

Lab Assignment-4

ECSE373L: Cloud Infrastructure and Services

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Batch: EB02

AWS Educate Console Name: vocstartsoft/user1199245=TP6145@bennett.edu.in

Lab Activities:

Task 0: Create the Role of Full Dynamo DB service using IAM service.

Task 1: Create Lambda function and configure it with S3 bucket and DynamoDB database

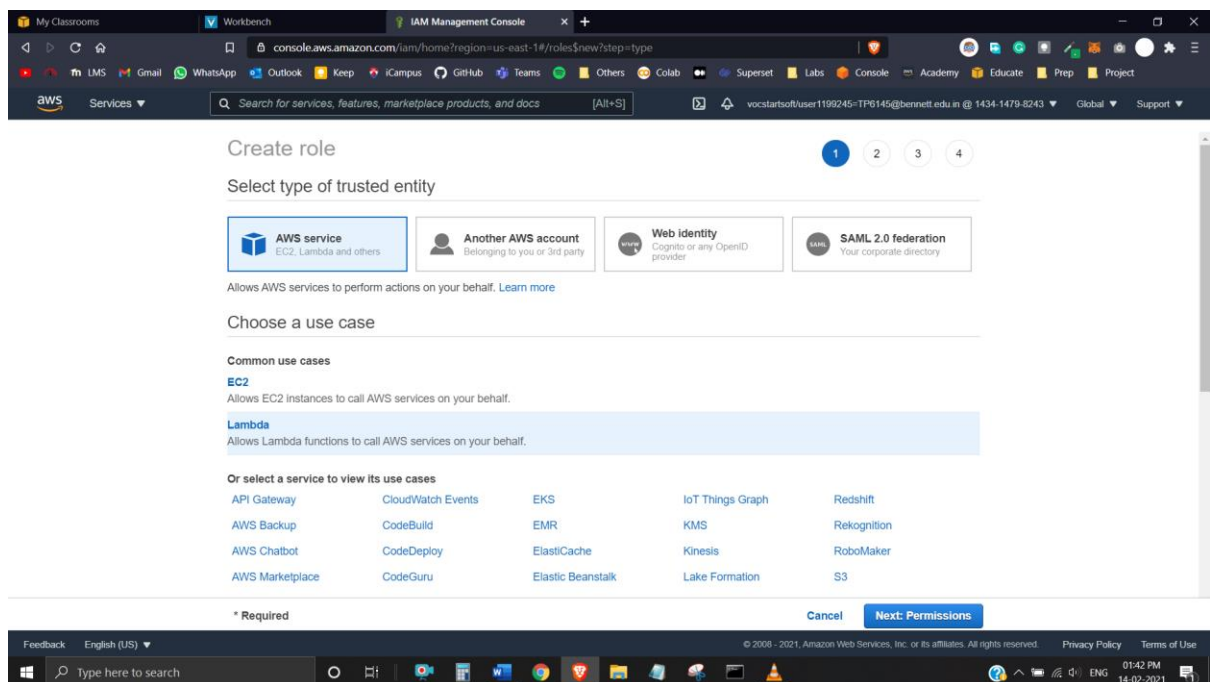
Task 2: Add a trigger for uploading objects in S3 Bucket

Task 3: Create a table in DynamoDB and check the details of the items

Task 4: Check the proper working of Lambda Function

Task 5: Take the snapshots of all performed tasks and create a doc/pdf of your enrolment number_lab04 and upload the file on LMS.

Task 0



My Classrooms Workbench IAM Management Console

console.aws.amazon.com/iam/home?region=us-east-1#/roles/new/step=permissions&commonUseCase=Lambda%2...

Create role

1 2 3 4

Attach permissions policies

Choose one or more policies to attach to your new role.

Create policy

Filter policies Showing 9 results

| | Policy name | Used as |
|-------------------------------------|--|---------|
| <input checked="" type="checkbox"/> | AmazonDynamoDBFullAccess | None |
| <input type="checkbox"/> | AmazonDynamoDBFullAccesswithDataPipeline | None |
| <input type="checkbox"/> | AmazonDynamoDBReadOnlyAccess | None |
| <input type="checkbox"/> | AWSApplicationAutoscalingDynamoDBTablePolicy | None |
| <input type="checkbox"/> | AWSLambdaDynamoDBExecutionRole | None |
| <input type="checkbox"/> | AWSLambdaInvocation-DynamoDB | None |
| <input type="checkbox"/> | DynamoDBCloudWatchContributorInsightsServiceRolePolicy | None |
| <input type="checkbox"/> | DynamoDBKinesisReplicationServiceRolePolicy | None |

Set permissions boundary

* Required Cancel Previous Next: Tags

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Type here to search

My Classrooms Workbench IAM Management Console

console.aws.amazon.com/iam/home?region=us-east-1#/roles/new/step=review&commonUseCase=Lambda%2BLam...

Create role

1 2 3 4

Review

Provide the required information below and review this role before you create it.

Role name*
Use alphanumeric and "+,=,@,_" characters. Maximum 64 characters.

Role description
Maximum 1000 characters. Use alphanumeric and "+,=,@,_" characters.

Trusted entities AWS service: lambda.amazonaws.com

Policies AmazonDynamoDBFullAccess

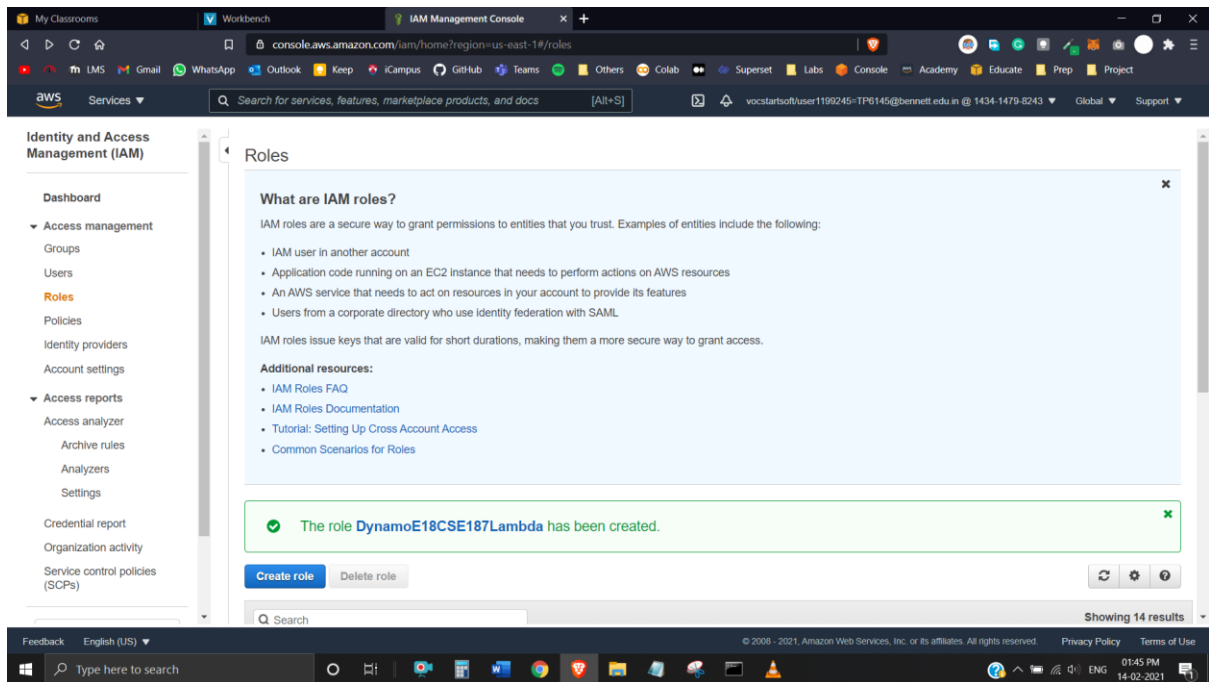
Permissions boundary Permissions boundary is not set

No tags were added.

