

Getting started with git

1. 1st question

Generating ssh key

```
ignitarium@IGN-BLR-LP-215:~/git_getting_started$ ssh-keygen -t rsa -b 4096 -C "veginohnish@gmail.com"
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ignitarium/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ignitarium/.ssh/id_rsa
Your public key has been saved in /home/ignitarium/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:6KrKrNP0fpAmfQ10B4z+NNKDxTj7bz92Tvuyq2NZiP0 veginohnish@gmail.com
The key's randomart image is:
+---[RSA 4096]-----+
|      =..          |
|      = = .        |
|      o B .         |
|      *.=          |
|      . ..BS o .    |
|      o =. + . o .   |
|      o + o. . . +.  |
|      + . ... o *.E. |
|      +=.oo. . . +o*==|
+---[SHA256]-----+
```

So, here public and private key pairs are generated.

```
ignitarium@IGN-BLR-LP-215:~$ cd /home/ignitarium/.ssh
ignitarium@IGN-BLR-LP-215:~/.ssh$ ls
id_rsa id_rsa.pub
ignitarium@IGN-BLR-LP-215:~/.ssh$
```


Here both keys are generated in the given path. id_rsa is private key and id_rsa.pub is a public key

Updating in the server

SSH keys

New SSH key

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.



SSH Key
SHA256:6KrKrNP0fpAmfQ10B4z+NNKDxTj7bz92Tvuyq2NZiP0
Added on 4 Jan 2022
Never used — Read/write

Delete

Check out our guide to [generating SSH keys](#) or troubleshoot [common SSH problems](#).

2. 2nd question

Configuring username and email using git config

```
ignitarium@IGN-BLR-LP-215:~/git_getting_started$ git config --global user.name VegiMohnish
ignitarium@IGN-BLR-LP-215:~/git_getting_started$ git config --global user.email vegimohnish@gmail.com
ignitarium@IGN-BLR-LP-215:~/git_getting_started$ git config --list
user.name=VegiMohnish
user.email=vegimohnish@gmail.com
core.repositoryformatversion=0
core.filemode=true
core.bare=false
core.logallrefupdates=true
ignitarium@IGN-BLR-LP-215:~/git_getting_started$
```

3. 3rd question

Clone empty repository in local system

```
ignitarium@IGN-BLR-LP-215:~/git_getting_started$ git clone https://github.com/VegiMohnish/training.git
Cloning into 'training'...
warning: You appear to have cloned an empty repository.
ignitarium@IGN-BLR-LP-215:~/git_getting_started$
```

4. 4th question

```
ignitarium@IGN-BLR-LP-215:~/git$ git init
Initialized empty Git repository in /home/ignitarium/git/.git/
ignitarium@IGN-BLR-LP-215:~/git$ git remote add origin "/home/ignitarium/editing_and_browsing_code.pdf"
> /home/ignitarium/git_getting_started.pdf
> /home/ignitarium/linux_shell.pdf^C
ignitarium@IGN-BLR-LP-215:~/git$ git remote add origin "https://github.com/VegiMohnish/training.git"
ignitarium@IGN-BLR-LP-215:~/git$ git remote -v
origin https://github.com/VegiMohnish/training.git (fetch)
origin https://github.com/VegiMohnish/training.git (push)
ignitarium@IGN-BLR-LP-215:~/git$ git add .
ignitarium@IGN-BLR-LP-215:~/git$ git commit -m "my training exercises"
[master (root-commit) 29e0e53] my training exercises
22 files changed, 86 insertions(+)
create mode 100644 editing_and_browsing_code.pdf
create mode 100644 git_getting_started.pdf
create mode 100644 linux_shell.pdf
create mode 100644 linuxshell/2ndquestion.png
create mode 100644 linuxshell/3rdquestion.png
create mode 100644 linuxshell/6thquestion.png
create mode 100755 linuxshell/8.sh
create mode 100644 linuxshell/8thquestion.png
create mode 100755 linuxshell/9.sh
create mode 100644 linuxshell/9thquestion.png
create mode 100644 linuxshell/Bash
create mode 100644 linuxshell/Linux Commands.pdf
create mode 100644 linuxshell/Linux_shell_solutions.pdf
create mode 100644 linuxshell/Shortcuts
create mode 100644 linuxshell/a.patch
create mode 100644 linuxshell/a.txt
create mode 100644 linuxshell/a_sort.txt
create mode 100644 linuxshell/b.txt
create mode 100644 linuxshell/b_sort.txt
create mode 100644 linuxshell/listOfFiles.txt
create mode 100644 linuxshell/result.txt
create mode 100644 linuxshell/sorted_result.txt
```

