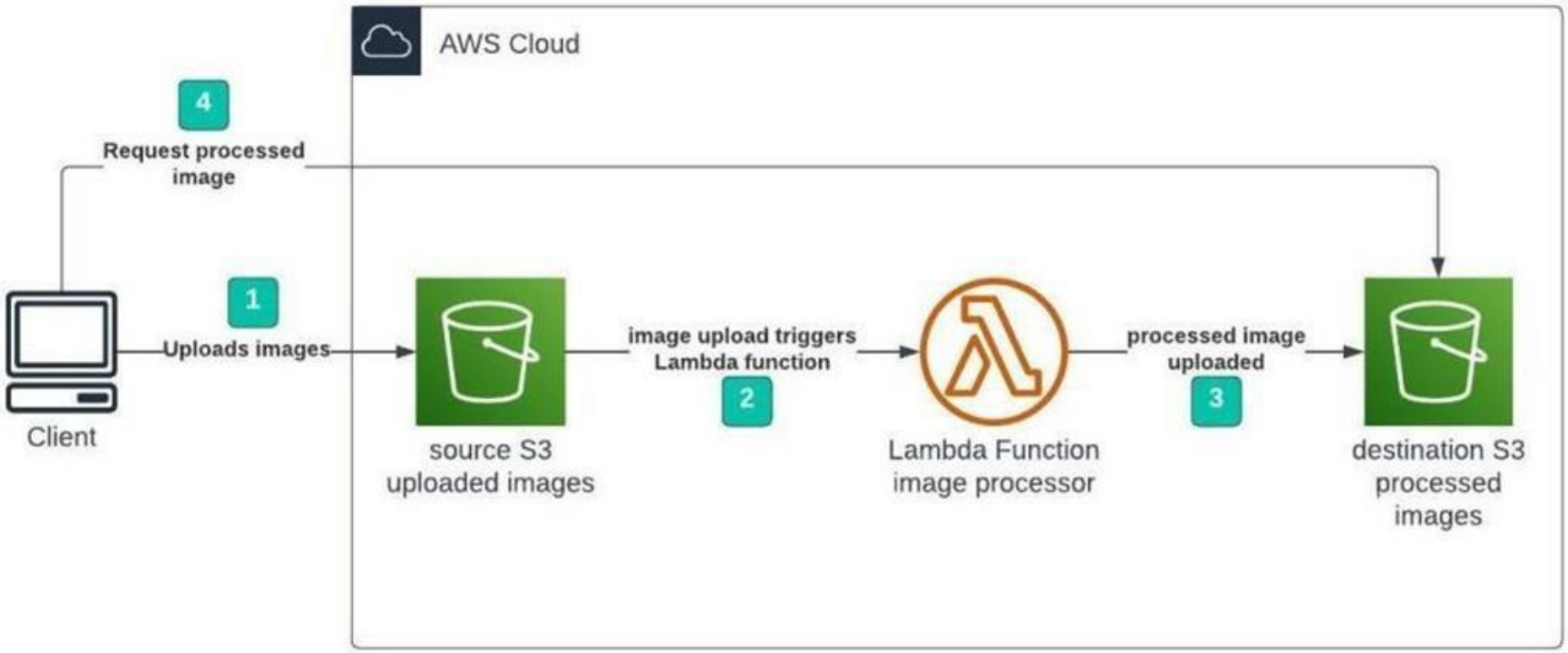
Serverless Image processer



Serverless Image Processor

INDEX

- **LAB STEPS:-**

Task 1: Sign in to AWS Management Console

1. Click on the Open Console button, and you will get redirected to AWS Console in a new browser tab.

2. On the AWS sign-in page,

- Leave the Account ID as default. Never edit/remove the 12 digit Account ID present in the AWS Console. otherwise, you cannot proceed with the lab.

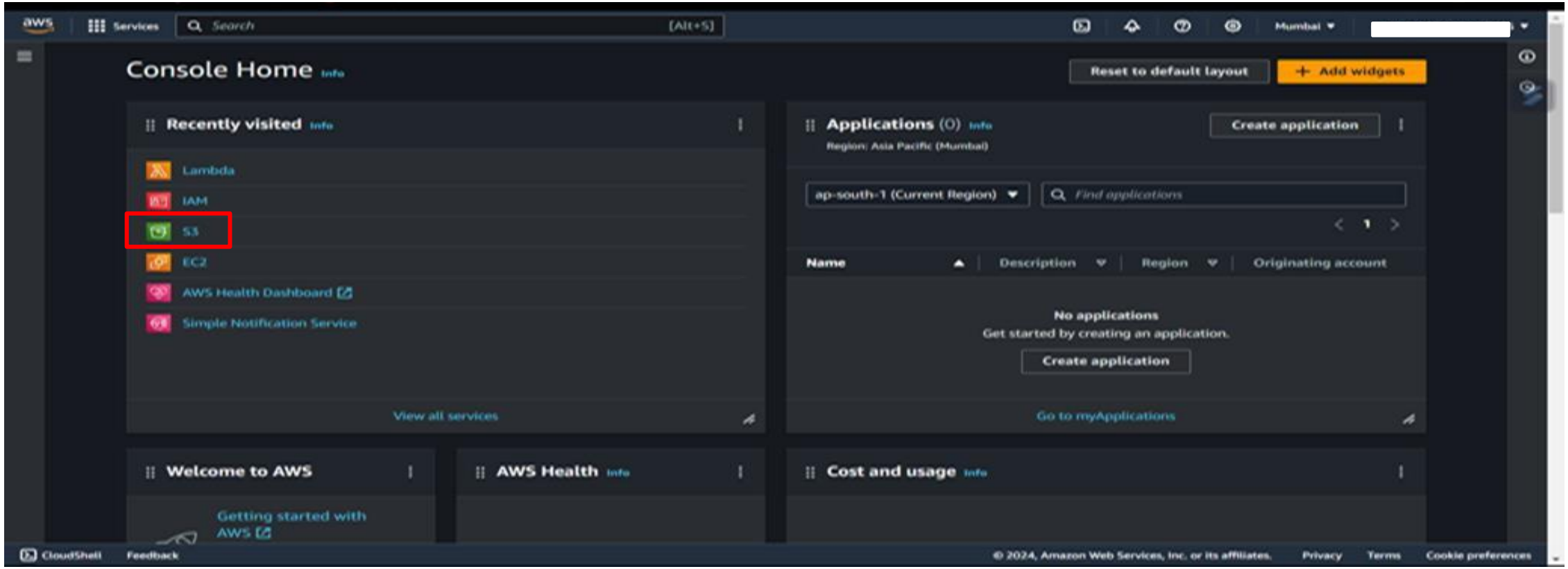
- Now copy your User Name and Password in the Lab Console to the IAM Username and Password in AWS Console and click on the Sign in button.

3. Once Signed In to the AWS Management Console, Make the default AWS Region as US East (N. Virginia) us-east-1.

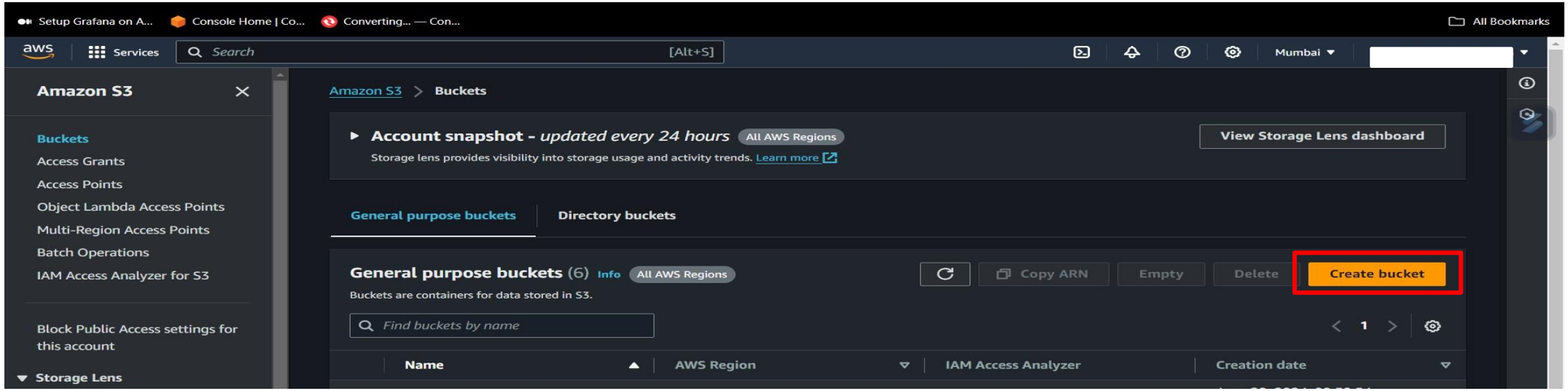
❖ Create Two Amazon S3 Buckets

In this task, we will create two AWS S3 buckets i.e the source bucket and the destination bucket by providing the required configurations like name, region etc.