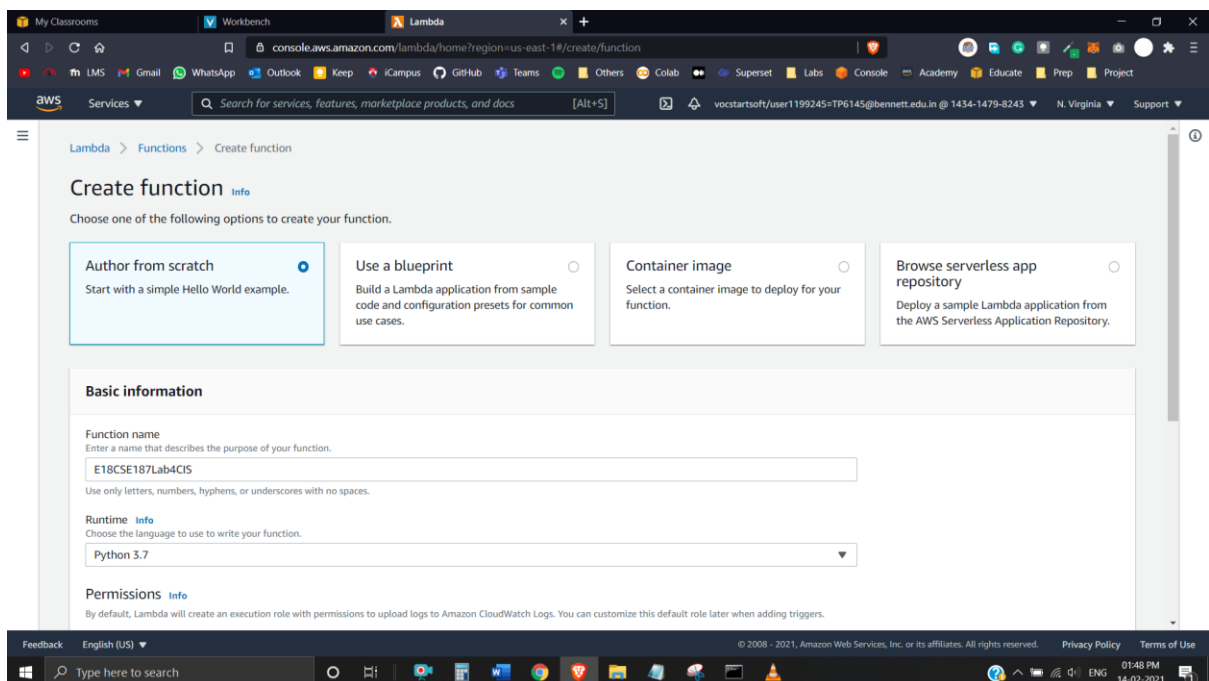
* Required Cancel Previous Create role

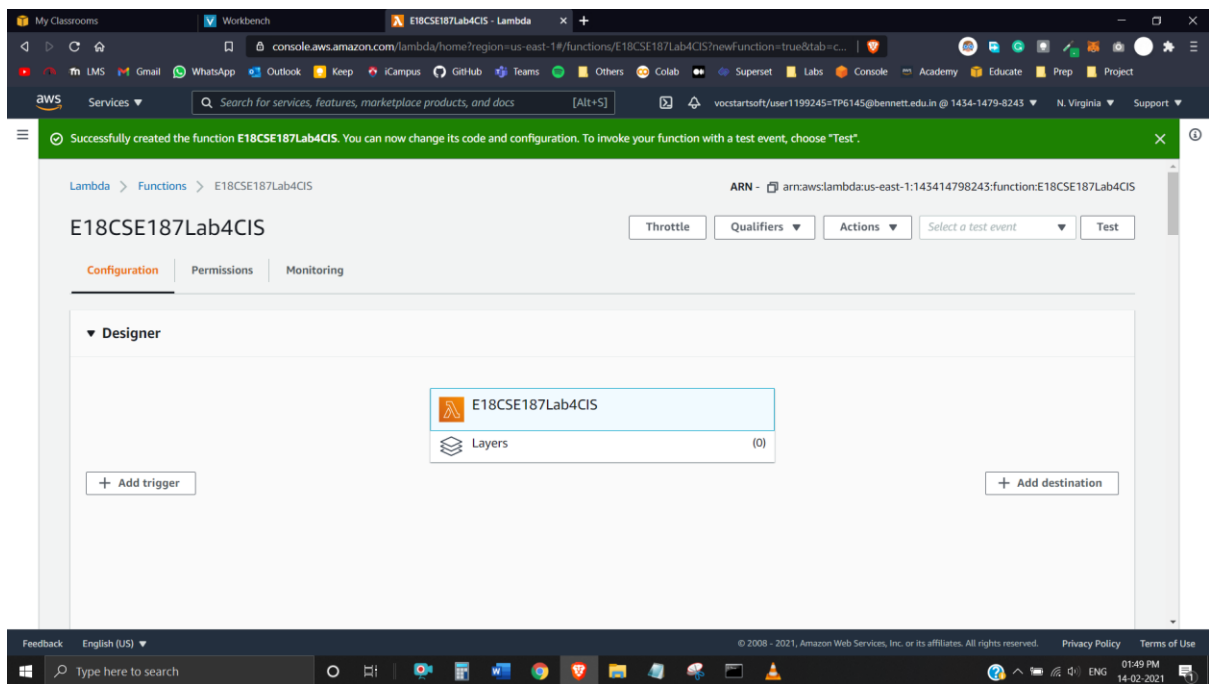
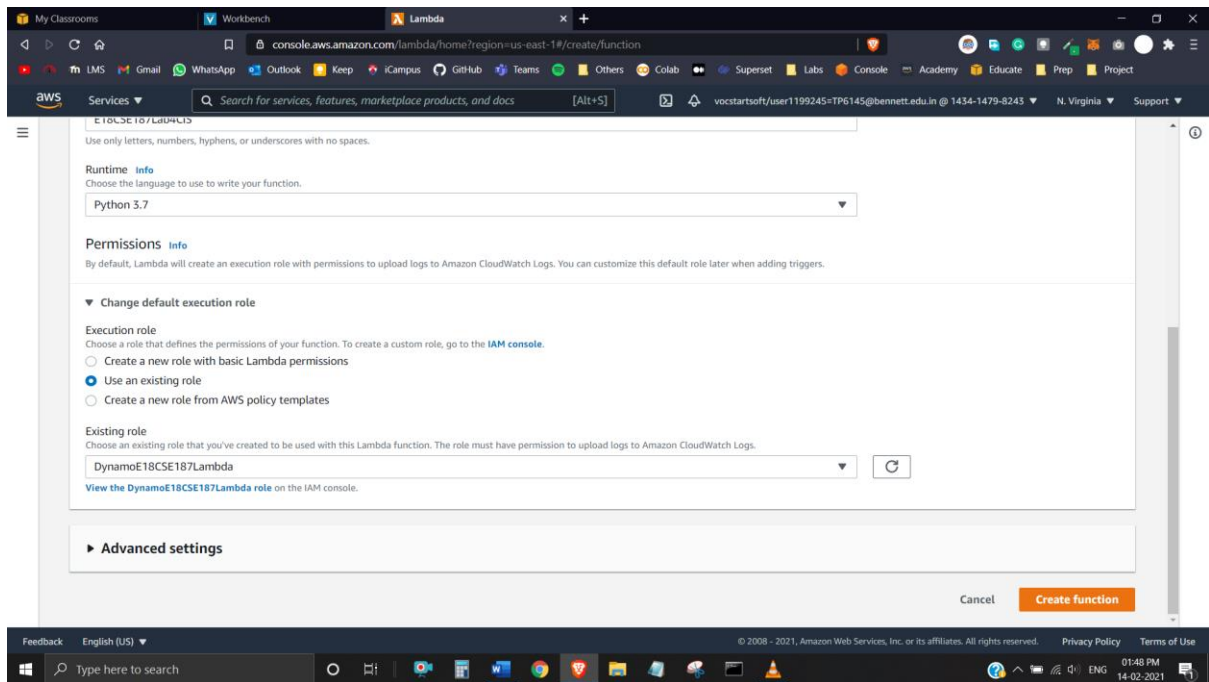
