

Devops Task – 2

NAME: ELANKUMARAN R

ROLL NO:22CSR053

Steps 1: Instalation of Docker

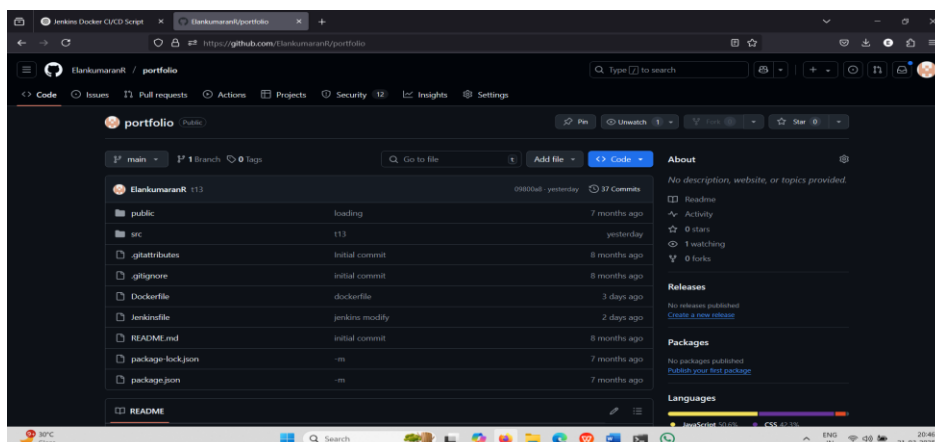
CODE:

```
sudo apt install docker.io -y
sudo systemctl start docker
sudo systemctl enable docker
sudo systemctl status docker
```

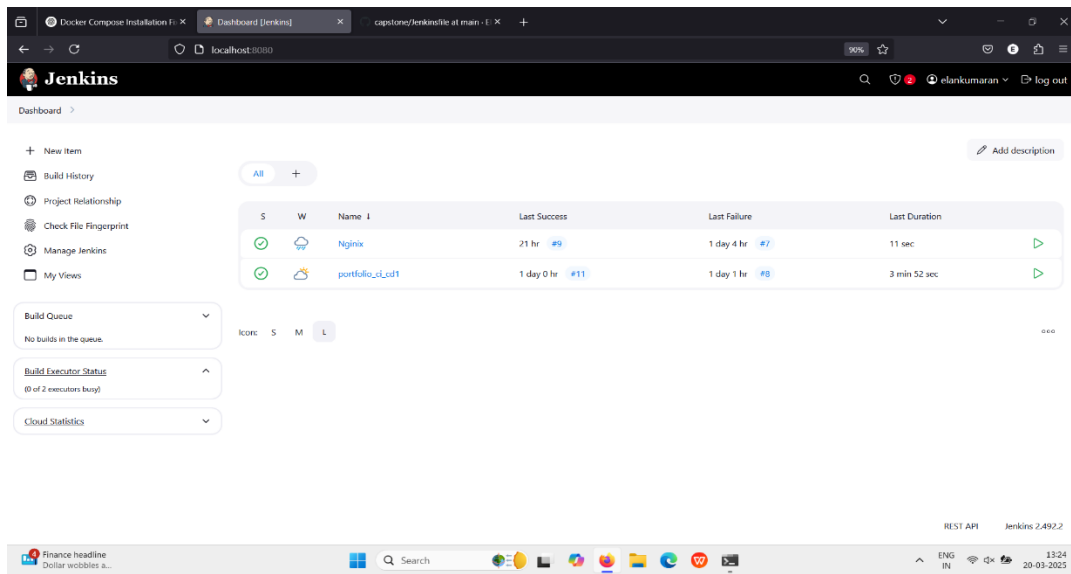
```
Version: 0.19.0
GitCommit: de40ad0
elank@kumaran:~$ sudo systemctl start docker
elank@kumaran:~$ sudo systemctl enable docker
Synchronizing state of docker.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable docker
elank@kumaran:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
   Active: active (running) since Fri 2025-03-21 08:11:02 UTC; 2h 29min ago
     TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
      Main PID: 346 (dockerd)
        Tasks: 57
      Memory: 389.9M ()
      CGroup: /system.slice/docker.service
              └─ 346 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
                  └─ 2574 /usr/bin/docker-proxy -proto tcp -host-ip 127.0.0.1 -host-port 32768 -container-ip 192.168.49.2 -container-port 22 -use-listen-fd
                  └─ 2580 /usr/bin/docker-proxy -proto tcp -host-ip 127.0.0.1 -host-port 32769 -container-ip 192.168.49.2 -container-port 2376 -use-listen-fd
                  └─ 2589 /usr/bin/docker-proxy -proto tcp -host-ip 127.0.0.1 -host-port 32770 -container-ip 192.168.49.2 -container-port 5000 -use-listen-fd
                  └─ 2595 /usr/bin/docker-proxy -proto tcp -host-ip 127.0.0.1 -host-port 32771 -container-ip 192.168.49.2 -container-port 8443 -use-listen-fd
                  └─ 2604 /usr/bin/docker-proxy -proto tcp -host-ip 127.0.0.1 -host-port 32772 -container-ip 192.168.49.2 -container-port 32443 -use-listen-fd

Mar 21 08:11:01 kumaran dockerd[346]: time="2025-03-21T08:11:01.698293520Z" level=warning msg="WARNING: No blkio throttle.write_iops_device support"
Mar 21 08:11:01 kumaran dockerd[346]: time="2025-03-21T08:11:01.698327371Z" level=info msg="Docker daemon" commit=bea4de2 containerd-snapshotter=false stor
Mar 21 08:11:01 kumaran dockerd[346]: time="2025-03-21T08:11:01.618933597Z" level=info msg="Initializing buildkit"
Mar 21 08:11:02 kumaran dockerd[346]: time="2025-03-21T08:11:02.640833004Z" level=info msg="Completed buildkit initialization"
Mar 21 08:11:02 kumaran dockerd[346]: time="2025-03-21T08:11:02.690856728Z" level=info msg="Daemon has completed initialization"
Mar 21 08:11:02 kumaran dockerd[346]: time="2025-03-21T08:11:02.692146600Z" level=info msg="API listen on /run/docker.sock"
Mar 21 08:11:02 kumaran systemd[1]: Started docker.service - Docker Application Container Engine.
Mar 21 09:04:49 kumaran dockerd[346]: time="2025-03-21T09:04:49.789627237Z" level=error msg="moby.buildkit.v1.frontend.LLBridge/Solve error=\"rpc error: co
Mar 21 09:04:49 kumaran dockerd[346]: time="2025-03-21T09:04:49.881039421Z" level=error msg="moby.buildkit.v1.Control/Solve error=\"rpc error: code = Unknown
Mar 21 09:14:23 kumaran dockerd[346]: time="2025-03-21T09:14:23.931043536Z" level=error msg="Not continuing with pull after error" error="manifest unknown:
lines 1-26/26 (END)
```

