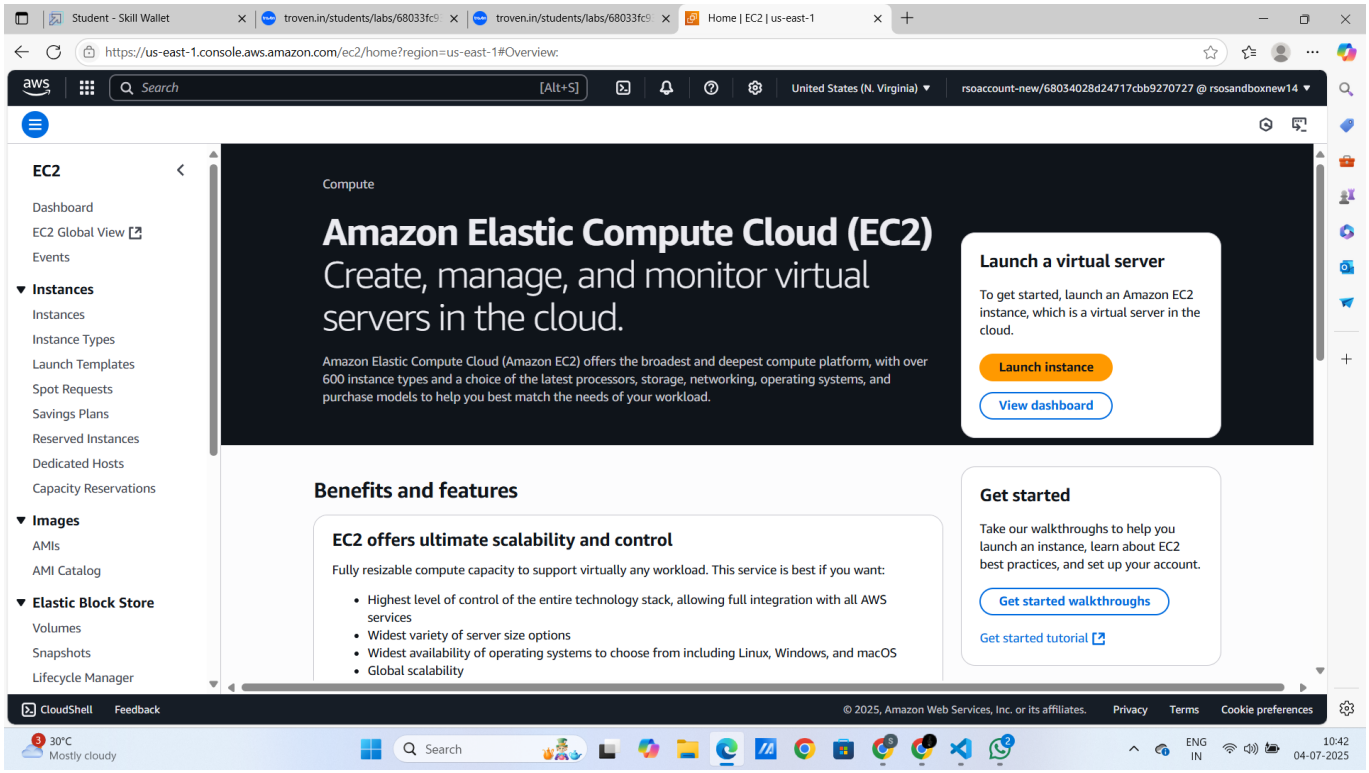
MedTrack: AWS Cloud Deployment Documentation

1. Project Overview

MedTrack is a cloud-based healthcare management system built using Flask and deployed on AWS EC2. It integrates services like Amazon EC2, IAM, and SNS to provide backend processing, secure access control, and real-time email notifications for appointment updates.

2. AWS EC2 Instance Setup

The EC2 instance was launched using Amazon Linux 2 with t2.micro type. A key pair was used for SSH access and a security group allowed HTTP and SSH traffic. The instance was successfully launched and connected.