5. 5th question

Added my_exercise.txt file in the root directory

6. 6th question

Guidelines for commit

7. 7th question

- add : add files content to the index. takes a modified file in your working directory and places the modified version in a staging area.
- commit: takes everything from the staging area and makes a permanent snapshot of the current state of your repository that is associated with a unique identifier.

```
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git add 8.sh
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   8.sh

ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git commit -m "file 8.sh is modified"
[master 872087d] file 8.sh is modified
 1 file changed, 2 insertions(+)
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git status
On branch master
nothing to commit, working tree clean
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$
```

- rm : used to remove individual or group of files
- log: Git log is a utility tool to review and read a history of everything that happens to a repository

```
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git log
commit 872087d58e690875f70484d9026a81a0b4983553 (HEAD -> master)
Author: VegiMohnish <vegimohnish@gmail.com>
Date:   Wed Jan 5 18:33:04 2022 +0530

    file 8.sh is modified

commit 29e0e53d35faeb6ba452f8ad2f73492054a28c36 (origin/master)
Author: VegiMohnish <vegimohnish@gmail.com>
Date:   Tue Jan 4 22:30:09 2022 +0530

    my training exercises
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$
```

- show: Show various types of objects
- diff: Show changes between commits, commit and working tree, etc
- push: The git push command is used to upload local repository content to a remote repository.

Referred link:

<https://www.earthdatascience.org/workshops/intro-version-control-git/basic-git-commands/>

8. 8th question

```
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git log
commit 872867d5be99875f70484d9d26a81a0b4983553 (HEAD -> master)
Author: VegiMohnish <veginohnish@gmail.com>
Date: Wed Jan 5 18:33:04 2022 +0530

    file 8.sh is modified

commit 29e9e53435faeb8ba652f8ad2f73492954a28c36 (origin/master)
Author: VegiMohnish <veginohnish@gmail.com>
Date: Tue Jan 4 22:30:09 2022 +0530

    my training exercises

ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git diff
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git branch firstbranch
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git checkout firstbranch
Switched to branch 'firstbranch'
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ touch test.txt
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git status
On branch firstbranch
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    test.txt

nothing added to commit but untracked files present (use "git add" to track)
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git add test.txt
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git commit -m "test file is added"
[firstbranch c1efcd] test file is added
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 linuxshell/test.txt
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git status
On branch firstbranch
nothing to commit, working tree clean
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$ git push -u origin firstbranch
Username for 'https://github.com': VegiMohnish
Password for 'https://VegiMohnish@github.com':
Enumerating objects: 27, done.
Counting objects: 100% (27/27), done.
Delta compression using up to 8 threads
Compressing objects: 100% (25/25), done.
Writing objects: 100% (27/27), 2.57 MiB | 1.14 MiB/s, done.
Total 27 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), done.
remote: Create a pull request for 'firstbranch' on GitHub by visiting:
remote:   https://github.com/VegiMohnish/training/pull/new/firstbranch
remote:
To https://github.com/VegiMohnish/training.git
 * [new branch]      firstbranch -> firstbranch
Branch 'firstbranch' set up to track remote branch 'firstbranch' from 'origin'.
ignitarium@IGN-BLR-LP-215:~/git/linuxshell$
```

9. 9th question

1. git log --merge

The git log --merge command helps to produce the list of commits that are causing the conflict

2. git diff

The git diff command helps to identify the differences between the states repositories or files

3. git checkout

The git checkout command is used to undo the changes made to the file, or for changing branches

4. git reset --mixed

The git reset --mixed command is used to undo changes to the working directory and staging area

5. git merge --abort

The git merge --abort command helps in exiting the merge process and returning back to the state before the merging began

6. git reset

The git reset command is used at the time of merge conflict to reset the conflicted files to their original state

10. 10th question

git fetch is the command that tells your local git to retrieve the latest meta-data info from the original (yet doesn't do any file transferring. It's more like just checking to see if there are any changes available).

git pull on the other hand does that AND brings (copy) those changes from the remote repository.

Referred this: <https://www.freecodecamp.org/news/git-fetch-vs-pull/>

11. 11th question

.gitignore file -> text file that tells git which files or folders to ignore in the project.

Referred this for .gitignore :

<https://www.freecodecamp.org/news/gitignore-what-is-it-and-how-to-add-to-repo/>

.gitattribute file -> simple text file that gives attributes to pathnames

Referred this for .gitattribute: <https://git-scm.com/docs/gitattributes>

12. 12th question

Referred this link : <https://git-scm.com/docs/git-config>

THANK YOU