Step 2: Clone a project from github to local machine and add Dockerfile and Jenkinsfile then push it to github



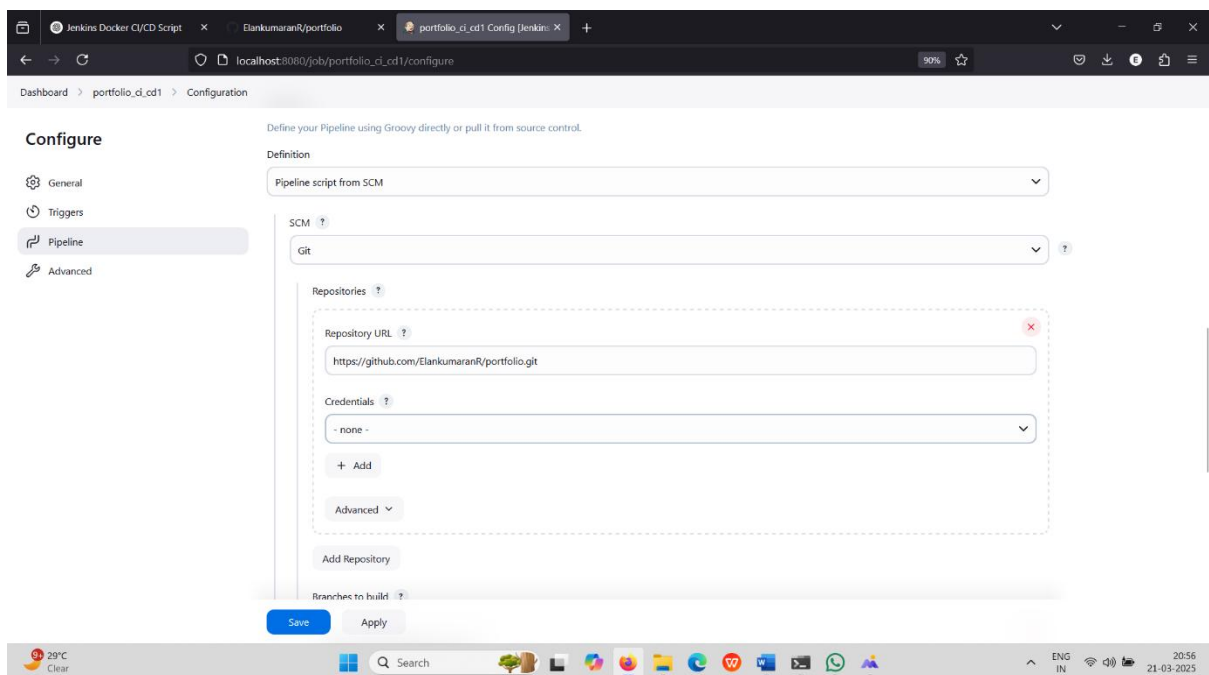
Step3: Create a pipeline type Item in the Jenkins



