GitHub

Source Control Systems

- A.k.a revision control, source control
- Source control is the management and tracking of changes to source code, documents, data, etc.
- **Allows collaborative development**
- Keeps track of who made a change, when the change was made, and what the change was
- Permits reverting any change and rolling back to a previous state

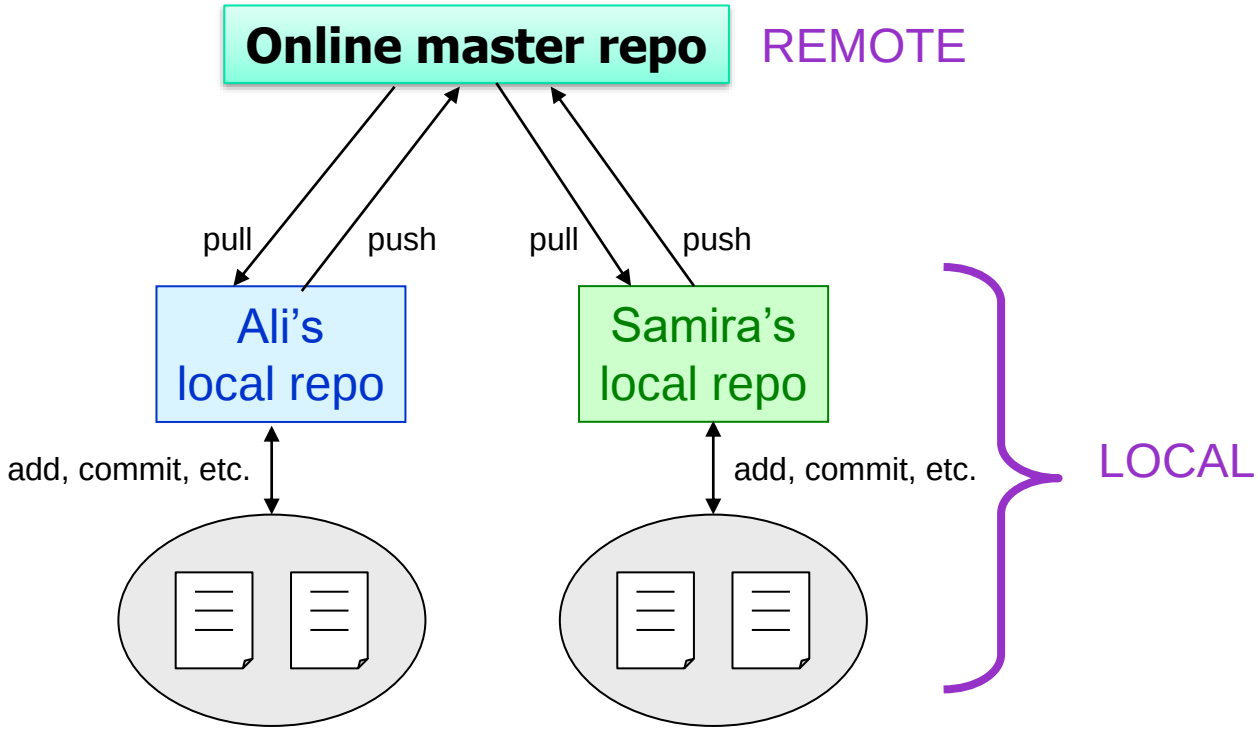
Github

- Github is a distributed source control management system
  - It also provides several collaboration features such as **wikis**, **task management**, and **bug tracking**
- Main characteristics:
  - Entire code and history is kept on the client (user) machine
  - Users can work (make changes to code) even without internet connection
  - Internet connection required only for pushing and pulling from remote repository

