# Project 6: Exploring AWS Identity and Access Management (IAM)

# **Access and Configure AWS CLI**

# Step 1: Open the Lab Environment

Start your lab session as directed.

# Step 2: Run the Lab

Initiate the lab session by clicking the "Run Lab" button.

#### Step 3: Access AWS CLI

- Navigate to the AWS Details panel.
- Locate the AWS CLI section and click "Show" to reveal the CLI credentials.

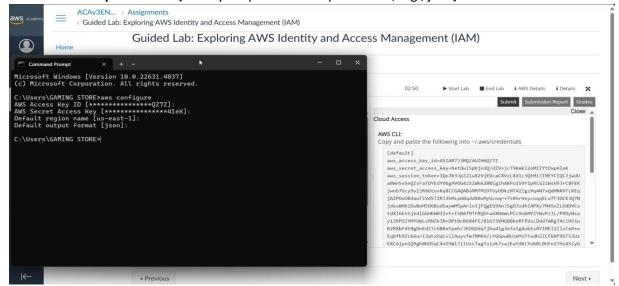
# **Step 4: Configure AWS CLI**

- Open Command Prompt (cmd) on your Windows machine.
- Enter the following command to start the configuration process:



When prompted, input the AWS credentials provided:

- AWS Access Key ID: [Enter your aws\_access\_key\_id]
- AWS Secret Access Key: [Enter your aws\_secret\_access\_key]
- **Default region name:** [Enter the desired AWS region, e.g., us-west-2]
- Default output format: [Enter your preferred output format, e.g., json]



## Task 1: Explore Users and Groups

#### 1.1: List All IAM Users

Use the following CLI command to list all IAM users:



```
Command Prompt
C:\Users\GAMING STORE>aws configure
AWS Secret Access Key [**************4IeK]:
Default region name [us-east-1]:
Default output format [json]:
C:\Users\GAMING STORE>aws iam list-users
     "Users": [
                "Path": "/spl66/",
"UserName": "user-1",
"UserId": "AIDAR7J3MQZAXDNW4NFZQ",
"Arn": "arn:aws:iam::135952893505:user/spl66/user-1",
                 "CreateDate": "2024-09-09T14:48:49+00:00"
                "Path": "/spl66/",
"UserName": "user-2",
"UserId": "AIDAR7J3MQZAWPAIP7SE5",
"Arn": "arn:aws:iam::135952893505:user/spl66/user-2",
                 "CreateDate": "2024-09-09T14:48:49+00:00"
                "Path": "/spl66/",
"UserName": "user-3",
"UserId": "AIDAR7J3MQZASTGABP76Z",
"Arn": "arn:aws:iam::135952893505:user/spl66/user-3",
                 "CreateDate": "2024-09-09T14:48:49+00:00"
          }
     ]
}
C:\Users\GAMING STORE>
```

## 1.2: List IAM Groups

Use the following CLI command to list all IAM groups:

```
aws iam list-groups
```

```
X
 Command Prompt
               "Path": "/spl66/",
"UserName": "user-3",
"UserId": "AIDAR7J3MQZASTGABP76Z",
               "Arn": "arn:aws:iam::135952893505:user/spl66/user-3",
               "CreateDate": "2024-09-09T14:48:49+00:00"
    ]
C:\Users\GAMING STORE>aws iam list-groups
     "Groups": [
               "Path": "/spl66/",
"GroupName": "EC2-Admin",
"GroupId": "AGPAR7J3MQZARL24LYGXX",
               "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Admin",
               "CreateDate": "2024-09-09T14:48:49+00:00"
               "Path": "/spl66/",
"GroupName": "EC2-Support",
"GroupId": "AGPAR7J3MQZAR43ULYE73",
               "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Support",
               "CreateDate": "2024-09-09T14:48:49+00:00"
               "Path": "/spl66/",
"GroupName": "S3-Support",
"GroupId": "AGPAR7J3MQZA2PEGUEPMZ",
               "Arn": "arn:aws:iam::135952893505:group/spl66/S3-Support",
               "CreateDate": "2024-09-09T14:48:49+00:00"
          }
    1
}
C:\Users\GAMING STORE>
```

## 1.3: Inspect User Details

• Replace [username] with the actual username to inspect details of a specific IAM user:

```
bash

C Copy code

aws iam get-user --user-name <user_name>
```

```
X
 Command Prompt
         3
    ]
C:\Users\GAMING STORE>aws iam get-user --user-name user-1
     "User": {
         "Path": "/spl66/",
         "UserName": "user-1",
         "UserId": "AIDAR7J3MQZAXDNW4NFZQ",
"Arn": "arn:aws:iam::135952893505:user/spl66/user-1",
          "CreateDate": "2024-09-09T14:48:49+00:00",
          "Tags": [
              {
                   "Key": "cloudlab",
                   "Value": "c132429a3358548l7486179t1w135952893505"
         ]
    }
}
C:\Users\GAMING STORE>aws iam get-user --user-name user 2
     "User": {
         "Path": "/spl66/",
"UserName": "user-2",
"UserId": "AIDAR7J3MQZAWPAIP7SE5",
"Arn": "arn:aws:iam::135952893505:user/spl66/user-2",
         "CreateDate": "2024-09-09T14:48:49+00:00",
          "Tags": [
                   "Key": "cloudlab",
                   "Value": "c132429a3358548l7486179t1w135952893505"
         ]
    }
}
```

## 1.4: Inspect Group Details

 Replace [groupname] with the actual group name to inspect details of a specific IAM group:

```
bash

O Copy code

aws iam get-group --group-name <group_name>
```

```
×
  Command Prompt
                        ×
C:\Users\GAMING STORE>aws iam get-group --group-name S3-Support
    "Users": [],
    "Group": {
         "Path": "/spl66/",
        "GroupName": "S3-Support",
"GroupId": "AGPAR7J3MQZA2PEGUEPMZ",
        "Arn": "arn:aws:iam::135952893505:group/spl66/S3-Support",
        "CreateDate": "2024-09-09T14:48:49+00:00"
}
C:\Users\GAMING STORE>aws iam get-group --group-name EC2-Support
    "Users": [],
    "Group": {
         "Path": "/spl66/",
        "GroupName": "EC2-Support",
"GroupId": "AGPAR7J3MQZAR43ULYE73",
        "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Support",
        "CreateDate": "2024-09-09T14:48:49+00:00"
}
C:\Users\GAMING STORE>aws iam get-group --group-name EC2-Admin
    "Users": [],
    "Group": {
        "Path": "/spl66/",
"GroupName": "EC2-Admin"
        "GroupId": "AGPAR7J3MQZARL24LYGXX",
         "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Admin",
         "CreateDate": "2024-09-09T14:48:49+00:00"
    3
```

#### **Task 2: Inspect IAM Policies**

# 2.1: List Policies Attached to a Group

• To list the policies attached to a specific IAM group, use the following CLI command:

```
aws iam list-attached-group-policies --group-name <Group-Name>
```

#### 2.2: Retrieve the Policy Document

- Once you have the Policy ARN from the previous command, retrieve the policy document using:
- This command will show the policy document in JSON format, which includes statements like "Effect", "Action", and "Resource".



```
Command Prompt
C:\Users\GAMING STORE>aws iam get-policy --policy-arn arn:aws:iam::aws:policy/AmazonS3ReadOnlyAccess
     "Policy": {
          "PolicyName": "AmazonS3ReadOnlyAccess",
"PolicyId": "ANPAIZTJ4DXE7G6AGAE6M",
          "Arn": "arn:aws:iam::aws:policy/AmazonS3ReadOnlyAccess",
"Path": "/",
          "DefaultVersionId": "v3",
          "AttachmentCount": 1,
"PermissionsBoundaryUsageCount": 0,
          "IsAttachable": true,
"Description": "Provides read only access to all buckets via the AWS Management Console.",
"CreateDate": "2015-02-06T18:40:59+00:00",
"UpdateDate": "2023-08-10T21:31:39+00:00",
          "Tags": []
C:\Users\GAMING STORE>aws iam get-policy --policy-arn arn:aws:iam::aws:policy/AmazonEC2ReadOnlyAccess
     "Policy": {
    "PolicyName": "AmazonEC2ReadOnlyAccess",
           "PolicyId": "ANPAIGDT4SV4GSETWTBZK",
          "Arn": "arn:aws:iam::aws:policy/AmazonEC2ReadOnlyAccess",
"Path": "/",
          "DefaultVersionId": "v1",
           "AttachmentCount": 1
          "PermissionsBoundaryUsageCount": 0,
          "IsAttachable": true,
"Description": "Provides read only access to Amazon EC2 via the AWS Management Console.",
"CreateDate": "2015-02-06T18:40:17+00:00",
"UpdateDate": "2024-02-14T18:43:53+00:00",
          "Tags": []
C:\Users\GAMING STORE>
```

#### Task 3: Add Users to Groups

- 3.1: Add User-1 to S3-Support Group
- 3.2: Add User-2 to EC2-Support Group
- 3.3: Add User-3 to EC2-Admin Group

```
C:\Users\GAMING STORE>aws iam add-user-to-group --user-name User-1 --group-name S3-Support

C:\Users\GAMING STORE>aws iam add-user-to-group --user-name User-2 --group-name EC2-Support

C:\Users\GAMING STORE>aws iam add-user-to-group --user-name User-3 --group-name EC2-Admin

C:\Users\GAMING STORE>
```

## 3.4: Verify Users in Groups

• To verify users in each group, list the users in each group using:

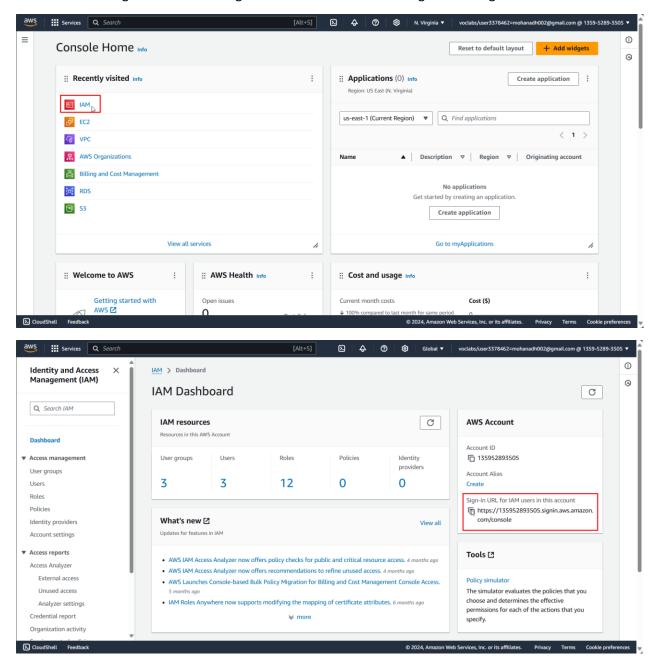
```
Command Prompt
C:\Users\GAMING STORE>aws iam get-group --group-name EC2-Support
       "Users": [
                       "Path": "/spl66/",
"UserName": "user-2",
"UserId": "AIDAR7J3MQZAWPAIP7SE5",
                       "Arn": "arn:aws:iam::135952893505:user/spl66/user-2",
"CreateDate": "2024-09-09T14:48:49+00:00"
     ],
"Group": {
    "Path": "/spl66/",
    "GroupName": "EC2-Support",
    "GroupId": "AGPAR7J3MQZAR43ULYE73",
    "Arn": "arn:aws:iam::135952893505:g:
    "    "2024-09-09T14:48:49+
               "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Support",
"CreateDate": "2024-09-09T14:48:49+00:00"
}
C:\Users\GAMING STORE>aws iam get-group --group-name EC2-Admin
       "Users": [
                       "Path": "/spl66/",
"UserName": "user-3",
"UserId": "AIDAR7J3MQZASTGABP76Z",
                       "Arn": "arn:aws:iam::135952893505:user/spl66/user-3",
"CreateDate": "2024-09-09T14:48:49+00:00"
     ],
"Group": {
    "Path": "/spl66/",
    "GroupName": "EC2-Admin",
    "GroupId": "AGPAR7J3MQZARL24LYGXX",
    "Arn": "arn:aws:iam::135952893505:group/spl66/EC2-Admin",
    "CreateDate": "2024-09-09T14:48:49+00:00"
```

#### **Task 4: Test Permissions**

To verify the access of each user, you need to simulate their login using the AWS Management Console. Since testing involves logging in via the browser, here's how to proceed for each user:

# Task 4.1: Get the console sign-in URL

o Sign in to AWS Management Console as User-1 using the IAM sign-in URL.

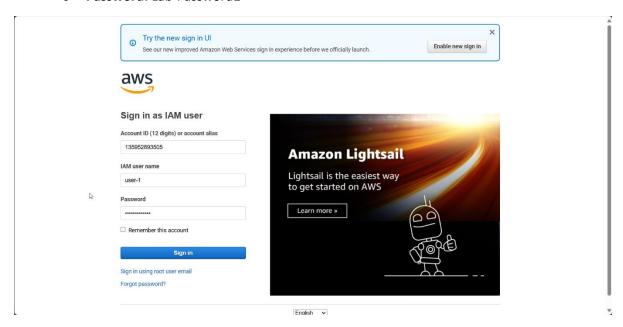


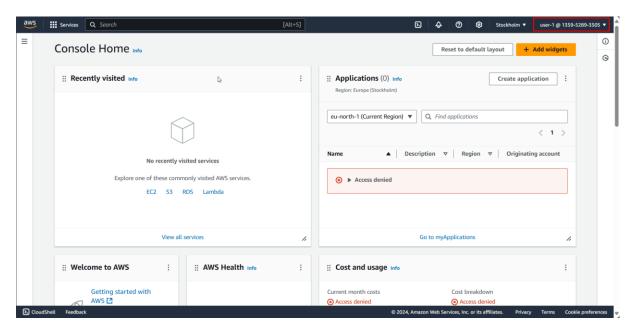
# Task 4.2: Test user-1 permissions (S3 Read-only Access)

- 1. Open a private or incognito window in your browser.
- 2. Paste the sign-in link into the private browser, and press ENTER.
- 3. Sign in with the following credentials:

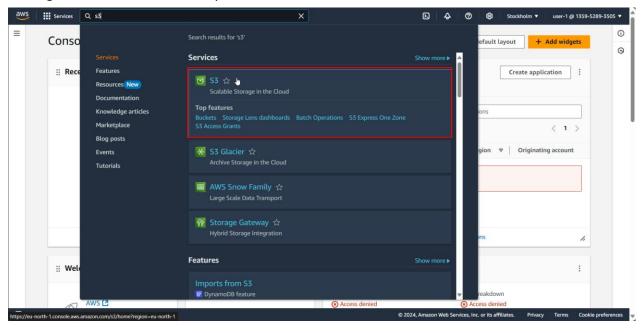
o IAM user name: user-1

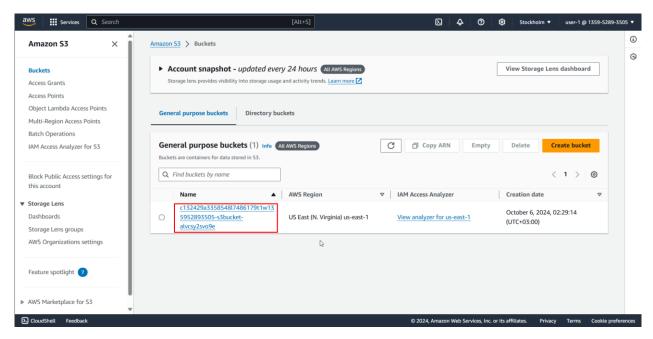
Password: Lab-Password1

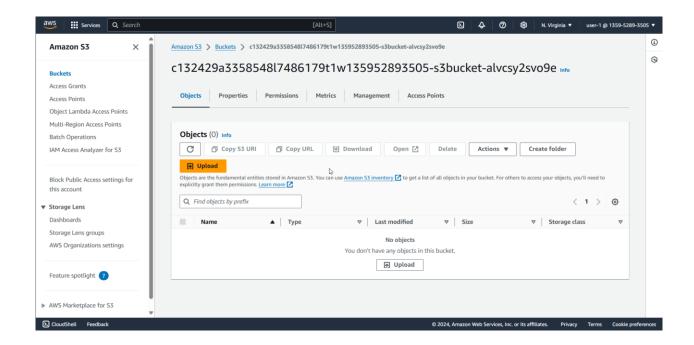




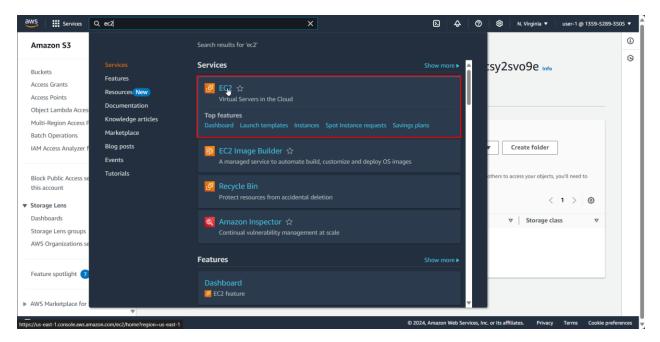
4. Navigate to the **S3 service** and try to list buckets.

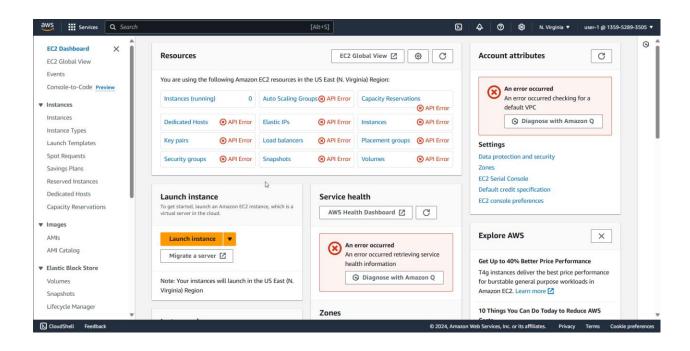


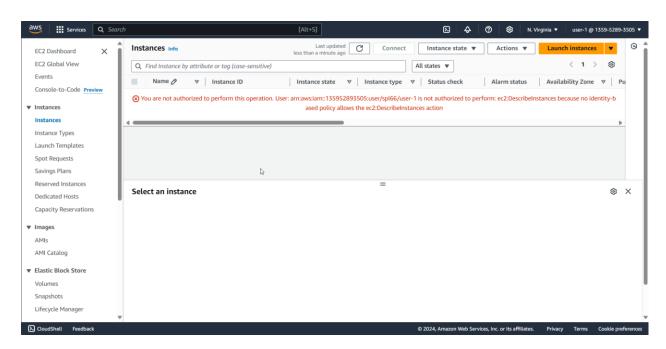




5.Try to perform any write operations (like read ec2 instance), which should fail due to user-1 has AmazonS3ReadOnlyAccess policy

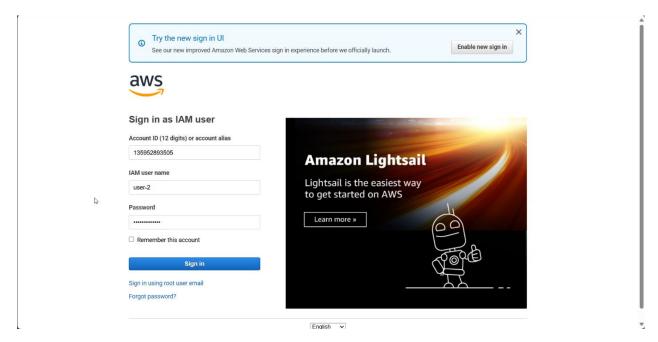




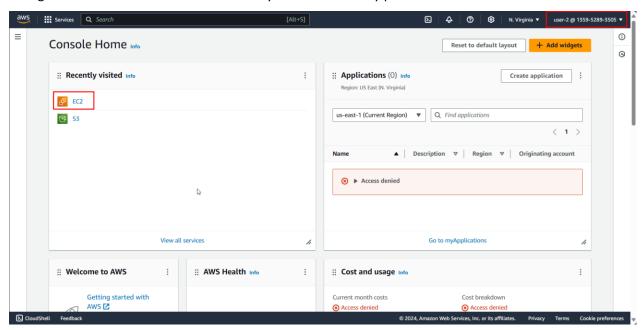


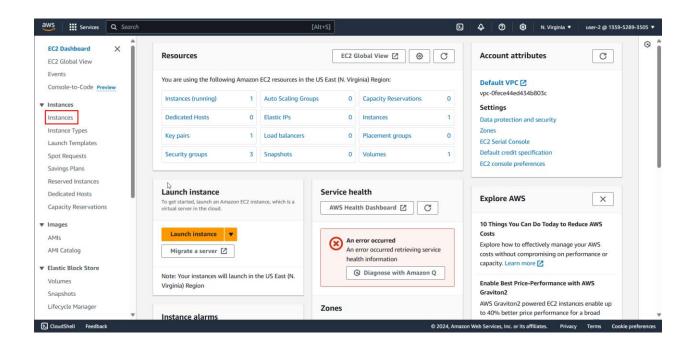
# Task 4.3: Test user-2 permissions (EC2 Read-only Access)

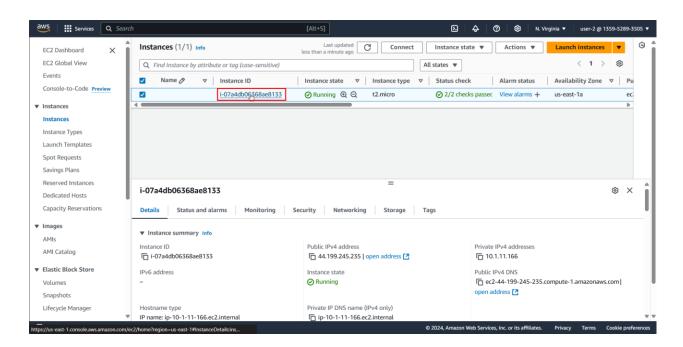
- 1. Sign in with the following credentials:
  - o IAM user name: user-2
  - Password: Lab-Password2

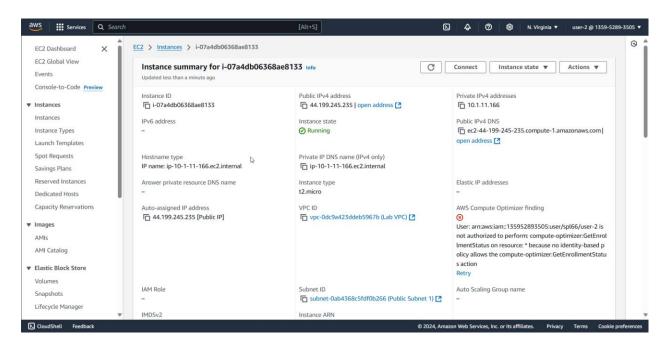


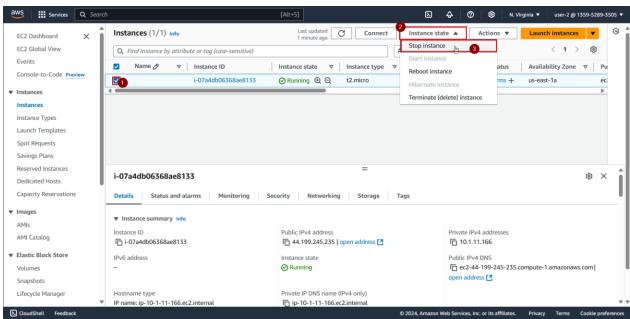
2. .Navigate to the **EC2 service.** You are now able to see an EC2 instance. However, you cannot make any changes to Amazon EC2 resources because you have read-only permissions

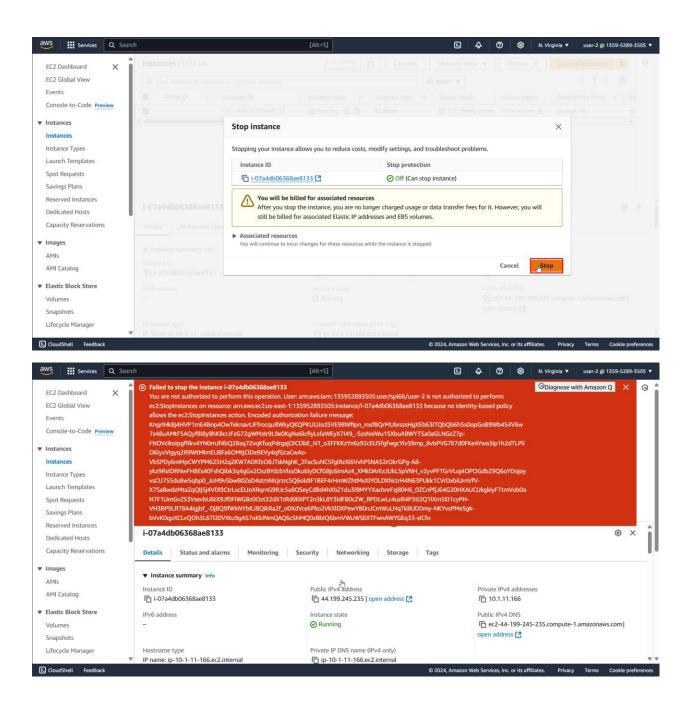






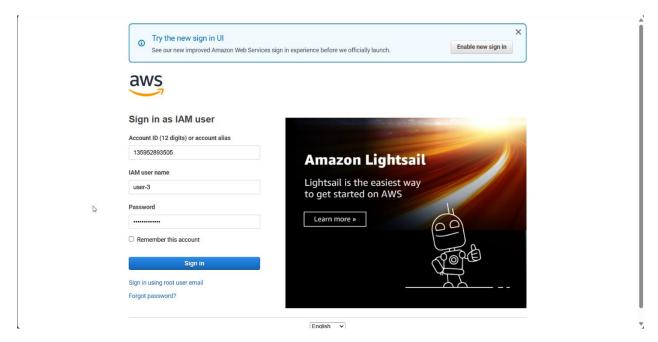




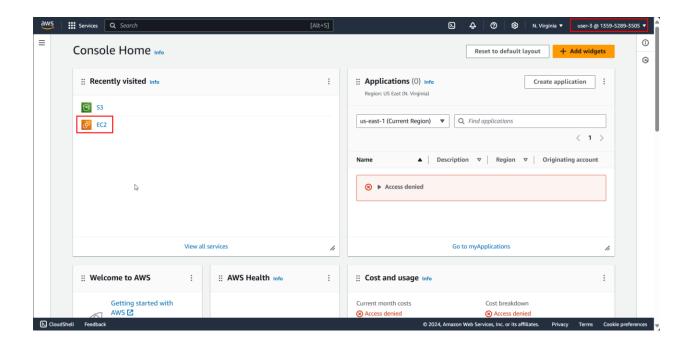


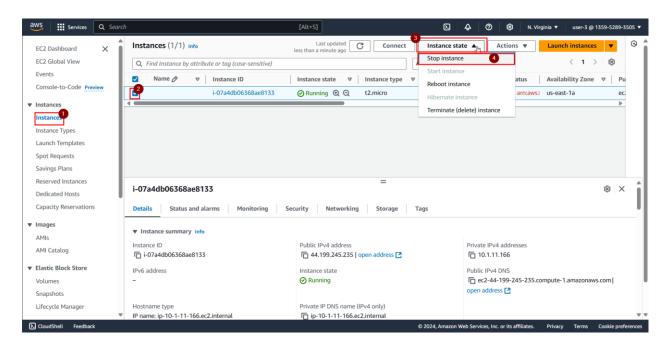
# Task 4.4: Test user-3 permissions (EC2 Admin Access)

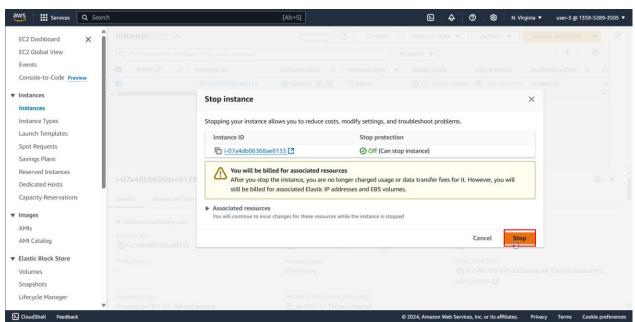
- 1. Sign in with the following credentials:
  - o **IAM user name:** user-3
  - Password: Lab-Password3

