

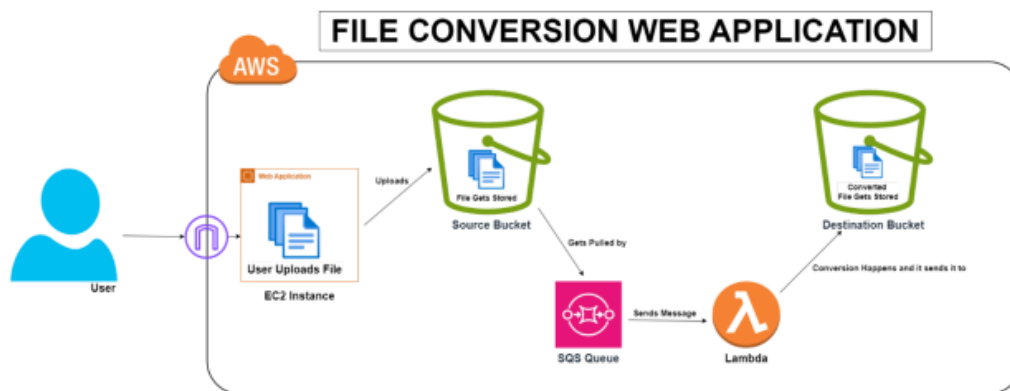
File conversion web application

~ Deepak patel

Aim:-

Creating a file conversion web application in AWS involves EC2, IAM , S3, SQS and Lambda that allows users to upload files in one format, convert them to another format, and download.

Architecture:-



Working:-

Step 1:-Create 2 IAM roles :-

1.For EC2 role:-

AmazonS3FullAccess , AmazonSQSFull Access,Lambda full Access

us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/roles/details/EC2-role?section=permissions

EC2-role Info

Allows EC2 instances to call AWS services on your behalf.

Summary

Creation date: August 27, 2024, 10:45 (UTC+05:30)

ARN: arn:aws:iam::440744244205:role/EC2-role

Instance profile ARN: arn:aws:iam::440744244205:instance-profile/EC2-role

Last activity: -

Maximum session duration: 1 hour

Permissions policies (3) Info

You can attach up to 10 managed policies.

Filter by Type: All types

Policy name	Type	Attached entities
AmazonS3FullAccess	AWS managed	2
AmazonSQSFullAccess	AWS managed	2
AWSLambda_FullAccess	AWS managed	2

2.For Lambda role:-

AmazonS3FullAccess , AmazonSQSFull Access,Lambda full Access

us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/roles/details/Lambda-role?section=permissions

Lambda-role Info

Allows Lambda functions to call AWS services on your behalf.

Summary

Creation date: August 27, 2024, 10:46 (UTC+05:30)

ARN: arn:aws:iam::440744244205:role/Lambda-role

Last activity: -

Maximum session duration: 1 hour

Permissions policies (3) Info

You can attach up to 10 managed policies.

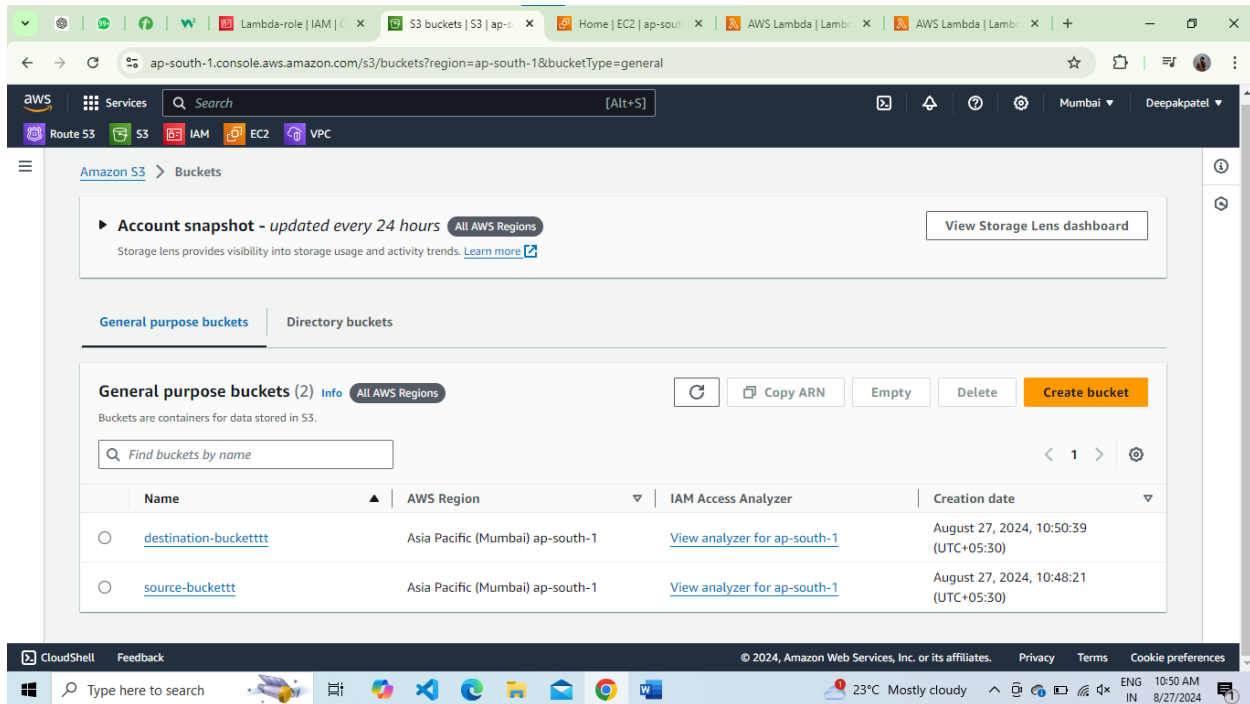
Filter by Type: All types

Policy name	Type	Attached entities
AmazonS3FullAccess	AWS managed	2
AmazonSQSFullAccess	AWS managed	2
AWSLambda_FullAccess	AWS managed	2

