AWS Session 08

Summary 22-03-2024

- To store any data permanently, we need a storage device for that. Storage devices are pen drive, hard disk etc.

- There is no direct way to store the data in the hard-disk, first we have to keep the data in a file and for creating a file we need to create a directory and again to keep the directory inside the hard-disk we first have to create partition in it.

- Before creating the partitions, we must first format the storage.

- Now the point here is for storing any data we must fulfil all the above requirements.

- If we want this storage management to be done by the cloud providers then this concept is known as the Storage as a Service.

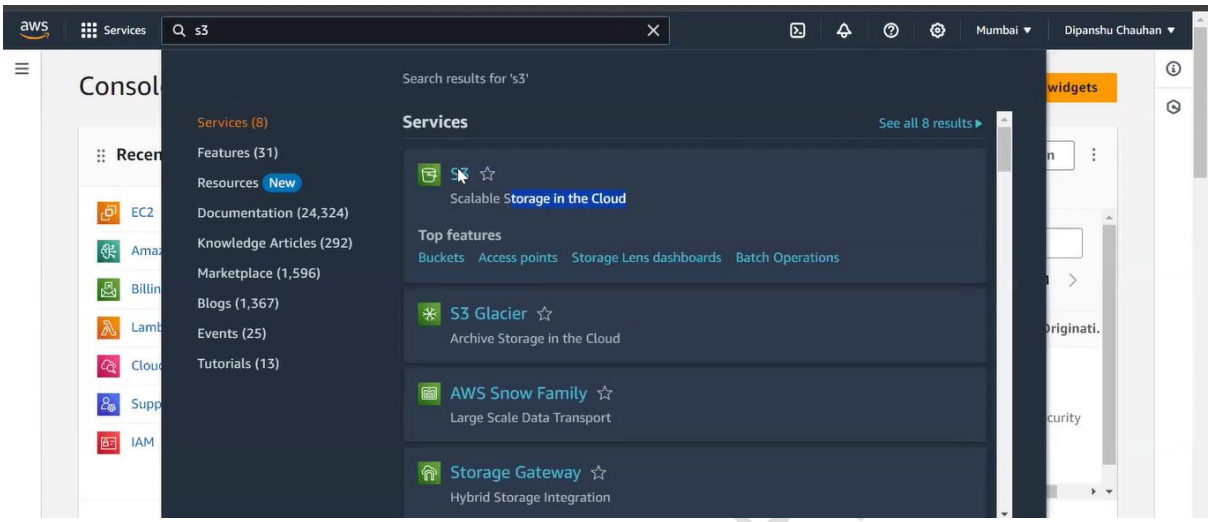
- All the minimum requirements that are needed to store the data will be fulfilled by the cloud provider and all we need to do is just store our data.

- S3 is a serverless service provided by the AWS and it is storage service which we can use to storage data of any size.

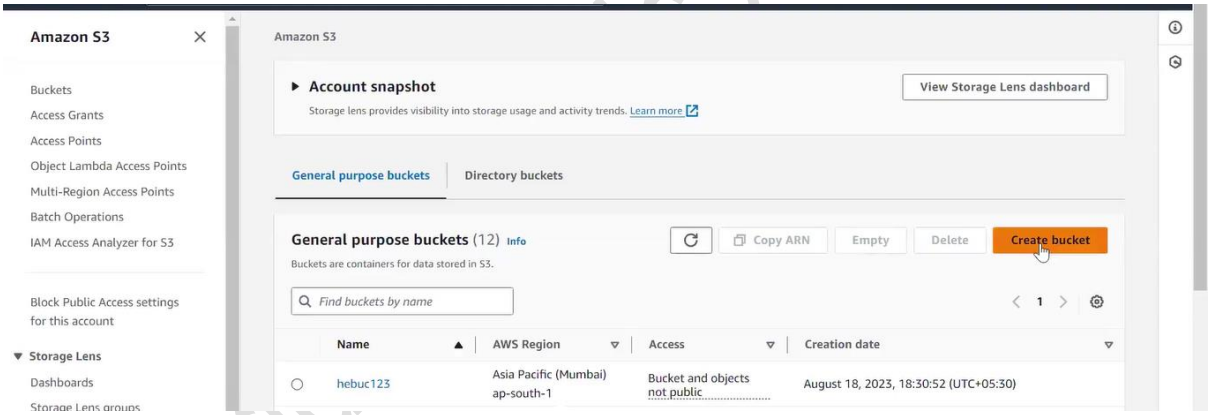
- Usually, we have three types of use cases of storages.

    - For storing the objects, we have the object storage (S3 Service)
    - For block storage we have the EBS Service.
    - For file storage we have the EFS Service

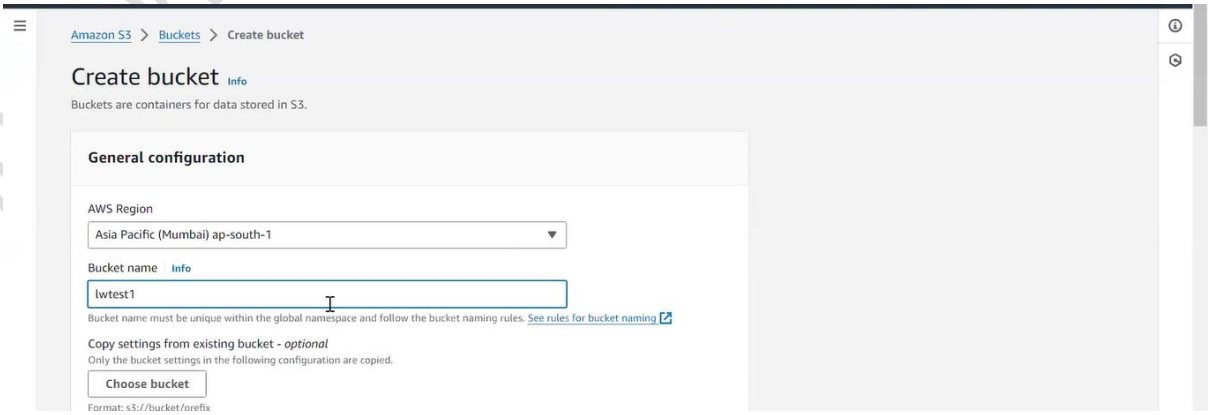
- Using the S3 service
  - Go to the S3 service in the AWS Console.