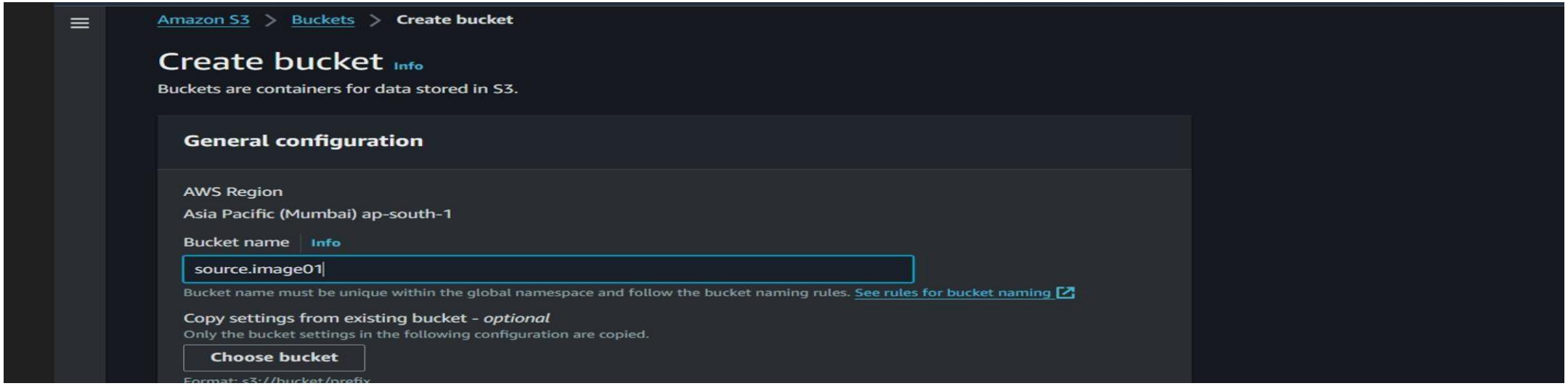
1. Navigate to the **Services** menu in the Top, then click on **S3** in the storage section.



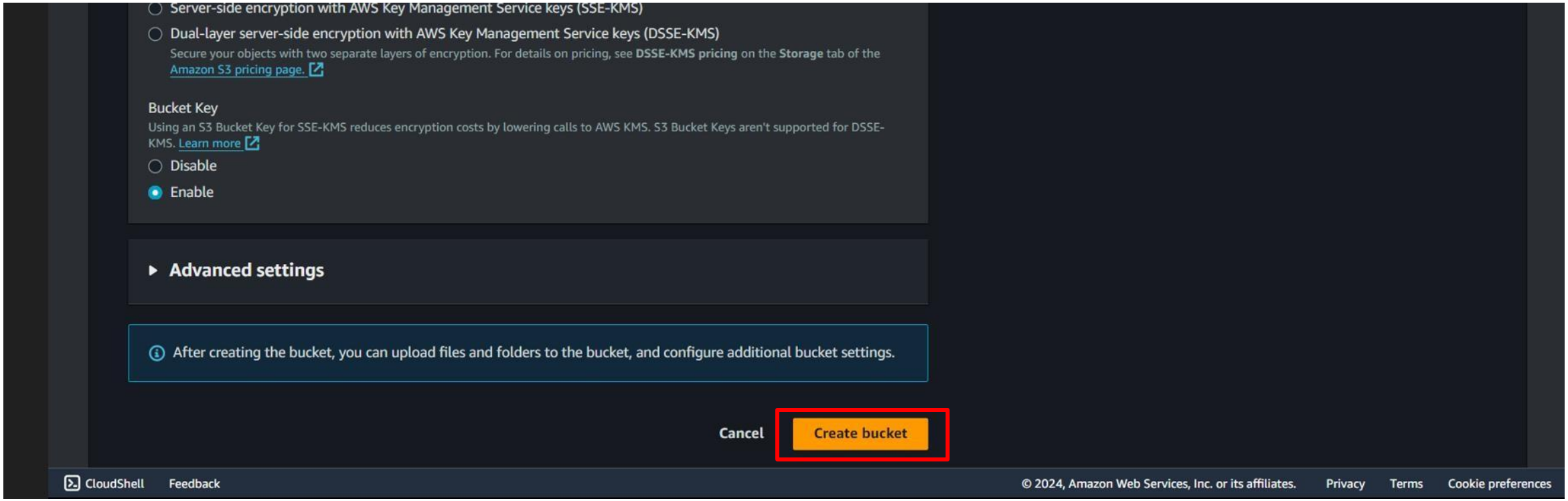
2. Click on Create Bucket button.



3. Create Source Bucket



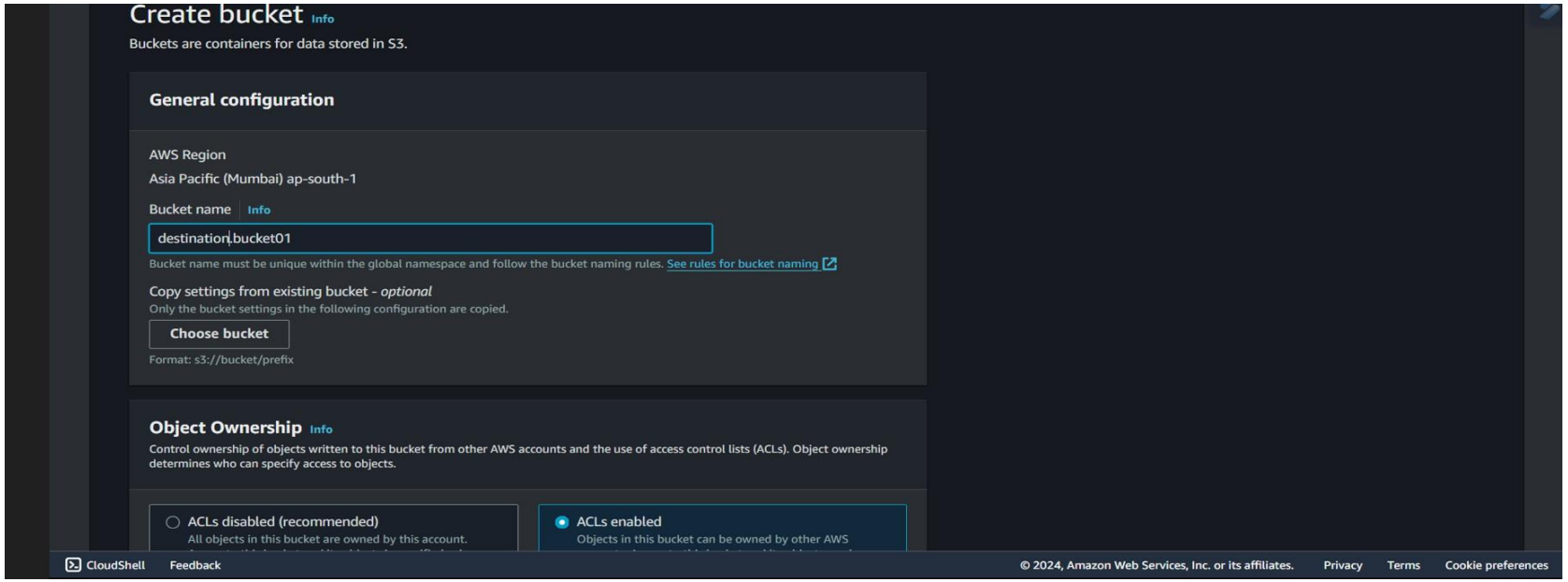
4. Leave Other settings as Default and click on the **Create Bucket** button



5. Once the Bucket is created successfully, Select your S3 bucket.

- Click on the Copy ARN button to copy the ARN.
- Save the source bucket ARN in a text file for later use.
- arn:aws:s3:::source.bucket01

6. Create Destination Bucket

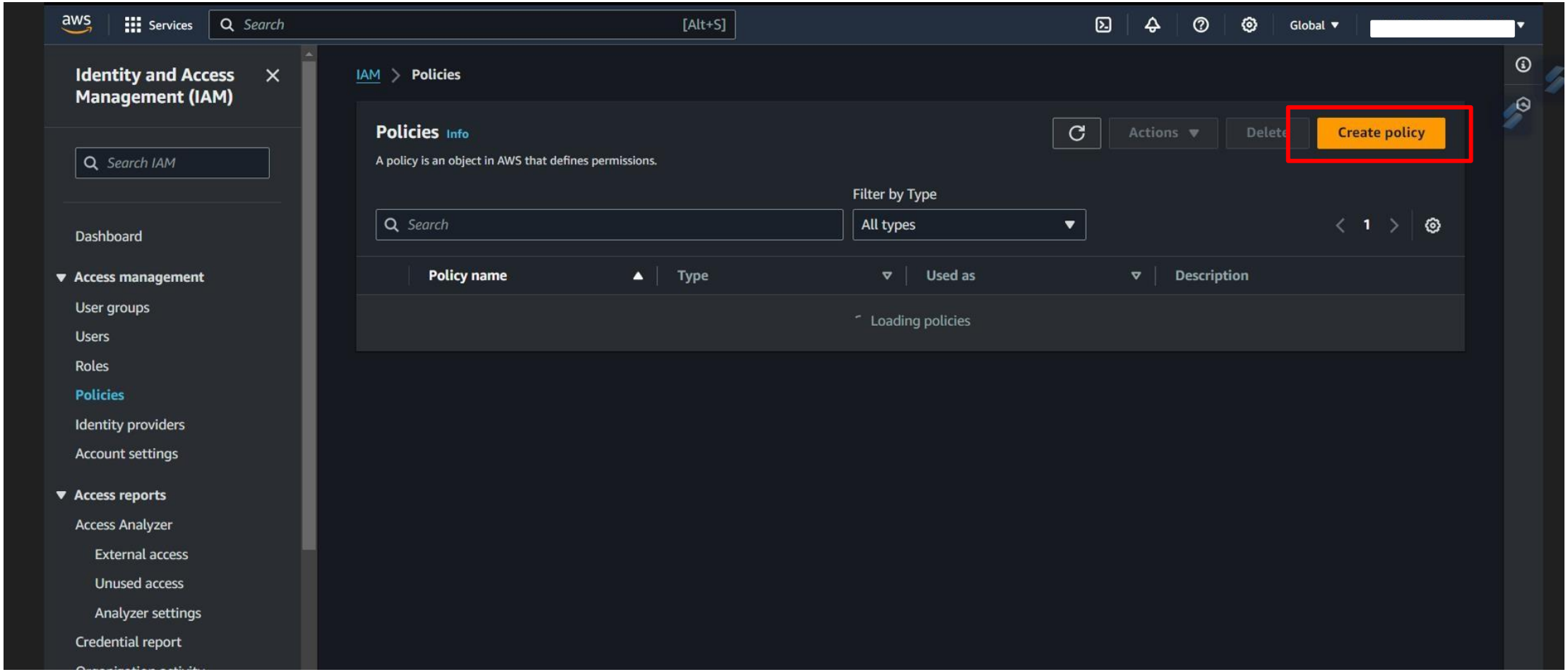


7. Leave Other settings as Default and click on the **Create Bucket** button
8. Once the Bucket is created successfully, Select your S3 bucket.
   - Click on the Copy ARN button to copy the ARN.
   - Save the source bucket ARN in a text file for later use.
   - arn:aws:s3:::destination.bucket01

