Training Course

Git

Course Overview

Module 1: Git Introduction

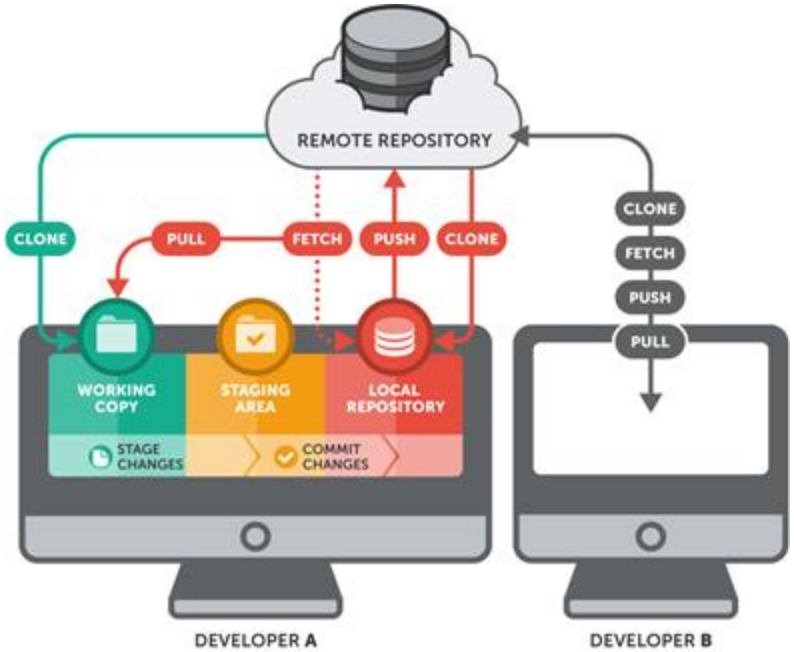
Module 2: Git Command Line & GitHub

Module 3: Lab

Module 1:
Git Introduction

What is Git?

- Git is a free open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.
- Git is a platform of many services like GitHub and GitLab , but we can use Git without using any other Git service.
- Git can be used both privately and publicly.

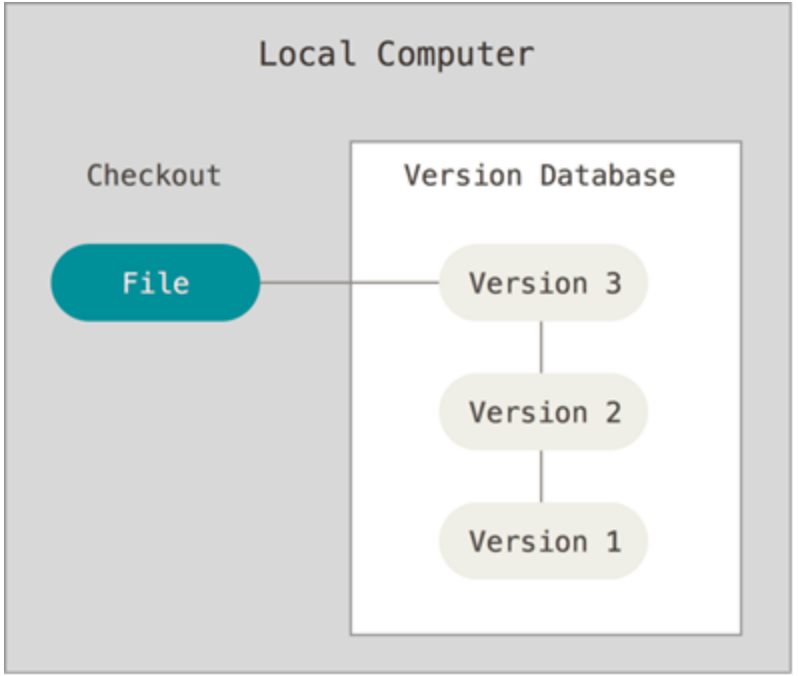


What is version Management/Control?

Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.