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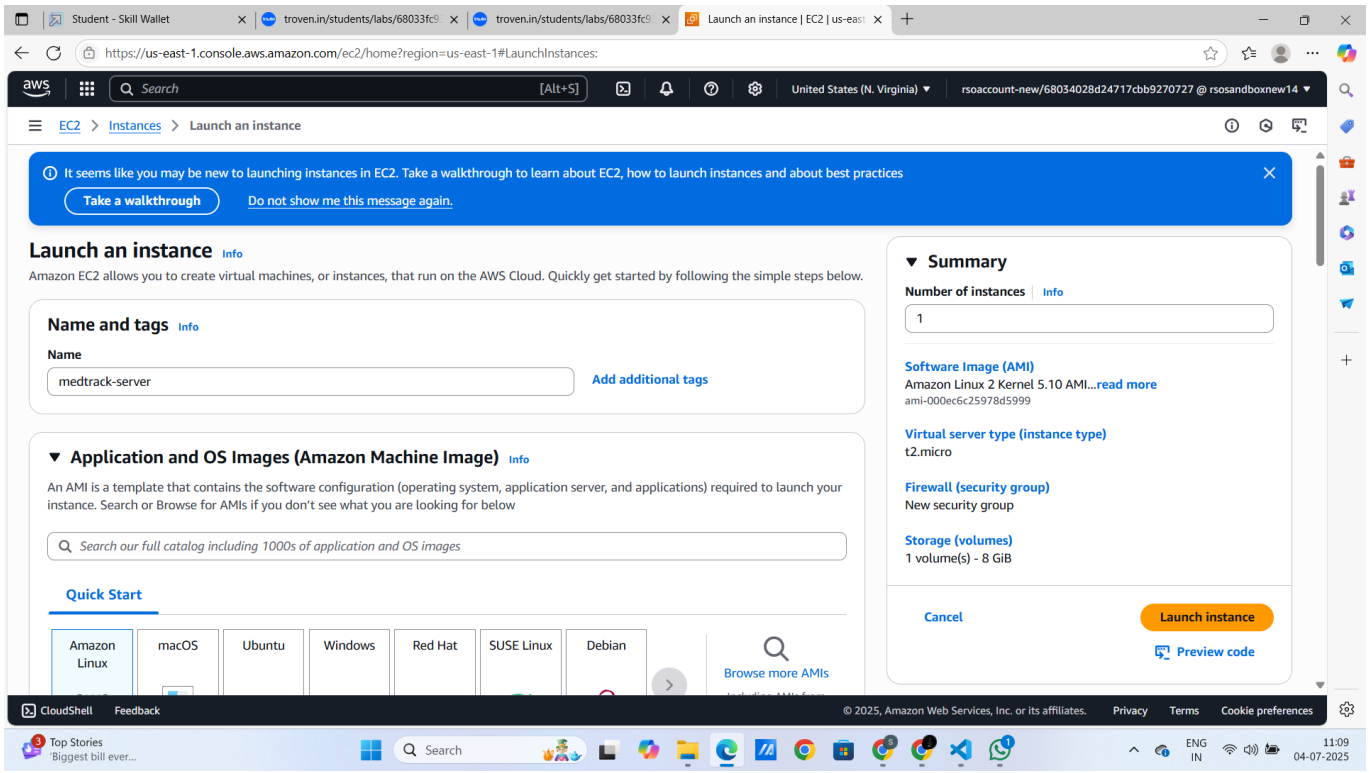

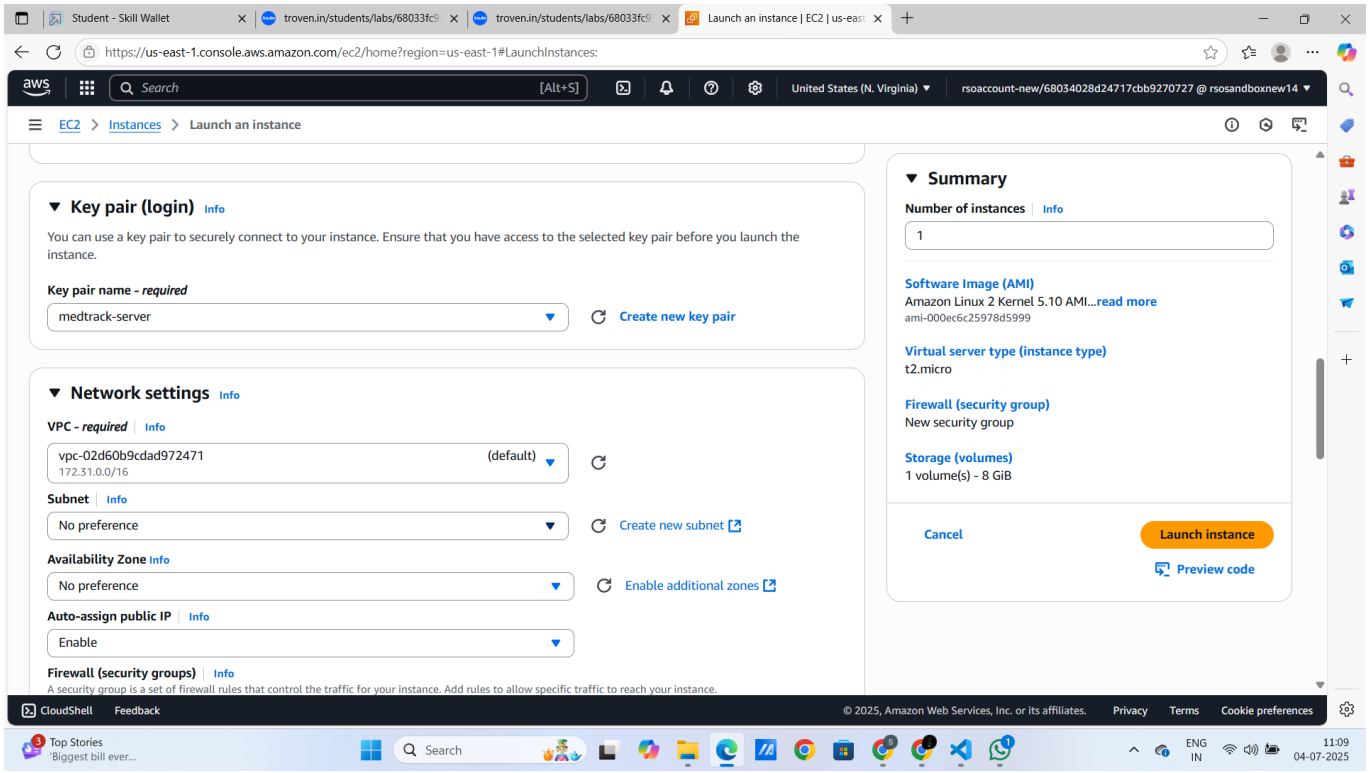

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