

DAY-2

DEVOPS

STEP -1 :INSTALL DOCKER

1) sudo apt update

```
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Get:3 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:4 http://archive.ubuntu.com/ubuntu noble InRelease
Get:6 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8976 B]
Get:8 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [288 B]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [135 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [364 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [504 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [29.0 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 976 kB in 3s (318 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
56 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

2) sudo apt install -y docker.io

```
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base iptables libip6tc2
  libip6tc2 libnetfilter-contrack3 libnfnetlink0 libnftables1 libnftnl1
  nftables pigz runc ubuntu-fan
Suggested packages:
  ifupdown aufs-tools btrfs-progs cgroupfs-mount | cgroup-lite debotstrap
  docker-buildx docker-compose-v2 docker-doc rinse zfs-fuse | zfsutils
  firewallld
The following NEW packages will be installed:
  bridge-utils containerd dns-root-data dnsmasq-base docker.io iptables
  libip6tc2 libip6tc2 libnetfilter-contrack3 libnfnetlink0 libnftables1
  libnftnl1 nftables pigz runc ubuntu-fan
0 upgraded, 16 newly installed, 0 to remove and 56 not upgraded.
Need to get 79.6 MB of archives.
After this operation, 386 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libip6tc2 amd64 1.8.10-3ubuntu2 [23.3 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 libip6tc2 amd64 1.8.10-3ubuntu2 [23.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 libnfnetlink0 amd64 1.0.2-2build1 [14.8 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 libnetfilter-contrack3 amd64 1.0.9-6build1 [45.2 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/main amd64 libnftnl1 amd64 1.2.6-2build1 [66.0 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble/main amd64 iptables amd64 1.8.10-3ubuntu2 [381 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble/main amd64 libnftables1 amd64 1.0.9-1build1 [358 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble/main amd64 nftables amd64 1.0.9-1build1 [69.0 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble/main amd64 bridge-utils amd64 1.7.1-1ubuntu2 [33.9 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 runc amd64 1.1.12-0ubuntu3.1 [8599 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 containerd amd64 1.7.24-0ubuntu1-24.04.1 [37.9 MB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 dns-root-data all 2024071801-ubuntu24.04.1 [5918 B]
Get:14 http://archive.ubuntu.com/ubuntu noble/main amd64 dnsmasq-base amd64 2.98-2build2 [375 kB]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 docker.io amd64 26.1.3-0ubuntu1-24.04.1 [32.0 MB]
Get:16 http://archive.ubuntu.com/ubuntu noble/universe amd64 ubuntu-fan all 0.12.16 [35.2 kB]
Fetched 79.6 MB in 22s (3641 kB/s)
Preconfiguring packages ...
Selecting previously unselected package pigz.
(Reading database ... 42940 files and directories currently installed.)
Preparing to unpack .../00-pigz_2.8-1_amd64.deb ...
```

STEP 2: ENABLE AND DISABLE

1) sudo systemctl enable docker

2) sudo systemctl start docker

STEP 3:VERIFY THE INSTALLATION:

docker --version

STEP 4:INSTALL DOCKER COMPOSE

sudo curl -L "https://github.com/docker/compose/releases/latest/download/docker-compose-\$(uname -s)-\$(uname -m)" -o /usr/local/bin/docker-compose

```

Selecting previously unselected package ubuntu-fan.
Preparing to unpack .../15-ubuntu-fan-0.12.16_all.deb ...
Unpacking ubuntu-fan (0.12.16) ...
Setting up libip4tc2:amd64 (1.8.10-3ubuntu2) ...
Setting up libip6tc2:amd64 (1.8.10-3ubuntu2) ...
Setting up libnftnl1:amd64 (1.2.6-2build1) ...
Setting up runc (1.1.12-2ubuntu3.1) ...
Setting up dns-root-data (2024071801-ubuntu9.24.04.1) ...
Setting up bridge-utils (1.7.1-1ubuntu2) ...
Setting up pigz (2.8-1) ...
Setting up libnftnlk0:amd64 (1.0.2-2build1) ...
Setting up containerd (1.7.24-2ubuntu1~24.04.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /usr/lib/systemd/system/containerd.service.
Setting up libnftables1:amd64 (1.0.9-1build1) ...
Setting up nftables (1.0.9-1build1) ...
Setting up libnetfilter-conntrack3:amd64 (1.0.9-6build1) ...
Setting up iptables (1.8.10-3ubuntu2) ...
update-alternatives: using /usr/sbin/iptables-legacy to provide /usr/sbin/iptables (iptables) in auto mode
update-alternatives: using /usr/sbin/iptables-legacy to provide /usr/sbin/i
iptables (iptables) in auto mode
update-alternatives: using /usr/sbin/iptables-nft to provide /usr/sbin/iptables (iptables) in auto mode
update-alternatives: using /usr/sbin/ip6tables-nft to provide /usr/sbin/ip6tables (ip6tables) in auto mode
update-alternatives: using /usr/sbin/ebtables-nft to provide /usr/sbin/ebtables (ebtables) in auto mode
Setting up docker.io (26.1.3-ubuntu1~24.04.1) ...
info: Selecting GID from range 100 to 999 .....]
info: Adding group 'docker' (GID 109) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /usr/lib/systemd/system/docker.service.
Setting up dnsmasq-base (2.90-2build2) ...
Setting up ubuntu-fan (0.12.16) ...
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /usr/lib/systemd/system/ubuntu-fan.service.
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for dbus (1.14.18-ubuntu4.1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...

```

CREATE AN “HELLO WOLRD: APPLICATION

Create a project directory

```
~$ mkdir ~/docker-python-app
~$ cd ~/docker-python-app
```

Create the python Application File

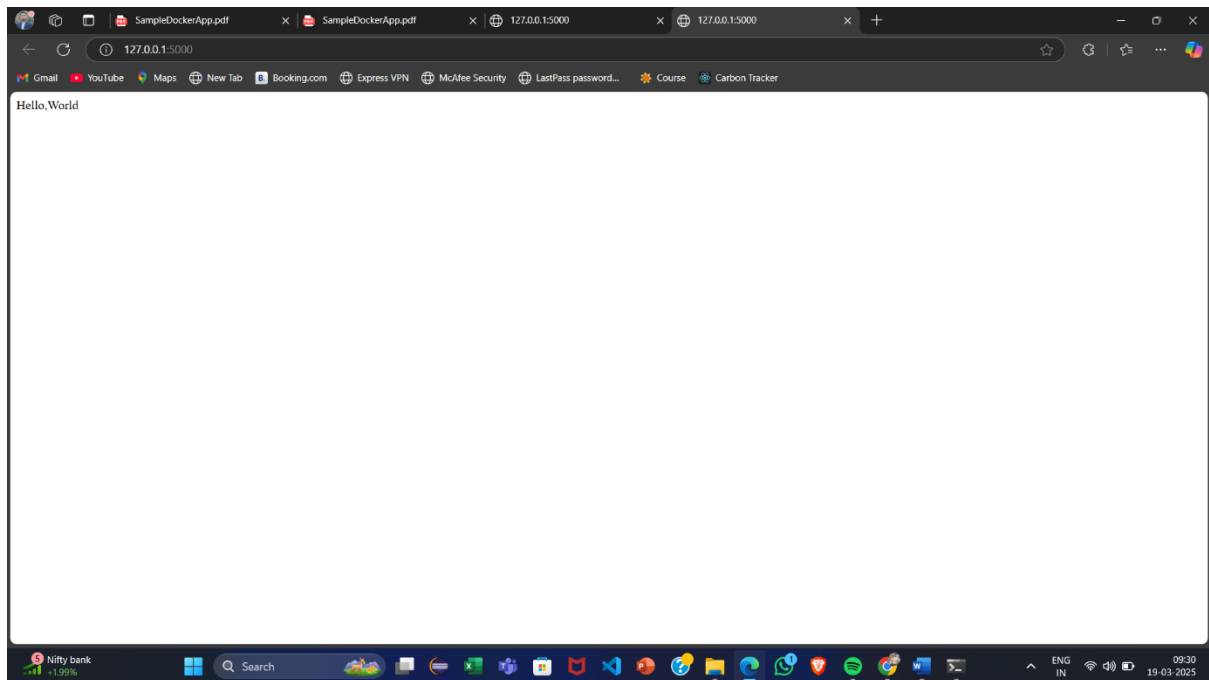
Create a file

```
from flask import Flask
app=Flask(__name__)
@app.route("/")
def hello():
    return "Hello,World"
if __name__ == "__main__":
    app.run(host="0.0.0.0",port=5000)
```

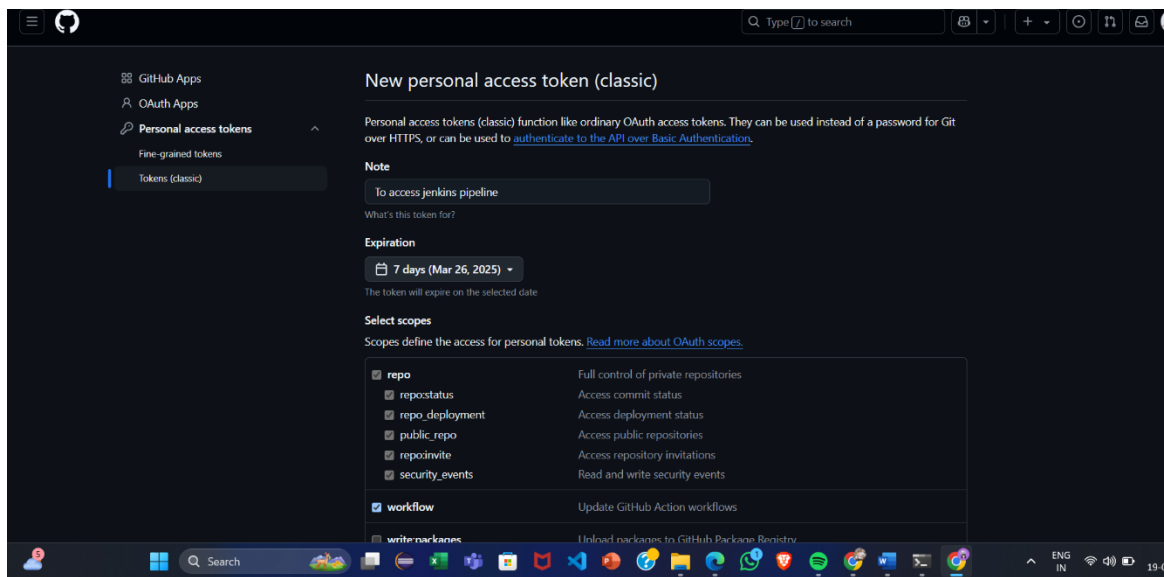
To Run an Docker

```
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
             Install the buildx component to build images with BuildKit:
             https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  5.12kB
Step 1/7 : FROM python:3.11
--> 18c0f2265fd9
Step 2/7 : WORKDIR /app
--> Using cache
--> c74d97a78594
Step 3/7 : COPY requirement.txt .
--> Using cache
--> 2a5c15421a54
Step 4/7 : RUN pip install --no-cache-dir -r requirement.txt
--> Using cache
--> 06bbd3f85593
Step 5/7 : COPY . .
--> Using cache
--> 9989397a7c24
Step 6/7 : EXPOSE 5000
--> Using cache
--> 361a5a037a46
Step 7/7 : CMD ["python", "app.py"]
--> Using cache
--> bf910b007332
Successfully built bf910b007332
Successfully tagged test:latest
```



Devops Jenkins-Docker



Personal Token : **ghp_EXgb7xbvrbM3qG6KapplueB7SCellw1b8BES**

Start 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
```

New Item

Enter an item name

DeclarativePipelineDemo

Select an item type



Freestyle project

Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.



Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.



Multi-configuration project

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.



Folder

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

OK

Pipeline script from SCM

SCM ?

Git

Repositories ?

Repository URL ?

https://github.com/Ajay978680/Devops-Docker-Jenkins-Demo.git

Credentials ?

- none -

+ Add

Advanced

Add Repository

Save Apply

Click on Add Credentials and Fill the details

Git

Repositories ?

Repository URL ?

https://github.com/Ajay978680/Devops-Docker-Jenkins-Demo.git

Credentials ?

- none -

+ Add

Advanced

Add Repository

Branches to build ?

In First Time, it Will have Password, in that we will give github token for it.

Clone the Git Repo in Terminal:

And move all other file to github repo folder.

