git

An Introduction

Introduction

- It was created by **Linus Torvalds** who also known for creating **Linux Kernel**.
- Git is a very good example of **Distributed Version Control System** and **Source Code Management**.
- It works well on a wide range of operating systems and IDEs (Integrated Development Environments).
- In addition to being distributed, Git has been designed with performance, security and flexibility in mind.

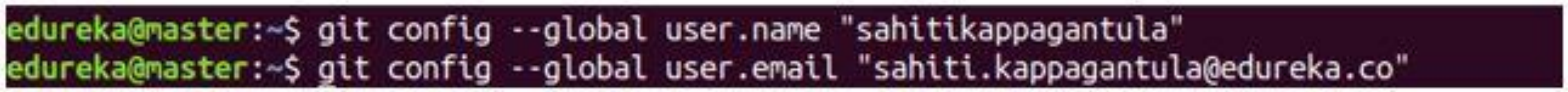
List of Commands

- git config
- git init
- git clone
- git add
- git commit
- git branch
- git checkout
- git merge
- git remote
- git push
- git pull….

etc

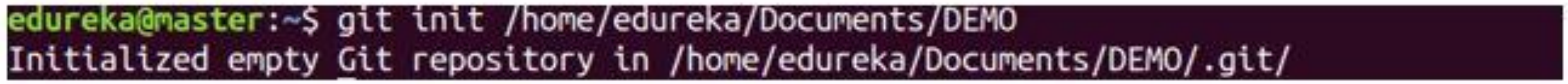
Commands…

git config –global user.name “[name]” and **git config –global user.email “[email]”** : This command sets the author name and email address respectively to be used with your commits.



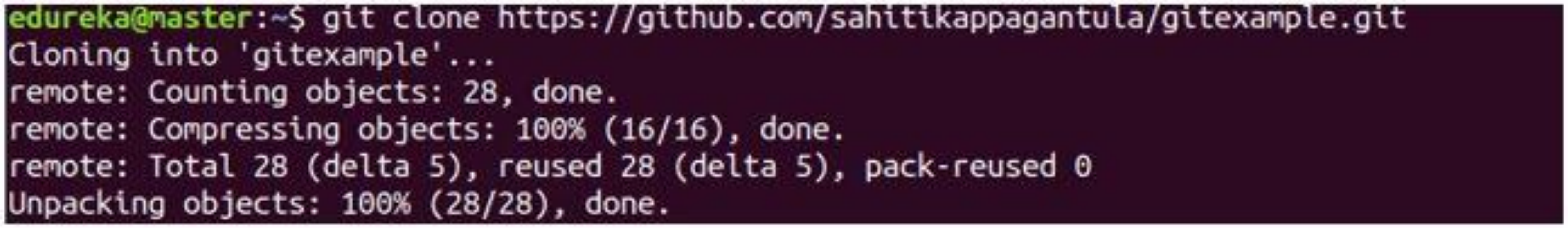
```
edureka@master:~$ git config --global user.name "sahitikappagantula"
edureka@master:~$ git config --global user.email "sahiti.kappagantula@edureka.co"
```

git init [repository name]: This command is used to start a new repository.



```
edureka@master:~$ git init /home/edureka/Documents/DEMO
Initialized empty Git repository in /home/edureka/Documents/DEMO/.git/
```

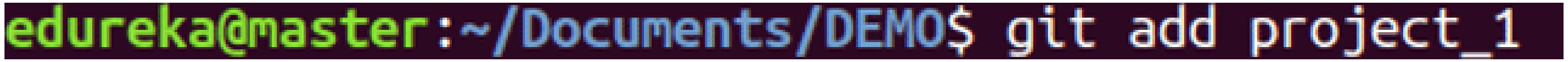
git clone [url]: This command is used to obtain a repository from an existing URL.