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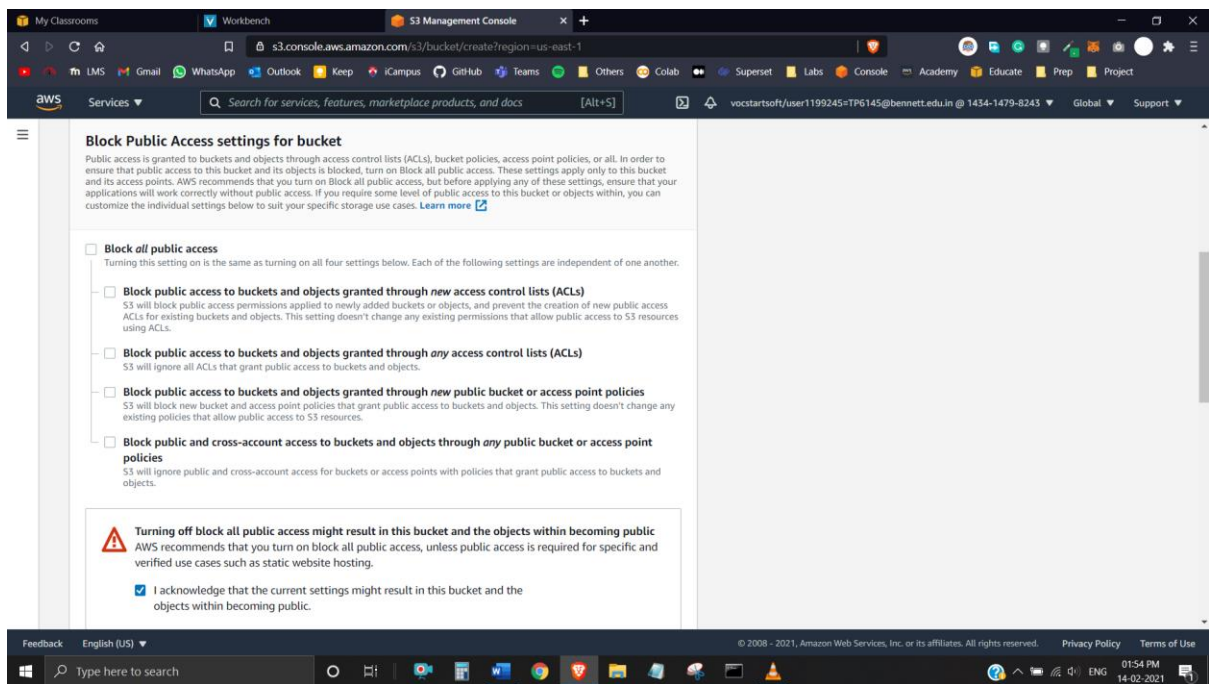
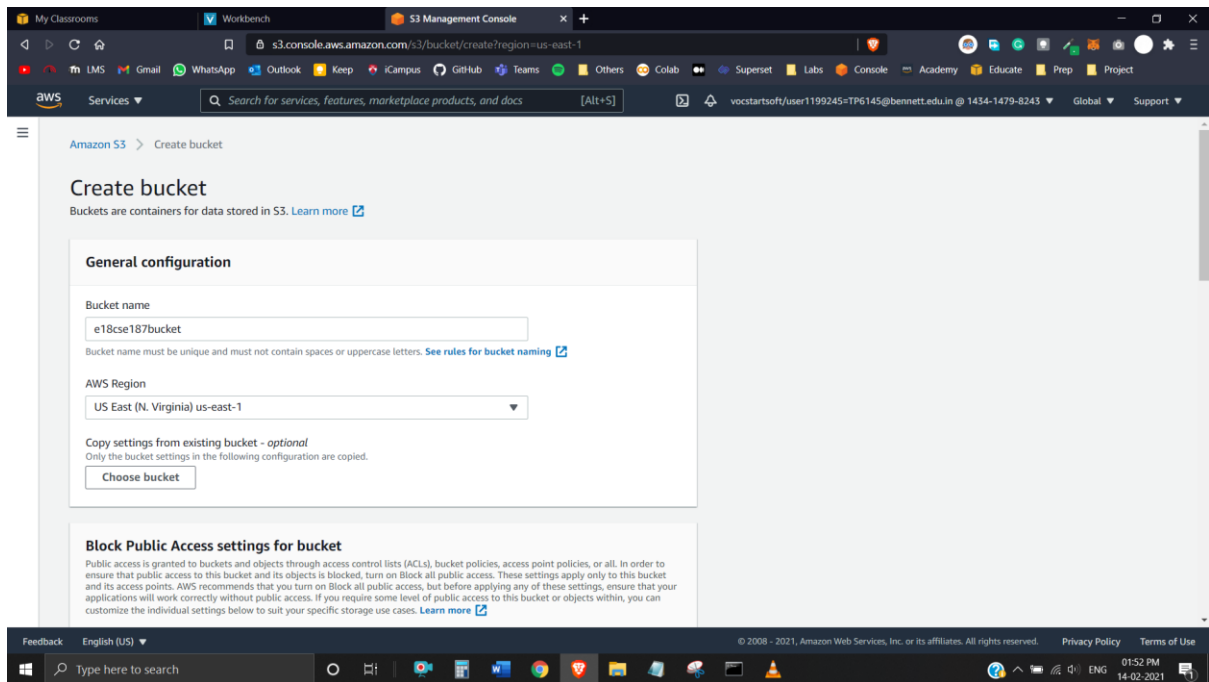
Type here to search



