Project 1: Jenkins + Docker Pipeline:

Step 1: Updating the jenkins.


```
master@mastervm:~$ sudo apt update
[sudo] password for master:
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:2 https://pkg.jenkins.io/debian-stable binary/ Release [2,044 B]
Get:3 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:5 http://in.archive.ubuntu.com/ubuntu noble InRelease
Get:6 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
```

Step 2: Installing the docker.

```
master@mastervm:~$ sudo apt install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker.io is already the newest version (26.1.3-0ubuntu1~24.04.1).
The following package was automatically installed and is no longer required:
  python3-netifaces
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
```

Step 3: Start and Enable the Docker

```
master@mastervm:~$ sudo systemctl start docker
master@mastervm:~$ sudo systemctl enable docker
master@mastervm:~$ sudo usermod -aG docker jenkins
```

Step 4: Restarting the Jenkins

```
master@mastervm:~$ sudo systemctl restart jenkins
```

Step 5: Checking the Docker Version.

```
master@mastervm:~$ docker --version
Docker version 26.1.3, build 26.1.3-0ubuntu1~24.04.1
```

Step 6: Configuring the ssh and restarting the ssh.

```
master@mastervm:~$ sudo nano /etc/ssh/sshd_config
master@mastervm:~$ sudo systemctl restart ssh
```

Step 7: ssh Master.

```
master@mastervm:~/jenkins-docker$ ssh master@192.168.203.128
The authenticity of host '192.168.203.128 (192.168.203.128)' can't be established.
ED25519 key fingerprint is SHA256:wFEDR3vFLIyt7JWwNHiIOaI5jION2LrJ1oIfYpEKuYo.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.203.128' (ED25519) to the list of known hosts.
master@192.168.203.128's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.11.0-19-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

Expanded Security Maintenance for Applications is not enabled.

1 update can be applied immediately.
```

Step 8: Cloning the Git

```
master@mastervm:~$ git clone https://github.com/KyathamRohith/jenkins-docker.git
Cloning into 'jenkins-docker'...
remote: Enumerating objects: 106, done.
remote: Counting objects: 100% (106/106), done.  I
remote: Compressing objects: 100% (105/105), done.
remote: Total 106 (delta 33), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (106/106), 35.72 KiB | 1.02 MiB/s, done.
Resolving deltas: 100% (33/33), done.
```

Step 9: Creating a Pipeline.
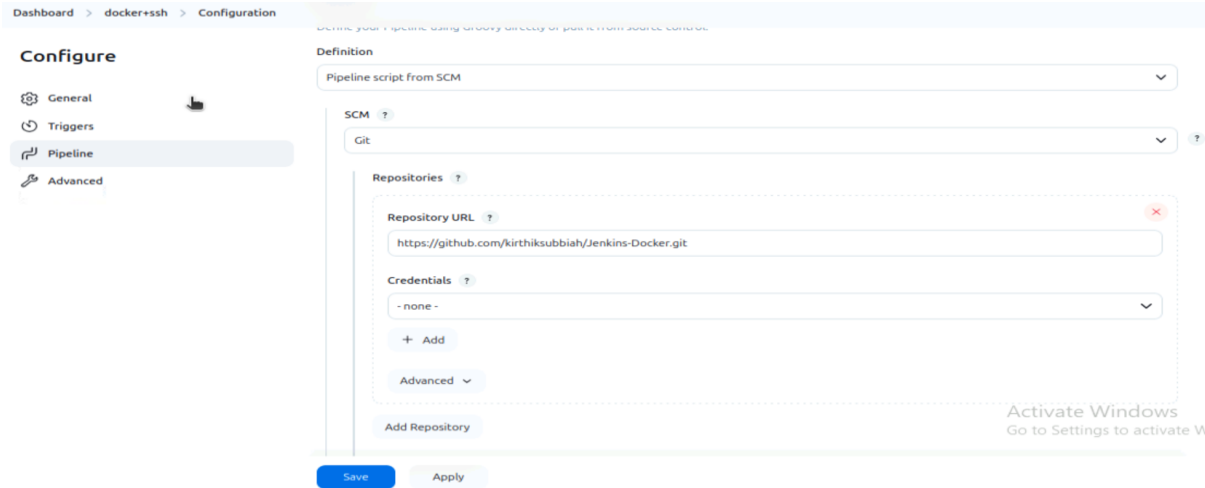
Step 10: Creating a Personal Access Token.
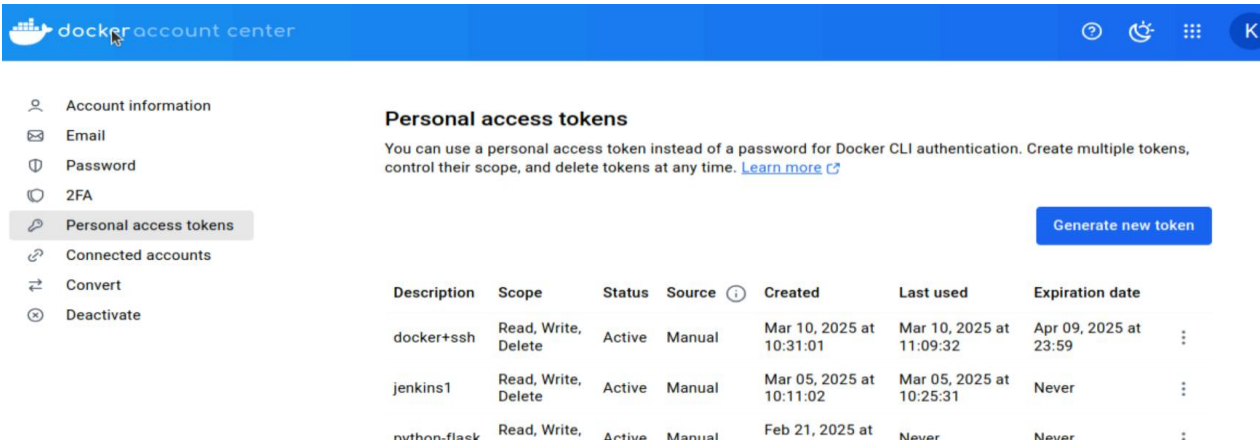
Step 11: End to End Pipeline from docker image to deployment.