



School of Computer Science Engineering and Application

BCA TY SEM VI

Subject Name: Container and Orchestration Practical

Assignment No. 9

Aim: Implementing Docker Health Checks for PostgreSQL Database in a Containerized Environment.

Submitted By

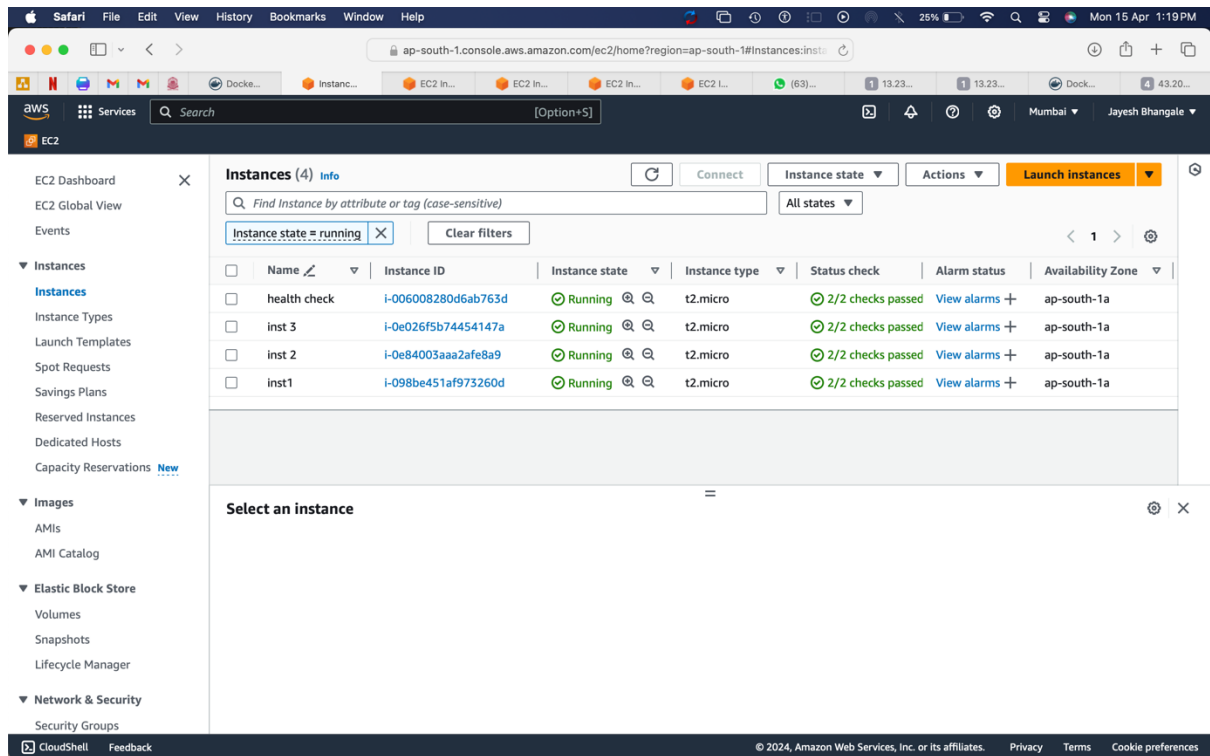
Name: Jayesh Bhangale

PRN: 20210801024

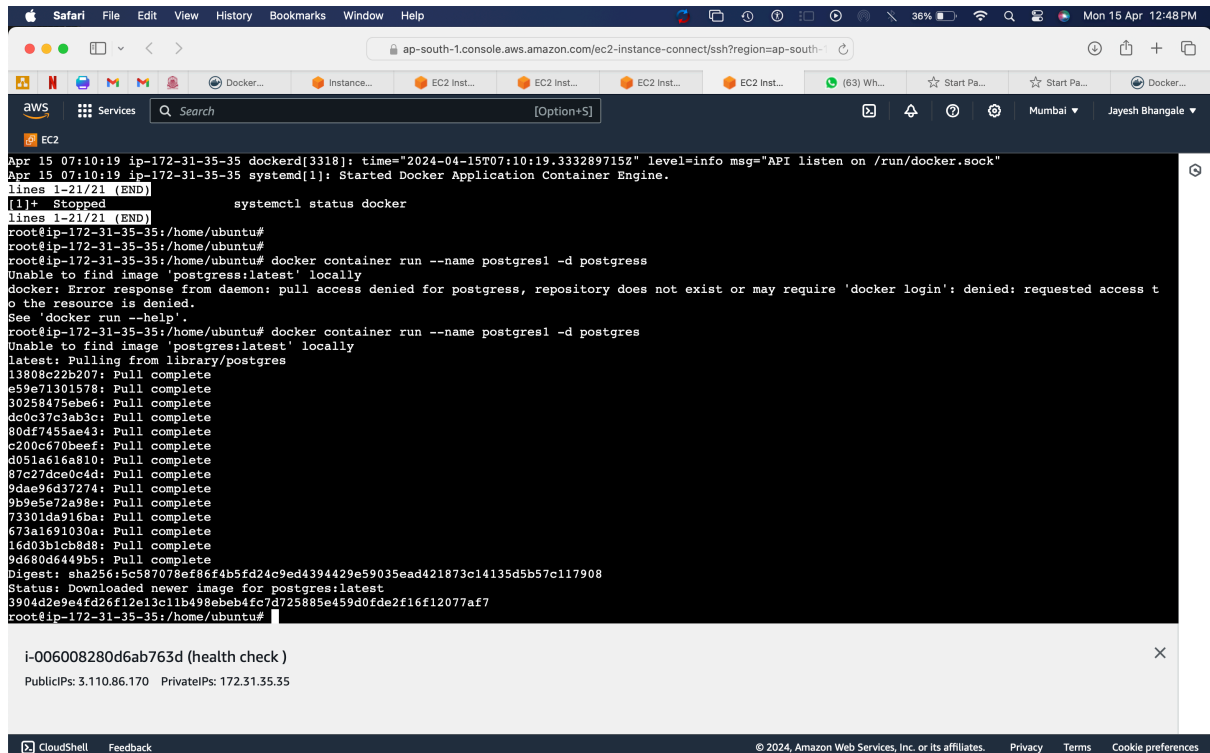
Date: 22 April, 2024

Create instance

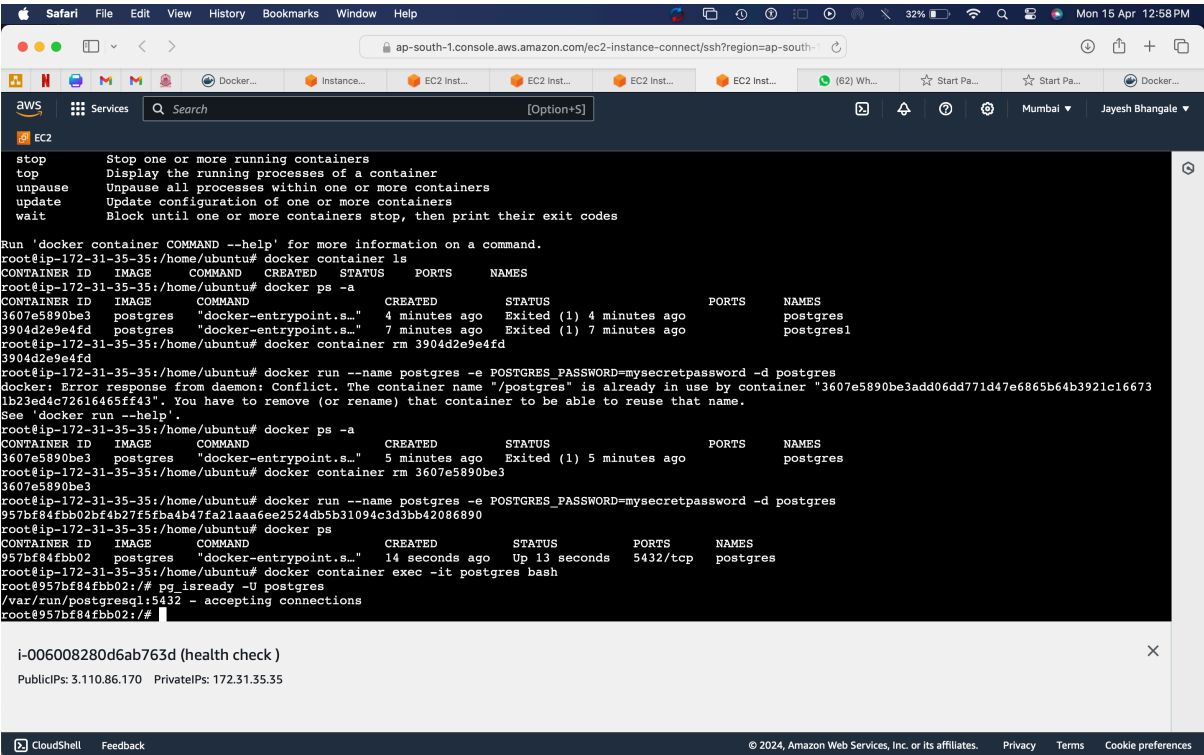
Step 1: Install docker



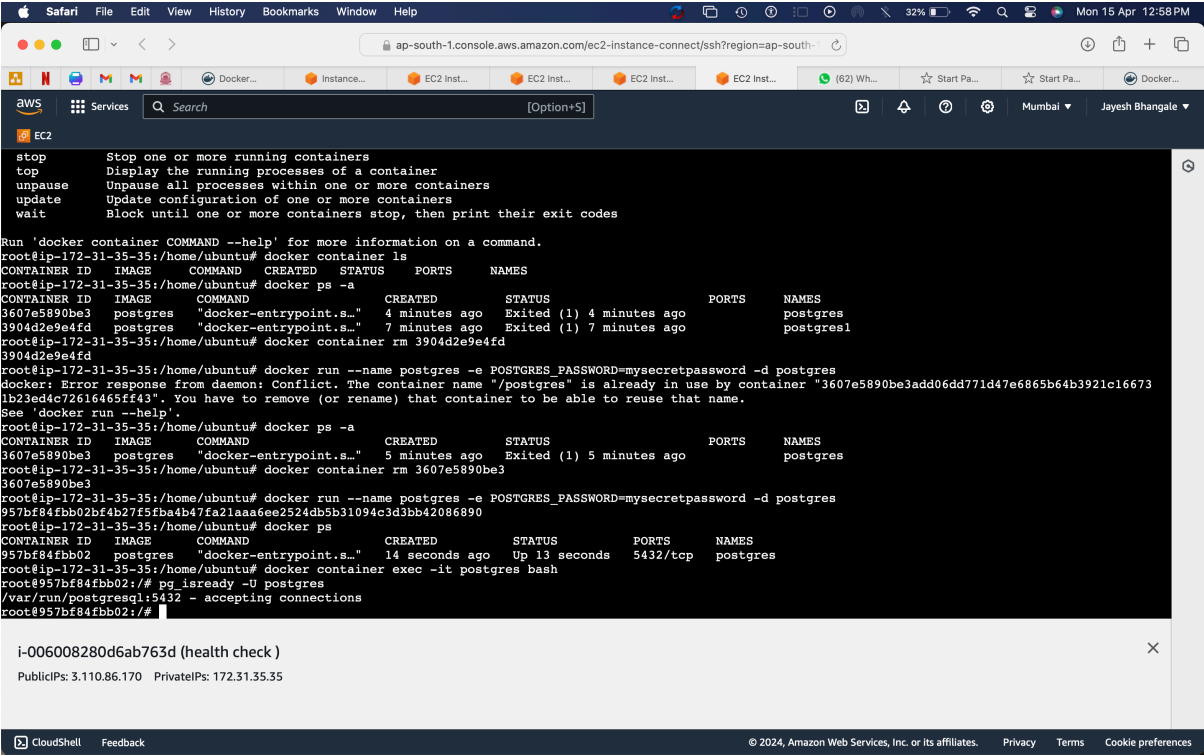
Step 2: Start postgres Container



Step 3: Run postgres With Password



Step 4: Setup Healthcheck On Postgres



Step 5: Create Another Containers With Healthcheck

```
1b23ed4c72616465ff43". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
root@ip-172-31-35-35:/home/ubuntu# docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
3607e5890be3   postgres      "docker-entrypoint.s..." 5 minutes ago   Exited (1) 5 minutes ago   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker container rm 3607e5890be3
root@ip-172-31-35-35:/home/ubuntu# docker run --name postgres -e POSTGRES_PASSWORD=mysecretpassword -d postgres
957bf84fbb02b4b27f5fba4b47fa21aaaf6ee2524db5b31094c3d3bb42086890
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
