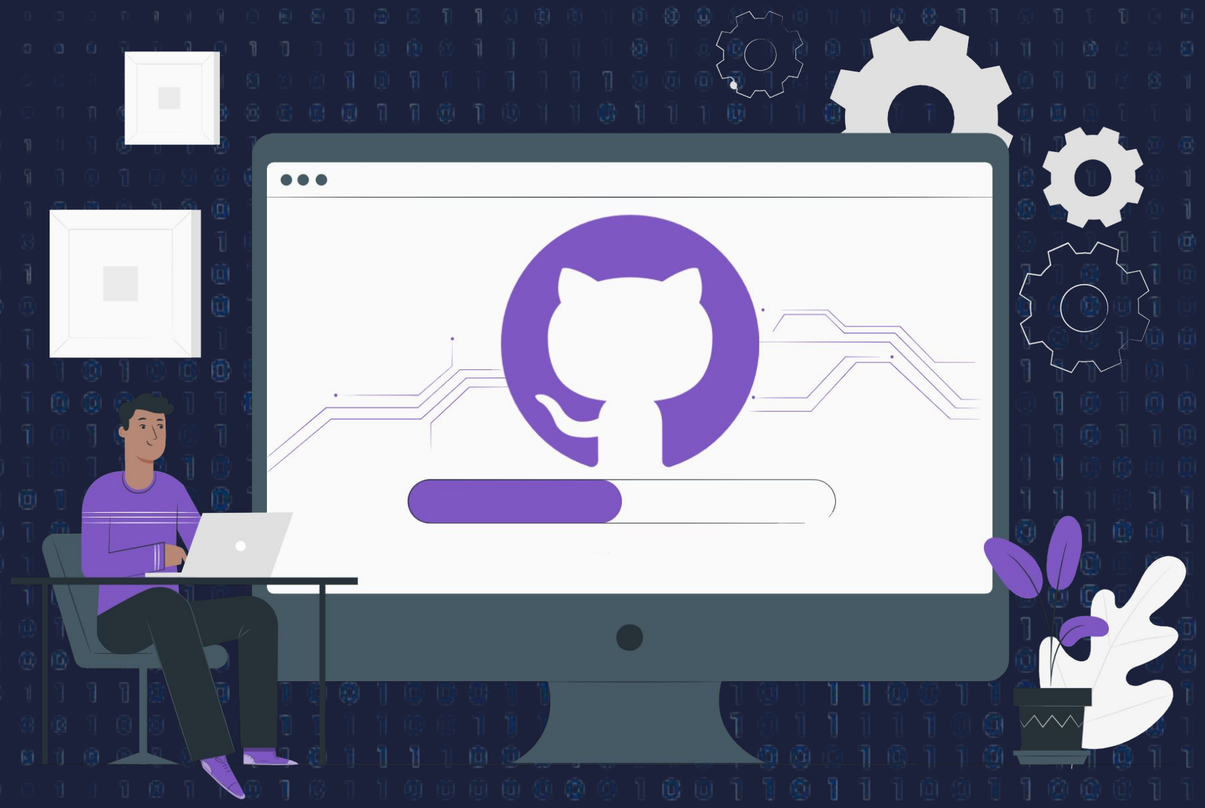
PW SKILLS

Lecture – 3

Git and GitHub



List of Concepts Involved:

- Git foundation
- Git software installation
- Git Architecture

Topics covered Yesterday's Session:

- What is a Computer?
- Classification of Computer
- Features of Computer
- Components of Computer

Introduction of Git

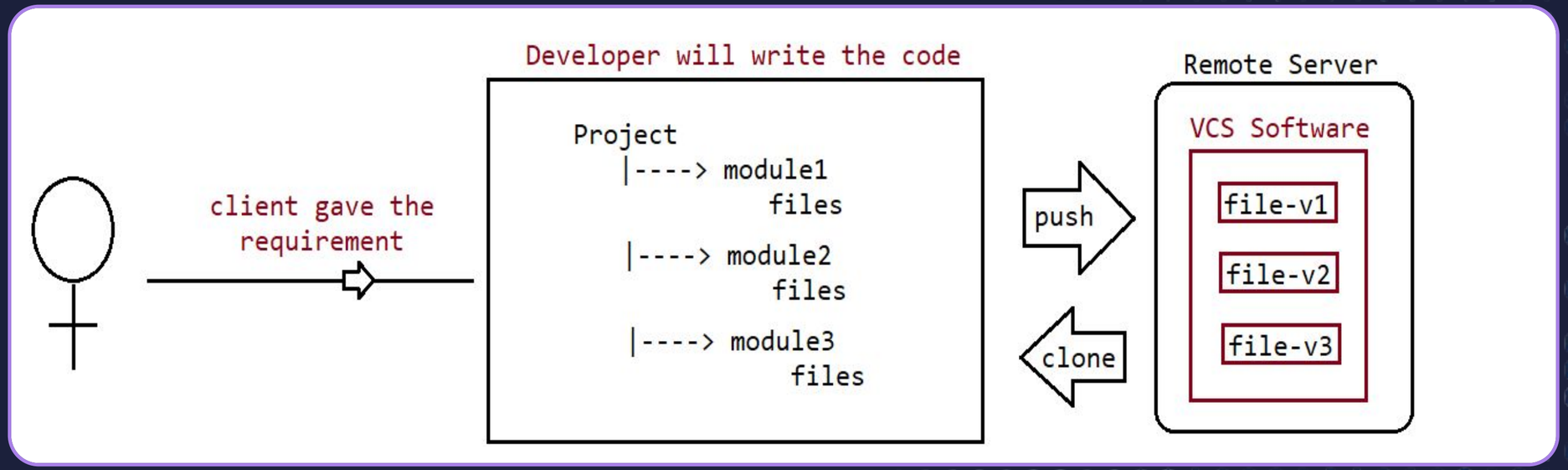
Git is a popular version control system(VCS), It was created by Linus Torvalds in 2005 and has been maintained by Junio Hamano

Git is used for

a. Tracking code changes
b. Tracking who made changes like history of the files
c. Coding Collaborations

VCS (Version Control System)

It is a system that records changes to a file or set of files over time, so that we can recall specific versions later, i.e., for every source code changes in a file a new version will be created.



