to is "blue" or "green" (line 80)
- Establishes an environment called "staging" (line 83)
- Sets the associated URL for the environment to the releases page (line 85)
- Checkouts the source code (line 87-90)
- Downloads the jar we built (line 92-95)
- Calls a GitHub Action to create a release that: (line 97-105)
 - is based on the tag we got from the build
 - is set as a draft and prerelease
 - includes the jar file we've built

```

66     steps:
67
68     - uses: actions/checkout@v3
69
70     - name: run-test
71       uses: ../github/actions/test-action
72       with:
73         artifact-version: ${ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }
74         arguments-to-print: ${ github.event.inputs.myValues }
75
76
77   deploy-stage:
78
79     needs: [build, test-run]
80     if: github.ref == 'refs/heads/blue' || github.ref == 'refs/heads/green'
81
82     runs-on: ubuntu-latest
83     environment:
84       name: staging
85       url: https://github.com/${ github.repository }}/releases/tag/v${ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }
86
87     steps:
88
89     - uses: actions/checkout@v3
90       with:
91         fetch-depth: 0
92
93     - name: Download candidate artifacts
94       uses: actions/download-artifact@v3
95       with:
96         name: greetings-jar
97
98     - name: GH Release
99       uses: softprops/action-gh-release@v0.1.14
100       with:
101         tag_name: v${ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }
102         prerelease: true
103         draft: true
104
105     name: ${ github.ref_name }
106
107     files: |
108       greetings-ci-${ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }.jar

```

- Now, let's add the job for deploying a "prod" (production) environment/release from a pull-request being merged into "main". This job can be inserted **between the "deploy-stage" job and the "create-issue-on-failure" job**. The code for this job is already done for you and can be copied from the file [extra/deploy-prod.txt](#). Just copy and paste. You can copy and paste this one the same way from the other tab.

(Note: You may need to add a space or two at the front of the first line of output once pasted to get it to line up correctly.)

This code essentially does the following:

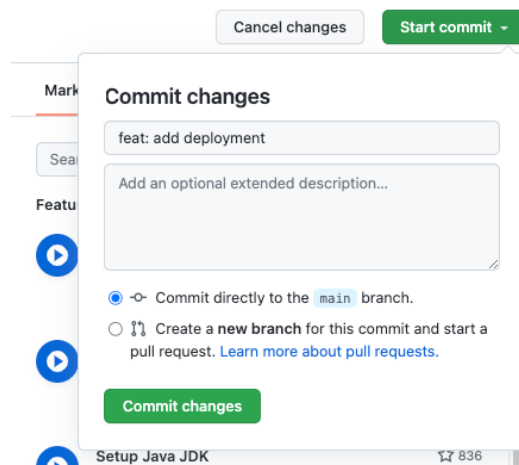
- Waits for the build and test jobs to complete (line 114)
- Checks to see if we got here on the main branch (line 115)
- Establishes an environment called "production" (line 119)
- Sets the associated URL for the environment to the releases page (line 120)
- Checkouts the source code (line 123-125)
- Downloads the jar we built (line 127-130)
- Calls a GitHub Action to create a release that: (line 132-140)
 - is based on the tag we got from the build
 - is named as "Production"
 - includes the jar file we've built and the CHANGELOG


```

105
106     files: |
107         greetings-ci-${{ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }}.jar
108
109
110
111
112     deploy-prod:
113
114         needs: [build, test-run]
115         if: github.ref == 'refs/heads/main'
116
117         runs-on: ubuntu-latest
118         environment:
119             name: production
120             url: https://github.com/${{ github.repository }}/releases/tag/v${{ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }}
121         steps:
122
123             - uses: actions/checkout@v3
124               with:
125                 fetch-depth: 0
126
127             - name: Download candidate artifacts
128               uses: actions/download-artifact@v3
129               with:
130                 name: greetings-jar
131
132             - name: GH Release
133               uses: softprops/action-gh-release@v0.1.14
134               with:
135                 tag_name: v${{ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }}
136                 generate_release_notes: true
137                 name: Production
138                 files: |
139                     CHANGELOG.md
140                     greetings-ci-${{ needs.build.outputs.artifact-tag || github.event.inputs.myVersion }}.jar
141
142
143     create-issue-on-failure:

```

- Go ahead and commit your changes **to the main branch**. You can include a "feat" conventional commit message.



