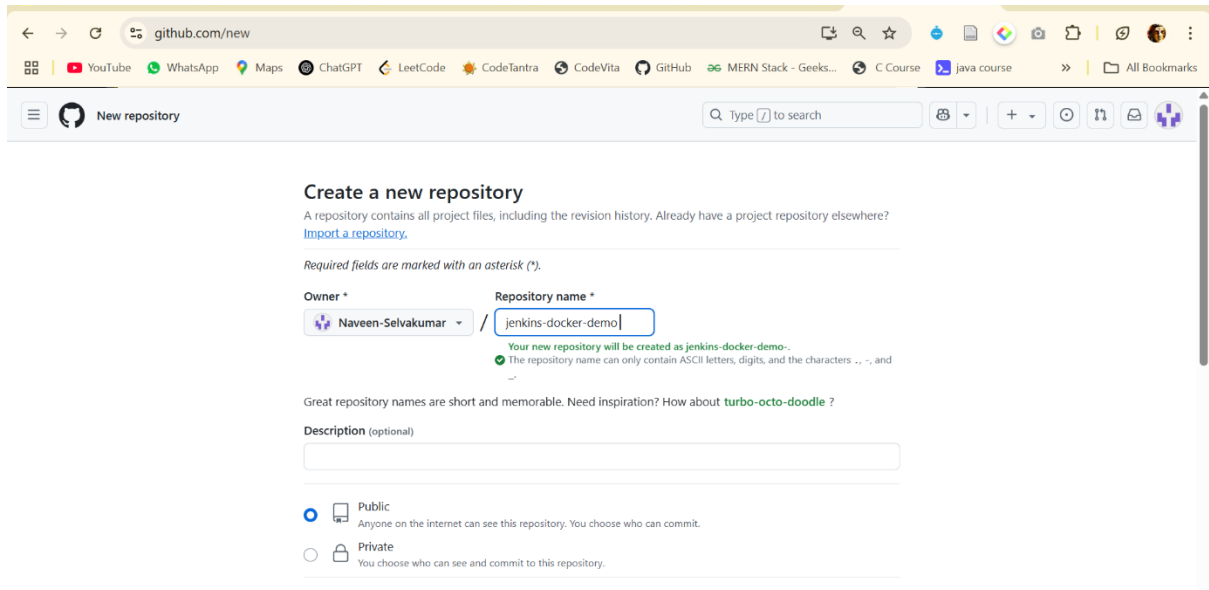


# DEVOPS TRAINING

## DAY 2-Naveen-S

Step 1: create repository in github

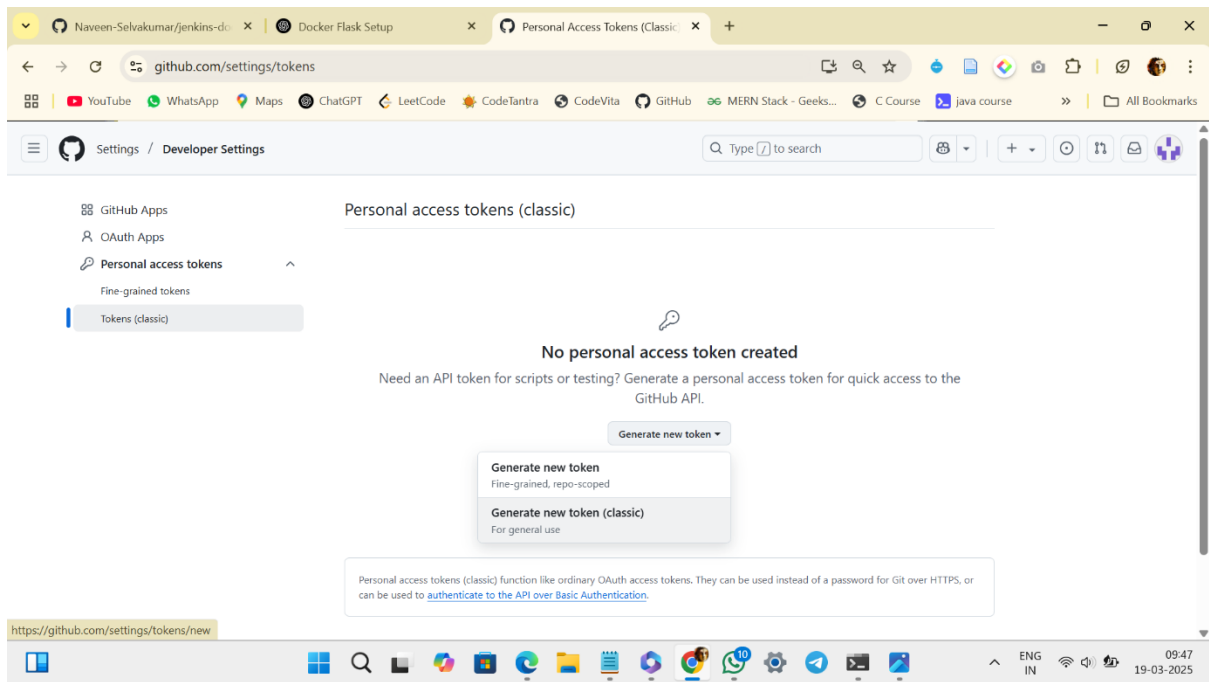
Go to GitHub and create a new repository.



