

Git – Global Information Tracker

Git is a distributed, open-source version control system (VCS) that enables you to store code, track revision history, merge code changes, and revert to earlier code version when needed.

Git stores your source code and its full development history locally in a repository.

--->Version control system(vcs) or Source code management(scm)

Version control system(vcs)

Version control systems allow multiple developers, designers, and team members to work together on the same project.

It helps them work smarter and faster! A version control system is critical to ensure everyone has access to the latest code and modifications are tracked.

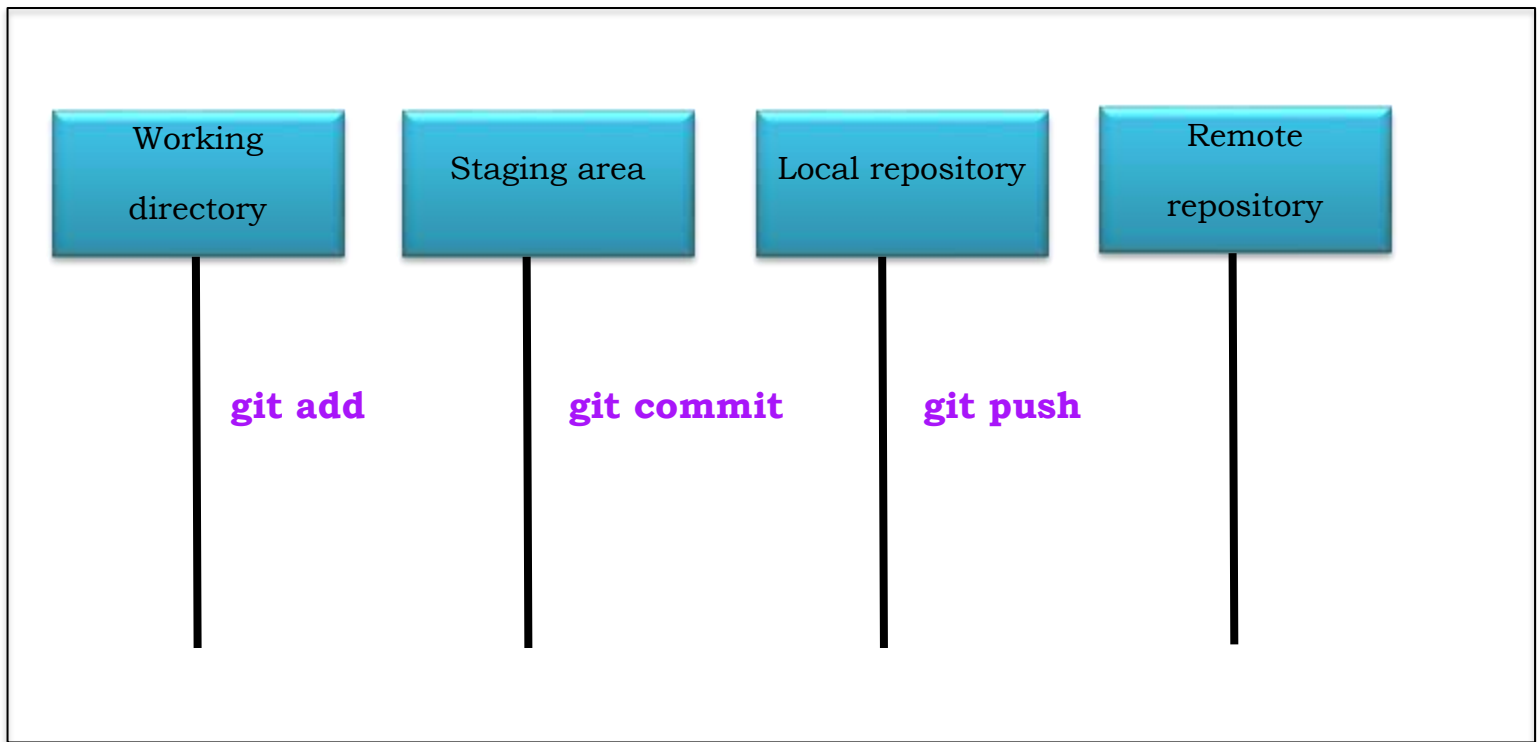
Two types:

- Centralized Version control system
- Distributed Version control system

Source code management(scm)

Source code management (SCM) is used to track modifications to a source code repository.

SCM tracks a running history of changes to a code base and helps resolve conflicts when merging updates from multiple contributors. SCM is also synonymous with Version control.



Working directory

The Git directory is where Git stores the metadata and object database for your project.