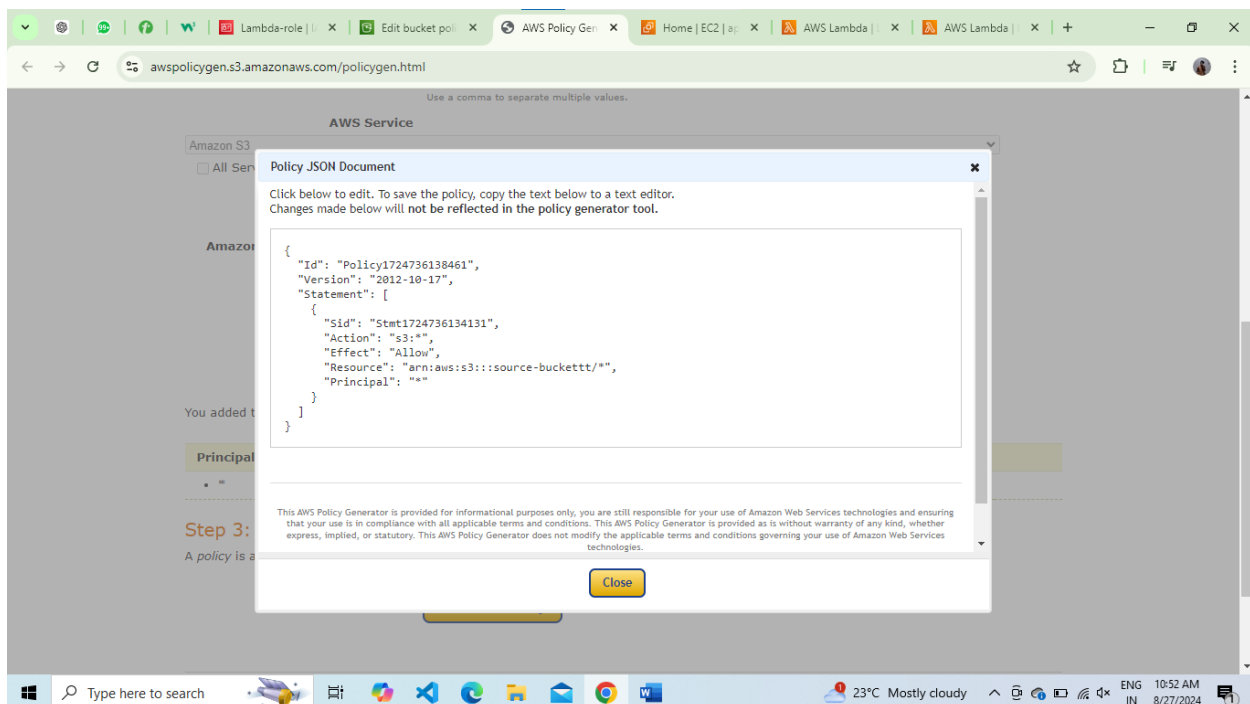
Step 2 :-Creating two S3 buckets:-

1.Source-bucket

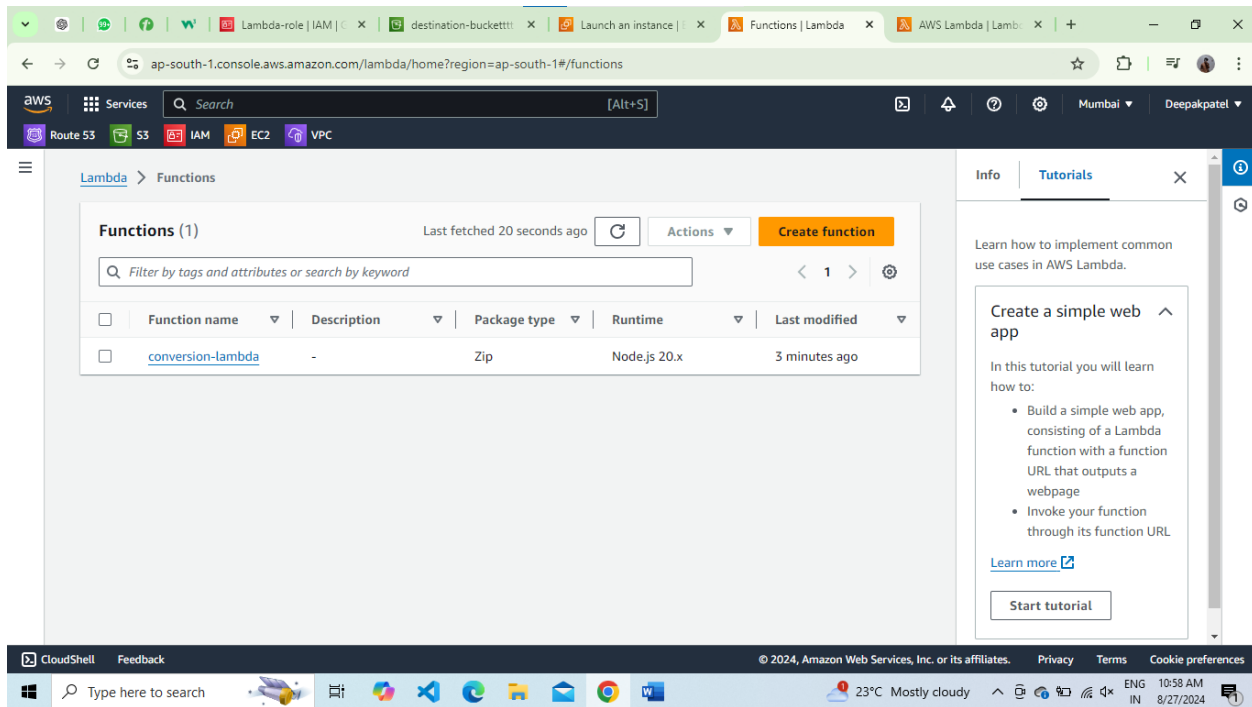
2.destination-bucket



