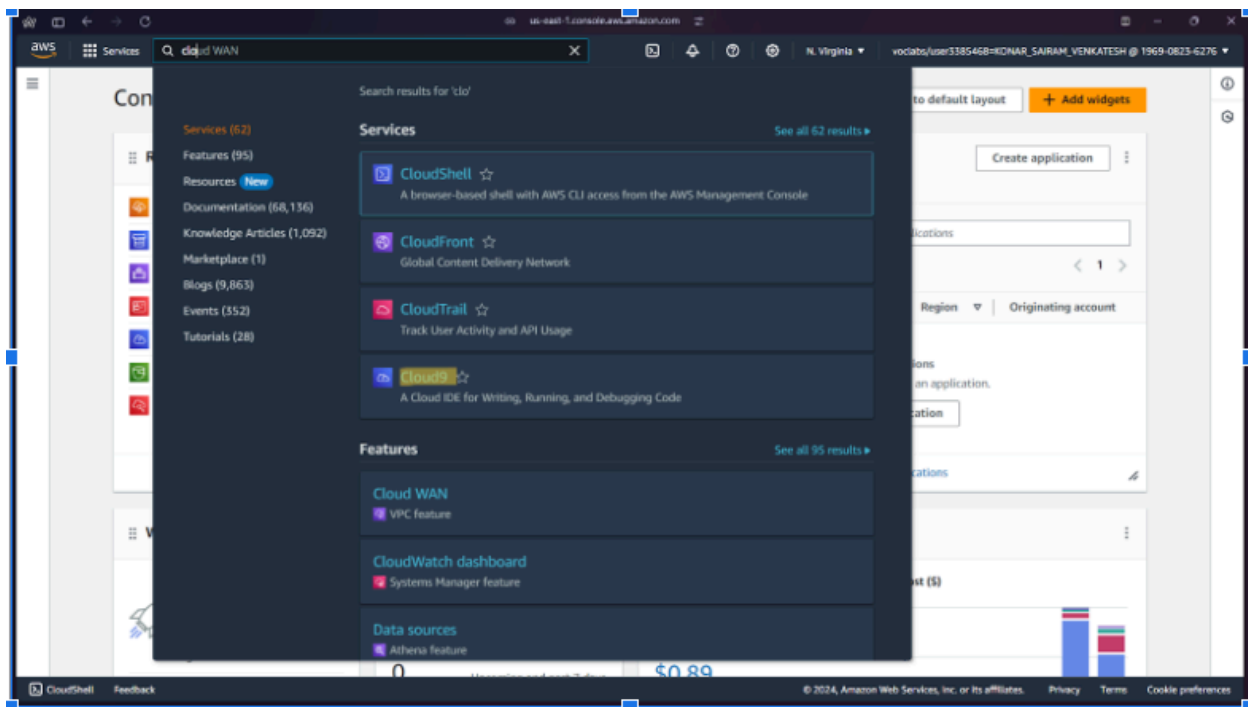


Aim: To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE, Launch AWS Cloud9 IDE and Perform Collaboration Demonstration.

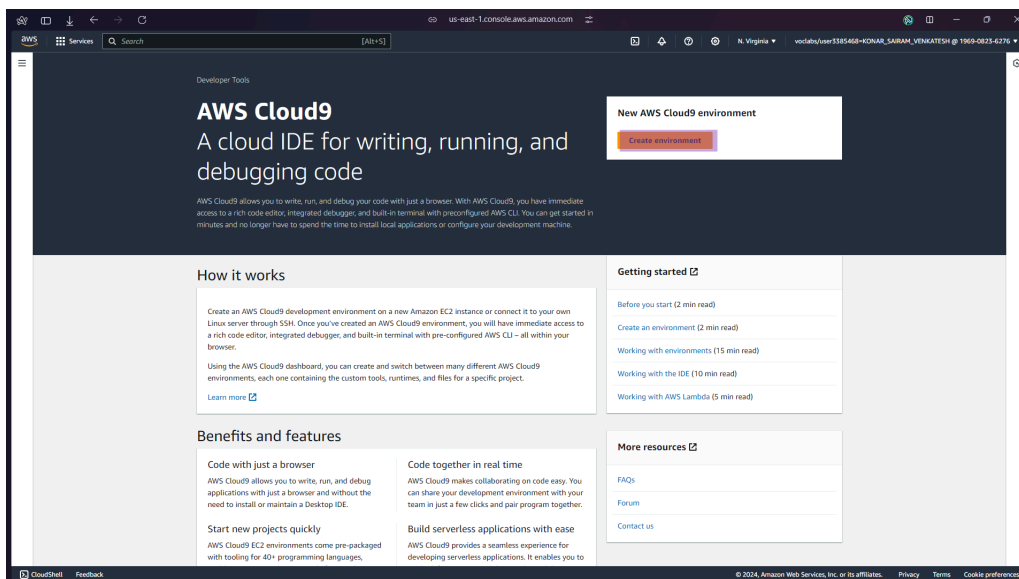
Steps:

Step 1: Set up Cloud9 environment.

1) Search Cloud9 in the services tab and open it



2) Click on Create Environment



3) Give a name to your Cloud9 Environment. You can add a description if needed.

The screenshot shows the 'Create environment' page in the AWS Cloud9 console. The 'Name' field is filled with 'CloudEnv27'. The 'Description - optional' field is empty. Under 'Environment type', the 'New EC2 instance' radio button is selected. Below this, the 'New EC2 instance' section is partially visible, showing the 'Instance type' dropdown set to 't2.micro'.

Create environment [Info](#)

Details

Name
CloudEnv27
Limit of 60 characters, alphanumeric, and unique per user.

Description - optional
Limit 200 characters.

Environment type [Info](#)
Determines what the Cloud9 IDE will run on.

☒ **New EC2 instance**
Cloud9 creates an EC2 instance in your account. The configuration of your EC2 instance cannot be changed by Cloud9 after creation.

☐ **Existing compute**
You have an existing instance or server that you'd like to use.

New EC2 instance

Instance type [Info](#)
The memory and CPU of the EC2 instance that will be created for Cloud9 to run on.

t2.micro

4) Select the option new EC2 instance if you do not have one ready for the environment.
Give the specifications of that EC2 instance ahead.

This screenshot shows the 'New EC2 instance' configuration section of the AWS Cloud9 console. The 'Instance type' is set to 't2.micro (1 GiB RAM + 1 vCPU)'. The 'Platform' is set to 'Amazon Linux 2023'. The 'Timeout' is set to '30 minutes'. The 'Additional instance types' section is also visible.

New EC2 instance

Instance type [Info](#)
The memory and CPU of the EC2 instance that will be created for Cloud9 to run on.

☒ **t2.micro (1 GiB RAM + 1 vCPU)**
Free-tier eligible. Ideal for educational users and exploration.

☐ **t3.small (2 GiB RAM + 2 vCPU)**
Recommended for small web projects.

☐ **m5.large (8 GiB RAM + 2 vCPU)**
Recommended for production and most general-purpose development.

☐ **Additional instance types**
Explore additional instances to fit your need.

Platform [Info](#)
This will be installed on your EC2 instance. We recommend Amazon Linux 2023.

Amazon Linux 2023

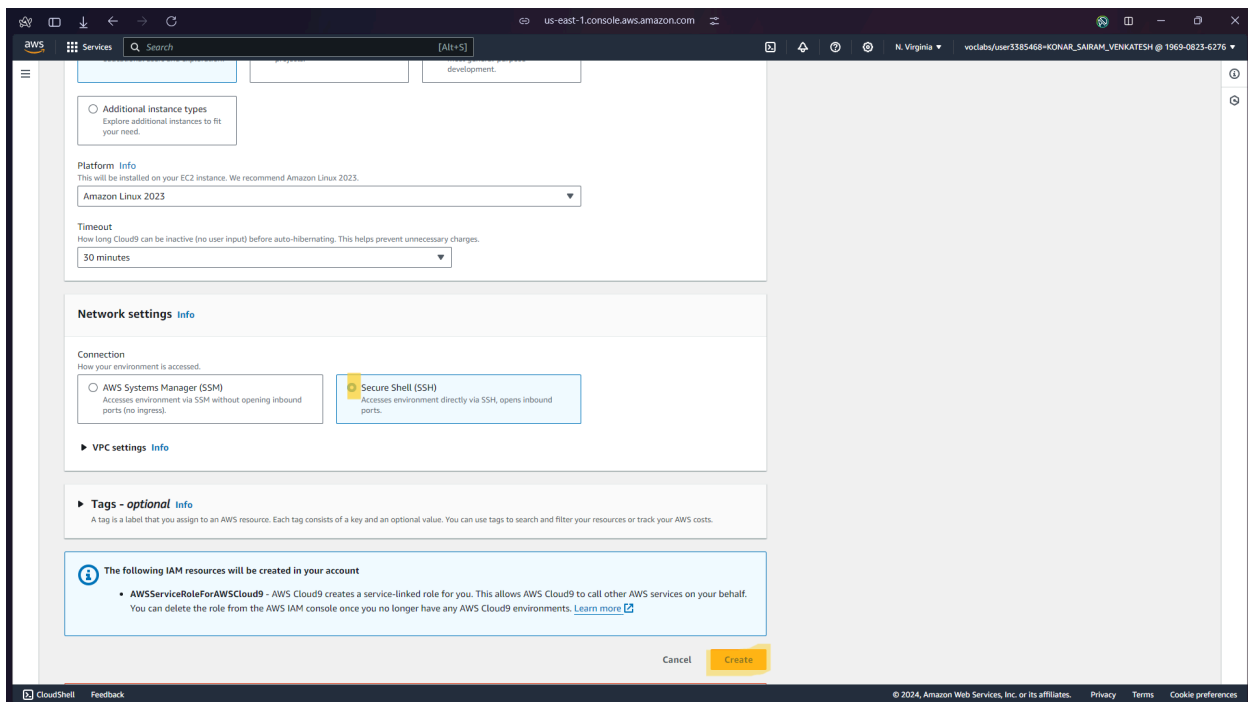
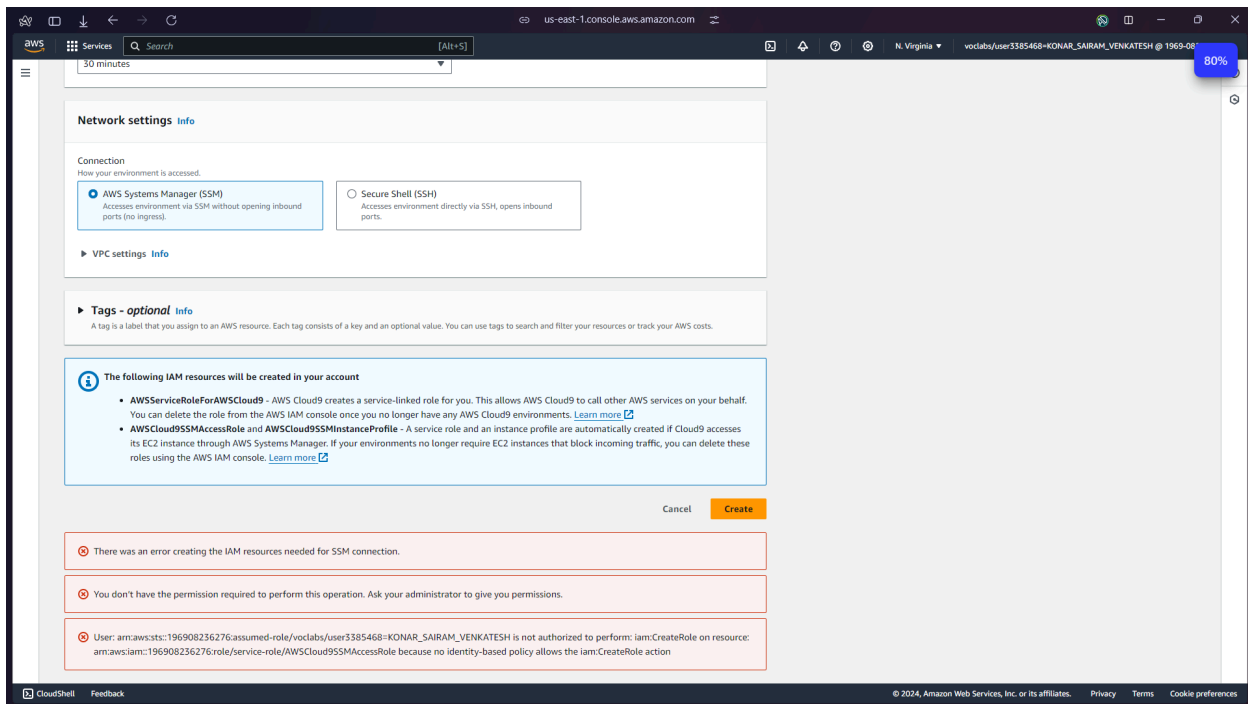
Timeout
How long Cloud9 can be inactive (no user input) before auto-hibernating. This helps prevent unnecessary charges.

30 minutes

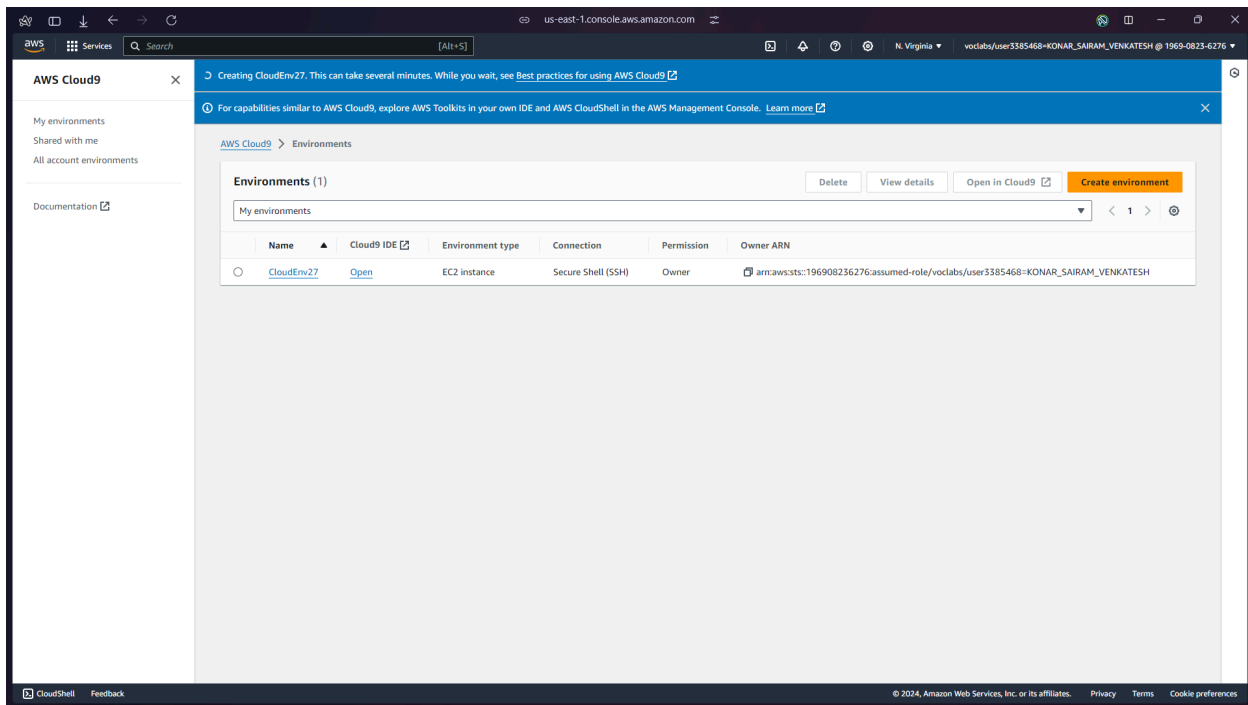
Network settings [Info](#)

Connection
How your environment is accessed.

