

COMP603/ENSE600

Program Design and Construction/Software Construction

Lecture 07: Version Control (Git & GitHub)

Mr Jingli SHI

Outline

1. Version Control

- Version
- Version Control

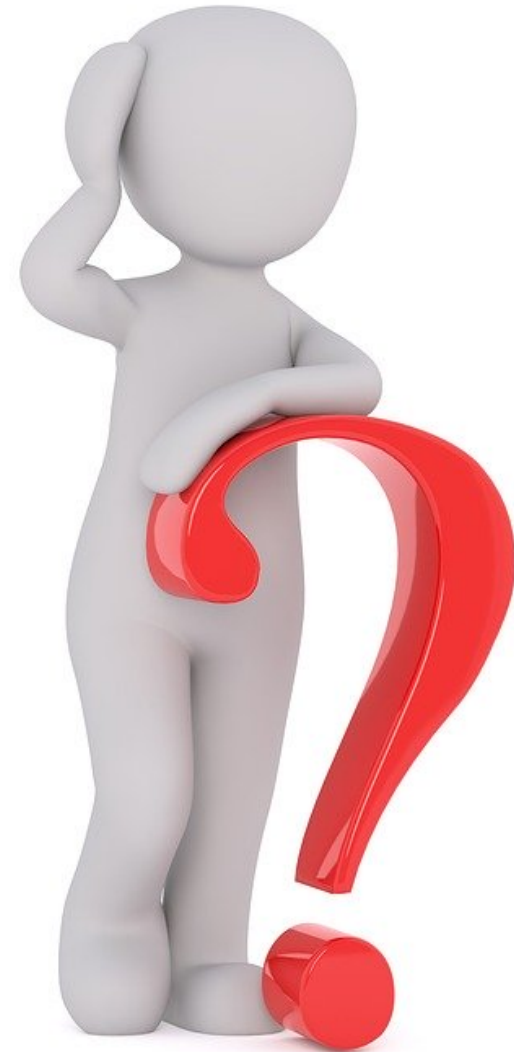
2. Git

3. Repository Hosting Service

- GitHub
- GitLab

Version

- *myProject1.java,*
- *myProject2.java,*
- *myProject3.java*
- ...



Version



NZ COVID Tracer 4+

Help speed up contact tracing
Ministry Of Health (NZ)

#1 in Health & Fitness
★★★★☆ 3.2, 1.2K Ratings

Free

×

Version History

1.2.1 24 Aug 2020

This release improves error handling for saving entries to your digital diary.

1.2.0 29 Jul 2020

We've added the ability for you to manually add entries to your digital diary, so you can keep track of all the places you've been even if they don't have a QR code.

We've also added support for devices running iOS 11, made some improvements to accessibility, and fixed some bugs.

1.1.0 10 Jun 2020

We've been listening to your feedback and have been working hard on new features and improvements. In this version:

- You can now receive a contact alert if you have been in the same place at the same time as someone who has tested positive for COVID-19.
- If you test positive for COVID-19, you can now choose to share your recorded loca [more](#)

1.0.1 20 May 2020

Thanks to everyone who downloaded and registered for NZ COVID Tracer already. We've identified and fixed a few things that weren't working quite right, thanks for all your feedback.

- You can now copy/paste the code into the verification fields when signing up or using two-factor authentication [more](#)