  - To upload anything we have to first create the Bucket, bucket is like a folder.

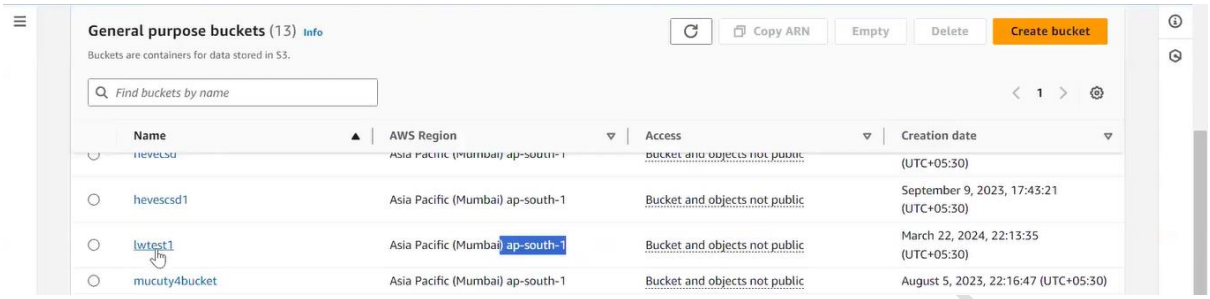


  - Configure the bucket by selecting the region and the bucket name.

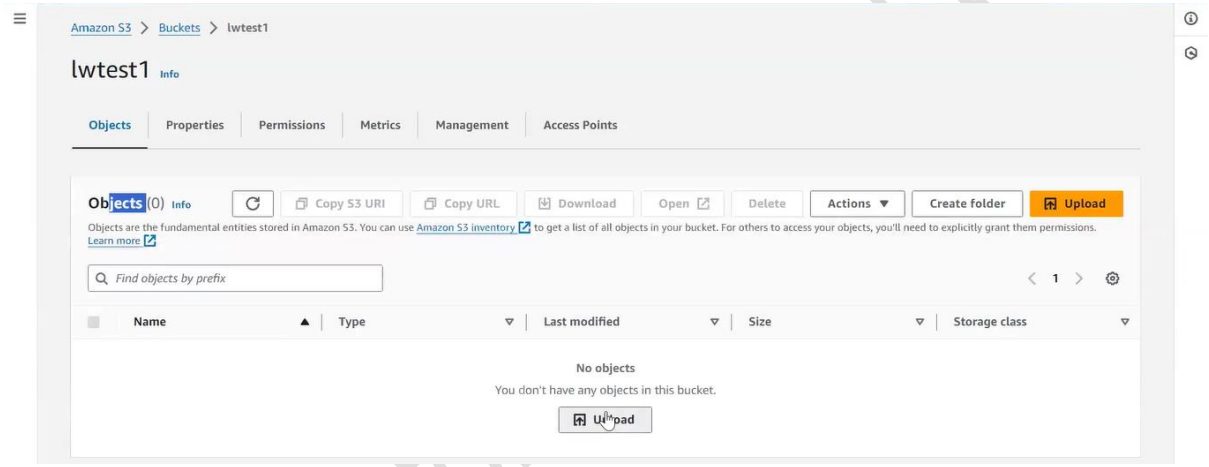


  - There is one thing to keep in mind that the bucket name should be unique globally.

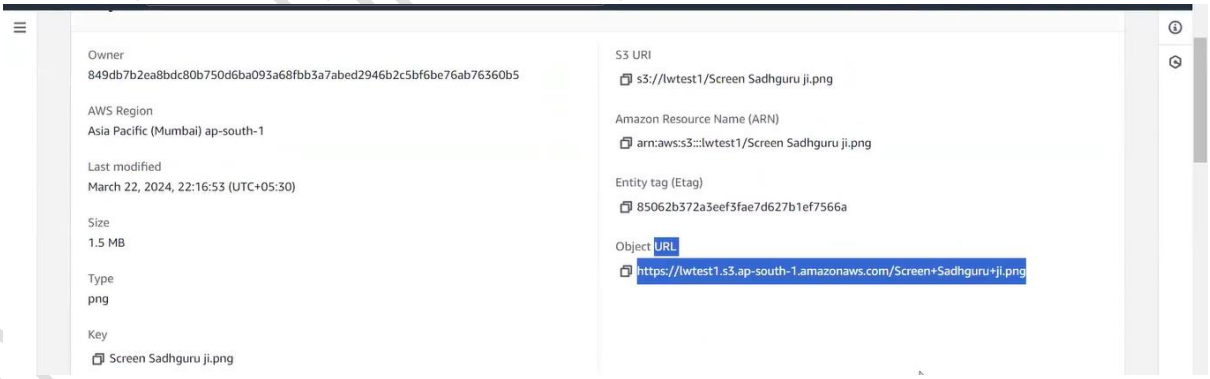
- Now go to the bucket we have created.



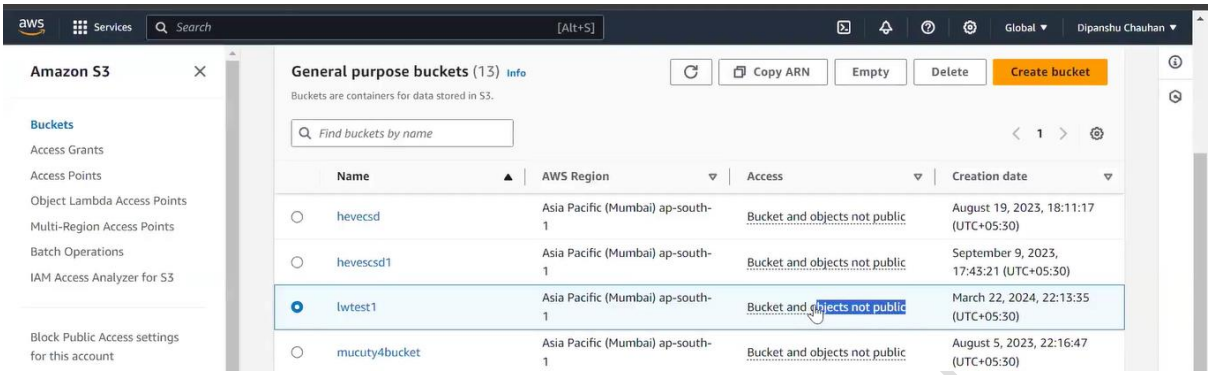
- To upload anything in the bucket, click on the upload button and select the file to be uploaded.