- 5) On the AWS Academy account, if we select AWS System Manager (SSM) in Network settings, it gives an error as the account does not have permissions to use the setting. So we select Secure Shell (SSH). After that click on Create.

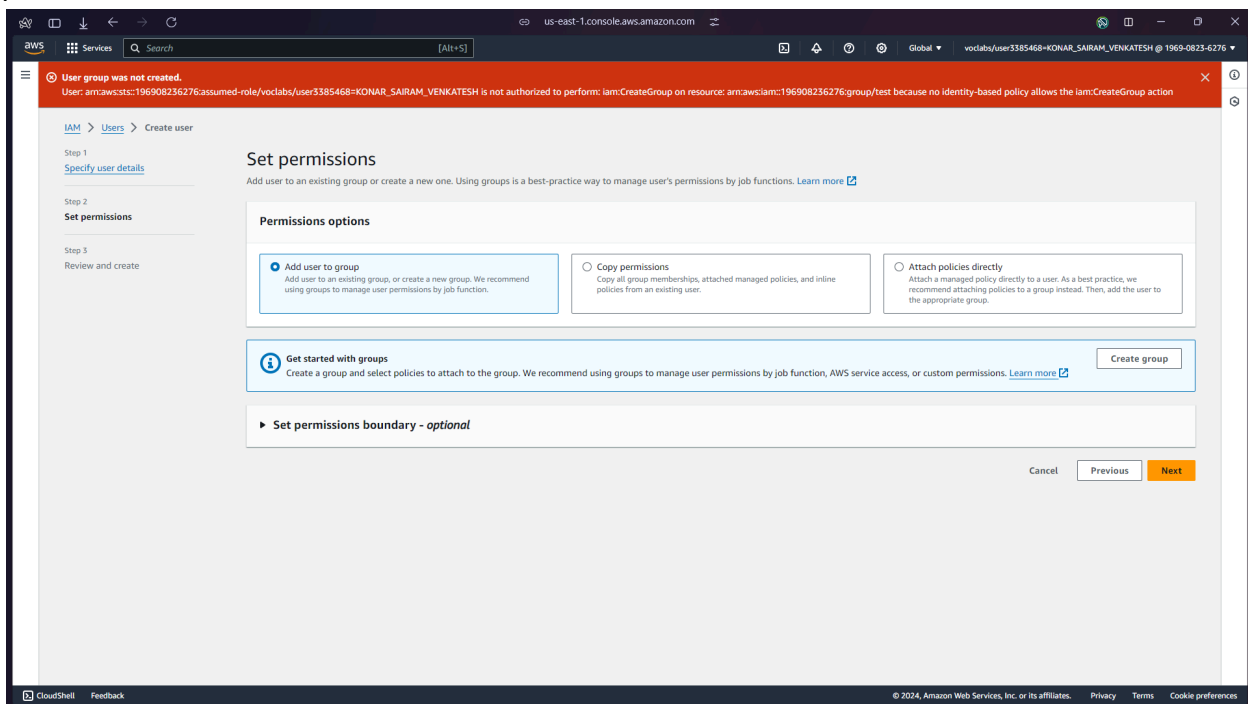


6) The environment is being created.

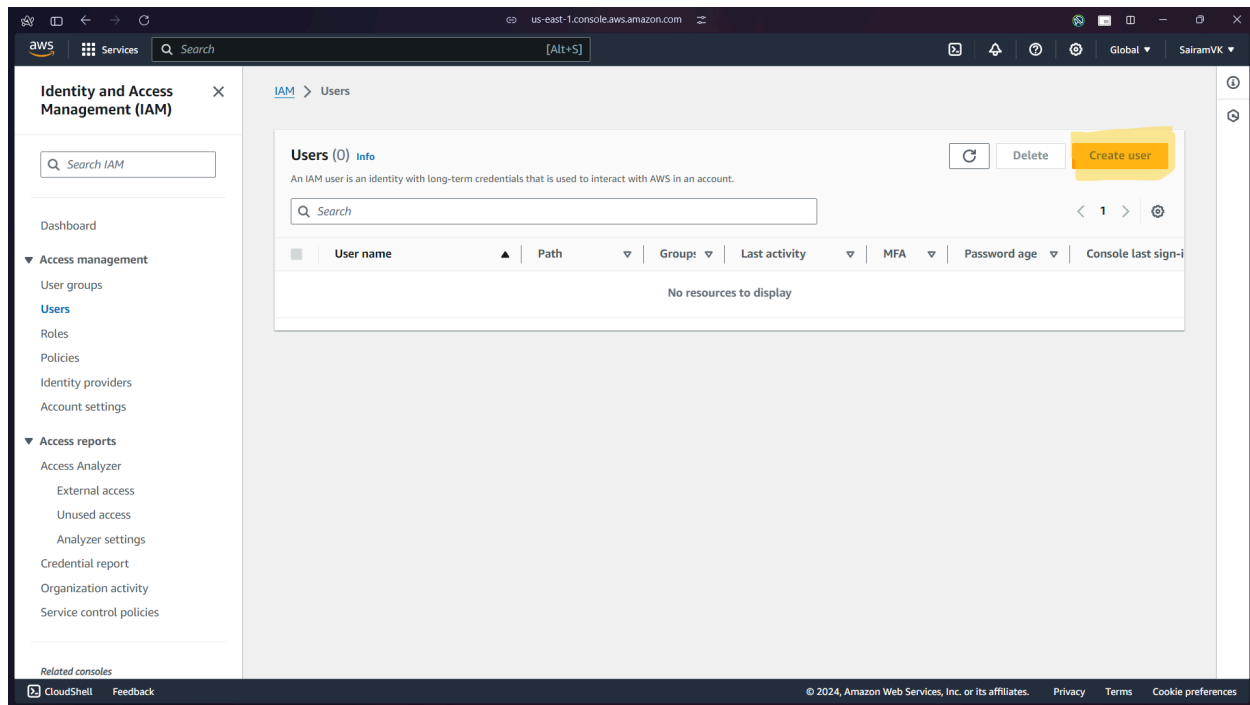


Step 2: Creating IAM user.

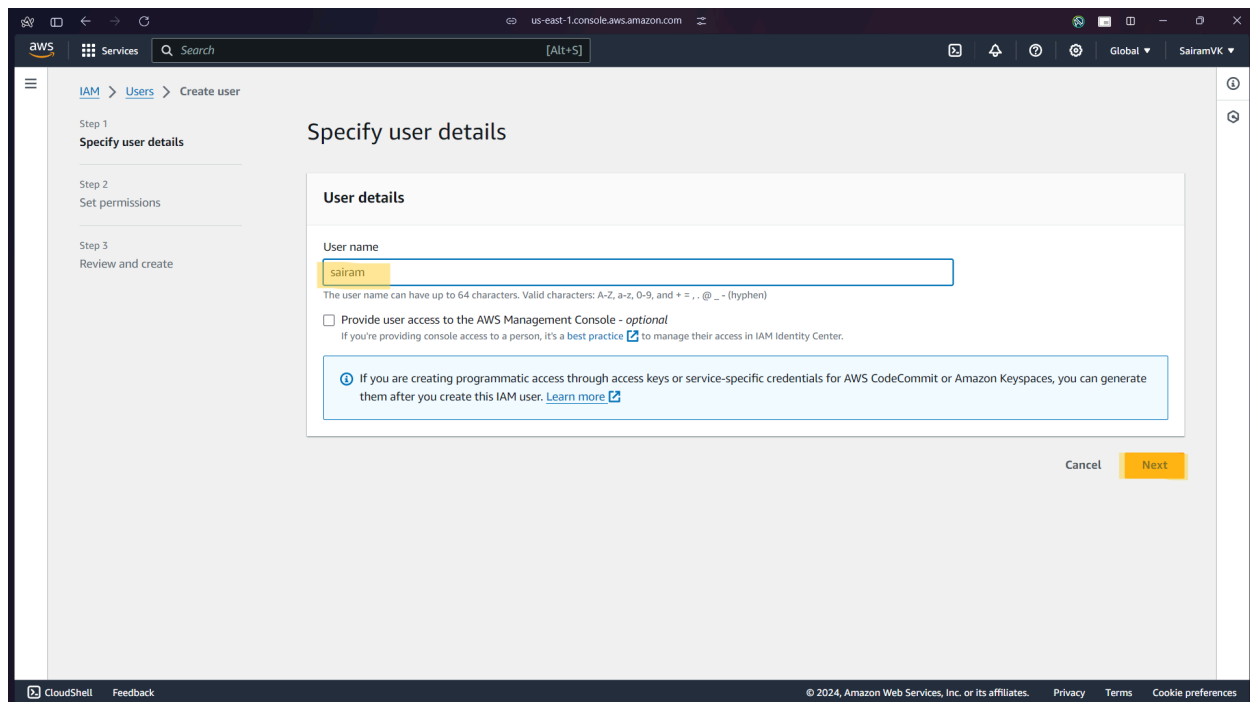
When we go to add user to a group, the AWS Academy account throws an error as we do not have the permissions to create a group. So we have to use our personal AWS account for this part.



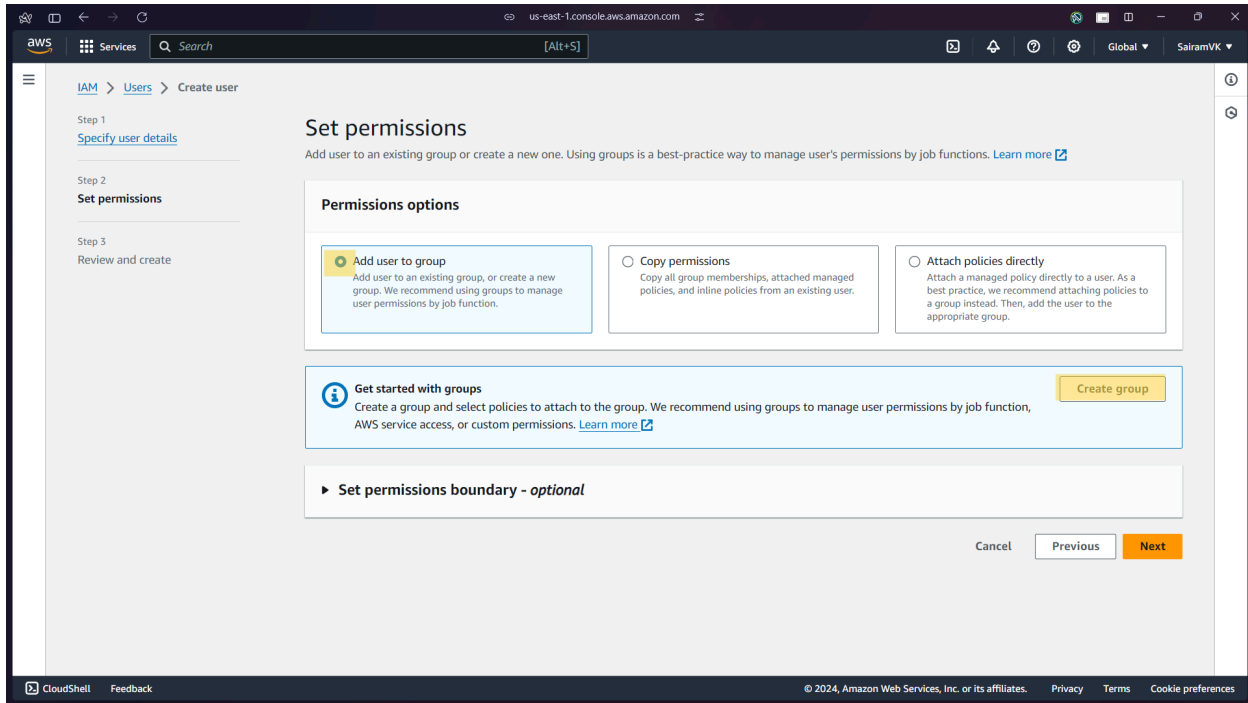
1) Search IAM on the services search bar and open it. Click on Create User.



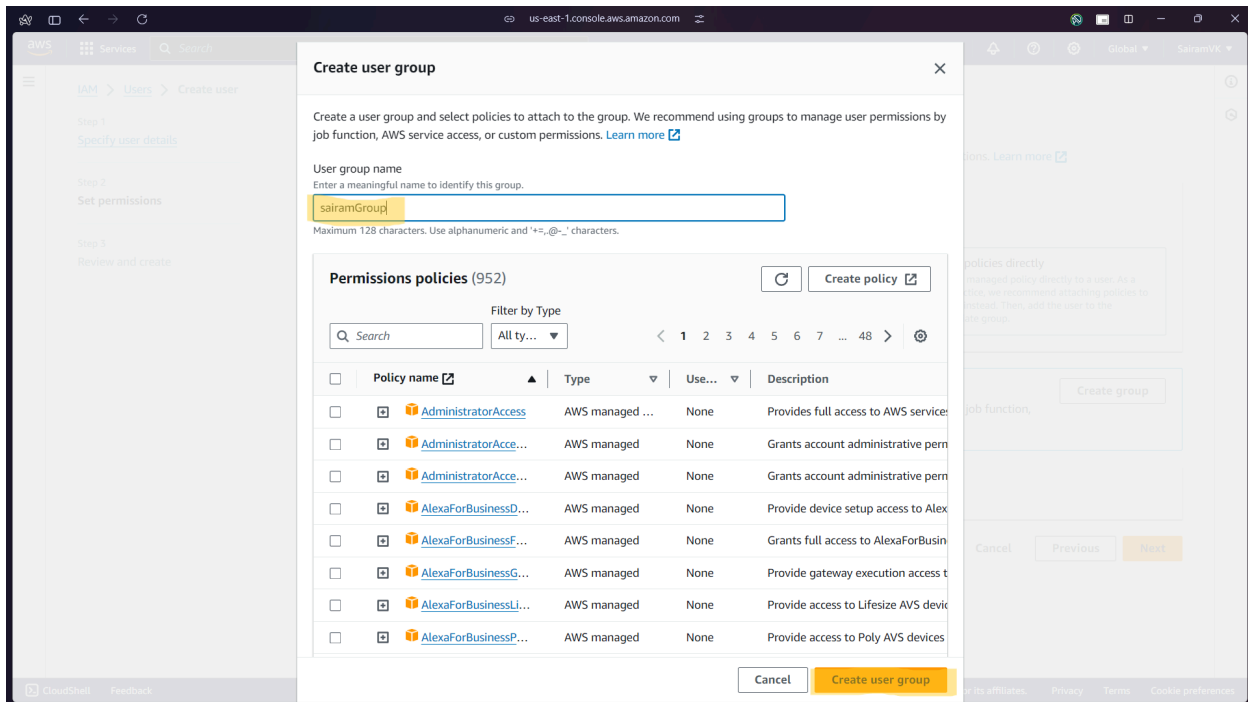
2) Give a username to your user and click Next.