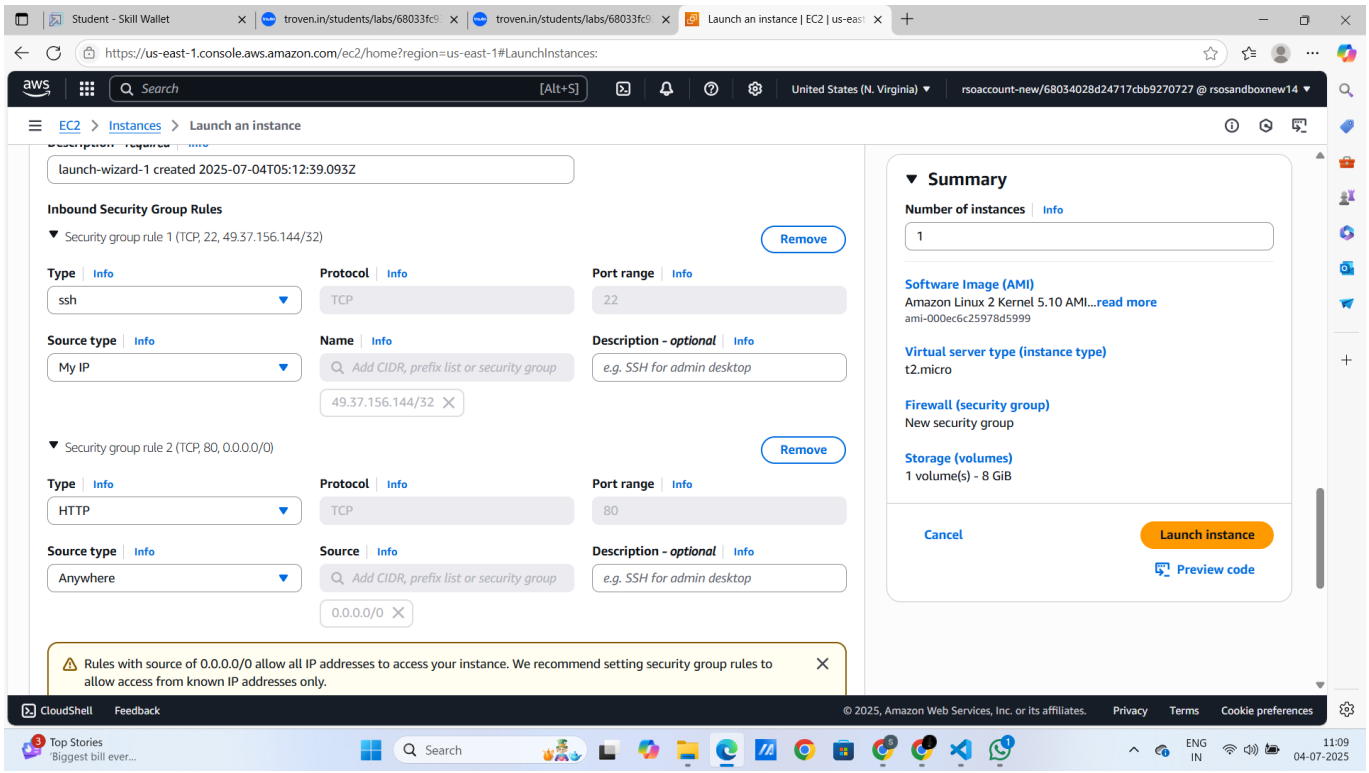
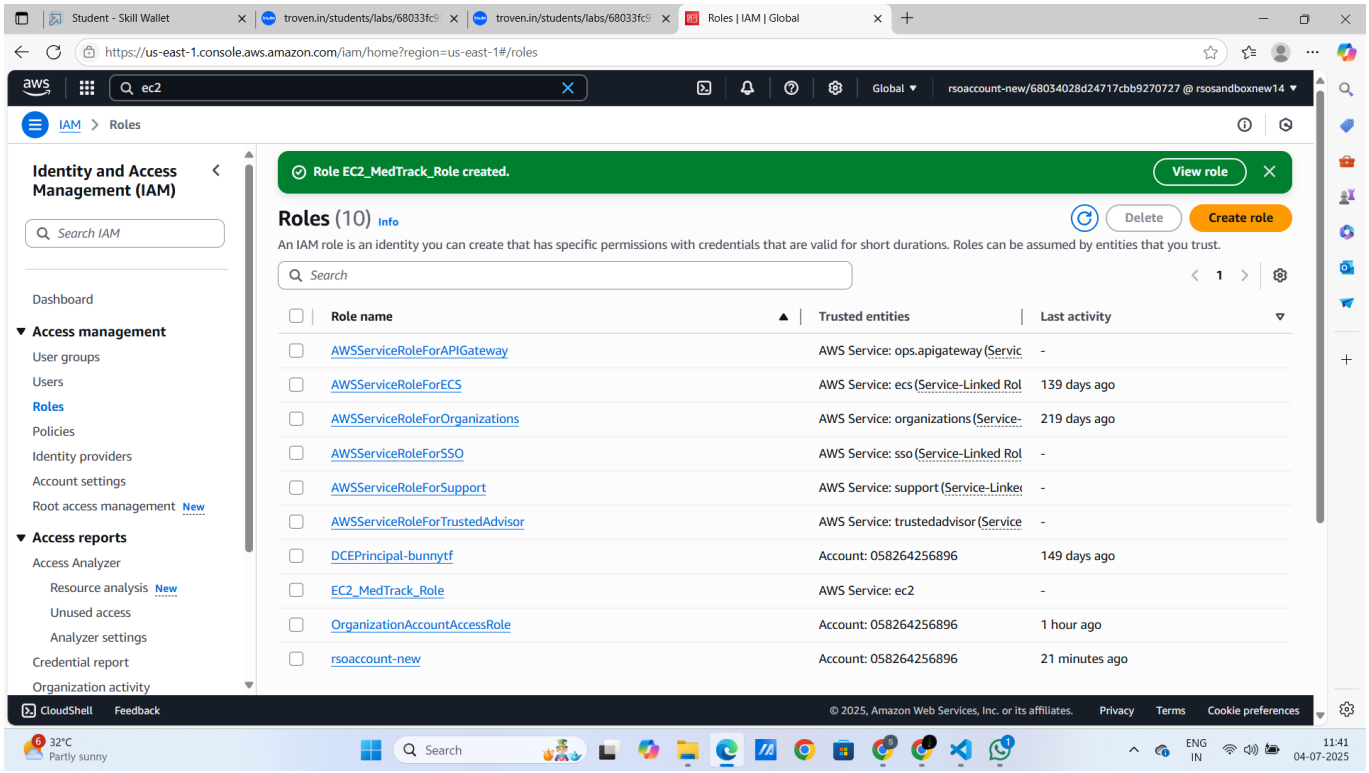


