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

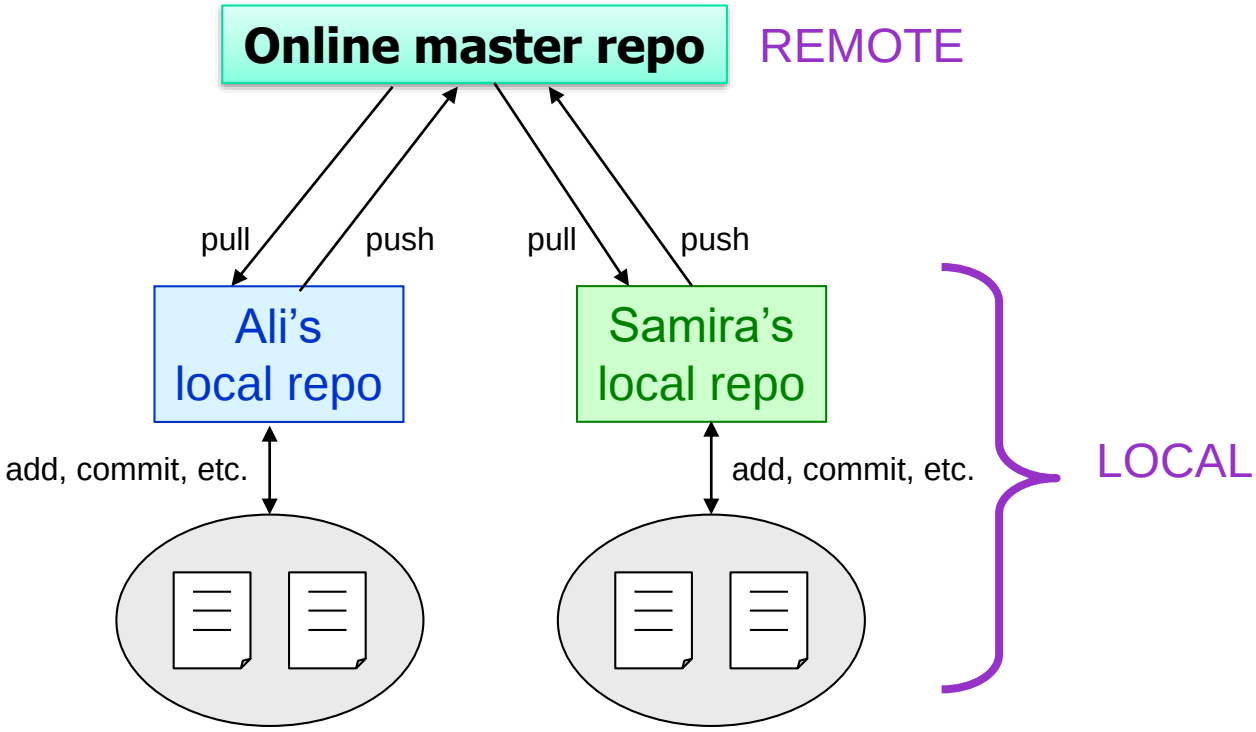
Github

- 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