The screenshot shows the Jenkins Dashboard. On the left, there is a sidebar with links: New Item, Build History, Project Relationship, Check File Fingerprint, Manage Jenkins, and My Views. The main area displays a table of pipeline items. The table has columns for S, W, Name, Last Success, Last Failure, and Last Duration. Two items are listed: 'Nginix' and 'portfolio_cd1'. The 'portfolio_cd1' item is selected, and its details are shown below the table. The details include a 'Build Queue' section with 'No builds in the queue', a 'Build Executor Status' section with '0 of 2 executors busy', and a 'Cloud Statistics' section. The bottom of the dashboard shows the REST API and Jenkins version 2.492.2.

S	W	Name	Last Success	Last Failure	Last Duration
✓	☁	Nginix	21 hr #6	1 day 4 hr #7	11 sec
✓	☁	portfolio_cd1	1 day 0 hr #11	1 day 1 hr #8	3 min 52 sec

Step4: Add the github link and select the GitHub hook trigger for GITScm polling



The screenshot shows the Jenkins Configuration page for a pipeline item. The left sidebar has links: General, Triggers, Pipeline, and Advanced. The 'Pipeline' link is selected. The main area is titled 'Configure' and contains a 'Definition' section with a dropdown menu set to 'Pipeline script from SCM'. Below this, there is a 'SCM' section with a dropdown menu set to 'Git'. Under the 'SCM' section, there is a 'Repositories' section with a 'Repository URL' field containing 'https://github.com/ElankumaranR/portfolio.git'. There is also a 'Credentials' dropdown menu set to '- none -'. At the bottom, there is a 'Branches to build' section with a dropdown menu set to '*/ */'. The 'Save' button is highlighted.

Step 5: Then build the item which will give a console output and docker image will build and run on port 3000 which was mentioned in dockerfile

