

AWS Project: S3 → Lambda → Email Notification (SNS)

Project Objective

Whenever a file is uploaded to an S3 bucket, AWS Lambda is automatically triggered and an email notification is sent using Amazon SNS.

Architecture Flow

User → S3 Bucket → Lambda → SNS → Email

Step 1: Create S3 Bucket

Create an S3 bucket named **file-upload-notify-arpit**. Keep it in the same region as Lambda and SNS.

Step 2: Create SNS Topic and Email Subscription

Create an SNS topic named **Lambada-SNS**. Add an Email subscription and confirm it from your inbox.

Step 3: Create IAM Role for Lambda

Attach permissions to allow Lambda to read from S3 and publish messages to SNS.

Step 4: Create Lambda Function

Create a Lambda function with Python runtime and attach the IAM role. Add S3 PUT event trigger from the source bucket.

Final Working Lambda Code

```
import json
import boto3

sns = boto3.client('sns')

SNS_TOPIC_ARN = "arn:aws:sns:us-east-1:210370114401:Lambada-SNS"

def lambda_handler(event, context):
    print("Lambda triggered")
    print("Event:", json.dumps(event))

    if 'Records' not in event:
        return {
            "statusCode": 400,
            "body": "Invalid event source"
        }

    for record in event['Records']:
        bucket_name = record['s3']['bucket']['name']
        file_name = record['s3']['object']['key']
```

```

        event_time = record['eventTime']

        message = f'''
New File Uploaded to S3

Bucket Name: {bucket_name}
File Name: {file_name}
Upload Time: {event_time}
'''

        sns.publish(
            TopicArn=SNS_TOPIC_ARN,
            Subject="S3 File Upload Notification",
            Message=message
        )

    return {
        "statusCode": 200,
        "body": "Email notification sent successfully"
    }

```

Step 5: Testing

Upload any file to the S3 bucket. Lambda will trigger automatically and you will receive an email notification.