**Version Control**

Version control, also known as source control, is the practice of tracking and managing changes to software code. Version control systems are software tools that help software teams manage changes to source code over time.

**Source code Management:**

Source code management (SCM) is used to track modifications to a source code repository. SCM tracks a running history of changes to a code base and helps resolve conflicts when merging updates from multiple contributors.

GIT Source Code Repository

GIT Command

|  |  |
| --- | --- |
| Command | Description |
| sudo apt-get install git-all | Git installation on Linux |
| git --version |  |
| git config |  |
| Git config –global --list |  |
| Git config –global user.name “” |  |
| Git config –global –user.email “” |  |
| git init . | Create an empty Git Repository or reinitialize an existing one |
| git add | Adds a file to the staging area |
| git status | lists all the files that have to be committed |
| git log | Used to list the version history for the current branch |
| Git reflog |  |
| git commit | Add changes to local repository |
| Git diff | Compare file with working directory to staging area |
| git diff --staged | Compare files are in staging area with local repository |
| git diff --HEAD | compare with working directory to local repository |
| git clone | Used to obtain a repository from an existing URL |
| git push | sends the committed changes of master branch to your remote repository |
| git pull | fetches and merges changes on the remote server to your working directory |
| Git show | shows the metadata and content changes of the specified commit |
| Git annotate | Annotate file lines with commit information |
| Git checkout <Commit ID> |  |
| Git switch - |  |
| Blame | help you to determine who made changes to a file (This is on your git remote repository) |
| git branch |  |
| git branch <New Branch Name> |  |
| git checkout <Branch name> |  |
| git tag | This command is used to give tags to the specified commit |
| Revert changes from working directory |  |
| git restore <File Name> OR git checkout --<File Name> |  |
| Revert changes from Staging area |  |
| git restore --staged <file name> | to revert from staging to working area |
| git restore <File name> | restore from working area |
| Revert changes from Local repository |  |
| git reset HEAD~ | to revert changes from local repo to working directory |
| git restore <File name> |  |
| git fetch |  |
| git pull |  |

**Create a new repository**

Git clone <Git repository URL>

Cd <new folder location>

Git commit –am “added file”

Git push –u origin master

**Existing Folder**

Cd <Existing folder>

Git init

Git remote add origin <Git remote URL>

Git add .

Git commit –m “initial commit”

Git push –u origin master

QA

What is Git

What is difference between GIT and GitHub?

Why we use Git?

What is SCM and VCS?

Why do we commit?

What is branching in GIT