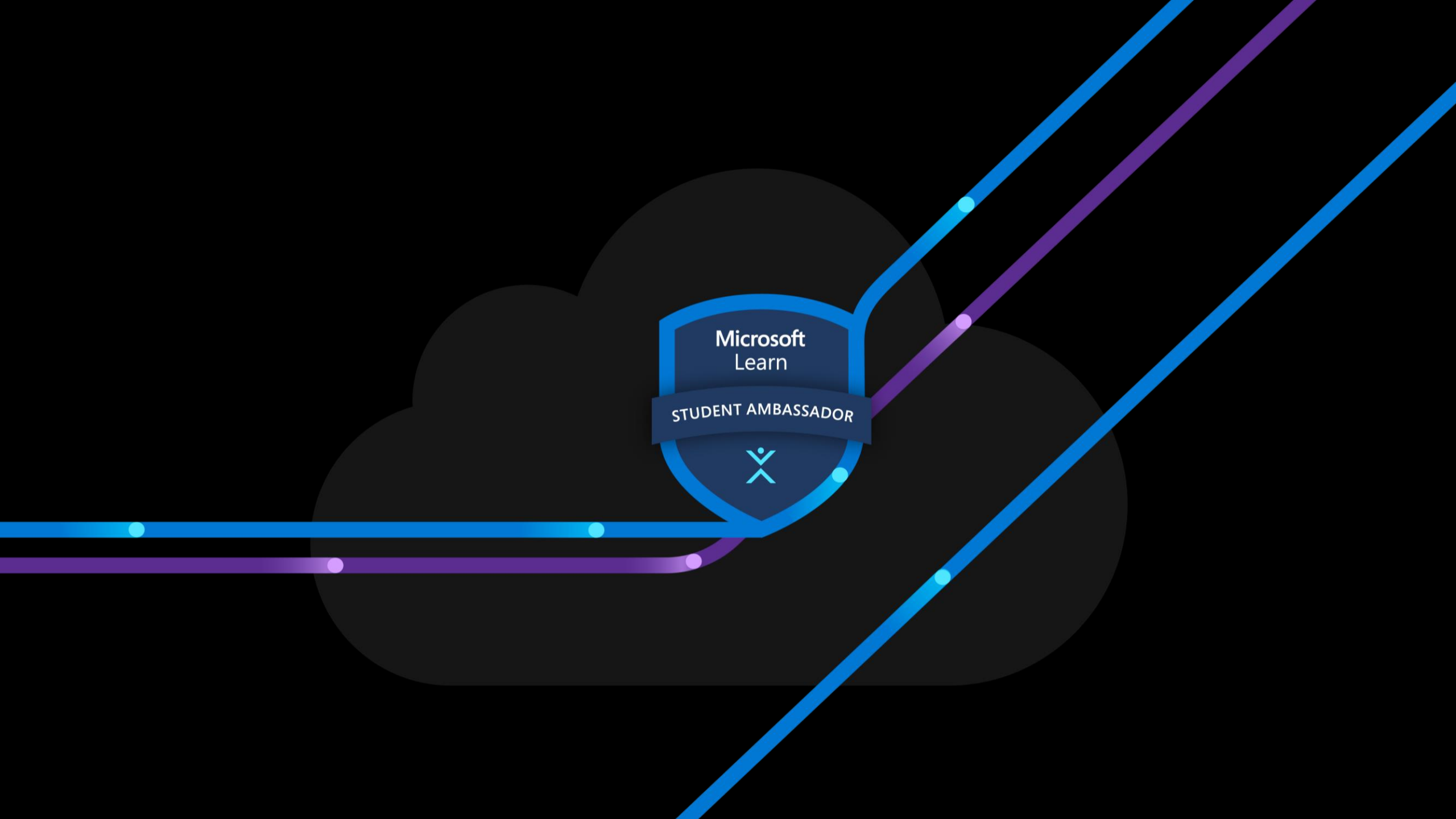
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