

## Project Day-1

Date:21-02-2023

- **Without Version Control System**

- No collaboration between the team.
- Once saved all changes are permanent.
- Since there is no backup maintained.

- **All these problems can be solved with the help of Version Control System.**

- Best Version Control Systems are : GitHub, GitLab, etc.

### WorkFlow oF Git

1. **Remote Repository:** All the changes that Collaborators make just uploaded to Remote repository.
2. **Local Repository:** Users access all the files to the local Repository and then make changes. Once they have a set of changes, push changes to the remote repository.
3. **Working Copy:** it is a User Active Directory, the user modifies the existing file and creates the new file.
4. **Staging Area:** All the modified files commit a place. Once you make a changes then commit the changes before committing you just put them into a staging area. It is a place between working copy and remote repository.

### The Commands that perform these Actions

**CLONE:** create copy of existing remote repository inside the local repository.

**COMMIT:** commits all the files in the staging area to the local repository.

**PUSH:** pushes all the changes made in the local repository to the remote repository.

**FETCH:** collects the changes made in the remote repository and copies them to the local Repository.

**PULL:** Similar to fetch.

### Need to Generate SSH Key

You Can connect github without using supplying username and personal access Token at each visit.

**Steps to be followed:**

- Go to github account
- select settings
- Select ssh key and GPG keys
- Next select new ssh key
- Search in google Generating ssh key
- `$ ssh-keygen -t ed25519 -C "your\_email@example.com"` take this text
- Open git bash at anywhere
- Paste that text you copied
- Then enter enter
- One key will be generated and it showing one location

 MINGW64:/c/Users/User/Pictures

```
User@DESKTOP-MOBIJV6 MINGW64 ~/Pictures (master)
$ ssh-keygen -t ed25519 -C "priyankakankanawadi423@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/c/Users/User/.ssh/id_ed25519):
/c/Users/User/.ssh/id_ed25519 already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Passphrases do not match. Try again.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Passphrases do not match. Try again.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/User/.ssh/id_ed25519
Your public key has been saved in /c/Users/User/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:J8TFWdGEVCQ06etPRmMyP8jY+P91xp+jKjasiThEq2I priyankakankanawadi423@gmail.com
The key's randomart image is:
+---[ED25519 256]---+
|          ..=BO+   |
|          . .o oo.  |
|          o  .      |
|          .  .  .    |
|          . . S . o.+ |
|          o  o =.B o  |
|          o  . o.+ =  |
|.E .. . . = ..o +=  |
|o ... oo o.o++o+    |
+-----[SHA256]-----+


User@DESKTOP-MOBIJV6 MINGW64 ~/Pictures (master)
$
```

- Go to the specified location and copy that generated key
- Go to github select new ssh key
- Title : anything you want      Key: paste that copied key
- Click on add SSH key
- Confirm git access password

The screenshot shows the GitHub interface for a user named 'priyaadya'. The left sidebar contains navigation links: Public profile, Account, Appearance, Accessibility, Notifications, Access, Billing and plans, Emails, Password and authentication, Sessions, SSH and GPG keys (highlighted), Organizations, and Moderation. The main content area is titled 'SSH keys' and includes a 'New SSH key' button. Below the title, it states: 'This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.' Under the heading 'Authentication Keys', there is a single entry for a 'new Ssh key' with a SHA256 fingerprint, added on Feb 23, 2023, and marked as 'Never used — Read/write'. A 'Delete' button is next to the entry. Below the key list, there is a link to a guide on generating SSH keys. The 'GPG keys' section below it shows 'There are no GPG keys associated with your account.' and a link to learn how to generate a GPG key. A 'New GPG key' button is also present. In the bottom right corner, there is a 'Activate Windows' watermark.

## **Cloning from remote to local repository using ssh key**

- Go to github account from which repository you want take that one copy ssh key from code
- Git Bash anywhere you want
- Use clone and paste that copied code

 MINGW64:/e

```
User@DESKTOP-MOBIJV6 MINGW64 /e
$ git clone git@github.com:priyaadya/Demo.git
Cloning into 'Demo'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 9 (delta 1), reused 8 (delta 0), pack-reused 0
Receiving objects: 100% (9/9), done.
Resolving deltas: 100% (1/1), done.

User@DESKTOP-MOBIJV6 MINGW64 /e
$ git status
fatal: not a git repository (or any of the parent directories): .git

User@DESKTOP-MOBIJV6 MINGW64 /e
$ 0
```

- After cloning you will get a remote repository in your local repository .If you want to add any new file from the local repository create a new file and git bash from where the file is located.
- Check git status
- Git add -A for adding files
- Git commit -m “message”
- Git push -u origin master