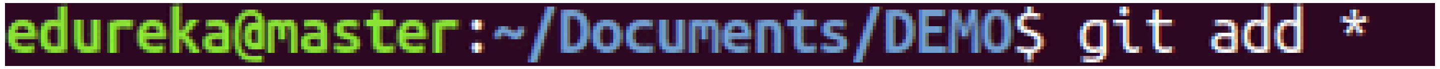
```
edureka@master:~$ git clone https://github.com/sahitikappagantula/gitexample.git
Cloning into 'gitexample'...
remote: Counting objects: 28, done.
remote: Compressing objects: 100% (16/16), done.
remote: Total 28 (delta 5), reused 28 (delta 5), pack-reused 0
Unpacking objects: 100% (28/28), done.
```

Commands…

git add [file] or **git add *** : First command adds a file to the staging area. And with the “*” command adds one or more than files to the staging area.

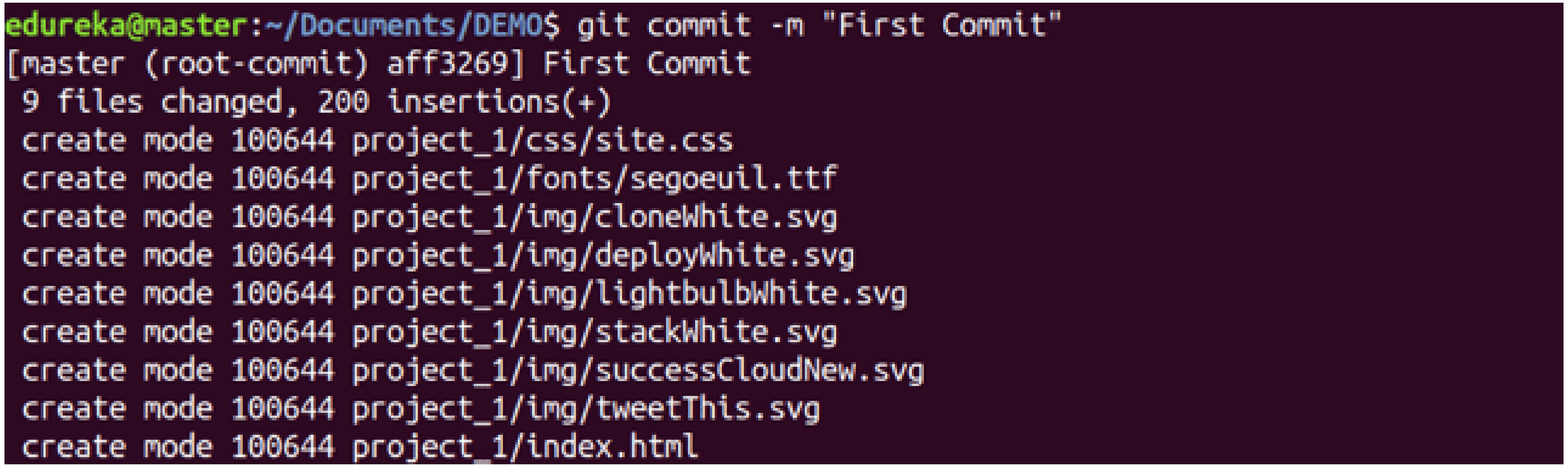


```
edureka@master:~/Documents/DEMO$ git add project_1
```



```
edureka@master:~/Documents/DEMO$ git add *
```

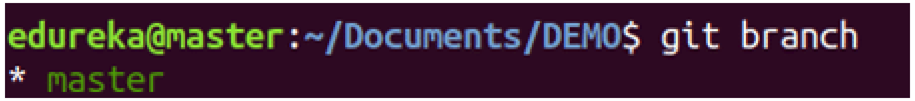
git commit -m “[Type in the commit message]”: This command records or snapshots the file permanently in the version history.