957bf84fbb02   postgres      "docker-entrypoint.s..." 14 seconds ago   Up 13 seconds   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker container exec -it postgres bash
root@957bf84fbb02:/# pg_isready -U postgres
/var/run/postgresql:5432 - accepting connections
root@957bf84fbb02:/# exit
exit
root@ip-172-31-35-35:/home/ubuntu# docker run -d --name postgres2 -e POSTGRES_PASSWORD=mysecretpassword --health-cmd="pg_isready -u postgres || exit 1" p
ostgres
cb908b924c58f5f6a40b26ef02ec07f4fbb6796d8584a391076b18d3d15b5de5
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
cb908b924c58   postgres      "docker-entrypoint.s..." 7 seconds ago   Up 6 seconds (health: starting)   5432/tcp       postgres2
957bf84fbb02   postgres      "docker-entrypoint.s..." 4 minutes ago   Up 4 minutes   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker run -d --name postgres3 -e POSTGRES_PASSWORD=mysecretpassword --health-cmd="pg_isready -u root || exit 1" postg
res
4ff6056d03c36019cd502bef47ae3f9f67e3659ba694be8faf0e5c471073f27
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4ff6056d03c3   postgres      "docker-entrypoint.s..." 10 seconds ago   Up 9 seconds (health: starting)   5432/tcp       postgres3
cb908b924c58   postgres      "docker-entrypoint.s..." About a minute ago   Up About a minute (health: starting)   5432/tcp       postgres2
957bf84fbb02   postgres      "docker-entrypoint.s..." 5 minutes ago     Up 5 minutes   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu#
```

i-006008280d6ab763d (health check)

PublicIPs: 3.110.86.170 PrivateIPs: 172.31.35.35

Step 6: Check For Containers If Healthy Or Unhealthy

```
root@ip-172-31-35-35:/home/ubuntu# docker container rm 3607e5890be3
3607e5890be3
root@ip-172-31-35-35:/home/ubuntu# docker run --name postgres -e POSTGRES_PASSWORD=mysecretpassword -d postgres
957bf84fbb02b4b27f5fba4b47fa21aaaf6ee2524db5b31094c3d3bb42086890
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
957bf84fbb02   postgres      "docker-entrypoint.s..." 14 seconds ago   Up 13 seconds   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker container exec -it postgres bash
root@957bf84fbb02:/# pg_isready -U postgres
/var/run/postgresql:5432 - accepting connections
root@957bf84fbb02:/# exit
exit
root@ip-172-31-35-35:/home/ubuntu# docker run -d --name postgres2 -e POSTGRES_PASSWORD=mysecretpassword --health-cmd="pg_isready -u postgres || exit 1" p
ostgres
cb908b924c58f5f6a40b26ef02ec07f4fbb6796d8584a391076b18d3d15b5de5
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
cb908b924c58   postgres      "docker-entrypoint.s..." 7 seconds ago   Up 6 seconds (health: starting)   5432/tcp       postgres2
