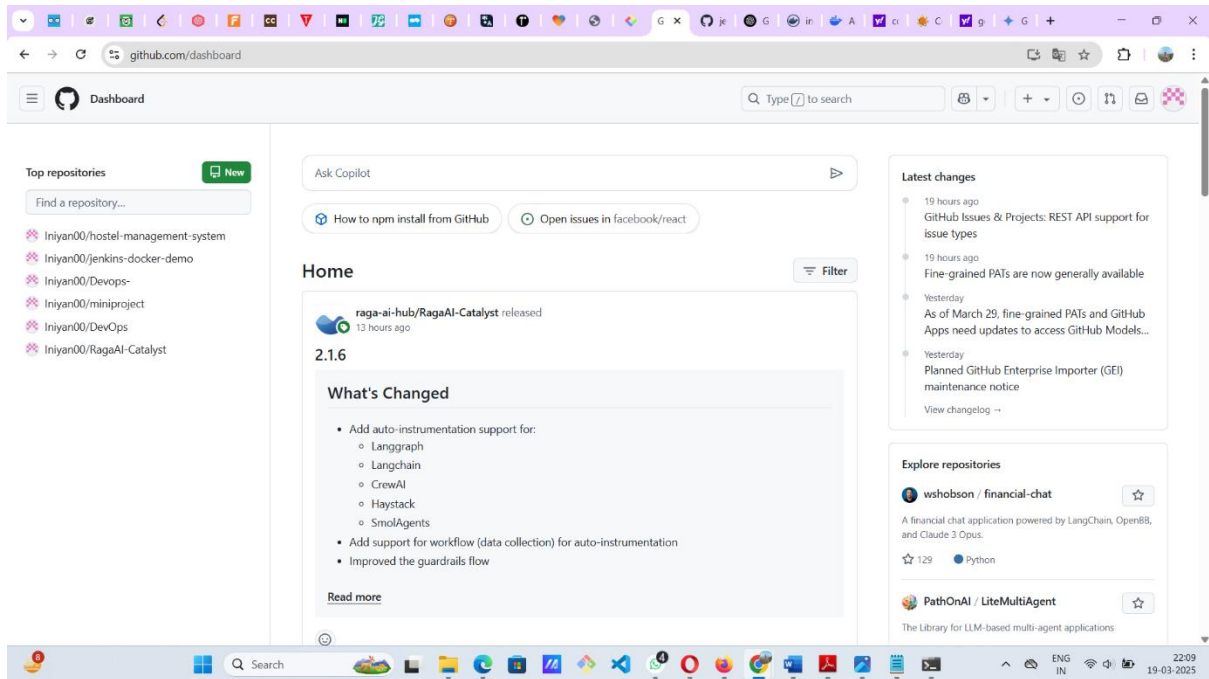


Name: B Iniyan [24MCR035]

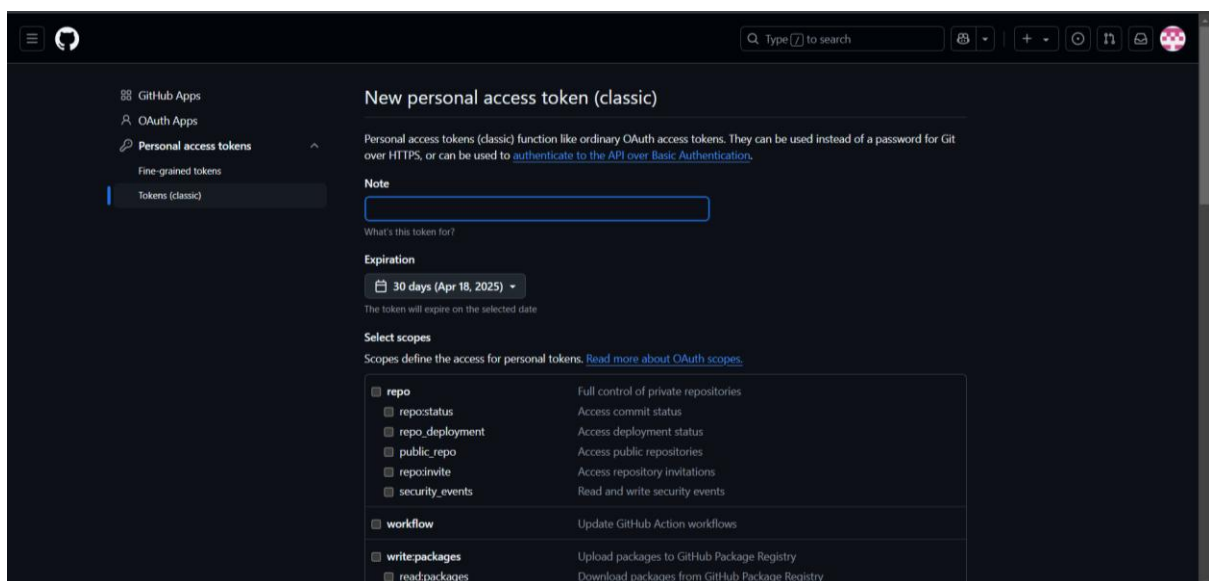
Class: I – MCA – ‘A’