- This will kick off a new run of the workflow and will create an initial production deployment because of a change in main. After the run completes, you can click on the link in the deploy-prod job in the "Jobs" view to see the release.

✓ feat: add deployment #30

Summary

Jobs

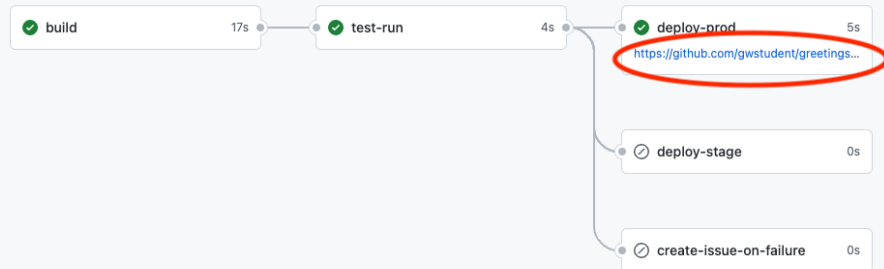
- ✓ build
- ✓ test-run
- deploy-stage
- ✓ deploy-prod
- create-issue-on-failure

Run details

- Usage
- Workflow file

Triggered via push 2 minutes ago
 gwstudent pushed · 123d14c main
 Status: **Success**
 Total duration: **53s**
 Artifacts: **1**

pipeline.yml
 on: push



gwstudent / greetings-ci Public

forked from skillrepos/greetings-ci

Pin Watch 0 Fork 52

<> Code Issues 2 Pull requests Actions Projects Wiki Security Insights Settings

Releases / v0.6.0

Production

Latest

Compare Edit Delete

github-actions released this 8 minutes ago · v0.6.0 · 7017919

What's Changed

- Test action by @gwstudent in #7

Full Changelog: v0.5.1...v0.6.0

Contributors



gwstudent

Assets

3

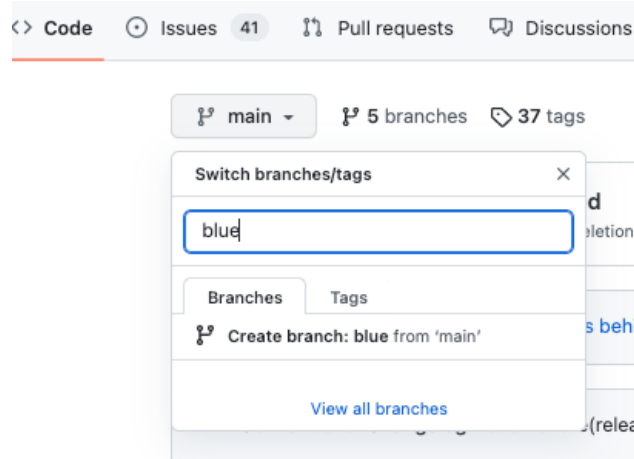
CHANGELOG.md	1.15 KB	8 minutes ago
Source code (zip)		8 minutes ago
Source code (tar.gz)		8 minutes ago

END OF LAB

Lab 13 – Exercising the entire workflow

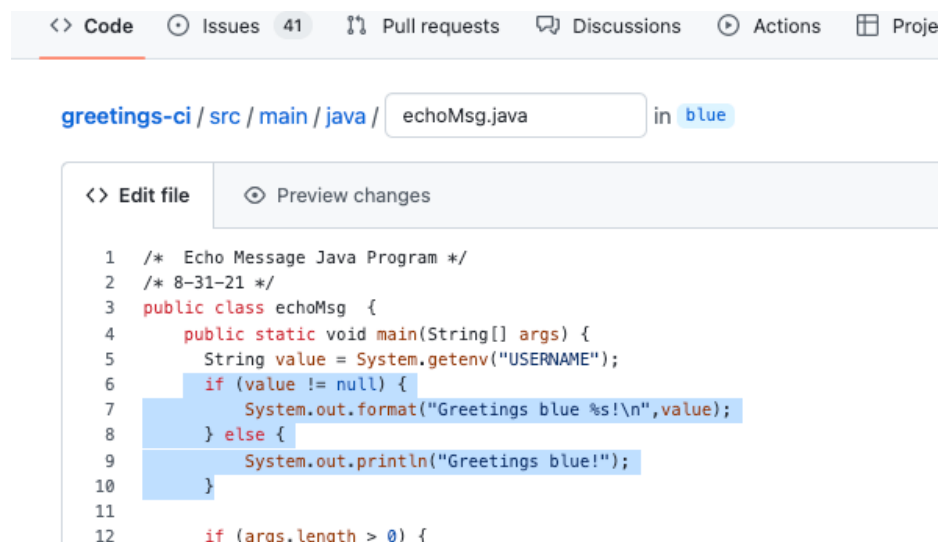
Purpose: In this lab, we'll see how to make a change in source code and have it processed through the pipeline.