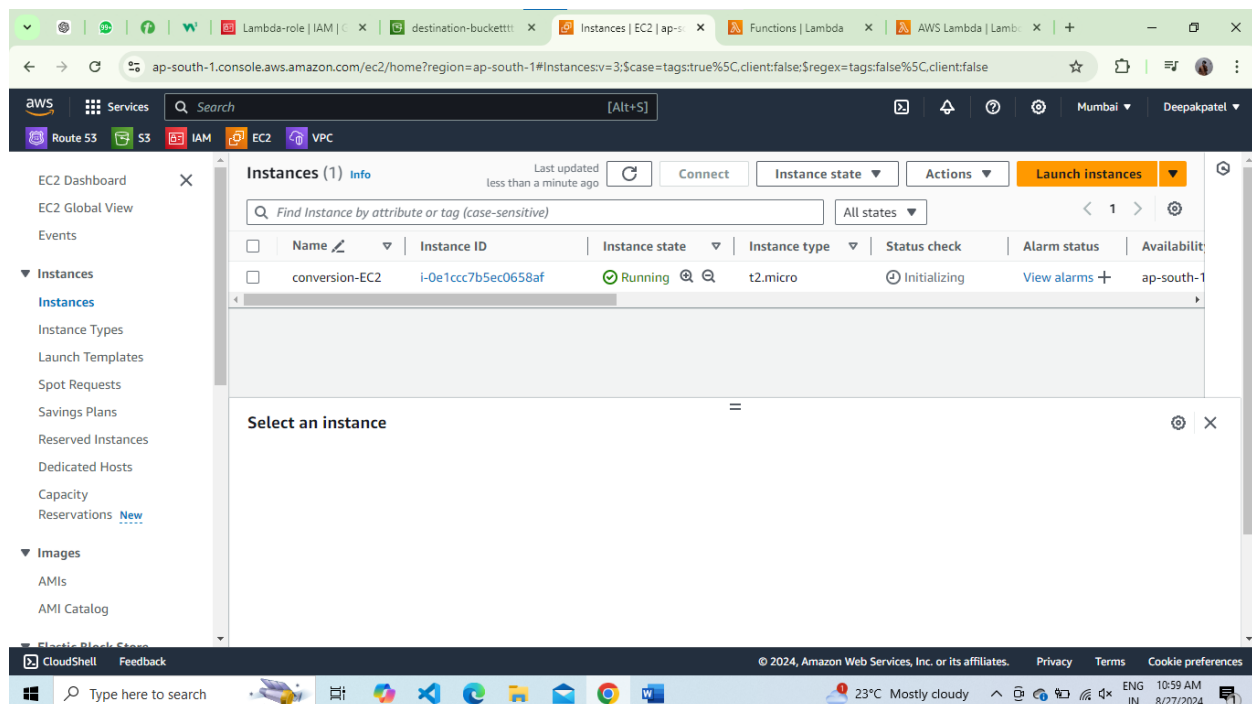
Step 3:-Generating policy for S3 buckets



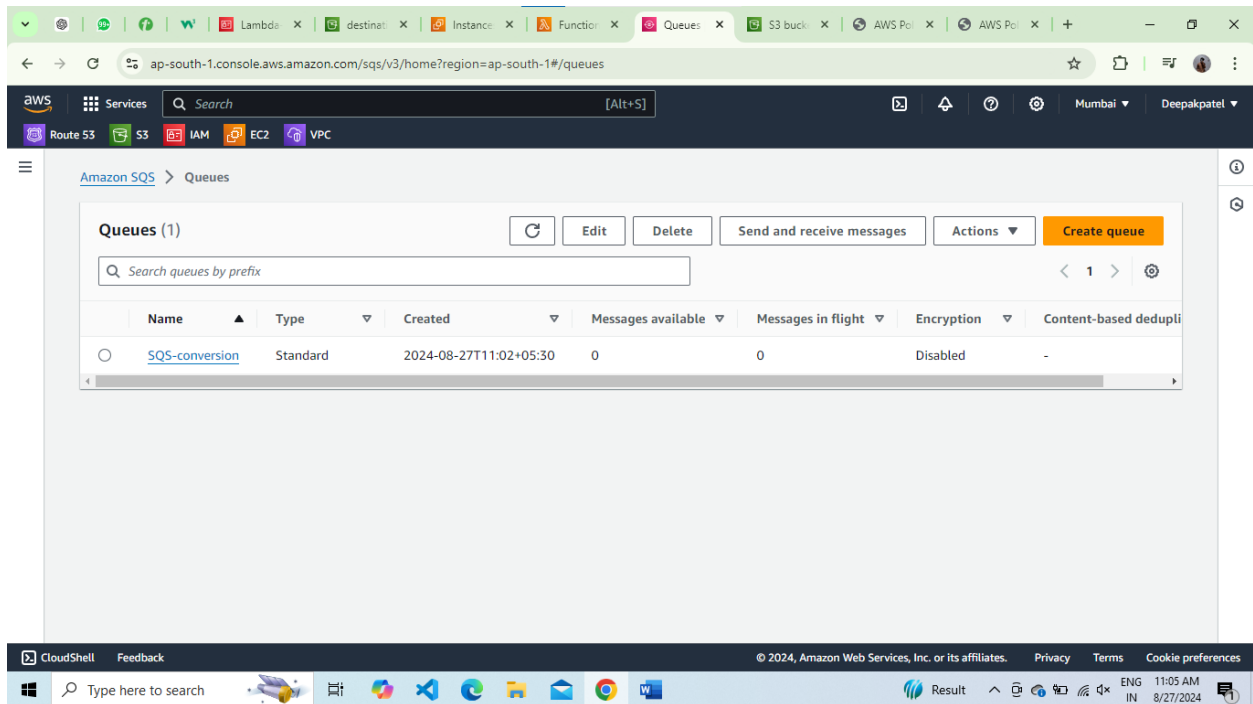
Step 4:- creating lambda function & give the Lambda IAM role



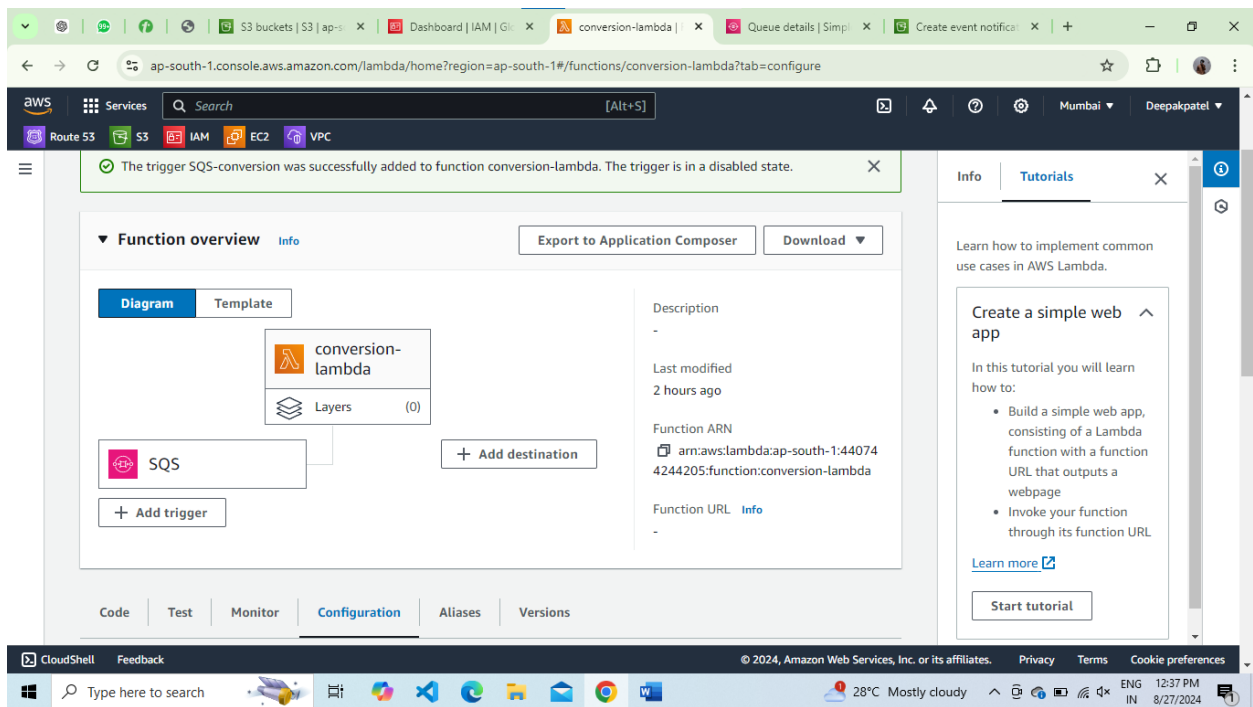
Step 5:- Create EC2 Instance & give the EC2 IAM role