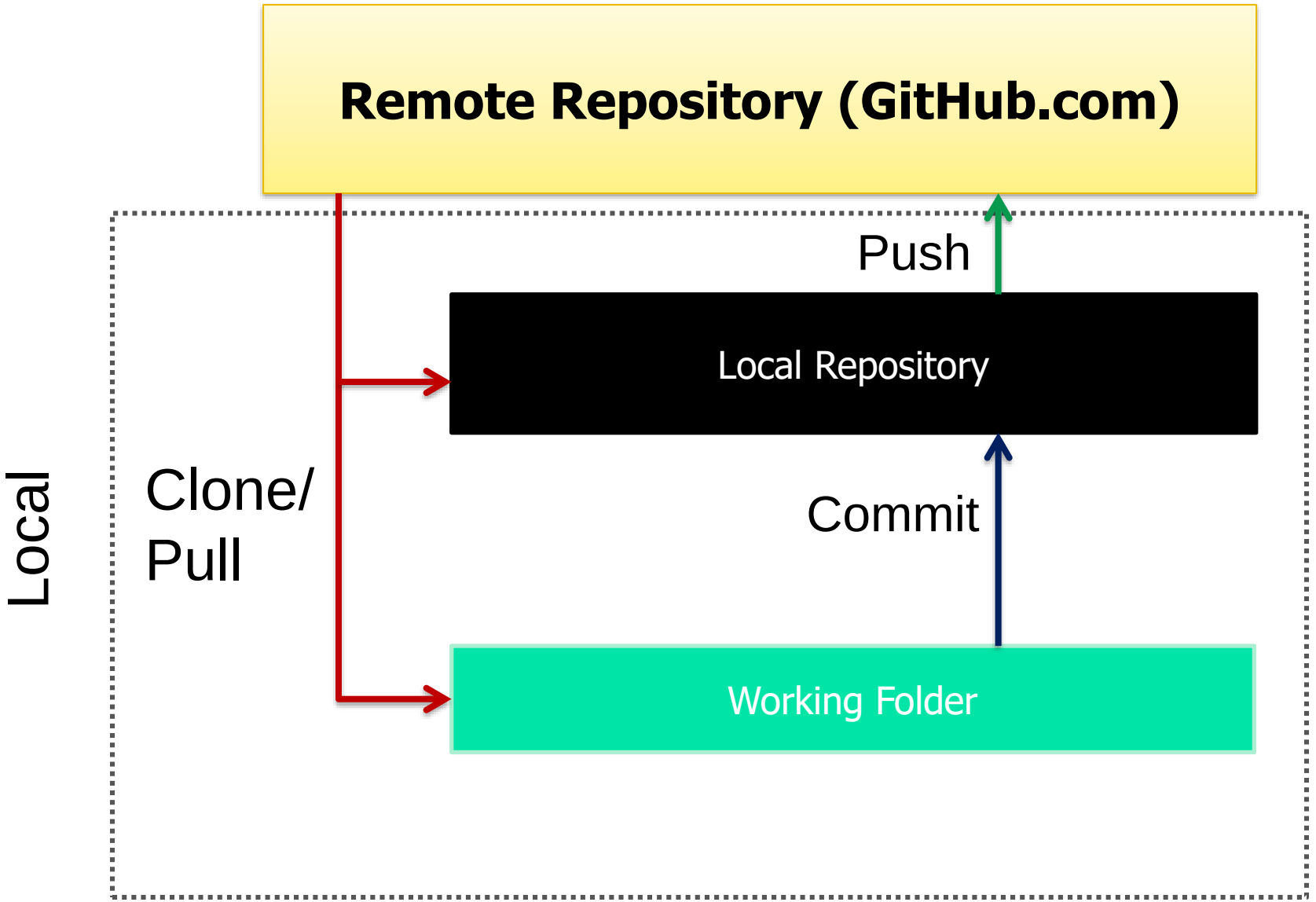
GitHub Basics

- 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

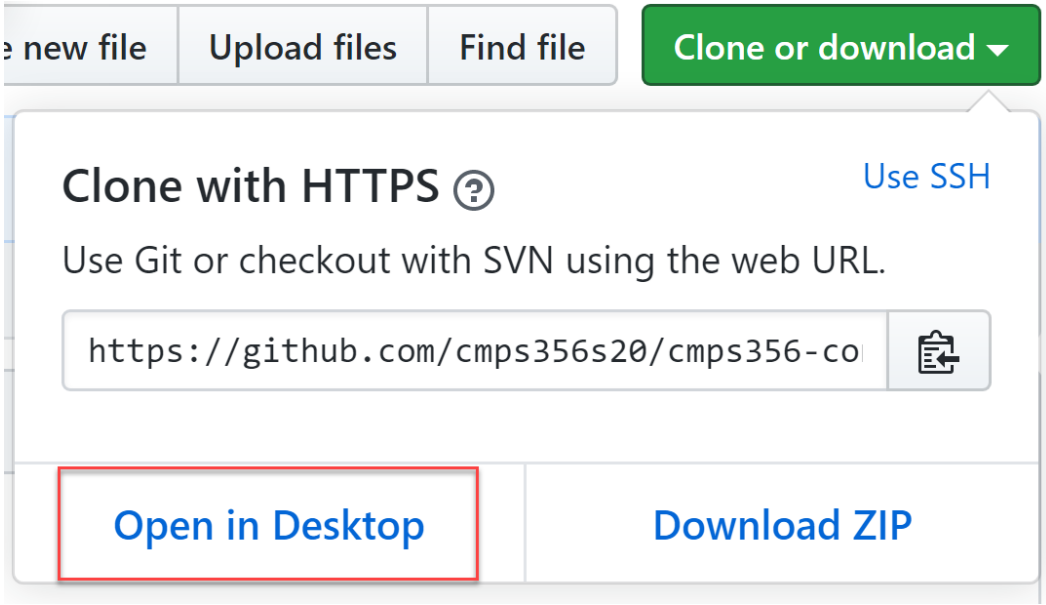


Architecture & Terminology