The screenshot shows the GitHub 'Create a new repository' page. The browser address bar shows 'github.com/new'. The page title is 'Create a new repository'. Below the title, it says 'A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)'. A note states 'Required fields are marked with an asterisk (\*)'. The 'Owner' is 'Naveen-Selvakumar' and the 'Repository name' is 'jenkins-docker-demo'. A green checkmark indicates the name is valid, with a note: 'Your new repository will be created as jenkins-docker-demo-. The repository name can only contain ASCII letters, digits, and the characters ., -, and \_'. Below the name field, it says 'Great repository names are short and memorable. Need inspiration? How about [turbo-octo-doodle](#) ?'. The 'Description (optional)' field is empty. Under the 'Visibility' section, the 'Public' option is selected, with the text 'Anyone on the internet can see this repository. You choose who can commit.' The 'Private' option is also visible, with the text 'You choose who can see and commit to this repository.'

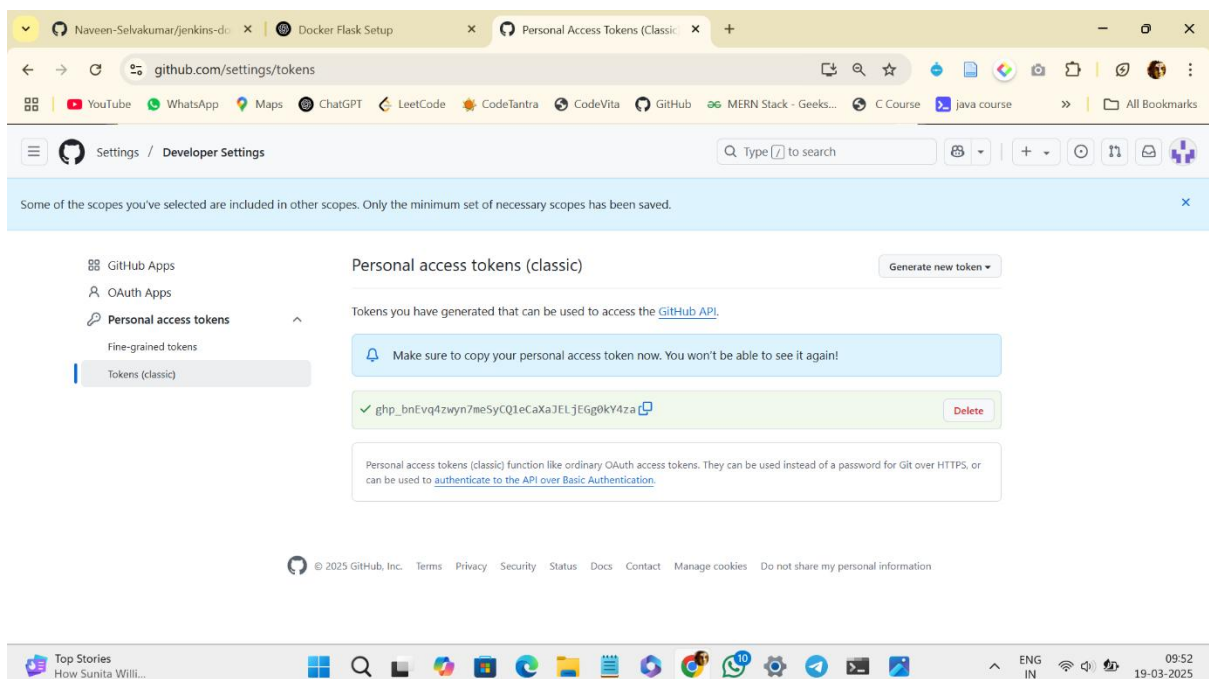
Step 2: go to developer settings

- Navigate to **Settings > Developer Settings > Personal Access Tokens**
- Click **Generate New Token (Classic)**
- Copy and store the token securely



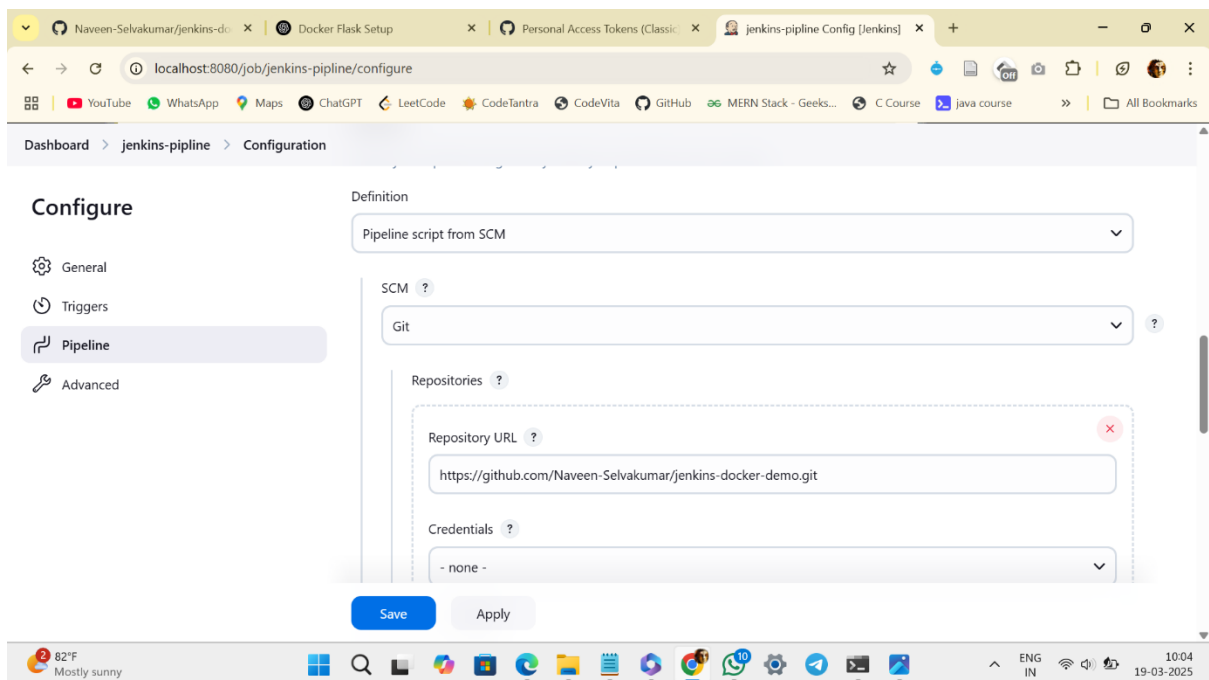
## Step 3: generate and copy the token (classic)

- Open Jenkins
- Click **New Item > Pipeline**
- In **Configuration**, add the GitHub repository URL
- Save the configuration