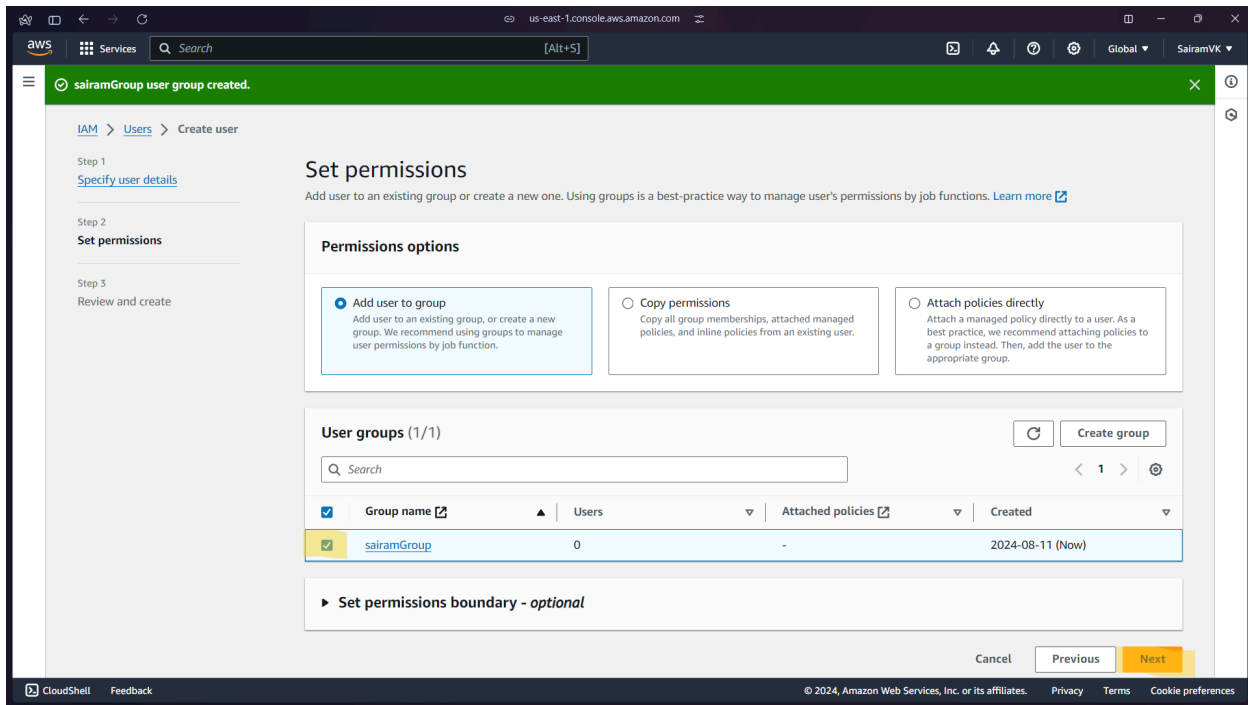
- 3) Select add User to Group. If there are no user groups on your accounts, you will have to create one. Click on Create Group.



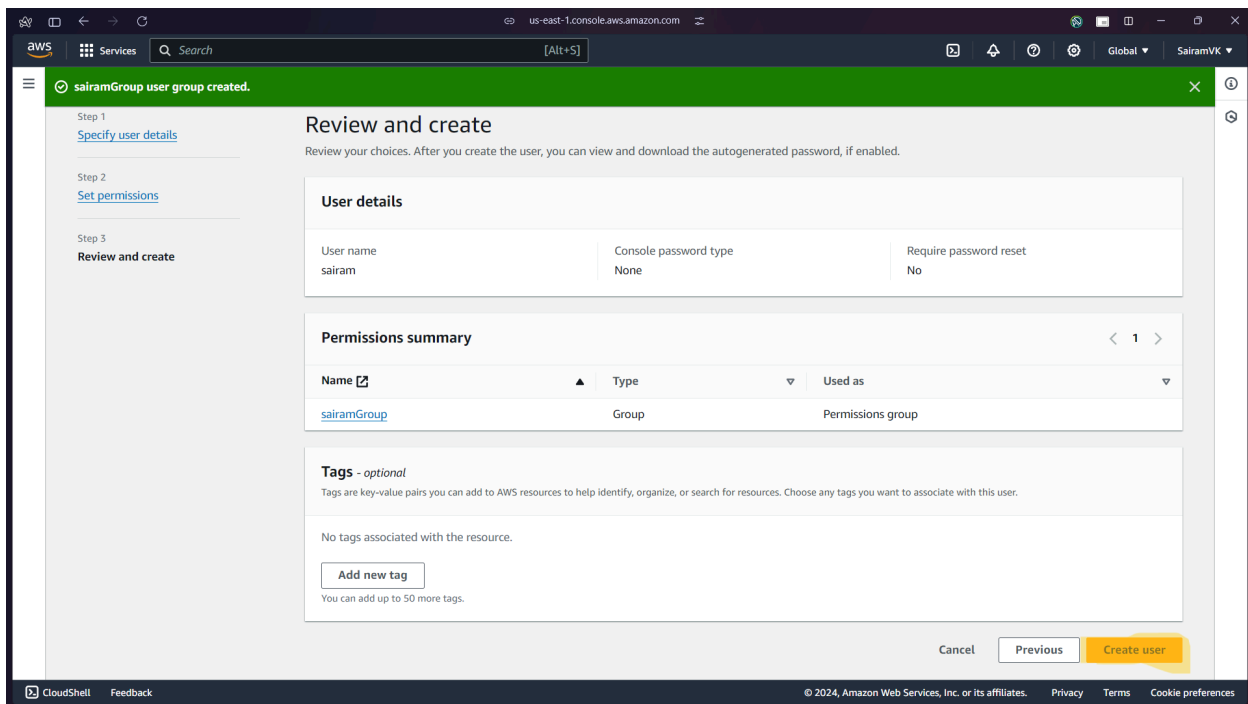
- 4) Give a name to your user group. Then click on Create User Group.



- 5) The group is created and shown under the groups area, select the group by clicking on the checkbox. Then click Next.



- 6) Review all the Information, then click on Create user.



