Ganpat University | Institute of Computer Technology

॥ विद्यया समाजोत्कर्षः ॥

Name: Tushar Panchal

En.No: 21162101014

Sub: CCE(Cloud Computing Essentials)

Branch: CBA

Batch:71

----------PRACTICAL 13----------

Use AWS CLI and configure it.

Services to be configured through CLI:

1) **S3**
2) **EC2**
3) **IAM**
4) **VPC**

https://awscli.amazonaws.com/AWSCLIV2.msi

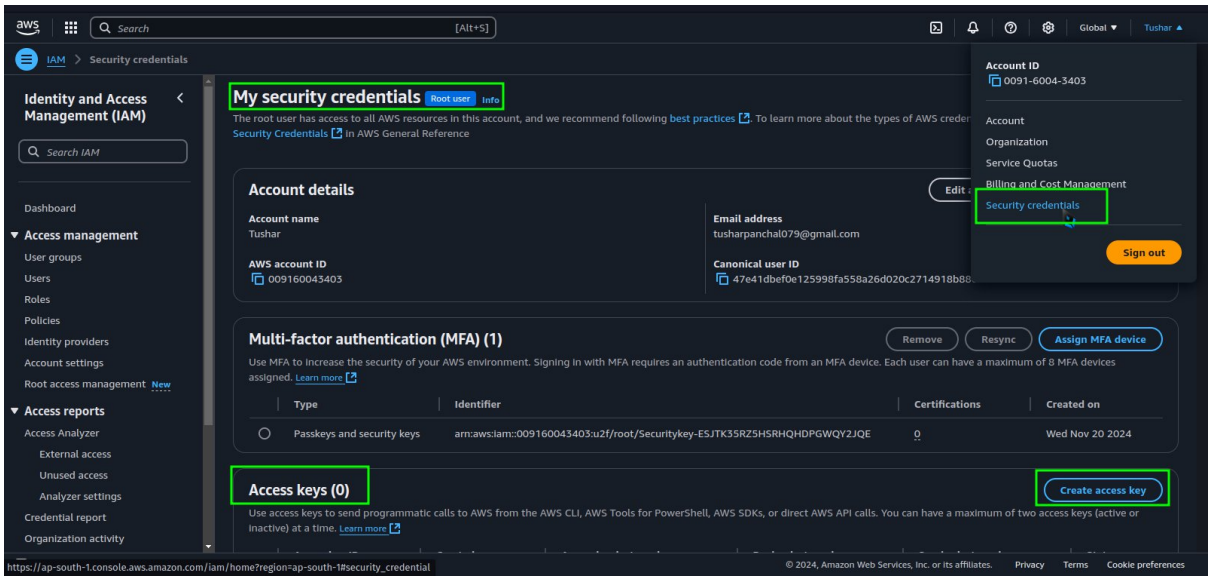
First you have to install the aws-cli using the above link.

And check for the version.