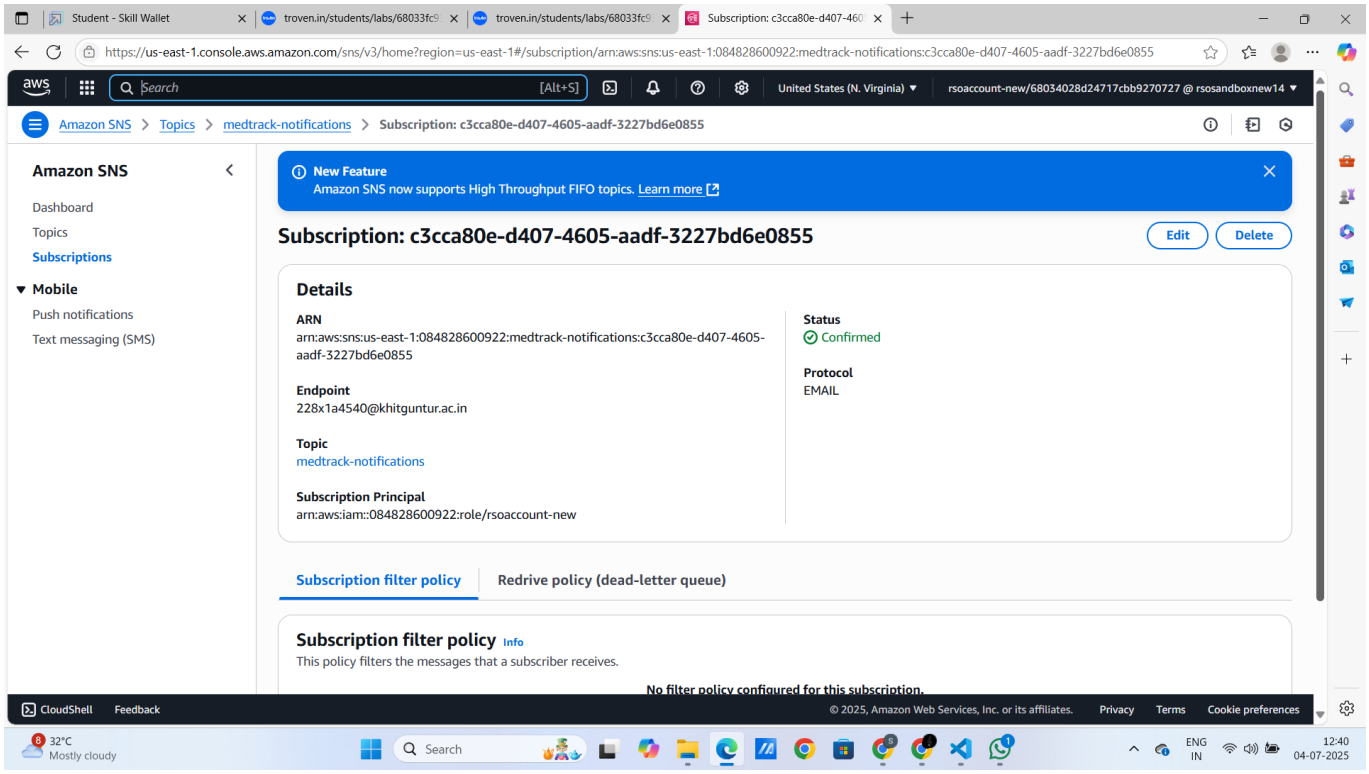
3. IAM Role Configuration

An IAM role named 'EC2_MedTrack_Role' was created and attached to the EC2 instance to enable secure interactions with other AWS services like SNS.