- This object is sharable which means we can share the url to anyone and they can access it easily.

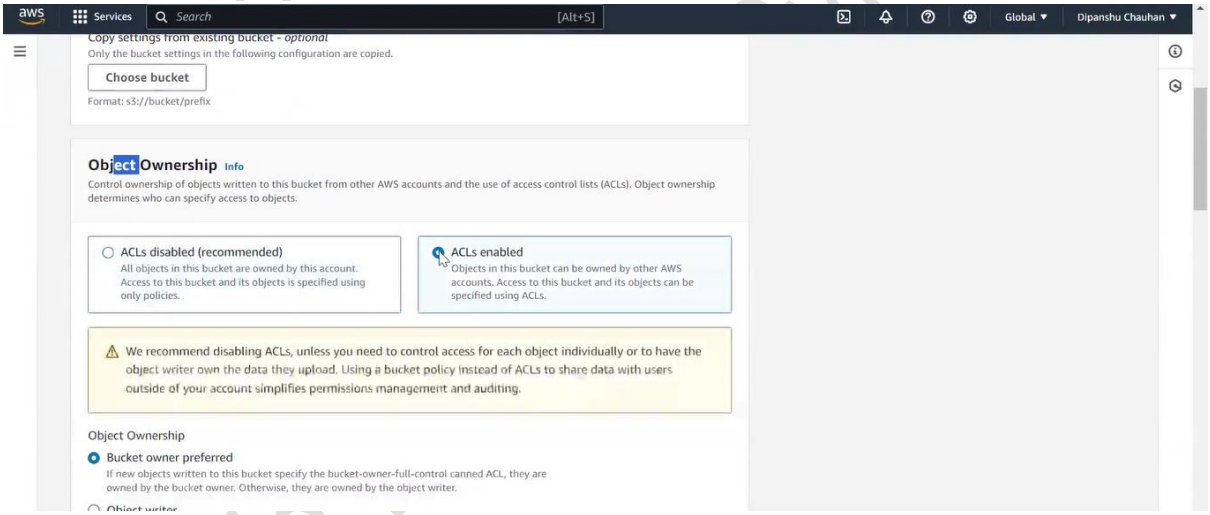


- By default, the bucket and the objects are not public due to some security reasons.

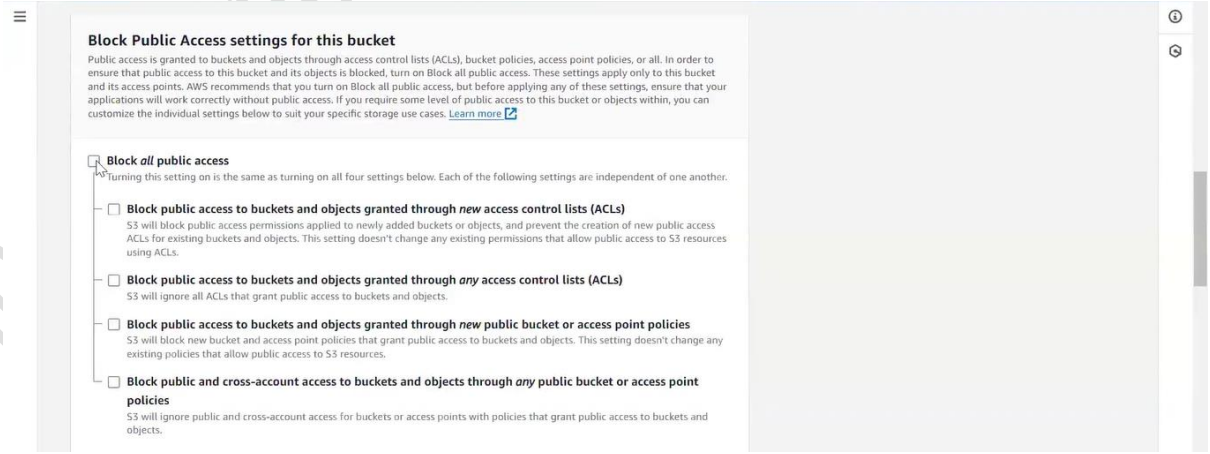


- Let's create a new bucket that have a public access.

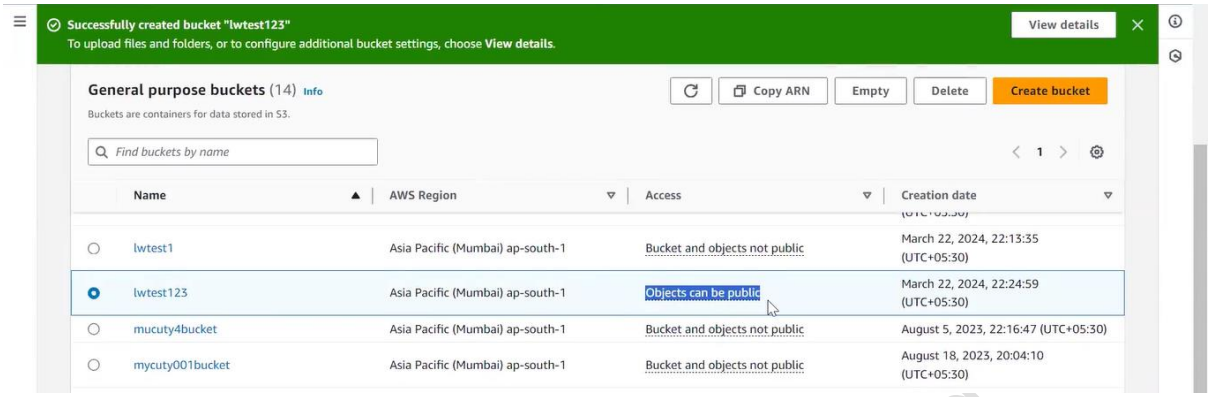
  - While creating the bucket and configuring it, in the object ownership option enable the ACL.