Staging area

It is temporary location

Local repository

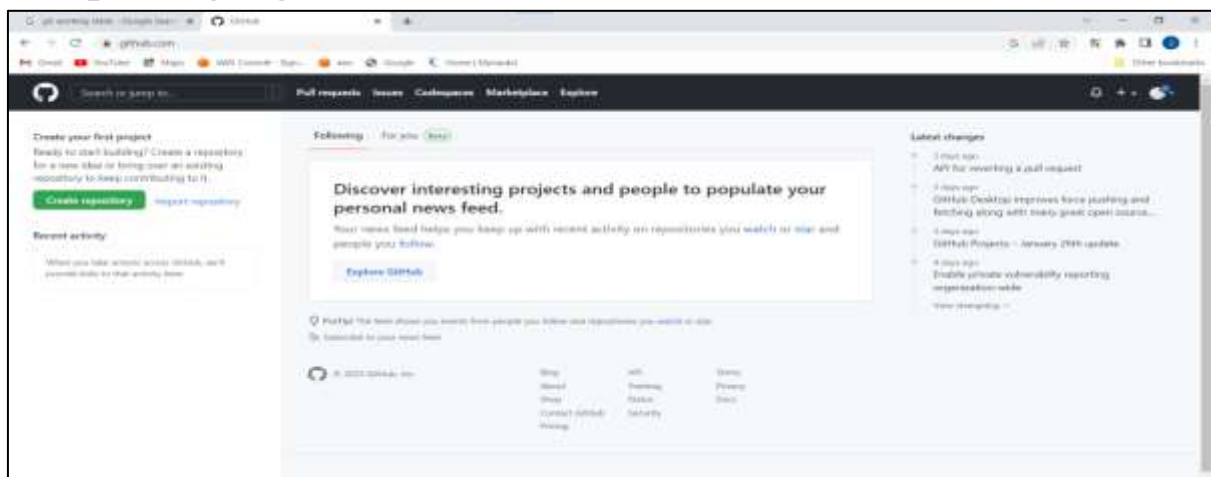
Local repositories reside on the computers of team members.

Remote repository

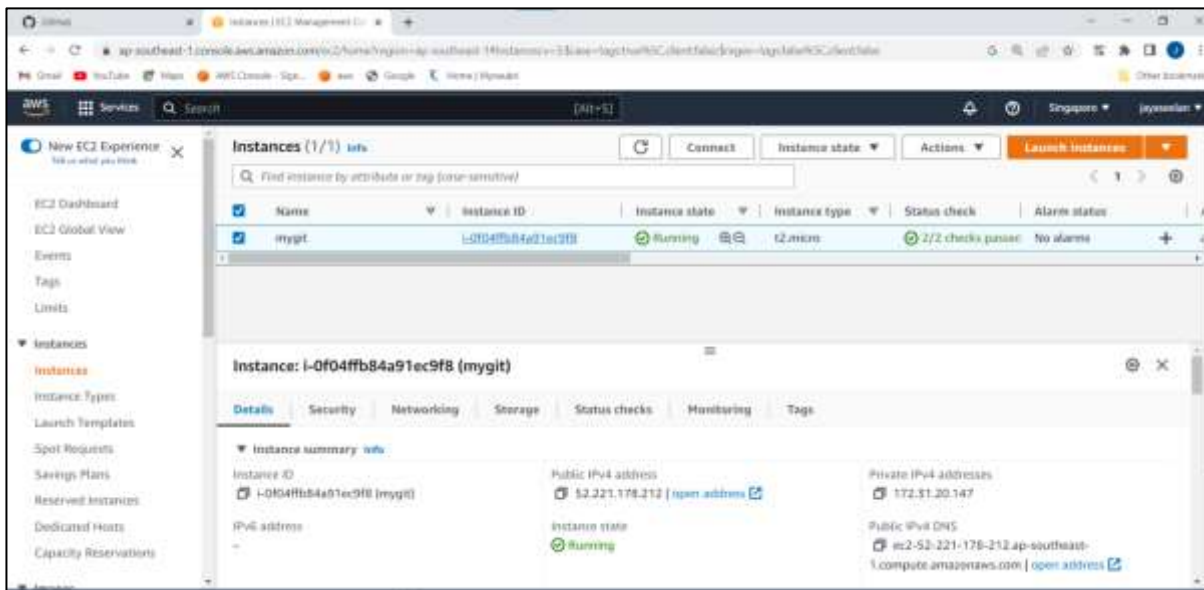
Remote repositories are versions of your project that are hosted on the Internet or network somewhere