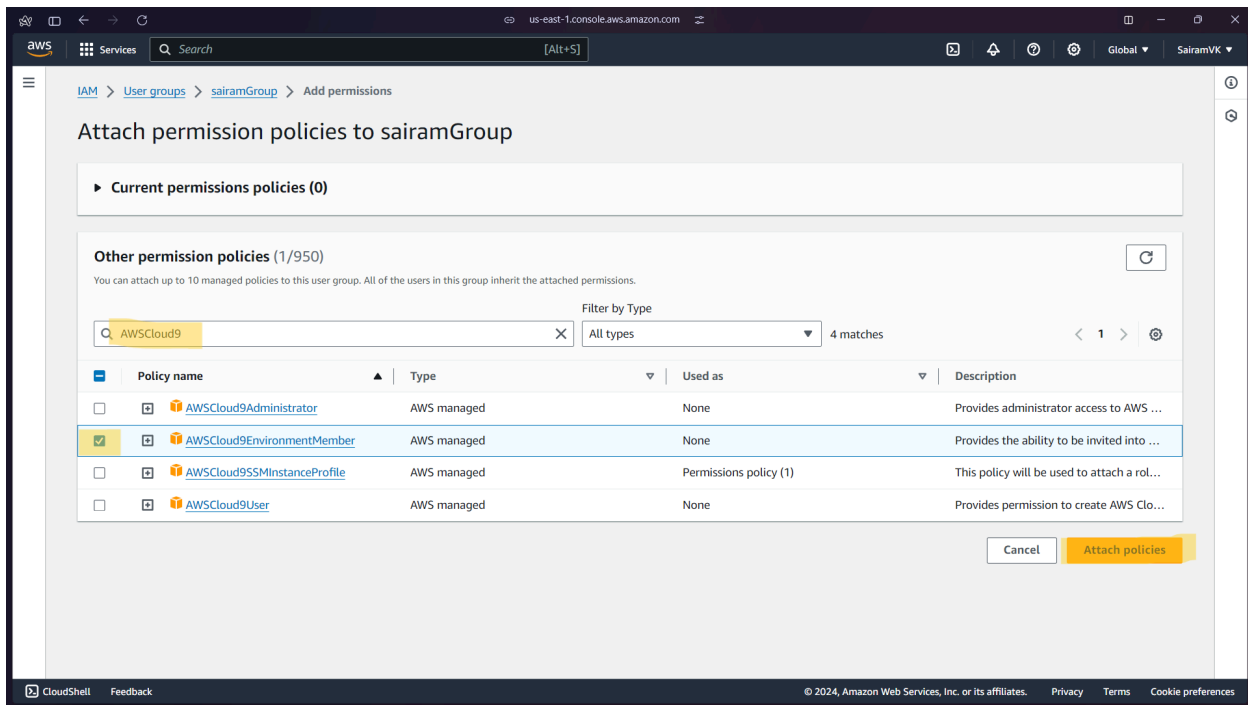
7) Open User Groups tab from the left side option. Click on the name of your group.

The screenshot shows the AWS IAM console interface. On the left, the 'Identity and Access Management (IAM)' sidebar is visible, with 'Access management' expanded and 'User groups' selected. The main content area displays the 'User groups (1)' page. At the top, there are buttons for 'Create group', 'Delete', and 'Refresh'. Below this is a search bar and a table listing the user groups. The table has columns for 'Group name', 'Users', 'Permissions', and 'Creation time'. One group, 'sairamGroup', is listed with 1 user and 'Not defined' permissions. A 'Create group' button is prominently displayed in orange.

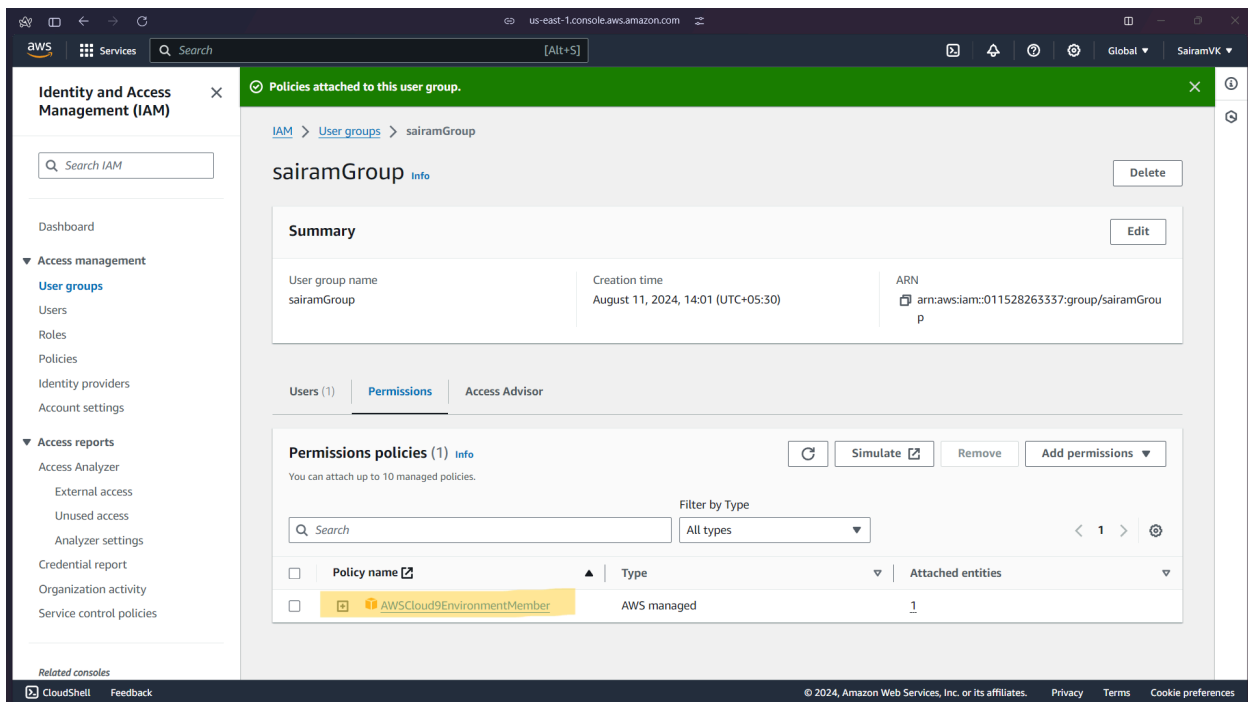
8) Go to permissions and click on Add permissions. Click on Attach Policies.

The screenshot shows the AWS IAM console interface for the 'sairamGroup' user group. The left sidebar is the same as in the previous screenshot. The main content area displays the 'Permissions policies (0)' page. At the top, there are buttons for 'Add permissions', 'Simulate', and 'Remove'. Below this is a search bar and a table listing the permissions policies. The table has columns for 'Policy name', 'Type', and 'Attached entities'. A 'No resources to display' message is shown. The 'Add permissions' button is highlighted, and a dropdown menu is open showing 'Attach policies' and 'Create inline policy' options.

9) Search for AWSCloud9EnvironmentMember, select it and click on Attach policies

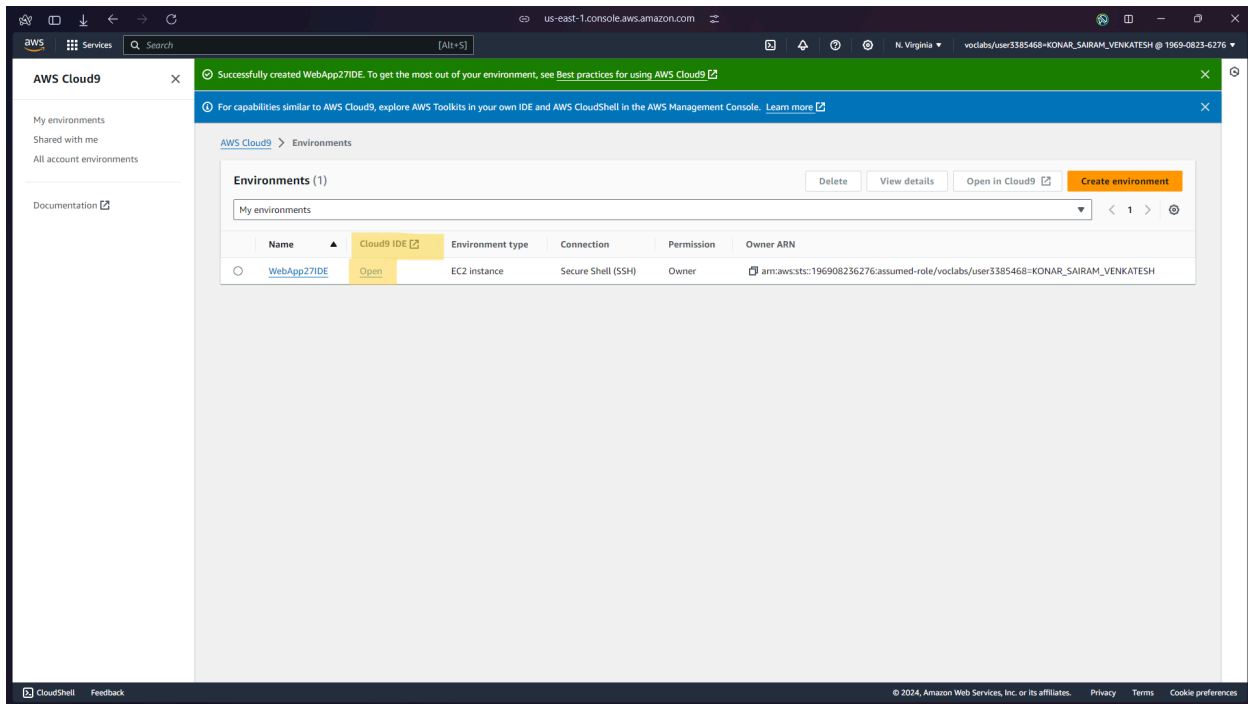


10) The policies have been attached.