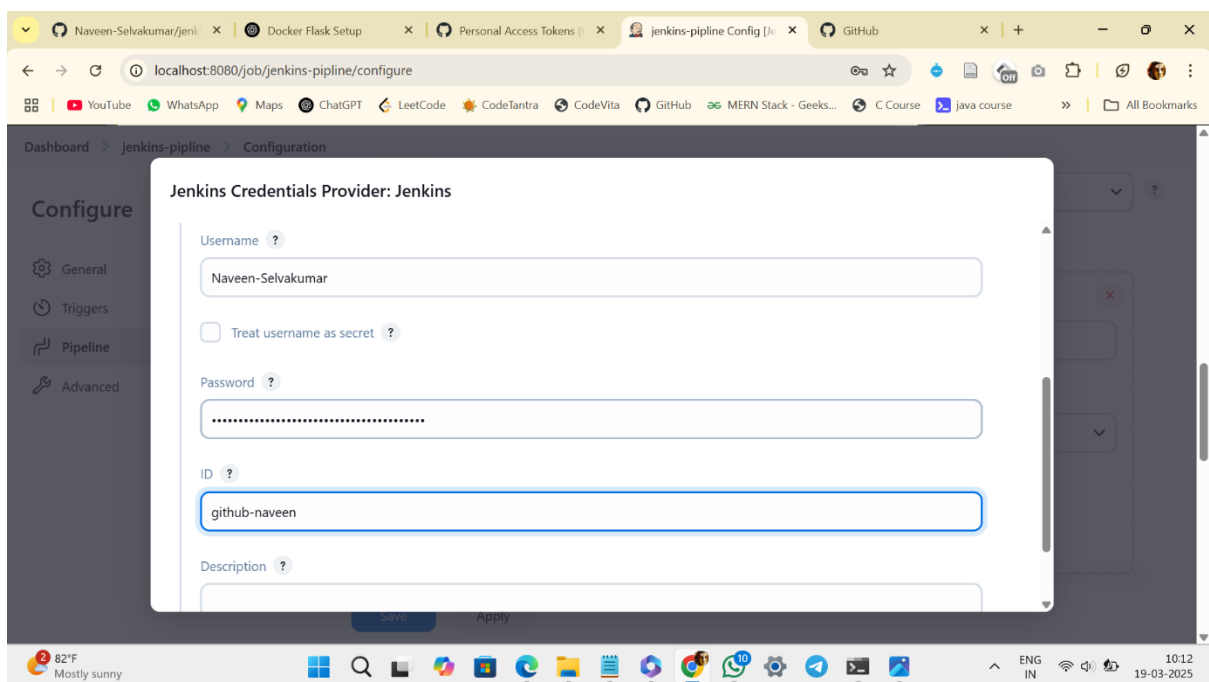


Step 4: open Jenkins and create new item and select pipeline in that go to configuration add github repository url into it.

Check the **Jenkins Status Page** to confirm that the setup is successful



Step 5: in Jenkins configure save it



## Step 6: verify the status page

Dashboard > Naveen S > My Views > All >

+ New Item Add description

Build History All +

Project Relationship

Check File Fingerprint

Build Queue ^

S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☀	Install-Nginx	1 day 10 hr #1	N/A	95 ms
✓	☁	jenkins-pipeline	10 min #5	5 hr 20 min #3	45 sec

Build Executor Status 0/2 Icon: S M L

REST API Jenkins 2.492.2

## Step 7: clone the git repository

git clone <https://github.com/your-username/your-repository.git>

cd your-repository

```
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ sudo systemctl enable jenkins
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
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ sudo systemctl start jenkins
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-03-19 03:33:44 UTC; 51min ago
     Main PID: 166 (java)
        Tasks: 61 (limit: 4574)
      Memory: 439.9M
     CGroup: /system.slice/jenkins.service
            └─166 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Mar 19 03:33:42 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:42.854+0000 [id=41] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:42 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:42.860+0000 [id=66] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:43 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:43.201+0000 [id=41] INFO h.p.b.g.GlobalTimeOutConfigur
Mar 19 03:33:43 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.193+0000 [id=66] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.195+0000 [id=67] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.265+0000 [id=58] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.284+0000 [id=58] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.324+0000 [id=50] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.372+0000 [id=33] INFO hudson.lifecycle.Lifecycle#onR
Mar 19 03:33:44 LAPTOP-MR5RNM1C systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
lines 1-19/19 (END)
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ git status
fatal: not a git repository (or any of the parent directories): .git
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ git clone https://github.com/Naveen-Selvakumar/jenkins-docker-demo.git
Cloning into 'jenkins-docker-demo'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
```

Step 8: using cd add the repository into it

git add .

