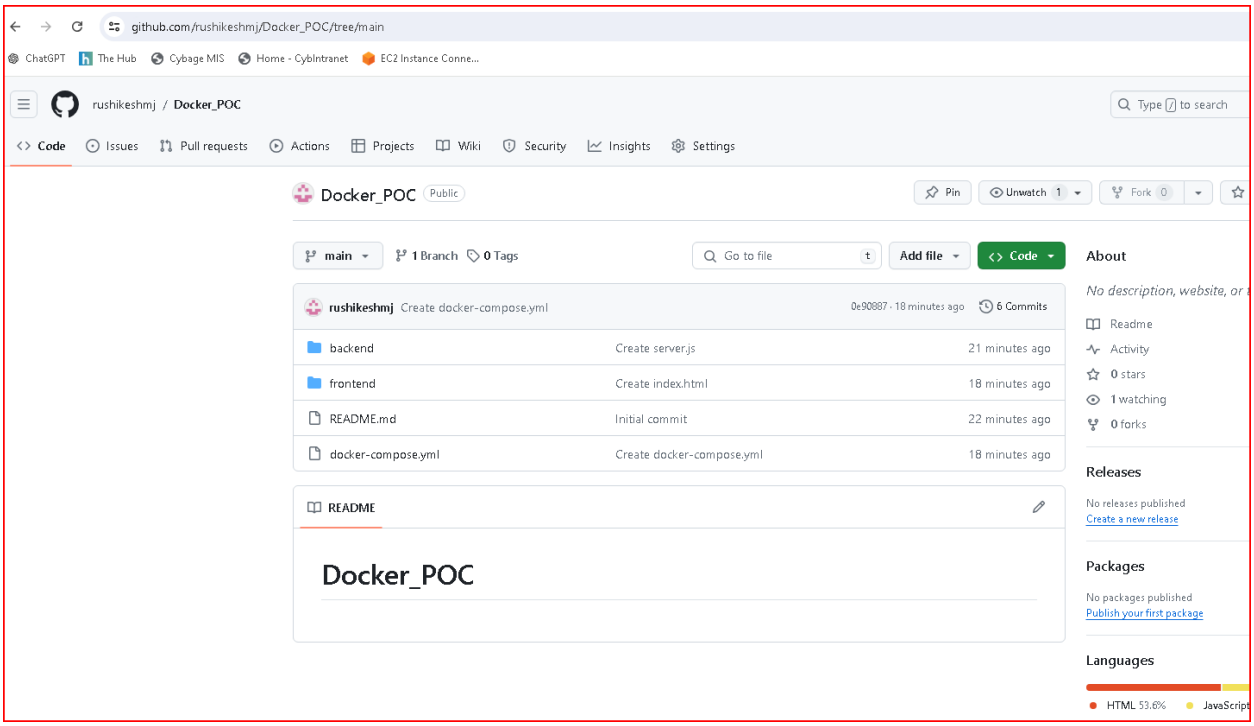
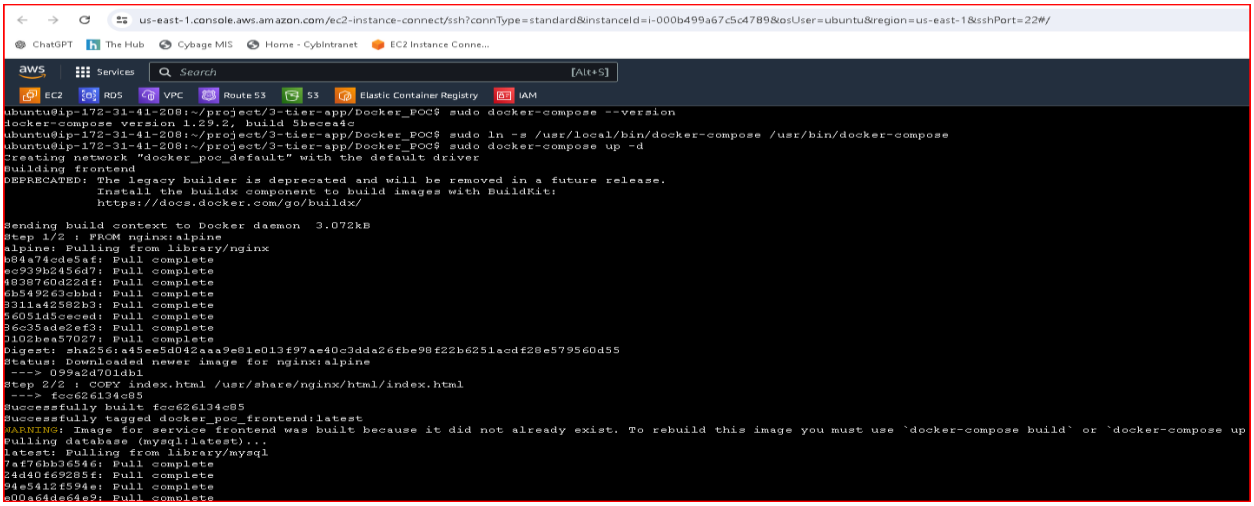
RDS-POC

For a 3-tier application (typically frontend, backend, and database), we can use Docker Compose to orchestrate the deployment

Install docker-compose



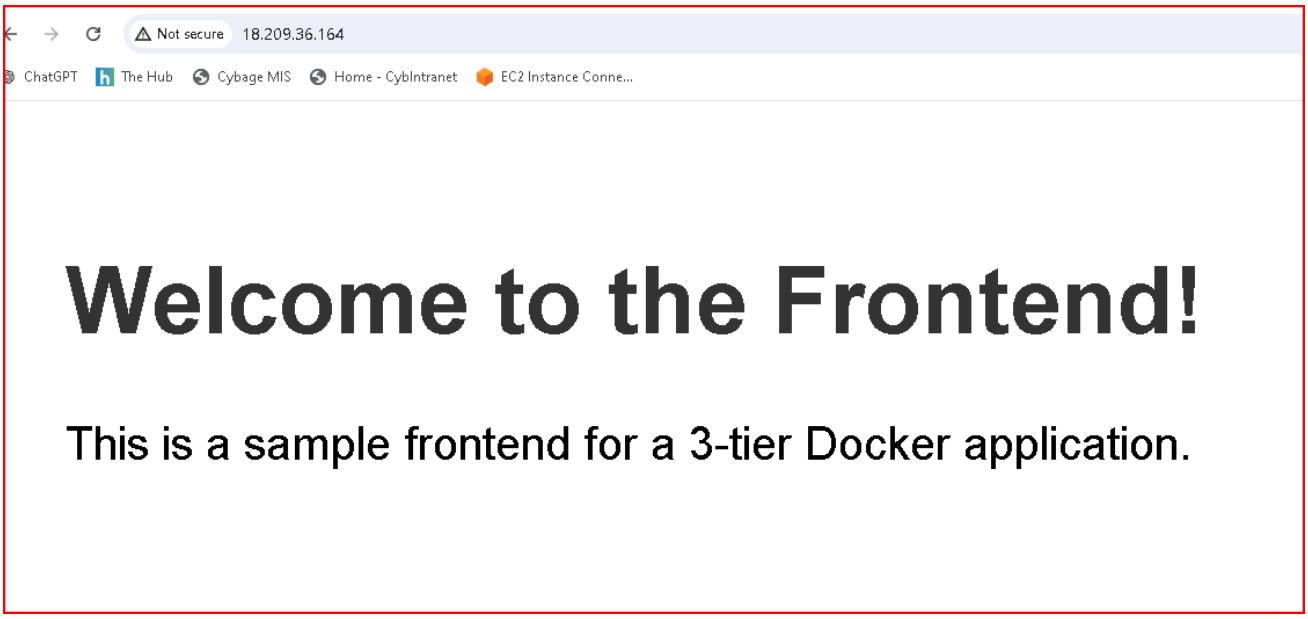
Clone the project in new directory



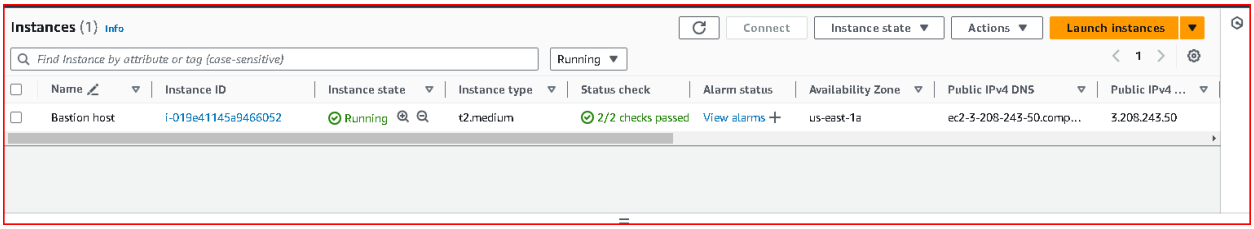
sudo docker-compose up –d

```
Successfully built 89d676276f01
Successfully tagged docker_poc_backend:latest
WARNING: Image for service backend was built because it did not already exist. To rebuild this image you must use `docker-compose build` or `docker-compose up --build`.
Creating docker_poc_frontend_1 ... done
Creating docker_poc_database_1 ... done
Creating docker_poc_backend_1  ... done
ubuntu@ip-172-31-41-208:~/project/3-tier-app/Docker_POC$ sud docker ps
Command 'sud' not found, did you mean:
  command 'std' from snap std (1.0.1)
  command 'sup' from deb sup (20100519-3)
  command 'sudo' from deb sudo (1.9.9-1ubuntu2.4)
  command 'sudo' from deb sudo-ldap (1.9.9-1ubuntu2.4)
  command 'sed' from deb sed (4.8-1ubuntu2)
  command 'sbd' from deb sbd (1.5.1-1ubuntu2)
  command 's3d' from deb s3d (0.2.2.1-3build1)
  command 'snd' from deb snd-gui-jack (22.1-1)
  command 'snd' from deb snd-gui-pulse (22.1-1)
  command 'snd' from deb snd-nox (22.1-1)
  command 'sur' from deb subtle (0.11.3224-xi-2.2build4)
  command 'sul' from deb hxtools (20211204-1)
  command 'spd' from deb spd (1.3.0-1ubuntu3)
  command 'su' from deb util-linux (2.37.2-4ubuntu3)
  command 'sum' from deb coreutils (8.32-4.1ubuntu1)
See 'snap info <snapname>' for additional versions.
ubuntu@ip-172-31-41-208:~/project/3-tier-app/Docker_POC$ sudo docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED          STATUS          PORTS                                       NAMES
5be9fd076c0a   docker_poc_backend   "docker-entrypoint.s…"   36 seconds ago   Up 35 seconds   0.0.0.0:3000->3000/tcp, :::3000->3000/tcp   docker_poc_backend_1
b6a9923c74f1   docker_poc_frontend  "/docker-entrypoint.…"   37 seconds ago   Up 35 seconds   0.0.0.0:80->80/tcp, :::80->80/tcp           docker_poc_frontend_1
ubuntu@ip-172-31-41-208:~/project/3-tier-app/Docker_POC$ sudo docker ps -a
CONTAINER ID   IMAGE                COMMAND                  CREATED          STATUS                      PORTS                                       NAMES
```

Frontend



create a bastion host in public subnet in same vpc and accessing rds instance from it



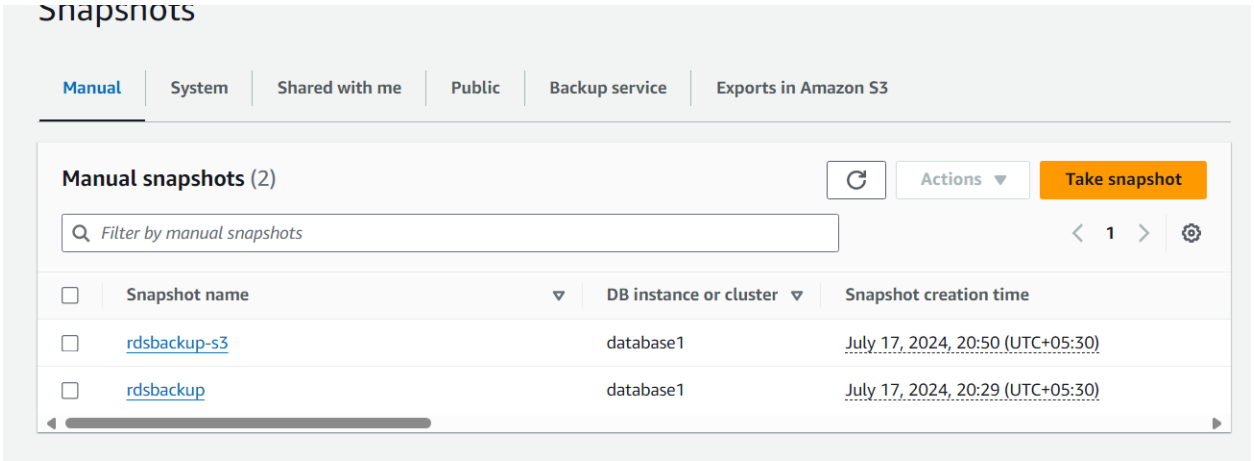
Create a iam user and provide necessary permissions by attaching policy for taking backup and retention

Create snapshot from aws cli

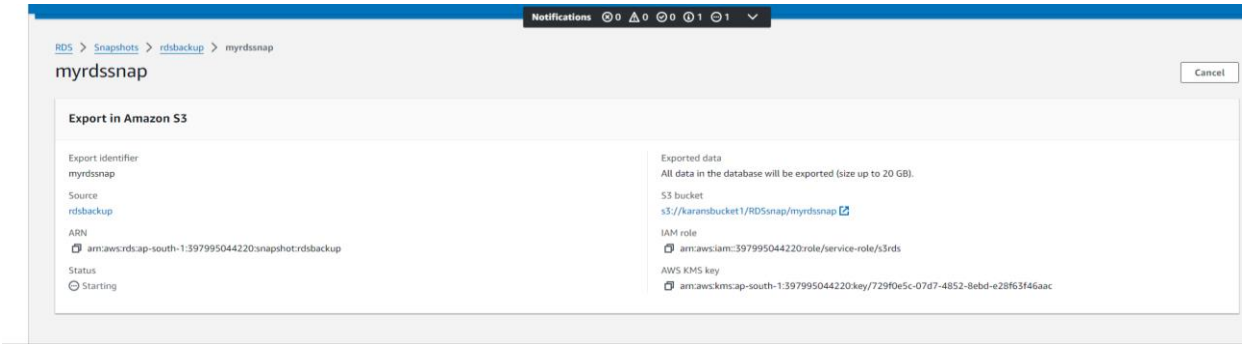
```
root@ip-172-31-45-241:/home/ubuntu# aws configure set region ap-south-1
root@ip-172-31-45-241:/home/ubuntu# aws rds create-db-snapshot --db-instance-identifier database1 --db-snapshot-identifier rdsbackup
```