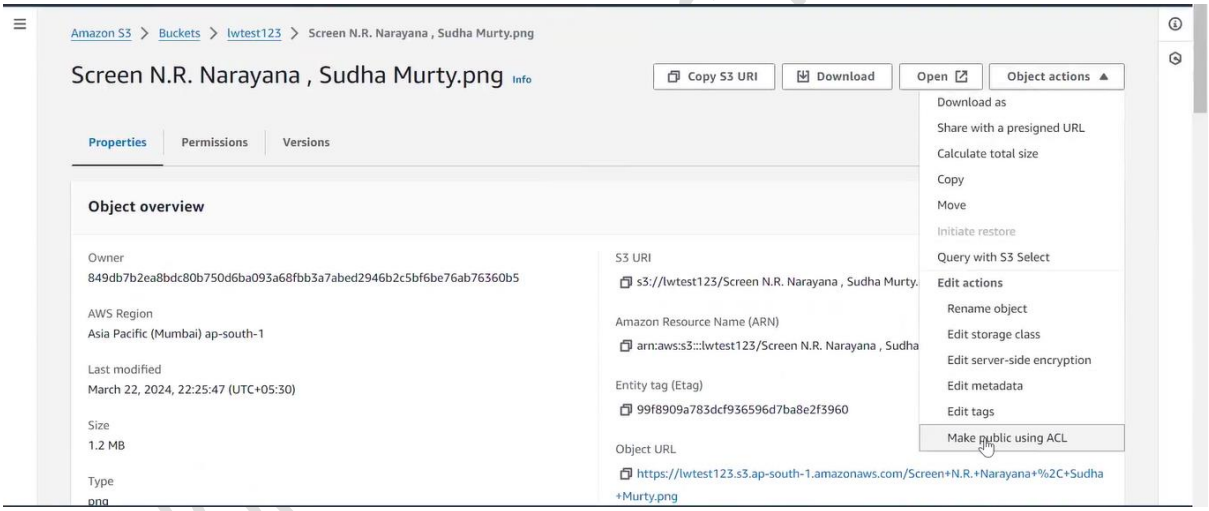
  - Also disable this option.



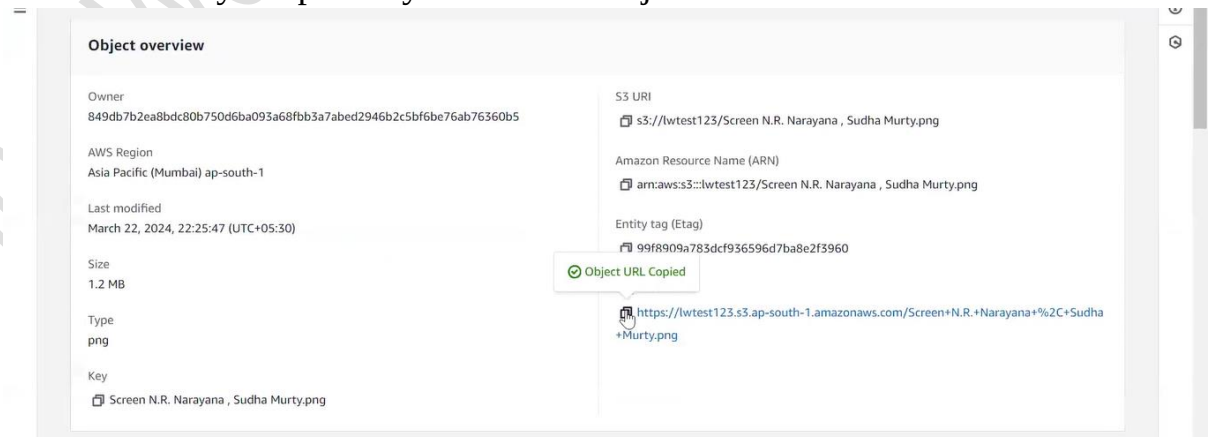
  - Now we can see that the object and the bucket have the public access which means anyone in the world can access that object or the data.



- Again there might be a chance that the object will deny the public access.
- For that we have to make some changes in the object permissions.
- Click on the object actions and select "make public using ACL".



- Now anyone publicly can use the object URL to access it.



- S3 service is so popular because of its durability, it guarantees the durability of eleven 9's which is close to the 100 percent. This means that the data we are storing is very safe as compared to our physical hard disk.

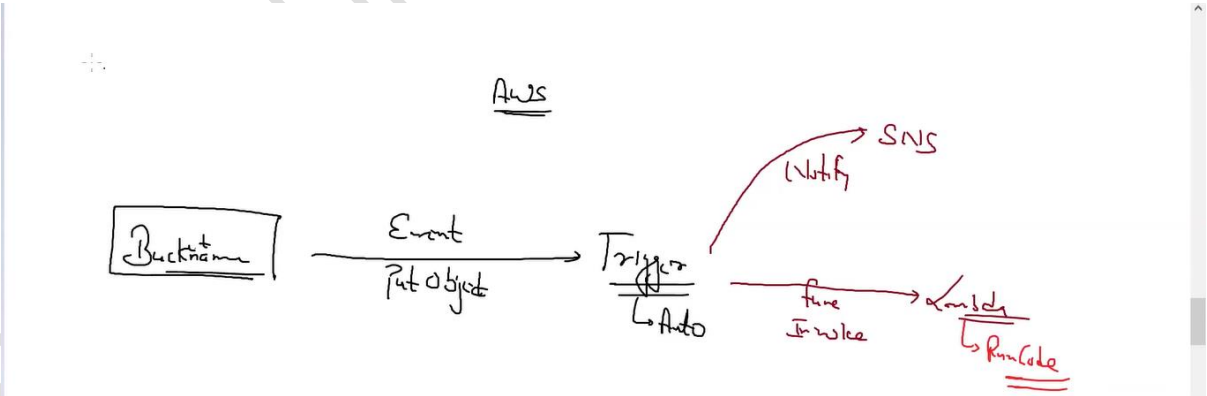
- Whenever we do anything in any service, AWS keep on track of everything this is a known **event**.