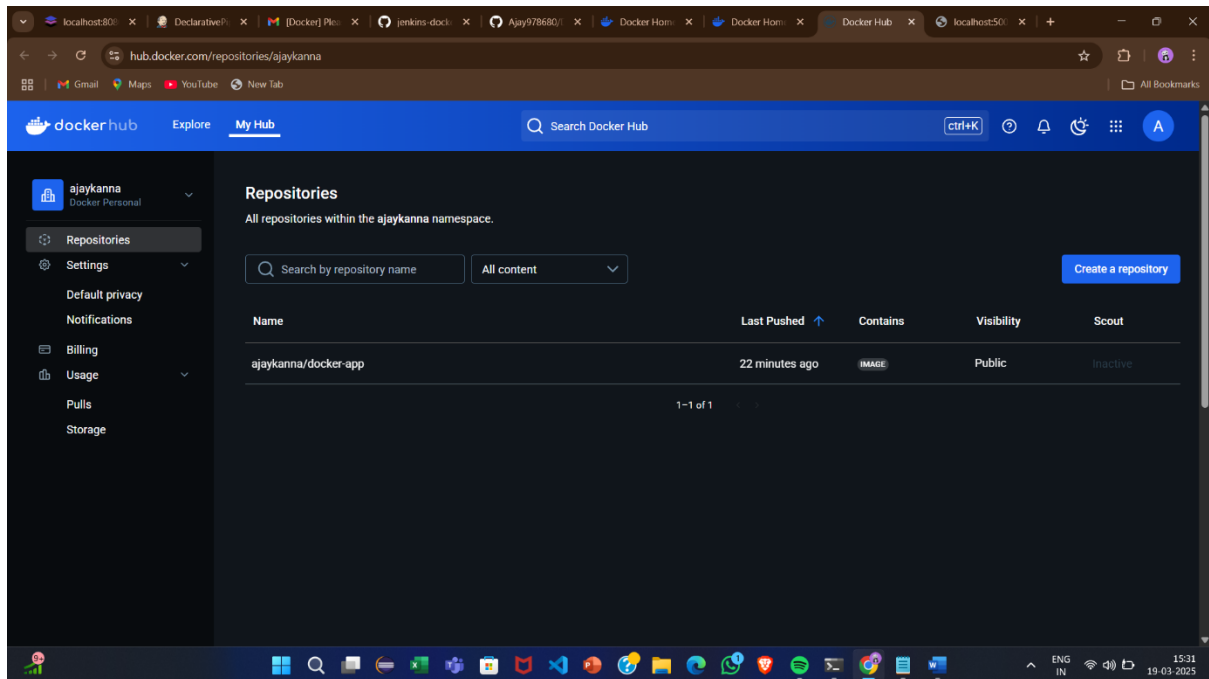
Git fetch – Remote repo Change and haven't pulled in local.

Working to Push on GitHub Repo:

```
Select jegadeep@LAPTOP-EBJ40AH0: ~/docker-python-app/jenkins
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 944 bytes | 472.00 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/jegadeeppandiarajan/jenkins.git
 2614bda..848103b  main -> main
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ sudo systemctl restart jenkins
[sudo] password for jegadeep:
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git ls-remote origin
848103bc2501dfca0ffa6635973ed8aee9a88c6b      HEAD
848103bc2501dfca0ffa6635973ed8aee9a88c6b      refs/heads/main
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git add .
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git commit -m "fatal succesfffully"
On branch main
Your branch is ahead of 'origin/main' by 3 commits.
(use "git push" to publish your local commits)

nothing to commit, working tree clean
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git push https://jegadeeppandiarajan:ghp_y5rhrdu5j3aKDtTueVtnCIXRL0aoge1
Everything up-to-date
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git ls-remote origin
848103bc2501dfca0ffa6635973ed8aee9a88c6b      HEAD
848103bc2501dfca0ffa6635973ed8aee9a88c6b      refs/heads/main
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git remote -v
origin  https://github.com/jegadeeppandiarajan/jenkins.git (fetch)
origin  https://github.com/jegadeeppandiarajan/jenkins.git (push)
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git add .
jegadeep@LAPTOP-EBJ40AH0:~/docker-python-app/jenkins$ git commit -m "fatal succesfffully"
On branch main
Your branch is ahead of 'origin/main' by 3 commits.
(use "git push" to publish your local commits)
```

Then create, Build now again and Click the repository in docker:



Click the container that we create in Jenkins:

Course

sam1 #8 Console

login.docker.com/


[Docker] Please co

Account informati

jegadeep/docker-a

hub.docker.com/r/jegadeep/docker-app

Explore / jegadeep/docker-app



jegadeep/docker-app

By [jegadeep](#) · Updated 4 minutes ago


[IMAGE](#)

☆ 0 ↓ 0

Manage Repository

Overview

Tags




No overview available
This repository doesn't have an overview

Docker Pull Command

```
docker pull jegadeep/docker-ap
p
```

Copy

Search



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