

⌚ Deadline: 05 Nov 2025 — till 5:00 PM

Tasks 01:

1. Docker Installation

Install Docker on your local system (Windows, macOS, or Linux).

Verify installation by running:

```
docker --version
```

```
docker info
```

```
Installed:
  containerd.io-1.7.28-1.el9.x86_64
  docker-buildx-plugin-0.29.1-1.el9.x86_64
  docker-ce-3:28.5.1-1.el9.x86_64
  docker-ce-cli-1:28.5.1-1.el9.x86_64
  docker-ce-rootless-extras-28.5.1-1.el9.x86_64
  docker-compose-plugin-2.40.3-1.el9.x86_64

Complete!
[root@localhost docker]#
[root@localhost docker]# systemctl start docker
[root@localhost docker]# systemctl status docker
● docker.service - Docker Application Container Engine
    Loaded: loaded (/usr/lib/systemd/system/docker.service; disabled; pres
      Active: active (running) since Wed 2025-11-05 14:18:14 IST; 3s ago
        TriggeredBy: ● docker.socket
          Docs: https://docs.docker.com
            Main PID: 35184 (dockerd)
               CPU: 0.000 CPU(s) since start
              Tasks: 1 (since start)

[root@localhost docker]# systemctl enable docker
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service →
/usr/lib/systemd/system/docker.service.
[root@localhost docker]#
[root@localhost docker]# docker --version
Docker version 28.5.1, build e180ab8
[root@localhost docker]# docker info
Client: Docker Engine - Community
  Version: 28.5.1
  Context: default
  Debug Mode: false
  Plugins:
    buildx: Docker Buildx (Docker Inc.)
      Version: v0.29.1
      Path: /usr/libexec/docker/cli-plugins/docker-buildx
    compose: Docker Compose (Docker Inc.)
      Version: v2.40.3
      Path: /usr/libexec/docker/cli-plugins/docker-compose
```

2. Working with Docker Images

Search for the official Ubuntu image on Docker Hub.

Pull it to your local system using docker pull.

List all available images using:

```
docker images
```

```
[root@localhost docker]# docker search ubuntu
NAME                           DESCRIPTION                                     STARS   OFFICIAL
ubuntu                         Ubuntu is a Debian-based Linux operating sys... 17718   [OK]
ubuntu/squid                   Squid is a caching proxy for the Web. Long-t... 119
ubuntu/nginx                   Nginx, a high-performance reverse proxy & we... 133
ubuntu/cortex                  Cortex provides storage for Prometheus. Long... 4
ubuntu/kafka                    Apache Kafka, a distributed event streaming ... 56
ubuntu/bind9                   BIND 9 is a very flexible, full-featured DNS... 116
ubuntu/docker                   Docker is a platform for building, shipping, and runn... 67
```

```
[root@localhost docker]# docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
4b3ffd8ccb52: Pull complete
Digest: sha256:66460d557b25769b102175144d538d88219c077c678a49af4afca6fbfc1b5252
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
[root@localhost docker]# docker images
REPOSITORY      TAG          IMAGE ID      CREATED        SIZE
ubuntu          latest       97bed23a3497   4 weeks ago   78.1MB
[root@localhost docker]# |
```

3. Creating a Docker Container

Run a container using the Ubuntu image.

Execute a command inside the container:

```
echo "Hello, Docker!"
```

```
[root@localhost docker]# docker container run -it ubuntu
root@33c0148bf828:/# echo "Hello, Docker"
Hello, Docker
root@33c0148bf828:/# echo "Hello, Docker!"
Hello, Docker!
root@33c0148bf828:/# |
```

4. Inspect Container (Created State)

Verify that the Ubuntu container is in the "created" state.

```
[root@localhost docker]# docker create --name ubuntu_container ubuntu
5553577acbf517181de7ba15fb8a694fd4a36837746cc9fd28341d87744214cd
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
[root@localhost docker]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
5553577acbf5  ubuntu  "/bin/bash"  5 seconds ago  Created
[root@localhost docker]# docker inspect ubuntu_container
[
  {
    "Id": "5553577acbf517181de7ba15fb8a694fd4a36837746cc9fd28341d87744214cd",
    "Created": "2025-11-05T09:02:10.262675698Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "created",
      "Running": false,
```