## DAY 2 : DEVOPS TRAINING

### Step 1: create repository in github

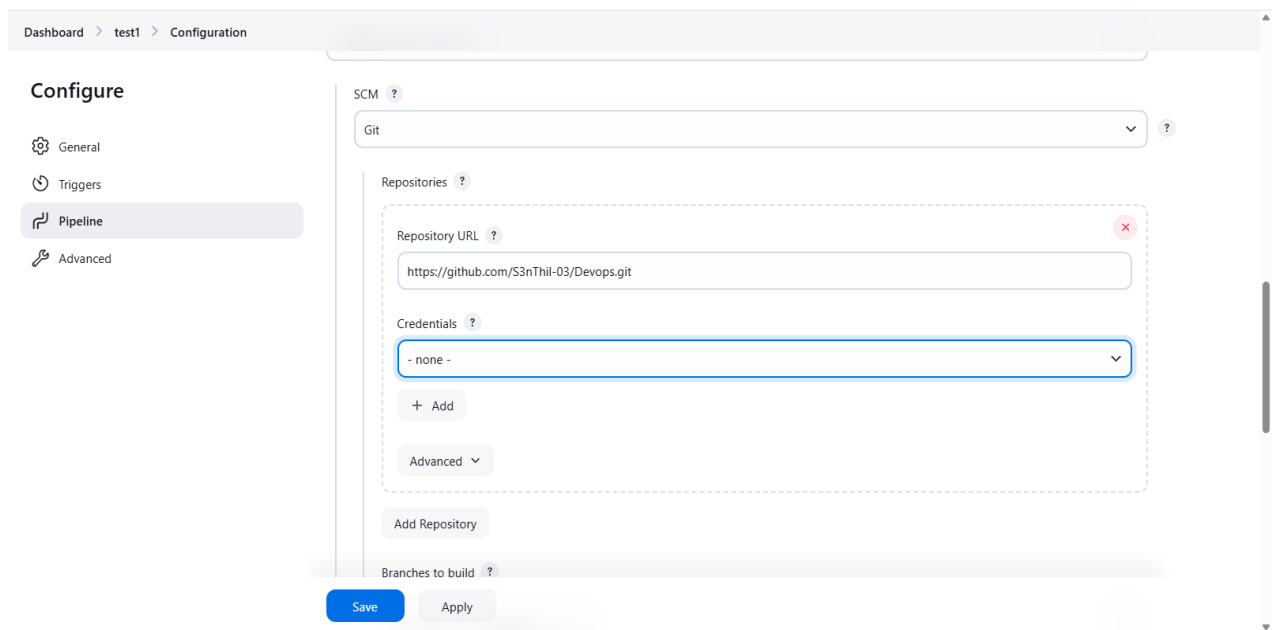


### Step 2: go to developer settings



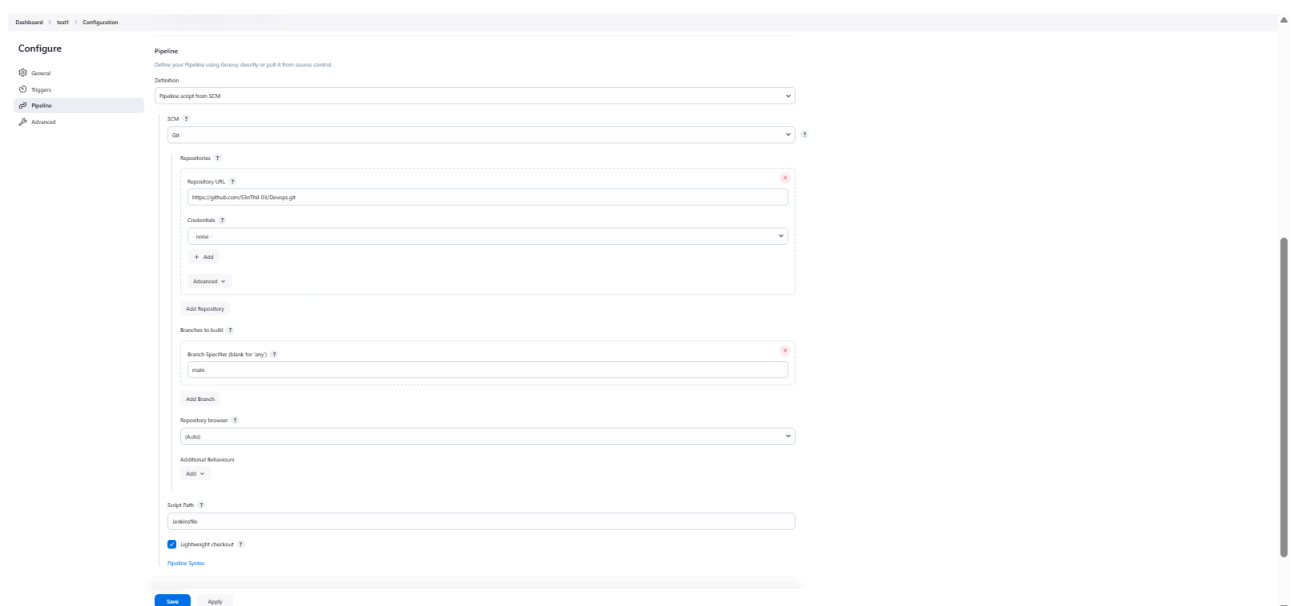
Step 3: generate and copy the token (classic)