Steps to create Git

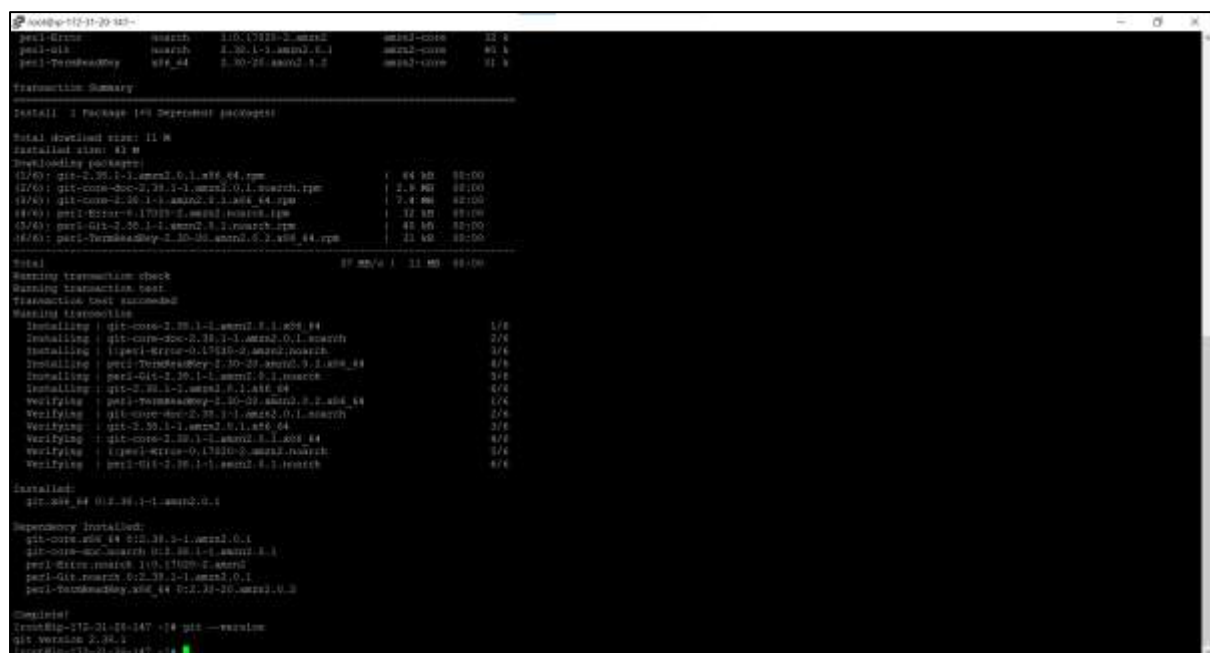
Step 1: login gitub



Step2: create linux server----->name(my git)---->security group(ssh)----->launch instance



```
Step 3: login linux server ----->#sudo -i  
#yum install git -y  
#git --version ----->(git install or not check)
```



Step 4:create working directory

```
#mkdir mygit
```

```
#cd mygit
```

```
Installed:
git.x86_64 0:2.38.1-1.amzn2.0.1

Dependency Installed:
git-core.x86_64 0:2.38.1-1.amzn2.0.1
git-core-doc.noarch 0:2.38.1-1.amzn2.0.1
perl-Error.noarch 1:0.17020-2.amzn2
perl-Git.noarch 0:2.38.1-1.amzn2.0.1
perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2

Complete!
[root@ip-172-31-20-147 ~]# git --version
git version 2.38.1
[root@ip-172-31-20-147 ~]# mkdir mygit
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]#
```

Step 5:create local repository

```
#git config --global user.name "jayaseelan4053"
```

```
#git config --global user.email "jayasee4053@gmail.com"
```

```
#git config --global core.editor vim
```

```
#git config --global core.compression 2
```

```
#git config --global diff.tool vim.diff
```

&

```
#git config -l ----> Git config check
```

```
Installed:
git.x86_64 0:2.38.1-1.amzn2.0.1

Dependency Installed:
git-core.x86_64 0:2.38.1-1.amzn2.0.1
git-core-doc.noarch 0:2.38.1-1.amzn2.0.1
perl-Error.noarch 1:0.17020-2.amzn2
perl-Git.noarch 0:2.38.1-1.amzn2.0.1
perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2


Complete!
[root@ip-172-31-20-147 ~]# git --version
git version 2.38.1
[root@ip-172-31-20-147 ~]# mkdir mygit
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]# git config --global user.name "jayaseelan4053"
[root@ip-172-31-20-147 mygit]# git config --global user.email "jayasee4053@gmail.com"
[root@ip-172-31-20-147 mygit]# git config --global core.editor vim
[root@ip-172-31-20-147 mygit]# git config --global core.compression 2
[root@ip-172-31-20-147 mygit]# git config --global diff.tool vim.diff
[root@ip-172-31-20-147 mygit]# git config -l
user.name="jayaseelan4053"
user.email="jayasee4053@gmail.com"
core.editor=vim
core.compression=2
diff.tool=vim.diff
[root@ip-172-31-20-147 mygit]#
```

Step 6:create global repository

```
# git init
```

```
#ls -larth ----->shown hidden folder(.git)
```

```
[root@ip-172-31-20-147 ~]# ls  
mygit  
[root@ip-172-31-20-147 ~]# cd mygit  
[root@ip-172-31-20-147 mygit]# git init  
hint: Using 'master' as the name for the initial branch. This default branch name  
hint: is subject to change. To configure the initial branch name to use in all  
hint: of your new repositories, which will suppress this warning, call:  
hint:  
hint:   git config --global init.defaultBranch <name>  
hint:  
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and  
hint: 'development'. The just-created branch can be renamed via this command:  
hint:  
hint:   git branch -m <name>  
Initialized empty Git repository in /root/mygit/.git/  
[root@ip-172-31-20-147 mygit]# ls  
login as: ec2-user  
Authenticating with public key "monil23"  
Last login: Mon Jan 30 18:27:19 2023 from 157.51.20.176
```

 Amazon Linux 2 AMI

```
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-172-31-20-147 ~]$ sudo -i  
[root@ip-172-31-20-147 ~]# ls  
mygit  
[root@ip-172-31-20-147 ~]# cd mygit  
[root@ip-172-31-20-147 mygit]# ls -larth  
total 0  
dr-xr-x--- 4 root root 134 Jan 30 18:21 .  
drwxr-xr-x 7 root root 119 Jan 30 18:27 .git  
drwxr-xr-x 3 root root 18 Jan 30 18:27 .  
[root@ip-172-31-20-147 mygit]#
```

Step 7:create source code(file)

```
#vi sample.txt ----->put content 1
```

```
[root@ip-172-31-20-147 ~]# ls
mygit
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]# ls -larth
total 0
dr-xr-x--- 4 root root 134 Jan 30 18:21 ..
drwxr-xr-x 7 root root 119 Jan 30 18:27 .git
drwxr-xr-x 3 root root  18 Jan 30 18:27 .
[root@ip-172-31-20-147 mygit]# vi sample.txt
[root@ip-172-31-20-147 mygit]# cat sample.txt
1
[root@ip-172-31-20-147 mygit]#
```

