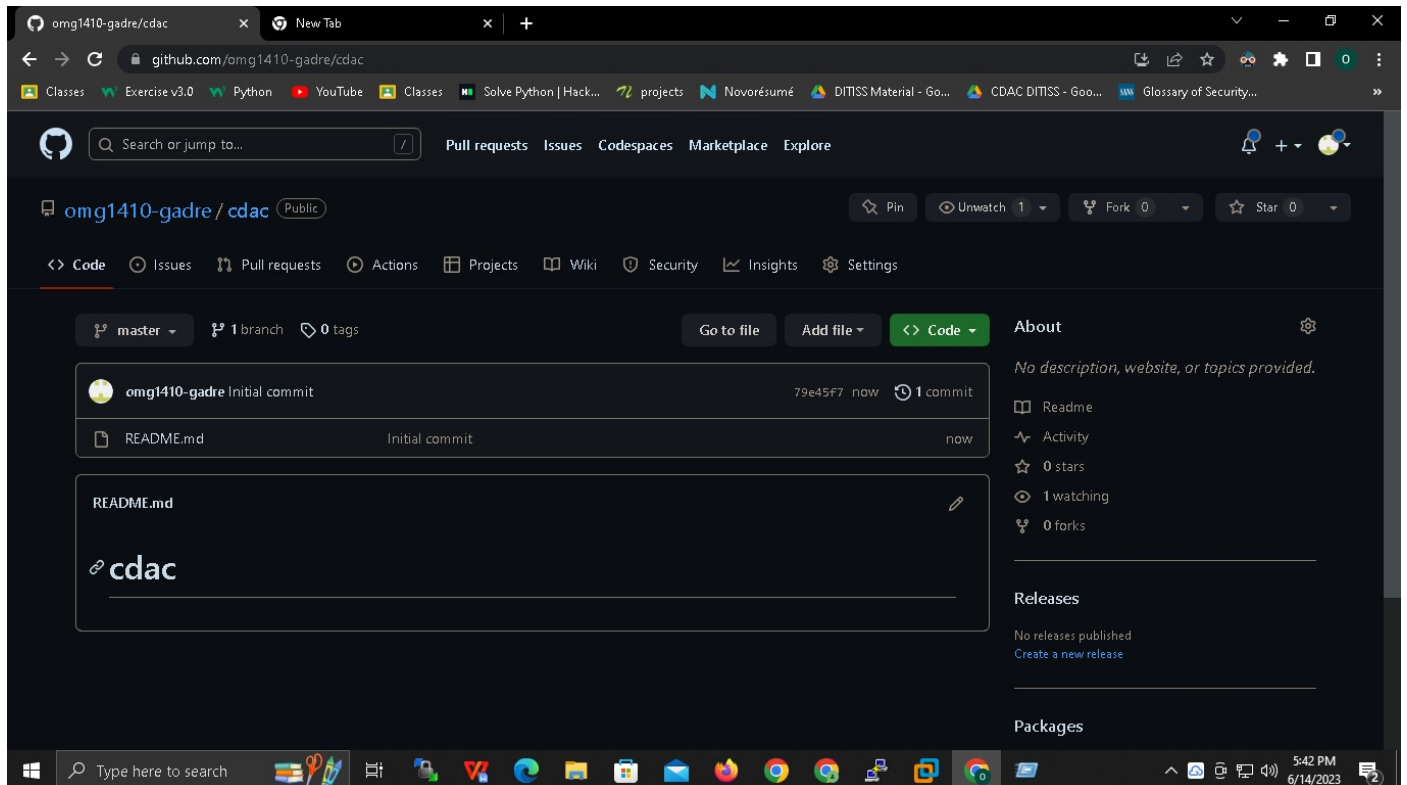# Github:

GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere.