Step 4: open Jenkins and create new item and select pipeline in that go to configuration add github repository url into it



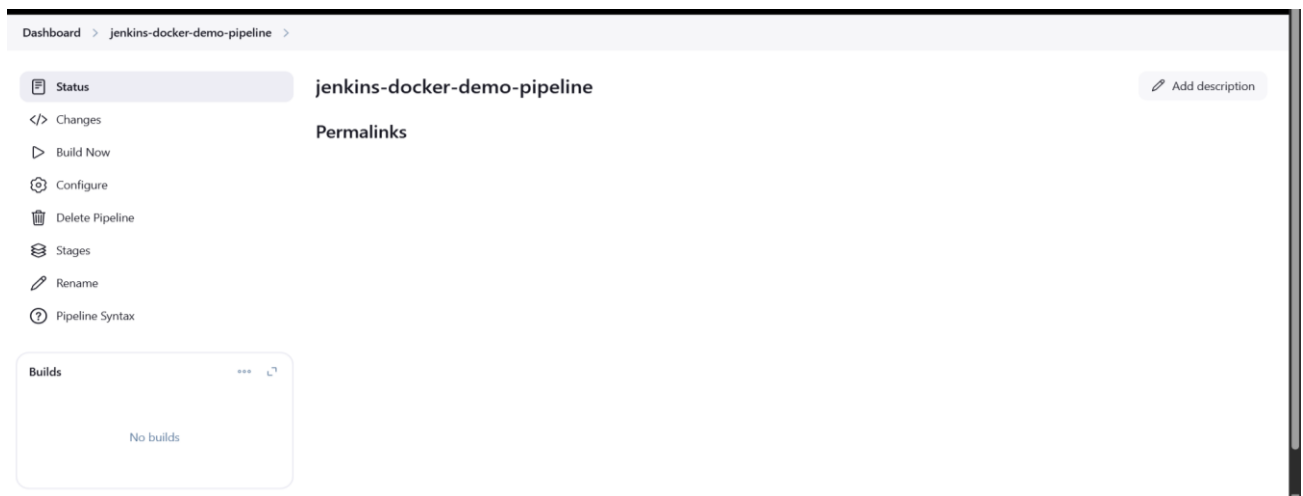
The screenshot shows the Jenkins Configuration page for a Pipeline item. The breadcrumb navigation at the top reads "Dashboard > test1 > Configuration". On the left, the "Configure" section has four tabs: "General", "Triggers", "Pipeline" (which is selected and highlighted), and "Advanced". The main configuration area is titled "SCM" and contains a dropdown menu set to "Git". Below this is a "Repositories" section with a "Repository URL" field containing "https://github.com/S3nThil-03/Devops.git". The "Credentials" dropdown is set to "- none -". There are buttons for "+ Add", "Advanced", and "Add Repository". At the bottom of the configuration area are "Save" and "Apply" buttons.

Step 5: in Jenkins configure save it



The screenshot shows the Jenkins Configuration page for a Pipeline item, specifically the "Pipeline" tab. The breadcrumb navigation at the top reads "Dashboard > test1 > Configuration". On the left, the "Configure" section has four tabs: "General", "Triggers", "Pipeline" (which is selected and highlighted), and "Advanced". The main configuration area is titled "Pipeline" and contains a "Definition" dropdown set to "Pipeline script from SCM". Below this is a "SCM" dropdown set to "Git". The "Repositories" section is expanded, showing the "Repository URL" field with "https://github.com/S3nThil-03/Devops.git", the "Credentials" dropdown set to "- none -", and buttons for "+ Add", "Advanced", and "Add Repository". The "Branches to build" section is expanded, showing a "Branch Specifier (Blank for any)" field with "/\*", and buttons for "Add Branch" and "Repository browser". The "Additional Behaviours" section is expanded, showing a "Script Path" field with "jenkinsfile" and a checked "Lightweight checkout" checkbox. At the bottom of the configuration area are "Save" and "Apply" buttons.