Step 8: staging area add

```
#git add sample.txt
```

Step 9: push local repository

```
#git commit -m "1 commit"
```

```
#git log ----->(show log details)
```

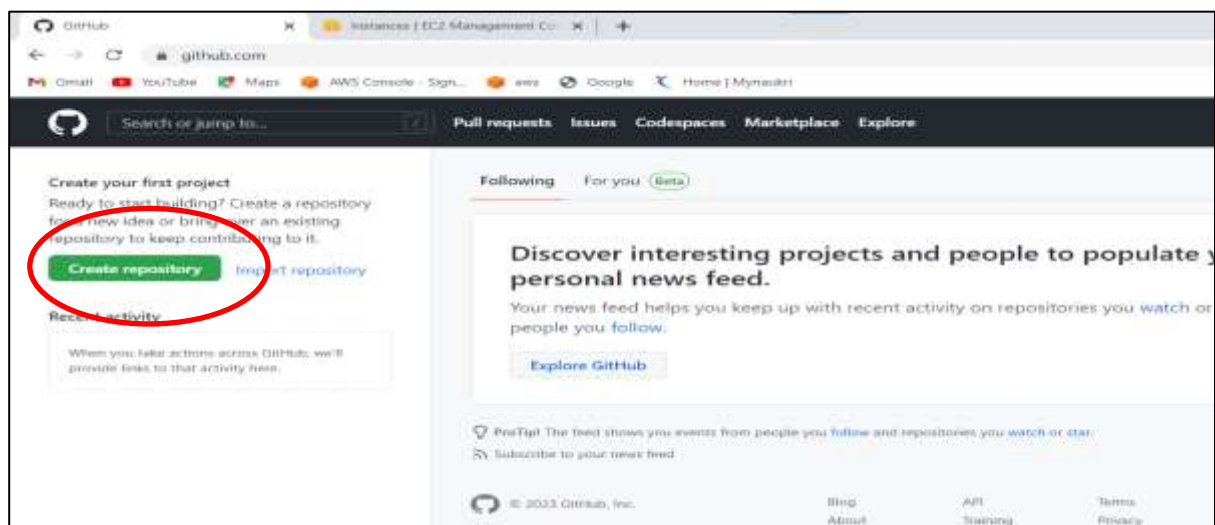
"Any description"

```
drwxr-xr-x 3 root root 18 Jan 30 18:27 .
[root@ip-172-31-20-147 mygit]# vi sample.txt
[root@ip-172-31-20-147 mygit]# cat sample.txt
1
[root@ip-172-31-20-147 mygit]# git add sample.txt
[root@ip-172-31-20-147 mygit]# ls
sample.txt
[root@ip-172-31-20-147 mygit]# git log
fatal: your current branch 'master' does not have any commits yet
[root@ip-172-31-20-147 mygit]# git log --oneline
fatal: your current branch 'master' does not have any commits yet
[root@ip-172-31-20-147 mygit]# git commit -m "1 commit"
[master (root-commit) 5eb6e78] 1 commit
1 file changed, 1 insertion(+)
create mode 100644 sample.txt
[root@ip-172-31-20-147 mygit]# git log
commit 5eb6e780da18a9a28b4f4f6ef5430c3656lee0e6 (HEAD -> master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:36:05 2023 +0000

1 commit
[root@ip-172-31-20-147 mygit]#
```

Step 10: create repository

Gitub ---->create repository--->repository name(seelan)---
>public--->create repository



ub.com/new

Maps AWS Console - Sign... AWS Google Home | Myusaki

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner **jayaseelan4053** Repository name **seelan** ✓

Great repository names are short [seelan is available](#) / Need inspiration? How about [karlo-couscous](#)?

Description (optional)

☒ **Public**
Anyone on the internet can see this repository. You choose who can commit.

☐ **Private**
You choose who can see and who can commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☒ **Add a README file**
(This is where you can write a long description for your project. [Learn more.](#))

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

gitignore template: None

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

License: None

ⓘ You are creating a public repository in your personal account.

Create repository

repository created..

Search or jump to...

jayaseelan4053 / seelan Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Quick setup — if you've done this kind of thing before

Set up in Desktop or **HTTPS** SSH `https://github.com/jayaseelan4053/seelan.git`

