GIT AND FUNCTIONS OF GIT

⇒ Git is a DevOps tool used for source code management. Its a free and open-source version control system used to handle small to very large projects effectively.

Git is used to tracking changes in source code, enabling multiple developrs to work together on a non-linear development. Linus Torvalds created Git in 2005 for development of the Linux kernel.

COMMANDS IN GIT

1. git config : git config -global user email "[emaladdress]"

   This is used for configuring, this command sets the author name & address respectively to be used with your commits.

2. git init : git init [repository name]

   This init command is used to start a new repository.

3. git clone : git clone [url]

   This command is used to obtain a repository from an existing URL. It first clones into file name in the URL.

4. git add : git add [file]

   This command adds one or more to the staging

It tells git that you want to include updates to a file in the next commit.

git add *

This command add one or more to the staging area.

git commit

i) git commit -m "[Type in the commit message]"

This command records or snapshots the files permanently in the version history.

ii) git commit -a

This command commits any files you've added the git add command and also commits any files you've changed since then.

iii) git reset [file]

The command unstages the file, but it preserves the file contents

ii) git reset [commit]

The command undo all the commits after the specified commit and preserves the commit locally.

iii) git reset -hard [commit]

This command discards all history and goes back to specified commit.

git status:

i) git status

This command lists all the files that have to be committed

ii) git rm [file]

This command deletes the file from your working directory and stages the deletion

git log:

git log -follow [file]

This command is used to list the version history for the current branch.

git branch: git branch [branch name]

This command lists all the local branches in current repository

git branch [branch name]

This command creates a new branch

git push:

i) git push [variable name] master

This command sends the comitted changes of the master branch to your remote repository.

ii) git push [variable name] [branch]

This command sends the branch commits to your remote repository

iii) git push -all [variable name]

This command pushes all the branches to your remote repository.

git pull : git pull [repository link]

- this command fetches & merges changes on the remote server to your working directory.

What is git and how to install git & how to generate ssh key.

⇒ Steps involved in installing git

1. Start by updating the package index

   $ sudo apt update

2. Run the following command to install git

   $ sudo apt install git

3. Verify the installation by typing the following command which will print the git version

   $ git --version

⇒ Configuring git

1) $ git config --global username "name"

   $ git config --global user.email @domain.com

To check if the configuration has been set properly or not

$ git config --list

Output = username = " "

user-email = " "

⇒ How to initialize a directory

Suppose you are working a project, create a folder called project. hello world and create a directory

$ mkdir directoryname

$ cd directoryname

⇒ Now you can tell git to monitor the directory using this command

$git init

O/P: initiated empty git repository in /home/user/directory/.git/

⇒ GENERATING SSH KEY

Generating a key pair in command terminal

* This command, substituting in your Github email address

$ ssh-keygen -t ed25519 -C "your-email@domain.com"

O/P: > Enter a file in which to save the key:

> Enter passphrase (empty for no passphrase):

> Enter passphrase again:

Adding your ssh key to ssh-agent-

1. Start the ssh agent in the background

$eval $(ssh-agent -s)"

>Agent PID 59566

=> How to push a file to git repository

The git push command is used to transfer or push the commit, which is made on a local branch in your computer to a remote repository like github. the command used for pushing to git.

git push 'remote_name' 'branch_name'.

=> COMMAND LINE TO PUSH TO GITHUB

1. Creating a new repository
2. Open your git bash
3. Initialize the git repository using git init
4. Add the file to the new local repository
   git add
   git status
5. Commit the files staged in your local repository by writing a commit message.
   git commit -m 'commit message'
6. Copy your remote repository URL from github
7. Add the URL copied, which is your remote repository to where your local content from your repository is pushed.
8. Push the code in your repository to Github.
1. View your files in your repository hosted on Github.