## Step 6: verify the status page



## Step 7: clone the git repository

```
student@CTS-6: ~/docker-python-app
student@CTS-6:~/docker-python-app$ ls
app.py  docker-compose.yml  dockerfile  requirements.txt
student@CTS-6:~/docker-python-app$ cat docker-compose.yml
version: '3.8'
services:
  web:
    build: .
    ports:
      - "5000:5000"
    volumes:
      - ./app
    restart: always
student@CTS-6:~/docker-python-app$ sudo systemctl enable jenkins
[sudo] password for student:
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
student@CTS-6:~/docker-python-app$ sudo systemctl start jenkins
student@CTS-6:~/docker-python-app$ cat dockerfile
FROM python:3.11
WORKDIR /app
COPY requirements.txt .
RUN pip install --no-cache-dir flask
COPY . .
EXPOSE 5000
CMD ["python", "app.py"]
student@CTS-6:~/docker-python-app$ ls
app.py  docker-compose.yml  dockerfile  requirements.txt
student@CTS-6:~/docker-python-app$ git clone https://github.com/S3nTh1l-03/Devops.git_
```

## Step 8: using cd add the repository into it

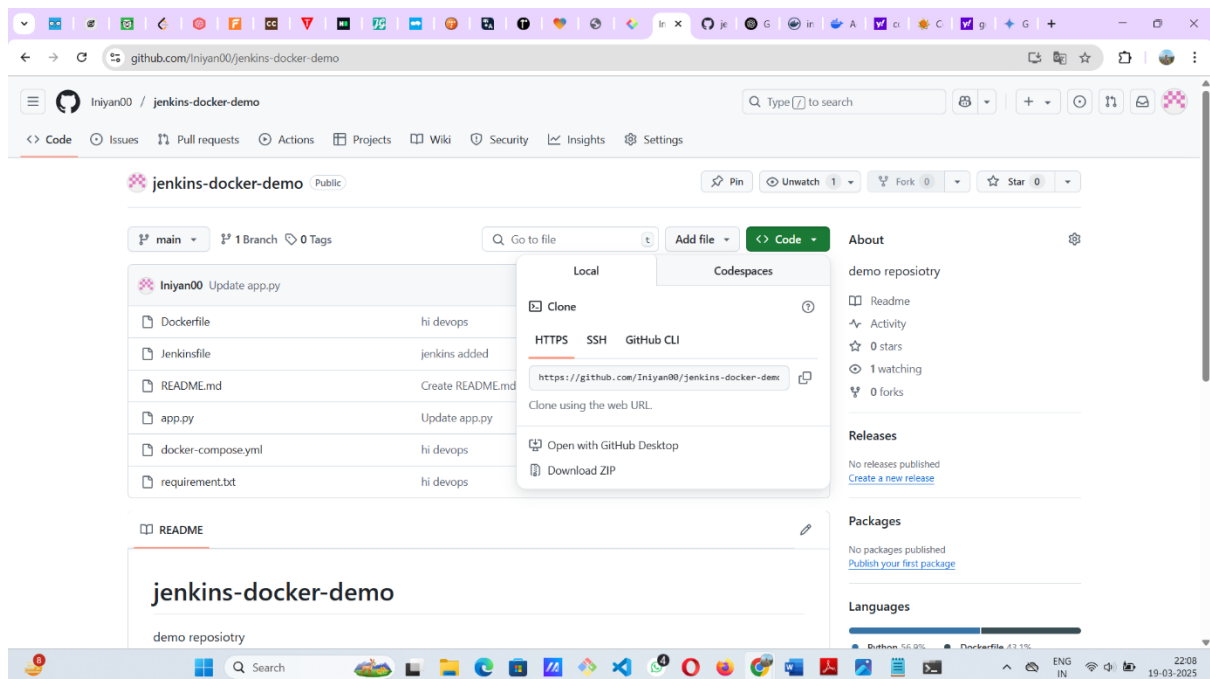
```
student@CTS-6: ~/docker-python-app/Devops
- ./app
  restart: always
student@CTS-6:~/docker-python-app$ sudo systemctl enable jenkins
[sudo] password for student:
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
student@CTS-6:~/docker-python-app$ sudo systemctl start jenkins
student@CTS-6:~/docker-python-app$ cat dockerfile
FROM python:3.11
WORKDIR /app
COPY requirements.txt .
RUN pip install --no-cache-dir flask
COPY . .
EXPOSE 5000
CMD ["python", "app.py"]
student@CTS-6:~/docker-python-app$ ls
app.py  docker-compose.yml  dockerfile  requirements.txt
student@CTS-6:~/docker-python-app$ git clone https://github.com/S3nThil-03/Devops.git
Cloning into 'Devops'...
remote: Enumerating objects: 14, done.
remote: Counting objects: 100% (14/14), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 14 (delta 5), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (14/14), 4.84 MiB | 4.13 MiB/s, done.
Resolving deltas: 100% (5/5), done.
student@CTS-6:~/docker-python-app$ ls
Devops  app.py  docker-compose.yml  dockerfile  requirements.txt
student@CTS-6:~/docker-python-app$ mv app.py docker-compose.yml  dockerfile requirements.txt Devops/
student@CTS-6:~/docker-python-app$ ls
Devops
student@CTS-6:~/docker-python-app$ cd Devops/
student@CTS-6:~/docker-python-app/Devops$ ls
'Day 1'  README.md  app.py  docker-compose.yml  dockerfile  requirements.txt
student@CTS-6:~/docker-python-app/Devops$
```

