**Git Basics**

**Git History**

Git was developed by Linus Torvalds the inventor of linux. Linux software was maintained on DVC BitKeeper but is 2005 BitKeeper stopped giving support to Linux, and the tools free of charge status was revoked, this promped the linux community to develop their own tool which later became popular as git.

**What is git ?**

GIT is a version control system / tool which is used to keep record of changes made to file or set of files over time, so that you can recall specific version later

**What is Git and Github ?**

Git is a version control system, a tool to manage your source code history.

GitHub is a hosting service for Git repositories.

**Types of Local Version Control System ?**

1. Local Version Control Systems
2. Centralized Version Control Systems
3. Distributed Version Control Systems

**Local Version Control Systems**

This is a simple version control system where user will copy file into another directory

**Centralized Version Control Systems**

This system contains single server and versioned files kept on this server, client / developers can checkout the files from this server

Reason to introduce : They need to collaborate with developers on other system

Drawback :

1. If server goes down no body can collaborate and save different version.
2. If hard disk of the main server goes down and proper backups are not been taken than entire history is lost except only single snapshot present on the client machine.

**Distributed Version Control System**

1. To overcome the drawback of LVCS, DVCS was introduced.
2. In this system the client does not only take the latest snapshot but mirrors the entire repository including the history.
3. Every clone is full backup of data
4. If server dies any client that were connected to the server can copy data back to the server

**Alternatives to GitHub ?**

BitBucket

SourceForge

GitLab

BeanStalk

**Alternatives to GIT ?**

MicrosoftTFS

SVN

Mercurial

Helix

**What is branching why is it done ?**

Branching is the technique of making a copy of a branch without effecting the branch. While developing the code it is not a good practice to make changes in the master branch which can have effect to other developers, the best idea is to to make a branch implement the feature test it and than merge it with original branch.

**What is HEAD in GIT ?**

HEAD is a reference to currently checked out commit.