5. Run Container (Running State)

Execute the Ubuntu container and confirm it's in the "running" state.

```
[root@localhost docker]# docker run -itd ubuntu:latest
5124c8ea320c83ffe5fd7062746a1efa029d1037914dfc25a25f736bec000310
[root@localhost docker]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
5124c8ea320c  ubuntu:latest  "/bin/bash"  3 seconds ago  Up 3 seconds
5553577acbf5  ubuntu       "/bin/bash"  3 minutes ago  Exited (0) 22 seconds ago
[root@localhost docker]#
[root@localhost docker]# docker inspect 5124c8ea320c
[
  {
    "Id": "5124c8ea320c83ffe5fd7062746a1efa029d1037914dfc25a25f736bec000310",
    "Created": "2025-11-05T09:05:21.089983243Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
```

6. Launch and Remove HTTP Container

Launch an HTTP container.

Verify its state.

Remove both the container and its image from your system.

```
[root@localhost docker]# docker image pull httpd
Using default tag: latest
latest: Pulling from library/httpd
d7ecded7702a: Pull complete
fab98c44430d: Pull complete
4f4fb700ef54: Pull complete
13c22d886563: Pull complete
4870f70a8556: Pull complete
233dec01418c: Pull complete
Digest: sha256:ecfd5ca1bfe1fc5e44a5836c5188bde7f397b50c7a5bb603a017543e29948a01
Status: Downloaded newer image for httpd:latest
docker.io/library/httpd:latest
```

```
[root@localhost docker]# docker container run -d httpd:latest
880020f24faf7d8cd1dd73e3ea889c83118047d8e0b0b3f332edbddd877ed24a9
[root@localhost docker]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
880020f24faf httpd:latest "httpd-foreground" 3 seconds ago Up 3 seconds 80/tcp distracted_snyder
cld18563b220 httpd:latest "httpd-foreground" 48 seconds ago Exited (0) 24 seconds ago intelligent_leaky

[root@localhost docker]# docker container ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
880020f24faf httpd:latest "httpd-foreground" 56 seconds ago Exited (0) 14 seconds ago distracted_snyder
cld18563b220 httpd:latest "httpd-foreground" About a minute ago Exited (0) About a minute ago intelligent_leaky
5124c8ea320c ubuntu:latest "/bin/bash" 5 minutes ago Exited (137) 5 seconds ago optimistic_chandrasekhar
5553577acbf5 ubuntu "/bin/bash" 8 minutes ago Exited (0) 6 minutes ago ubuntu_container
[root@localhost docker]# docker container rm distracted_snyder intelligent_leaky
distracted_snyder
intelligent_leaky
[root@localhost docker]# docker container ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
5124c8ea320c ubuntu:latest "/bin/bash" 6 minutes ago Exited (137) 21 seconds ago optimistic_chandrasekhar
5553577acbf5 ubuntu "/bin/bash" 9 minutes ago Exited (0) 6 minutes ago ubuntu_container
[root@localhost docker]# docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
httpd latest 6a4fe18d08d2 29 hours ago 117MB
ubuntu latest 97bed23a3497 4 weeks ago 78.1MB
[root@localhost docker]# docker image rm httpd:latest
Untagged: httpd:latest
Untagged: httpd@sha256:eecfd5ca1bfe1fc5e44a5836c5188bde7f397b50c7a5bb603a017543e29948a01
Deleted: sha256:6a4fe18d08d26a61b32d6aa5d17b217c4f4de63a8460abf4cd824b911b9de88
Deleted: sha256:c78f79d2236u3af30c382eefcd1efc285a99la2895a4fad225239a6c3e1d1797
Deleted: sha256:655ea42223e5a87df151e8f2a0199119176fdf645c5d1504467f12df46f66a09
Deleted: sha256:c9dccfd4d12e5bac98e0c53df0fb6964e2cc26920cbd4dcf57419961db1dcf6b
Deleted: sha256:ed6e1e3a72de02ccd775dc07b09bc098dc41bc1e683027f3b7ab8764977be78
Deleted: sha256:0061ccbeba5f22631ee410cb46c1c5293e3804f2e352dd3b99c3df49a26ae
Deleted: sha256:36d06fe0cbc654e5f67d58c960ed33e53127e4a328d8ce6f6a60a9c311794d4
[root@localhost docker]# docker image ls
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuntu latest 97bed23a3497 4 weeks ago 78.1MB
[root@localhost docker]#
```