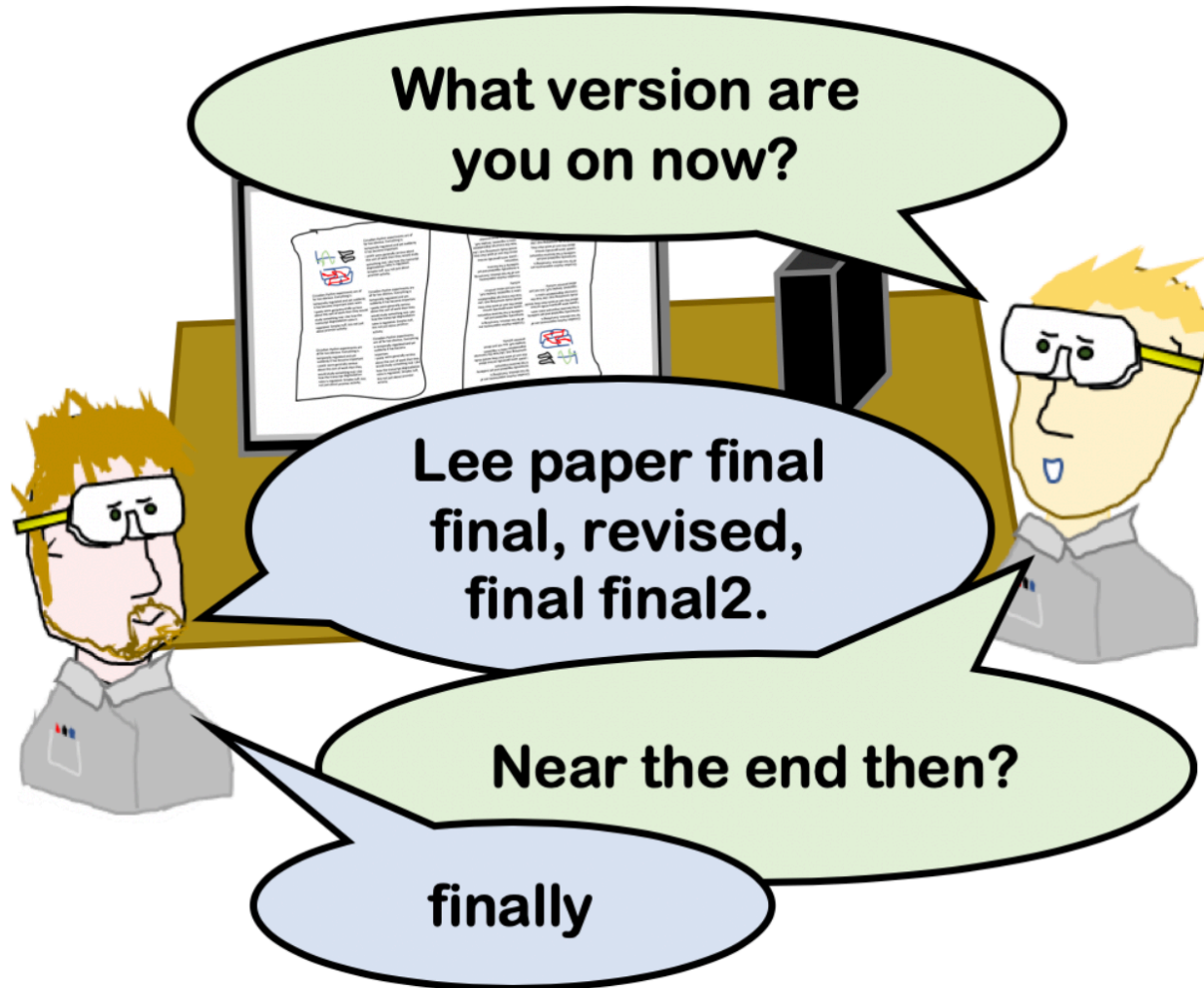
1.0 19 May 2020



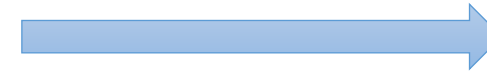
Version Control

- What is version control?
 - Record changes to source code, documents or other files related to project over time.
 - Can recall any specific version later if changes need to be restored.

Version Control



Project Development Cycle



Version Control Benefit

Importance of Version Control

- Backup and rollback project.
- Collaboration with other team member.
- Keep track of history
- Safely create and test new feature.
- Troubleshooting.