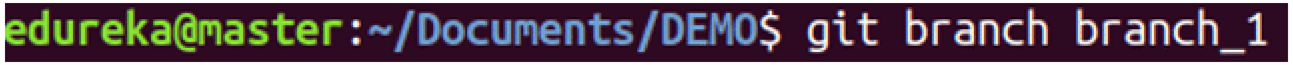
```
edureka@master:~/Documents/DEMO$ git commit -m "First Commit"
[master (root-commit) aff3269] First Commit
 9 files changed, 200 insertions(+)
 create mode 100644 project_1/css/site.css
 create mode 100644 project_1/fonts/segoeuil.ttf
 create mode 100644 project_1/img/cloneWhite.svg
 create mode 100644 project_1/img/deployWhite.svg
 create mode 100644 project_1/img/lightbulbWhite.svg
 create mode 100644 project_1/img/stackWhite.svg
 create mode 100644 project_1/img/successCloudNew.svg
 create mode 100644 project_1/img/tweetThis.svg
 create mode 100644 project_1/index.html
```

Commands...

git branch and **git branch [branch name] :**The “git branch” command lists all the local branches in the current repository and second git command creates a new branch.

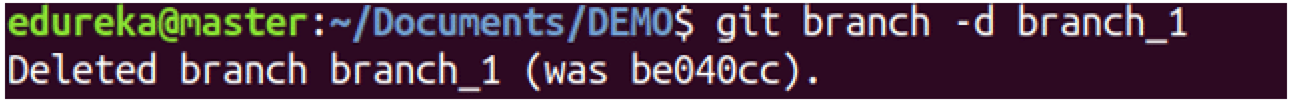


```
edureka@master:~/Documents/DEMO$ git branch
* master
```



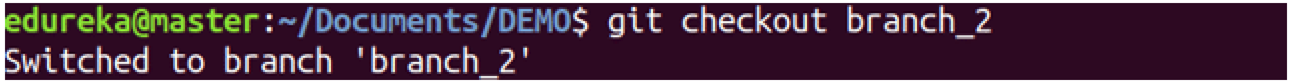
```
edureka@master:~/Documents/DEMO$ git branch branch_1
```

git branch -d [branch name] : This command deletes the feature branch.



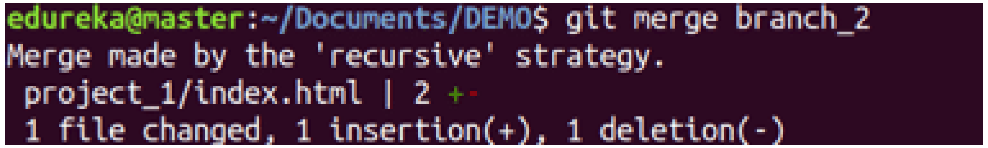
```
edureka@master:~/Documents/DEMO$ git branch -d branch_1
Deleted branch branch_1 (was be040cc).
```

git checkout [branch name] : This command is used to switch from one branch to another.



```
edureka@master:~/Documents/DEMO$ git checkout branch_2
Switched to branch 'branch_2'
```

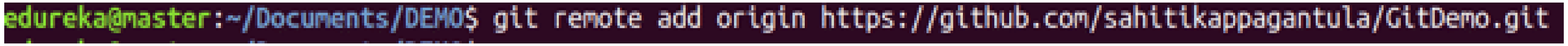
git merge [branch name] : This command merges the specified branch’s history into the current branch.



```
edureka@master:~/Documents/DEMO$ git merge branch_2
Merge made by the 'recursive' strategy.
 project_1/index.html | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
```

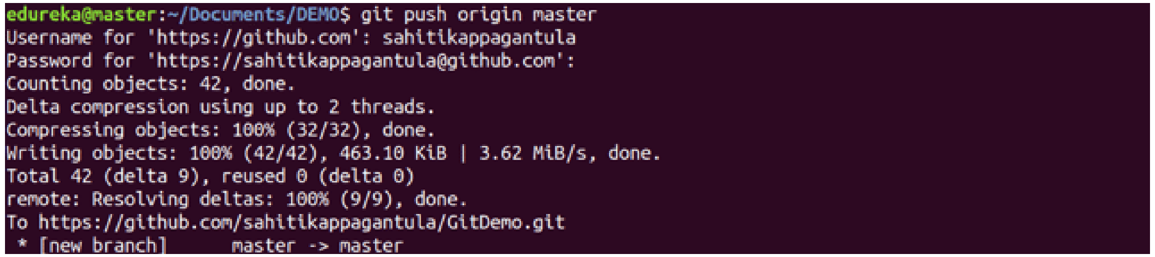
Commands…

git remote add [variable name] [Remote Server Link] : This command is used to connect your local repository to the remote server.



