NAME : UDDHAV BAPU GUND | DESIGNATION: JR.AWS DEVELOPER
**TASK : AWS EC2 with Systems Manager (SSM)**

1. Introduction

This report demonstrates the setup and use of AWS EC2 with Systems Manager (SSM) to connect to an instance without SSH keys and execute commands remotely.
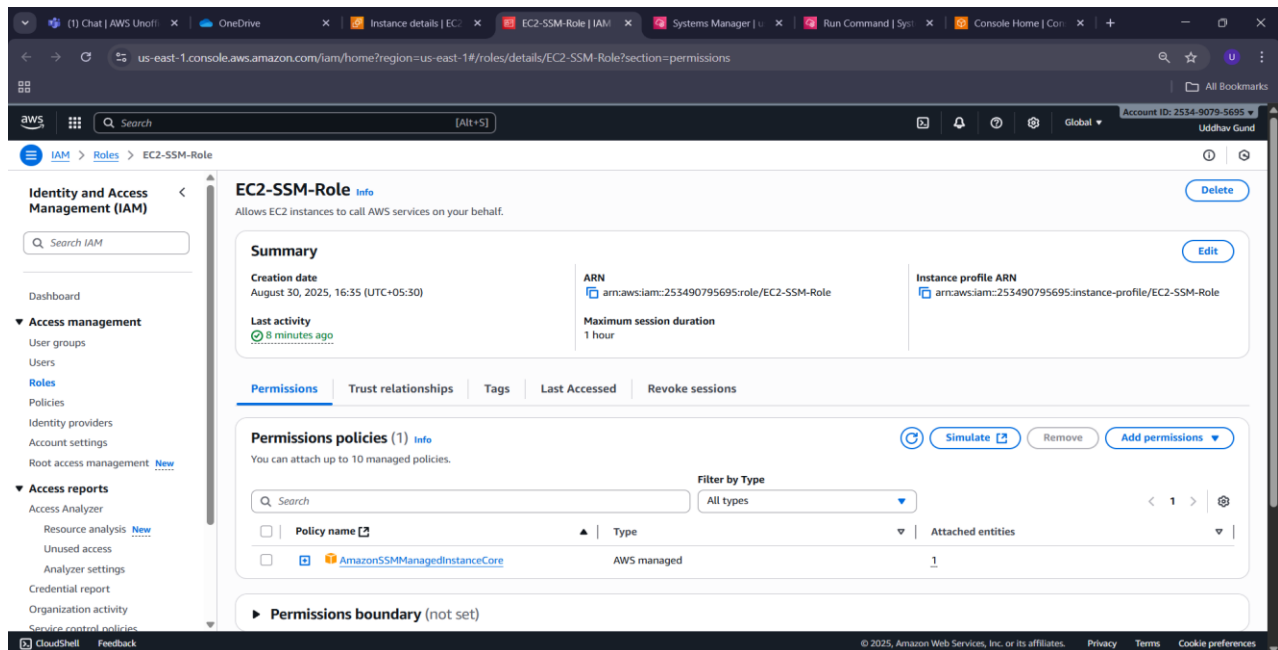
2. Steps Performed
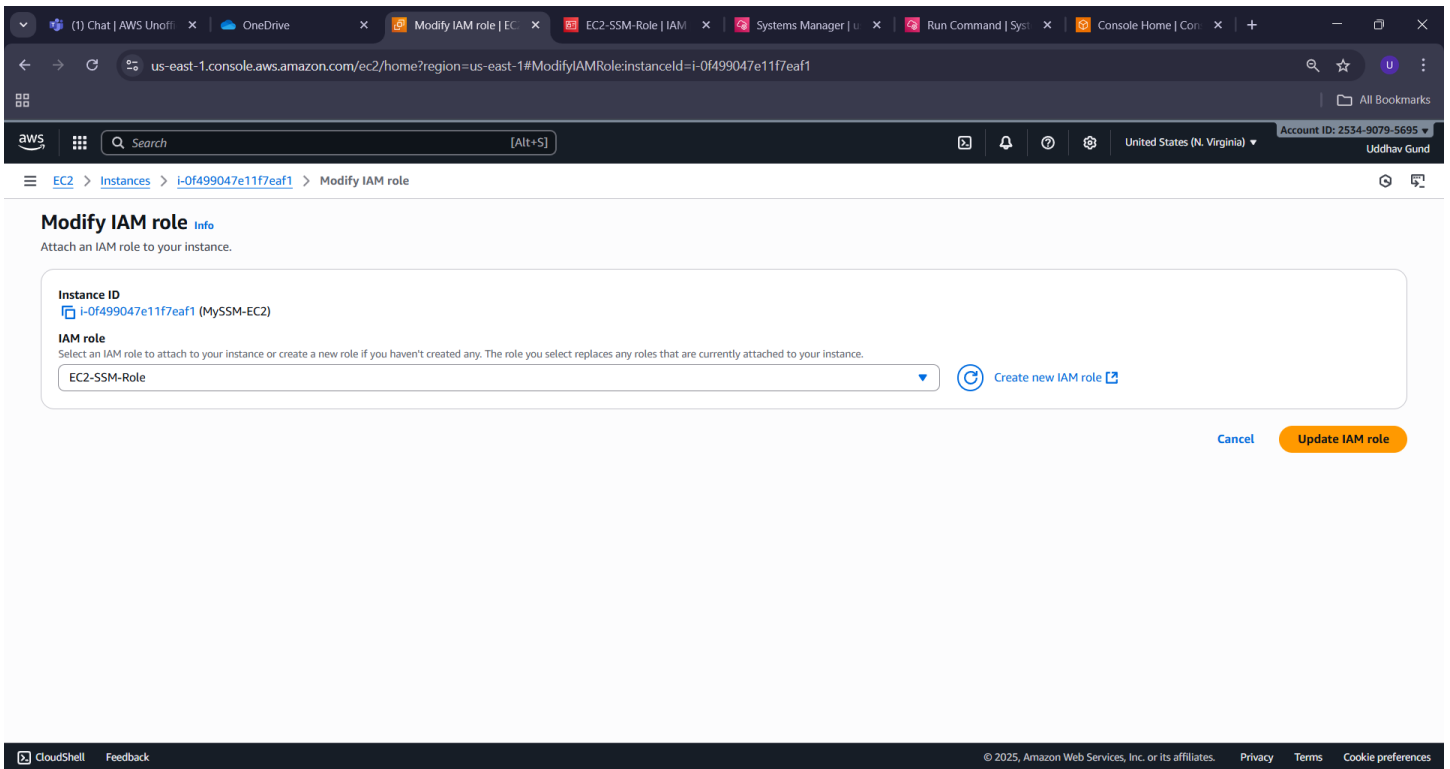
Step 1: Launch EC2 Instance with IAM Role

- An EC2 instance (MySSM-EC2) was launched using a free-tier t2.micro.
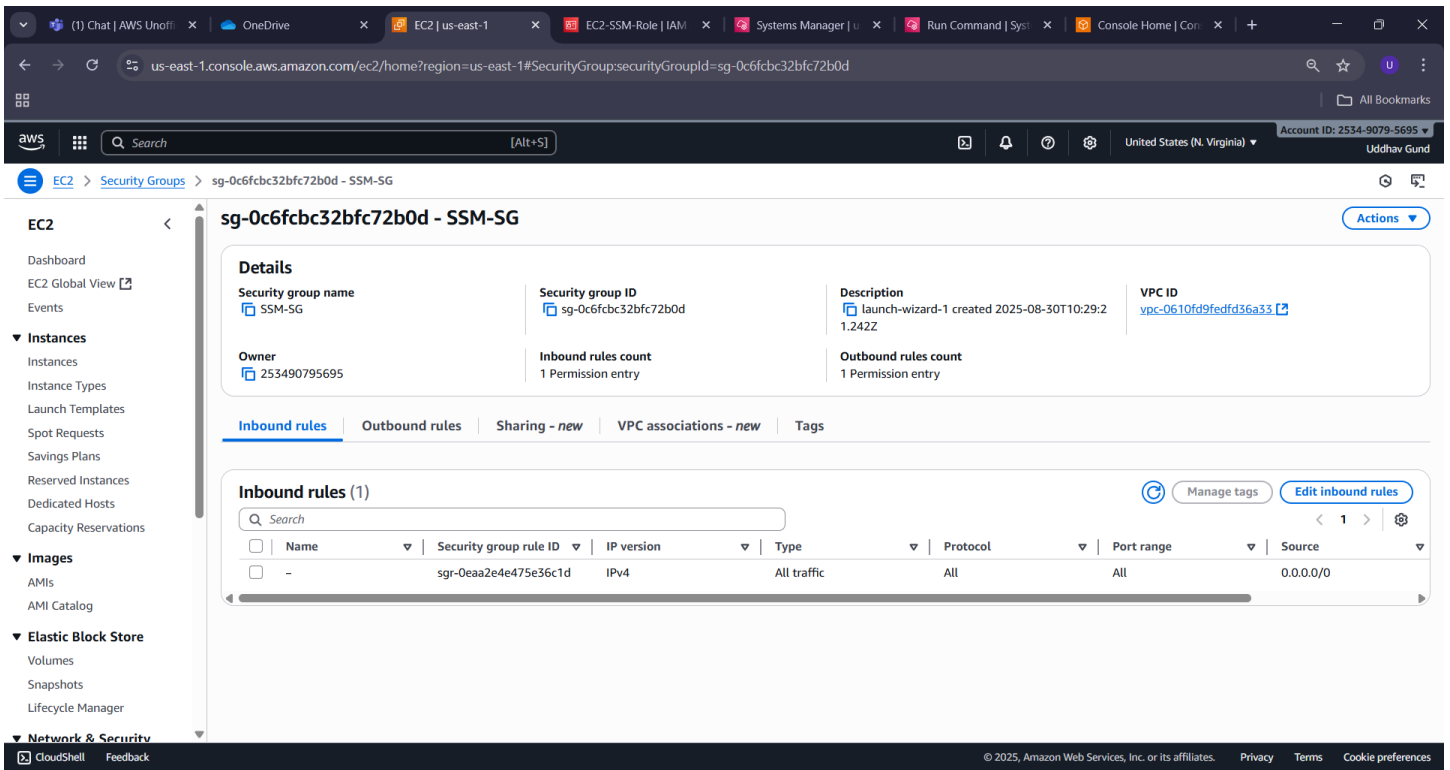- IAM Role EC2-SSM-Role with AmazonSSMManagedInstanceCore policy was attached.
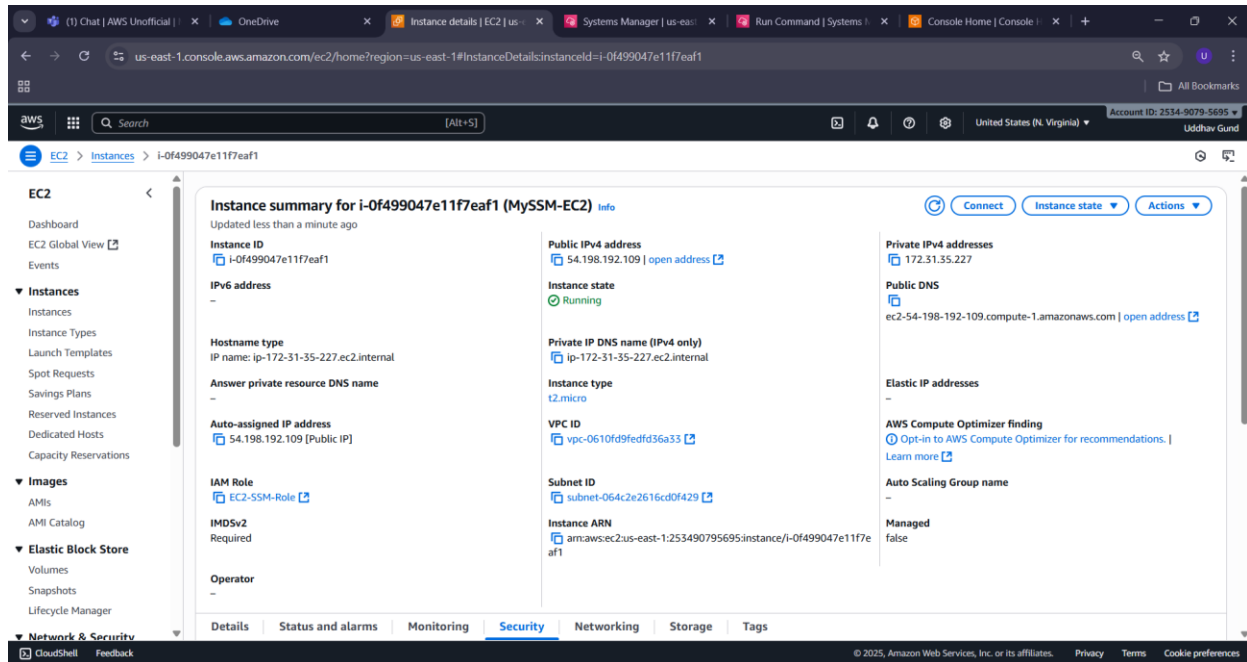
Role created and attached to instance