Types of Version Control System

1. Centralized Version Control System (CVCS)
2. Distributed Version Control System (DVCS)

Centralized Version Control System

Developers can collaborate and do the changes

Eg: CVS, SubVersion,Perforce

Distributed Version Control System

- DVCS are Git, Mercurial,Darcs, Bazaar,...etc
- Developers don't check out the latest snapshot of the files rather they fully mirror the repository including its full history.
- If the main server dies, then the local system will maintain a copy of the main repository which has full backup of data.
- If the remote repository is down, then the developer can make changes in the local repository and when the main repository is up the code can be pushed to remote repository from local repository.

Git Software Installation

There are 2 types of Git softwares

a. Git Server
b. Git Client

Git Server

- It is a repository
- It is the largest host of source code in the world
- It is used to store/maintain the source code of the project
- Some of the git server tools are : Github, Gitlab,BitBucket,Gitblit,....

How to install Git Client software?

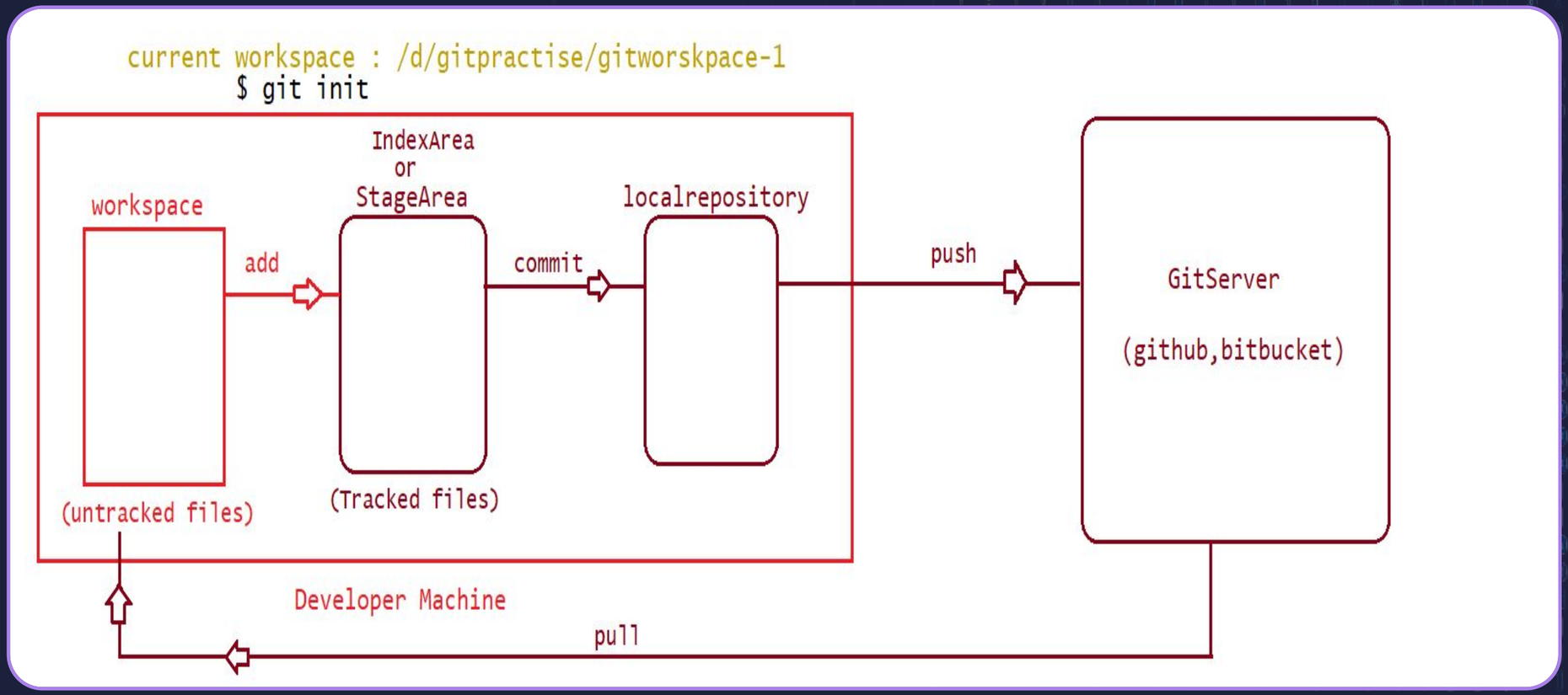
- It is an open source software
- It is in the form of .exe file
- Download git.exe file from https://git-scm.com/download/win
- Run the git.exe file then we will get below 3 softwares
  - git bash
  - git GUI
  - git cmd

Git Architecture

There are 3 stages involved :

1. Working area
2. Stage area
3. Local repository

Git Architecture



Next Lecture

- Git Commands
- Git branches
- Git merging
- Git and Github ecosystem

PW SKILLS

THANK YOU