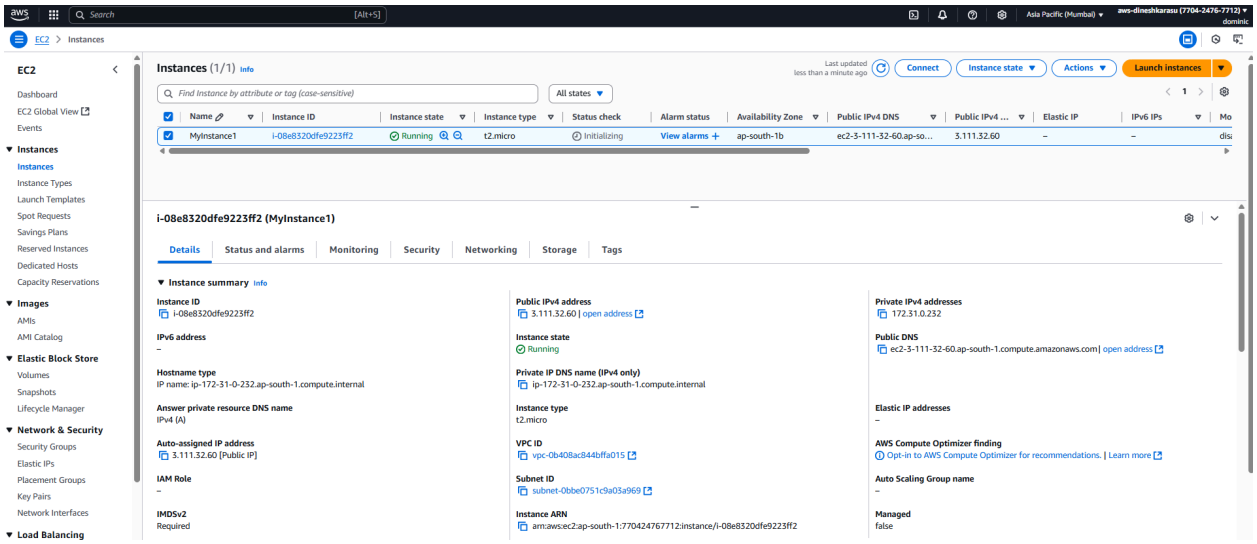
Use case

Set up Python + Boto3, and Start/Stop EC2 instances

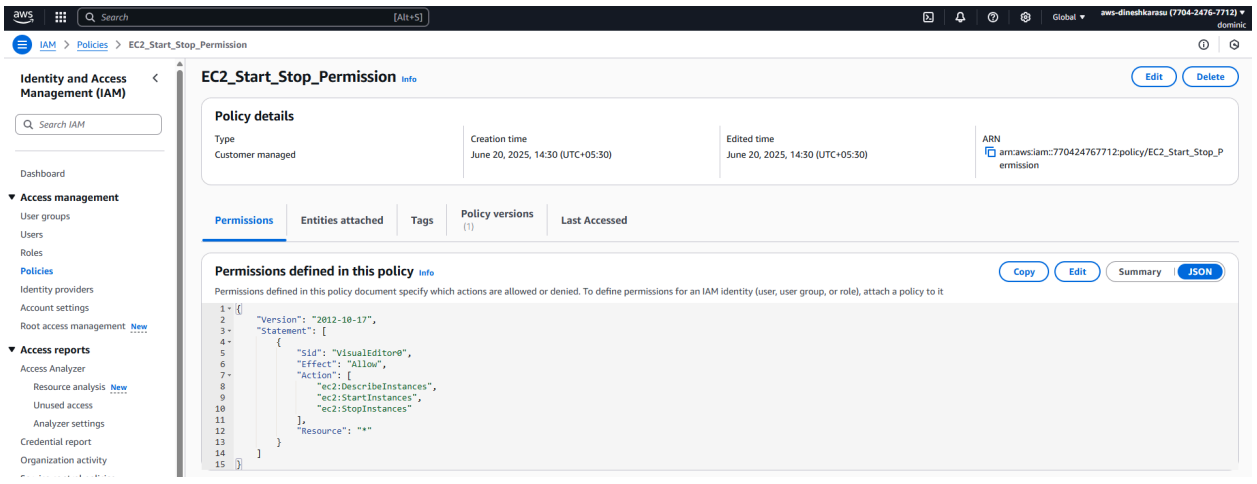
Use case discription

Set up Python + Boto3, and Start/Stop EC2 instances using CLI

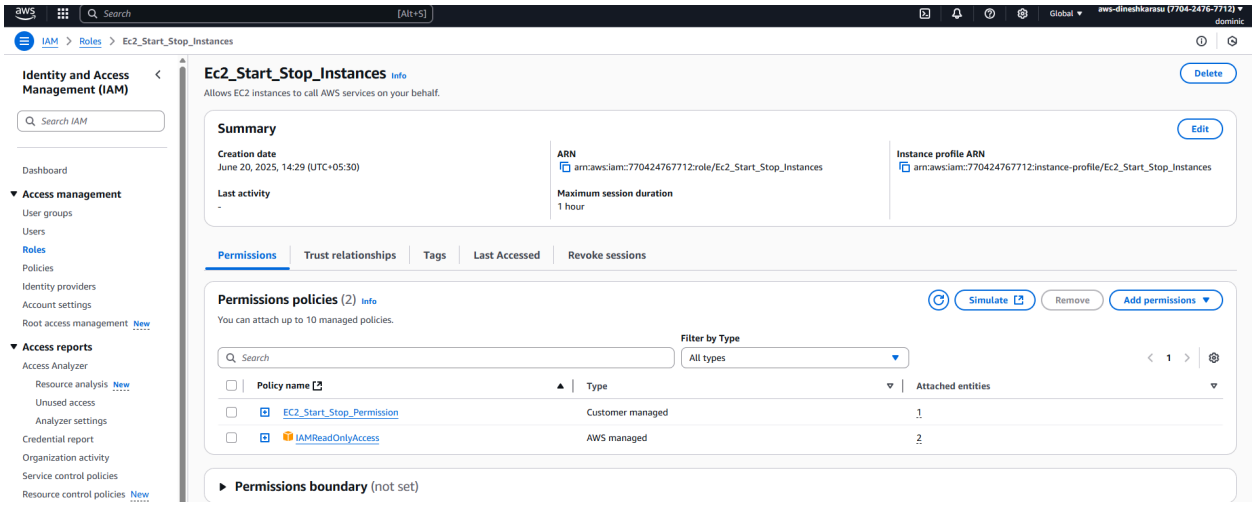
1. Create an EC2 instance (MyInstance1)



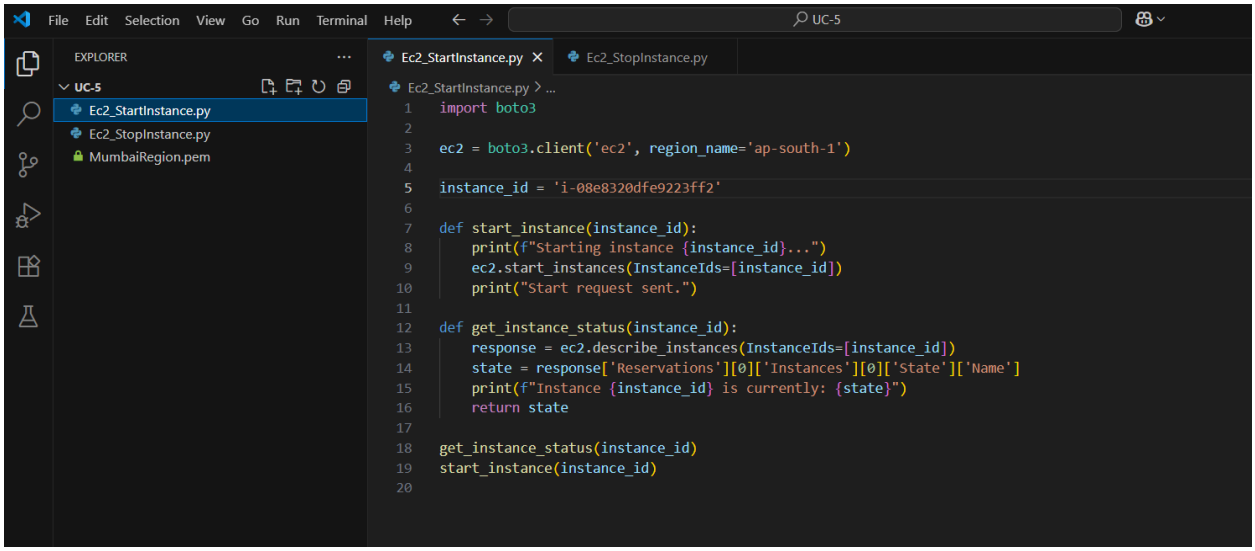
2. Create a policy with Ec2: start instances and stop instances permission. We also need describe instances permission as we will be reading the status of the instance

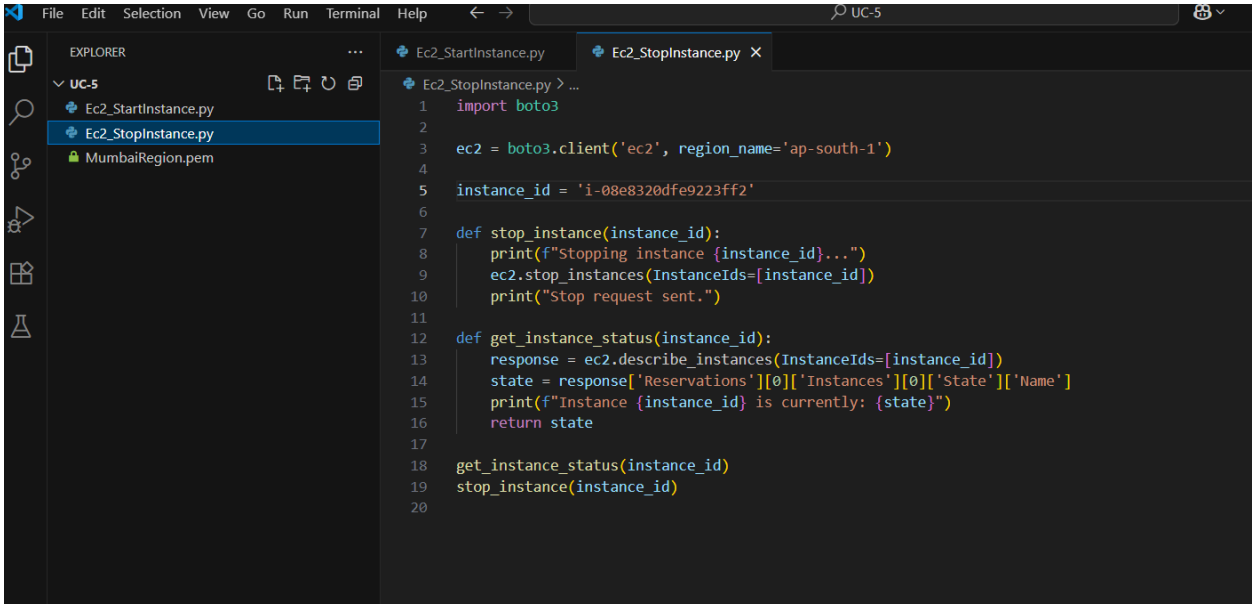


3. Attach policy to a new role and assign the IAM role to the newly created instance

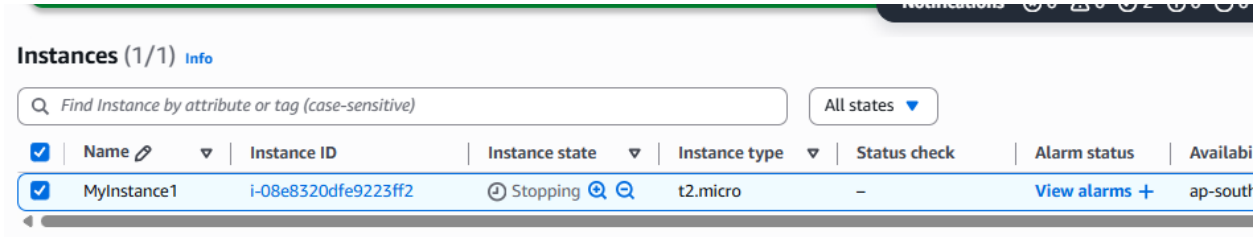


4. Now, write the python code to start instance and stop instance in your local machine where your .pem file is located

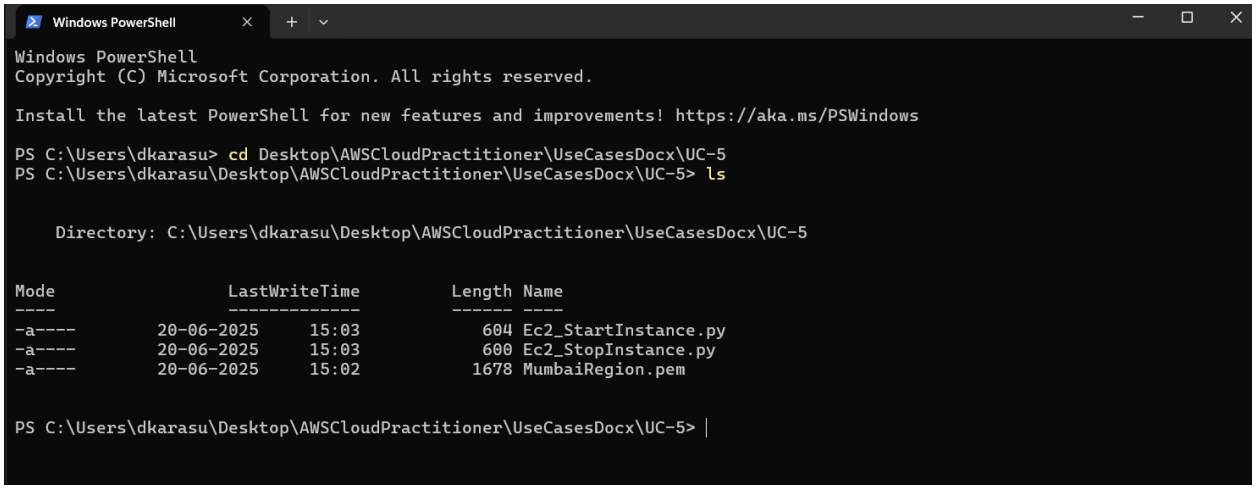




5. Lets stop the instance and try starting it with out python file using AWS CLI



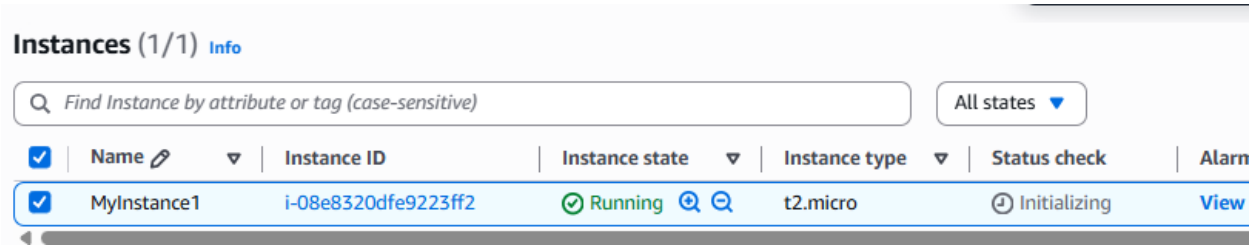
6. Open windows powershell and navigate to where your .pem file is located



7. Run StartInstance python file that we have created earlier as below

```
Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\dkarasu> cd Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5> ls


    Directory: C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----        20-06-2025     15:03            604 Ec2_StartInstance.py
-a----        20-06-2025     15:03            600 Ec2_StopInstance.py
-a----        20-06-2025     15:02           1678 MumbaiRegion.pem


PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5> python .\Ec2_StartInstance.py
Instance i-08e8320dfe9223ff2 is currently: stopped
Starting instance i-08e8320dfe9223ff2...
Start request sent.
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5>
```

8. The instance starts automatically, check in aws console



9. To stop the instance we have to do it in SSH where we do not have the StopInstance python file, for that we need to copy it from our local machine
10. Safe Copy the file using SCP command as below

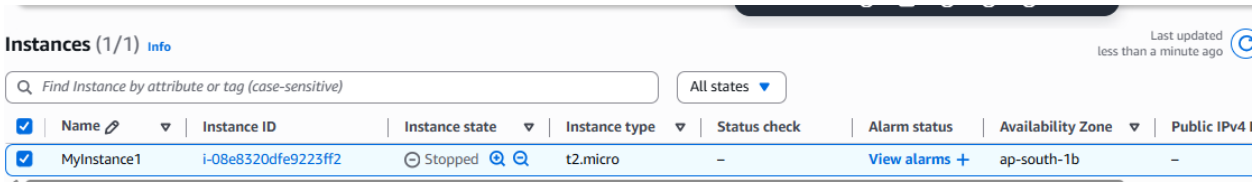
```
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5> scp -i .\MumbaiRegion.pem .\Ec2_StopInstance.py ec2-
user@3.110.119.6
        1 file(s) copied.
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5>
```

11. Now, SSH into our EC2 instance

```
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5> ssh -i .\MumbaiRegion.pem ec2-user@3.110.119.6
The authenticity of host '3.110.119.6 (3.110.119.6)' can't be established.
ED25519 key fingerprint is SHA256:mxdqjZntoF1qqHeuOKe50UOljfYawNz76Lf9VRGRZzo.
This host key is known by the following other names/addresses:
    C:\Users\dkarasu/.ssh/known_hosts:9: 3.111.32.60
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '3.110.119.6' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Fri Jun 20 09:55:43 2025 from 103.183.203.20
[ec2-user@ip-172-31-0-232 ~]$
```

12. Run the stop instance python file in the CLI

```
[ec2-user@ip-172-31-0-232 ~]$ ls
Ec2_StartInstance.py  Ec2_StopInstance.py
[ec2-user@ip-172-31-0-232 ~]$ python3
.cache/              .local/              .ssh/               Ec2_StartInstance.py  Ec2_StopInstance.py
[ec2-user@ip-172-31-0-232 ~]$ python3 Ec2_StopInstance.py
Instance i-08e8320dfe9223ff2 is currently: running
Stopping instance i-08e8320dfe9223ff2...
Stop request sent.
[ec2-user@ip-172-31-0-232 ~]$
Broadcast message from root@ip-172-31-0-232.ap-south-1.compute.internal (Fri 2025-06-20 10:18:04 UTC):

The system will power off now!

Connection to 3.110.119.6 closed by remote host.
Connection to 3.110.119.6 closed.
PS C:\Users\dkarasu\Desktop\AWSCloudPractitioner\UseCasesDocx\UC-5>
```



13. The instance has been stopped

Key Takeaways :

We can directly start or stop instances from AWS CLI without using python by running the following command

For single instance :

```
aws ec2 start-instances --instance-ids Your Instance ID --region Region Code
aws ec2 stop-instances --instance-ids Your Instance ID --region Region Code
```

For multiple instances :

```
aws ec2 start-instances \
  --instance-ids instanceid1 instanceid2 instanceid3 \
  --region region-code

aws ec2 stop-instances \
  --instance-ids instanceid1 instanceid2 instanceid3 \
  --region region-code
```