Task 1







My Classrooms Workbench S3 Management Console

s3.console.aws.amazon.com/s3/home?region=us-east-1

Services Search for services, features, marketplace products, and docs [Alt+S]

vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 Global Support

Amazon S3

- Buckets
- Access Points
- Batch Operations
- Access analyzer for S3
- Block Public Access settings for account
- Storage Lens
 - Dashboards
 - AWS Organizations settings
- Feature spotlight
- AWS Marketplace for S3

Amazon S3

Buckets (1) [Refresh] [Copy ARN] [Empty] [Delete] [Create bucket]

Buckets are containers for data stored in S3. [Learn more](#)

Find buckets by name

| Name | AWS Region | Access | Creation date |
|-----------------|---------------------------------|-----------------------|---|
| e18cse187bucket | US East (N. Virginia) us-east-1 | Objects can be public | February 14, 2021, 13:57:39 (UTC+05:30) |

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Task 2

My Classrooms Workbench Lambda

console.aws.amazon.com/lambda/home?region=us-east-1#/add?relation=focus=lambda&target=arn%3Aaws%3Alambda%3A:us-east-1:1199245:func:my-lambda

Services Search for services, features, marketplace products, and docs [Alt+S]

vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 N. Virginia Support

Lambda > Add trigger

Add trigger

Trigger configuration

S3 storage

Bucket
Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.
e18cse187bucket [Refresh]

Event type
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

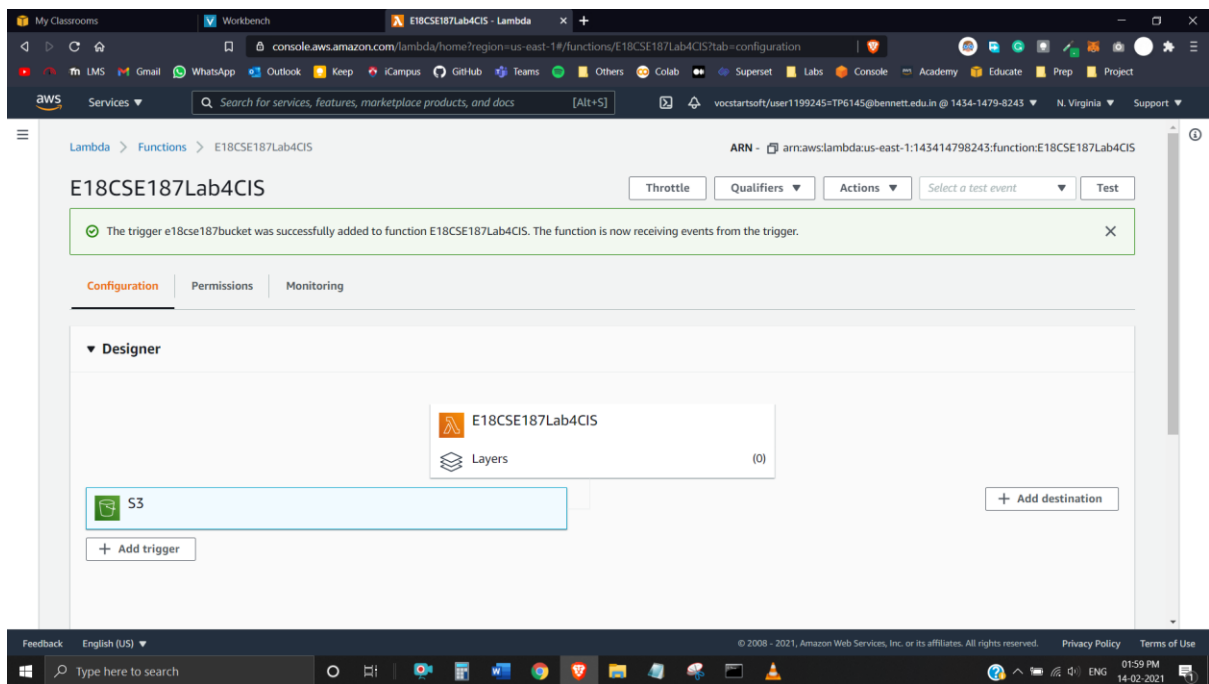
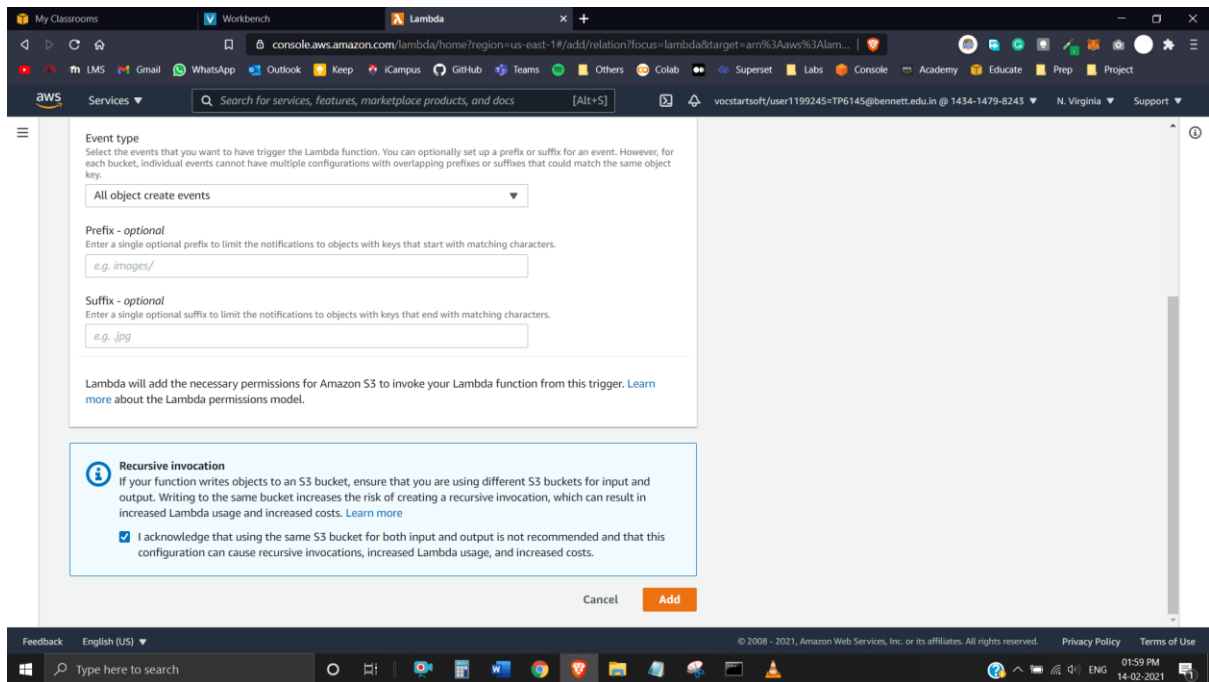
Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.
e.g. images/