The image shows two screenshots from a Jenkins environment. The top screenshot is a console view for the pipeline `portfolio_ci_cd1` at build #11. The output shows the Docker image being built and pushed to Docker Hub, and then a container named `react-app-container` being run on port 3000. The pipeline execution is successful.

```
#10 CACHED

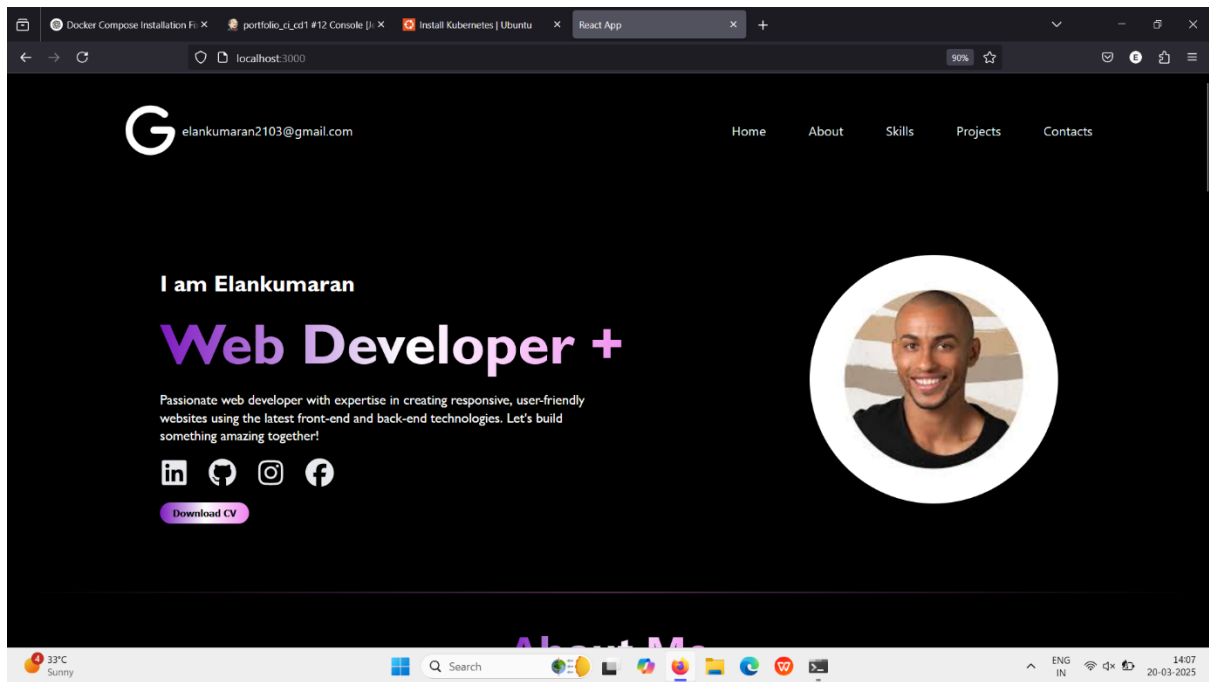
#11 exporting to image
#11 exporting layers done
#11 writing image sha256:fa2e82bb7354f62d40208b6a46515ada7cae999504ad4dfc6ead5de6e38df5 0.0s done
#11 naming to docker.io/library/portfolio-app done
#11 DONE 0.0s

[Pipeline] sh
+ docker run -d -p 3000:3000 --name react-app-container portfolio-app
5235c935d5d84f4ca2b29469b8b05e7dc1f12ac719265307ee8c2e4ac318b078