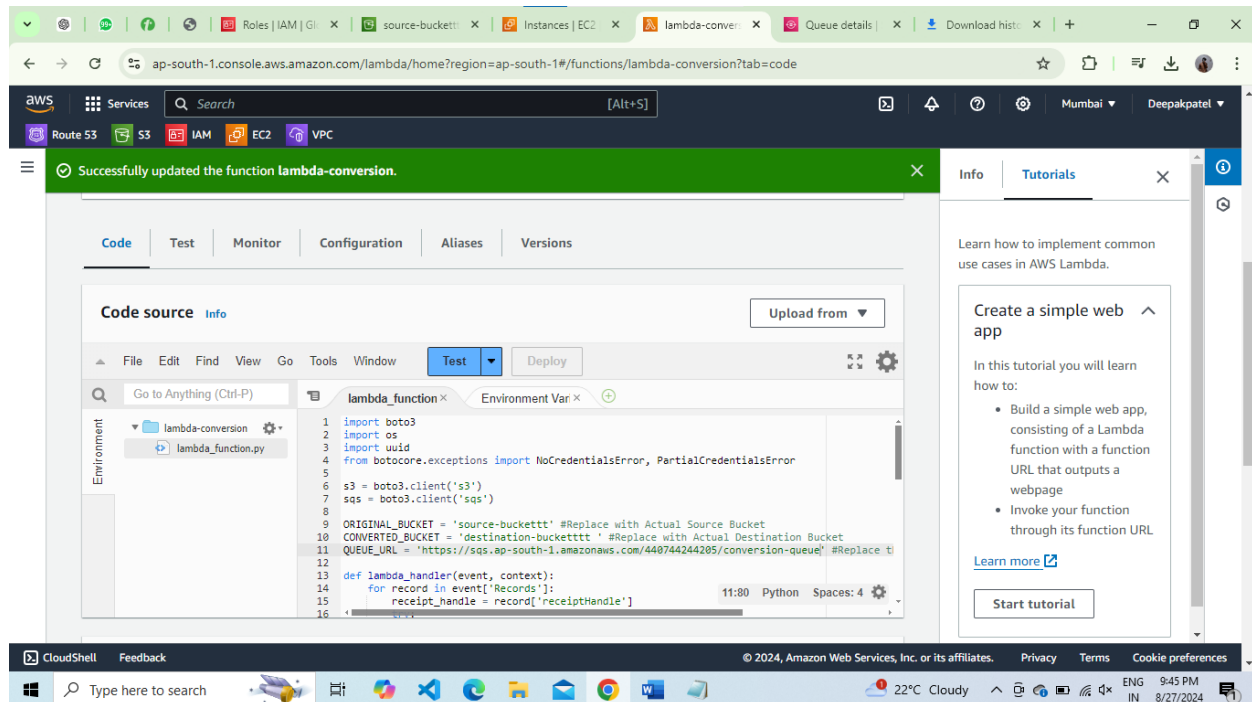
Step 6:- creating SQS Queue



Step 7:- add trigger to lambda function by selecting SQS queue



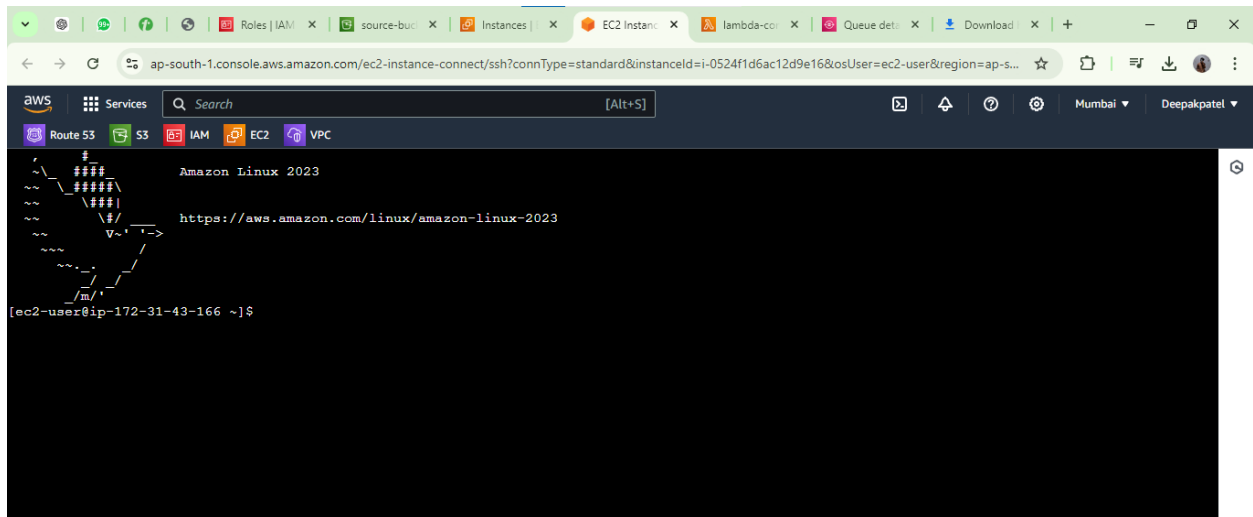
Step 8:- add Conversion code and click on deploy



Step 9:- EC2 and perfume the commands

- 1.sudo yum update -y
- 2.sudo yum upgrade -y
- 3.sudo yum install python3-y
- 4.sudo yum install python3-pip -y
- 5.sudo pip install flask
- 6.sudo pip3 install boto3
- 7.sudo nano file.py #file name replacable
- 8.file.py

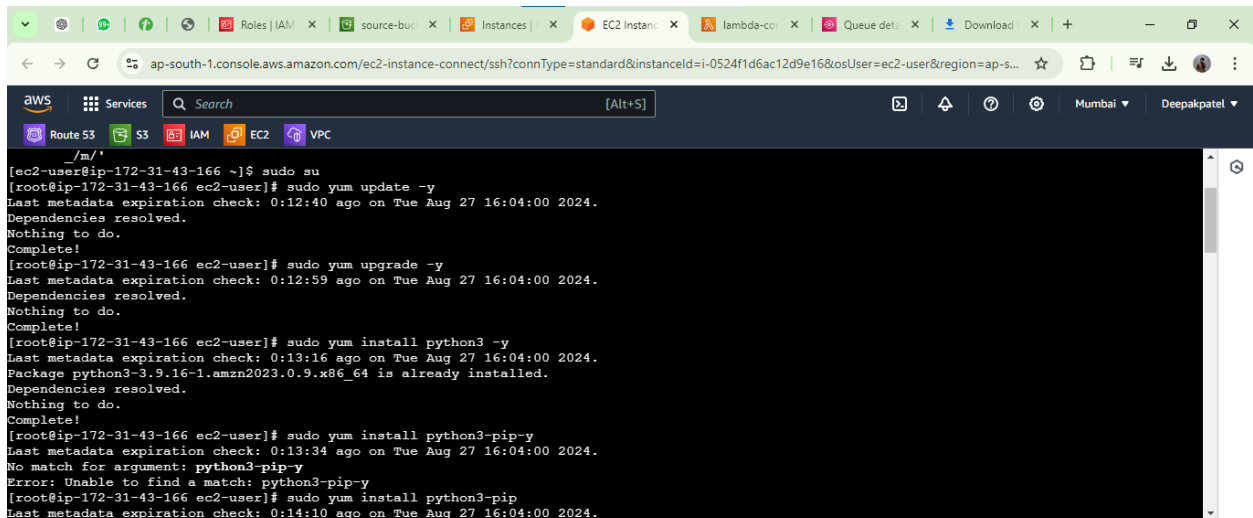
9. after adding code press ctrl+o(not zero) to save the file → click enter to save the file name , ctrl + X to exit