Suffix - optional
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.
e.g. .jpg

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My Classrooms Workbench E18CSE187Lab4CIS - Lambda

console.aws.amazon.com/lambda/home?region=us-east-1#/functions/E18CSE187Lab4CIS?tab=configuration

aws Services Search for services, features, marketplace products, and docs [Alt+S] vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 N. Virginia Support

E18CSE187Lab4CIS

Throttle Qualifiers Actions Select a test event Test

Function code Info Actions

File Edit Find View Go Tools Window Test Deploy Changes deployed

Go to Anything (Ctrl-P)

Environment

- E18CSE187Lab4CIS
- lambda_function.py

```
1 import json
2
3 def lambda_handler(event, context):
4     # TODO: implement
5     return {
6         'statusCode': 200,
7         'body': json.dumps('Hello from Lambda!')}
8
9
```

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My Classrooms Workbench E18CSE187Lab4CIS - Lambda Assignment

console.aws.amazon.com/lambda/home?region=us-east-1#/functions/E18CSE187Lab4CIS?tab=configuration

aws Services Search for services, features, marketplace products, and docs [Alt+S] vocstartsoft/user1199245=TP6145@bennett.edu.in @ 1434-1479-8243 N. Virginia Support

E18CSE187Lab4CIS

Throttle Qualifiers Actions Select a test event Test

Function code Info Actions

File Edit Find View Go Tools Window Test Deploy Changes not deployed

Go to Anything (Ctrl-P)

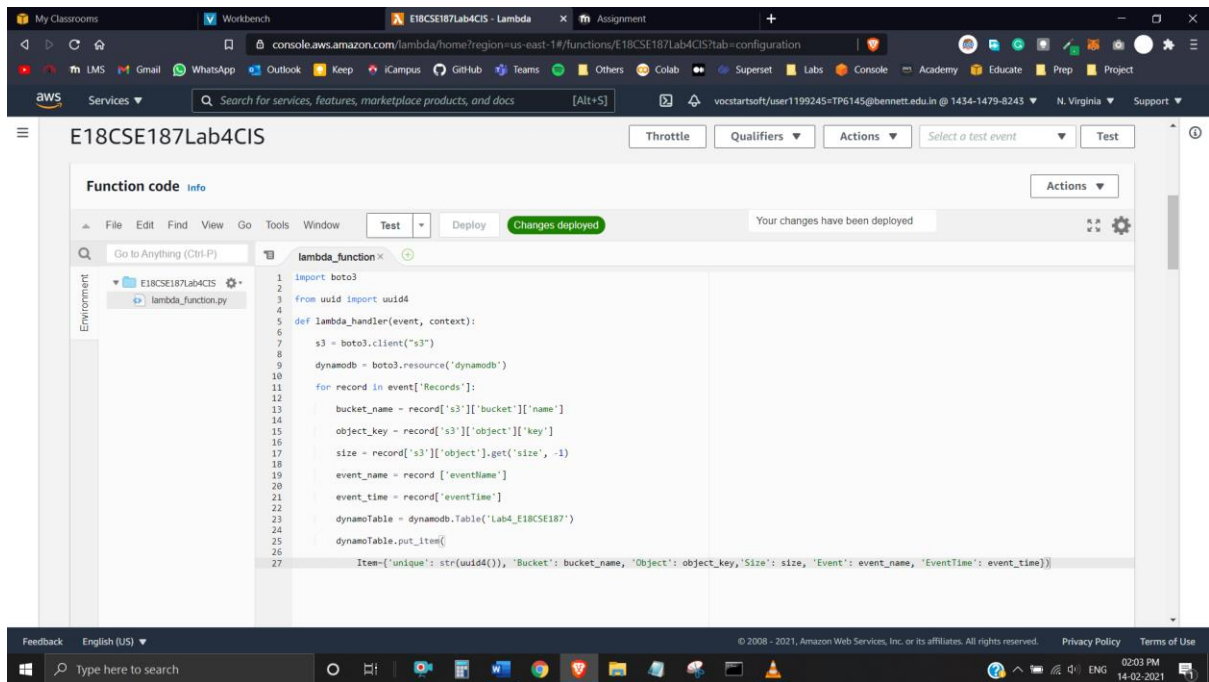
Environment

- E18CSE187Lab4CIS
- lambda_function.py

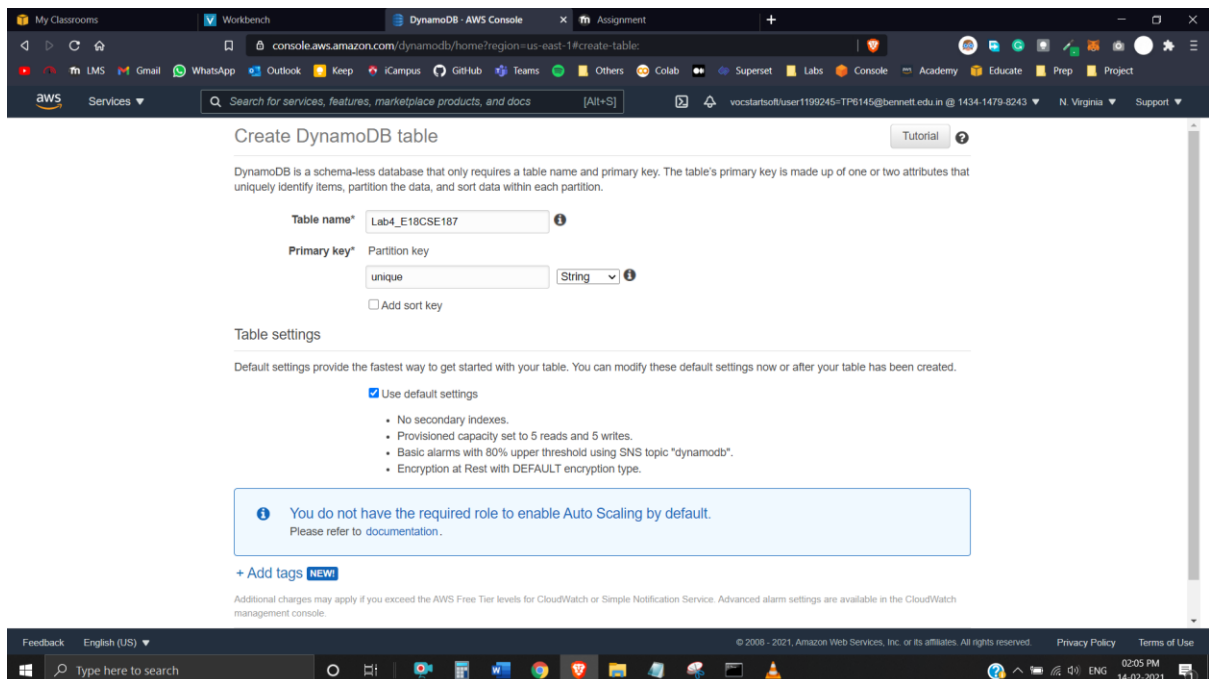
```
1 import boto3
2
3 from uuid import uuid4
4
5 def lambda_handler(event, context):
6
7     s3 = boto3.client('s3')
8     dynamodb = boto3.resource('dynamodb')
9
10    for record in event['Records']:
11
12        bucket_name = record['s3']['bucket']['name']
13        object_key = record['s3']['object']['key']
14
15        size = record['s3']['object'].get('size', -1)
16
17        event_name = record['eventName']
18        event_time = record['eventTime']
19
20        dynamoTable = dynamodb.Table('Lab4_E18CSE187')
21
22        dynamoTable.put_item(
23
24            Item={'unique': str(uuid4()), 'Bucket': bucket_name, 'Object': object_key, 'Size': size, 'Event': event_name, 'EventTime': event_time})
25
26
27
```