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Declarative: Post Actions)
[Pipeline] echo
Pipeline execution completed!
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] // withEnv
[Pipeline] // withEnv
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

The bottom screenshot shows the Jenkins pipeline view for `portfolio_ci_cd1`. The pipeline is in a successful state. The left sidebar shows the pipeline's configuration and build history. The main area displays the pipeline's status and a list of recent builds.

Builds

Build	Status	Time
#11	Success	7:28 AM
#10	Success	7:20 AM
#9	Success	7:02 AM

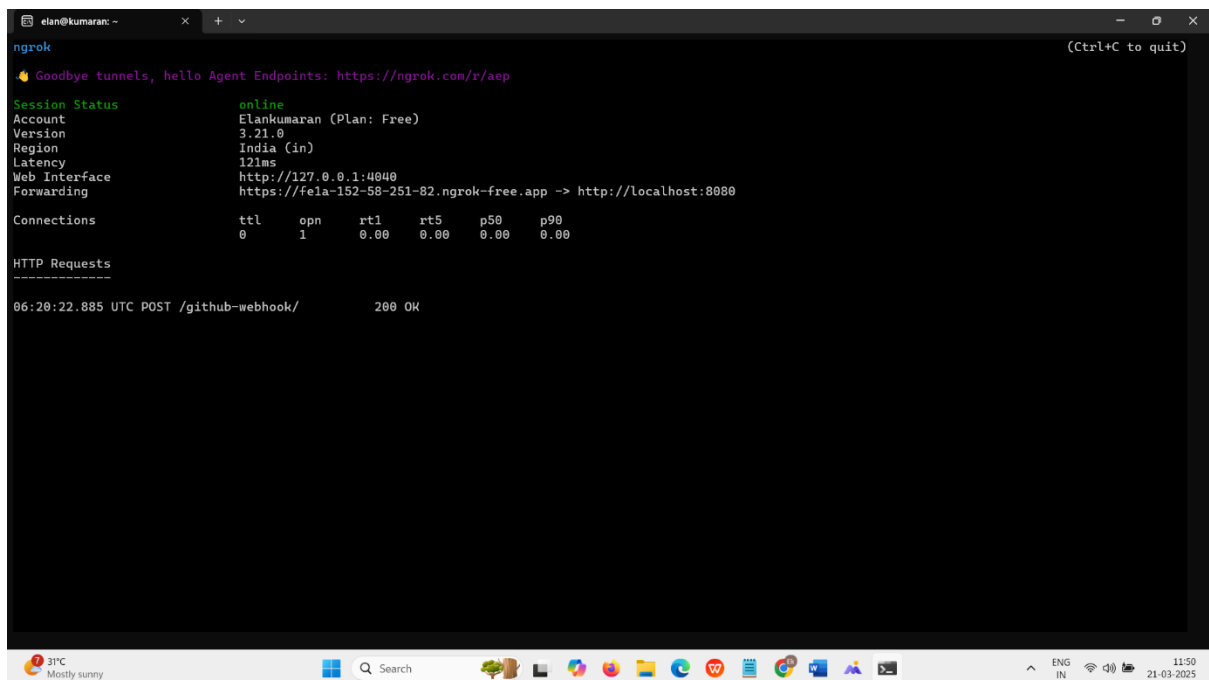


Step 6: Install and Run Ngrok on port 8080

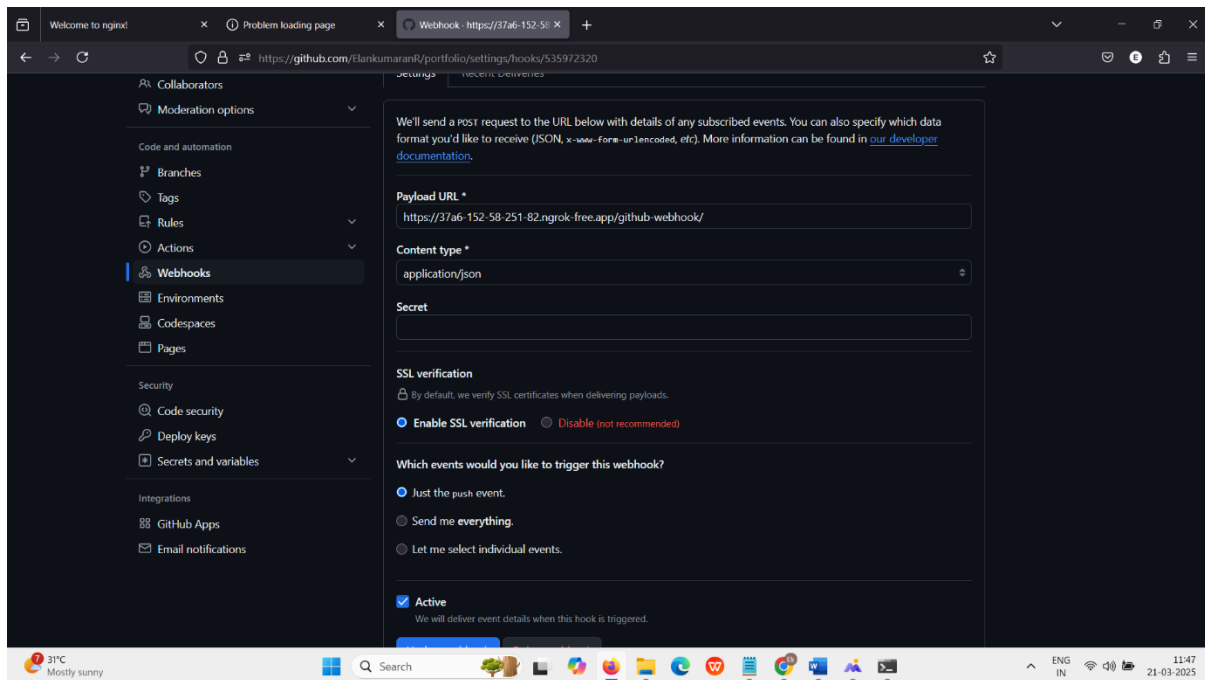
Code :