Login to Git account

Create new repository-

      -> Repositories
      -> New
      -> Give repository name
      -> Choose private or public
      -> Choose README file (optional)
      -> Choose branch as master
            -> Setting -> repositories -> repository default branch -> type master instead of main

Take one debian-

-> Install git
      $ sudo apt -get install git
      $ git --version (2.20.1)
-> Create one directory
      $ mkdir cdac *(assign same name as given in git)*

-> Go to this directory
      $ cd iacsd

-> Initialize this directory as Git directory it is imp
    $ `git init` *(we are initailiazing git to run till shutdown)*
    $ `git branch -m main` *(to change branch name)*

-> View hidden files (.git)
    $ `ls -a`

-> Create new file
    $ `nano index.html`

-> To check git status
    $ `git status`

```
huhari@debian:~/cdac$ sudo git status
 branch master

 commits yet

ntracked files:
  (use "git add <file>..." to include in what will be committed)

        omkar.html
```

-> To add file in staging area
    -> git add index.html

-> Optional
    -> To remove file from staging area
        -> git rm index.html

-> To commit change
    -> git commit -m "First commit"

-> Set email and name details
    -> git config --global user.email "ojasjawale1010@gmail.com"
    -> git config --global user.name "ojasjawale"

-> git status

-> To view git logs
    -> git log

-> Add remote origin
    -> git remote add origin "ssh key from gui of git …"
        -> (go to git -> select repository created -> code -> SSH -> copy this key and
    paste in " ")

-> Generate key to connect with git

          -> Go the directory (e.g = iacsd)

               -> ssh-keygen

               -> don't use sudo in any of the commands cause if put sudo then this will accessible only for   root user

-> Go to /home/shuhari/.ssh/

          -> Copy key created (copy this public key and paste on the github select repository -> setting ->   deploy keys -> paste)

          -> git pull origin master

          -> git config pull.rebase true

          -> git pull origin master

-> Finally push all files to master branch

          -> git push origin master

-> create new file

-> do this process as it is

->

-> mkdir cdac

-> cd cdac

-> git init

->

As default name is master then no warning message has appeared

shuhari@debian: ~/iacsd

```
shuhari@debian:~/iacsd$ git init
/home/shuhari/iacsd/.git: Permission denied
shuhari@debian:~/iacsd$ sudo git init
Initialized empty Git repository in /home/shuhari/iacsd/.git/
shuhari@debian:~/iacsd$
```

```
shuhari@debian:~/iacsd$ sudo git branch -m master
error: refname refs/heads/master not found
fatal: Branch rename failed
shuhari@debian:~/iacsd$ sudo git init
Reinitialized existing Git repository in /home/shuhari/iacsd/.git/
shuhari@debian:~/iacsd$ ls -a
.  ..  .git
shuhari@debian:~/iacsd$
```

```
  GNU nano 3.2                                              index.html


<HTML>
<HEAD>
<TITLE>Welcome to my Git </TITLE>
<HEAD>
<HTML>
```

Staging area :As the name implies, the staging area gives you space to prepare (stage) the changes that will be reflected on the next commit.

```
shuhari@debian:~/iacsd$ sudo nano index.html
shuhari@debian:~/iacsd$ git status
On branch master

No commits yet

Untracked files:
   (use "git add <file>..." to include in what will be committed)

        index.html

nothing added to commit but untracked files present (use "git add" to track)
shuhari@debian:~/iacsd$ sudo git add index.html
shuhari@debian:~/iacsd$ git status
On branch master

No commits yet

Changes to be committed:
   (use "git rm --cached <file>..." to unstage)

        new file:   index.html
```

$sudo git commit

```
  GNU nano 3.2                          /home/shuhari/iacsd/.git/COMMIT_EDITMSG


# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# Committer: root <root@debian.shuharilabs.local>
#
# On branch master
#
# Initial commit
#
# Changes to be committed:
#       new file:   index.html
#
```

```
shuhari@debian: ~/iacsd
shuhari@debian:~/iacsd$ sudo git config --global user.email "omkargadre1410@gmail.com"
shuhari@debian:~/iacsd$ sudo git config --global user.name "OMG"
shuhari@debian:~/iacsd$ sudo git commit -m "first"
On branch master
nothing to commit, working tree clean
shuhari@debian:~/iacsd$ sudo git commit -m "first"
On branch master
nothing to commit, working tree clean
shuhari@debian:~/iacsd$ sudo git config --global user.email "omkargadre1410@gmail.com"
shuhari@debian:~/iacsd$ sudo git config --global user.name "OMG"
shuhari@debian:~/iacsd$ sudo git commit -m "first"
On branch master
nothing to commit, working tree clean
shuhari@debian:~/iacsd$ sudo git log
commit 6f94c0e2443f44c91e1adf4a2db73ccb0ecc004d (HEAD -> master)
Author: root <root@debian.shuharilabs.local>
```

