Task 1: Launch an eclipse/centos image container and store just the container's IP address in the /tmp/address.txt file. Name of the container should be 'dockerip'.
2: Launch a container with the eclipse/centos image called "ccaapp" and set the until stop policy. The container should continue to run even after the system has booted up .

1. **Pull the image and Run the container with the name `dockerip`**

```
Prasad:~$ docker -v
Docker version 27.5.1, build 27.5.1-0ubuntu3~24.04.2
Prasad:~$ docker pull eclipse/centos
Using default tag: latest
latest: Pulling from eclipse/centos
74f0853ba93b: Pull complete
461a2af66129: Pull complete
Digest: sha256:1ca7daa9f867b9577fce4bd2552e539c82b19876f0366c5f567d43838011d485
Status: Downloaded newer image for eclipse/centos:latest
docker.io/eclipse/centos:latest
Prasad:~$
Prasad:~$ docker images
REPOSITORY       TAG       IMAGE ID       CREATED       SIZE
eclipse/centos   latest    769b57b7d29e   7 years ago   267MB
Prasad:~$ docker run -d --name dockerip eclipse/centos
b72f69079dbebef4ecb5b125ea64508312f0822a128079c6bed4ab0f474cf95b
```

2. Get the container IP address and store. Here are the two ways: **manual, and via a single command.** I used single command

```
Prasad:~$ docker inspect dockerip | grep -i "ip"
        "Name": "/dockerip",
            "IpcMode": "private",
            "Image": "eclipse/centos",
            "LinkLocalIPv6Address": "",
            "LinkLocalIPv6PrefixLen": 0,
            "SecondaryIPAddresses": null,
            "SecondaryIPv6Addresses": null,
            "GlobalIPv6Address": "",
            "GlobalIPv6PrefixLen": 0,
            "IPAddress": "172.17.0.2",
            "IPPrefixLen": 16,
            "IPv6Gateway": "",
                    "IPAMConfig": null,
                    "IPAddress": "172.17.0.2",
                    "IPPrefixLen": 16,
                    "IPv6Gateway": "",
                    "GlobalIPv6Address": "",
                    "GlobalIPv6PrefixLen": 0,
```

- **Single command**

Verify the /tmp/address.txt file

```
Prasad:~$ docker inspect -f '{{range.NetworkSettings.Networks}}{{.IPAddress}}{{end}}' dockerip > /tmp/address.txt
Prasad:~$ cat /tmp/address.txt
172.17.0.2
```

3. Launch the `eclipse/centos` container named `ccaapp` with a restart policy

```
Prasad:~$ docker run -d --name ccaapp --restart unless-stopped eclipse/centos
d0a71cd4a1f7b8048809809f261a20ce9a347407d2785affc31b12da71c479b8
Prasad:~$
```

```
Prasad:~$ docker ps
CONTAINER ID   IMAGE           COMMAND                  CREATED             STATUS             PORTS     NAMES
d0a71cd4a1f7   eclipse/centos  "/bin/sh -c 'tail -f…"   About a minute ago  Up About a minute            ccaapp
b72f69079dbe   eclipse/centos  "/bin/sh -c 'tail -f…"   11 minutes ago      Up 11 minutes                dockerip
Prasad:~$
```

4. Test the `unless-stopped` policy Simulate a docker daemon restart and after restart verify container

```
Prasad:~$ systemctl restart docker
Prasad:~$ docker ps
CONTAINER ID   IMAGE           COMMAND                  CREATED         STATUS         PORTS     NAMES
d0a71cd4a1f7   eclipse/centos  "/bin/sh -c 'tail -f…"   3 minutes ago   Up 4 seconds             ccaapp
Prasad:~$
```

- **Now stop the container and remove .**

Conclusion :

Through this task, successfully demonstrated the practical application of Docker container management using the eclipse/centos image. The two main objectives—capturing the IP address of a running container and ensuring a container restarts automatically after a system reboot .