7. List Short Container IDs

Execute a command that displays only the short container IDs.

```
[root@localhost docker]# docker container ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
5124c8ea320c ubuntu:latest "/bin/bash" 7 minutes ago Exited (137) About a minute ago optimistic_chandrasekhar
5553577acbf5 ubuntu "/bin/bash" 10 minutes ago Exited (0) 7 minutes ago ubuntu_container
[root@localhost docker]# docker container ls -aq
5124c8ea320c
5553577acbf5
[root@localhost docker]#
```

 Make sure to complete and test each task before the deadline.

Let's all stay consistent and help each other while learning Docker! 

Tasks 02:

8. Clone & Build Custom Image

Clone the repository: [lancachenet/ubuntu-nginx](https://github.com/lancachenet/ubuntu-nginx)

Build a Docker image using the provided Dockerfile.

Add relevant tags while building the image.

9. Run & Test the Webpage

Run a Docker container using the newly built image.

Use the curl command to verify that the webpage is accessible.

```
[root@localhost ubuntu-nginx]# docker container run -itd -p 80:80 ubuntu-nginx-server:latest
29ab6005c1918df5b95188542dd6ff595c41cc4e09285c0e8f649d885622c54e
[root@localhost ubuntu-nginx]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
29ab6005c181 ubuntu-nginx-server:latest "/bin/bash -e /init..." 3 seconds ago Up 3 seconds 0.0.0.0:80->80/tcp, [::]:80->80/tcp eager_bell
[root@localhost ubuntu-nginx]# lsof -i :80
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
docker-pr 38920 root 7u IPv4 92822 0t0 TCP *:http (LISTEN)
docker-pr 38925 root 7u IPv6 92823 0t0 TCP *:http (LISTEN)
[root@localhost ubuntu-nginx]# curl localhost
Welcome to the lancachenet/ubuntu-nginx docker container
[root@localhost ubuntu-nginx]#
```

10. Container Detach & Reattach

Launch an Ubuntu container.

Demonstrate the escape sequence (detach).

Reattach the container after detaching.

Check and note down the container's IP address.

```
[root@localhost docker]# docker images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
ubuntu-nginx-server  latest  45ff1a8e9619  13 minutes ago  195MB
ubuntu          latest  97bed23a3497  4 weeks ago   78.1MB
[root@localhost docker]# docker container run -itd ubuntu
a292ca2d0d42d7c97a89384c4f0566805ffb17b4cc5605794f6569df0075b4b0
[root@localhost docker]# docker ps
CONTAINER ID  IMAGE      COMMAND      CREATED      STATUS      PORTS      NAMES
a292ca2d0d42  ubuntu     "/bin/bash"  31 seconds ago  Up 31 seconds  condensing_poitras
```

```
[root@localhost docker]# docker run -it ubuntu /bin/bash
root@250ed2f9b45c:/# echo "Exiting"
Exiting
root@250ed2f9b45c:/# [root@localhost docker]#
[root@localhost docker]# docker ps -a
CONTAINER ID  IMAGE      COMMAND      CREATED      STATUS      PORTS      NAMES
250ed2f9b45c  ubuntu     "/bin/bash"  2 minutes ago  Up 2 minutes  peaceful_hopper
[root@localhost docker]# |
```

```
"bridge": {
    "IPAMConfig": null,
    "Links": null,
    "Aliases": null,
    "MacAddress": "be:da:32:2d:cd:7c",
    "DriverOpts": null,
    "GwPriority": 0,
    "NetworkID": "0c0307888783336e0b262e05aca4adc74bb409bc7ba0c07f627cedbf0c013413",
    "EndpointID": "43d11db3b112282dd71a37d820dd8ad81f36a5581f0f094032b5c188d57a5d56",
    "Gateway": "172.17.0.1",
    "IPAddress": "172.17.0.2",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "DNSNames": null
}
```

```
[root@localhost docker]# docker container attach condensing_poitras
root@a292ca2d0d42:/# ip r l
bash: ip: command not found
root@a292ca2d0d42:/# hostname -I
172.17.0.2
root@a292ca2d0d42:/# |
```

12. Inspect Host Configuration

Use a Docker command to inspect the hostname and the /etc/hosts file of the httpd container.

```
[root@localhost docker]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
212dce1e650e httpd "httpd-foreground" 18 seconds ago Up 17 seconds 80/tcp adoring_nash

root@212dce1e650e:/usr/local/apache2# hostname -I
172.17.0.3
root@212dce1e650e:/usr/local/apache2# cat /etc/hosts
127.0.0.1      localhost
::1      localhost ip6-localhost ip6-loopback
fe00:: ip6-localnet
ff00:: ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
172.17.0.3      212dce1e650e
root@212dce1e650e:/usr/local/apache2# |

[root@localhost docker]# docker exec -it adoring_nash "hostname"
212dce1e650e
[root@localhost docker]#
```

13. Monitor Container Stats

Inspect a container created with the lancachenet/ubuntu-nginx image.

Monitor its resource usage and stats using the top command.

```
[root@localhost docker]# docker container run -itd lancachenet/ubuntu-nginx
Unable to find image 'lancachenet/ubuntu-nginx:latest' locally
latest: Pulling from lancachenet/ubuntu-nginx
cfc57d2112d89: Already exists
9003887337ec: Already exists
97b162366492: Already exists
dd5c7a17daaa: Already exists
86154565fc0c: Pull complete
d91d1b6e30c9: Pull complete
cb9ce1fa8cf0: Pull complete
Digest: sha256:f3e165aebe33ae26261e8a31a1e19104f3c0775307170857cbffe18089276badc
Status: Downloaded newer image for lancachenet/ubuntu-nginx:latest
d8592cd9cde0f07f7468710e566e3a1c06858550a0ef67fc8a01260e927ab74
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d8592cd9cde0f07f7468710e566e3a1c06858550a0ef67fc8a01260e927ab74
[root@localhost docker]# docker top wonderful_dhawan
UID PID PPID C STIME TTY TIME CMD
root 408977 408977 1 15:25 pts/0 00:00:00 /usr/bin/python3 /usr/bin/supervisord -n -c /etc/supervisor/supervisord.conf -e WARN
root 408988 40877 0 15:25 pts/0 00:00:00 /bin/bash /opt/nginx/startnginx.sh
root 408989 408988 0 15:25 pts/0 00:00:00 nginx: master process /usr/sbin/nginx -g daemon off;
33 408910 40999 0 15:25 pts/0 00:00:00 nginx: worker process
[root@localhost docker]#
```

14. Nginx Containers Log Review

Start a new Nginx container.

Review and compare the logs for both Nginx containers.

```
[root@localhost docker]# docker container run -itd nginx
f634b894d7a68e8439703b5b690bf53298ed6f29ef5b4530320c33e4ad49b
[root@localhost docker]# docker logs vigilant_almeida
Executing hook /hooks/entrypoint-pre.d/00_asiclologo.sh
[...]
Executing hook /hooks/supervisord-pre.d/00_log_files
Checking if /var/www/ is empty Directory not empty.. don't touch content
Executing hook /hooks/supervisord-pre.d/21_cleanup_log_files
Cleaning up log files older than 7 days
Starting Supervisord...
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
f634b894d67a nginx "/docker-entrypoint..." 18 seconds ago Up 18 seconds 80/tcp peaceful_ca
none
3dafe06cecb9a2 lancachenet/ubuntu-nginx:latest "/bin/bash -e /init/" 2 minutes ago Up 2 minutes 0.0.0.0:80->80/tcp, [::]:80->80/tcp vigilant_almeida
[root@localhost docker]# docker logs peaceful_cannon
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2025/11/05 10:01:01 [notice] #1: using the "epoll" event method
2025/11/05 10:01:01 [notice] #1: nginx/1.29.3
2025/11/05 10:01:01 [notice] #1: built by gcc 14 2.0.0 (Debian 14.2.0-19)
2025/11/05 10:01:01 [notice] #1: OS: Linux 5.14.0-624.el9.x86_64
2025/11/05 10:01:01 [notice] #1: getrlimit(RLIMIT_NOFILE): 1073741816:1073741816
2025/11/05 10:01:01 [notice] #1: start worker processes
2025/11/05 10:01:01 [notice] #1: start worker process 29
[root@localhost docker]#
```

15. System Events & Filters

Examine Docker system events filtered by:

Specific date, and

The last 30 minutes.

