GIT

What is Git?

- Git is a free and open-source software.
- Uses:
  - It is a **version-control system** for tracking changes in computer files.
  - **Coordinating work** on these computer files among multiple people.
  - **Source-code management** in software development.
  - Provides support for non-linear workflows.
- It was created by **Linus Torvalds** in 2005.

- Bitkeeper and Mercurial are examples of other version-control softwares.

What is version control?

- Version control systems are a category of software tools that help a software team manage changes to source code over time.
- Version control software keeps track of every modification to the code in a special kind of database.
- If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.
- Version control protects source code from both catastrophe and the casual degradation of human error and unintended consequences.

Basics of Git

- Initialize repository
  - create a new directory
  - cd into that directory
  - git init
- Set git user config
  - git config --global user.name “John Doe”
  - git config --global user.email “johnDoe@gmail.com”
- First commit
  - touch new file
  - echo text in the file: echo “my first line” >> <myFileName>
  - git add <file name>
  - git commit -m “my first commit”

- Git remote
  - Create a gitHub account
  - Create a new gitHub repository using the same directory name
  - Follow instructions written in the newly created gitHub repo

Some fun facts about repositories

- You have access to all files in your local repository, whether you are working on one file or multiple files.
- You can view public repositories without a GitHub account if you have the URL for that repository.
- Each repository belongs to a user account or a team. In the case of a user account, that user owns the repository. + In the case of a team, that team owns it.
- The repository owner is the only person who can delete the repository. If the repository belongs to a team, an admin can delete the repository.
- A code project can consist of multiple repositories across multiple accounts but can also be a single repository from a single account.

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner **Repository name**

codemary / my-new-repo

Great repository names are short and memorable. Need inspiration? How about **miniature-octo-engine**.

Description (optional)

Public
Anyone can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** | Add a license: **None**

Create repository

codemary / my-new-repo

Unwatch 1 | Star 0 | Fork 0

Code | Issues 0 | Pull requests 0 | Projects 0 | Wiki | Insights | Settings

Quick setup — if you've done this kind of thing before

Set up in Desktop or HTTPS SSH git@github.com:codemary/my-new-repo.git

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# my-new-repo" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin git@github.com:codemary/my-new-repo.git
git push -u origin master
```

...or push an existing repository from the command line

```
git remote add origin git@github.com:codemary/my-new-repo.git
git push -u origin master
```

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

5 commits | 2 branches | 0 releases | 1 contributor

Branch: master | New pull request | Create new file | Upload files | Find file | Clone or download

codemary Merge pull request #2 from codemary/branch-2 ...

myFirstFile Add third line

Help people interested in this repository understand your project by adding a README.

Clone with SSH Use HTTPS

Use an SSH key and passphrase from account.

git@github.com:codemary/my-new-repo.g

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