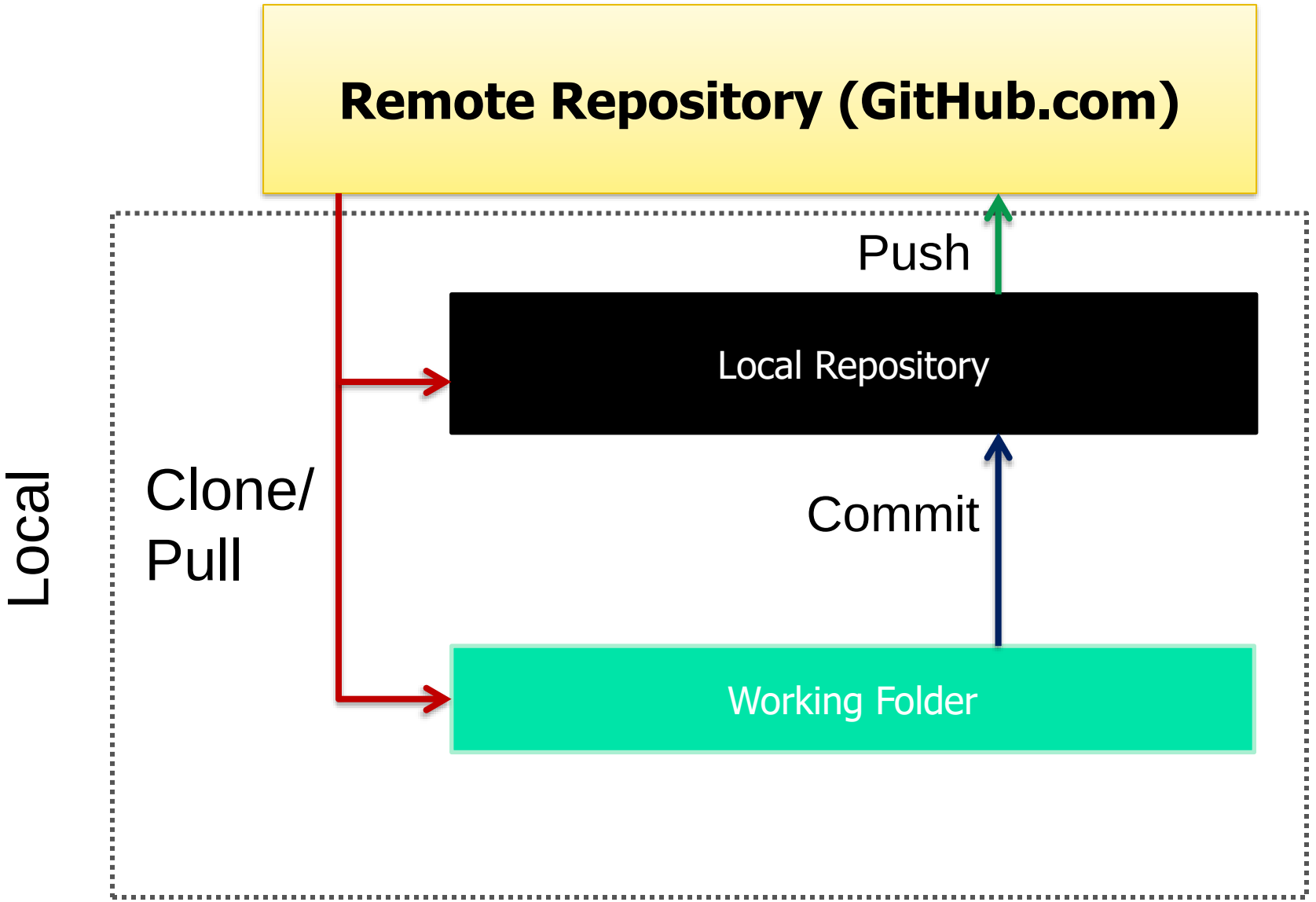
GitHub Basics

- A repository (or 'repo') is a collection of all the files and their commit history
- Copying a repository from a remote server is called **cloning**
  - Cloning allows teams to develop collaboratively
- Pulling: downloading commits that do not exist on the local machine from a remote repository
- Pushing: adding local changes (commits) to a remote repository