## Step 9: using git push command to push all the files into github

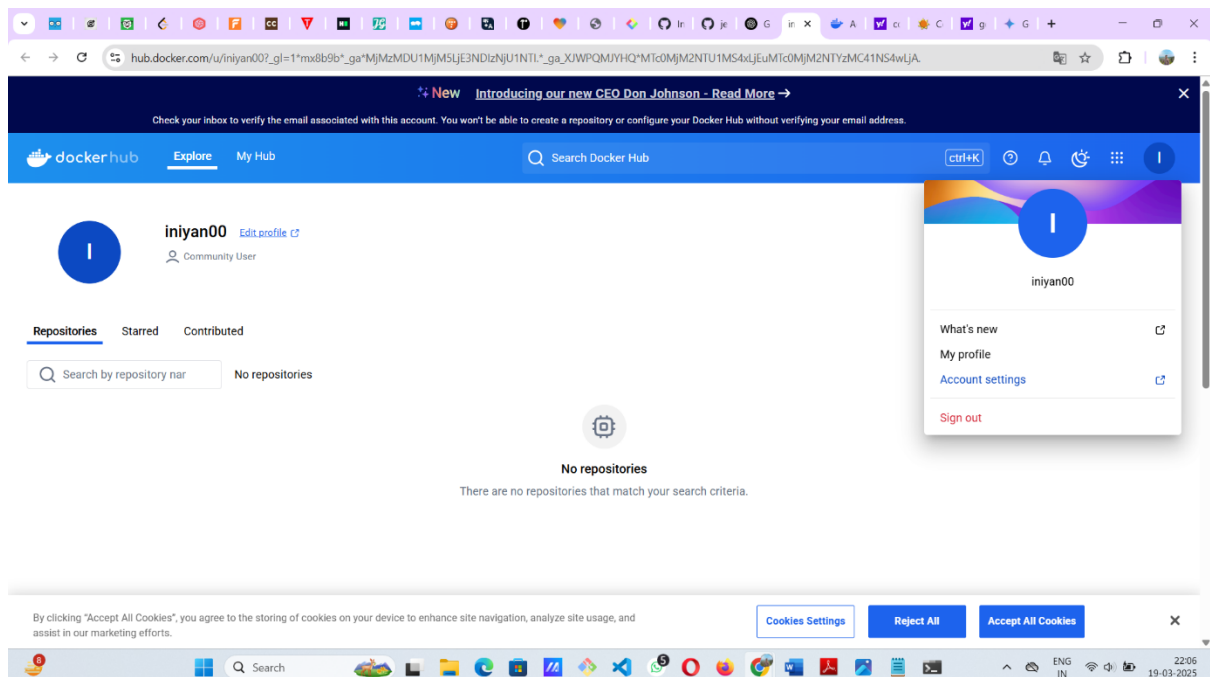
```
student@CTS-6: ~/docker-python-app/Devops
to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: empty ident name (for <student@CTS-6.>) not allowed
student@CTS-6:~/docker-python-app/Devops$ git config --global user.email senthil73587@gmail.com
student@CTS-6:~/docker-python-app/Devops$ git config --global user.name S3nThil-03
student@CTS-6:~/docker-python-app/Devops$ git config --global user.email "senthil73587@gmail.com"
student@CTS-6:~/docker-python-app/Devops$ git config --global user.name "S3nThil-03"
student@CTS-6:~/docker-python-app/Devops$ git commit -m "Initial commit"
[main 3b7729f] Initial commit
 4 files changed, 27 insertions(+)
 create mode 100644 app.py
 create mode 100644 docker-compose.yml
 create mode 100644 dockerfile
 create mode 100644 requirements.txt
student@CTS-6:~/docker-python-app/Devops$ git push https://S3nThil-03:ghp_wq5p5WM1v80EiAChpFcpMADMOH1qa93k0g8a@github.com/S3nThil-03/Devops.git
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 815 bytes | 815.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/S3nThil-03/Devops.git
   b1e96e7..3b7729f  main -> main
student@CTS-6:~/docker-python-app/Devops$
```