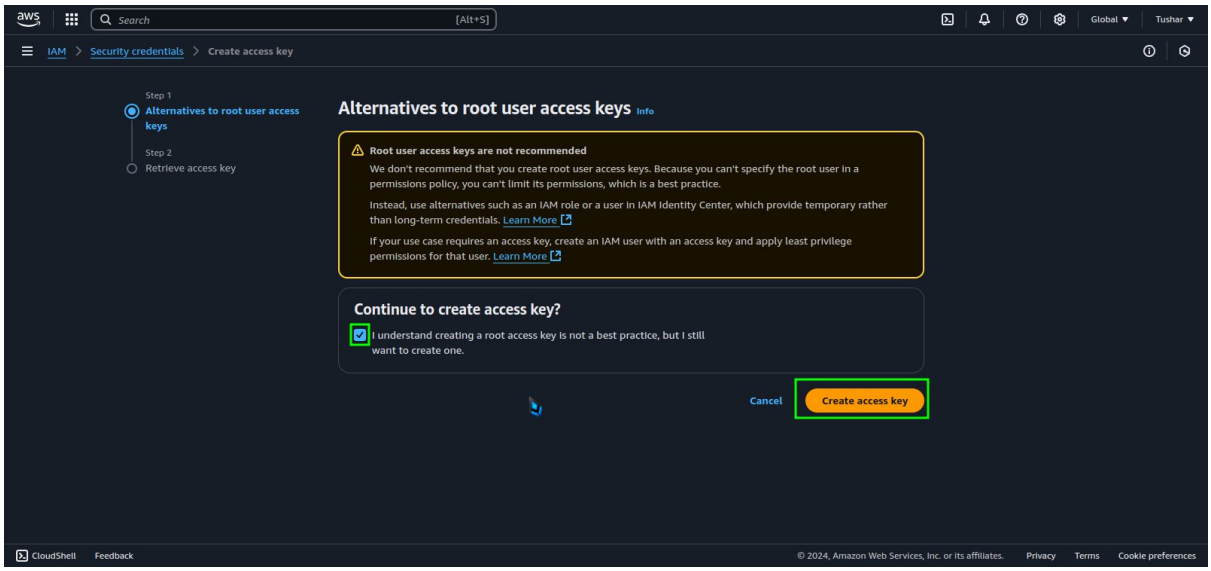
```
tushar@ROG in ~
λ sudo snap install aws-cli --classic
[sudo] password for tushar:
Warning: /var/lib/snapd/snap/bin was not found in your $PATH. If you've not restarted your session
         since you installed snapd, try doing that. Please see https://forum.snapcraft.io/t/9469
         for more details.

aws-cli (v2/stable) 2.22.2 from Amazon Web Services (aws**) installed

tushar@ROG in ~ as 🧙 took 37s
λ aws --version
aws-cli/2.22.2 Python/3.12.6 Linux/6.11.9-zen1-1-zen exe/x86_64.garuda
```

2

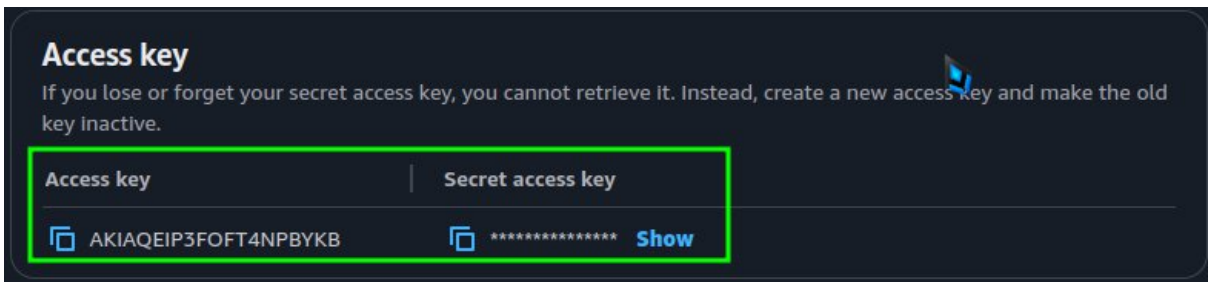
After that go to security credentials and create Access key



Hit the chceckbox and hit create access key button



Now copy that access key and secret key to use it in CMD



Now run below command to configure

```
tushar@ROG in ~ took 0s
λ aws configure
AWS Access Key ID [****************BYKB]: AKIAQEIP3FOFT4NPBYKB
AWS Secret Access Key [****************iW0e]: 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
Default region name [None]: ap-south-1
Default output format [None]: json
```

- **S3 :**

Run below command to create S3 Bucket:

```
tushar@ROG in ~ on ○ (ap-south-1) took 3m22s
λ aws s3 mb s3://tushar-s3-bucket-cli
make_bucket: tushar-s3-bucket-cli

tushar@ROG in ~ on ○ (ap-south-1) took 3s
λ aws s3 ls
2024-11-21 09:40:36 tushar-s3-bucket-cli
2024-11-14 05:43:46 user-code-storage
```

Now let's upload an image file

```
tushar@ROG in ~ on ○ (ap-south-1) took 1s
λ cd Pictures/

tushar@ROG in ~/Pictures on ○ (ap-south-1)
λ ls
.rw-r--r-- 115k tushar 19 Nov 00:11 2024-11-19_00-11.png
.rw-r--r--  15k tushar 20 Nov 10:37 2024-11-20_10-37.png
.rw-r--r-- 1.9M tushar 21 Nov 09:44 ghost-call-of-duty-modern-warfare-2-2022-4k-wallpaper-uhdpaper.com-447@1@h.jpg
```

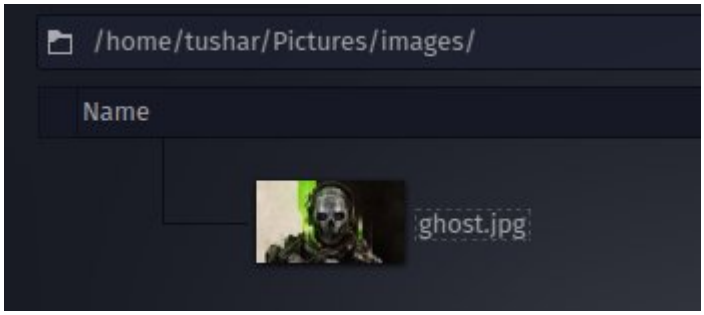
Now run below command to upload your file

```
tushar@ROG in ~/Pictures on ○ (ap-south-1) took 0s
λ ls
.rw-r--r-- 1.9M tushar 21 Nov 09:44 ghost.jpg

tushar@ROG in ~/Pictures on ○ (ap-south-1) took 0s
λ aws s3 cp ghost.jpg s3://tushar-s3-bucket-cli
upload: ./ghost.jpg to s3://tushar-s3-bucket-cli/ghost.jpg
```

Now run below command to download file which we upload to our bucket in above command

```
tushar@ROG in ~/Pictures on ○ (ap-south-1) took 0s
λ cd images/

tushar@ROG in ~/Pictures/images on ○ (ap-south-1)
λ ls

tushar@ROG in ~/Pictures/images on ○ (ap-south-1) took 0s
λ aws s3 cp s3://tushar-s3-bucket-cli/ghost.jpg .
download: s3://tushar-s3-bucket-cli/ghost.jpg to ./ghost.jpg

tushar@ROG in ~/Pictures/images on ○ (ap-south-1) took 3s
λ ls
.rw-r--r-- 1.9M tushar 21 Nov 09:58 ghost.jpg
```

Here you can see that the file is copy to the other location



Now lets list our objects located in bucket using below scipt

```
tushar@ROG in ~/Pictures/images on ○ (ap-south-1) took 0s
λ aws s3 ls s3://tushar-s3-bucket-cli
2024-11-21 09:58:38    1923113 ghost.jpg
```

To remove object run below command

```
tushar@ROG in ~/Pictures/images on ○ (ap-south-1) took 2s
λ aws s3 rm s3://tushar-s3-bucket-cli/ghost.jpg
delete: s3://tushar-s3-bucket-cli/ghost.jpg

tushar@ROG in ~/Pictures/images on ○ (ap-south-1) took 1s
λ aws s3 ls s3://tushar-s3-bucket-cli
```

As you can see above object is removed successfully.

To remove bucket run below command

```
┌─tushar@ROG in ~/Pictures/images on ☁ (ap-south-1) took 1s
└─λ aws s3 rb s3://tushar-s3-bucket-cli
remove_bucket: tushar-s3-bucket-cli

┌─tushar@ROG in ~/Pictures/images on ☁ (ap-south-1) took 2s
└─λ aws s3 ls
2024-11-14 05:43:46 user-code-storage
```

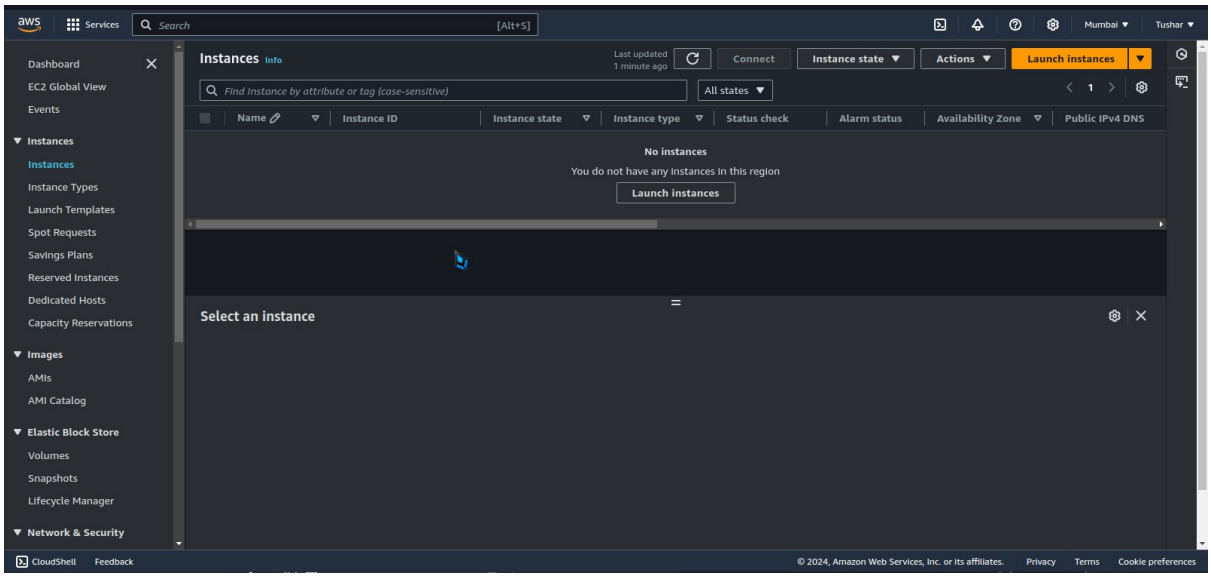
As you can see our bucket has been removed successfully.

- **EC2:**

To list instances located in our aws run below command

```
┌─tushar@ROG in ~ on ☁ (ap-south-1) took 0s
└─λ aws ec2 describe-instances
{
    "Reservations": []
}
```

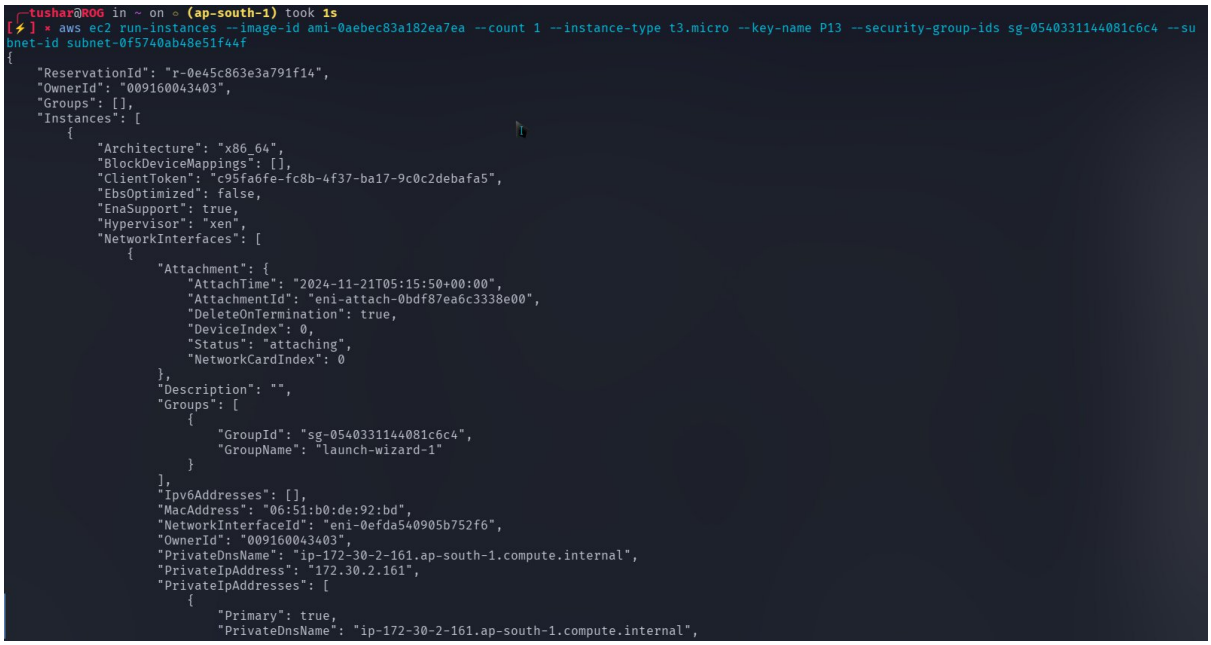
I don't have any instances running so above showing empty



This command is use to Create the instance take the image id, key name, security group from Lanuch instance and subents from vpc

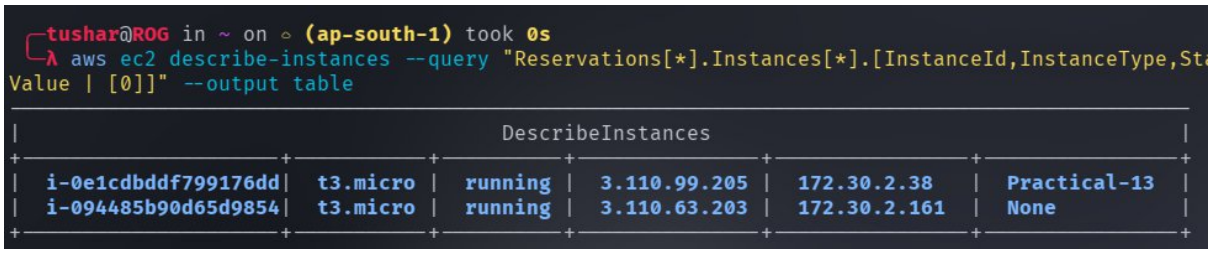
Here's the general syntax

```
aws ec2 run-instances \
    --image-id ami-xxxxxxxxxxxxxxxxx \
    --count 1 \
    --instance-type t2.micro \
    --key-name your-key-name \
    --security-group-ids sg-xxxxxxxxxxxxxxxxx \
    --subnet-id subnet-xxxxxxxxxxxxxxxxx
```