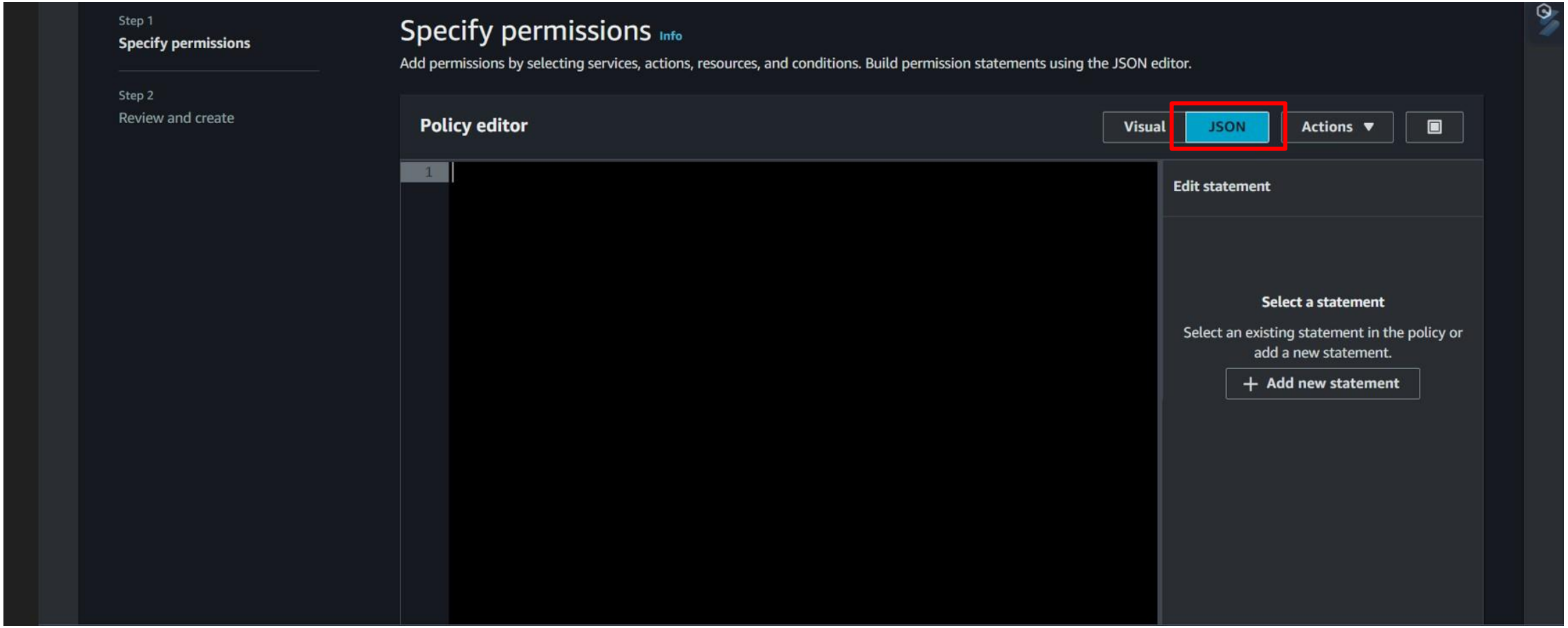
Task 3: Create an IAM Policy

1. Go to **Services** and Select **IAM** under **Security, Identity and Compliance.**

2. Click on **Policies** in the left navigation bar and click on the **Create policy** button.



3. Click on the **JSON** tab, Remove the existing code and copy-paste the below policy statement into the editor:



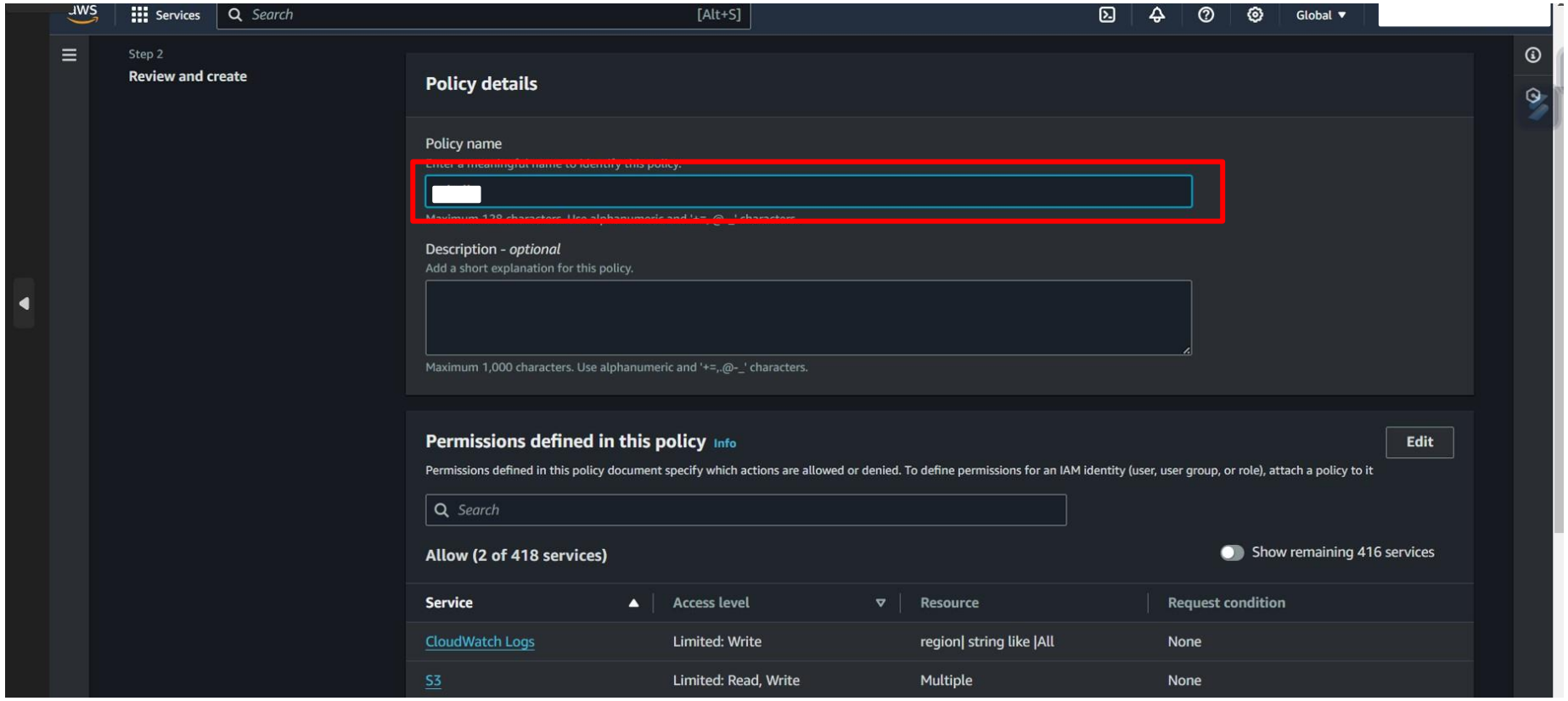
- **Policy JSON:**

```
{
"Version": "2012-10-17",
 "Statement": [
  {
   "Effect": "Allow", "Action": [ "logs:PutLogEvents",
    "logs:CreateLogGroup",
    "logs:CreateLogStream"
   ],
   "Resource": "arn:aws:logs:*:*:*"
  },
  {
   "Effect": "Allow",
   "Action": ["s3:GetObject"],
   "Resource": "arn:aws:s3:::source.bucket01/*"
  },
```

```
    {
     "Effect": "Allow",  "Action": ["s3:PutObject"],
     "Resource": "arn:aws:s3:::destination.bucket01/*"
    }
   ]
}
```

