1. What is git and github?

GIT : GIT (Global Information Tracker ) used for version control system. Git is used in local machine to track the version of code. Git is used as interface to communicate with Git hub.

GIT HUB : Git Hub is a hosting repository platform used in software development . Git Hub is remotely . Git Hub is used for collaboration with other users.

1. What is CVCS and DVCS ?
2. Create a project of any and push the project

Create a local repository with the name of the project.

Open the folder in vs code.

Initialize git using *git init*

Also create a remote repository and add remote file using http or ssh

* 1. *Git add remote origin <Remote URL>*

create files and write into the file.

After writing the files, add to the stage area using add command.

* 1. *Add .* (or ) *add file\_name.txt*

Then check *git status*

Then commit the file with the specific commit message

* 1. *Git commit -m “commit message”*

Then push the file

* 1. *Git push origin master*

1. Create 3 branches and 5 tags

Create branch : we can use *git branch branch\_name* to create a branch.

*Git branch branch1*

*Git branch branch2*

*Git checkout -b branch3*

Create Tag : We can use *git tag tag\_name* command to create tag.

Git tag v1.0

Git tag v1.11

Git tag v1.112

Git tag v2.0

Git tag v2.111

1. Create a Keygen and push using ssh

Key should be generated using git bash and need to add in the git hub.

ssh-keygen -t ed25519 -C [your\_email@gmail.com](mailto:your_email@gmail.com)

press enter until you see its done

and connect in git hub account.

1. Create a sub branch in agit and switch from subbanch to mainbranch(hit: use merge concept)

Creating sub branch :

*Git branch branch\_name*

Switching to the sub\_branch :

*Git checkout branch\_name*

To merge main branch with sub\_branch :

(make sure you are in Main branch using *git branch* )

*Git merge branch\_name*

(need to give sub branch in branch\_name )

1. What is the importance of git checkout?

Git Checkout is a command used in Git to switch between one branch to the other branch .

Git branch is used to list out the branches available in the repository.

Git checkout is used to switch to the specified branch.

Ex : Git checkout feature1

This command will switch to the feature1

Git checkout -b feature2

This command will create a new branch named feature2 if not exists and switch to the feature2.

1. What is the importance of git merge?

Git Merge is a command used in git to merge two different branches of a repository .

Ex :

Git merge feature1

If you are already in feature2 , it will merge the existing branch with feature1.

1. What is Linux and how is it different from other operating systems?

Linux is an operating system created by Linux Torvalds in 1991. Linux is open source operating system offering high security. Linux operating system is easy to understand and difficult to perform . Unlike other operating systems, Linux is created by an individual member and also provides high security.

1. What are the basic Linux commands for file operations?

ls : list the files and directories in current working directory.

ls -l : list all files and directories with detailing and file permissions.

ls -n : list all files and directories with detailing and file permissions, where users with number id.

ls -a : list all hidden files .

cat : used to read files.

tac : used to read files in reverse .

nano : used to write file .

head : used to give first few lines of file.

Tail : used to give last few lines of file.

Less : used to give few pages of large file.

More : used to give full pages of large file.

Echo : used to write file.

chmod : used to change the permsiions of file.

Chown : used to change the owner of file.

Mkdir : used to create a new empty folder.

Rmdir : used to delete a folder.

Pwd : will show the present working directory.

Cd : will change the current directory.

1. What is the difference between chmod and chown?

Chmod : Chmod is a command used to add or remove the permission of file from owners or groups or others.

We can change the permission of file of any one in accessing or modifying the file.

Ex : chmod 400 file\_name

Will make file permission to read\_only for everyone

Chown : chown is a command used to change owner of file.

Using chown we can change from ec2-user to the root or any other type of owner.

Ex : chown ec2-user : ec2-user file\_name

Will change owner of specific file to the ec2-user.

1. Explain the use of grep command.

Grep command is used to find the patterns in a file document.

Ex command : *grep “pattern” “file\_name.txt”*

By using above command , in the given file, system will return all the lines that contains the specified pattern in file. We can also find specific pattern of files like python files or text files using grep.

1. How do you schedule a cron job in Linux?
2. Explain the basic features of the Linux OS.\

* Open source operating system
* Offers GUI and CLI.
* More security.
* Making easier for collaboration.
* Kernel

1. **What are the major differences between Linux and Windows?**

|  |  |
| --- | --- |
| **Linux** | **Windows** |
| **Open source operating system.** | **Paid operating system.** |
| **Created by Linux Torvalds individually in 1991.** | **Created by Microsoft Company.** |
| **Offers high security.** | **Limited security compared to linux.** |
| **Offers both CLI(command Line Interface) and GUI (graphical user interface )** | **Offers only CLI (Command line interface)** |
| **Need not require to reboot the system after new installations.** | **Need to reboot after installation.** |
| **Easy to understand, but hard to implement.** | **Easy to use and implement.** |

1. **Define the basic components of Linux.**

**Basic components of Linux include**

**Kernel**

**Secure Shell**

**System library and utilities**

1. **What is the chmod command in Linux, and how do you use it?**

**Chmod command in linux is used to change permission of file , we can change permission of file .**

***U – Users (Owner) R - Read***

***G – Groups W- Write***

***O – Others X - Executive***

***Chmod 400 file\_name.txt***

**Giving only read permission to everyone.**

***Chmod 777 file\_name.txt***

**Giving all permission for everyone.**

***Chmod +x file\_name.txt***

**Giving executive permission to everyone**

***Chmod u+r file\_name.txt***

Giving read permission to the owner only.

1. **What are the most important Linux commands?**

**Chmod : to change the file permission**

**Chown : to change the owner of file**

**Ls : to list all the files in current directory**

**Ps : to list all the processes running with PID.**

**Sudo su : to change users**

**History : list out the commands performed**

**Man ls : manual for user to help with commands**

**Pwd : present working directory**

**Cd : change directory**

1. **How do you create,remove and copy files in linux?**

**In linux , We create a file using *cat, echo* command by inserting some text information into it.**

**To remove the file , we use *rm* command .**

**To copy the file, we use *scp* command.**

**To copy from local to remote :**

***Scp -i “linux-key.pem” “filename” ec2-user@public\_ip:/remote/path/***

**To copy from remote to local :**

***Scp -i “linux-key.pem” ec2-user@public\_ip:/remote/path/of/file/ /local/path/***

1. **What is ssh?**

**SSH(secure shell) is a secure protocol used to connect to remote files securely. SSH consists of a ssh key to validate in a key value pair with the user for authentication making this protocol more safe and secure connection .**