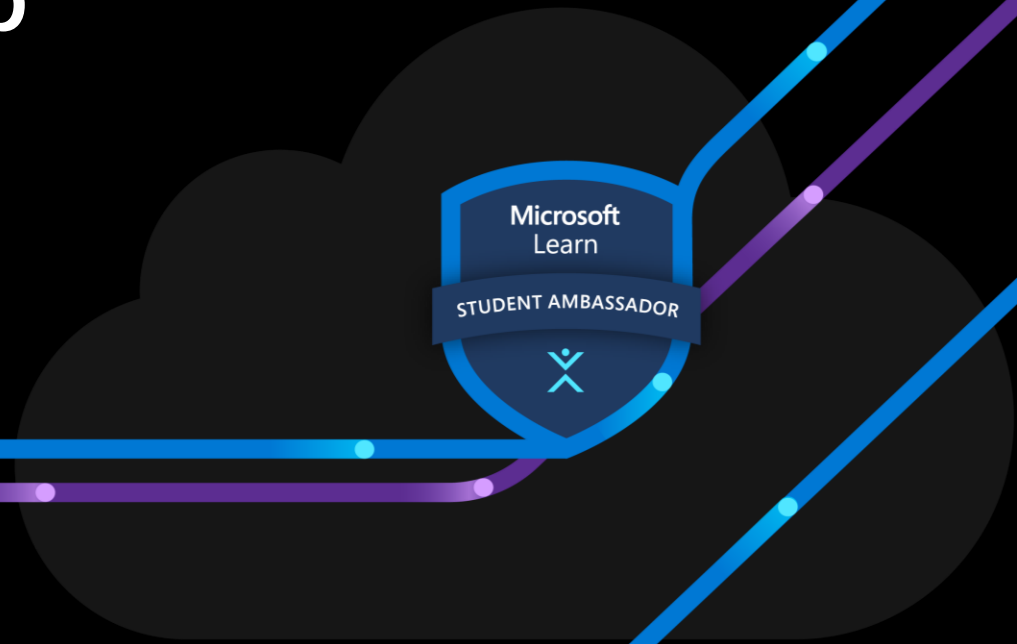
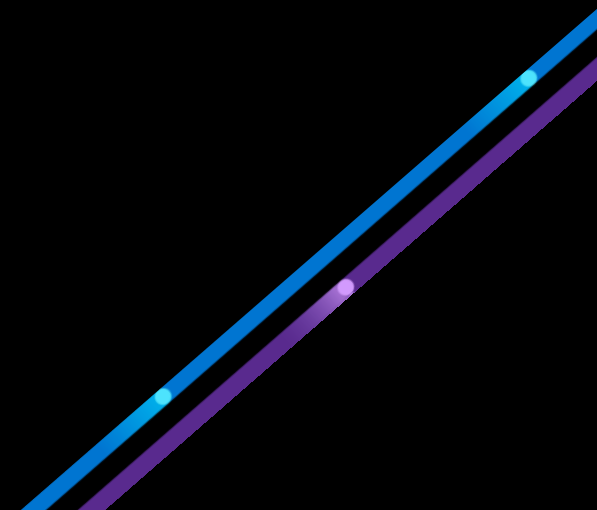
Introduction to Git and GitHub