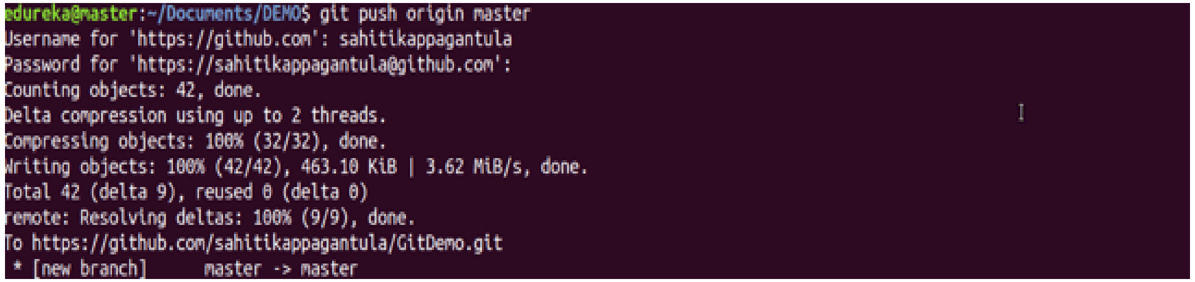
```
edureka@master:~/Documents/DEMO$ git remote add origin https://github.com/sahitikappagantula/GitDemo.git
```

git push [variable name] master : This command sends the committed changes of master branch to your remote repository.



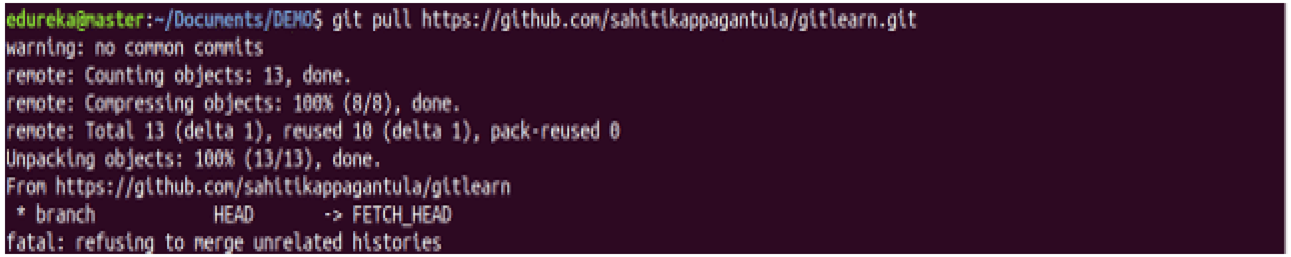
```
edureka@master:~/Documents/DEMO$ git push origin master
Username for 'https://github.com': sahitikappagantula
Password for 'https://sahitikappagantula@github.com':
Counting objects: 42, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (32/32), done.
Writing objects: 100% (42/42), 463.10 KiB | 3.62 MiB/s, done.
Total 42 (delta 9), reused 0 (delta 0)
remote: Resolving deltas: 100% (9/9), done.
To https://github.com/sahitikappagantula/GitDemo.git
 * [new branch]      master -> master
```

git push [variable name] [branch] : This command sends the branch commits to your remote repository.



```
edureka@master:~/Documents/DEMO$ git push origin master
Username for 'https://github.com': sahitikappagantula
Password for 'https://sahitikappagantula@github.com':
Counting objects: 42, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (32/32), done.
Writing objects: 100% (42/42), 463.10 KiB | 3.62 MiB/s, done.
Total 42 (delta 9), reused 0 (delta 0)
remote: Resolving deltas: 100% (9/9), done.
To https://github.com/sahitikappagantula/GitDemo.git
 * [new branch]      master -> master
```

git pull [Repository Link] : This command fetches and merges changes on the remote server to your working directory.



```
edureka@master:~/Documents/DEMO$ git pull https://github.com/sahitikappagantula/gitlearn.git
warning: no common commits
remote: Counting objects: 13, done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 13 (delta 1), reused 10 (delta 1), pack-reused 0
Unpacking objects: 100% (13/13), done.
From https://github.com/sahitikappagantula/gitlearn
 * branch            HEAD       -> FETCH_HEAD
fatal: refusing to merge unrelated histories
```