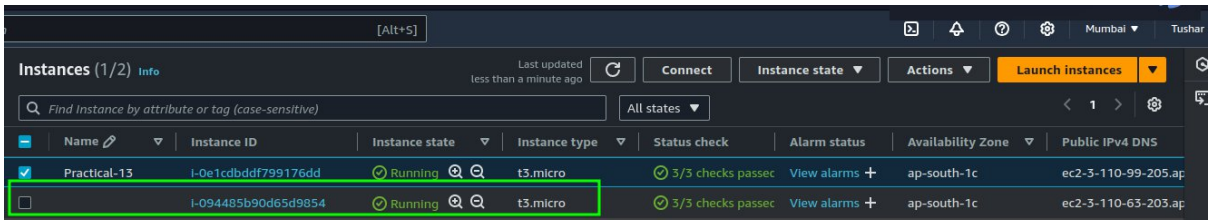


As you can see below running successfully

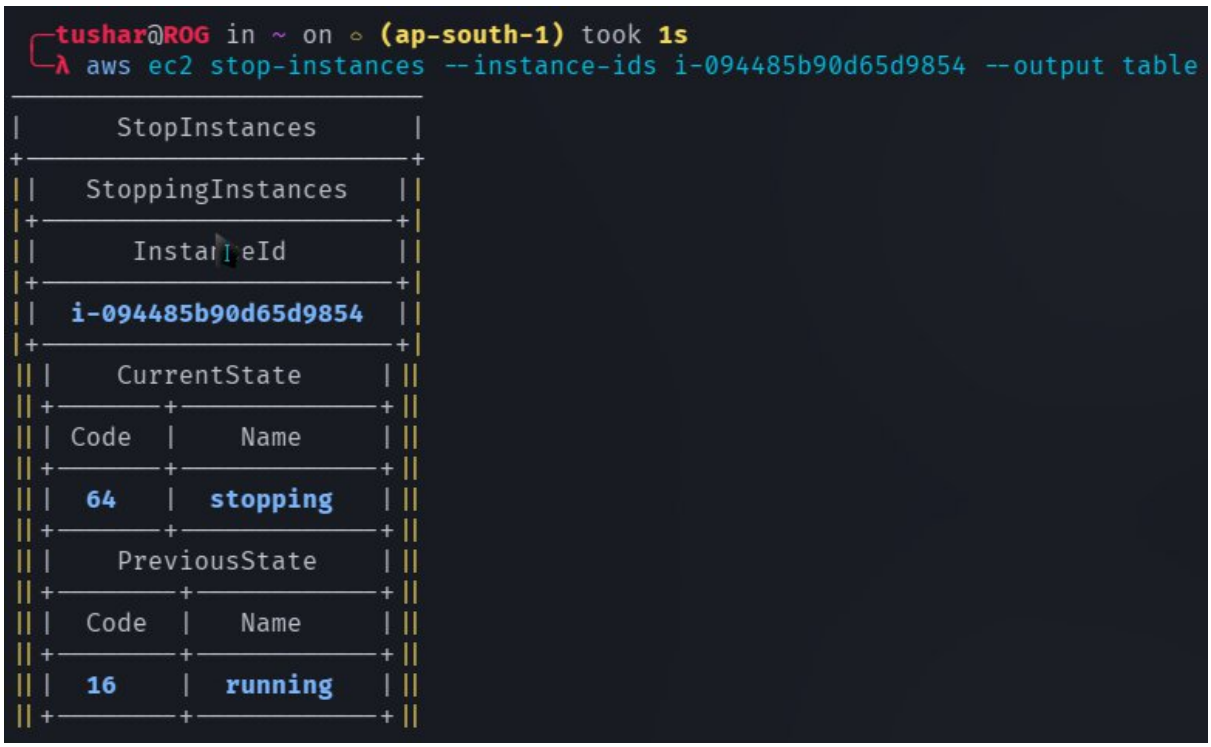
```
aws ec2 describe-instances --query
"Reservations[*].Instances[*].[InstanceId,InstanceType,Stat
e.Name,PublicIpAddress,PrivateIpAddress,Tags[?Key=='Name'].
Value | [0]]" --output table
```



Here you can see the instance is created



To stop an instance run below command



To start again that instance run below command

```
tushar@ROG in ~ on ○ (ap-south-1) took 0s
λ aws ec2 start-instances --instance-ids i-094485b90d65d9854 --output table
-------------------------------
|     StartInstances          |
+-----------------------------+
||   StartingInstances       ||
|+---------------------------+|
||      InstanceId           ||
|+---------------------------+|
||  i-094485b90d65d9854      ||
|+---------------------------+|
|||    CurrentState         |||
||+---------+---------------+||
|||  Code   |   Name        |||
||+---------+---------------+||
|||  0      |  pending      |||
||+---------+---------------+||
|||    PreviousState        |||
||+---------+---------------+||
|||  Code   |   Name        |||
||+---------+---------------+||
|||  80     |  stopped      |||
||+---------+---------------+||
```

To terminate the instance run below command

```
tushar@ROG in ~ on ○ (ap-south-1) took 0s
λ aws ec2 terminate-instances --instance-ids i-094485b90d65d9854 --output table
-------------------------------
|     TerminateInstances      |
+-----------------------------+
||   TerminatingInstances    ||
|+---------------------------+|
||        InstanceId         ||
|+---------------------------+|
||  i-094485b90d65d9854      ||
|+---------------------------+|
|||      CurrentState       |||
||+---------+---------------+||
|||  Code   |      Name     |||
||+---------+---------------+||
|||  32     |  shutting-down|||
||+---------+---------------+||
|||      PreviousState      |||
||+---------+---------------+||
|||  Code   |      Name     |||
||+---------+---------------+||
|||  16     |  running      |||
||+---------+---------------+||
```