1. In the example of using a "blue/green" environment, let's **create a branch called "blue" from the "main" branch** to make some changes on. Do this just as you've done before. (Note that you will need to make sure you're on the main branch before creating the blue one.)




2. In the "blue" branch, edit the file `src/main/java/echoMsg.java`. Make a simple, non-breaking change like adding "blue" to the lines that print out "Greetings". See text and figure below.

```
if (value != null) {  
    System.out.format("Greetings blue %s!\n",value);  
} else {  
    System.out.println("Greetings blue!");  
}
```



3. Commit the changes with an appropriate "fix: " conventional commit message.



Commit changes

fix: update to greeting for blue

Add an optional extended description...

☒ Commit directly to the `blue` branch.
 ☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

Commit changes
Cancel

- After the workflow run completes, you can click on the run and look at the job graph. You should be able to see that it executed the build and test pieces and then deployed it to the stage environment.

fix: update to greeting for blue
 Java CI with Gradle #170

Re-run all jobs
 ⋮

Summary

Jobs

- build
- test-run
- deploy-stage
- deploy-prod
- create-issue-on-failure

Triggered via push 2 minutes ago
 gwstudent pushed `c9a2ff0` `blue`

Status: **Success**
 Total duration: **52s**
 Artifacts: **1**

pipeline.yml
on: push

```

graph LR
    build[build 15s] --> test-run[test-run 4s]
    test-run --> deploy-prod[deploy-prod 0s]
    test-run --> deploy-stage[deploy-stage 4s]
    test-run --> create-issue-on-failure[create-issue-on-failure 0s]
          
```

- Now, click on the **link** in the "deploy-stage" box. This will take you to the tagged version of the source repo.