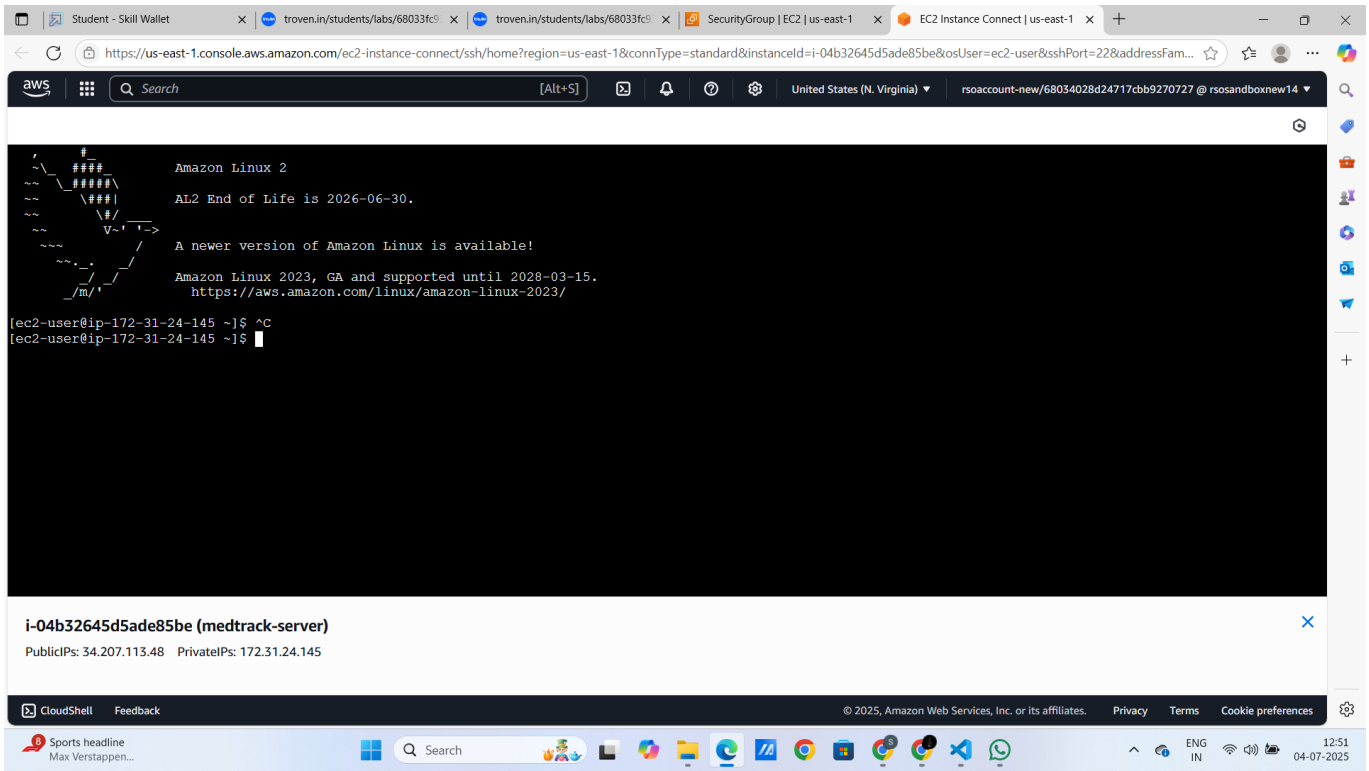
4. SNS Email Notifications

Amazon SNS was configured to send appointment confirmation emails. A topic was created and a subscription was confirmed using an institutional email address.