git commit -m "Initial commit"

git push origin main

```
naveen@LAPTOP-MR5RNM1C x + v
Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
Active: active (running) since Wed 2025-03-19 03:33:44 UTC; 51min ago
Main PID: 166 (java)
Tasks: 61 (limit: 4574)
Memory: 439.9M ()
CGroup: /system.slice/jenkins.service
└─166 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPo

Mar 19 03:33:42 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:42.854+0000 [id=41] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:42 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:42.860+0000 [id=66] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:43 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:43.201+0000 [id=41] INFO h.p.b.g.GlobalTimeOutConfigura
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.193+0000 [id=66] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.195+0000 [id=67] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.265+0000 [id=58] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.284+0000 [id=58] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.324+0000 [id=50] INFO jenkins.InitReactorRunner$1#on
Mar 19 03:33:44 LAPTOP-MR5RNM1C jenkins[166]: 2025-03-19 03:33:44.372+0000 [id=33] INFO hudson.lifecycle.Lifecycle#onRe
Mar 19 03:33:44 LAPTOP-MR5RNM1C systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
lines 1-19/19 (END)
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ git status
fatal: not a git repository (or any of the parent directories): .git
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ git clone https://github.com/Naveen-Selvakumar/jenkins-docker-demo.git
Cloning into 'jenkins-docker-demo'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ ls
Dockerfile app.py docker-compose.yml jenkins-docker-demo main.py requirements.txt
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ mv Dockerfile app.py docker-compose.yml main.py requirements.txt jenkins-docker-demo/
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ ls
jenkins-docker-demo
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ |
```

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

github

git push https://Naveen-

Selvakumar:ghp\_bnEvq4zwyn7meSyCQ1eCaXaJELjEGg0kY4za

@github.com/Naveen-Selvakumar/jenkins-docker-demo.git

```
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ ls
Dockerfile app.py docker-compose.yml jenkins-docker-demo main.py requirements.txt
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ mv Dockerfile app.py docker-compose.yml main.py requirements.txt jenkins-docker-demo/
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ ls
jenkins-docker-demo
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ cd jenkins-docker-demo
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ ls
Dockerfile README.md app.py docker-compose.yml main.py requirements.txt
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ cd ..
naveen@LAPTOP-MR5RNM1C:~/docker-python-app$ cd jenkins-docker-demo
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ jenkins-docker-demols
jenkins-docker-demols: command not found
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ ls
Dockerfile README.md app.py docker-compose.yml main.py requirements.txt
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git fetch
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git add .
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git commit -m "Docker committed"
Author identity unknown

*** Please tell me who you are.

Run

  git config --global user.email "you@example.com"
  git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: empty ident name (for <naveen@LAPTOP-MR5RNM1C.>) not allowed
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git config --global user.email "nveen3484@gmail.com"
```

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

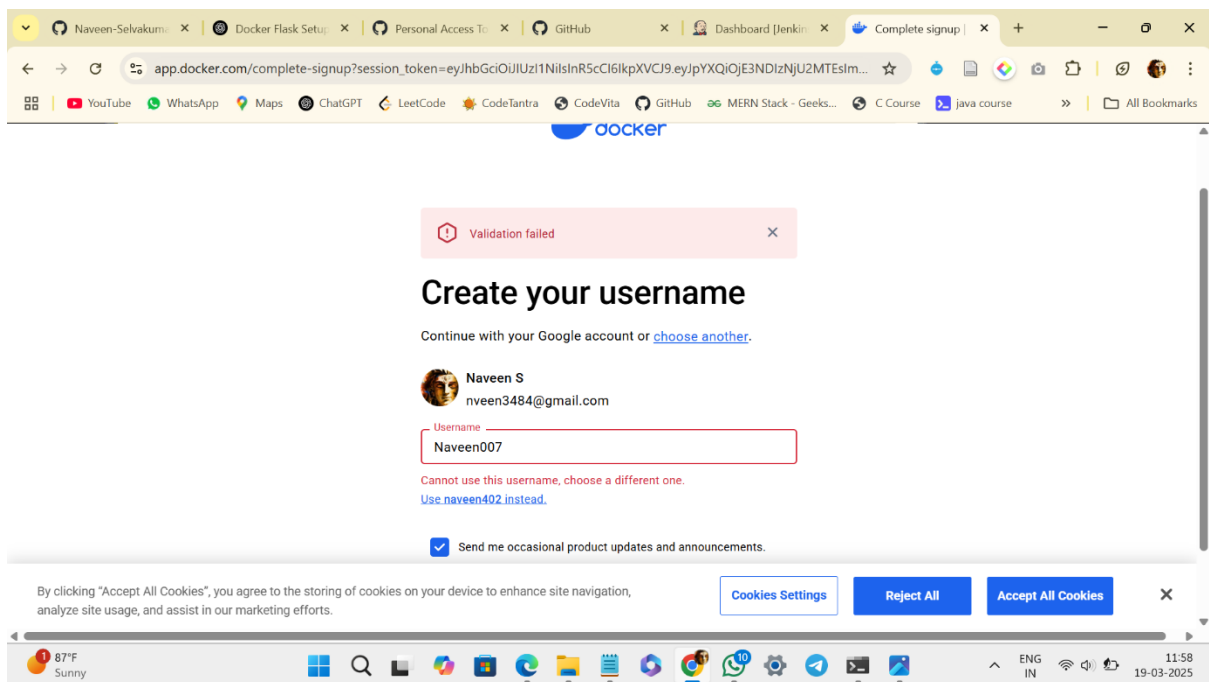
The screenshot shows a GitHub repository page for 'jenkins-docker-demo' by Naveen-Selvakumar. The repository is public and has 5 commits. The commit history shows the following files and their commit times:

File	Commit Message	Time
Dockerfile	Docker committed	9 hours ago
Jenkins	Jenkins-added	6 hours ago
Jenkinsfile	Jenkinsfile-added	5 hours ago
README.md	Create README.md	10 hours ago
app.py	Docker committed	9 hours ago
docker-compose.yml	Docker committed	9 hours ago
main.py	Docker committed	9 hours ago
requirements.txt	Docker committed	9 hours ago

The README file is open, showing the title 'jenkins-docker-demo'.

## docker login

Enter your **Docker Hub username** and **password/token** when prompted



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

```
sudo usermod -aG docker jenkins
```

```
sudo systemctl restart jenkins
```

The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `localhost:8080/manage/credentials/`. The page title is "Jenkins". The breadcrumb navigation shows "Dashboard > Manage Jenkins > Credentials".

### Credentials

T	P	Store	Domain	ID	Name
		System	(global)	github-Naveen-Selvakumar	Naveen-Selvakumar/*****
		System	(global)	naveen114	naveen014/*****

### Stores scoped to Jenkins

P	Store	Domains
	System	(global)

Icon: ☒ S ☐ M ☐ L

## Step 13: commit the jenkinsfile into github

```
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git push https://Naveen-Selvakumar: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@github.com:Naveen-Selvakumar/jenkins-docker-demo.git
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 1020 bytes | 1020.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com:Naveen-Selvakumar/jenkins-docker-demo.git
  878a5d5..4bbfde9  main -> main
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo systemctl restart jenkins
[sudo] password for naveen:
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ nano Jenkinsfile
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git add .
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git status
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   Jenkinsfile
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git commit -m "Jenkinsfile-added"
[main b405440] Jenkinsfile-added
 1 file changed, 67 insertions(+)
 create mode 100644 Jenkinsfile
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ git push https://Naveen-Selvakumar: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@github.com:Naveen-Selvakumar/jenkins-docker-demo.git
To https://github.com:Naveen-Selvakumar/jenkins-docker-demo.git
```



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

The screenshot displays the GitHub interface for the repository 'jenkins-docker-demo'. The commit history table lists the following files and their commit times:

File	Commit Message	Time
Dockerfile	Docker committed	9 hours ago
Jenkins	Jenkins-added	6 hours ago
Jenkinsfile	Jenkinsfile-added	5 hours ago
README.md	Create README.md	10 hours ago
app.py	Docker committed	9 hours ago
docker-compose.yml	Docker committed	9 hours ago
main.py	Docker committed	9 hours ago
requirements.txt	Docker committed	9 hours ago

The README file content is 'jenkins-docker-demo'. The right sidebar shows repository statistics: 0 stars, 1 watching, 0 forks, and a language breakdown of Dockerfile (52.6%) and Python (47.4%).