- Here we are integrating S3, Lambda function, and SNS serverless services. Through all these services integration we are building a project that is based on **event-driven architecture**.

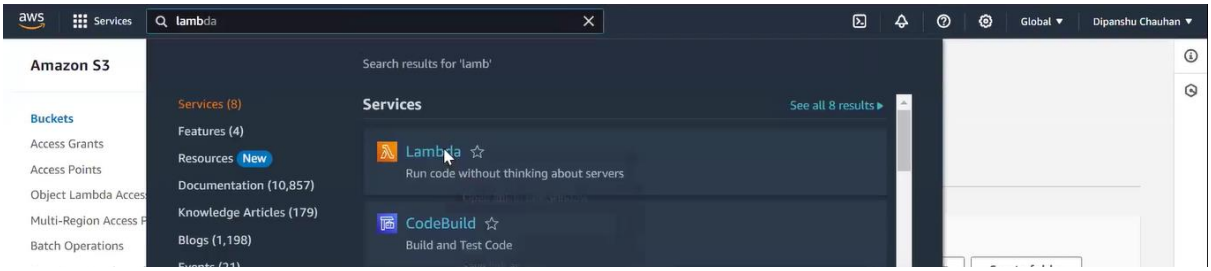
- AWS keeps the eye on all the events happening in any service. Example of the events may be put, delete of object in the S3.

- We can create an event driven architecture in which we will integrate the S3, Lambda, SNS services.

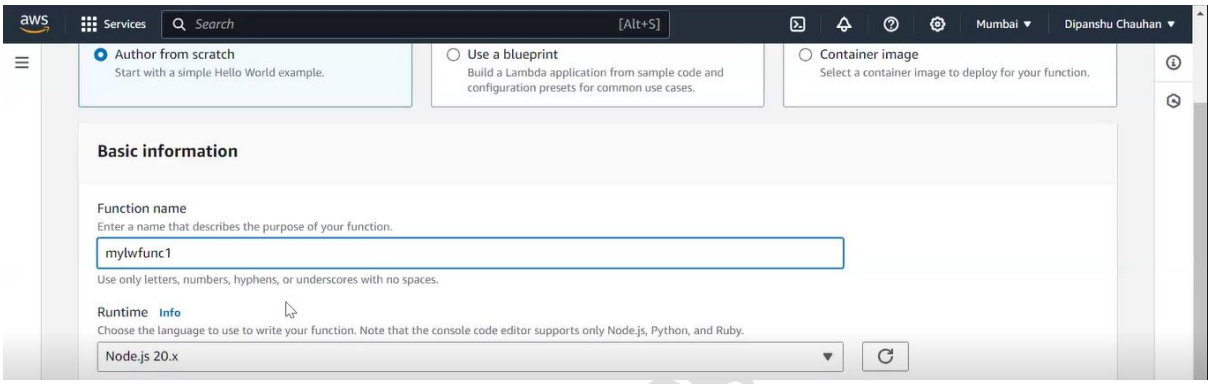
- Whenever any event occurs in the bucket it will trigger something, maybe it is sending the notification about the event.



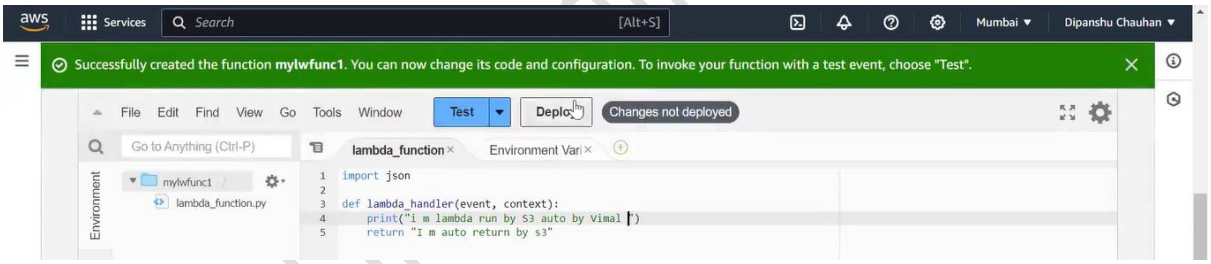
- Creating the Event driven architecture.
  - We have to tell what we want whenever any event occurs.
  - Our requirement is whenever any event occur in the bucket, we must be notified about that.
  - First setup the lambda so that we can trigger anything.



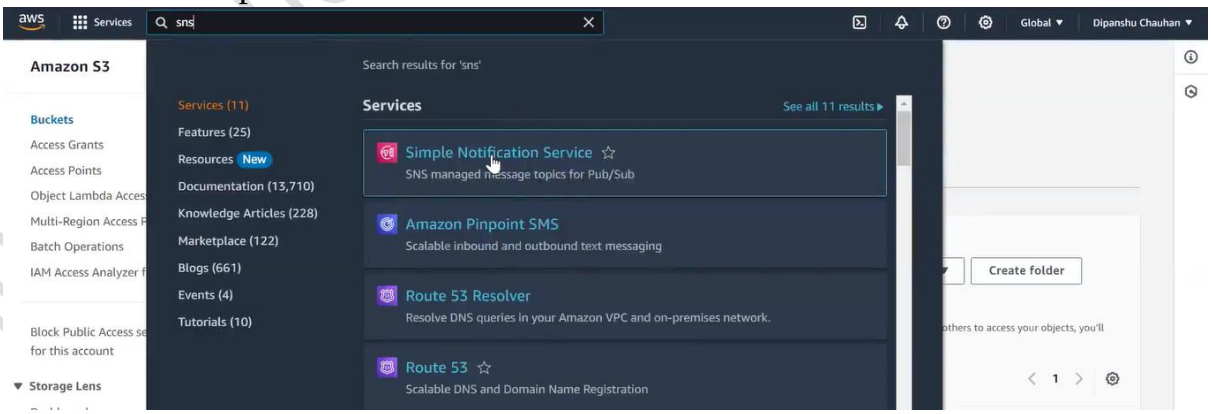
- Create the lambda function.