Abhishek Mankame
Gold Microsoft Learn Student Ambassador

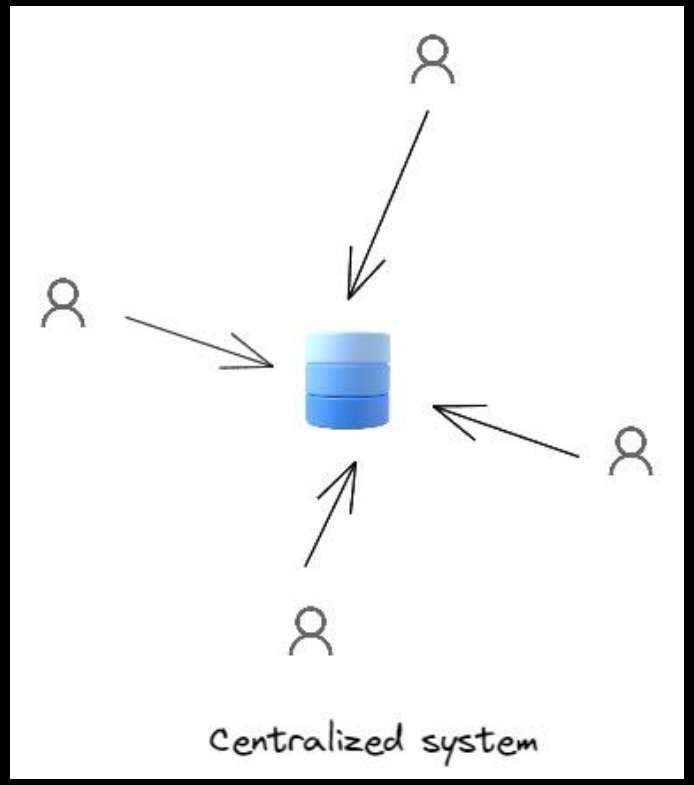


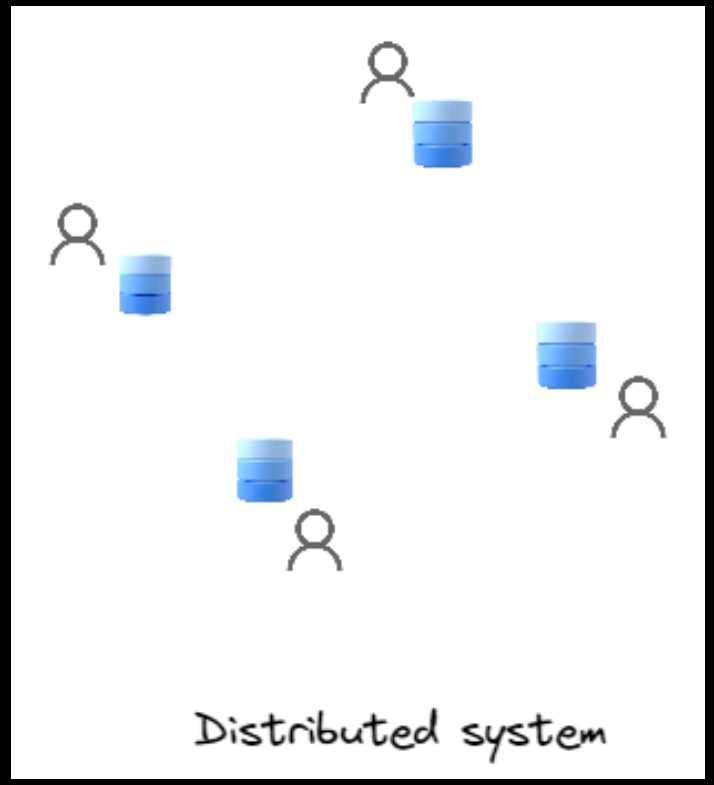
AGENDA

- What is Git? Why use it?
- Installation and configuration
- Getting started with basic commands
- Creating a repository
- Introduction to GitHub
- Stages in Git and commands
- Undoing changes made
- Branches in Git
- Merging branches
- About MLSA program




Person1's code
Person2's code
v1.0.1
v1.0.2
v1.0.3
v1.0.1
v1.0.2
v1.0.3


Centralized system


Distributed system

What is Git?

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. It is used by almost all major tech giants to store their open source projects.

Version control systems is used for source control for managing and tracking software code. It helps to revert back to specific versions of the code easily. Git creates backup, supports collaboration, tracks history, easy branching and merging etc.

Installation and configuration

Git can be downloaded from this link:

https://git-scm.com/downloads

First time configuration commands:

> git config --global user.name xxxx

> git config --global user.email email

```
Varshini karthik@LAPTOP-EU628CA8 MINGW64 /c/LearnGit
$ git config --global user.name varshini

Varshini karthik@LAPTOP-EU628CA8 MINGW64 /c/LearnGit
$ git config --global user.email varshini@gmail.com
```

Getting started with basic commands

- ✓ cd

  To move from the current working directory to another directory

- ✓ ls

  It is used to list the files in that particular directory

- ✓ touch

  It is used to create new and empty files

- ✓ mkdir directoryname

  It is used to make a new directory

- ✓ rm

  It is used to remove a file from a directory

Getting started with basic commands

- ✓ git --version

  To check the current version of the git

- ✓ git init

  To initialize a new and empty repository

- ✓ git status

  It lists all the files that have to be committed

- ✓ git log

  It is used to list the commit history for the current branch

- ✓ git branch

  It lists all the local branches in the current repository

Creating a new repository

There are majorly two ways to create a repo:

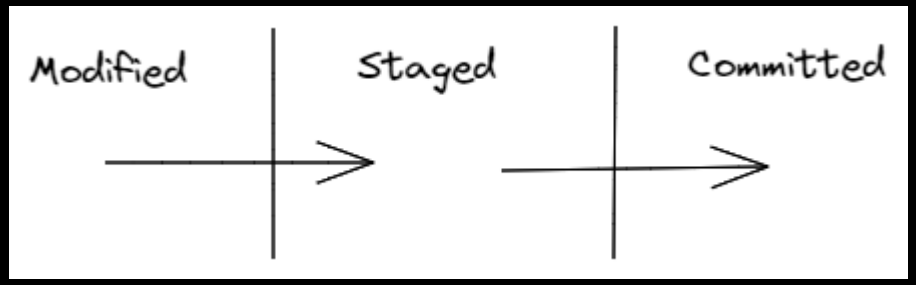
- ✓ Using git bash terminal
- ✓ Using github directly

Let’s see a demo using the command -> git init

Stages in git

There are three stages in git:

- ✓ Modified
- ✓ Staged
- ✓ Committed



Let’s see a demo

Undoing the changes made

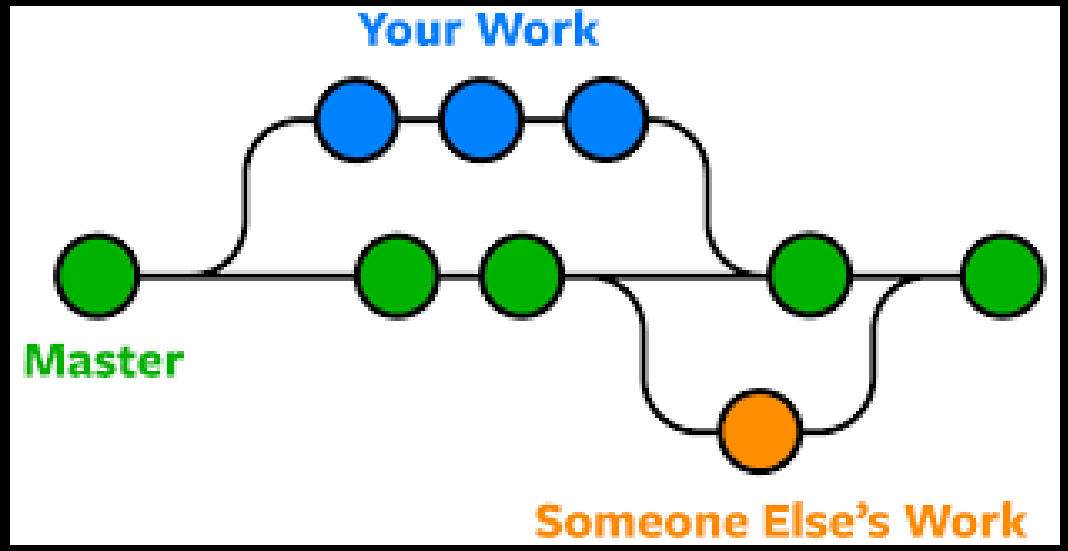
It can done using three commands:

- ✓ checkout – takes the user to a particular commit
- ✓ revert – to undo a particular commit
- ✓ reset – destroys the history of commits

Let’s see a demo

Branches in git

A branch in Git is simply a lightweight movable pointer to different set of commits. The default branch name in Git is master.



Commands for branch

- ✓ git branch branchName

  To create a new branch

- ✓ git branch -a

  It is used to list all the existing branches

- ✓ git checkout branchName

  It switches to the newly created branch

- ✓ git branch –D branchName

  It is used to delete a particular branch

- ✓ git branch –d branchName

  It is used to delete a branch after merge

- ✓ git checkout –d branchName

  It is used to create and checkout a new branch

Merging branches and handling conflicts

Command to be used:

```
git merge branchName
```

Let’s see a demo

Thank You!