Step 2: Configure Security Group

- Security group SSM-SG was created with:
  - Inbound: All traffic from 0.0.0.0/0
  - Outbound: All traffic allowed

Step 3: Verify SSM Managed Instance

- The instance was verified in Systems Manager → Fleet Manager → Managed Instances.
- Status: Managed (Online)

Step 4: Connect with Session Manager

- Used Session Manager to connect without SSH keys.
- Example command executed:

  uptime

Step 5: Execute Run Command

- Used Run Command → AWS-RunShellScript document.
- Script executed:
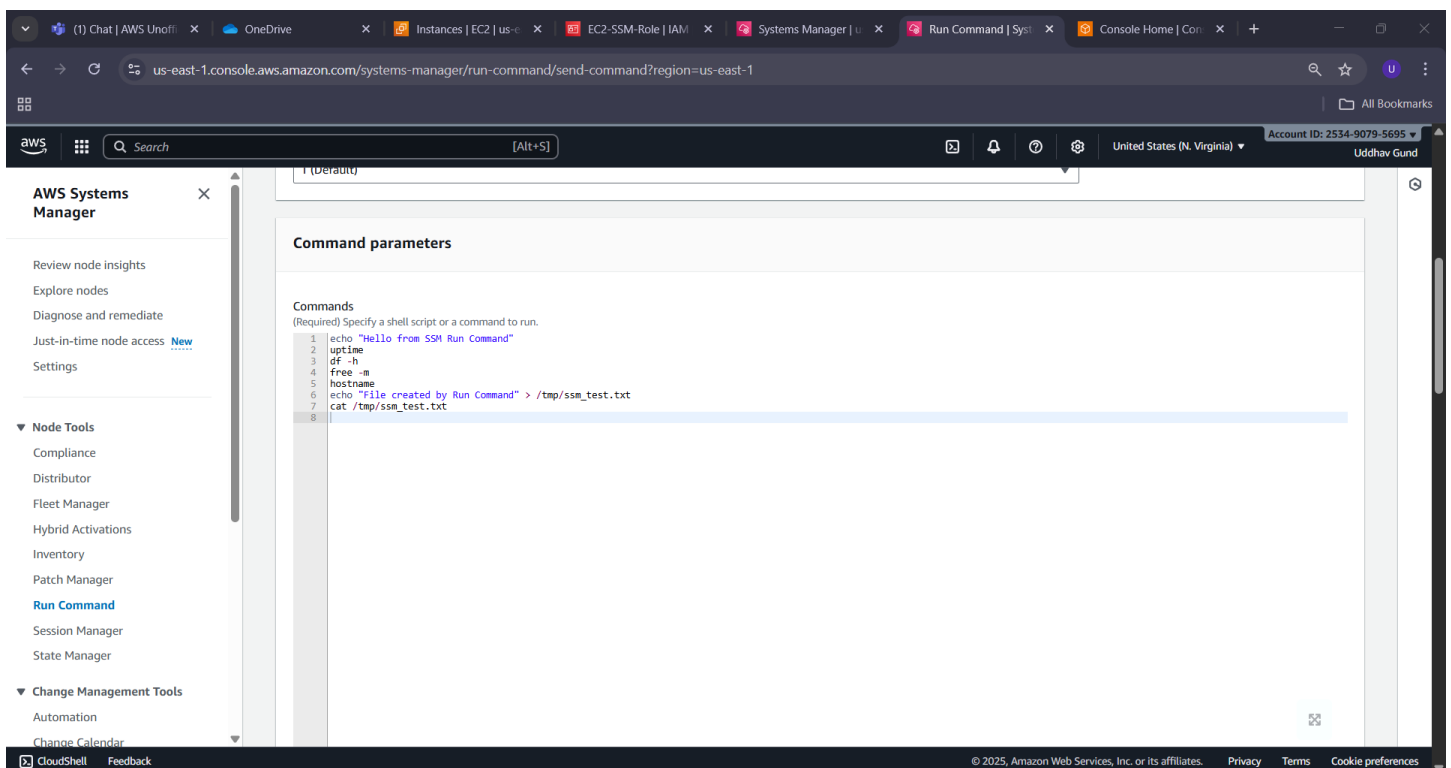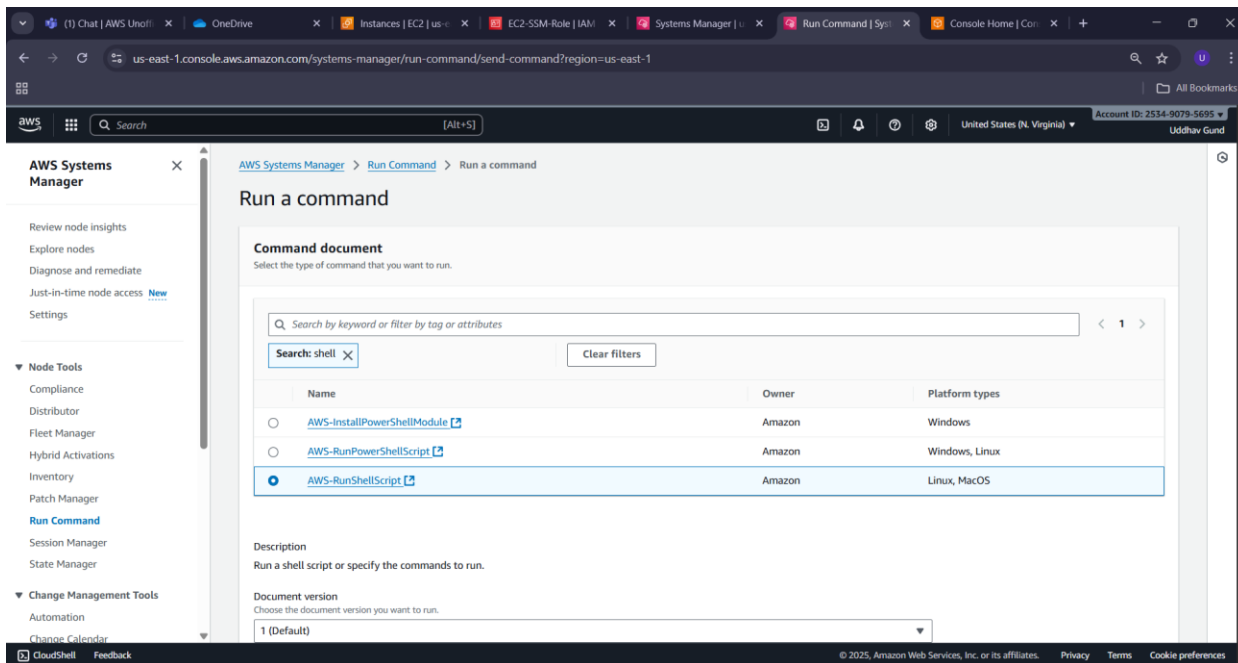 **echo "Hello from SSM Run Command"**
  uptime
  df -h
  free -m
  hostname
  echo "File created by Run Command" > /tmp/ssm_test.txt
  cat /tmp/ssm_test.txt

Step 6: View Run Command Output

- Command successfully executed.
- Output included system uptime, disk usage, memory usage, hostname, and created test file.

Output :

Hello from SSM Run Command

 12:37:14 up 1:42, 0 users, load average: 0.00, 0.00, 0.00

Filesystem   Size Used Avail Use% Mounted on

devtmpfs   4.0M   0 4.0M   0% /dev

tmpfs   475M   0 475M   0% /dev/shm

tmpfs   190M 420K 190M   1% /run

/dev/xvda1   8.0G 1.6G 6.4G 20% /

tmpfs   475M 4.0K 475M   1% /tmp

/dev/xvda128   10M 1.3M 8.7M 13% /boot/efi

        total   used   free   shared buff/cache   available

Mem: 949   140   485   0   322   671

Swap: 0   0   0

ip-172-31-35-227.ec2.internal

File created by Run Command

3. Conclusion

- Successfully connected to EC2 without SSH keys using Session Manager.
- Verified SSM Agent functionality with Run Command.
- Demonstrated remote command execution and file creation.