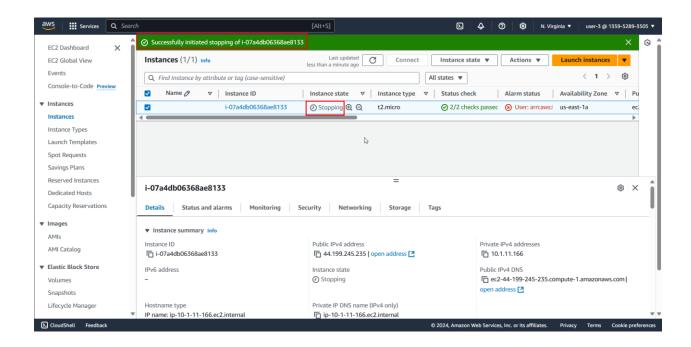


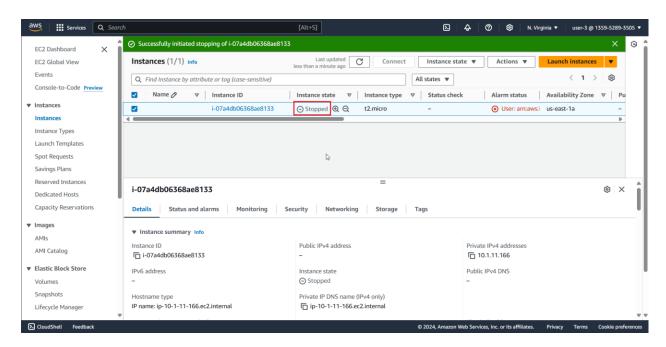
2. Navigate to the **EC2 service**. An EC2 instance is listed. As an Amazon EC2 Administrator, this user should have permissions to *Stop* the EC2 instance.

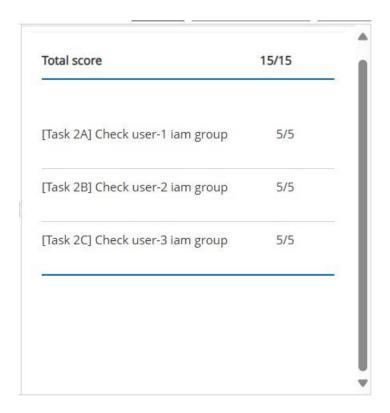












Guided Lab: Exploring AWS Identity and Access Management (IAM) Lab Assignments

Sep 9 at 6:44pm 56 / 56