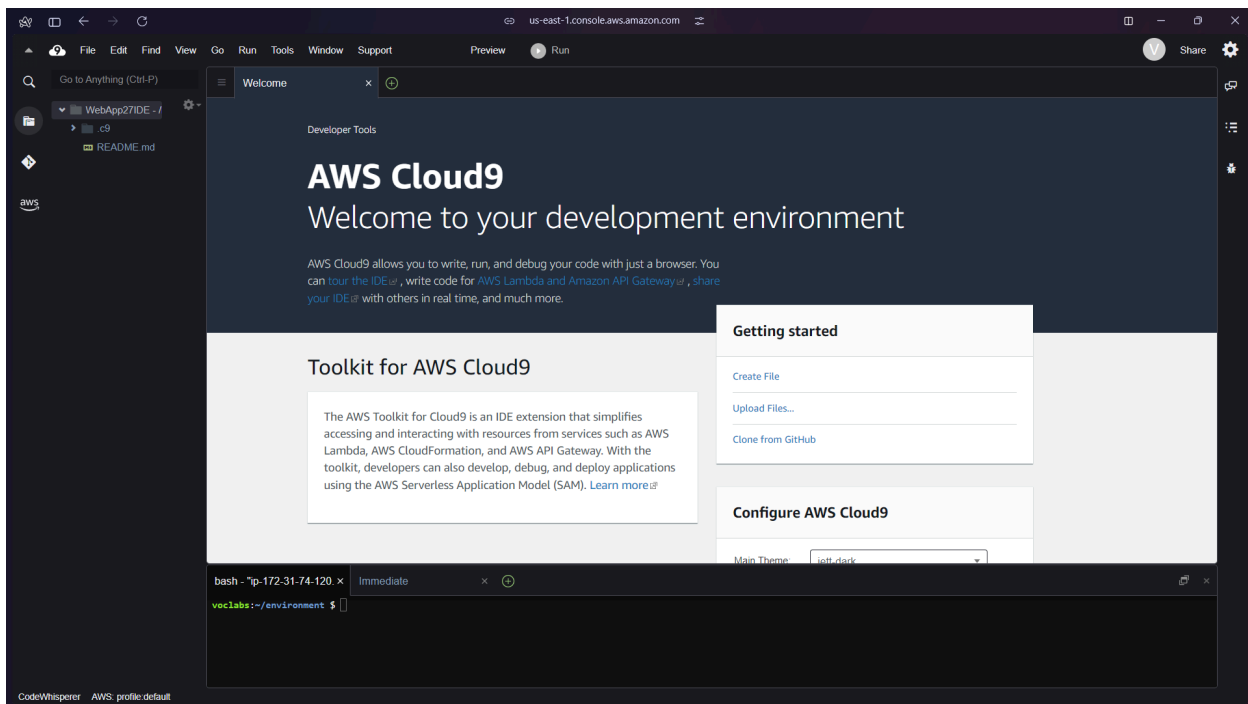


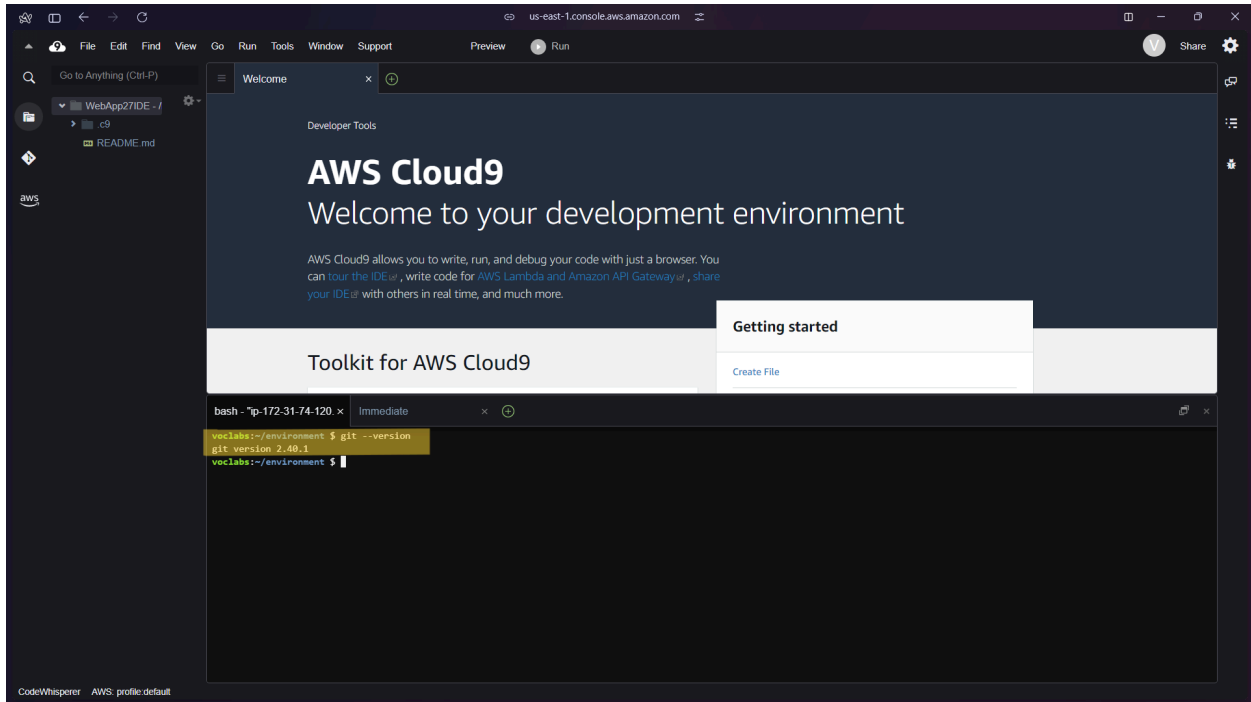
Step 3: Working on Cloud9 IDE

1) Go to Cloud9 services. Click on Open under Cloud9 IDE.

