

# Getting Started - Git

TalentSprint

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# Learning Objectives

At the end of this session you will learn

- what git is?
- basic commands to work on local project
- how to create a project
- how to add, commit and check the status
- how to find the difference between two versions

# What is Git?

Git is an open source, distributed version control system designed for speed and efficiency.

# Features

- everything is local

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- everything is local
- fast

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- everything is local
- fast
- every clone is a backup

# Features

- everything is local
- fast
- every clone is a backup
- work offline

# Install Git in Linux

## Command

```
$ sudo apt-get install git
```



# Git :: init

To create a project follow the below steps in Terminal:

- 1 \$ mkdir GitRepo
- 2 \$ cd GitRepo
- 3 \$ git init MyGitProject

Empty git repository is initialized in the current directory.

# Git :: add

Now add a file to project

- 1 \$ cd MyGitProject
- 2 \$ vim DispEvenNums.c
- 3 \$ git add DispEvenNums.c

DispEvenNums.c file is added to the project.

# Git :: status

check the status of file added to the project

- \$ git status

It displays a message :-

changes to be committed: new file: DispEvenNums.c

# Git configuration : user settings

now add the user details to project like username and email ID

- 1 `git config user.name "Bob"`
- 2 `git config user.email "bob@example.com"`

configure this globally for all your git projects:

- 1 `git config --global user.name "Bob"`
- 2 `git config --global user.email "bob@example.com"`

# Git :: commit

now commit the added file to the project

- `$ git commit -m "Added New File"`

It displays number of files added, number of lines inserted and number of lines deleted.

## Note

If we check the status again, it displays nothing to commit (working directory clean) - as the project stage and file stage are same.

# Follow the below steps

- `$ vim DispEvenNums.c`
- add a function to check the number is even or not and call the function
- `$ git add DispEvenNums.c`
- `$ git commit -m "Added isEven Function"`

## Note

git maintains two different versions of DispEvenNums.c

# Git :: log

- \$ git log
  - shows a listing of commits including the corresponding details like commit, author, date and commit messages.
- \$ git log - --abbrev-commit
  - show only the first few characters of SHA-1 checksum instead of all 40.

# Git :: diff

- `$ git diff a2a1eb3 068b9b9`

## Note

displays the difference between versions.



# Summary

**init** git init creates an empty git repository.

**add** add files changes in your working directory to your index.

**status** git status shows you how the working tree is different from the index and how the index is different from the last commit.

**commit** git commit takes the contents of the index and creates a new commit.

**log** shows a listing of commits on a branch including the corresponding details.

**diff** shows the difference from one commit compared to its parent or another.