

1. Configure SSH key in github account.

Open Github > Go to settings > SSH AND GPG Keys > type in terminal = `ssh-keygen -t rsa -b 4096 -C "himanshu.agrawal@cloudkeeper.com"` > copy paste the ssh-rsa key and a headline for it.

2. Create a repository on github account.

Login to Github > Click on + icon > Click on New repository on account > Fill out the details of repository name and visibility.

3. Clone the above repository on your local from github.

Open the terminal > copy the repository link from github of respective repository > type `git clone <repo link>` in terminal.

4. Create a new file, say test.txt, in main/master branch. Make some changes to this file and commit the changes.

Nano test.txt

Make the changes.

Type `git add test.txt`

Type `git commit -m "updates"`

Type `git push -u origin main`

5. Create two branches from main/master branch, say f1 and f2.

First go to main

Git checkout main

Git branch f1

Git checkout main

Git branch f2

6. How can you resolve a merge conflict in Git, provide an example.

The merge conflict happens when the same line of the same file or a same file has different changes in different branches. To solve this problem, we do the following steps.

Suppose a file say file.txt

Git checkout main

Git checkout -b f1

// MADE SOME CHANGES IN file.txt

Git add file.txt

Git commit -m "changes done 1"

Git checkout -b f2

// MADE SOME CHANGES in file.txt

Git add file.txt

Git commit -m "changes in 2".

Git checkout main

Git merge f1 // merge f1 to main

Here it will show up an error saying you have modified the same part of the file file.txt

This could be solved by manually editing the content in the either branch and then merge f1 into main.

7. Show how divergence occurs in a branch.

It happens when a developer separates a branch after any particular commit,

Git init

Git checkout -b main

Git commit -m "a"

Git commit -m "b"

Git checkout -b f1

Git commit -m "c"

Git commit -m "d"

Git checkout main

Git commit -m "e"

// Divergence occurs as main and f1 branch separates after b commit

8. Difference between git init and git clone.

The git init command is used to initialise git in a directory. It is used to make a directory into a working directory for git repo.

Git clone is a cloning command where a developer can explicitly clone any repository of any other dev or organization.

9. Difference between git branch and git checkout.

Git branch is mainly used to create, list or delete branches, whereas git checkout is mainly used to switch between branches and -b flag is used to create and change the branch.

10. Difference between git fetch and git pull.

Git fetch is used to download or bring the changes from the remote directory to local directory without updating the working directory.

Git pull is used to download and merge the remote directory with the working directory. It is basically git fetch + merge.

11. Show the difference between git reset and git revert.

Git reset basically helps to get back to a particular commit. The difference is that it does not create a copy instead it moves back and modifies the log history. It is not considered and preferred to use.

Git revert helps us to go back in commits without changing the logs. It creates a new copy of same copy and commit it to logs.

12. Delete branch from local and remote.

Git branch -d <branch\_name> to delete branch in local.

Git push origin -delete <branch\_name> to delete branch from remote.