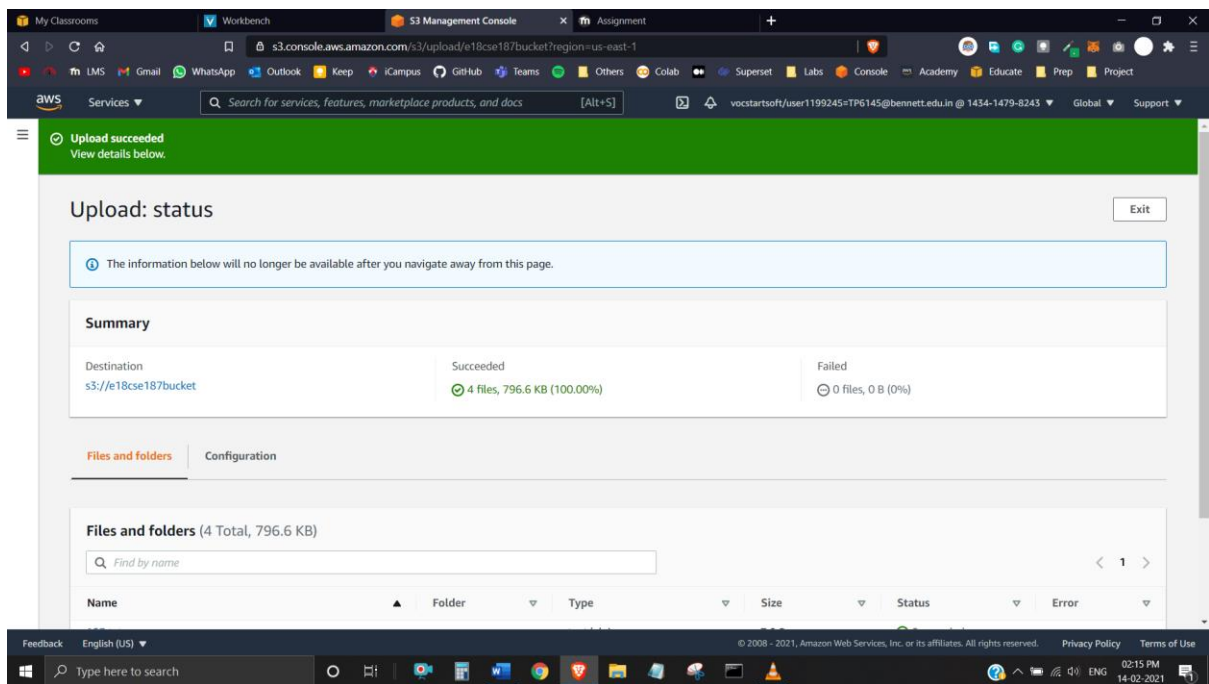
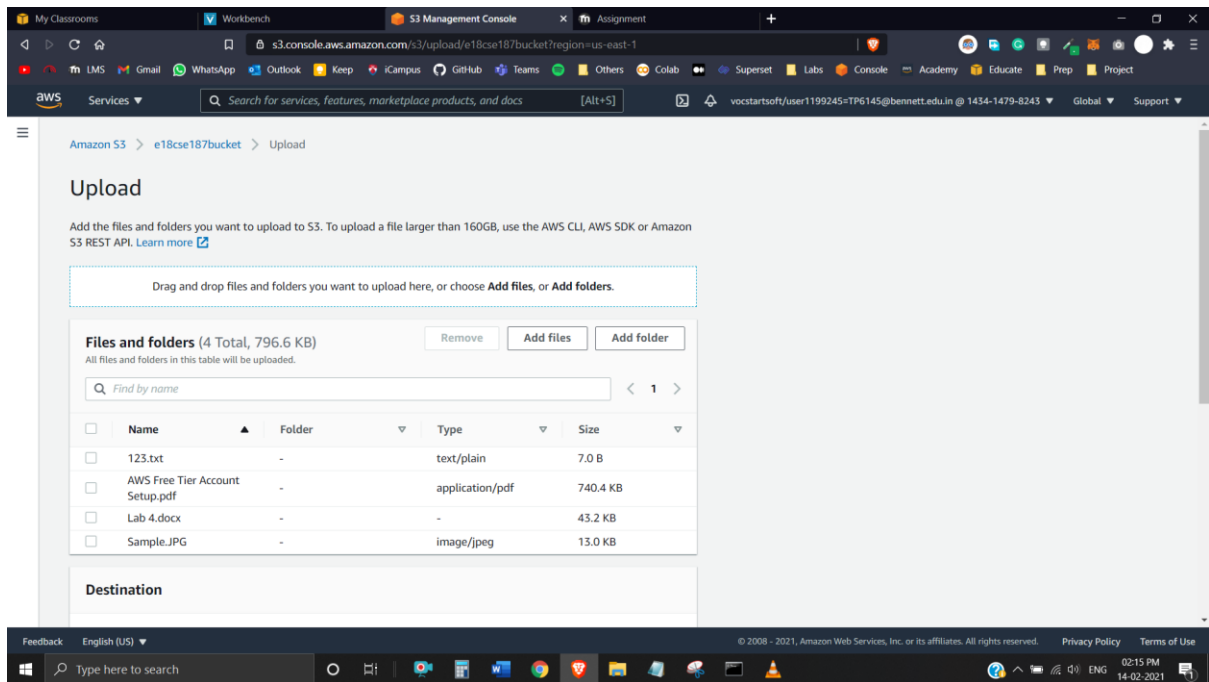
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Task 3