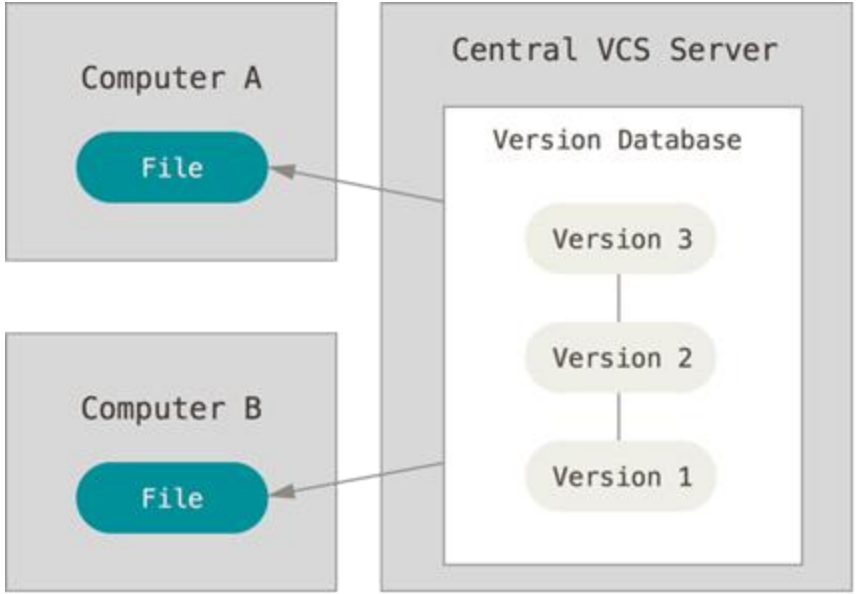
Local version control systems

- Local VCSs is a simple database that kept all the changes to files under version control.



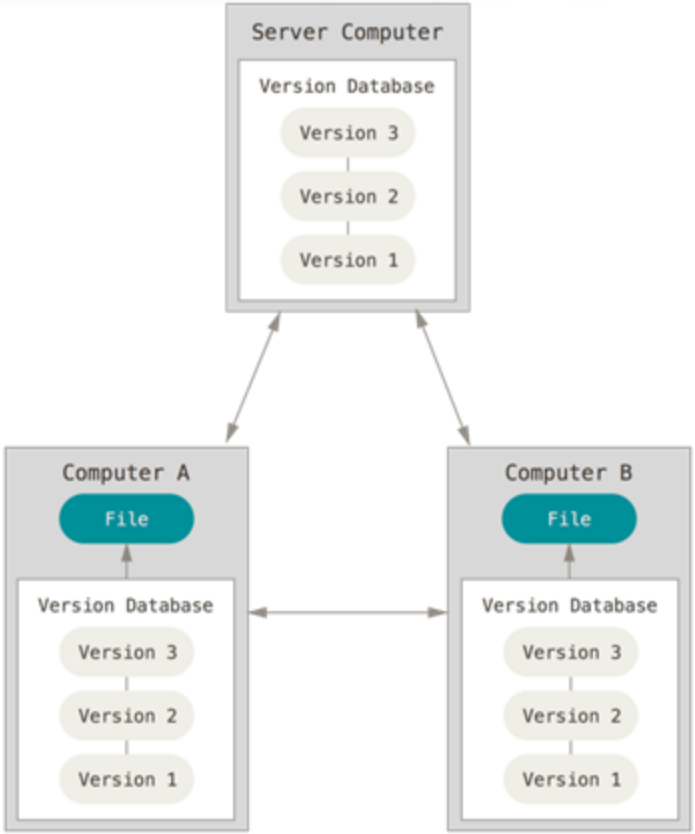
Centralized Version Control Systems

- These systems have a single server that contains all the versioned files, and a number of clients that check out files from that central place.



Distributed Version Control Systems

- In a DVCS clients don't just check out the latest snapshot of the files, they fully mirror the repository, including its full history.
- If any server dies, and these systems were collaborating via that server, any of the client repositories can be copied back up to the server to restore it.
- Every clone is really a full backup of all the data.