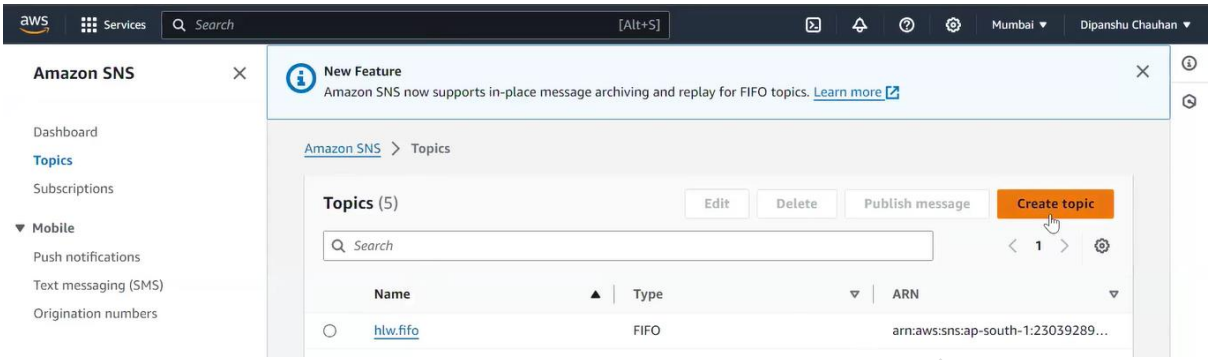
- After creating the lambda function, write this code and deploy it.



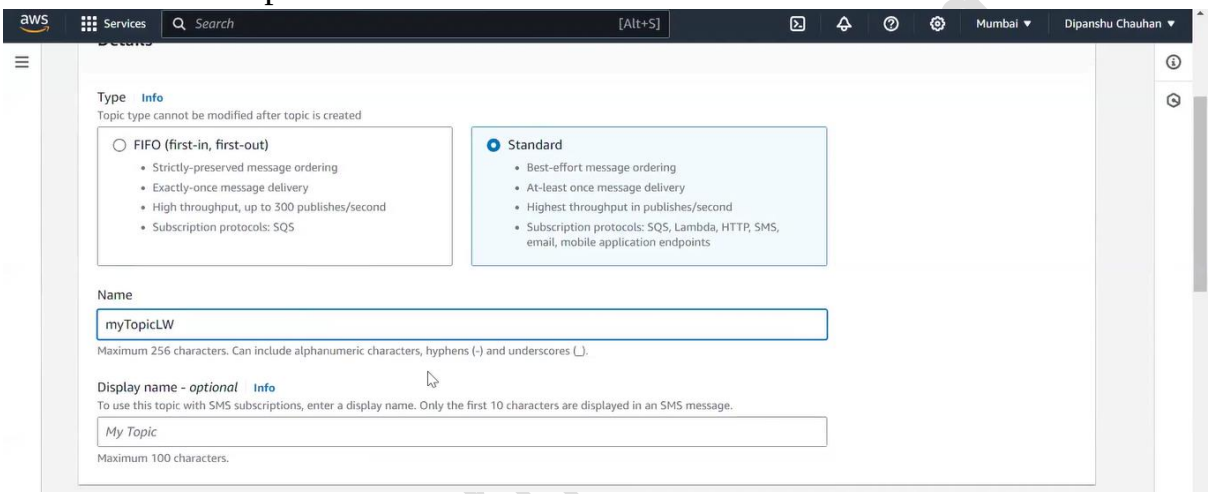
- Also setup the SNS service.



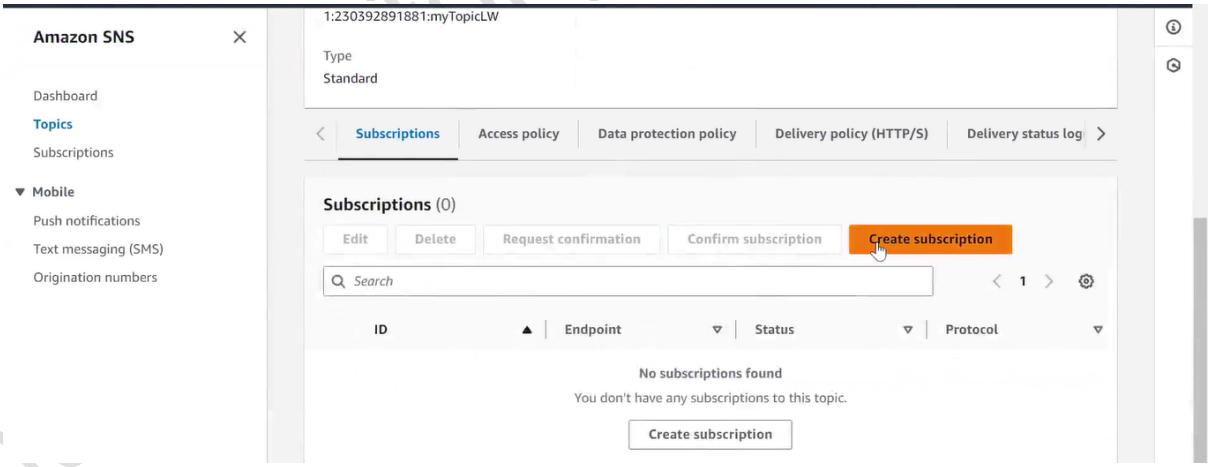
- Create the new SNS topic.