957bf84fbb02   postgres      "docker-entrypoint.s..." 4 minutes ago   Up 4 minutes   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker run -d --name postgres3 -e POSTGRES_PASSWORD=mysecretpassword --health-cmd="pg_isready -u root || exit 1" postg
res
4ff6056d03c36019cd502bef47ae3f9f67e3659ba694be8faf0e5c471073f27
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4ff6056d03c3   postgres      "docker-entrypoint.s..." 10 seconds ago   Up 9 seconds (health: starting)   5432/tcp       postgres3
cb908b924c58   postgres      "docker-entrypoint.s..." About a minute ago   Up About a minute (health: starting)   5432/tcp       postgres2
957bf84fbb02   postgres      "docker-entrypoint.s..." 5 minutes ago     Up 5 minutes   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4ff6056d03c3   postgres      "docker-entrypoint.s..." 2 minutes ago   Up 2 minutes (unhealthy)         5432/tcp       postgres3
cb908b924c58   postgres      "docker-entrypoint.s..." 3 minutes ago   Up 3 minutes (unhealthy)         5432/tcp       postgres2
957bf84fbb02   postgres      "docker-entrypoint.s..." 7 minutes ago   Up 7 minutes   5432/tcp       postgres
root@ip-172-31-35-35:/home/ubuntu#
```

i-006008280d6ab763d (health check)

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Sign:

(Dr. Swapnil D. Waghmare)