Local and Remote Repositories

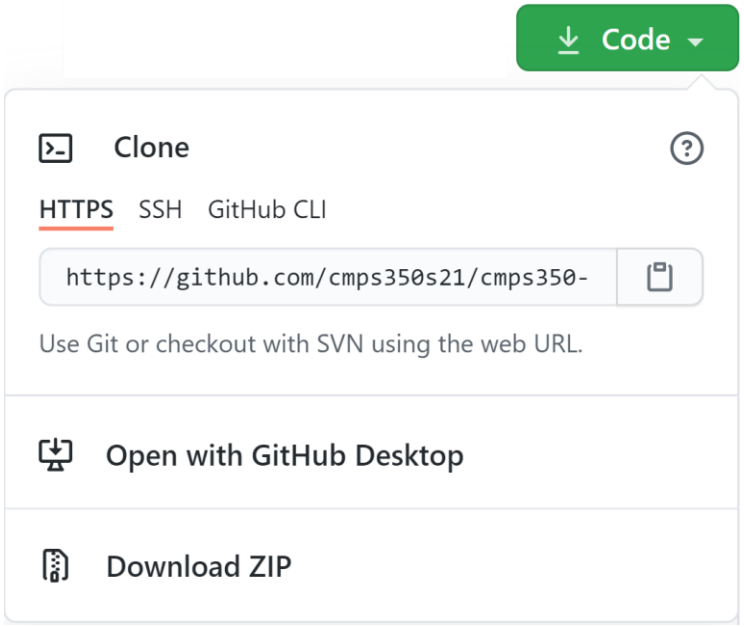


Architecture & Terminology

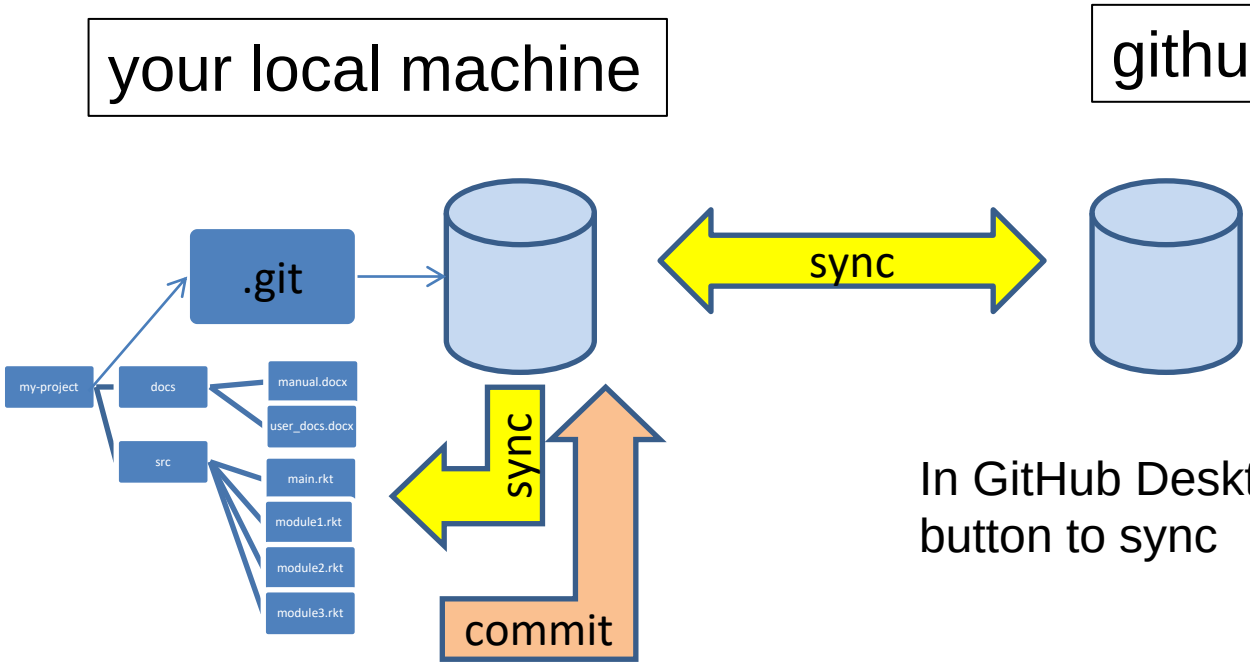


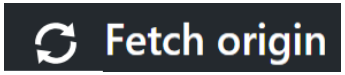
GitHub: Create Local Repository

- Each team member creates local repository that is a clone of the master repository
  - Log into your personal GitHub account
  - Navigate to the team repository
  - Clone the Repository using GitHub GUI or the Command Line



Using GitHub Desktop



In GitHub Desktop, use  button to sync

In this course, we will mainly use GitHub Desktop

Resources

- GitHub Desktop

https://desktop.github.com/

- GitHub foundation short videos

https://www.youtube.com/playlist?list=PLo1o9MOBetEHhfG9vJzVCTiDYcbhAiEqL

- GitHub Help

https://help.github.com/

- Git Book

https://git-scm.com/book/