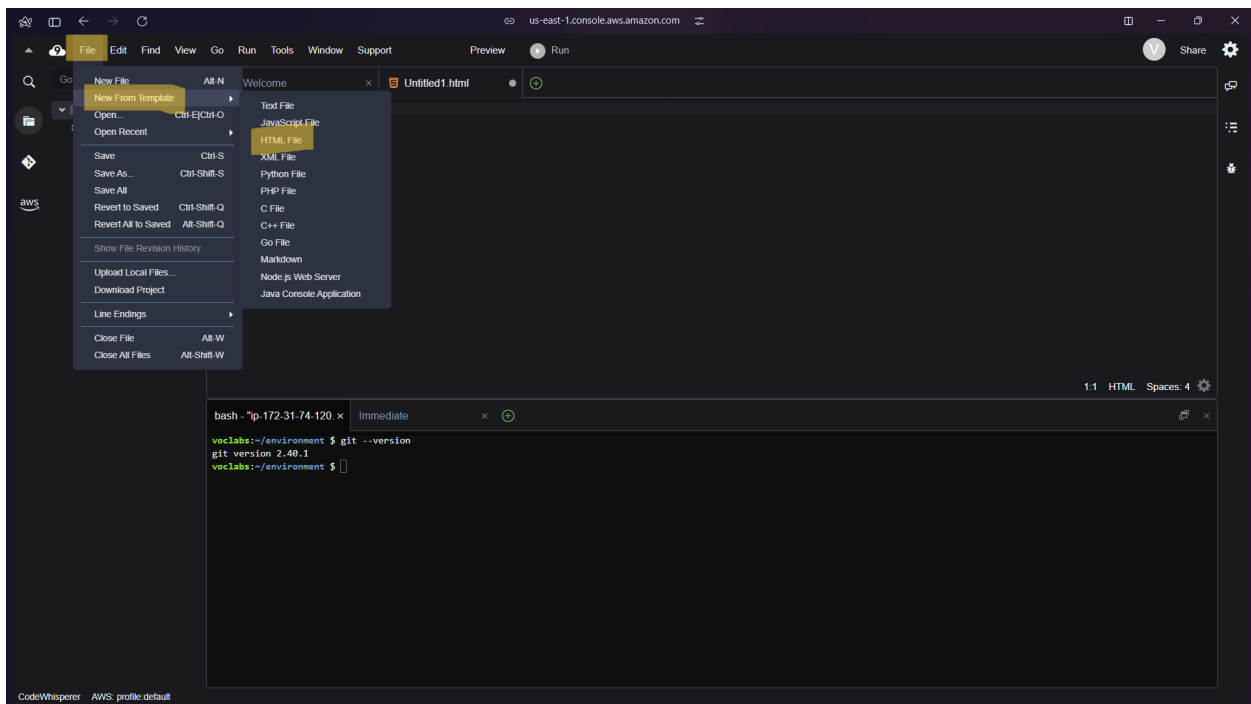


2) This is the Cloud9 IDE interface. The major part of the screen is the coding IDE. There is a command console just below it. For example, the command `git --version` is run.

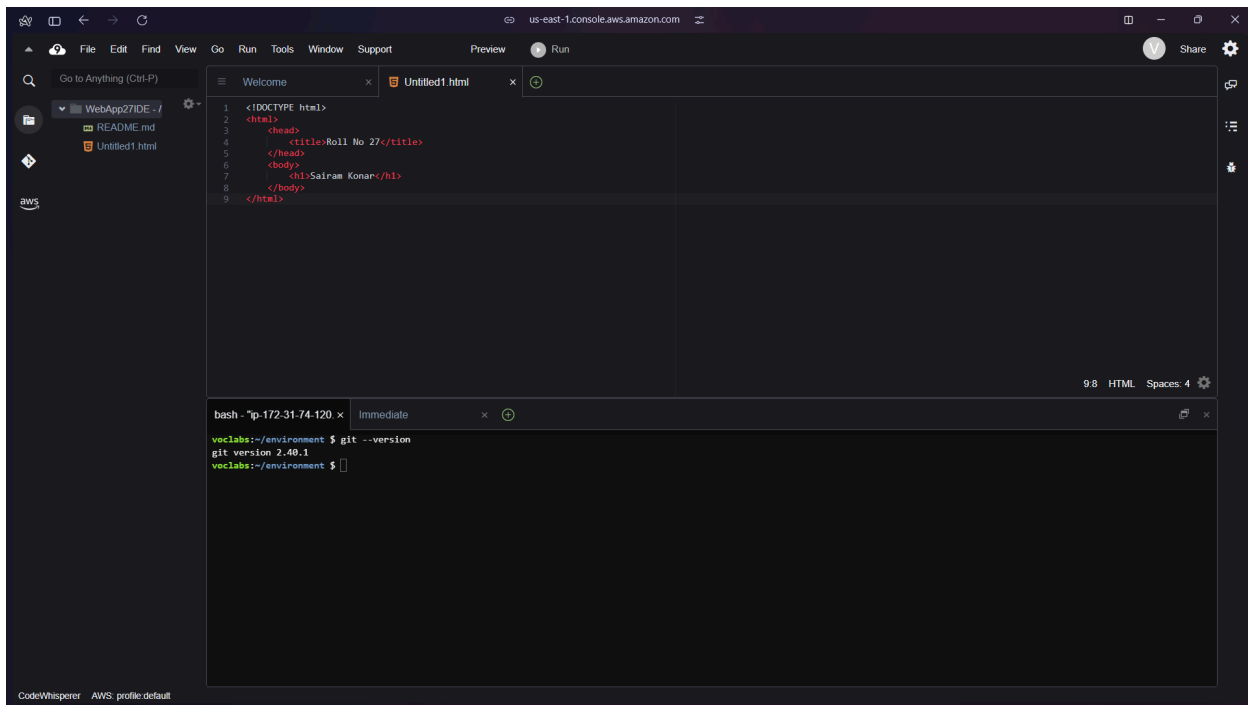




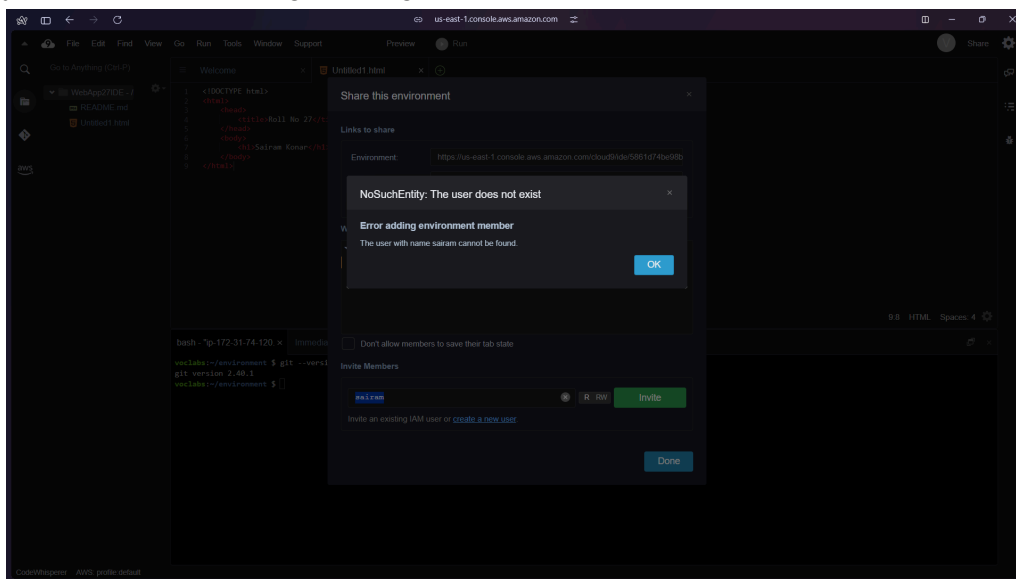
- 3) To add a file, click on file. For this experiment, we are to add an HTML file.
So go to File → New From Template → HTML file. This gives a basic HTML template on the coding IDE.



4) Make a basic website on the HTML template and save it.



After saving, on the toolbar towards the far right, click on Share. Then put the username that you had entered during creating IAM user.



Here, it gives an error as Cloud9 was created on the academy account where creating an IAM group is not available, while on the personal account, the services of Cloud9 have been deprecated. So currently, it is not possible to integrate the cloud9 and IAM parts of the experiment.