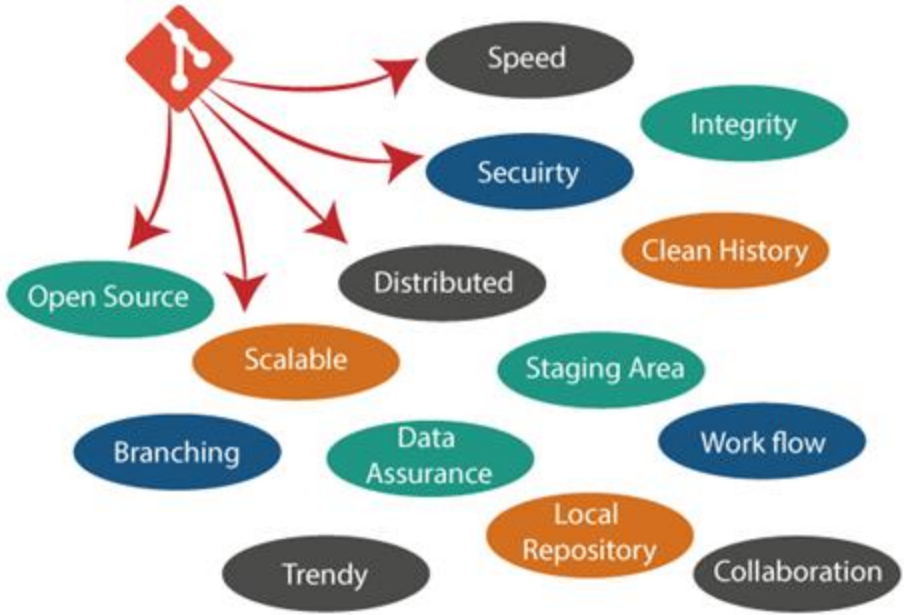


Two main components of version control:

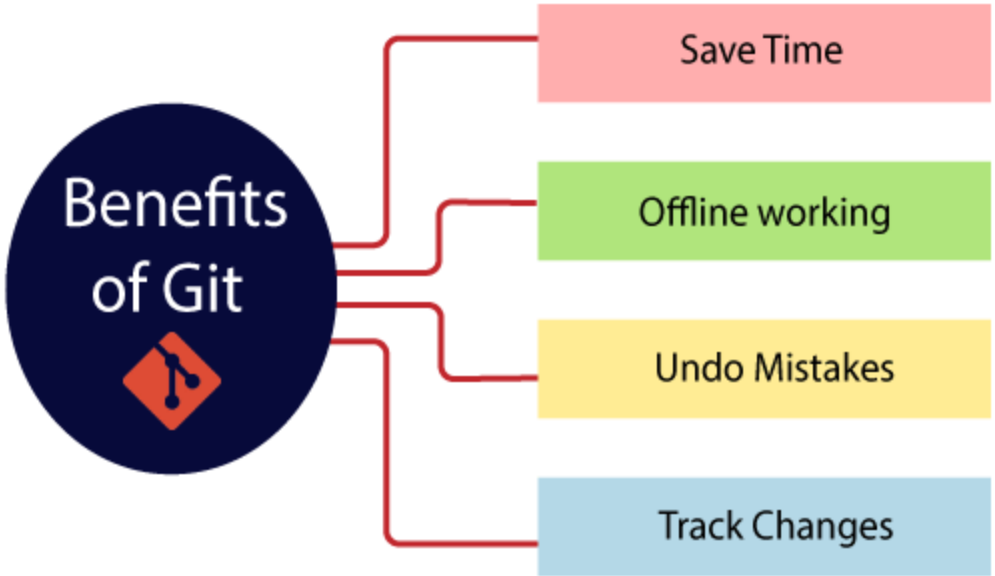
- Branching - allows you to duplicate the source code for yourself. You will then work on your own branch so your edits do not immediately affect the original source code.

- Merging - the process of joining your branch with the original source code after complete testing.

Why Git?