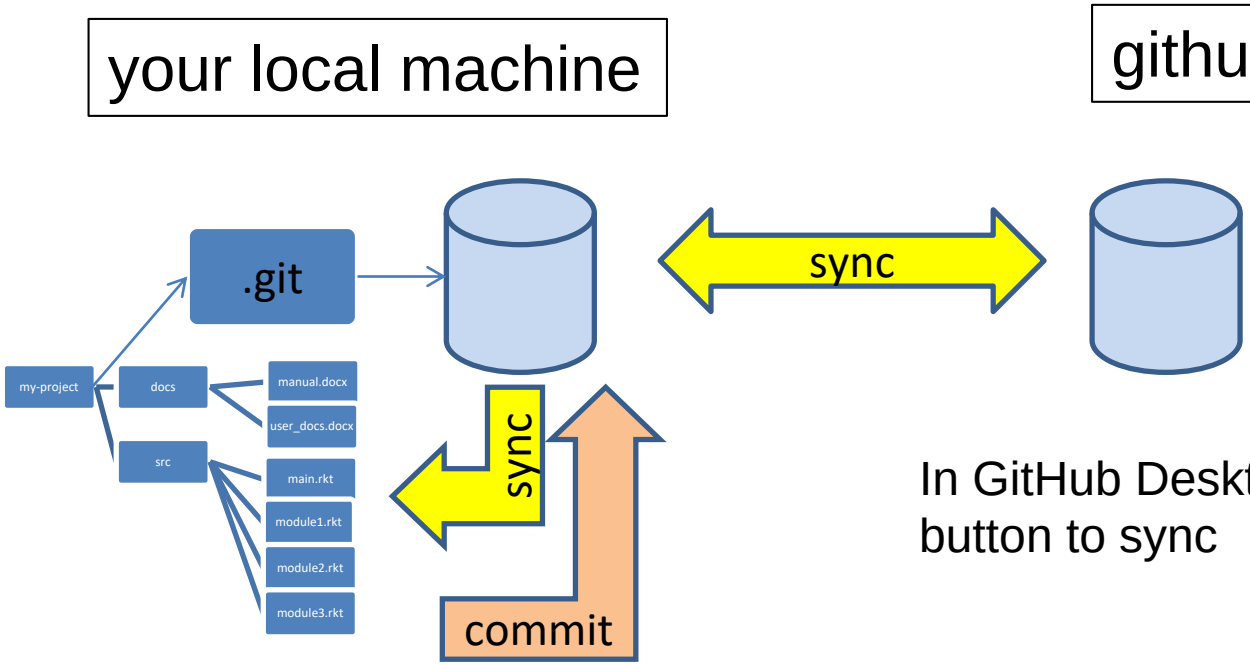


GitHub: Create Local Repository

- 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 Fetch origin 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/