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "a seelan" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/jayaseelan4053/seelan.git
git push -u origin main
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/jayaseelan4053/seelan.git
git branch -M main
git push -u origin main
```

Copy url and paste separately in notepad

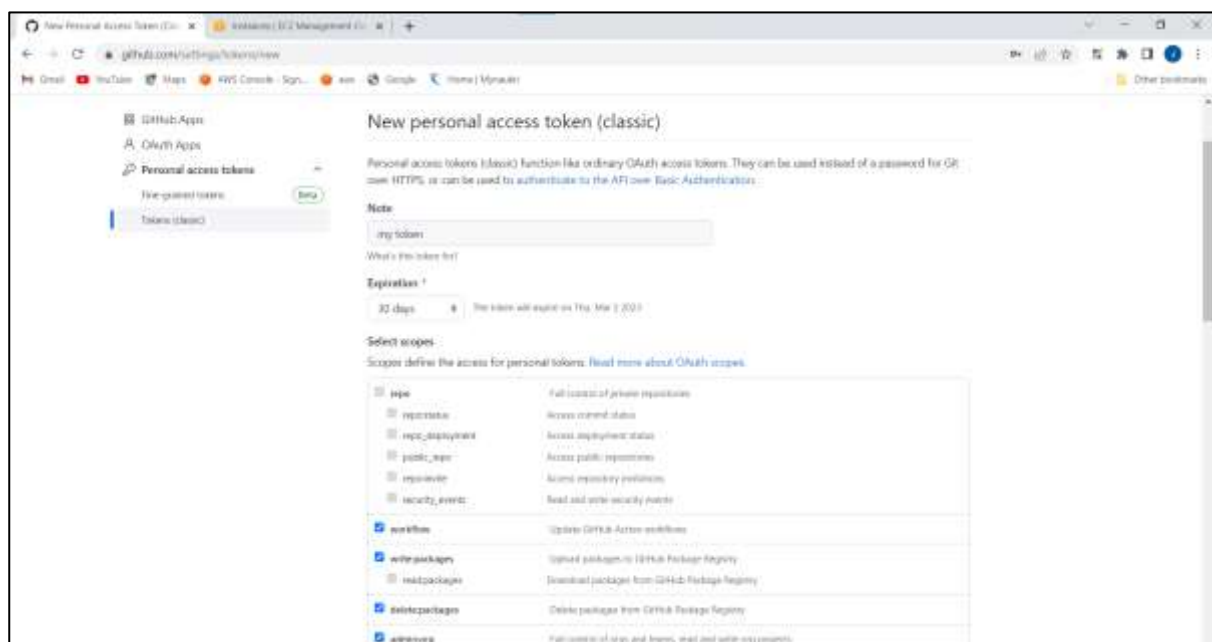
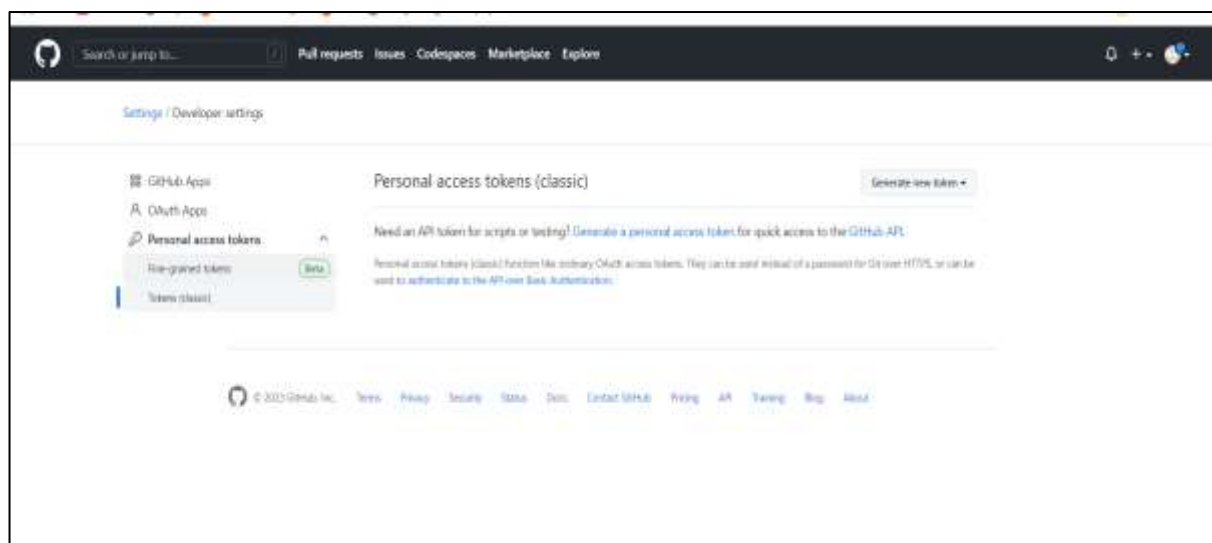
Now mapping repository url in variable

```
#git remote add jayasee https://github.com/jayaseelan4053/seelan.git
```

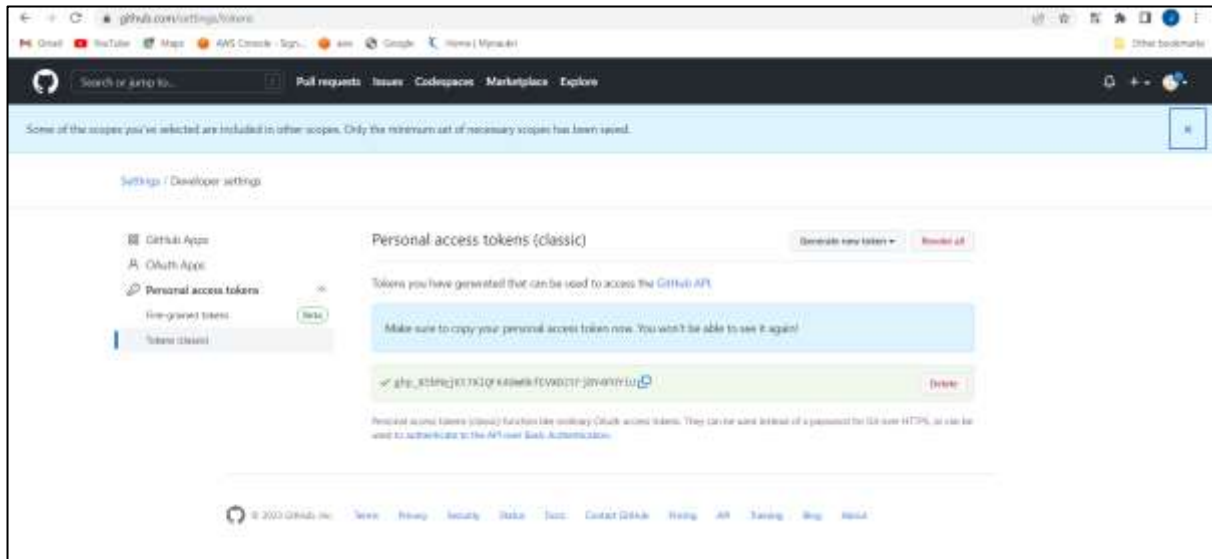
```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-20-147 ~]$ sudo -i
[root@ip-172-31-20-147 ~]# ls
mygit
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]# ls
sample.txt
[root@ip-172-31-20-147 mygit]# git remote add jayasee https://github.com/jayaseelan4053/seelan.git
[root@ip-172-31-20-147 mygit]#
```

Step 11: token generation

Gitub home page--->setting---->developer setting----
>personal acces token--->token(classic)--->generate new token---
>name(my token) --->click all check box---->generate token



Token generated..



Copy token url separately notepad

Check git branch ---->#git branch-->(it shown master) because master is main branch