As you can see below instance has been temrinated

```
tushar@ROG in ~ on ○ (ap-south-1) took 0s
λ aws ec2 describe-instances --query "Reservations[*].Instances[*].[InstanceId,InstanceType,State.Name,Publ
icIpAddress,PrivateIpAddress,Tags[?Key=='Name'].Value | [0]]" --output table
-------------------------------------------------------------------------------------------------------
|                                          DescribeInstances                                          |
+----------------------+-----------+-------------+---------------+---------------+-----------------+
|  i-0e1cdbddf799176dd |  t3.micro |  running    |  3.110.99.205 |  172.30.2.38  |  Practical-13   |
|  i-094485b90d65d9854 |  t3.micro |  terminated |  None         |  None         |  None           |
+----------------------+-----------+-------------+---------------+---------------+-----------------+
```

- **IAM :**

First of all let's list our iam users by running below command

```
tushar@ROG in ~ on ☁ (ap-south-1) took 0s
λ aws iam list-users --output table
-------------
|ListUsers|
+-----------+
```

To create the IAM user run below command

```
tushar@ROG in ~ on ☁ (ap-south-1) took 6s
λ aws iam create-user --user-name Tushar --output table
-------------------------------------------------------------
|                        CreateUser                         |
+-----------------------------------------------------------+
||                          User                           ||
|+--------------+--------------------------------------------+|
||  Arn         |  arn:aws:iam::009160043403:user/Tushar     ||
||  CreateDate  |  2024-11-21T06:30:12+00:00                 ||
||  Path        |  /                                         ||
||  UserId      |  AIDAQEIP3FOFWG6GVGHXJ                     ||
||  UserName    |  Tushar                                    ||
|+--------------+--------------------------------------------+|
```

As you can see below IAM user Tushar is created successfully

```
tushar@ROG in ~ on ☁ (ap-south-1) took 2s
λ aws iam list-users --output table
-------------------------------------------------------------
|                        ListUsers                          |
+-----------------------------------------------------------+
||                          Users                          ||
|+--------------+--------------------------------------------+|
||  Arn         |  arn:aws:iam::009160043403:user/Tushar     ||
||  CreateDate  |  2024-11-21T06:30:12+00:00                 ||
||  Path        |  /                                         ||
||  UserId      |  AIDAQEIP3FOFWG6GVGHXJ                     ||
||  UserName    |  Tushar                                    ||
|+--------------+--------------------------------------------+|
```

To delete IAM user run below command

```
tushar@ROG in ~ on ⬦ (ap-south-1) took 0s
λ aws iam delete-user --user-name Tushar --output table

tushar@ROG in ~ on ⬦ (ap-south-1) took 3s
λ aws iam list-users --output table
-------------
|ListUsers|
+-----------+
```

- **VPC :**

To see VPC located in aws account run below command

```
aws ec2 describe-vpcs \
    --query "Vpcs[*].[VpcId,CidrBlock,State,IsDefault,Tags[?Key=='Name'].Value | [0]]" \
    --output table
```

```
tushar@ROG in ~ on ⬦ (ap-south-1) took 2s
λ aws ec2 describe-vpcs \
            --query "Vpcs[*].[VpcId,CidrBlock,State,IsDefault,Tags[?Key=='Name'].Value | [0]]" \
            --output table

-------------------------------------------------------------------------------
|                                DescribeVpcs                                 |
+-----------------------+-----------------+-------------+---------+----------+
|  vpc-0bdfb69bd8cc491fd |  172.30.0.0/16 |  available |  False |  None       |
|  vpc-05611eb2495f86cee |  10.0.0.0/16   |  available |  False |  project-vpc |
+-----------------------+-----------------+-------------+---------+----------+
```