

Ex. No: 06 . version control system setup
Date: 9/3/23 and usage using GIT

1. command

sudo apt - get install git.

Description

command used to install git in Linux.

Output

[sudo] password for student :

Reading package lists...done

Building dependency tree.

Do you want to continue? Y/N

2. command :

sudo --version

Description

This command is used to get the sudo version.

Output

sudo version 1.8.31

sudoers policy plugin version 4.68.31

sudoers file grammar version 1.8.31

3. command :

sudo apt - get update

Description

This command is used to download package information from all configured source.

Output :

Hit : 1 https://dl.google.com/tarball/chrome
deb-stable InRelease.

Ign : 2 https://download.webmin.com
download/repository sage InRelease

Hit : 3 https://in.archive.ubuntu.com
ubuntu focal InRelease.

Reading package lists ... Done.

A. command

git --version

Description

This command is used to get the git version

Output

git version 2.25.1

E. command

git config --global user.name "Nandini"

git config --global user.email "nandini@gmail.com"

Description

This command is used to configure the username and email id. Git commit uses this information to identify you and use this info for anything you do on the system.

b. command
mkadir git projects

Description

This command is used to make directory in local repository.

cat & cat

Hi

Hello

Welcome to our lab!!!

c. command

git init

Description

This command creates a new git repository. It can be used to convert an existing unversioned project to a git repository or initialize new empty repository.

Output

Initialized empty git repository
in /home/student/git/projects/.git/.

d. command

git status

Description

This command displays the state of the working directory and the staging area. This command does not show info about commit project history.

Output

on branch master

no commits yet

untracked files:

(use 'git' and <file>' to include in
what will commit)

Nothing added to commit

9. command :

git add a.txt

Description

This command adds a change in the working directory to the staging area. changes are not recorded until committed.

Output

>> git status

on branch master

no commits yet

new file a.txt

10. command

git commit -m "1st version"

Description

This command is used to add a commit.

Output

master (root + commit) 254 29ad J1st

version 1 file changed, 1 insertion(+)

create mode 100 644 a.txt

11. command :

git log .

Description

command used for exploring a repository history.

Output

commit 254999d 2023-02-28 09:24:03 +0300
(HEAD → main)

Author: R-Nandhini [nandhu@gmail.com]

Date: Tue Feb 28 09:24:03
2023 to 530

12. command

git clone https://github.com/nandhini/oss1.git

description
This command is used to point to an existing repo and make a clone or copy that rep. at in new directory, at another location.

Output

using or into 'oss1'.

cd oss1

git init [after opening dir.txt in oss1]

git status

git add a.txt

command

git push

Description

This command is used to upload local repository content to a remote repository

output

username for 'https://github.com': Nandini
password for 'https://github.com'

Enumerating objects: 3, done

Counting objects: 3, done (100%)

Writing objects: (3/3) done (100%)

remote:

To https://github.com/Nandini1088/git-git

* [new branch] master → master

Branch 'master' set up to track remote
branch 'master' from 'origin'.

command

git pull

Description

This command is used to fetch and download content from a remote repository and immediately update the local repository to match that content

output

Enumerating objects: 4, done

from https://github.com/Nandini1088/git.git
master → origin / master

Updating 04bb914... 33e0a01

Fast-Forward

README.md /

1 file changed, 1 insertion (+)
create mode 100644 README.md

15. command

git log --oneline

Description

print a single commit in a single line as a output when the git log command is executed using this option.

Output

934914 (Head -> Master) A file in Master

16. command

git branch branchname

Description

this command is used to create another branch in the git repository.

Syntax of basic git branch command

git branch b1

17. command

git branch

Description

This command is used to display the available branches in the git repository.

Output

b1

* master

return at git & filesp

command

git checkout branchname

Description

this command is used to switch the branch from one branch to another branch.

Syntax

git checkout b1

at digit branch

Output

* b1

master

Command

git log --oneline --graph

Description

This command is used to create a graph overview of how a developer's various development pipelines have branched and merged over time.

Output

```
+-- ec01293 (HEAD -> master) Merge branch 'b1'  
| * D file in master branch  
| | (6) C file in b1 master  
* | B file in b1 branch  
| A file in master branch  
* 934941f A file in master
```

20. command

git merge branchname

Description

This command is used to merge the current branch to the main branch or master branch. It restores the history of merge done [preserves the history]

Output

```
>> git merge b1
```

merge made by the 'recursive' strategy

b.tat | 1 + 1

c.tat | 1 + 1

2 file changed, 2 insertions(+)

create mode 100644 b.tat

create mode 100644 c.tat

command

git rebase branchname

Description

This command is also used to merge the branches but it flattens the history, removing unwanted entries and does not preserves the history.

Output

```
>> git rebase b1
```

first, rewinding head to replay your work on top of it.

Applying: D file in Master branch

23. command

git fetch

24 Description

get fetch is a primary command used to download contents from a remote repository. git fetch is a safer alternative because it pulls in all the commits from your remote but does not make any changes to local files. It is used in conjunction with other commands.

Output example : bapnath@192.168.1.11: ~

git fetch

remote : Enumerating objects: 5, done.
remote : Counting objects: 5, done.

unpacking objects : 100% (3/3), 728 bytes / 100% 123.10kB/done.

From https://github.com/nandini1975

Updating 75c2163..fed4c5
Fast-forward

>> git merge

Updating 75c2163..fed4c5
Fast-forward

1 file changed, 2 insertions(+)

git diff --stat to get the more info

most recent at diff or log

23.

command

git format-patch -n commit_id

Description :

n → represents the flag that represents how many commits should be included in the patch.

This command is used to automatically generates patches between echo commit and the parent commit for a given set of commits. These patches are formatted such that they can easily be shared over email, so that it creates a patch file in local repository.

Output

```
>> git format-patch -1 838971de53811893
     e97223076a43d41955ea499.
  2008 - seconds-commit.patch
```

24.

command

git am patchfilename

Description

~~This command is used to import commit from patches file.~~

Output

```
>> git am 0001-second-commit.patch
```

applying: second-commit

format million borat2008-07-20T12:57:12Z
From: borat2008 <borat2008@...>

git format-patch master...bit
Description: It is used to generate patches for all commits in a branch.
Output
0001 - second commit patch
0002 - third commit patch

11882 100% PFB 63 1-100g - control fig 12
100% 21816 bound to 200g
100g - time - change = 300g

Frontal view of base of forelimbs 21st p.
with radioulnar morph. 3 imm.

3 imm. - broad - 1000 - *Leptura*
3 imm. - broad - 1000 - fig 33
3 imm. - broad - 1000 - *Parapleura*

Result
thus, I explored version control system setup and usage using GIT using GIT commands.