```

  _ | _ | _ )
  _ | ( _ | _ /   Amazon Linux 2 AMI
  _ | \ _ | _ |

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-20-147 ~]$ sudo -i
\[root@ip-172-31-20-147 ~]# ls
mygit
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]# git branch
* master
[root@ip-172-31-20-147 mygit]#
```

Step 11:push remote repository → repository variable

#git push jayasee master

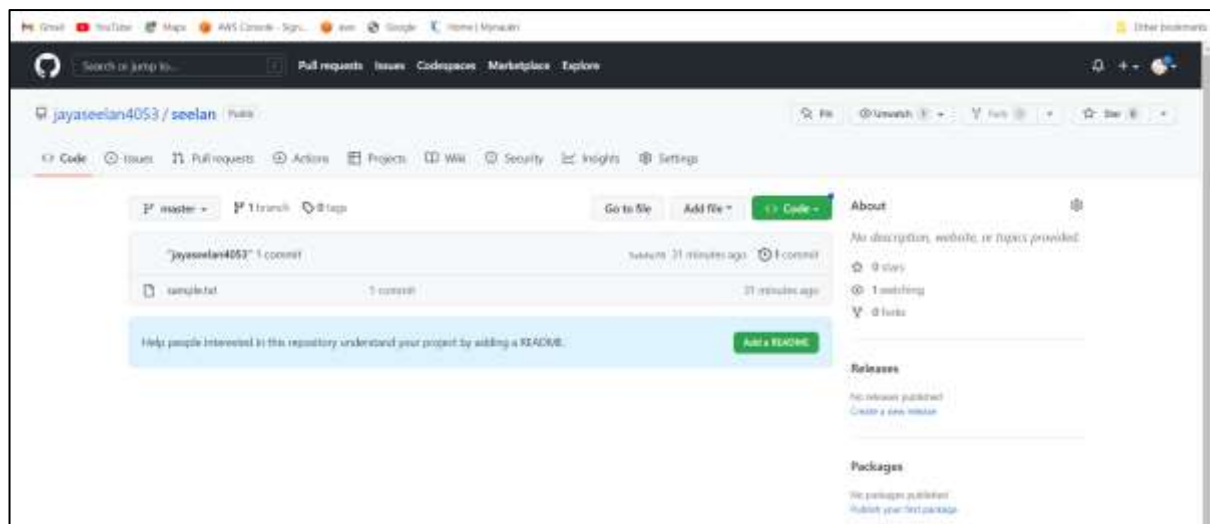
Ask username and password

Username:jayaseelan4053

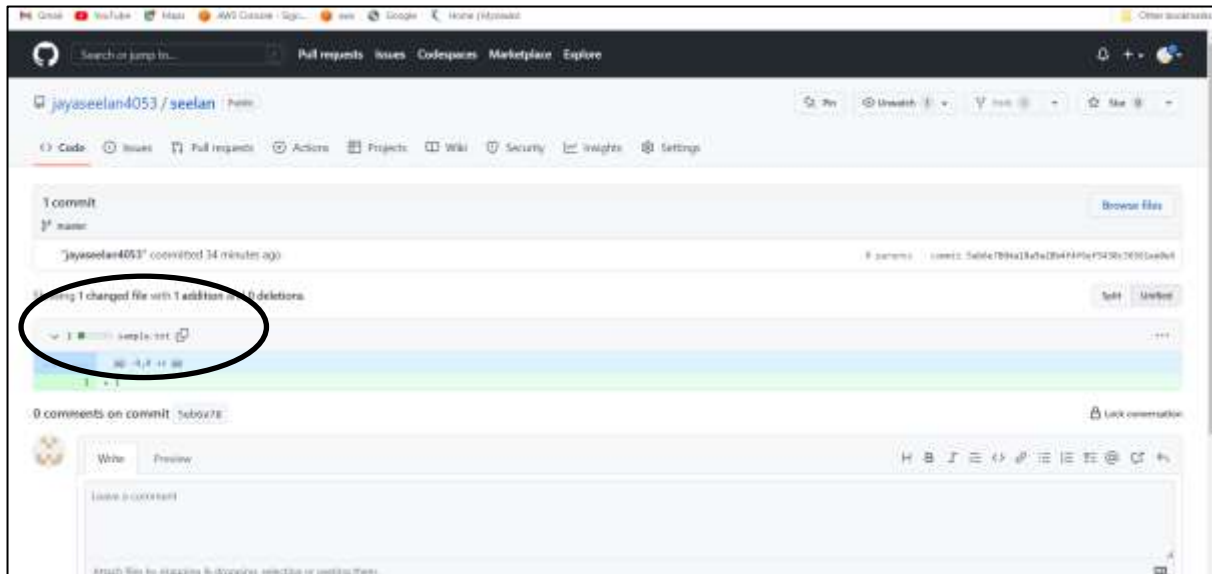
Password(token url): 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

