Software Engineering Bootcamp

Hyperiondev

Sharing and Maintaining your Work on GitHub

Lecture – Housekeeping

- ❑ The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly. (FBV)
- ❑ No question is daft or silly - **ask them!**
- ❑ There are Q/A sessions midway and at the end of the session, should you wish to ask any follow-up questions.
- ❑ You can also submit questions here: http://hyperiondev.com/sbc4-se-questions
- ❑ For all non-academic questions, please submit a query: www.hyperiondev.com/support
- ❑ Report a safeguarding incident: http://hyperiondev.com/safeguardreporting
- ❑ We would love your feedback on lectures:(FBV) https://hyperionde.wufoo.com/forms/zsgv4m40ui4i0g/

Github Repository - Lecture Examples/Slides

https://github.com/HyperionDevBootcamps/C4_SE_lecture_examples

Git Download/Cheat sheet

https://git-scm.com/downloads

https://github.com/git-guides/install-git

https://education.github.com/git-cheat-sheet-education.pdf

https://docs.github.com/en

Objectives

1. Github
   a. What is Github?
   b. Working with a remote repository using push and pull
2. Documentation
   a. Contributors file
   b. License file
   c. ReadMe file

What is Version control?

- Also referred to as source control
- It is a system that tracks and manages changes to software code.

Some Terminology

- **Version**
  - Code at a particular state.
- **Repository**
  - The collection of all files at all versions.
- **History**
  - The list of all changes made to a set of files.
- **Commit**
  - Stores a set of changes to the repository.
- **Staging Area**
  - A file containing changes to be added to the next commit.

Introducing Git

- Most widely used version control system.
- Free and open-source. Designed to handle a large variety of systems.
- Distributed architecture:
  - When you download a repository, you download the full history of changes to your local computer.
- Everything is run from the command-line using the git application.

Repositories

- Two types: local and remote.
- All changes stored in a hidden file called “.git”.
- Two ways to get a repository:
  - Create a new one using **git init**.
  - Get a remote one using **git clone <repository-url>**.

Committing Code

- First, you need to add your files to the staging area.
  - **git add <file-name>**
- Once you have added all files to the staging area, then you can commit your code.
  - **git commit -m <commit-message>**
  - NB: Each commit has to have a message attached to it.
  - This just explains what what changed.

Branching (cont.)

- **git branch <branch-name>**
- To switch branches:
  - **git checkout <branch-name>**
- By default, Git uses **master** as the name of the main branch.

Merging

- There is no use in branching code to make a new feature without being able to make it a part of the main branch.
- Merging allows you to take the changes that you have made in your branch and apply them to the main branch (or another branch of your choice).
- To merge bug-fix branch into master branch:
  - **git checkout master**
  - **git merge bug-fix**

Github

What is Github?

- GitHub is a code hosting platform for version control and collaboration
- It lets you and others work together on projects from anywhere in the world

Why use Github?

- All the same reasons you are using git.
- Added benefit of being hosted online and accessible anywhere

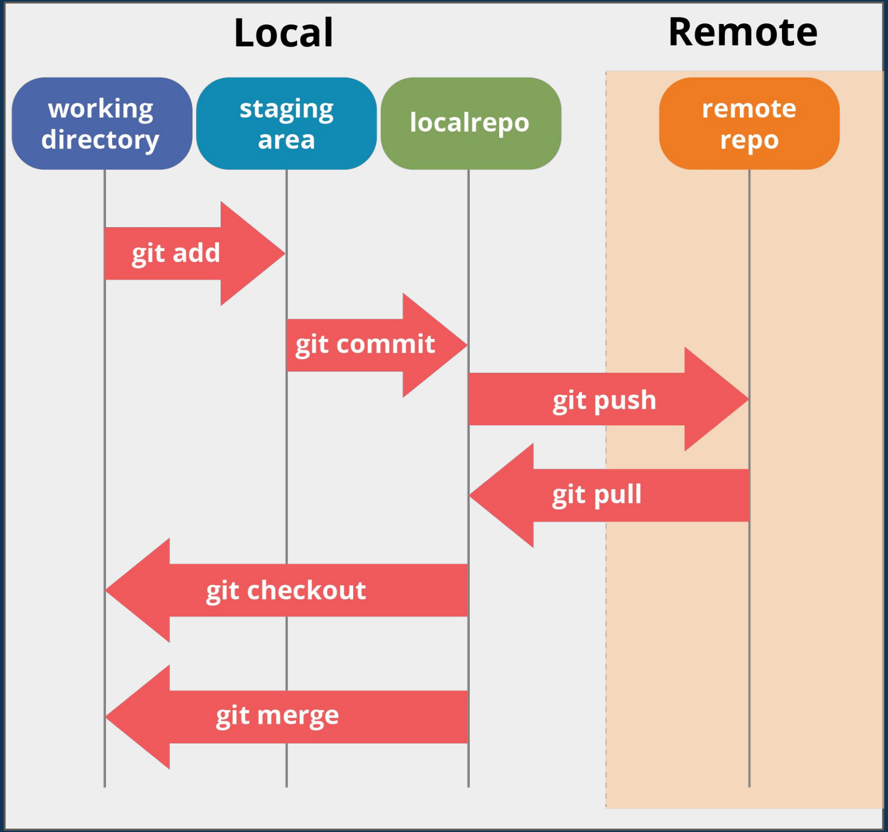
How to get code from Github to your local machine?

- If you have not yet initialised a repository you can clone one from Github using the command git clone [url]
- If you already have a local repository you can add the remote repository by using the command git remote add [alias] [url]
- You can view a list of your added remote repositories with the command git remote -v

How to get code from Github to your local machine?

- If we want to fetch all the commits from the remote branch and merge them into you local repository we use the command git pull
- If we want to transmit all the commits from the local repository to the remote repository branch we use the command git push [alias] [branch]

How to get code from Github to your local machine?



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Documentation: Contributors file

- CONTRIBUTING.md file is a short guide to how other people can help with your project.
- Always good to have in the root directory of your project.
- The file also contains data such as:
    - Creators and maintainers of the project.
    - What parts of the project contributors can work on.
    - Conventions to follow when contributing
    - How users can use this project to build upon their own.

Documentation: License file

- Licences help you manage and share intellectual property for code and materials on GitHub
- If you want to consume, share or contribute to anything in GitHub, you have to understand requirements associated with the relevant licence.
- For your repository to truly be open source, you'll need to license it so that others are free to use, change, and distribute the software.
- You can add a LINCESE.md file to your Github project by adding a new file on Github and typing LICENSE Github will then provide you with an option to generate a license file

Documentation: ReadMe file

- The readme file is used to explain the project and how we can install or use it.
- It also allows the uploader to add images and different formats to the text to help the reader navigate through the project easily
- A well-written readme file is more important if you intend to show these projects in your resume

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Q & A Section

Please use this time to ask any questions relating to the topic explained, should you have any

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Thank you for joining us

Take regular breaks.
Stay hydrated.
Avoid prolonged screen time.
Remember to have fun :)