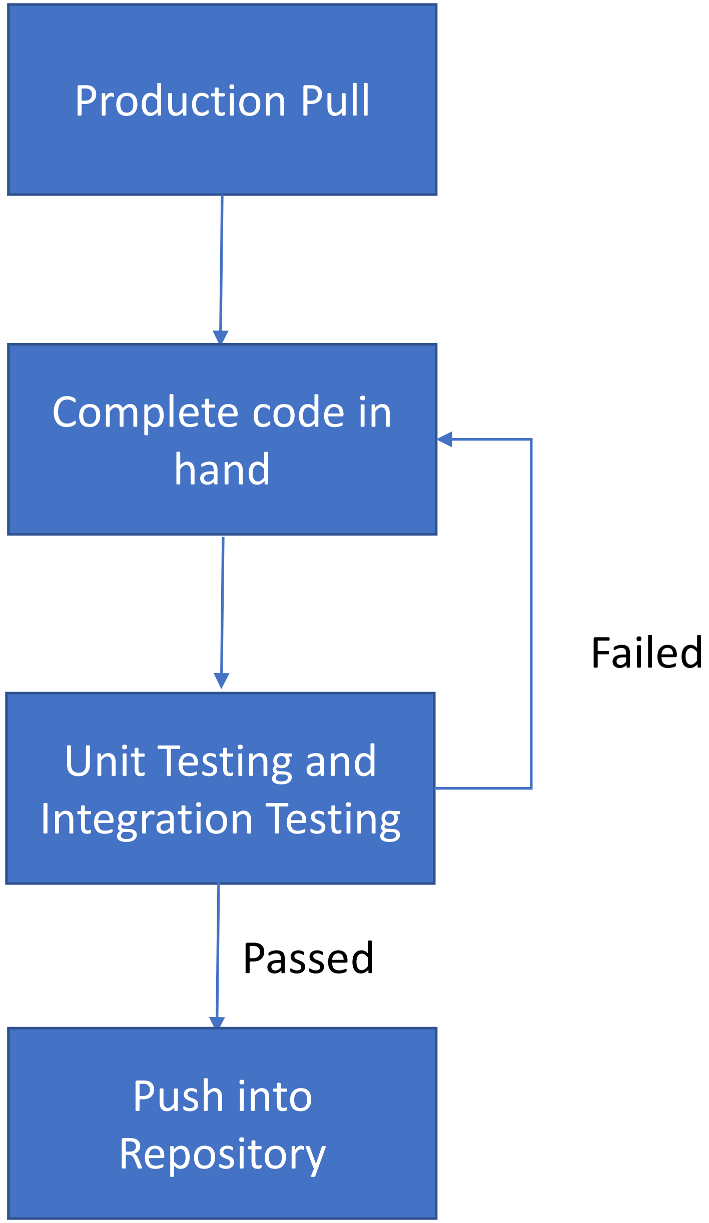
How to Push

- Step 1: **git init [repository name]**
- Step 2: **git add [file]** or **git add ***
- Step 3: **git commit -m “[Type in the commit message]”**
- Step 4: **git branch** and **git branch [branch name]** (If don’t want push into **“master”** branch but into other branch)
- Step 5: **git remote add [variable name] [Remote Server Link]**
- Step 6: **git push [variable name] master** (For pushing into **“master”** branch) or **git push [variable name] [branch]**

How to Merge

- Step 1: **git pull [Repository Link]**
- Step 2**: git checkout [branch name]**
- Step 3**: git merge [branch name]**

Git Policy



Production Pull

Complete code in hand

Unit Testing and Integration Testing

Failed

Passed

Push into Repository

Git Environments

Production

Staging

Release