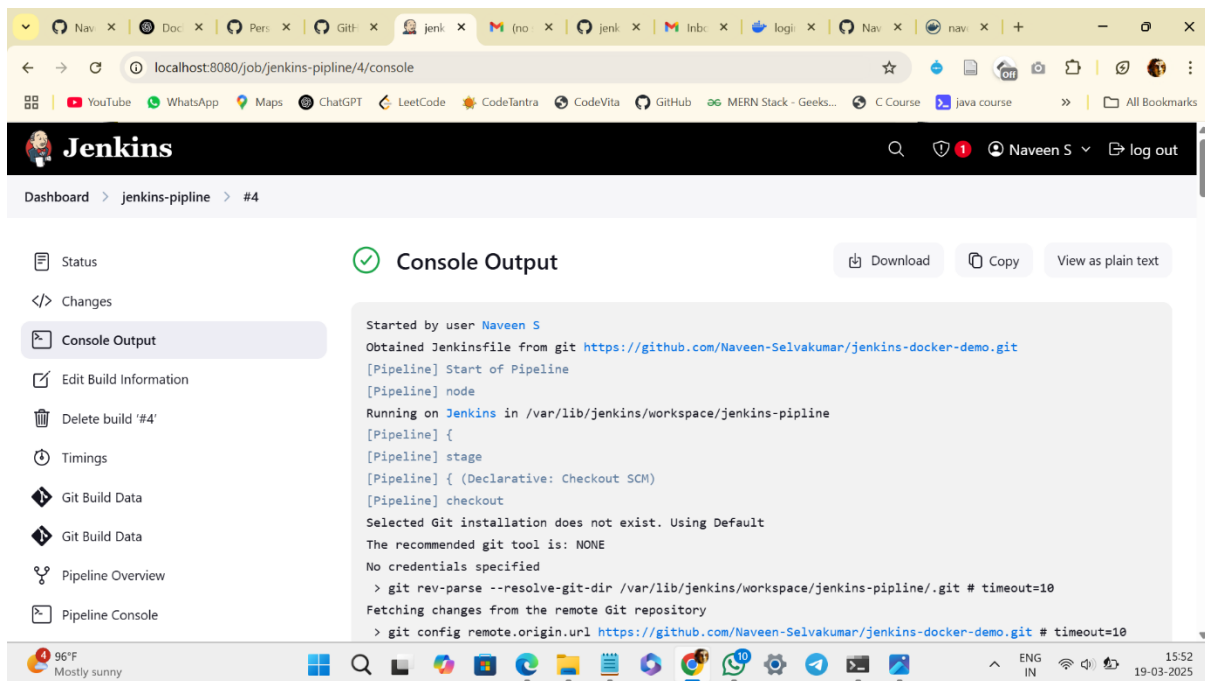
## Step 15 : using “sudo usermod –aG docker jenkins” and restart the jenkins

```
naveen@LAPTOP-MR5RNM1C: ~$ git push
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 1.00 KiB | 1.00 MiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Naveen-Selvakumar/jenkins-docker-demo.git
9b8830f..f4f6bfb main -> main
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo systemctl restart jenkins
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-03-19 09:39:59 UTC; 1min 9s ago
     Main PID: 3763 (java)
        Tasks: 60 (Limit: 4574)
      Memory: 576.7M
     CGroup: /system.slice/jenkins.service
            └─3763 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --http

Mar 19 09:39:58 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:58.485+0000 [id=58] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:58 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:58.491+0000 [id=61] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:58 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:58.857+0000 [id=72] INFO h.p.b.g.GlobalTimeOutConfigurer
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.527+0000 [id=45] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.528+0000 [id=45] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.783+0000 [id=51] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.803+0000 [id=61] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.827+0000 [id=60] INFO jenkins.InitReactorRunner$1
Mar 19 09:39:59 LAPTOP-MR5RNM1C jenkins[3763]: 2025-03-19 09:39:59.866+0000 [id=33] INFO hudson.lifecycle.Lifecycle#on
Mar 19 09:39:59 LAPTOP-MR5RNM1C systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
lines 1-19/19 (END)
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo usermod -aG docker jenkins
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo systemctl restart jenkins
naveen@LAPTOP-MR5RNM1C:~/docker-python-app/jenkins-docker-demo$ sudo systemctl restart docker
```