```
~/root@ip-172-31-25-147 ~$ ls
mygit
~/root@ip-172-31-25-147 ~$ cd mygit
~/root@ip-172-31-25-147 mygit$ git branch
* master
~/root@ip-172-31-25-147 mygit$ git push jayasee master
Username for 'https://github.com': jayaseelan4053
'jayaseelan4053@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/jayaseelan4053/seelan.git/'
~/root@ip-172-31-25-147 mygit$ git push jayasee master
Username for 'https://github.com': jayaseelan4053
Password for 'https://jayaseelan4053@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 274 bytes | 224.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/jayaseelan4053/seelan.git
 * [new branch] master -> master
~/root@ip-172-31-25-147 mygit$
```

Now go gitub in ur repository it will shown ur file



Click 1 commit it will show green color that mean this is running



Step 11:add content for same file --->2 and 3

vi sample.txt --->add 2 & 3

#git commit -am "2 commit"----->add and local repository push

#git log ---->git status check(it will show 2 commit because 2 line add)

```
[root@ip-172-31-20-147 mygit]# vi sample.txt
[root@ip-172-31-20-147 mygit]# cat sample.txt
1
2
3
[root@ip-172-31-20-147 mygit]# git commit -am "2 commit"
[master 04cef83] 2 commit
1 file changed, 3 insertions(+)
[root@ip-172-31-20-147 mygit]# git log
commit 04cef8348735730c8fabcd55fbfa8a14739bb04 (HEAD -> master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 19:19:34 2023 +0000

    2 commit

commit 5eb6e780da18a9a28b4f4f6ef5430c36561ee0e6 (jayasee/master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:36:05 2023 +0000

    1 commit
[root@ip-172-31-20-147 mygit]#
```

#git push jayasee master ----push remote repository

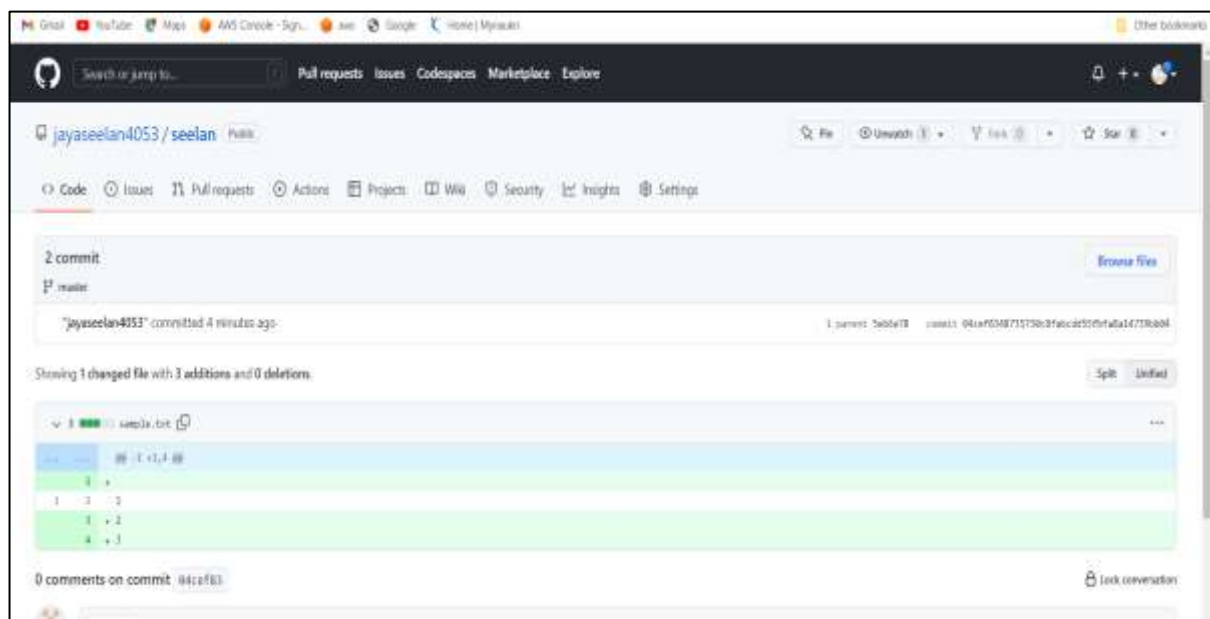
Give username and password(token)

```
commit 5eb6e780da18a9a28b4f4f6eF5430c36561ee0e6 (jayasee/master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date:   Mon Jan 30 18:36:05 2023 +0000