Modify the index.html file :

```
shuhari@debian:~/iacsd$ sudo nano index.html
shuhari@debian:~/iacsd$ sudo git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")
shuhari@debian:~/iacsd$
```

```
     first
shuhari@debian:~/iacsd$ sudo git add index.html
shuhari@debian:~/iacsd$ sudo git commit -m "second"
[master b35ba44] second
 1 file changed, 3 insertions(+), 2 deletions(-)
shuhari@debian:~/iacsd$
```

```
shuhari@debian: ~/iacsd
Changes not staged for commit:
        modified:   index.html

no changes added to commit
shuhari@debian:~/iacsd$ sudo git log
commit 6f94c0e2443f44c91e1adf4a2db73ccb0ecc004d (HEAD -> master)
Author: root <root@debian.shuharilabs.local>
Date:    Wed Jun 14 05:31:00 2023 -0400

     first
shuhari@debian:~/iacsd$ sudo git add index.html
shuhari@debian:~/iacsd$ sudo git commit -m "second"
[master b35ba44] second
 1 file changed, 3 insertions(+), 2 deletions(-)
shuhari@debian:~/iacsd$ sudo git status
On branch master
nothing to commit, working tree clean
shuhari@debian:~/iacsd$ sudo git log
commit b35ba44aa77da297b34ceb688593099831e27117 (HEAD -> master)
Author: OMG <omkargadre1410@gmail.com>
Date:    Wed Jun 14 05:39:36 2023 -0400

     second

commit 6f94c0e2443f44c91e1adf4a2db73ccb0ecc004d
Author: root <root@debian.shuharilabs.local>
Date:    Wed Jun 14 05:31:00 2023 -0400

     first
shuhari@debian:~/iacsd$
```

Now the file is created in local repository we need to push

$ git push origin master
$ git remote add origin "…copy from github ssh …….."

$sudo git push origin master

$ssh-keygen (if we do with sudo it will generate for root)

```
shuhari@debian:~/iacsd$ cd ..
shuhari@debian:~$ ls -a
.   ..   .bash_history  .bash_logout   .bashrc   iacsd   .profile   .ssh
shuhari@debian:~$ cd .ssh
shuhari@debian:~/.ssh$ ls -l
total 12
-rw------- 1 shuhari shuhari 1823 Jun 14 05:59 id_rsa
-rw-r--r-- 1 shuhari shuhari  396 Jun 14 05:59 id_rsa.pub
-rw-r--r-- 1 shuhari shuhari  444 Jun 14 05:48 known_hosts
shuhari@debian:~/.ssh$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQCcwaD41Fj3w6CrWwJuv7el7sBG94xMy6rq6yspNYUyyje0M/mNH5RRKiR+Vhj1uPf
bpvRz2KxKEL9J30LlaWf62pVMZlTz1yWdILfkwFeG7X6K5Gc6kBI0WfdKiI6NPd4egGDhGBSejk1XsAUqsERdqFP4qn7HqOucwrAqke
DDcucy2dzn7h7MRX2zFhYse7N9TIfx7ozDlpfxOG52NOfv6aai9qru+qGjwCCENMdhqt/jaEMEVgxIX+PN94KgiV+SRZ5nUnQxVG9qj
1Hjc/iPpCnKnmap59fdGETuo+DI3M4C7dScnfvnABRBzfjEO5gk1VnFkjrWP/CfsQk94uD5 shuhari@debian
shuhari@debian:~/.ssh$
```

Copy key from // and go to github -> deploy keys ->

Key added: