Git Introduction

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Git was created in 2005 by Linus Torvalds. (Creator of Linux Kernel).

Why git

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git stores snapshots of our Project (Not differences)

- Collaboration.
- Analyse the code changes.
- Storing Versions.

Git Features

- Distributed
- Secure / Integrity.
- Almost everything is locally.
- Speed.
- Non-linear / Branching.

```
# to check the git version
git --version


#configuration of global variables
git config --global user.name "[redacted]"
git config --global user.email "[redacted]"
```

Types of Git Commands.

Creating Repository : git init.

Making Changes. : git add, git status, git commit.

Parallel development. : Branching : git branch, git Merge..

Syncing Repository : origin, remote, Push , Pull , fetch.

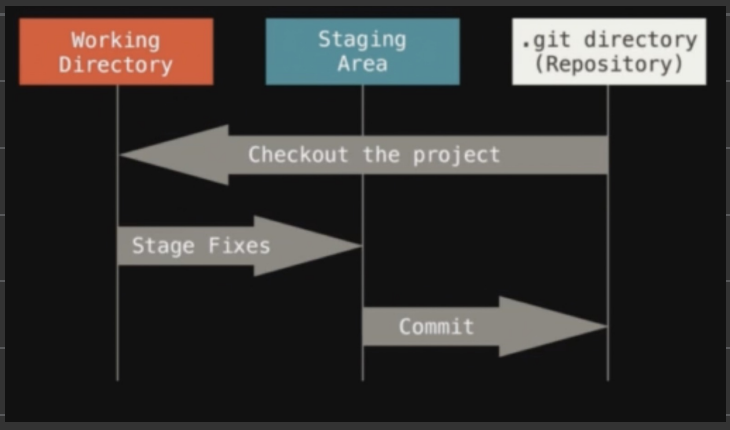
3 Stage Architecture of git.

There are 3 diff. stages of a git or git Project.

i) Modified

ii) Staged

iii) Committed.



Initialising a git Repository.

Creating a git Repository

- Initialise your own local git repo.
- Clone a remote repository.

Let's create a git repo.

* git init.

git init

This will create a hidden .git folder.
That's where git stores everything.

If the git software is able to find .git folder inside a repository, then only it will consider it as git repo.

To initialise any project as a git repo, first step is to do (git init)

Tracking files.

Untracked file is the file about which git doesn't know.
We need to add this file to staging area, then only git will treat this as tracked file.
To track file & folders.

git status

Each file in our working directory can be in one of two states.
tracked or untracked.
Tracked files are files that git knows about.
Any file in our working directory that wasn't in our last snapshot & isn't in our staging area is Untracked file.

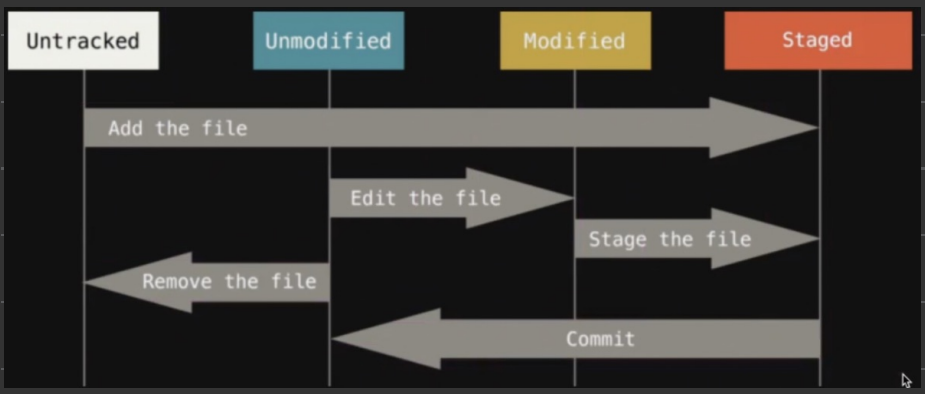
Tracking New files.

```
# for one specific file
git add <filename>


# for all files & folders
git add .
```

Stages the latest version of the file.

Lifecycle of the status of a file.



Commiting Changes.

Moving files from staged area to the git folder is called a commit.

Making commits, creates version/snapshots of your Project.

```
git commit -m "your commit message"
```

Viewing the Commit History. (logging the previous commits)

We can see all the commits/versions of our git Project.

```
git log
```

```
git log —oneline
```

Deleting a git Project.

```
rm -rf .git
```