<> Code

Issues 41

Pull requests

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Actions

Projects

Wiki

Security

Insights

Settings

Releases

Tags

Create release from tag Delete

v0.12.2

a5926b9

Compare

v0.12.2

tagged this 4 minutes ago

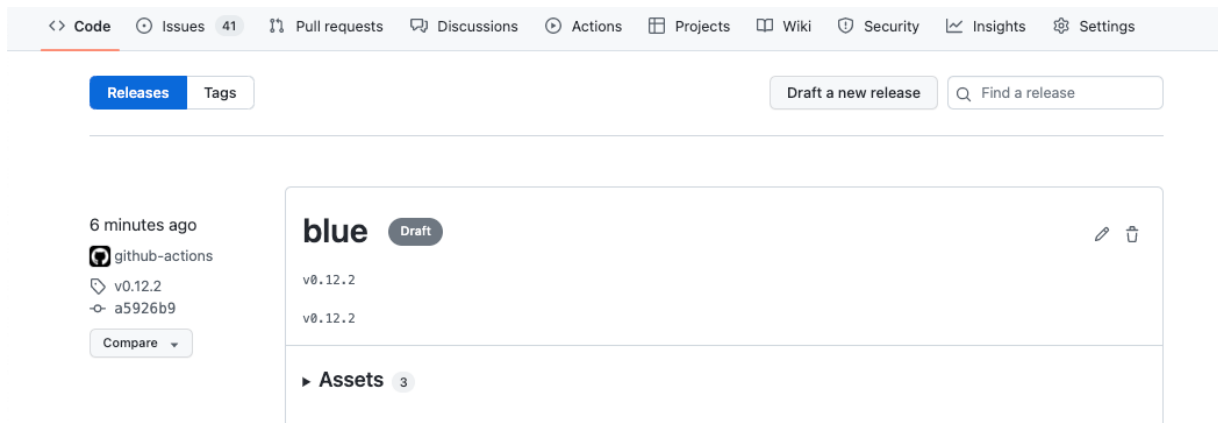
v0.12.2

Assets 2

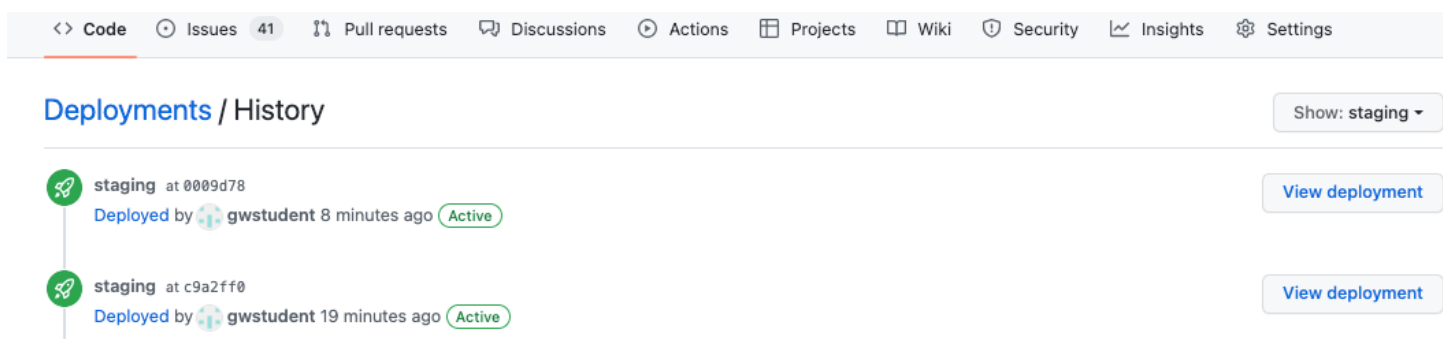
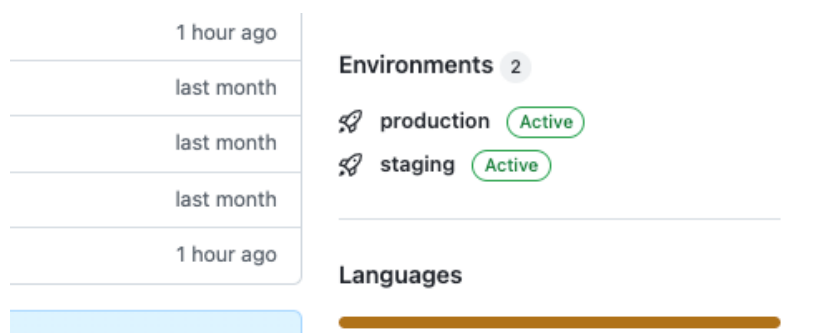
Source code (zip) 4 minutes ago

Source code (tar.gz) 4 minutes ago

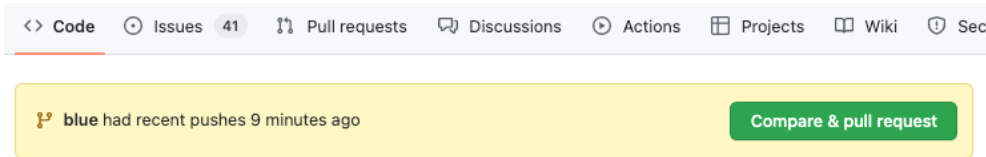
6. If you click on the "Releases" item next to "Tags", you can see the draft release that was created.