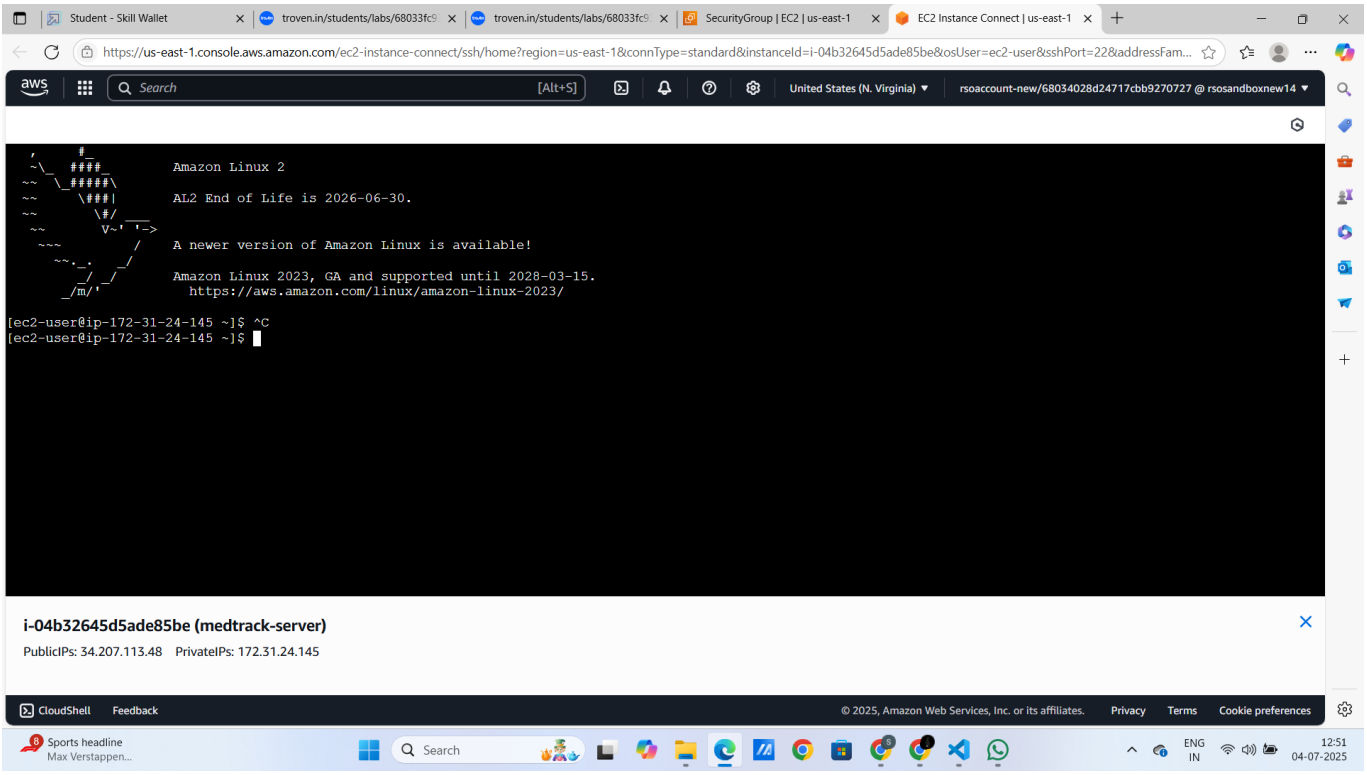
5. EC2 Instance Running and Access

After successful launch, the EC2 instance was accessed via the public IPv4 using EC2 Instance Connect.