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

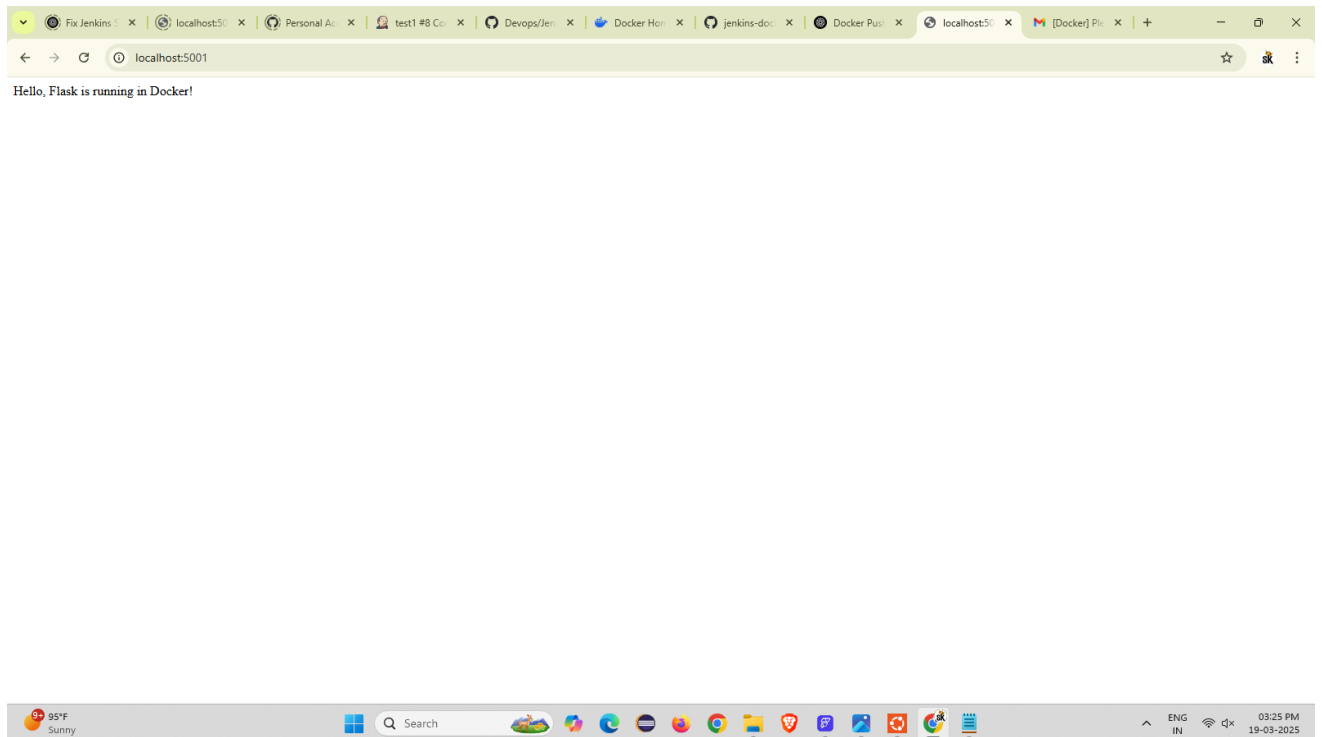
- In **Jenkins**, click **Build Now**
- Monitor the **Console Output**



The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `localhost:8080/job/jenkins-pipeline/4/console`. The Jenkins logo and name are at the top left, and the user 'Naveen S' is logged in. The breadcrumb trail shows 'Dashboard > jenkins-pipeline > #4'. On the left sidebar, the 'Console Output' tab is selected. The main area displays the console output for build #4, which started by user 'Naveen S'. The output shows the pipeline starting, checking out the Jenkinsfile from a GitHub repository, and running on the Jenkins agent. The output text is as follows:

```
Started by user Naveen S
Obtained Jenkinsfile from git https://github.com/Naveen-Selvakumar/jenkins-docker-demo.git
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/jenkins-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/jenkins-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/Naveen-Selvakumar/jenkins-docker-demo.git # timeout=10
```

## Step 17 : run the localhost:5001



## Step 18 : check the image repository in docker