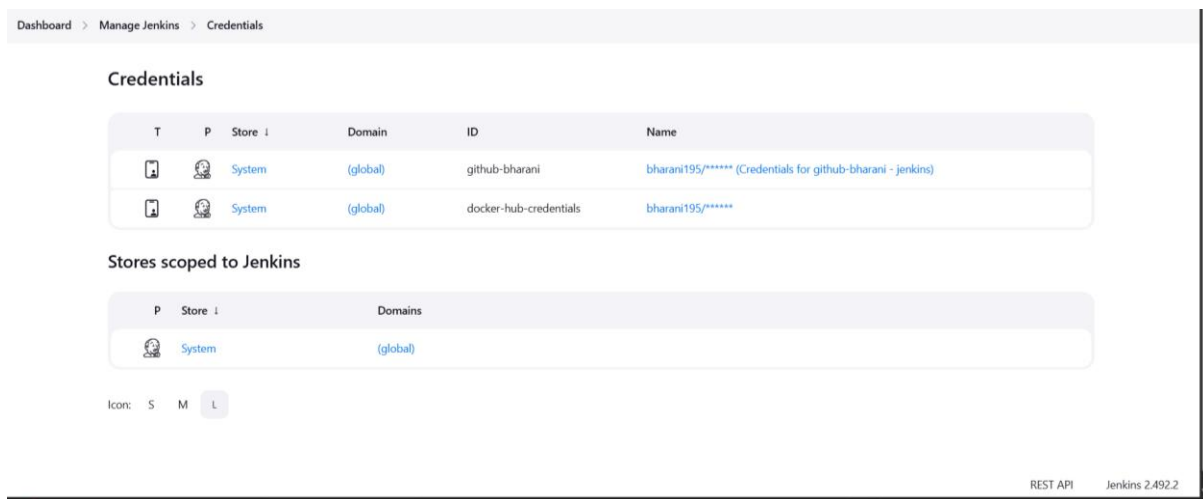
Step 10: check the docker all the files are uploaded in the github repository



Step 11: go to the docker and login in



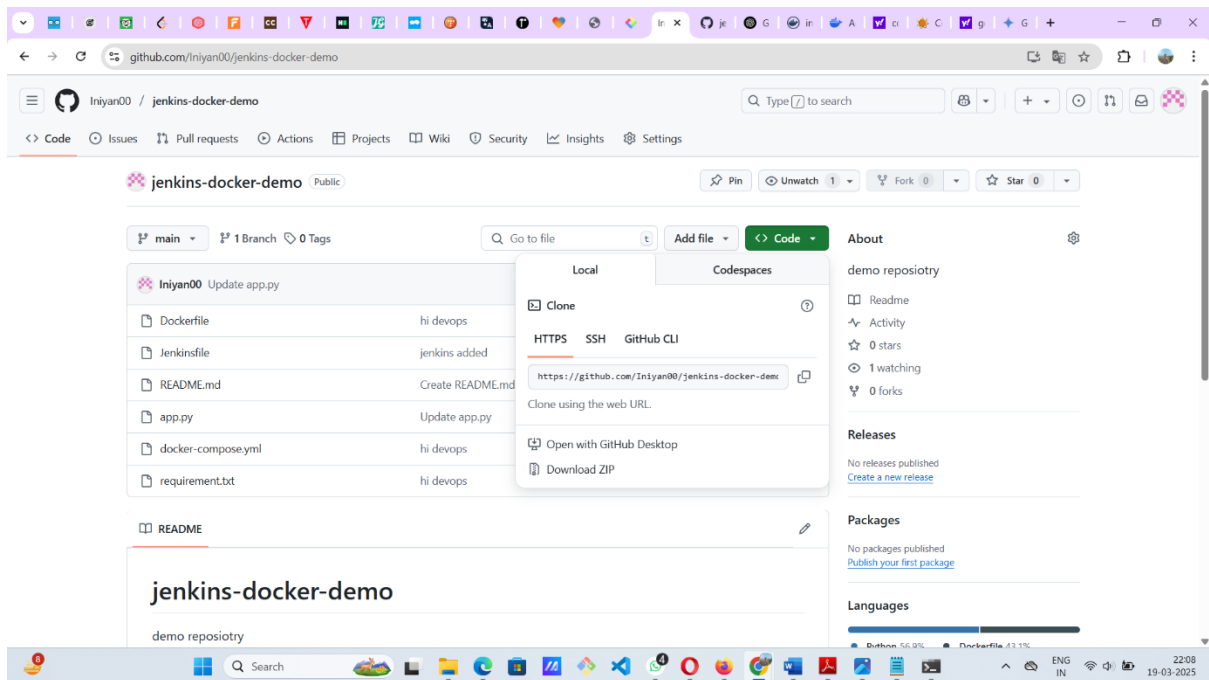
Step 12: in jenkins copy the global credentials and change in the jenkins file