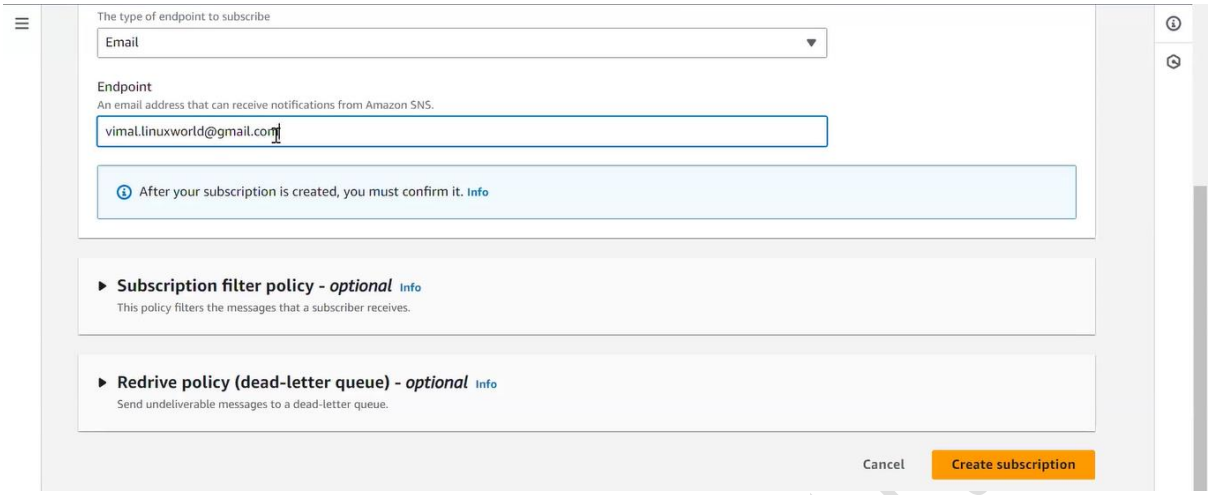
- Give the topic a name.



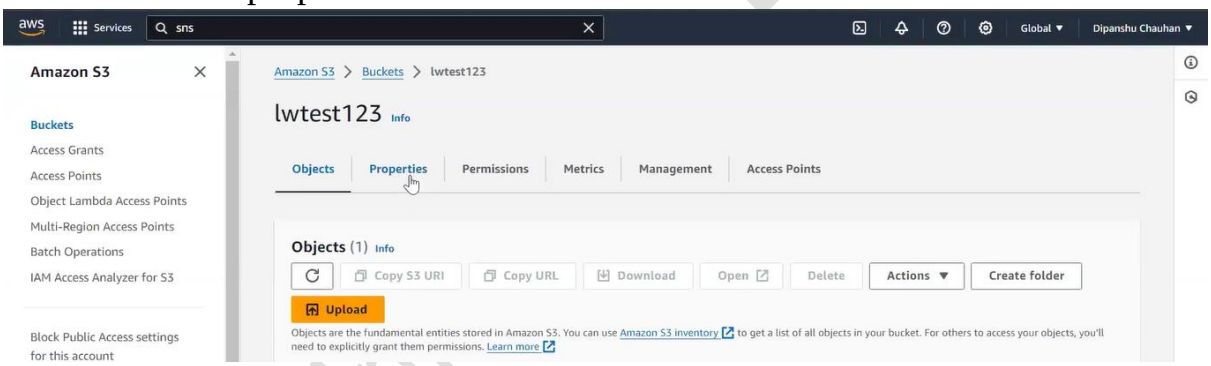
- Create the subscription for the topic.



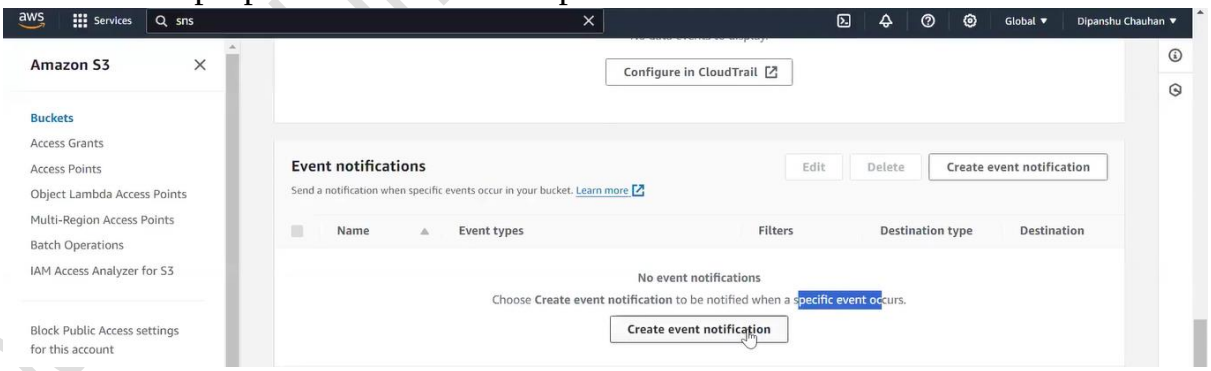
- Here we have to give the email address on which we want to receive the notification.



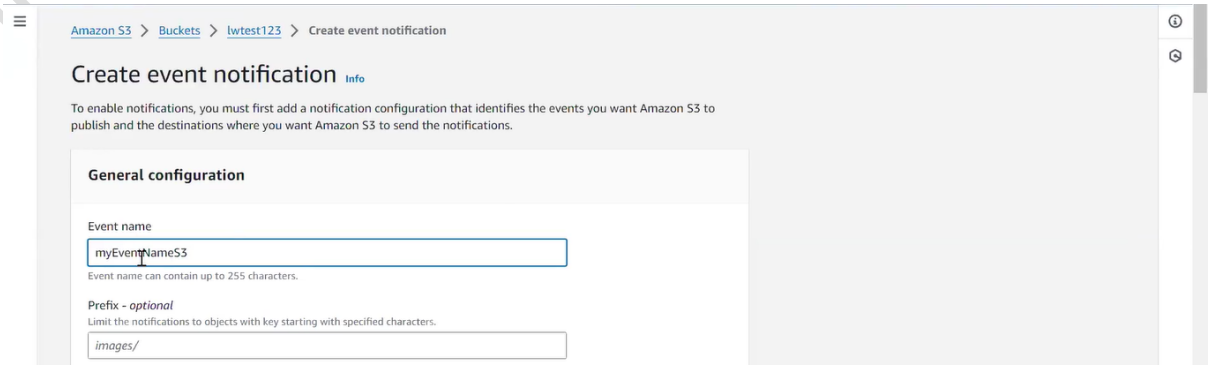
- Now we want the S3 to invoke the lambda function and the SNS service.
- Go to the properties of the bucket.



