
Exercise Introduction

This sheet covers additional exercise material for the presentation about publishing your own open source code.

Contents

Task 1: Hide your secrets (10 min) 1

Task 2: CI Pipeline using Github Actions (30 min) 2

Optional Task 3: (not so difficult) learngitbranching (∞ min) 3

Task 1: Hide your secrets (10 min)

Task Preparation

1. fork 2023-informatik-workshop-publish-code
2. (optional, just required if you want to run the code) create a venv inside this repository
3. (optional ...) activate the venv
4. (optional ...) install all dependencies
5. download the `bfg repo cleaner` here

Removing secrets

1. Remove the `ssh` key from the history using the `bfg repo cleaner`. You can just remove the private key or remove the private key as well as the public key.
   - You can verify this by running: `git show <commithash>`
2. Find the password which was used for the request in `fetch-weather-data.py`
3. Remove this passphrase from the history using the `bfg repo cleaner`
   - You can verify this by running: `git show <commithash>`

Hints

- You can have a look at the commit history to find the passphrase which was accidentally commited.
- You can have a look at the `.bfg-report` directory for a detailed analysis on the bfg process
- If you want to push your changes to the upstream, you have to force-push it

- Have a look at the bfg repo cleaner examples ;)

Further Reading

- github: removing sensitive data from a repository
- bfg repo cleaner: examples

Task 2: CI Pipeline using Github Actions (30 min)

This task is about setting up a CI/CD pipeline for an open source project. You can do this for any project you like or simply for the 2023-informatik-workshop-publish-code repository.

Choose your project and fork it

After you have selected an open-source project that you want to set up a CI pipeline for, create a fork of the project. This will create a copy of the project in your account.

Create actions for the forked project

Start by adding the quickstart github action to the project. This action provides some gathered information about this project.
You can write some additional actions:

- Check if the code adhears to the style guidelines of the project (`pylint`)
- Calculate the test coverage
- Run all the tests
- Trigger the build process of the project
- Push the build artifacts to some hosting solution

Create a CI pieline = workflow for the project you forked

The pipeline should contain multiple actions and could for example end with publishing the newest build artifact on GitHub. Review the build status and logs of the newly created workflow.

Make changes to the project and commit those changes validating the CI pipeline

These changes could be something small like for example refactoring some variables. Review the CI/CD process logs again to check if your workflow ran successfully.

Hints

- You can view the pipeline inside the 2023-informatik-workshop-publish-code repository.
- The workflows are stored inside the `project-dir/.github/workflows` directory

Further Reading

- github actions: quickstart

Optional Task 3: (not so difficult) learngitbranching (∞ min)

This is a difficult **additional** task that will support your understanding in the topic.

Understanding the branching mechanism in git really helps during the development process. The tutorials on `https://learngitbranching.js.org/` visualize the internal functionality. You can do some of the tutorials as an exercise.
The website is open source and can be viewed here.