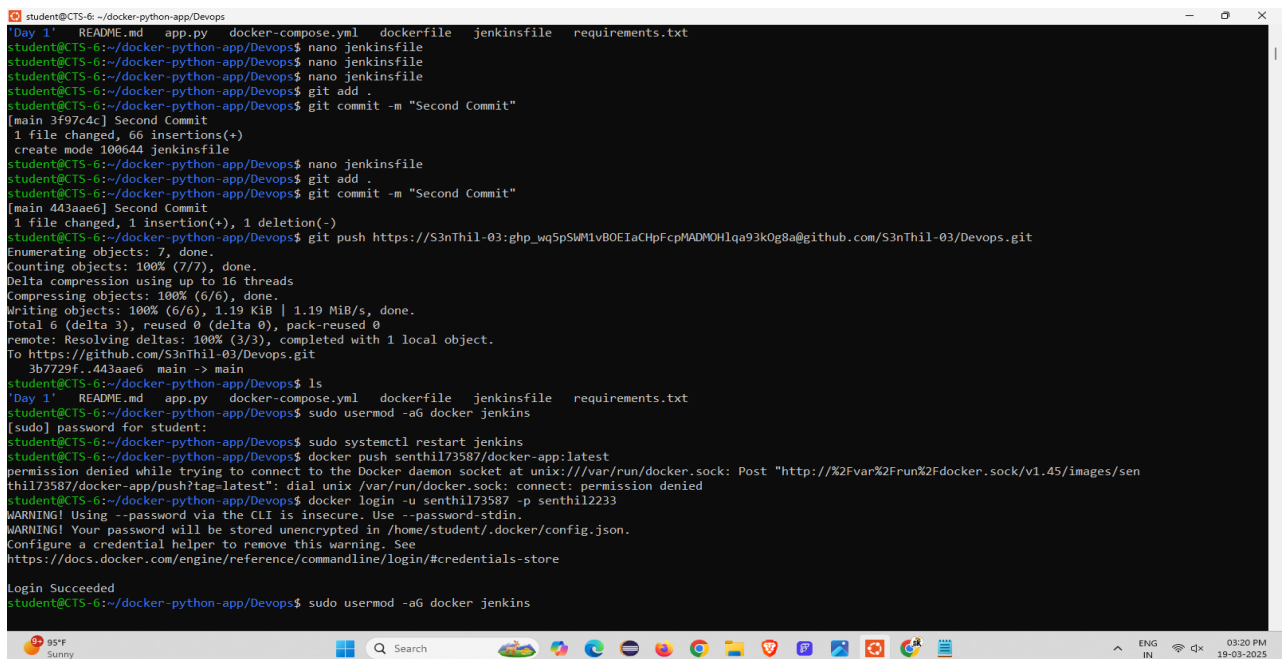
Step 13: commit the jenkinsfile into github

```
student@CTS-6: ~/docker-python-app/Devops
student@CTS-6:~/docker-python-app/Devops$ git push https://S3nThil-03:ghp_wq5pSWM1vB0EiaCHpFcpMADMOH1qa93kOg8a@github.com/S3nThil-03/Devops.git
student@CTS-6:~/docker-python-app/Devops$
student@CTS-6:~/docker-python-app/Devops$
student@CTS-6:~/docker-python-app/Devops$
student@CTS-6:~/docker-python-app/Devops$
student@CTS-6:~/docker-python-app/Devops$ 15.00 KiB/s, done.
student@CTS-6:~/docker-python-app/Devops$ k-reused 0
student@CTS-6:~/docker-python-app/Devops$ t
student@CTS-6:~/docker-python-app/Devops$ nano jenkinsfile
student@CTS-6:~/docker-python-app/Devops$ ls
'Day 1' README.md app.py docker-compose.yml dockerfile jenkinsfile requirements.txt
student@CTS-6:~/docker-python-app/Devops$ nano jenkinsfile
student@CTS-6:~/docker-python-app/Devops$ nano jenkinsfile
student@CTS-6:~/docker-python-app/Devops$ git add .
student@CTS-6:~/docker-python-app/Devops$ git commit -m "Second Commit"
[main 3f97c4c] Second Commit
1 file changed, 66 insertions(+)
create mode 100644 jenkinsfile
student@CTS-6:~/docker-python-app/Devops$ nano jenkinsfile
student@CTS-6:~/docker-python-app/Devops$ git add .
student@CTS-6:~/docker-python-app/Devops$ git commit -m "Second Commit"
[main 443aa6] Second Commit
1 file changed, 1 insertion(+), 1 deletion(-)
student@CTS-6:~/docker-python-app/Devops$ git push https://S3nThil-03:ghp_wq5pSWM1vB0EiaCHpFcpMADMOH1qa93kOg8a@github.com/S3nThil-03/Devops.git
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 16 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.19 KiB | 1.19 MiB/s, done.
Total 6 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To https://github.com/S3nThil-03/Devops.git
3b7729f..443aa6 main -> main
student@CTS-6:~/docker-python-app/Devops$
```