Git

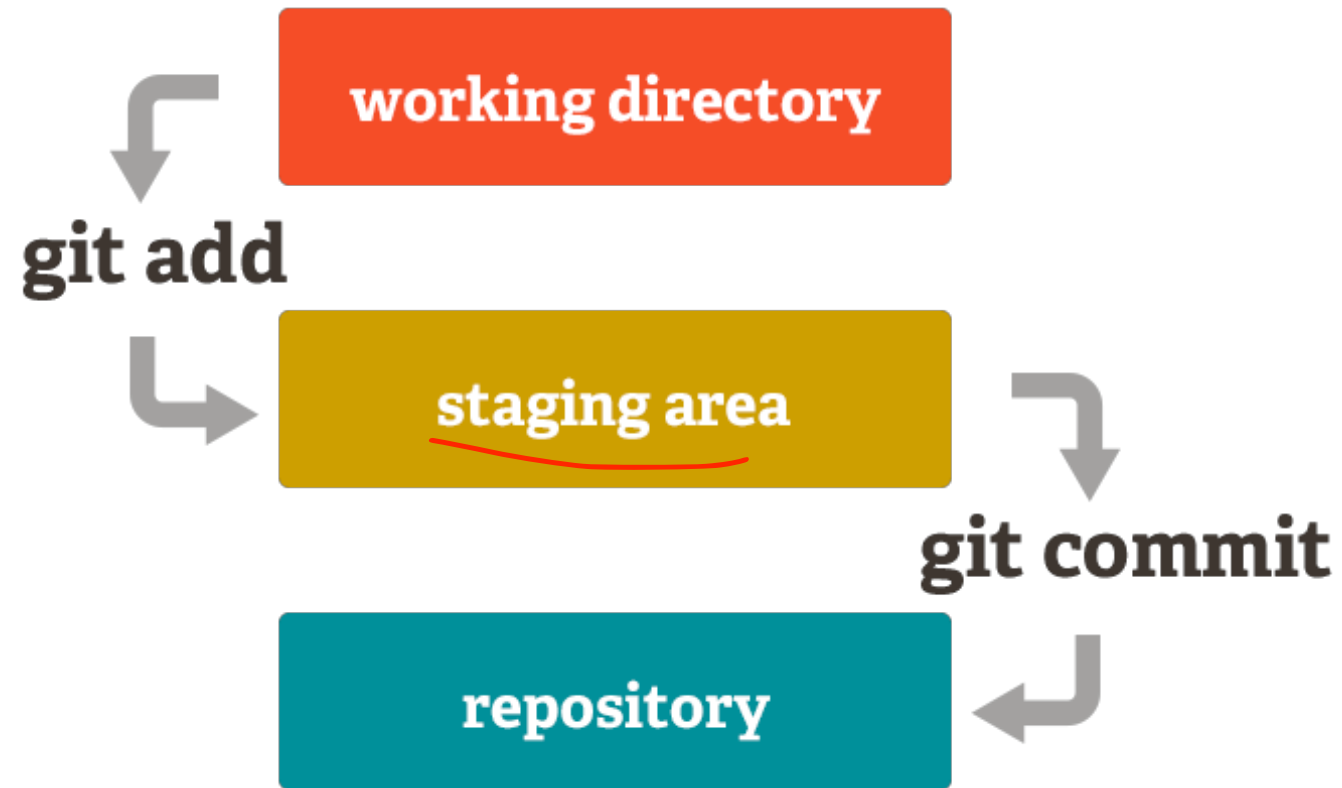
- Git is a distributed version-control system for tracking changes in source code during software development.