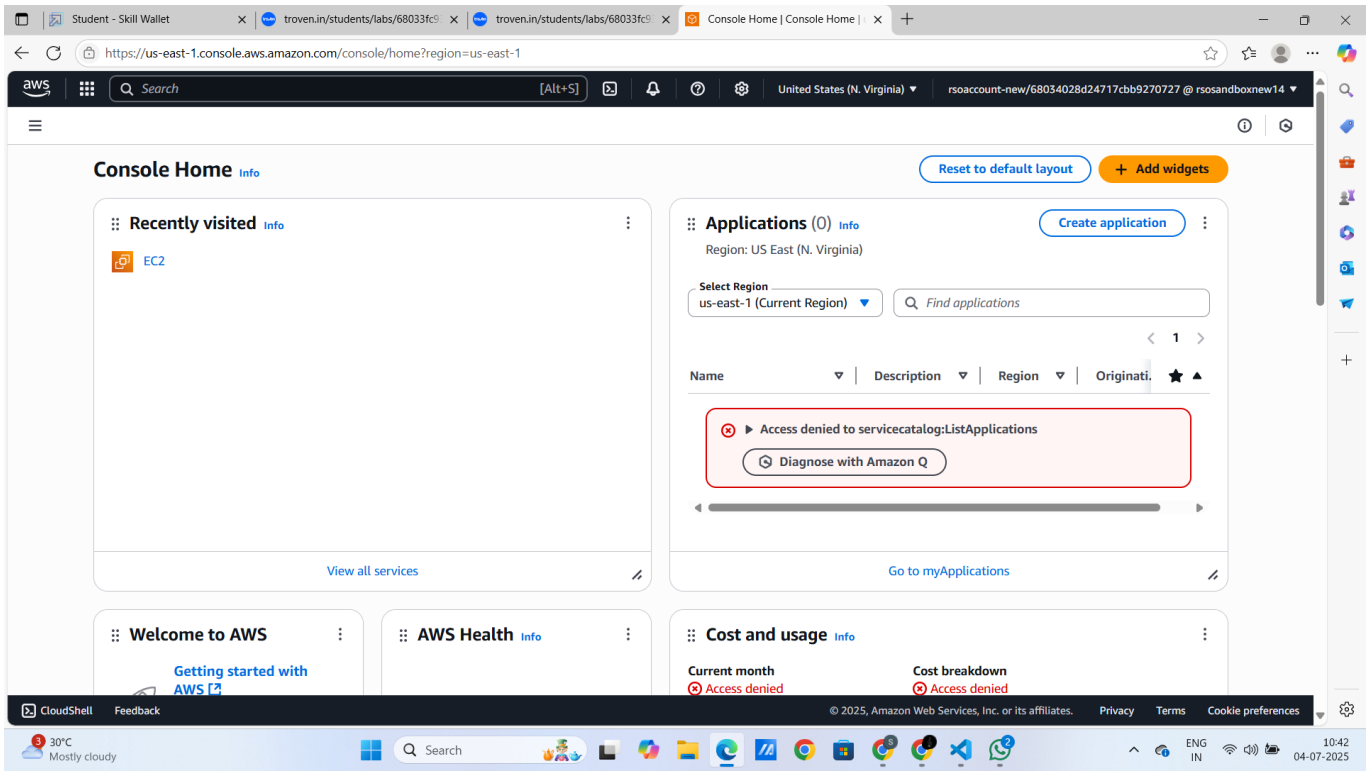
6. Terminal View

The EC2 instance running Amazon Linux 2 was connected successfully using the web-based terminal.



7. Sample Code Snippets (Backend Setup)

Below are sample parts of the Flask backend (`app.py`) showing key integration points for SNS and DynamoDB:



8. Conclusion

This project demonstrates a successful deployment of a healthcare management backend using Flask on AWS EC2. It showcases the integration of multiple AWS services including IAM and SNS for secure and scalable cloud deployment. With proper key management, security groups, and role-based permissions, this project is a foundation for more advanced cloud-based applications.