```
sudo apt install ngrok
```

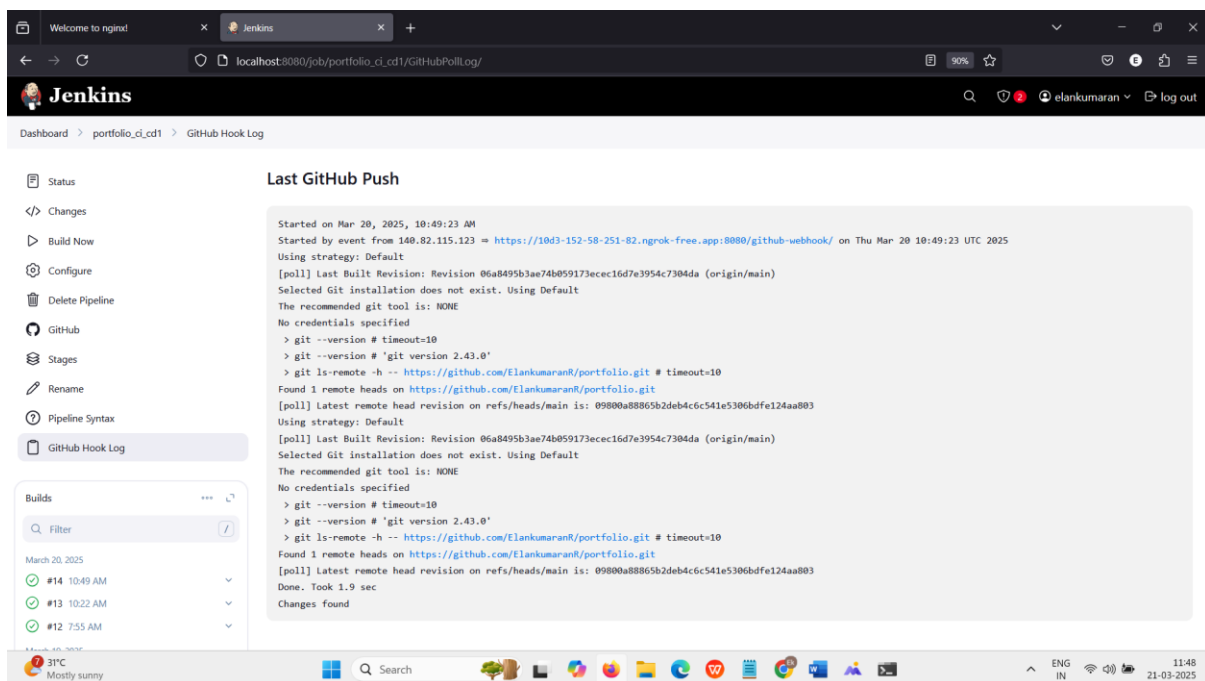
```
ngrok http 8080
```



Step 7: go to the webhook in the github repository settings and add the Ngrok link



Step 8: Try to push a code in the github repository, It will automatically trigger a build and you can see the github hook log



jenkins Docker CI/CD Script

ElankumaranR/portfolio

portfolio_ci_cd1 Changes [jenkins]

Install and Run ngrok

Firewall Authentication Keepalive V

localhost:8080/job/portfolio_ci_cd1/changes

90%

Dashboard > portfolio_ci_cd1 >

Configure

Delete Pipeline

GitHub

Stages

Rename

Pipeline Syntax

GitHub Hook Log

Builds

Filter

Today

#15 3:42 PM

March 20, 2025

#14 10:49 AM

#13 10:22 AM

#12 7:55 AM

March 19, 2025

#11 7:28 AM

#10 7:20 AM

#9 7:02 AM

#13 (Mar 20, 2025, 10:22:23 AM)

1. t11 (commit: a20d639) — elankumaran2103 / githubweb
2. t11-r (commit: 20468df) — elankumaran2103 / githubweb
3. t12 (commit: 230574c) — elankumaran2103 / githubweb
4. t13 (commit: 06a8495) — elankumaran2103 / githubweb

#11 (Mar 19, 2025, 7:28:13 AM)

1. CID CONSTRUCTED (commit: cf539b6) — elankumaran2103 / githubweb

#10 (Mar 19, 2025, 7:20:14 AM)

1. s4 (commit: 4908ba3) — elankumaran2103 / githubweb

#9 (Mar 19, 2025, 7:02:07 AM)

1. jenkins modify (commit: d5bf782) — elankumaran2103 / githubweb

#8 (Mar 19, 2025, 6:43:05 AM)

1. s3 (commit: b4e5820) — elankumaran2103 / githubweb
2. t10 (commit: 5bc64da) — elankumaran2103 / githubweb

#5 (Mar 19, 2025, 6:03:06 AM)

1. s3 (commit: c222a4d) — elankumaran2103 / githubweb

#4 (Mar 19, 2025, 6:00:01 AM)

1. s2 (commit: 8bdcb08) — elankumaran2103 / githubweb

29°C Clear

Search

ENG IN

21:12 21-03-2025