The screenshot shows the AWS Management Console with a terminal window open for an EC2 instance. The terminal displays the Amazon Linux 2023 logo and the URL <https://aws.amazon.com/linux/amazon-linux-2023>. The prompt is `[ec2-user@ip-172-31-43-166 ~]$`.

i-0524f1d6ac12d9e16 (EC2-conversion)

PublicIPs: 13.201.30.89 PrivateIPs: 172.31.43.166



The screenshot shows the AWS Management Console with a terminal window open for an EC2 instance. The terminal displays the output of several commands: `sudo su`, `sudo yum update -y`, `sudo yum upgrade -y`, `sudo yum install python3 -y`, and `sudo yum install python3-pip -y`. The output shows that the system is up-to-date and that python3 and python3-pip are already installed.

i-0524f1d6ac12d9e16 (EC2-conversion)

PublicIPs: 13.201.30.89 PrivateIPs: 172.31.43.166



Roles | IAM | source-buc | Instances | EC2 Instance | lambda-co | Queue det | Download | +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0524f1d6ac12d9e16&osUser=ec2-user®ion=ap-s...

Services Search [Alt+S]

Route 53 S3 IAM EC2 VPC

Last metadata expiration check: 0:14:10 ago on Tue Aug 27 16:04:00 2024.
Dependencies resolved.

Package	Architecture	Version	Repository	Size
Installing: python3-pip	noarch	21.3.1-2.amzn2023.0.7	amazonlinux	1.8 M
Installing weak dependencies: libxcrypt-compat	x86_64	4.4.33-7.amzn2023	amazonlinux	92 k

Transaction Summary

Install 2 Packages

Total download size: 1.9 M
Installed size: 11 M
Is this ok [y/N]: y
Downloading Packages:
(1/2): python3-pip-21.3.1-2.amzn2023.0.7.noarch.rpm 23 MB/s | 1.8 MB 00:00
(2/2): libxcrypt-compat-4.4.33-7.amzn2023.x86_64.rpm 1.1 MB/s | 92 kB 00:00
Total 13 MB/s | 1.9 MB 00:00
Running transaction check
Transaction check succeeded.

i-0524f1d6ac12d9e16 (EC2-conversion)

PublicIPs: 13.201.30.89 PrivateIPs: 172.31.43.166

CloudShell Feedback

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Roles | IAM | source-buc | Instances | EC2 Instance | lambda-co | Queue det | Download | +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0524f1d6ac12d9e16&osUser=ec2-user®ion=ap-s...

Services Search [Alt+S]

Route 53 S3 IAM EC2 VPC

Successfully installed Jinja2-3.1.4 MarkupSafe-2.1.5 Werkzeug-3.0.4 blinker-1.8.2 click-8.1.7 flask-3.0.3 importlib-metadata-8.4.0 itsdangerous-2.0.1 zipp-3.20.1
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
[root@ip-172-31-43-166 ec2-user]# sudo pip3 install boto3
Collecting boto3
 Downloading boto3-1.35.6-py3-none-any.whl (139 kB)
 | 139 kB 18.4 MB/s
Collecting botocore<1.36.0,>=1.35.6
 Downloading botocore-1.35.6-py3-none-any.whl (12.5 MB)
 | 12.5 MB 33.6 MB/s
Collecting s3transfer<0.11.0,>=0.10.0
 Downloading s3transfer-0.10.2-py3-none-any.whl (82 kB)
 | 82 kB 2.2 MB/s
Requirement already satisfied: jmespath<2.0.0,>=0.7.1 in /usr/lib/python3.9/site-packages (from boto3) (0.10.0)
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /usr/lib/python3.9/site-packages (from botocore<1.36.0,>=1.35.6->boto3) (2.8.1)
Requirement already satisfied: urllib3<1.27,>=1.25.4 in /usr/lib/python3.9/site-packages (from botocore<1.36.0,>=1.35.6->boto3) (1.25.10)
Requirement already satisfied: six>=1.5 in /usr/lib/python3.9/site-packages (from python-dateutil<3.0.0,>=2.1->botocore<1.36.0,>=1.35.6->boto3) (1.15.0)
Installing collected packages: botocore, s3transfer, boto3
Successfully installed boto3-1.35.6 botocore-1.35.6 s3transfer-0.10.2
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
[root@ip-172-31-43-166 ec2-user]#

i-0524f1d6ac12d9e16 (EC2-conversion)