Speed
Integrity
Secuirty
Clean History
Distributed
Open Source
Scalable
Staging Area
Branching
Data Assurance
Work flow
Local Repository
Trendy
Collaboration

Benefits of Git

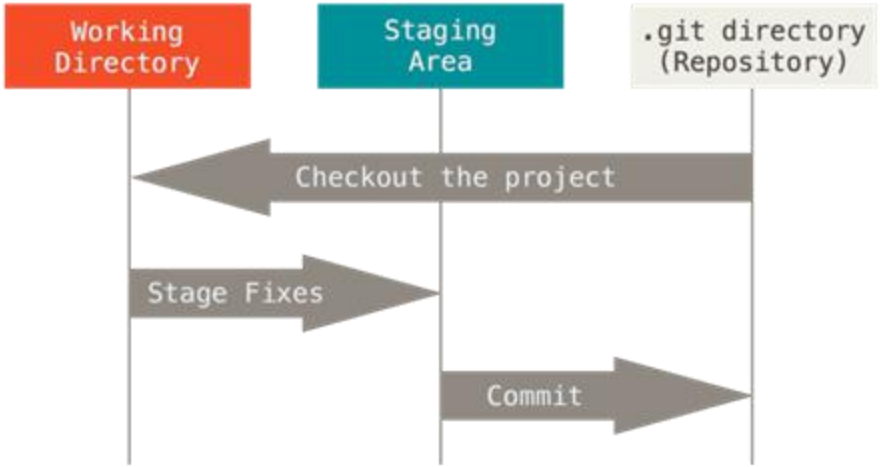


Git has three main states that your files can reside in: **modified**, **staged**, and **committed**:

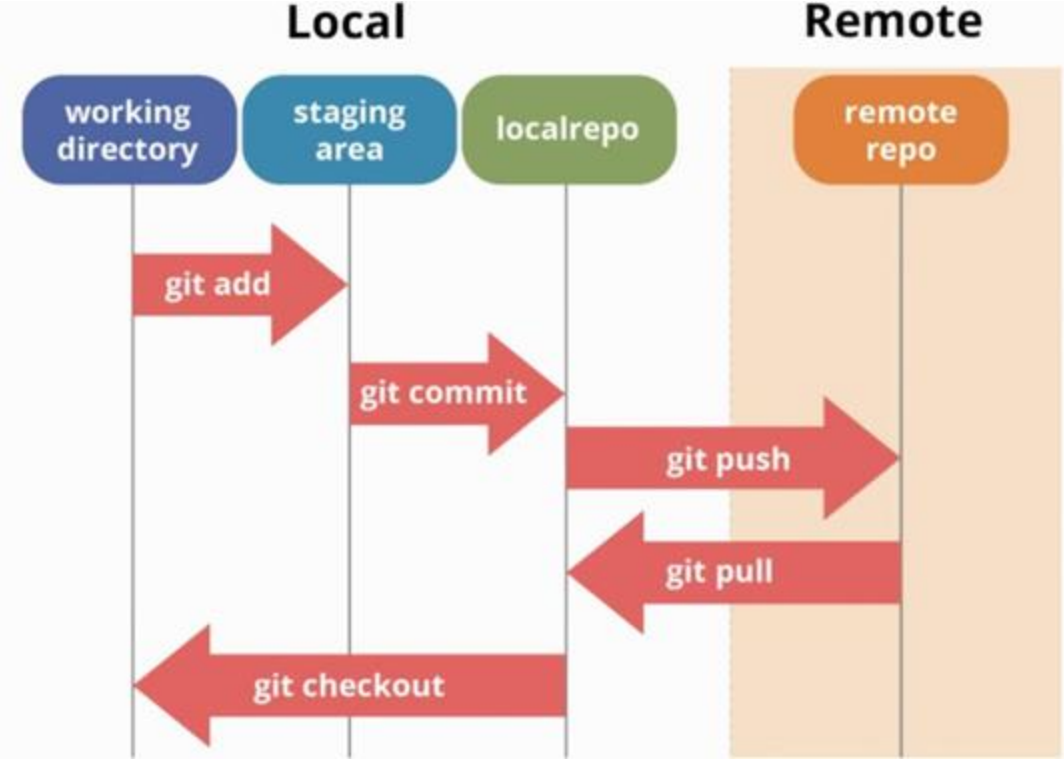
• Modified means that you have changed the file but have not committed it to your database yet.