Apply two filters simultaneously using name and event.

```
[root@localhost docker]# docker events --since "2025-11-05T15:00:00" --until "2025-11-05T15:30:00" --filter "name=my_container_name" --filter "event=start"
2025-11-05T15:03:35.682039513+05:30 container start 13500c347f2264e34a9718b7086ea/d87b0650c9aeab40063aa186152ef9881d33 (image=ubuntu-nginx-server:latest, main
tainer=LanCache.Net Team <team@lancache.net>, name=nginx-cont, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:05:43.672039513+05:30 container start e2df7ccba3403dc4b2bc139245d66d15777b5deeb1314566a69f270a19f0b663 (image=ubuntu-nginx-server:latest, main
tainer=LanCache.Net Team <team@lancache.net>, name=nginx-cont, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:07:29.672039513+05:30 container start 29ab60085c181af58838255155159595cfc09285e4c4849885a4c4f4995 (image=ubuntu-nginx-server:latest, main
tainer=LanCache.Net Team <team@lancache.net>, name=eager_beast, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:10:29.963122089+05:30 container start 329504004942d7f07a923841f1f05669895ff1b174c5605794f6f5694f0075b4b0 (image=ubuntu, name=condescending_poir
as, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:14:54.801365569405+05:30 container start 250cd149b15c3ed73be:03a78753666f97e024454c9cf0317d822253b67d9c (image=ubuntu, name=peaceful_hopper, or
g.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:18:35.685080682405+05:30 container start 989bebeads957f7b8326461f291854edca61cd63d97b621f981d66f863766257 (image=httpd, name=xenodochial_goodall)
2025-11-05T15:20:12.225659724+05:30 container start 212dc1e65b0e11f7f73398b05ceea839efb270c42e8c83a9e5aae46f0c9e05 (image=httpd, name=adoring_nash)
2025-11-05T15:25:44.460458146+05:30 container start d8592cd9c1e6f0f07f7468710e566e3a1c0685855099a0ef67fc8a01260e927ab74 (image=lancachenet/ubuntu-nginx, mainta
iner=LanCache.Net Team <team@lancache.net>, name=wonderful_dhawan, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T15:28:54.499573925+05:30 container start 3dafe06cecb9a2525717d7ba04uf0ff4784f43bbd4326b6f227b69e321061a2f9ff (image=lancachenet/ubuntu-nginx:latest,
maintainer=LanCache.Net Team <team@lancache.net>, name=loving_bohr)
2025-11-05T15:29:33.9766698802+05:30 container start 61b03426e0b2aa278e455045f7d0623c9a5cca0db883635c6749e4fc3990d282 (image=nginx, maintainer=NGINX Docker M
aintainers <docker-maint@nginx.com>, name=loving_bohr)
[root@localhost docker]#
```



```
[root@localhost docker]# docker events \
--since "2025-11-05T00:00:00" \
--until "2025-11-05T23:59:59" \
--filter "event=start" \
--filter "container=peaceful_cannon"
2025-11-05T15:31:01.316766363+05:30 container start f634b894d7a68e8439703b5b690bf53298ed6f29ef5b4530320c33e4ad49b (image=nginx, maintainer=NGINX Docker M
aintainers <docker-maint@nginx.com>, name=peaceful_cannon)
[...]
```

16. Custom Hostname & Logs

Create an Ubuntu container with:

A meaningful name, and

Hostname set to cloudethix.com.

Stop or kill the container.