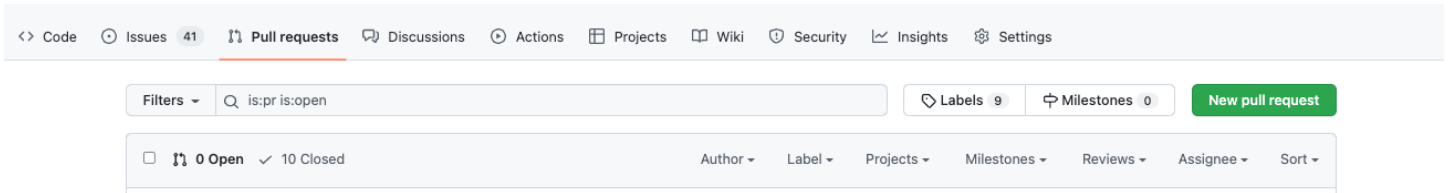
7. And, if you click on the main code page, in the lower right, you'll be able to see a new "Staging" environment. You can click on that to see a list of recent deployments there.



8. Since everything built ok, we can deploy this change to the production environment. To merge the changes, we can just create a pull request to main and merge it. In the "Code" page for your repository, there may be a yellow bar that says "blue had recent pushes..." If so, click on the big green "Compare & pull request" button.



If not, got to "Pull requests" and then click on "New pull request" and "Create pull request".

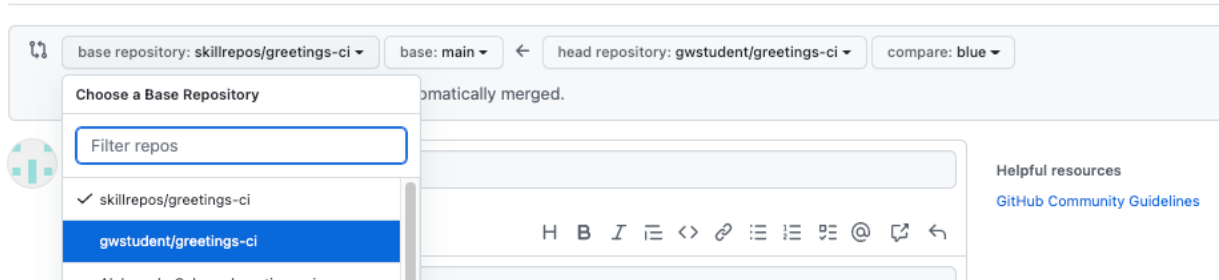


9. Change the dropdown at the top to select the same repository so you are merging the "blue" branch into the "main" branch of your repository. Add a conventional commit message like "fix: greet blue". Then proceed to "Create pull request" by clicking the other green button.



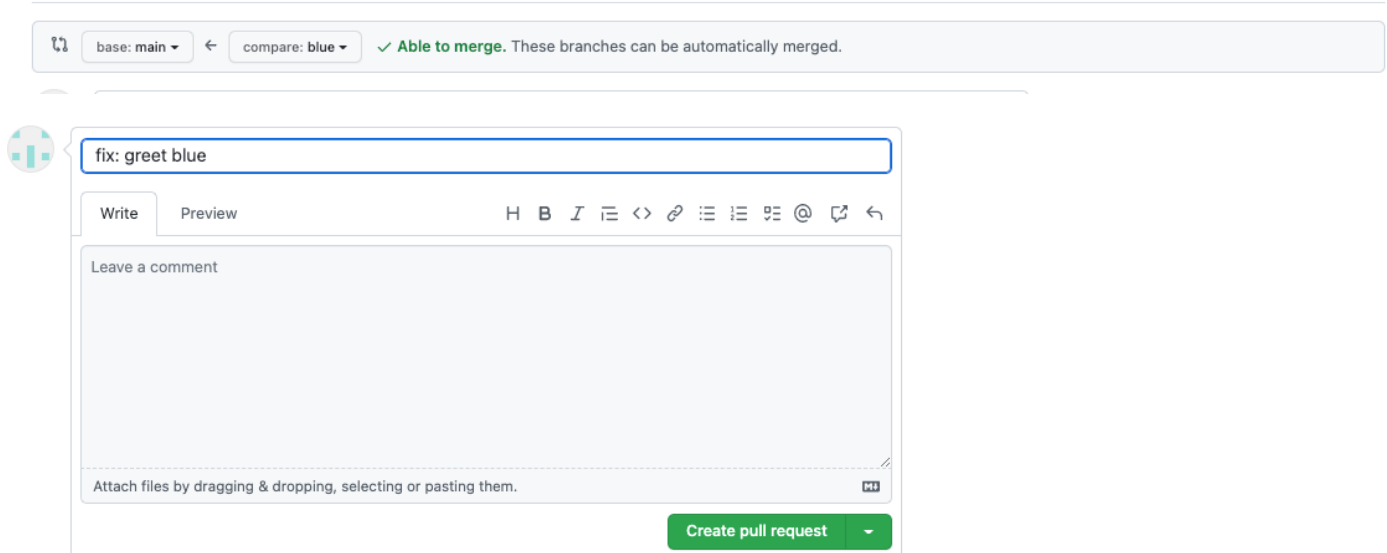
Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