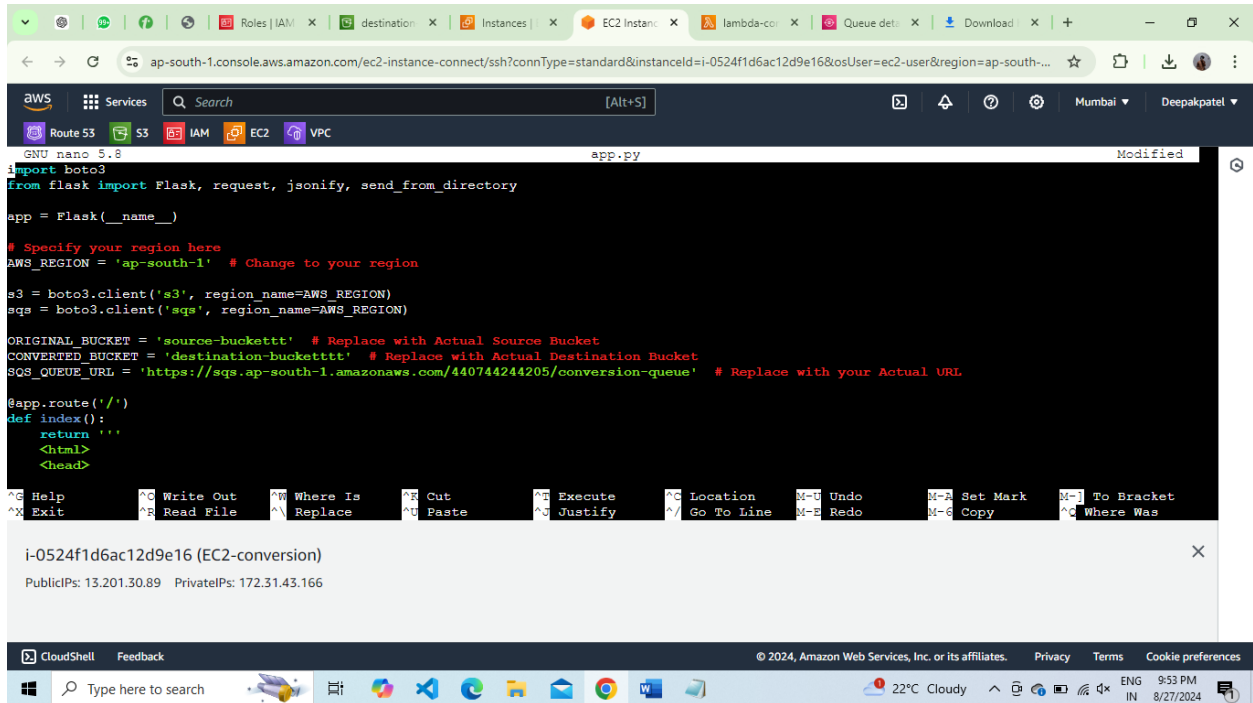
PublicIPs: 13.201.30.89 PrivateIPs: 172.31.43.166

