

## **GIT CONCEPTS**

- **What is Version Control ?**

Version control, also known as source control, It is the practice of tracking and managing changes to software code. These are software tools which are very helpful to the software teams to manage changes to source code over time.

- **What is Version Control System ?**

Version Control system is a system that maintains different versions of your project when we work in a team or as an individual. (system managing changes to files) As the project progresses, new features get added to it. So, a version control system maintains all the different versions of your project for you and you can roll back to any version you want without causing any trouble to you for maintaining different versions by giving names to it like MyProject, MyProjectWithFeature1, etc.

- **What is Git ?**

Git is a **DevOps tool used for source code management**. It is a free and open-source version control system used to handle small to very large projects efficiently. And Allows us to Maintain the history of the project and Ensures at what Particular time which person has changed , and where in the project.

- **What is the use of git ?**

Git is a tool that is used to manage multiple versions of source code edits that are then transferred to files in a Git repository.

- **What is Stash and Unstash area in git ?**

Git has an area called the stash where you can temporarily store a snapshot of your changes without committing them to the repository. It's separate from the working directory, the staging area, or the repository.

This functionality is useful when you've made changes to a branch that you aren't ready to commit, but you need to switch to another branch.and Unstash is the basically popping the files from the stash area is known as Unstashing..

- **What is .gitignore file ?**

A .gitignore file is a plain text file that contains a list of all the specified files and folders from the project that Git should ignore and not track. Inside .gitignore , you can tell Git to ignore only a single file or a single folder by mentioning the name or pattern of that specific file or folder.

- **What is nvm and npm ?**

NVM is a Node Version Manager tool. Using the NVM utility, you can install multiple node.js versions on a single system. You can also choose a specific Node version for applications. It also provides an option to auto-select the node version using the .nvmrc configuration file. NPM is a package manager, which help you install libraries, plugins, frameworks and applications.

- **Concepts of branches in git ?**

In Git, a branch is a new / separate version of the main repository, Branches allow you to work on different parts of a project without impacting the main branch. When the work is complete, a branch can be merged with the main project. You can even switch between branches and work on different projects without them interfering with each other. Branching in Git is very lightweight and fast.

Commits are basically Linked / connected with each other in the form of branch and Internally they are implemented by **Directed Acyclic Graph**.

- **Basic NVM Commands**

**Install the latest version of Node js:** nvm install node

**Install a Specific Version:** nvm install version\_name

- **Git Branch Commands:**

**git branch** -> Displays a list of local branches.

**git branch -a** -> Displays both local and remote branches.

**git checkout branch\_name** -> Switch to a branch.

**git checkout -b branch\_name** -> Create a branch and Switch to it.

- **Git Clone Commands:**

**git clone <repo URL>** -> Clone a specific remote repository.