My Classrooms Workbench DynamoDB - AWS Console Assignment

console.aws.amazon.com/dynamodb/home?region=us-east-1#tables:selected=Lab4_E18CSE187;tab=items

aws Services Search for services, features, marketplace products, and docs [Alt+S]

vocstarsoft/user1199245=TP6145@bennett.edu in @ 1434-1479-8243 N. Virginia Support

DynamoDB Dashboard Tables Backups Reserved capacity Preferences DAX Dashboard Clusters Subnet groups Parameter groups Events Try the preview of the new console

Lab4_E18CSE187 Close

Overview Items Metrics Alarms Capacity Indexes Global Tables Backups Contributor Insights Triggers More

Create item Actions

Scan: [Table] Lab4_E18CSE187: unique Viewing 1 to 4 items

Scan [Table] Lab4_E18CSE187: unique Add filter Start search

| unique | Bucket | Event | EventTime | Obj |
|--------------------------------------|-----------------|-------------------|--------------------------|------|
| 1d008d59-4142-42a9-b8c8-58148ba4aa27 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:15.367Z | Lab |
| 55f29d35-5fd7-4bda-b29e-80190d02513 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:12.478Z | 123. |
| b287523f-a37b-40ce-9bc7-7753aa04f821 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:16.261Z | Sam |
| eeaf3897-3da6-4144-8ff6-a907a233c361 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:14.510Z | AW |

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Type here to search

My Classrooms Workbench DynamoDB - AWS Console Assignment

console.aws.amazon.com/dynamodb/home?region=us-east-1#tables:selected=Lab4_E18CSE187;tab=items

aws Services Search for services, features, marketplace products, and docs [Alt+S]

vocstarsoft/user1199245=TP6145@bennett.edu in @ 1434-1479-8243 N. Virginia Support

DynamoDB Dashboard Tables Backups Reserved capacity Preferences DAX Dashboard Clusters Subnet groups Parameter groups Events Try the preview of the new console

Lab4_E18CSE187 Close

Overview Items Metrics Alarms Capacity Indexes Global Tables Backups Contributor Insights Triggers More

Create item Actions

Scan: [Table] Lab4_E18CSE187: unique Viewing 1 to 4 items

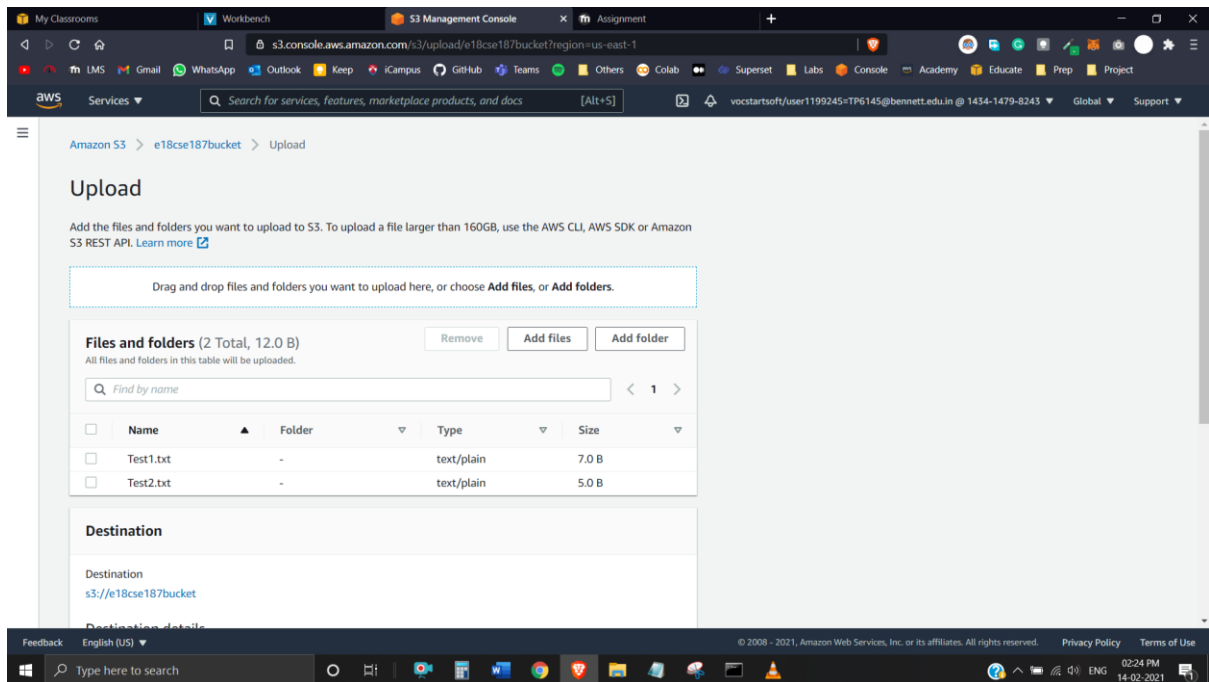
Scan [Table] Lab4_E18CSE187: unique Add filter Start search

| Bucket | Event | EventTime | Object | Size |
|-----------------|-------------------|--------------------------|---------------------------------|--------|
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:15.367Z | Lab+4.docx | 44206 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:12.478Z | 123.txt | 7 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:16.261Z | Sample.JPG | 13309 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:14.510Z | AWS+Free+Tier+Account+Setup.pdf | 758204 |

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Type here to search

Task 4



Amazon S3 > e18cse187bucket > Upload

Upload

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose [Add files](#), or [Add folders](#).

Files and folders (2 Total, 12.0 B)

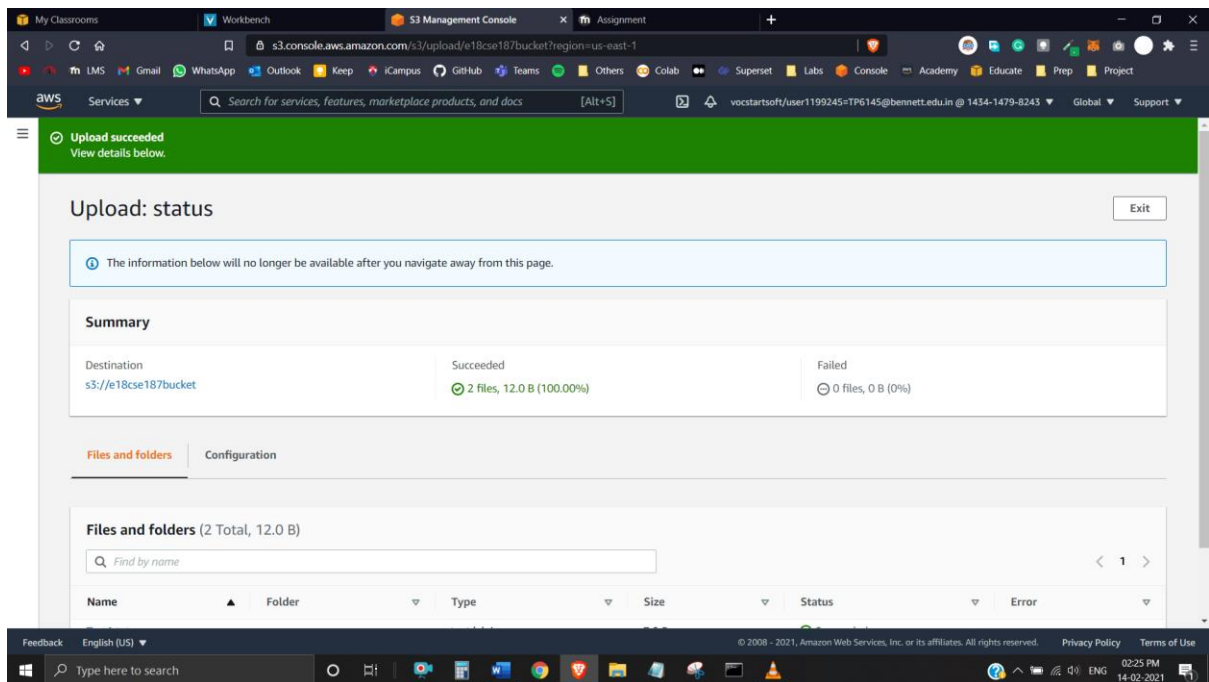
All files and folders in this table will be uploaded.