CloudShell Feedback

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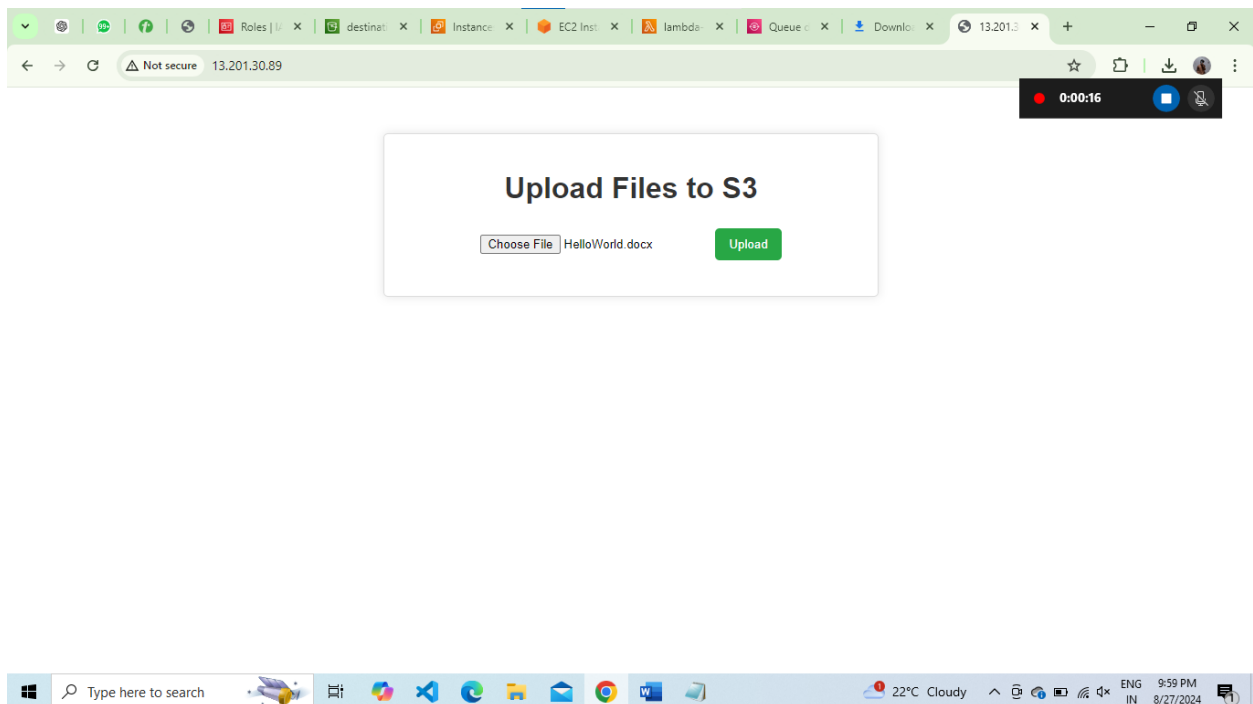
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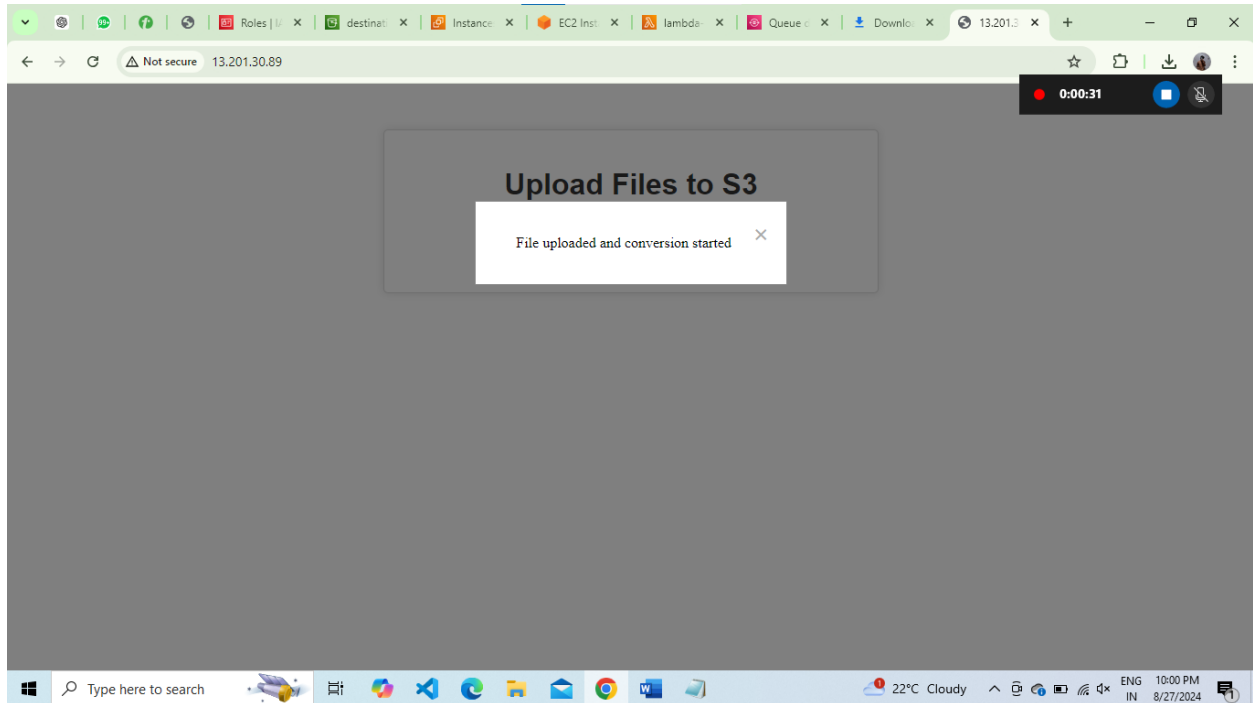
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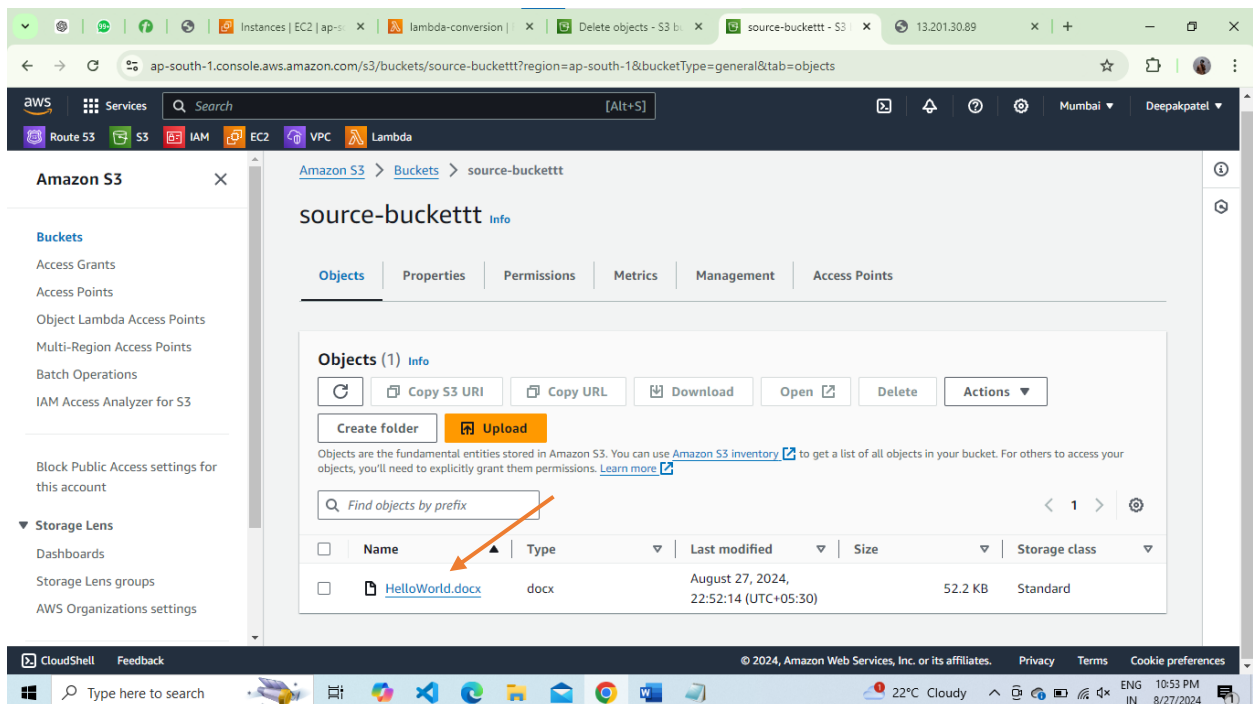
Step 10:- copy public IP of instance and paste it on a new tab

Output:-





- After uploading docs file that relect on a source bucket



- Destination bucket has the .pdf file which was converted by the lambda function