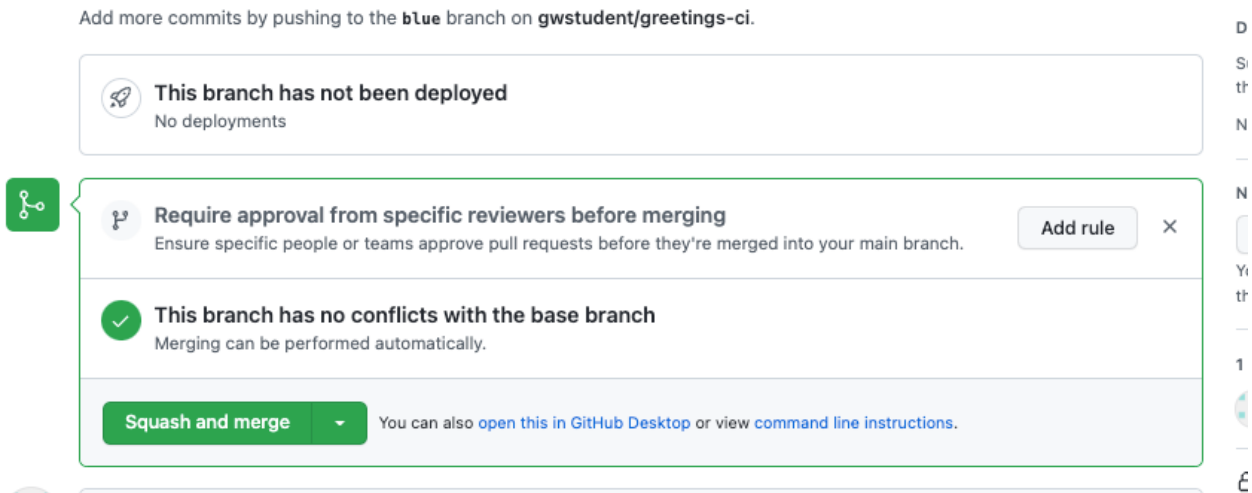


Comparing changes

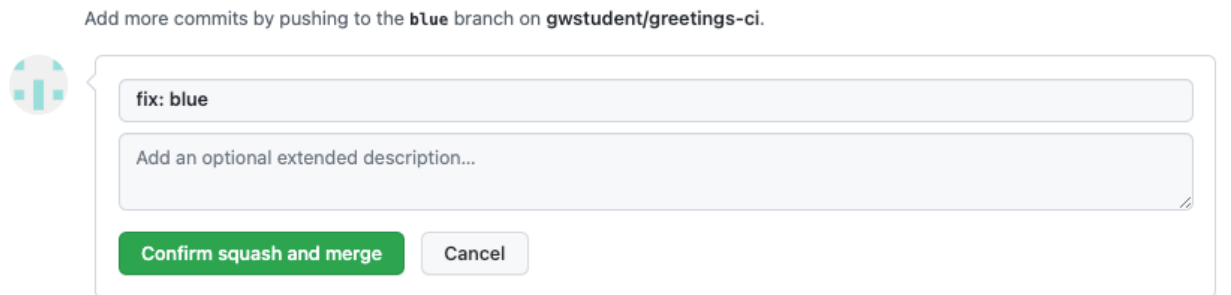
Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).



10. At this point, you can go ahead and click the "Squash and merge" button when available and confirm.



11. You can edit the main comment to have something like "fix: blue" in it and do what you want with the other commit messages. Then go ahead and click the "Confirm squash and merge" button.



12. This should kick off another run of the action workflow in main.

END OF LAB