    1 commit
[root@ip-172-31-20-147 mygit]# git push jayasee master
Username for 'https://github.com': jayaseelan4053
Password for 'https://jayaseelan4053@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 258 bytes | 258.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/jayaseelan4053/seelan.git
    5eb6e78..04cef83  master -> master
[root@ip-172-31-20-147 mygit]#
```

Now go gitub in ur repository it will shown ur file

It will shown 2 commit



Step 12:Now remove one line in ur file

#vi sample.txt ---->remove 2nd line

#git commit -am "3 commit"----->add and local repository push

#git log ---->git status check (it will show 3 commit)

```
[ec2-user@ip-172-31-20-147 ~]$ sudo -i
[root@ip-172-31-20-147 ~]# cd mygit
[root@ip-172-31-20-147 mygit]# ls
sample.txt
[root@ip-172-31-20-147 mygit]# vi sample.txt
[root@ip-172-31-20-147 mygit]# cat sample.txt
1
2
3
[root@ip-172-31-20-147 mygit]# git commit -am "3 commit"
error: pathspec 'am' did not match any file(s) known to git
error: pathspec '3 commit' did not match any file(s) known to git
[root@ip-172-31-20-147 mygit]# ^C
[root@ip-172-31-20-147 mygit]# git commit -am "3 commit"
[master 5b19791] 3 commit
1 file changed, 1 insertion(+), 1 deletion(-)
[root@ip-172-31-20-147 mygit]# git log
commit 04cef8340735730c0fab0d855fbfa8a14739bb04 (HEAD -> master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:36:05 2023 +0000

    3 commit

commit 04cef8340735730c0fab0d855fbfa8a14739bb04 (jayasee/master)
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:19:34 2023 +0000

    2 commit

commit 5eb6e780da16a9a28b4f4f6ef5430c36561ee0e6
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:34:05 2023 +0000

    1 commit
[root@ip-172-31-20-147 mygit]#
```

#git push jayasee master ---->push remote repository

Give username and password(token)

```
Date: Mon Jan 30 19:19:34 2023 +0000

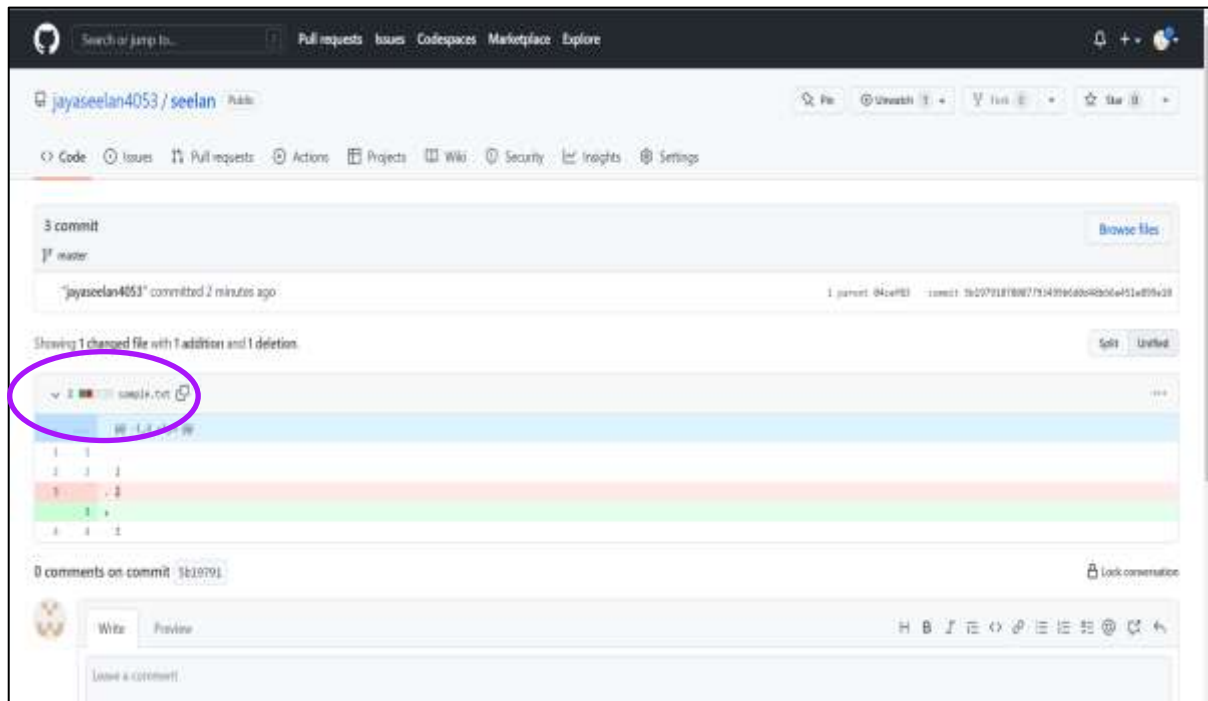
    2 commit

commit 5eb6e780da16a9a28b4f4f6ef5430c36561ee0e6
Author: "jayaseelan4053" <"jayasee4053@gmail.com">
Date: Mon Jan 30 18:36:05 2023 +0000

    1 commit
[root@ip-172-31-20-147 mygit]# git push jayasee master
Username for 'https://github.com': jayaseelan4053
Password for 'https://jayaseelan4053@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 257 bytes | 257.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/jayaseelan4053/seelan.git
    04cef83..5b19791 master -> master
[root@ip-172-31-20-147 mygit]#
```

Now go gitub in ur repository it will shown ur file

It will shown 3 commit



One line in file deleted so it will be show red color.