Check its exit code and review its logs for details.

```
[root@localhost docker]# docker container run -itd --name cloudethix-cont --hostname cloudethix.com ubuntu
34ae1ce6f80f706726a28f2a886ca2f7270533c07473c0887dcac5eaa4f3c76d
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
34ae1ce6f80f "bin/bash" 3 seconds ago Up 2 seconds
ubuntu
f634b894dd7a "nginx" 10 minutes ago Up 19 minutes 80/tcp
peaceful_cannon
3daa06ceb0a2 "lanchonet/ubuntu-nginx:latest" "/bin/bash -e /init/" 21 minutes ago Up 21 minutes 0.0.0.0:80->80/tcp, [::]:80->80/tcp
vigilant_almeida
```

```
[root@localhost docker]# docker container stop cloudethix-cont
cloudethix-cont
[root@localhost docker]# docker container inspect cloudethix-cont
[
  {
    "Id": "34ae1ce6f80f706726a28f2a886ca2f7270533c07473c0887dcac5eaa4f3c76d",
    "Created": "2025-11-05T10:20:14.731290964Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "exited",
      "Running": false,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 0,
      "ExitCode": 137,
      "Error": "",
      "StartedAt": "2025-11-05T10:20:14.832508976Z",
      "FinishedAt": "2025-11-05T10:20:43.648303637Z"
    },
    ...
  }
]
```

```
[root@localhost docker]# lsof -i :80
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
docker-pr 43684 root 7u IPv4 106055 0t0 TCP *:http (LISTEN)
docker-pr 43689 root 7u IPv6 106056 0t0 TCP *:http (LISTEN)
[root@localhost docker]# docker container logs cloudethix-cont
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2025/11/05 10:29:50 [notice] 1#1: using the "epoll" event method
2025/11/05 10:29:50 [notice] 1#1: nginx/1.29.3
2025/11/05 10:29:50 [notice] 1#1: built by gcc 14.2.0 (Debian 14.2.0-19)
2025/11/05 10:29:50 [notice] 1#1: OS: Linux 5.14.0-624.el9.x86_64
2025/11/05 10:29:50 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1073741816:1073741816
2025/11/05 10:29:50 [notice] 1#1: start worker processes
2025/11/05 10:29:50 [notice] 1#1: start worker process 28
[root@localhost docker]#
```

17. Container Management Operations

Create and start an Ubuntu container with a random name, then rename it to Ubuntu01.

Launch another container named Ubuntu02.

Check the hostname for both containers.

Perform the following:

Pause and unpause Ubuntu02.

Stop, start, and restart Ubuntu01.

Inspect stats and system events for both.

Finally, kill and delete the containers, ensuring all created directories are removed.

```
[root@localhost docker]# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
ubuntu-nginx-server    latest   45ff1a8e9619  About an hour ago  195MB
httpd                latest   6a4fe18d08d2  30 hours ago   117MB
nginx                latest   d261fd19cb63  30 hours ago   152MB
lancachenet/ubuntu-nginx  latest   1d0a8df5d47  4 days ago    195MB
ubuntu                latest   97bed23a3497  4 weeks ago    78.1MB
[root@localhost docker]# docker container run -itd ubuntu
92459dbb1ec7503e241809ebfd999ad81ad1d754b564687327e79609f28d2bbe
[root@localhost docker]# docker ps
CONTAINER ID  IMAGE      COMMAND      CREATED        STATUS        PORTS     NAMES
92459dbb1ec7  ubuntu      "/bin/bash"  3 seconds ago  Up 2 seconds
[root@localhost docker]# docker container rename reverent_feistel Ubuntu01
[root@localhost docker]# |
```

```
[root@localhost docker]# docker container run -itd --name Ubuntu02 ubuntu
9af5a5fcb45064609903719ef675d656e7d81454081e74595a393cc16c429720
[root@localhost docker]# docker ps
CONTAINER ID  IMAGE      COMMAND      CREATED        STATUS        PORTS     NAMES
9af5a5fcb450  ubuntu      "/bin/bash"  2 seconds ago  Up 2 seconds
92459dbb1ec7  ubuntu      "/bin/bash"  About a minute ago  Up About a minute
[root@localhost docker]# |
```

```
[root@localhost docker]# docker ps
CONTAINER ID  IMAGE      COMMAND      CREATED        STATUS        PORTS     NAMES
9af5a5fcb450  ubuntu      "/bin/bash"  2 seconds ago  Up 2 seconds
92459dbb1ec7  ubuntu      "/bin/bash"  About a minute ago  Up About a minute
[root@localhost docker]#
[root@localhost docker]# docker exec -it Ubuntu01 hostname
92459dbb1ec7
[root@localhost docker]# docker exec -it Ubuntu02 hostname
9af5a5fcb450
[root@localhost docker]# docker container attach Ubuntu01
root@92459dbb1ec7:/# hostname
92459dbb1ec7
root@92459dbb1ec7:/# read escape sequence
[root@localhost docker]# docker container attach Ubuntu02
root@9af5a5fcb450:/# hostname
9af5a5fcb450
root@9af5a5fcb450:/# |
```

```
[root@localhost docker]# docker container pause Ubuntu02
Ubuntu02
[root@localhost docker]# docker container unpause Ubuntu02
Ubuntu02
[root@localhost docker]#
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d3f1f9ac9dcf ubuntu "/bin/bash" About a minute ago Up About a minute
92459dbb1ec7 ubuntu "/bin/bash" 6 minutes ago Up 6 minutes
[root@localhost docker]# docker container u
```

```
[root@localhost docker]# docker container stop Ubuntu01
Ubuntu01
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d3f1f9ac9dcf ubuntu "/bin/bash" About a minute ago Up About a minute
[root@localhost docker]# docker container start Ubuntu01
Ubuntu01
[root@localhost docker]# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d3f1f9ac9dcf ubuntu "/bin/bash" About a minute ago Up About a minute
92459dbb1ec7 ubuntu "/bin/bash" 7 minutes ago Up 1 second
[root@localhost docker]# docker container restart Ubuntu01
Ubuntu01
[root@localhost docker]# |
```