• Staged means that you have marked a modified file in its current version to go into your next commit snapshot.

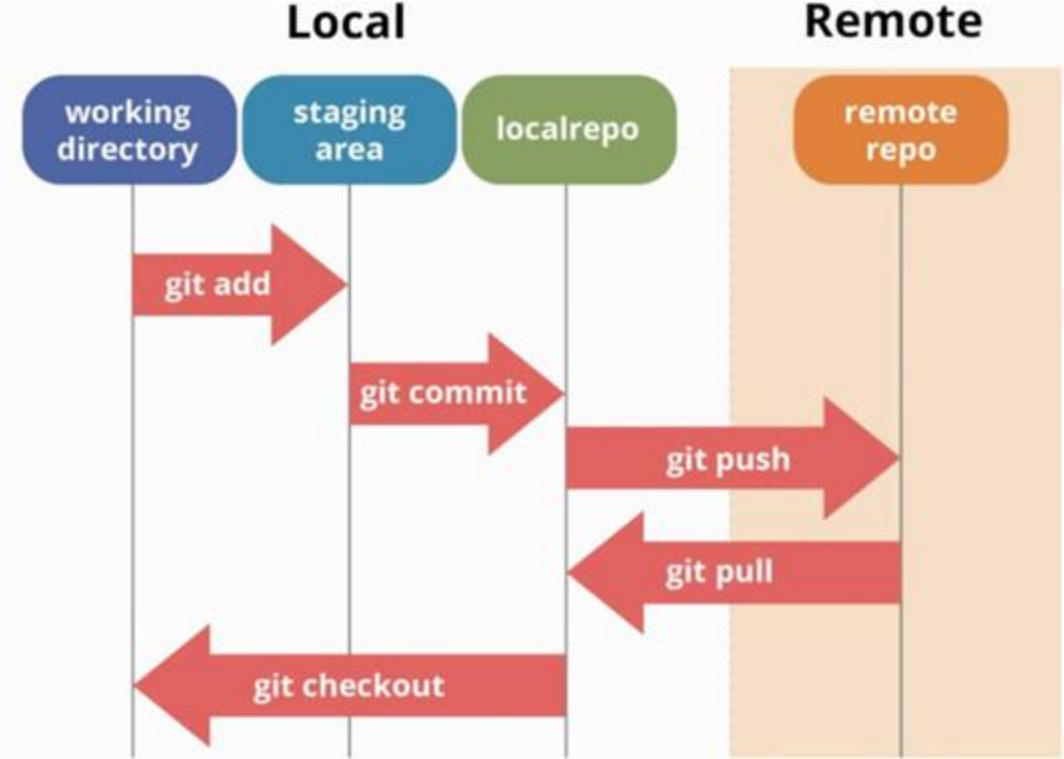
• Committed means that the data is safely stored in your local database.



Git WorkFlow



Git WorkFlow



Module 2:
GitHub & Git Commandline

What is GitHub?

- GitHub is a code hosting platform for version control and collaboration.
- It lets you and others work together on projects from anywhere.

Module 2: Git Commadline & GitHub

- Install Gitbash
- Create GitHub account
- Create Repository on GitHub
- Work with Commonly Used Commands

Commonly Used Commands

git init	creates a new Git repository on local
git add	add your changes to the staging area
git commit	a snapshot of your repo at a specific point in time
git push	push your changes to the remote repository

Commonly Used Commands

git clone	clone the repository to your local machine
git pull	pull down from the remote repository to make sure you have up to date information
git checkout	create your own branch
git push	push your changes to the remote repository

Commonly Used Commands

git diff	show you any changes that you've made but not yet added to the index
git branch	get a list of all existing branches
git log	view the history of your changes
git remote	defining **remote** repository

Module 3:
Lab

Module 3: Lab

- Create a repository on GitHub
- Connect remote repository from local
- Create file at local and push to remote repository
- Create multiple branch
- Make change at other branch
- Create pull request merge to master branch

Thank you