

GIT

GIT is a version control system, or VCS, tracks the history of changes as people and teams collaborate on projects together. As developers make changes to the projects, any earlier version of the project can be recovered at any time.

- Developers can review project history and find out
 - * Which changes were made
 - * Who made the changes
 - * When were the changes made
 - * Why were changes needed.

Repositories:-

A repository, or git project encompasses the entire collection of files and folders associated with a project, along with each file's revision history.

Basic git Commands:-

- git init :- initializes a brand new Git repository and begins tracking an existing directory. It adds a hidden subfolder within the existing directory that houses the internal data structure required for version control.
- git clone :- Creates a local copy of a project that already exists remotely. The clones includes all the project's files, history, and branches.

- Git add :- Stages a change. Git tracks changes to a developer's codebase. This command performs staging, the first part of that two-step process.
- Git commit :- Saves the snapshot to the project history and completes the change-tracking process. In short, a commit functions like taking a photo. Anything that's been staged with git add will become a part of the snapshot with git commit.
- Git status :- Saves the snapshot to the project history.
- Git status :- Shows the status of changes are untracked, modified, or staged.
- Git branch :- Shows the branches being worked on locally.
- Git push :- updates the remote repository with any commits made locally to a branch.

Features of Git :-

- * Tracks history
- * Free and open source
- * Supports non-linear development
- * Creates backups
- * Scalable

- * Supports collaboration
- * Branching is easier
- * Distributed development

Git installation on linux:-

- 1) \$ sudo apt-get install git
- 2) To check if git is present.
\$ whereis git
↓
git by default is installed under /usr/bin/git directory on recent linux systems.
- 3) To get the version of the git.
\$ git --version

o/p → git version 1.9.1
- 4) To specify a user and password information to Git repository, then use the following command -
\$ git config --global user.email "mail"

for verifying git configuration,
git config --list

o/p → user.email = thejas1998@gmail.com.

Functions:-

Function is a command in linux which is used to create functions or methods.

1) Using function keyword:-

A function in linux can be declared by using keyword 'function' before the name of the function.

```
function name {  
  Commands;  
}
```

Eg:-

```
function hello {  
  echo Hello, welcome to LSS  
}
```

```
>>> ls hello  
Hello, welcome to LSS
```

2) Using parenthesis:-

A function can also be declared by using parenthesis after the name of the function. Different statements can be separated by a semicolon or a new line.

```
name() {COMMANDS;}
```

Eg:-

```
say_hello()  
{  
  echo Hello, welcome to LSS }
```


3b Parameterised function:-

```
function add  
{  
  a = $1  
  b = $2  
  add = $((a+b))  
  echo $add  
}
```

```
add 3 4  
7
```

\$1 will displays the first argument that will be sent and \$2 will display the second answer so on.