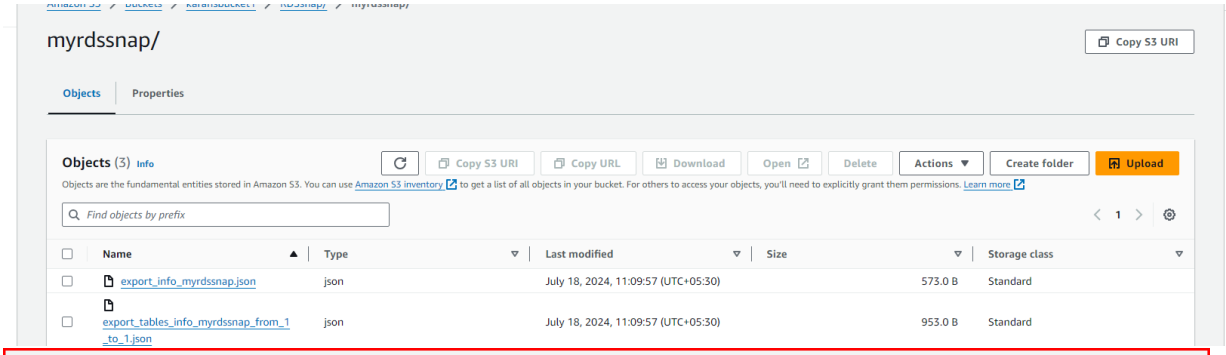
Succesfully created Snapshot

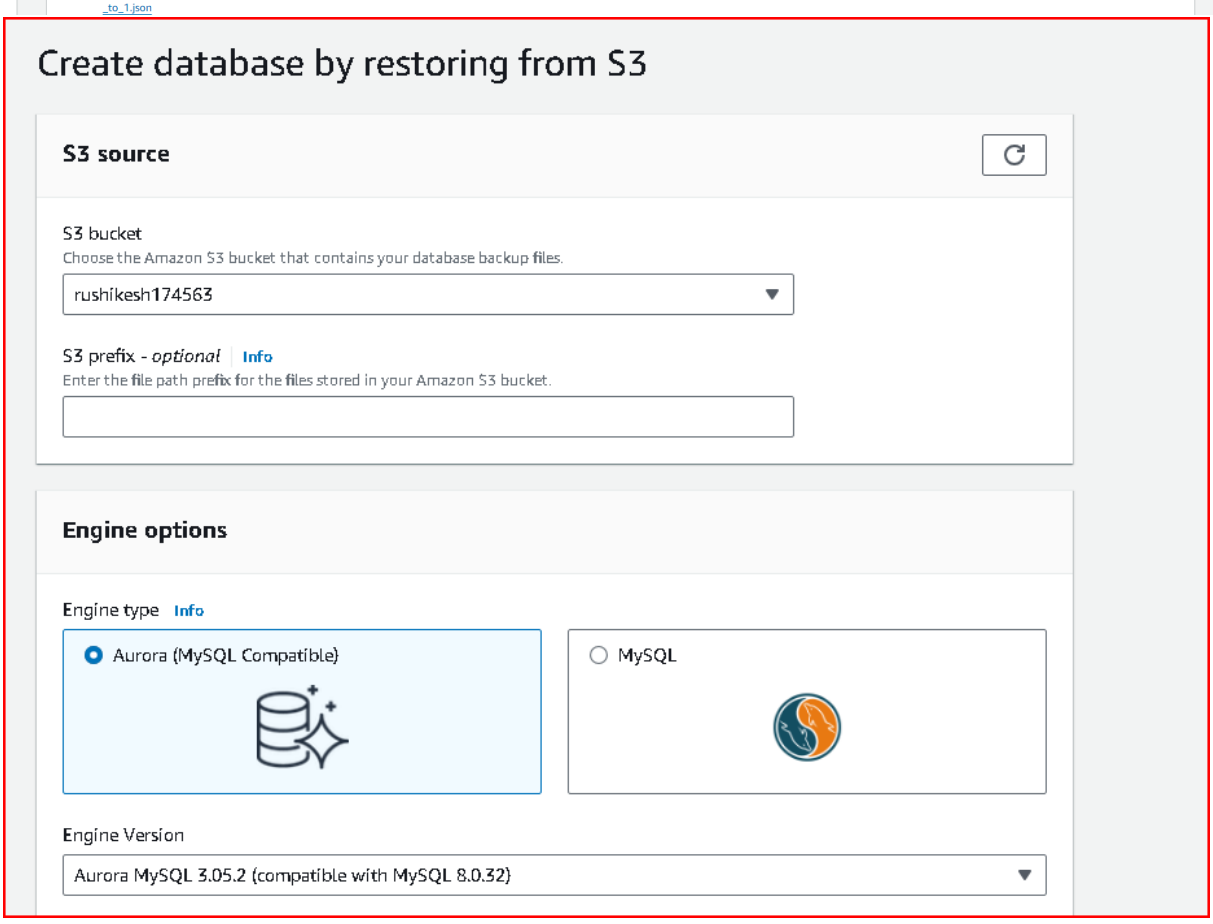

```
{
    "DBSnapshot": {
        "DBSnapshotIdentifier": "rdsbackup",
        "DBInstanceIdentifier": "database1",
        "Engine": "mysql",
        "AllocatedStorage": 20,
        "Status": "creating",
        "Port": 3306,
        "AvailabilityZone": "ap-south-1a",
        "VpcId": "vpc-048703349f46a4b96",
        "InstanceCreateTime": "2024-07-17T08:00:06.844000+00:00",
        "MasterUsername": "karan",
        "EngineVersion": "8.0.35",
        "LicenseModel": "general-public-license",
        "SnapshotType": "manual",
        "OptionGroupName": "default:mysql-8-0",
        "PercentProgress": 0,
        "StorageType": "gp2",
        "Encrypted": true,
        "KmsKeyId": "arn:aws:kms:ap-south-1:397995044220:key/82c4871c-6e4f-4b06-bb24-745a1807a418",
```

Export the snapshot to my S3 bucket







Create the database by restoring the data from s3