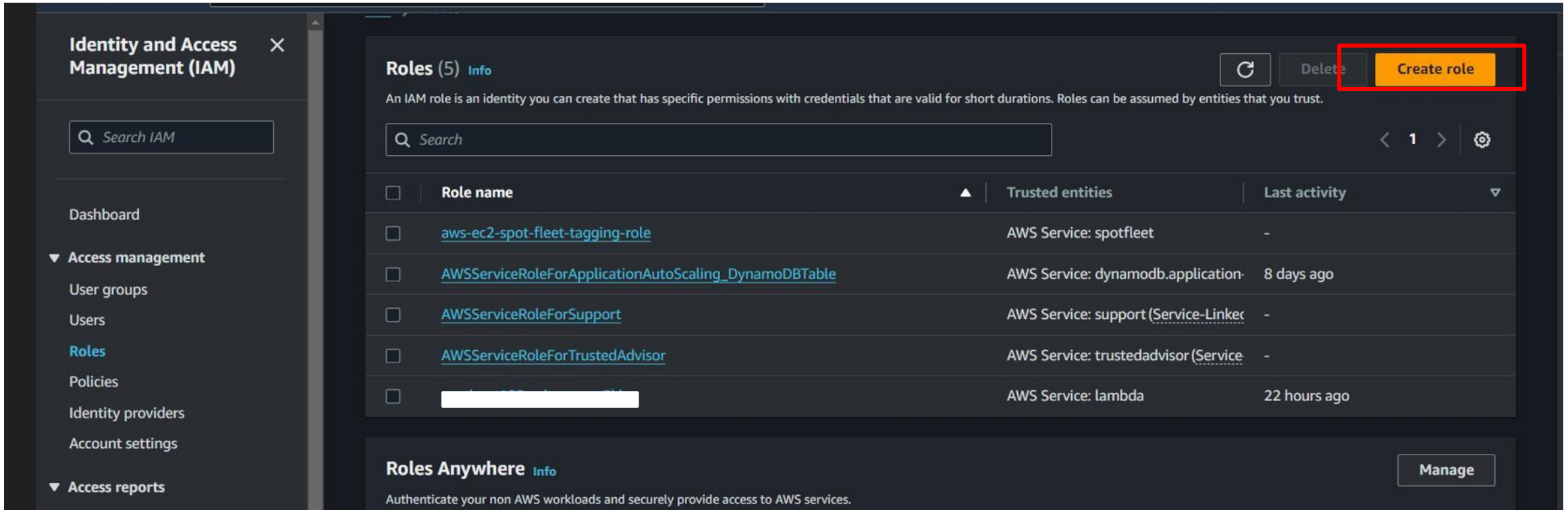
4. Leave Everything as default and click on **Next** button.

5. On the Review Policy page:
6. Enter **Policy Name and** Click on the **Create policy** button



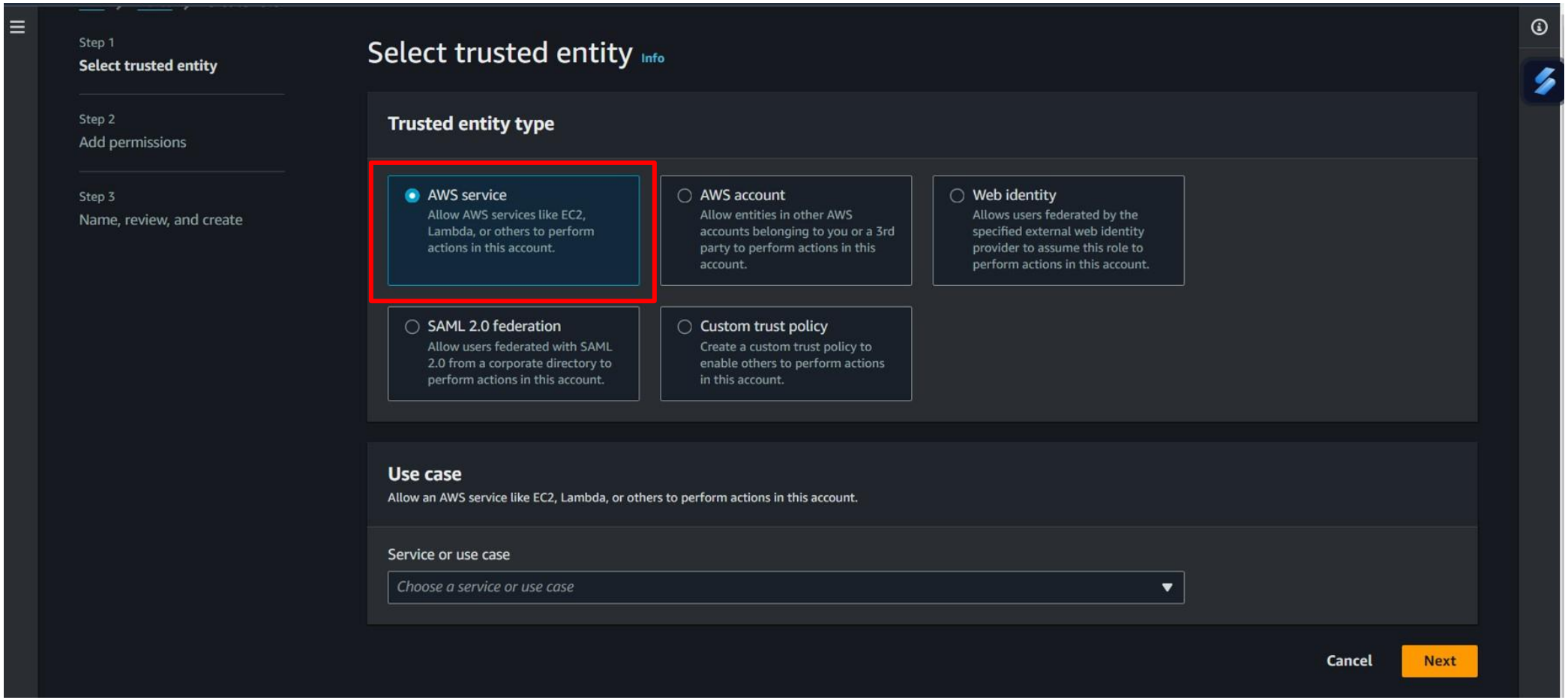
Task 4: Create an IAM Role

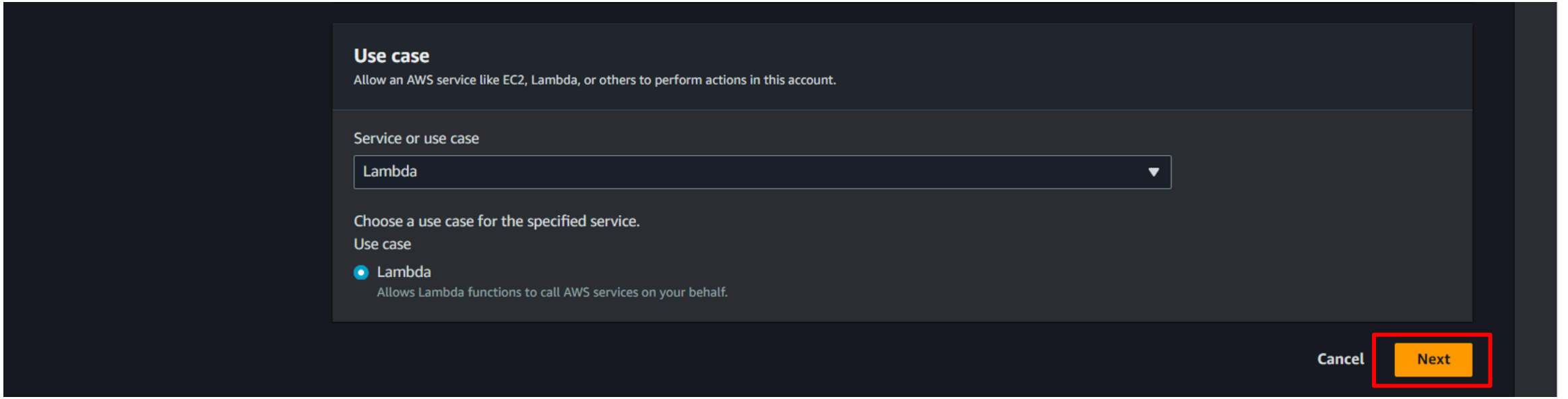
1. In the left menu, click on **Roles** and click on the **Create Role** button.



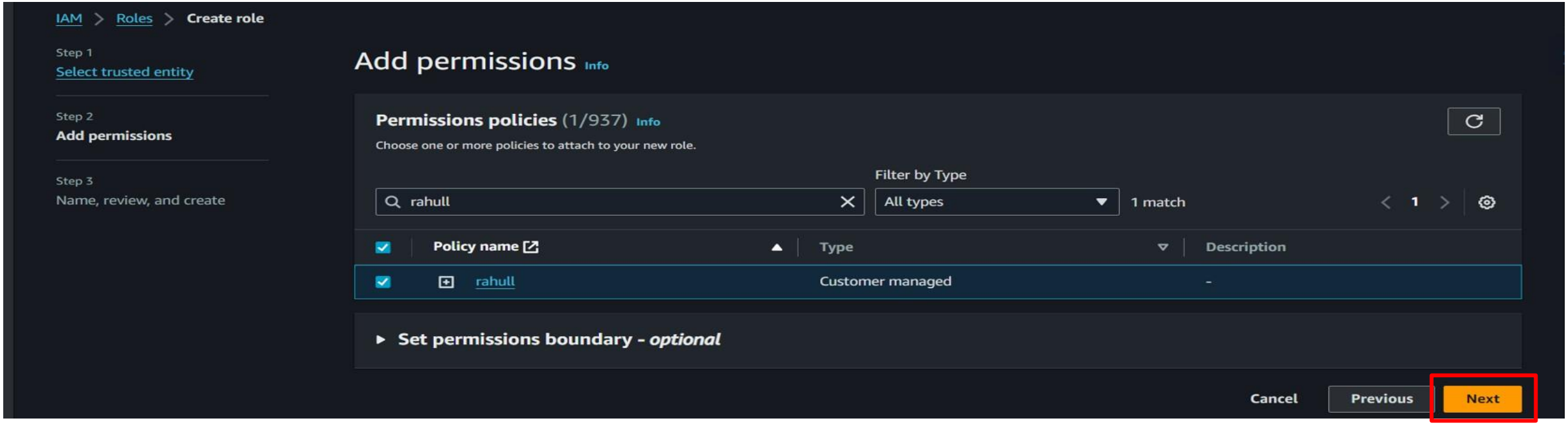
2. Select Lambda from AWS Services list.

- From Trusted Entity Type: Select AWS Service
- From Use case: Select Lambda
- Click on Next button.





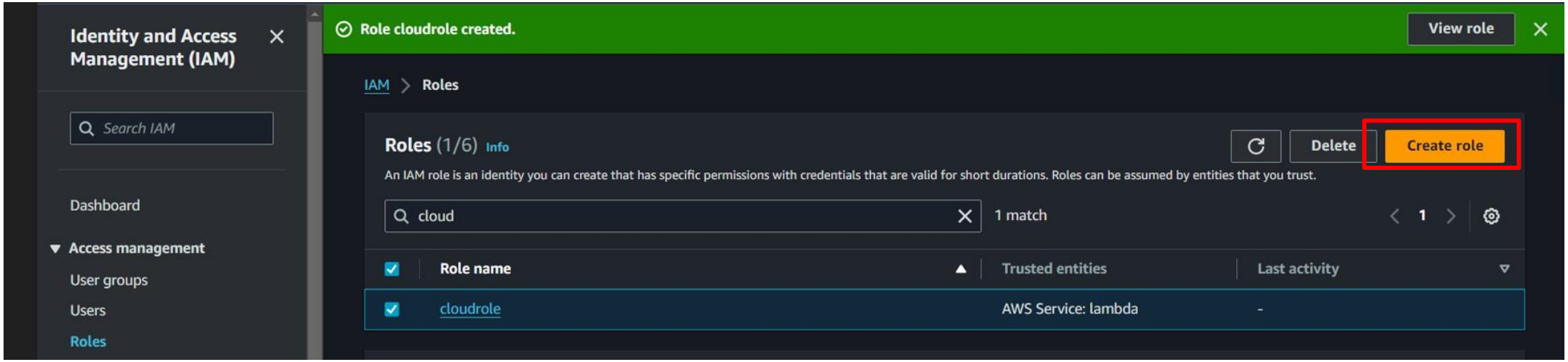
3. Select your **policy** and click on the **Next** button.



4. **Role Name**: Enter **cloudrole**

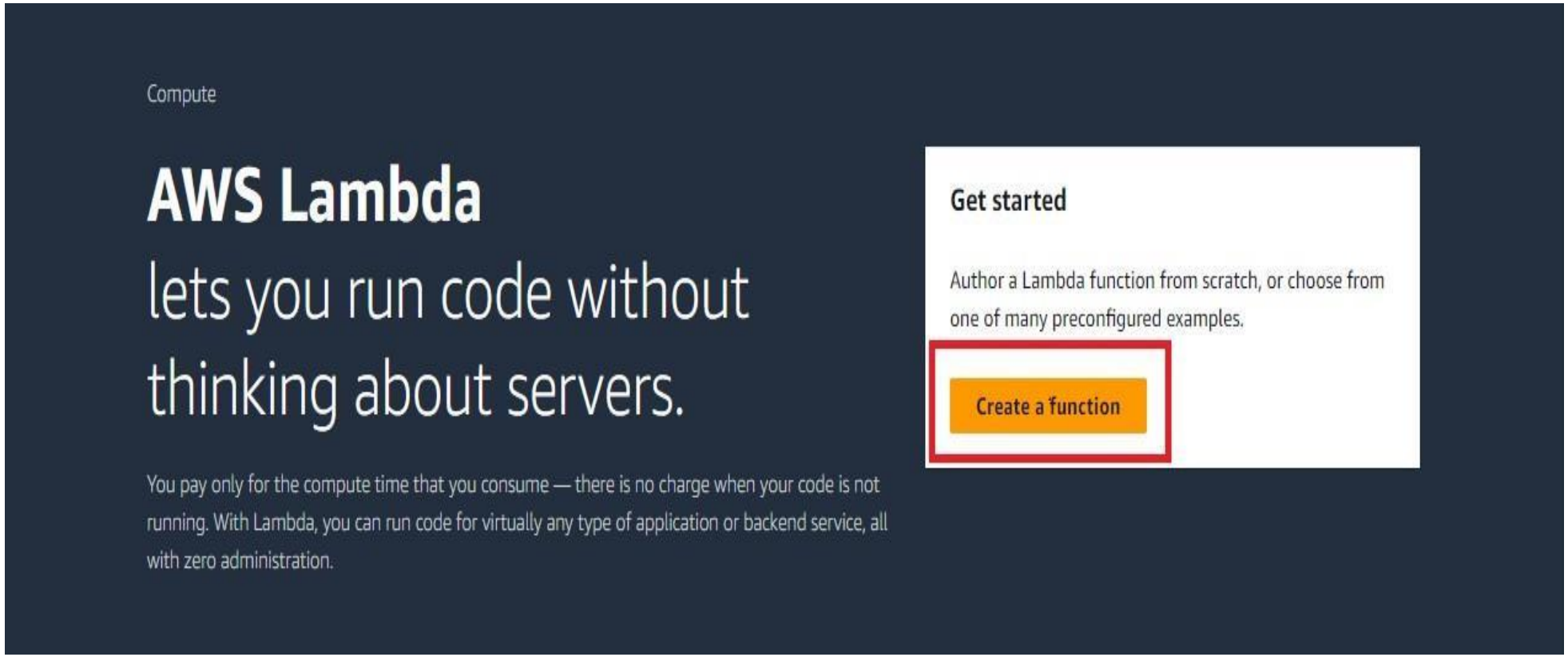
5. Click on the **Create Role** button.

- You have successfully created an IAM role by name cloudrole.

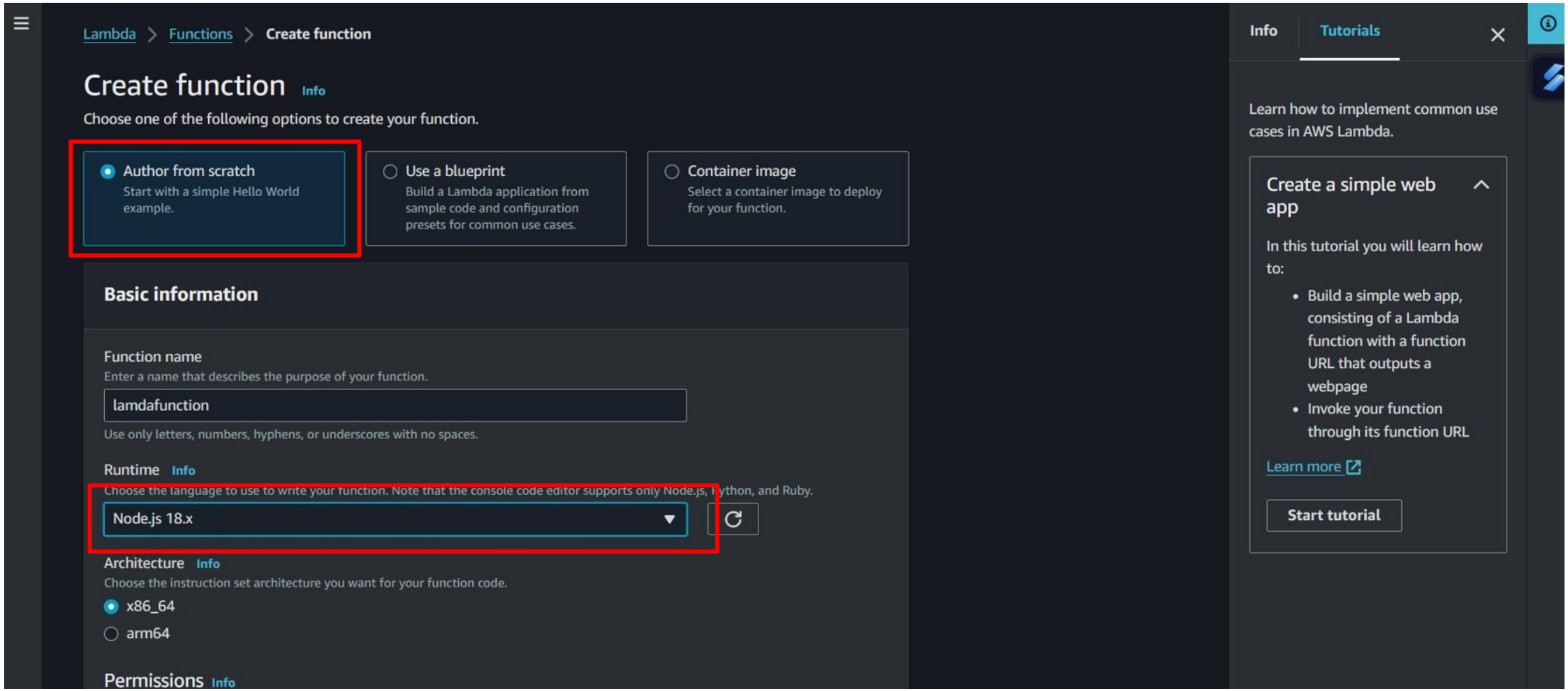


Task 5: Creating Lambda function

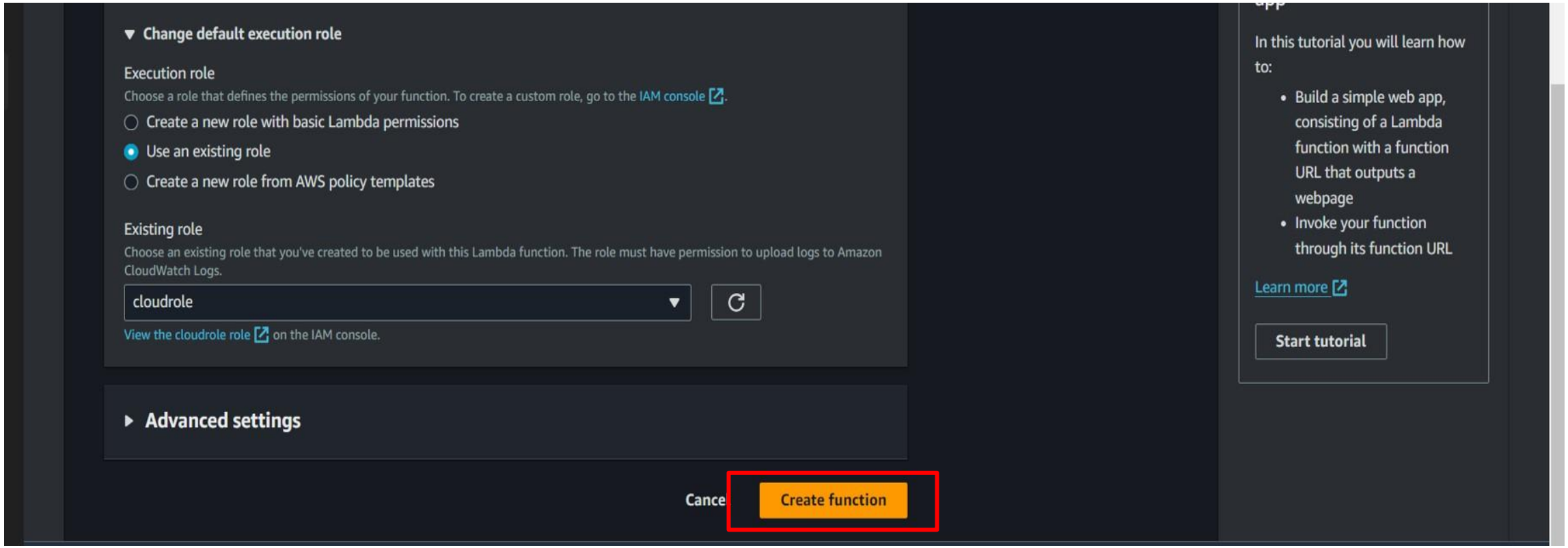
1. Go to AWS Lambda Console, Navigate to functions section . Click **Create function**



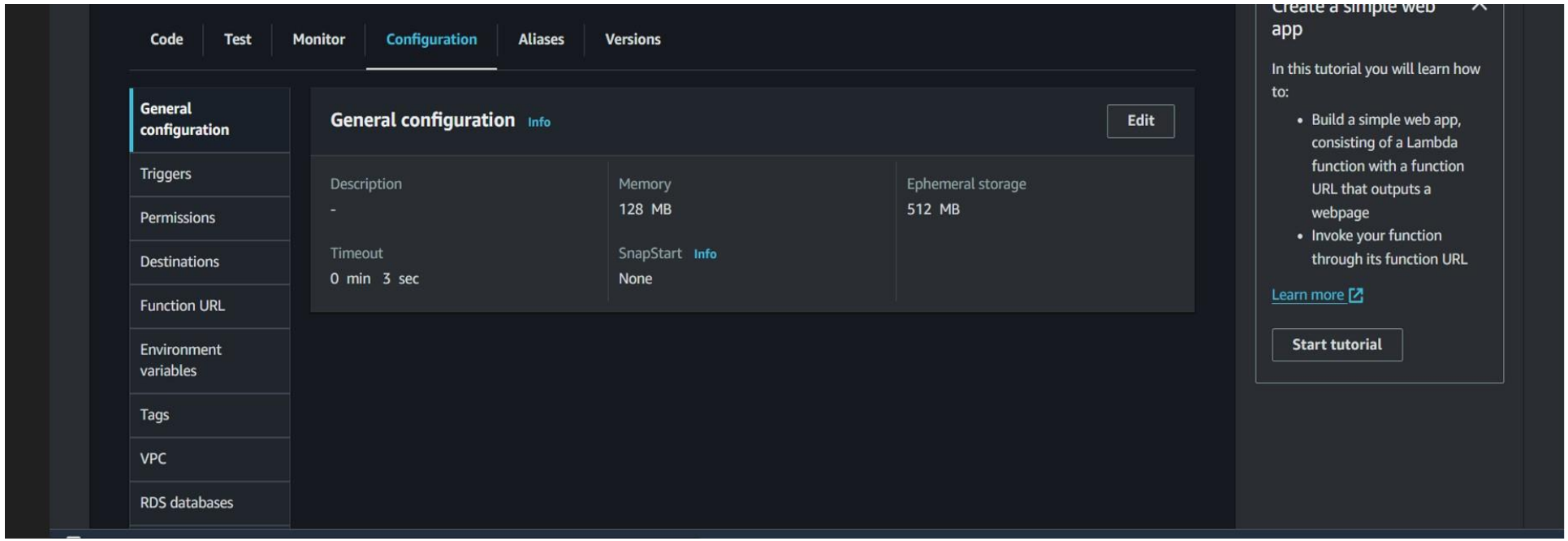
2. Name it and select runtime and Leave all other settings as default.

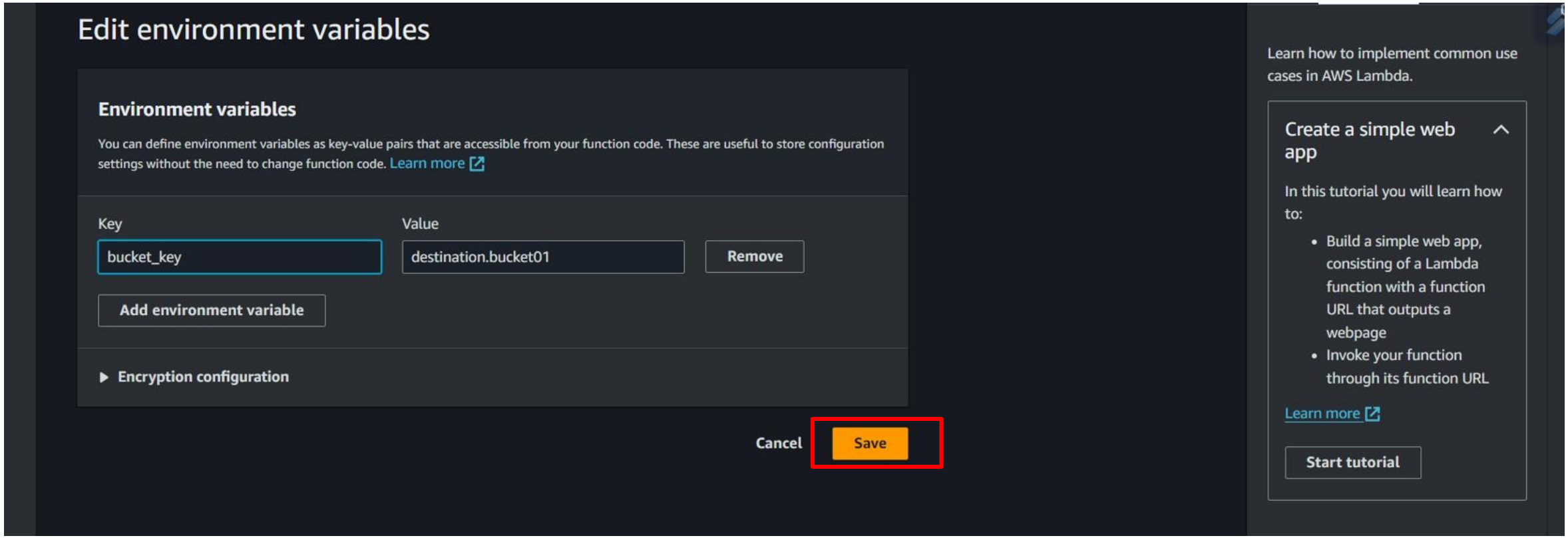


3. Change Default execution role and create function



4. Edit Environment Variables




Edit environment variables
Environment variables
You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. Learn more
Key
Value
bucket_key
destination.bucket01
Remove
Add environment variable
Encryption configuration
Cancel
Save
Learn how to implement common use cases in AWS Lambda.
Create a simple web app
In this tutorial you will learn how to:
Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
Invoke your function through its function URL
Learn more
Start tutorial

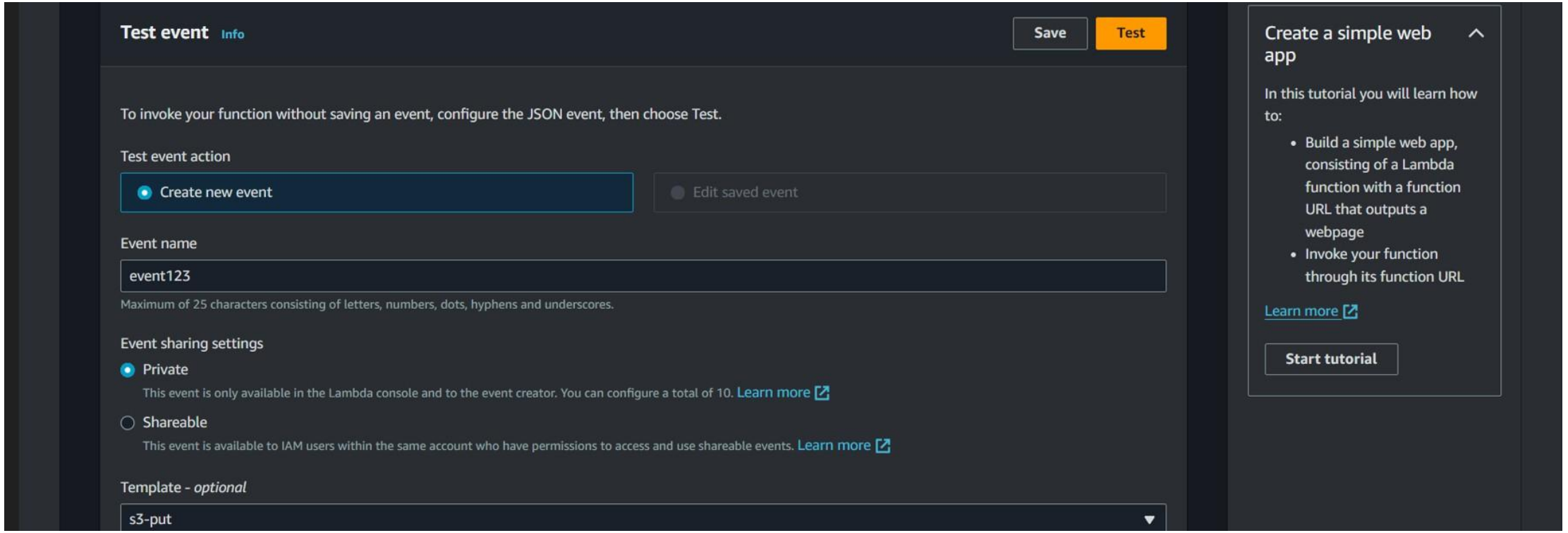
Task 6: Test Lambda Function

*Go to AWS Lambda console. Navigate to Functions section.

*open function then will be created

*open test console

*template=s3-put

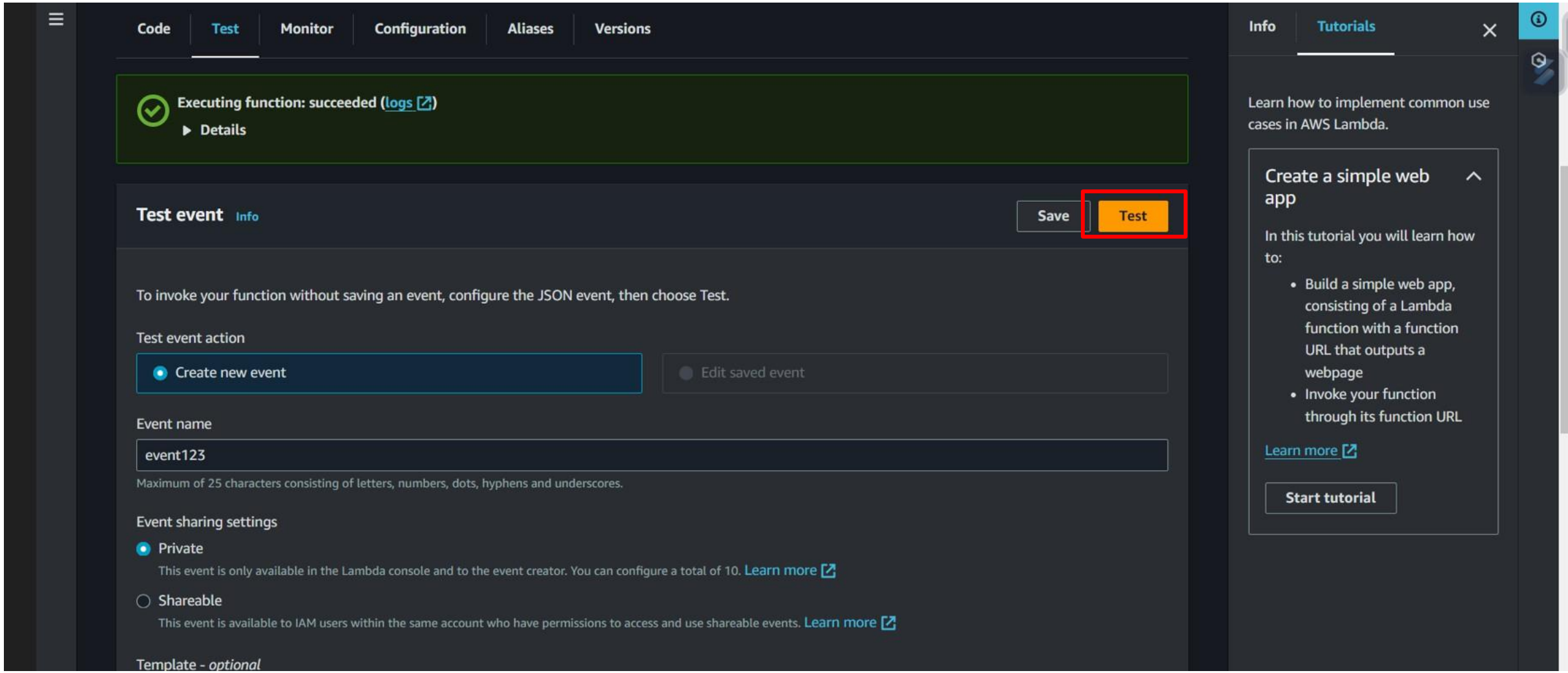


EVENT JSON:


```
{
 "Records": [
  {
   "eventVersion": "2.0",
   "eventSource": "aws:s3",
   "awsRegion": "us-east-1",
   "eventTime": "1970-01-01T00:00:00.000Z",
   "eventName": "ObjectCreated:Put", "userIdentity": {
    "principalId": "EXAMPLE"
   },
   "requestParameters": { "sourceIPAddress": "127.0.0.1"
```

```
"sourceIPAddress": "127.0.0.1"
},
"responseElements": {
"x-amz-request-id": "EXAMPLE123456789", "x-amz-id-2":
"EXAMPLE123/5678abcdefghijklambdaisawesome/mnopqrstuvwxyzAB
CDEFGH"
}, "s3": {"s3SchemaVersion": "1.0",
"configurationId": "testConfigRule", "bucket": {
"name": "arn:aws:s3:::source.bucket01", "ownerIdentity": {
"principalId": "EXAMPLE"
},
"arn": "arn:aws:s3:::source.bucket01"
},
"object": {
"key": "18981044.jpg",
"size": 1024,
"eTag": "0123456789abcdef0123456789abcdef", "sequencer": "0A1B2C3D4E5F678901" } } } ]
          }
```

Now We can Test:



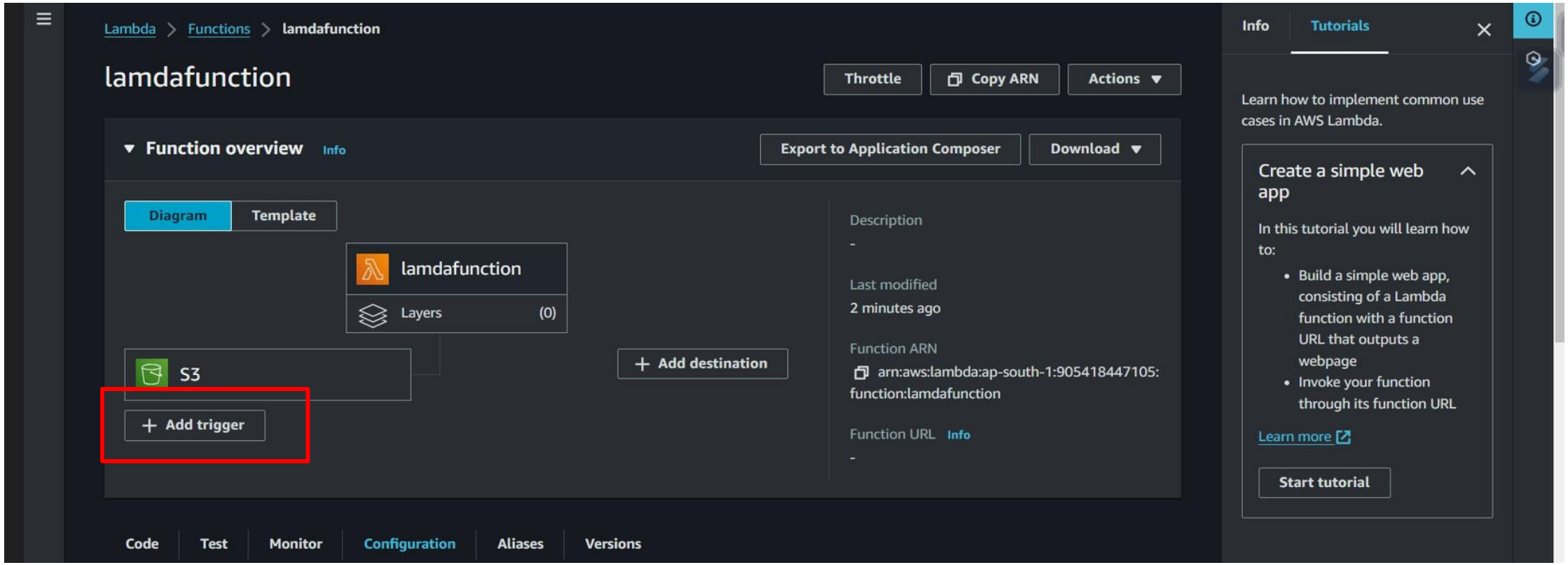
Task 7: Creating S3 Trigger

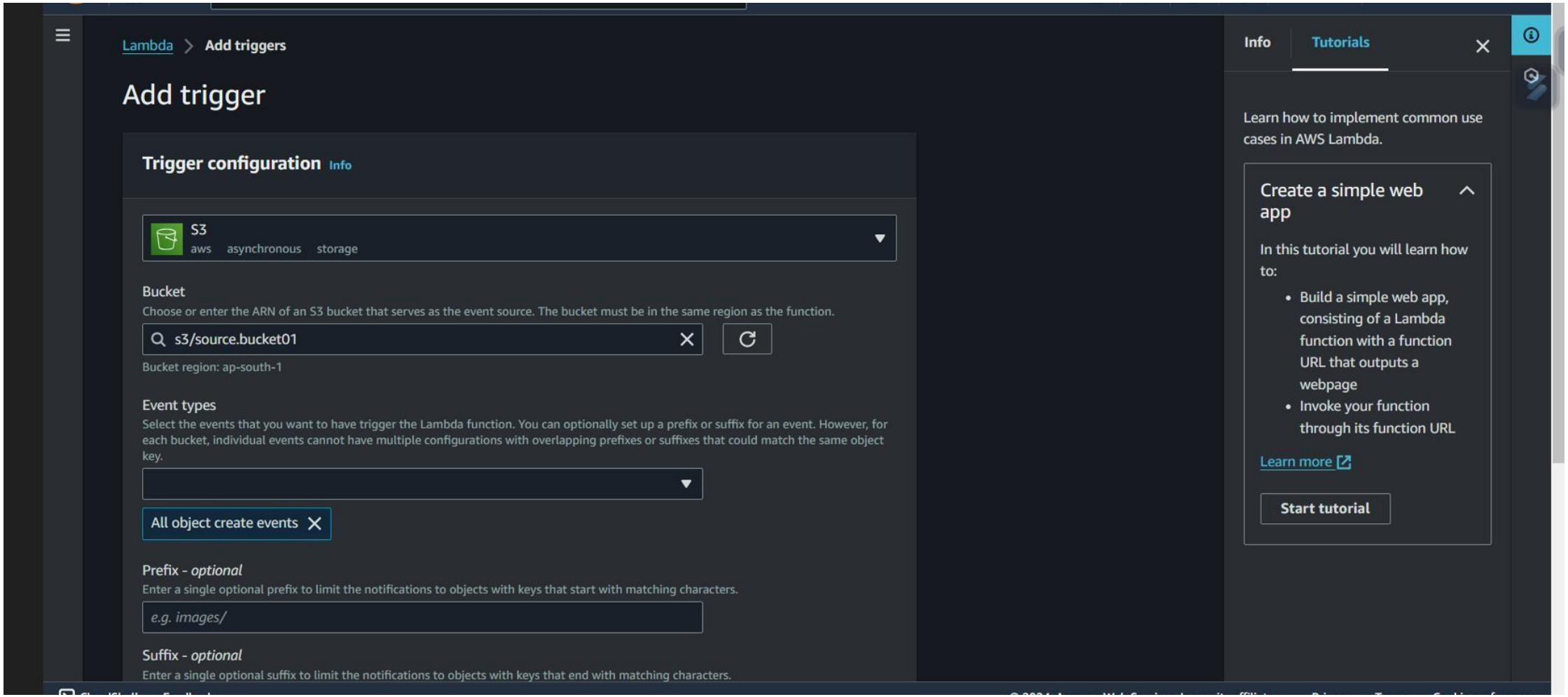
*Add trigger

*Select s3

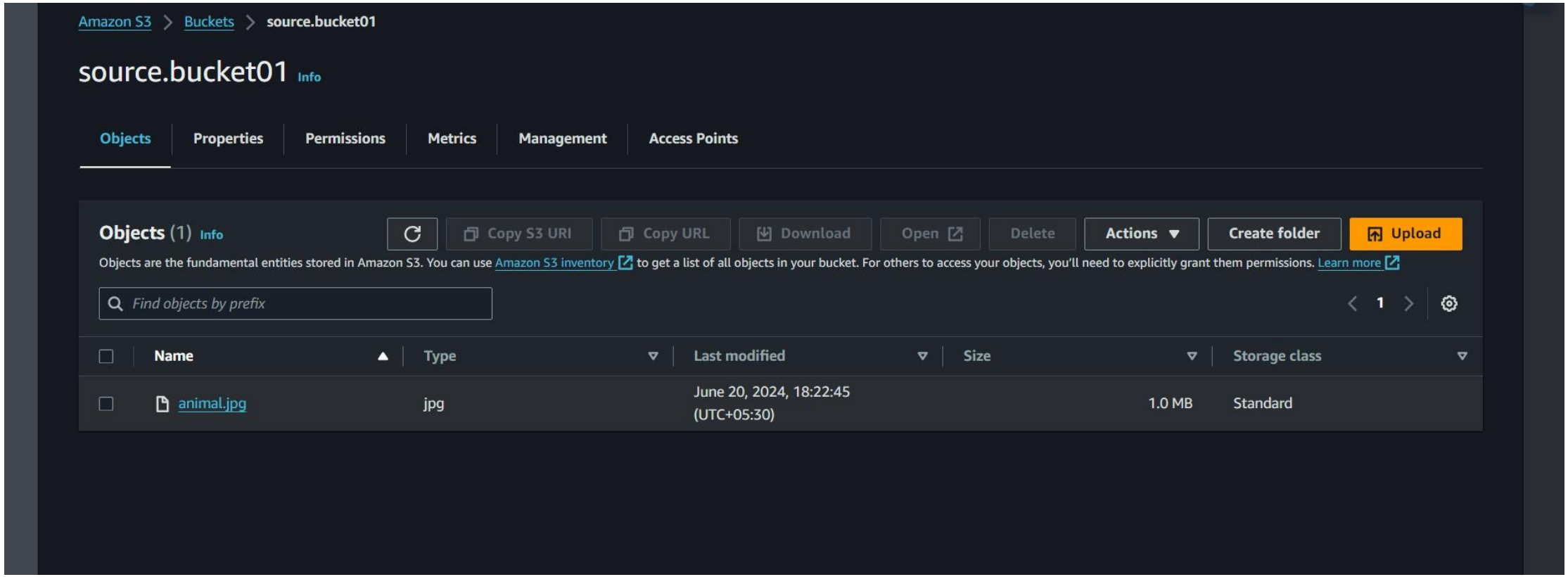
*choose source Bucket name

*Now Add



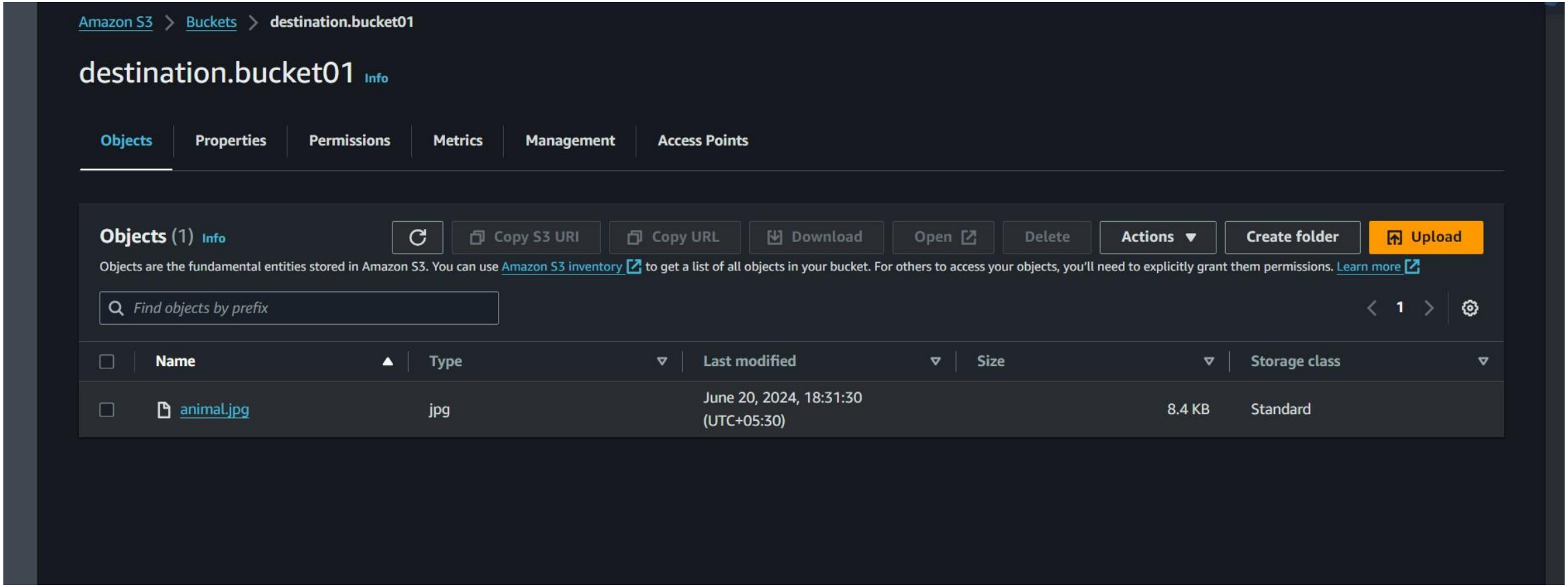

Lambda > Add triggers
Add trigger
Trigger configuration Info
S3
aws asynchronous storage
Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.
s3/source.bucket01
Bucket region: ap-south-1
Event types
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.
All object create events
Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.
e.g. images/
Suffix - optional
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.
Info
Tutorials
Learn how to implement common use cases in AWS Lambda.
Create a simple web app
In this tutorial you will learn how to:
Build a simple web app, consisting of a Lambda function with a function URL that outputs a webpage
Invoke your function through its function URL
Learn more
Start tutorial

Task 8: Upload image in Source Bucket



❖ Original Image

❖ Destination Bucket



❖ Resize Image