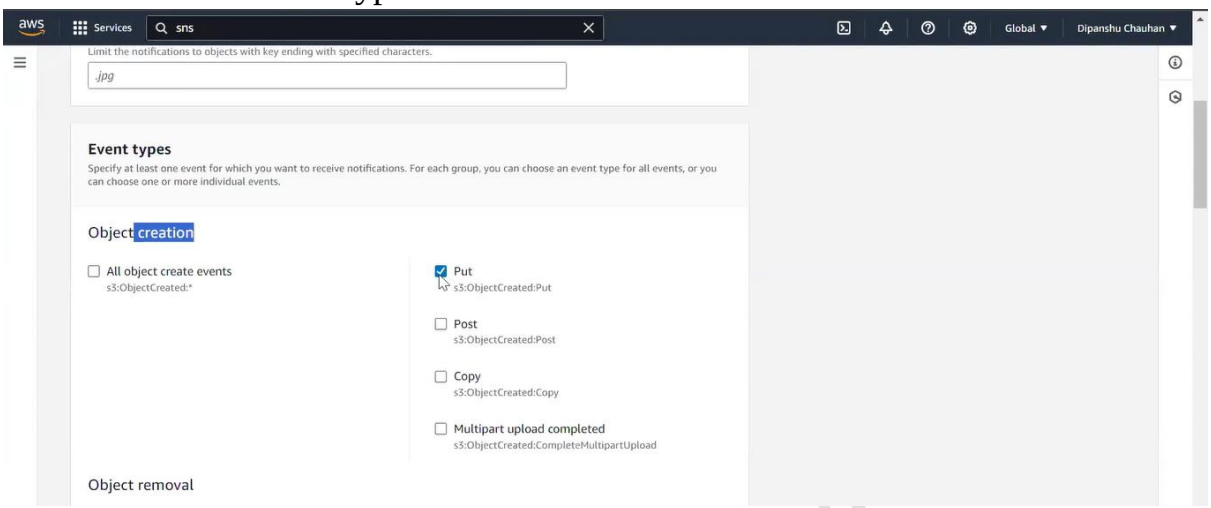
- In the properties we have the option for Event notification.



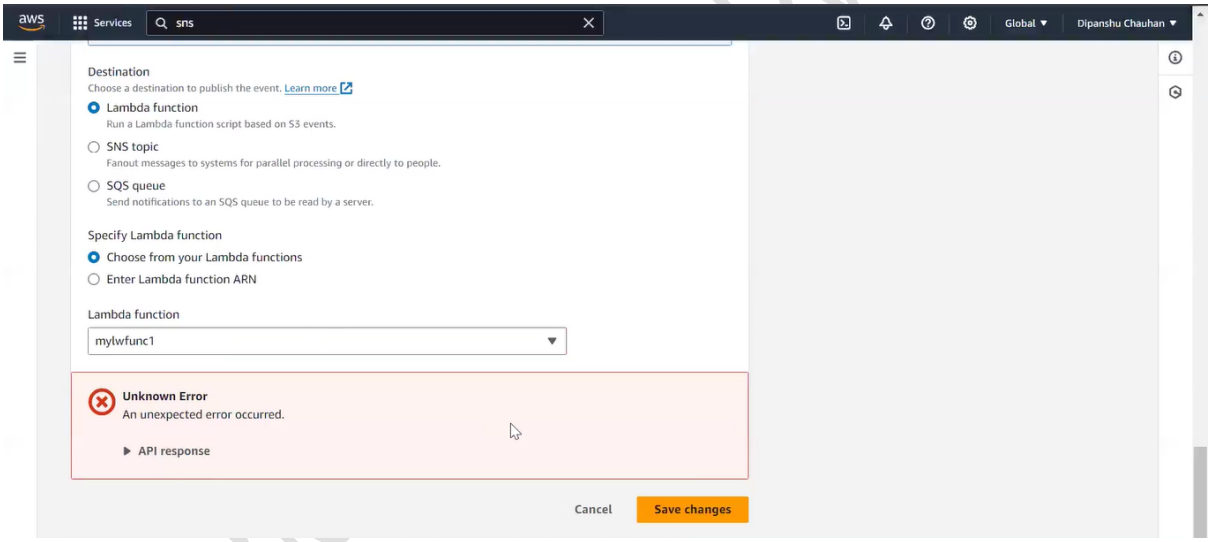
- Give this event a name.



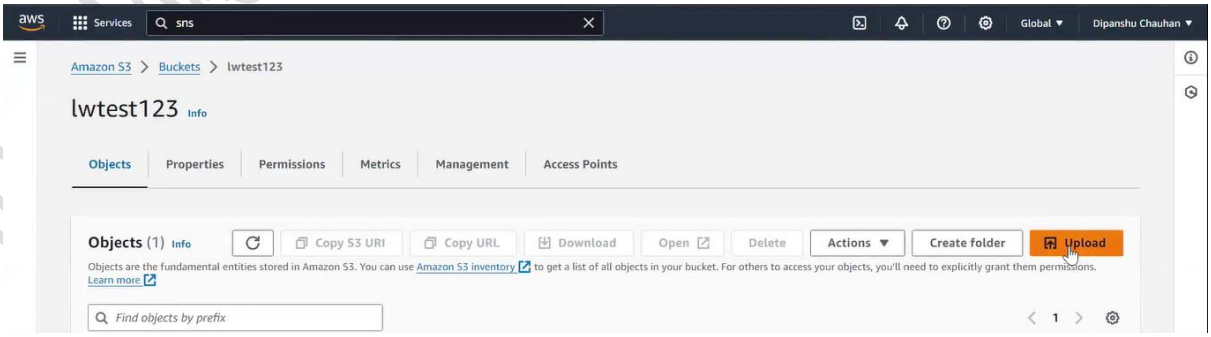
- Select the event type here.



- Select the Lambda function in the destination.



- Now as soon as we upload or put anything in the S3 bucket it will trigger the lambda function.



- We can see the details in the cloud watch logs of the lambda function.