Git

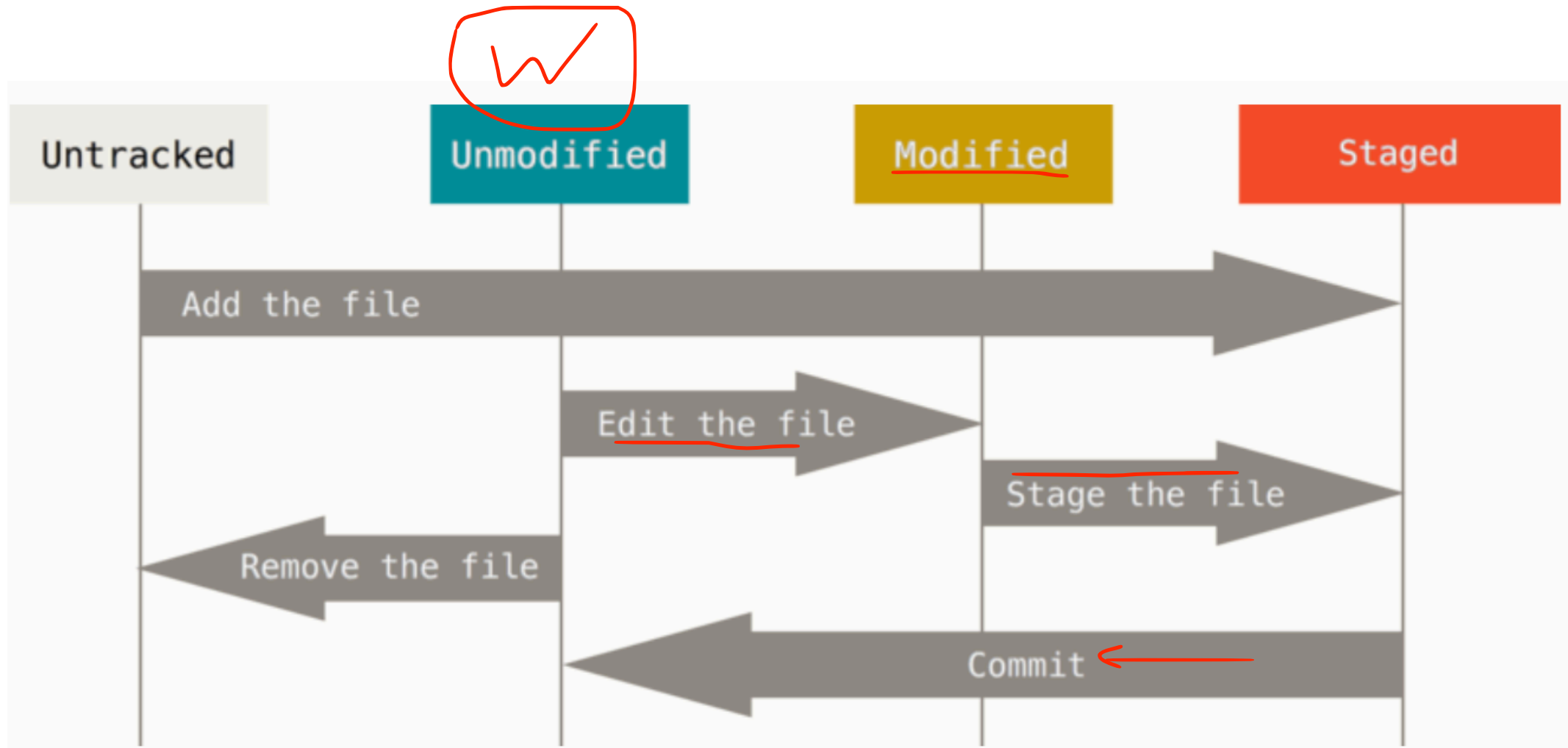
- Linux kernel Maintain



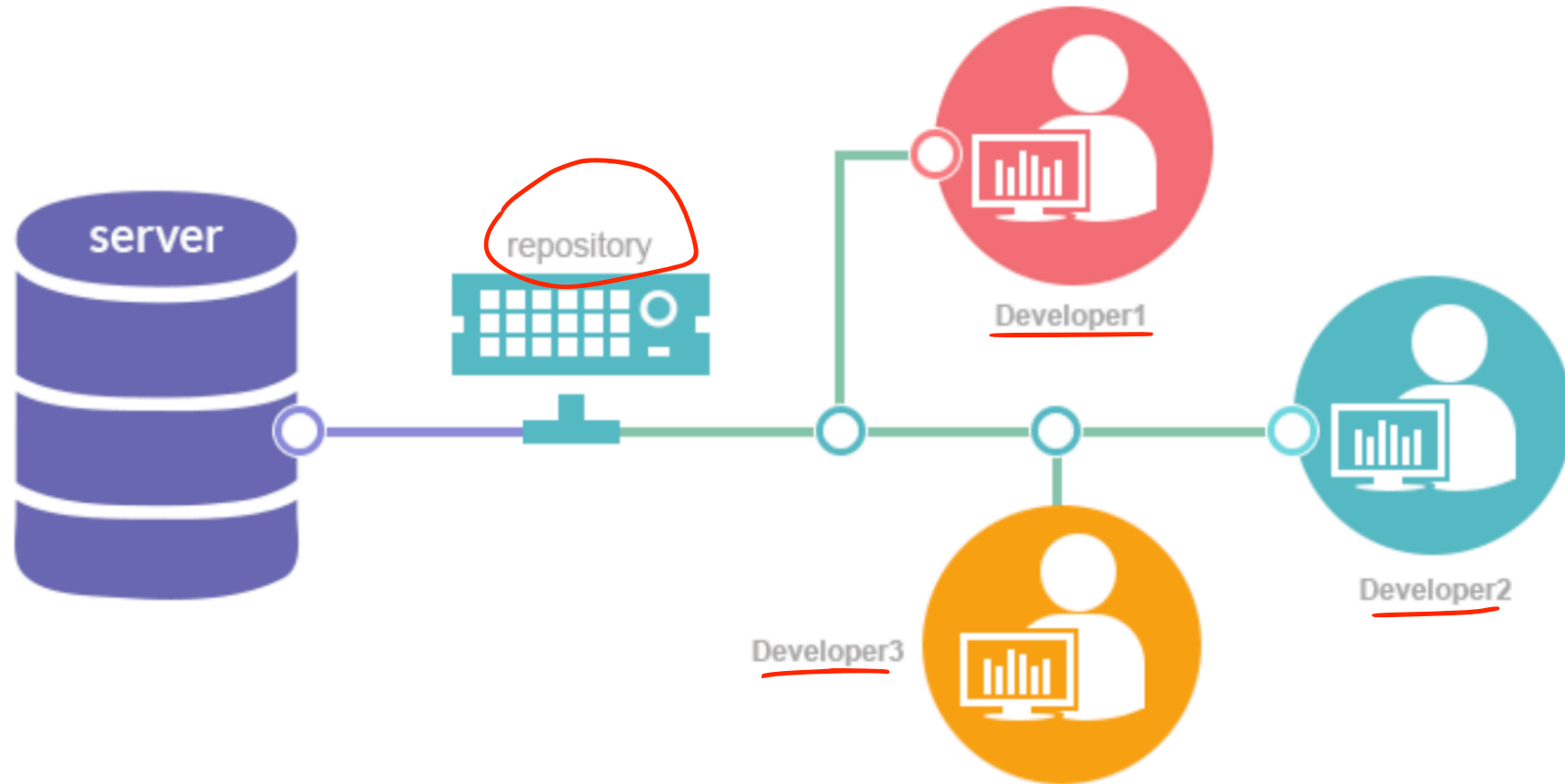
Git Working Area



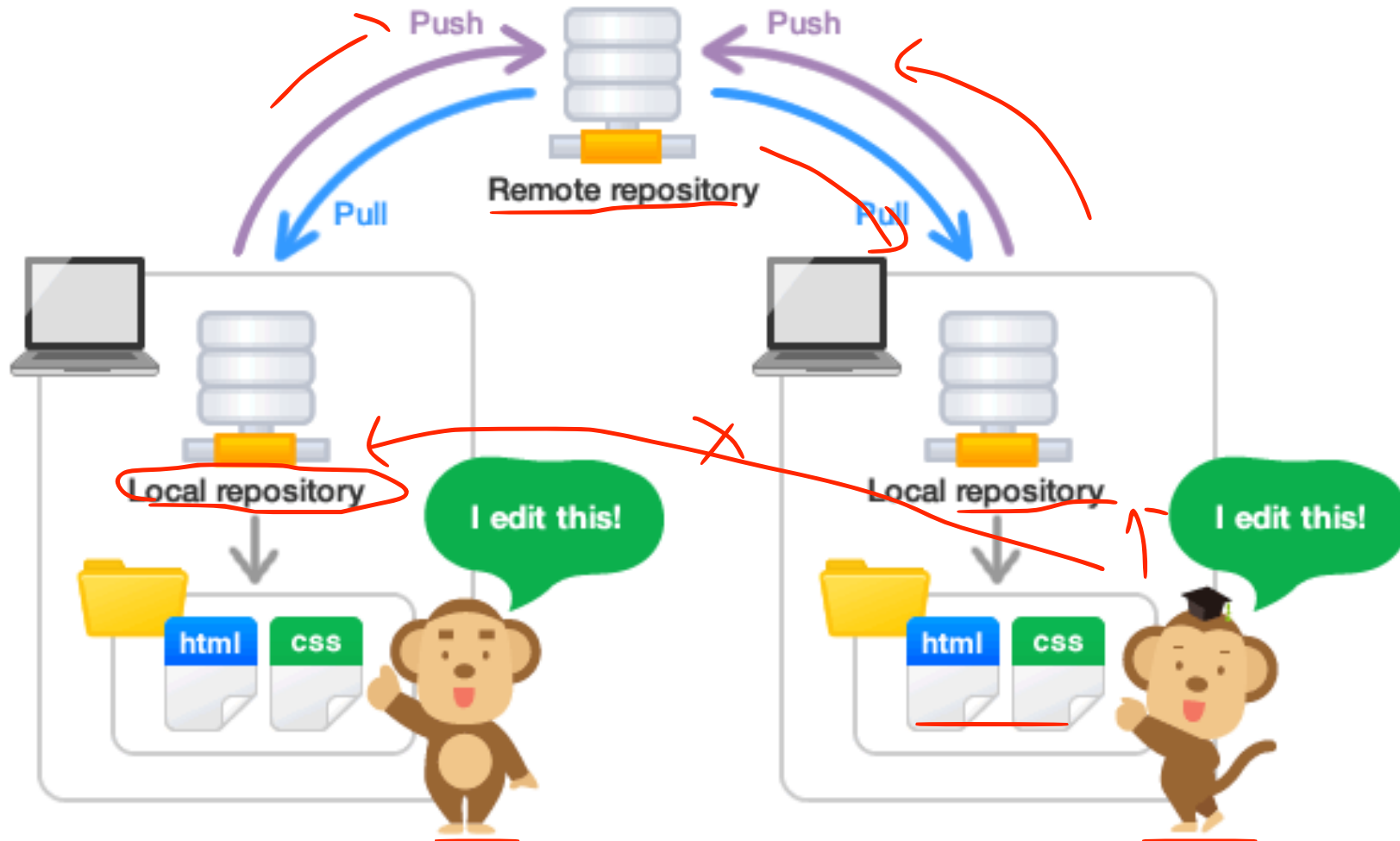
Git File Status



Collaboration Development with Git



Remote & Local



Installation of Git

- Git-Client
 - <https://git-scm.com/downloads>
- Git-GUI-Client
 - <https://git-scm.com/downloads/guis>

Git Setup

- \$ git config --global user.name "JingliSHI0206"
- \$ git config --global user.email "jingli.shi@aut.ac.nz"

Init new Repository

- **Local**

- \$ cd C:/Users/user/my_project

- \$ git init

- **Remote**

- \$ git clone https://github.com/JingliSHI0206/VersionControl_Week8

Basic Usage - Local Repo

- Create a file “Readme.txt” in the folder.
- Check status
\$ git status
- Add file to staged area
\$ git add Readme.txt
- Commit file to Repo
\$ git commit -m “<comments about file modification>”
- Check Repo log
\$ git log