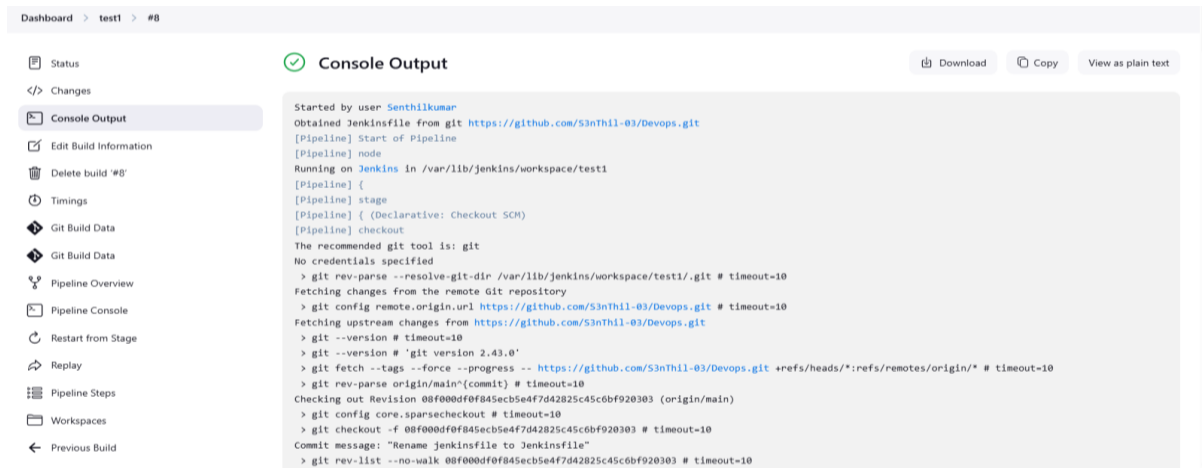
## Step 14: verify the jenkins file is pushed in the github



Step 15 : using “`sudo usermod -aG docker jenkins`” and restart the jenkins



Step 16 : build the item and check the output in console output



The screenshot shows the Jenkins web interface for a pipeline build. The left sidebar contains navigation links: Status, Changes, Console Output (selected), Edit Build Information, Delete build #8, Timings, Git Build Data, Pipeline Overview, Pipeline Console, Restart from Stage, Replay, Pipeline Steps, Workspaces, and Previous Build. The main area is titled 'Console Output' with a green checkmark icon. It includes buttons for Download, Copy, and View as plain text. The console log shows the following output:

```
Started by user Senthilkumar
Obtained Jenkinsfile from git https://github.com/53nThil-03/Devops.git
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/test1
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
The recommended git tool is: git
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/test1/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/53nThil-03/Devops.git # timeout=10
Fetching upstream changes from https://github.com/53nThil-03/Devops.git
> git --version # timeout=10
> git fetch --tags --force --progress -- https://github.com/53nThil-03/Devops.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse origin/main^{commit} # timeout=10
Checking out Revision 08f000df0f845ecb5e4f7d42825c45c6bf920303 (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 08f000df0f845ecb5e4f7d42825c45c6bf920303 # timeout=10
Commit message: "Rename jenkinsfile to Jenkinsfile"
> git rev-list --no-walk 08f000df0f845ecb5e4f7d42825c45c6bf920303 # timeout=10
```

Step 17 : run the localhost:5001



Step 18 : check the image repository in docker