CONTAINER ID	NAME	CPU %	MEM USAGE / LIMIT	MEM %	NET I/O	BLOCK I/O	PIDS
d3f1f9ac9dcf	Ubuntu02	0.00%	1.508MiB / 1.668GiB	0.09%	2.16kB / 126B	24.6kB / 0B	2

```
[root@localhost docker]# docker system events
2025-11-05T16:13:08.965[73117+05:30] container kill d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04, signal=15)
2025-11-05T16:13:18.994[025973+05:30] container kill d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04, signal=15)
2025-11-05T16:13:18.994[025973+05:30] network disconnect 0c0307888783336e0b262e05aca4adc746b409bc7ba0c07f627cedbf0c013413 (container=d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8, type=bridge)
2025-11-05T16:13:19.188375510+05:30 container stop d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T16:13:19.188375510+05:30 container stop d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (execDuration=38, exitCode=137, image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T16:13:19.387124944+05:30 network connect 0c0307888783336e0b262e05aca4adc746b409bc7ba0c07f627cedbf0c013413 (container=d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8, type=bridge)
2025-11-05T16:13:19.415917162+05:30 container start d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
2025-11-05T16:13:19.415937340+05:30 container restart d3f1f9ac9dcbf337751cf131e1c988c7bc4b86edeb0b03824b1b33ee28090e8 (image=ubuntu, name=Ubuntu02, org.opencontainers.image.ref.name=ubuntu, org.opencontainers.image.version=24.04)
```

```
[root@localhost docker]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d3f1f9ac9dcf ubuntu "/bin/bash" 7 minutes ago Up About a minute
92459dbb1ec7 ubuntu "/bin/bash" 12 minutes ago Up 4 minutes
[root@localhost docker]# docker container rm $(docker container stop $(docker ps -aq))
d3f1f9ac9dcf
92459dbb1ec7
[root@localhost docker]# |
```

18. DockerHub Repository Setup

Create a DockerHub account.

Set up a repository with a meaningful name.

The screenshot shows a DockerHub repository page for 'ajinkyap009/cloudethix'. The page has a dark theme. At the top, there's a breadcrumb navigation: 'Repositories / cloudethix / General'. Below it is the repository name 'ajinkyap009/cloudethix' with a circular icon containing a question mark. A status message 'Created in less than a minute · ⭐0 · ⏺0' follows. A descriptive text 'Repository to have images for tasks performed in CloudEthix.' is present with a pencil icon. Below this, there are buttons for 'Add a category' and 'Edit'. A navigation bar at the bottom includes tabs for 'General' (which is underlined), 'Tags', 'Image Management (BETA)', 'Collaborators', 'Webhooks', and 'Settings'. Under the 'General' tab, there's a section for 'Tags' with a circular icon containing a question mark and the status 'INCOMPLETE'. To the right, there's a 'DOCKER SCOUT' section with a status 'INACTIVE' and a blue 'Activate' button. A note 'Pushed images appear here.' is at the bottom of this section.