Basic Usage - Remote Repo

- **Push to Repo**

\$ git push <remote> <branch>

e.g. git push origin master

- **Pull from Repo**

\$ git pull

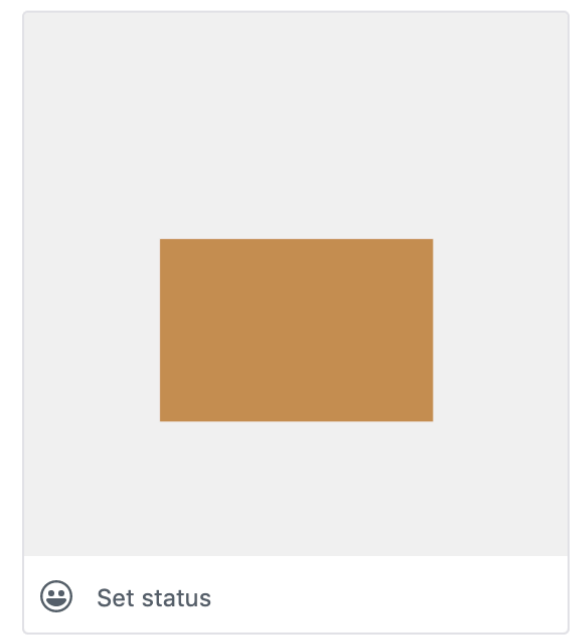
Repository Hosting Service





GitHub

- Git is a command-line tool.
- GitHub is a web platform for software development based on Git.

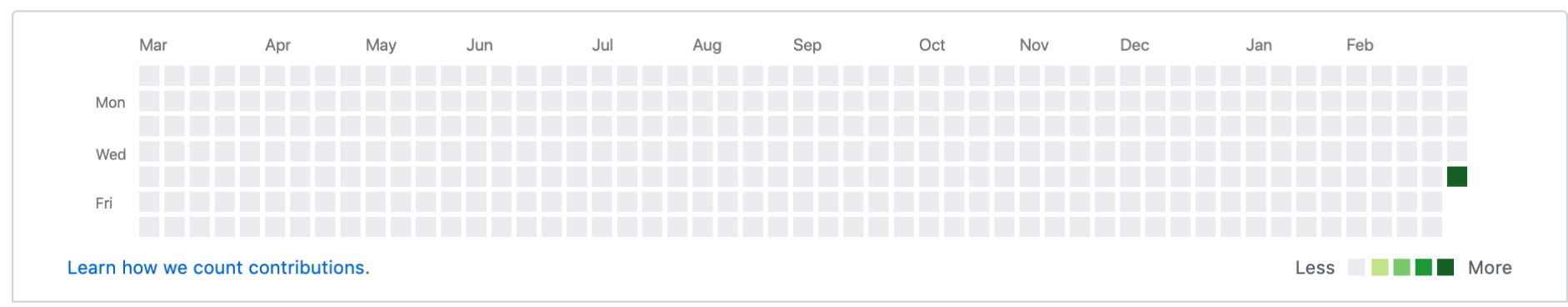


Overview Repositories 1 Projects 0 Packages 0 Stars 0 Followers 0 Following 0

Popular repositories

VersionControl_Week8
This repository is only used to version control testing for AUT course[COMP603]

5 contributions in the last year



JingliSHI0206

Edit profile

Joined 1 hour ago

GitLab

- GitLab is GitHub-like service that provides web-based DevOps internal management of Git repositories.
- Developers can assign weight to issues to manage them via Agile practices.
- Allows developers to create and manage milestones at project and group levels to represent an Agile sprint or a release.

- E ESMS
- Project overview
- Details
- Activity
- Releases
- Repository
- Issues 10
- Merge Requests 0
- CI / CD
- Operations
- Packages & Registries
- Analytics
- Collapse sidebar

Please ensure your account's [recovery settings](#) are up to date.

Le Quang Nhan > ESMS > Details

ESMS

Project ID: 5502537

Star 0 Fork 0

415 Commits 3 Branches 0 Tags 145.1 MB Files 145.2 MB Storage

Auto DevOps

It will automatically build, test, and deploy your application based on a predefined CI/CD configuration.

Learn more in the [Auto DevOps documentation](#)

Enable in settings

master ESMS / + History Find file Web IDE Clone

Backup EA and databases from Richard AWS Server
ismail authored 1 year ago

9b50275d

Screenshot

Demo

(NetBeans + GitHub)

Other Version Control Tools

- Bitbucket
- FogBugz Kiln/DevHub
- Beanstalk
- SourceForge
- Apache Allura
- Cloud Source by Google
- AWS CodeCommit
- GitKraken

References

- Git website: <http://git-scm.com/>
- Git Free on-line book: <http://git-scm.com/book>
- Git tutorial:
<http://schacon.github.com/git/gittutorial.html>
- GitLab vs GitHub:
<https://about.gitlab.com/devops-tools/github-vs-gitlab.html>