| <input type="checkbox"/> | Name | Folder | Type | Size |
|--------------------------|-----------|--------|------------|-------|
| <input type="checkbox"/> | Test1.txt | - | text/plain | 7.0 B |
| <input type="checkbox"/> | Test2.txt | - | text/plain | 5.0 B |

Destination

Destination
s3://e18cse187bucket

Destination details



Upload succeeded
View details below.

Upload: status

[Exit](#)

The information below will no longer be available after you navigate away from this page.

Summary

| Destination | Succeeded | Failed |
|----------------------|---------------------------|-------------------|
| s3://e18cse187bucket | 2 files, 12.0 B (100.00%) | 0 files, 0 B (0%) |

Files and folders | Configuration

Files and folders (2 Total, 12.0 B)

| Name | Folder | Type | Size | Status | Error |
|------|--------|------|------|--------|-------|
|------|--------|------|------|--------|-------|

My Classrooms Workbench S3 Management Console Assignment

s3.console.aws.amazon.com/s3/buckets/e18cse187bucket?region=us-east-1&tab=objects

Amazon S3

Buckets

Access Points

Batch Operations

Access analyzer for S3

Block Public Access settings for account

Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

Amazon S3 > e18cse187bucket

e18cse187bucket

Objects Properties Permissions Metrics Management Access Points

Objects (6)

Objects are the fundamental entities stored in Amazon S3. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Refresh Delete Actions Create folder Upload

Find objects by prefix

| <input type="checkbox"/> | Name | Type | Last modified | Size | Storage class |
|--------------------------|---------------------------------|------|---|----------|---------------|
| <input type="checkbox"/> | 123.txt | txt | February 14, 2021, 14:15:18 (UTC+05:30) | 7.0 B | Standard |
| <input type="checkbox"/> | AWS Free Tier Account Setup.pdf | pdf | February 14, 2021, 14:15:20 (UTC+05:30) | 740.4 KB | Standard |
| <input type="checkbox"/> | Lab 4.docx | docx | February 14, 2021, 14:15:21 (UTC+05:30) | 43.2 KB | Standard |
| <input type="checkbox"/> | Sample.JPG | JPG | February 14, 2021, 14:15:22 (UTC+05:30) | 13.0 KB | Standard |
| <input type="checkbox"/> | Test1.txt | txt | February 14, 2021, 14:24:59 (UTC+05:30) | 7.0 B | Standard |
| <input type="checkbox"/> | Test2.txt | txt | February 14, 2021, 14:24:59 (UTC+05:30) | 5.0 B | Standard |

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My Classrooms Workbench DynamoDB - AWS Console Assignment

console.aws.amazon.com/dynamodb/home?region=us-east-1#tables:selected=Lab4_E18CSE187;tab=items

DynamoDB

Dashboard

Tables

Backups

Reserved capacity

Preferences

DAX

Dashboard

Clusters

Subnet groups

Parameter groups

Events

Try the preview of the new console

Create table Delete table

Filter by table name

Choose a table ... Actions

Name

Lab4_E18CSE187

Lab4_E18CSE187 Close

Overview Items Metrics Alarms Capacity Indexes Global Tables Backups Contributor Insights Triggers More

Create item Actions

Scan: [Table] Lab4_E18CSE187: unique

Viewing 1 to 6 items

Scan [Table] Lab4_E18CSE187: unique

Add filter

Start search

| <input type="checkbox"/> | unique | Bucket | Event | EventTime | Obj |
|--------------------------|--------------------------------------|-----------------|-------------------|--------------------------|------|
| <input type="checkbox"/> | 1d008d59-4142-42a9-b8c8-58148ba4aa27 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:15.367Z | Lab |
| <input type="checkbox"/> | 55f29d35-5fd7-4bda-b29e-f80190d02513 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:12.478Z | 123. |
| <input type="checkbox"/> | b287523f-a37b-40ce-9bc7-7753aa04f821 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:16.261Z | Sarr |
| <input type="checkbox"/> | cea48514-9d58-4737-b55e-7be237b85be7 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:54:54.676Z | Test |
| <input type="checkbox"/> | d34bbc60-6b2e-473c-a09a-51d1d7312771 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:54:55.489Z | Test |
| <input type="checkbox"/> | eeaf3897-3da6-4144-8f6-a907a233c361 | e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:14.510Z | AW |

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My Classrooms

Workbench

DynamoDB - AWS Console

Assignment

console.aws.amazon.com/dynamodb/home?region=us-east-1#tables:selected=Lab4_E18CSE187;tab=items

aws Services

Search for services, features, marketplace products, and docs [Alt+S]

vocstartsoff\user1190245=TP6145@bennett.edu.in @ 1434-1479-8243 N. Virginia Support

DynamoDB

Dashboard

Tables

Backups

Reserved capacity

Preferences

DAX

Dashboard

Clusters

Subnet groups

Parameter groups

Events

Try the preview of the new console

Create table

Delete table

Filter by table name

Choose a table ...

Actions

Name

Lab4_E18CSE187

Lab4_E18CSE187

Close

Overview

Items

Metrics

Alarms

Capacity

Indexes

Global Tables

Backups

Contributor Insights

Triggers

More

Create item

Actions

Scan: [Table] Lab4_E18CSE187: unique

Viewing 1 to 6 items

Scan

[Table] Lab4_E18CSE187: unique

Add filter

Start search

| Bucket | Event | EventTime | Object | Size |
|-----------------|-------------------|--------------------------|---------------------------------|--------|
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:15.367Z | Lab+4.docx | 44206 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:12.478Z | 123.txt | 7 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:16.261Z | Sample.JPG | 13309 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:54:54.676Z | Test1.txt | 7 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:54:55.489Z | Test2.txt | 5 |
| e18cse187bucket | ObjectCreated:Put | 2021-02-14T08:45:14.510Z | AWS+Free+Tier+Account+Setup.pdf | 758204 |

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02:25 PM 14-02-2021