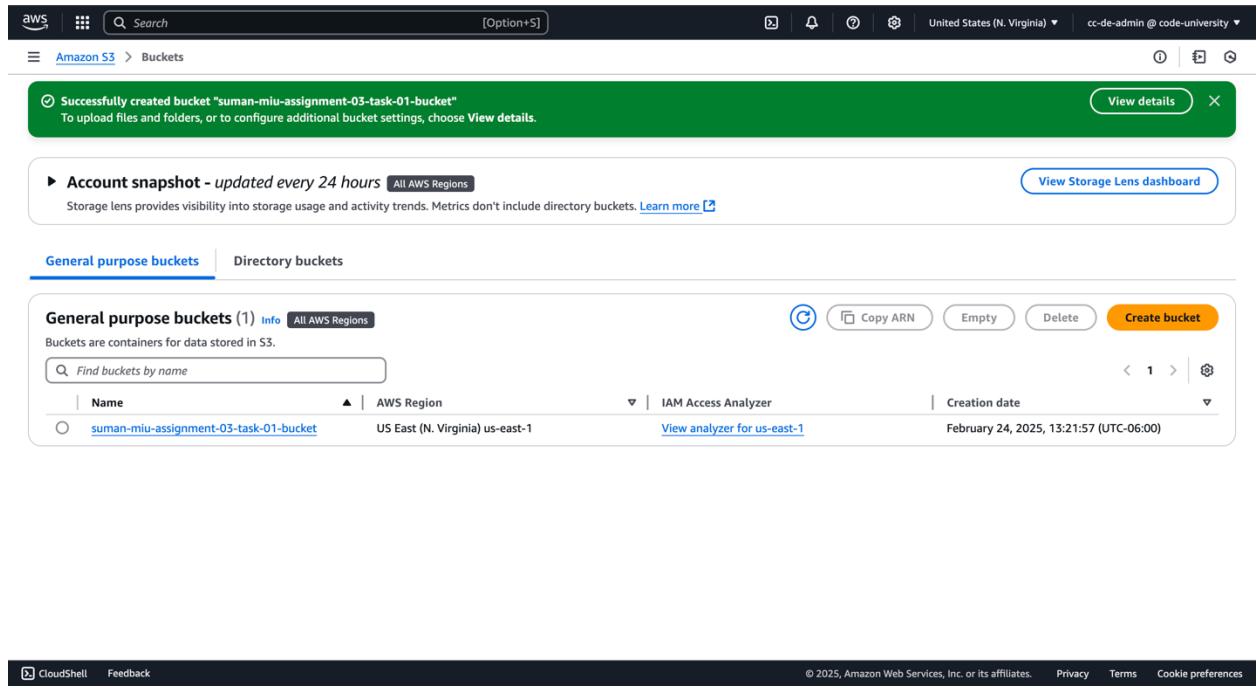


Assignment #3

Task #1 – Download file from S3 to EC2

1. Create S3 Bucket



The screenshot shows the AWS S3 Buckets page. At the top, there is a success message: "Successfully created bucket 'suman-miu-assignment-03-task-01-bucket'. To upload files and folders, or to configure additional bucket settings, choose View details." Below this, there is an "Account snapshot" section with a link to "View Storage Lens dashboard". The main table lists one bucket:

Name	AWS Region	IAM Access Analyzer	Creation date
suman-miu-assignment-03-task-01-bucket	US East (N. Virginia) us-east-1	View analyzer for us-east-1	February 24, 2025, 13:21:57 (UTC-06:00)

At the bottom of the page, there are links for CloudShell, Feedback, and various legal notices.

2. Create Ec2 Instance

The screenshot shows the 'Launch an instance' wizard. In the 'Name and tags' section, the name 'assignment-03-ec2-instance' is entered. In the 'Application and OS Images (Amazon Machine Image)' section, the 'Quick Start' tab is selected, showing recent AMIs like Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, and Debian. A search bar at the top right of this section allows for finding specific AMIs. The 'Amazon Machine Image (AMI)' details for 'Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type' are shown, including its ID and type. On the right side, there's a summary panel with 'Number of instances' set to 1, 'Software Image (AMI)' set to 'Amazon Linux 2 Kernel 5.10 AMI...', 'Virtual server type (instance type)' set to 't2.micro', and a large orange 'Launch instance' button.

The screenshot shows the 'Instances' page under the EC2 service. The left sidebar includes links for Dashboard, EC2 Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, and Elastic IPs. The main area displays a table for 'Instances (1)'. The single instance listed is 'assignment-03-ec2-instance' with the following details: Instance ID - i-00bf3b06b991c729c, Instance state - Running, Instance type - t2.micro, Status check - Initializing. A 'Select an instance' dropdown menu is open below the table. The bottom of the screen shows standard AWS navigation links: CloudShell, Feedback, © 2025, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

3. Create S3FullAccess IAM role for EC2

aws | Search [Option+S] Global cc-de-admin @ code-university

≡ IAM > Roles > Create role

Step 1
 Select trusted entity
 Step 2
 Add permissions
 Step 3
 Name, review, and create

Select trusted entity Info

Trusted entity type

- AWS service Allow AWS services like EC2, Lambda, or others to perform actions in this account.
- AWS account Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.
- Web identity Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.
- SAML 2.0 federation Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.
- Custom trust policy Create a custom trust policy to enable others to perform actions in this account.

Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
EC2

Choose a use case for the specified service.

Use case

- EC2 Allows EC2 instances to call AWS services on your behalf.
- EC2 Role for AWS Systems Manager Allows EC2 instances to call AWS services like CloudWatch and Systems Manager on your behalf.
- EC2 Spot Fleet Role Allows EC2 Spot Fleet to request and terminate Spot Instances on your behalf.

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aws | Search [Option+S] Global cc-de-admin @ code-university

≡ IAM > Roles > Create role

Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
EC2

Choose a use case for the specified service.

Use case

- EC2 Allows EC2 instances to call AWS services on your behalf.
- EC2 Role for AWS Systems Manager Allows EC2 instances to call AWS services like CloudWatch and Systems Manager on your behalf.
- EC2 Spot Fleet Role Allows EC2 Spot Fleet to request and terminate Spot Instances on your behalf.
- EC2 - Spot Fleet Auto Scaling Allows Auto Scaling to access and update EC2 spot fleets on your behalf.
- EC2 - Spot Fleet Tagging Allows EC2 to launch spot instances and attach tags to the launched instances on your behalf.
- EC2 - Spot Instances Allows EC2 Spot Instances to launch and manage spot instances on your behalf.
- EC2 - Spot Fleet Allows EC2 Spot Fleet to launch and manage spot fleet instances on your behalf.
- EC2 - Scheduled Instances Allows EC2 Scheduled Instances to manage instances on your behalf.

Cancel Next

aws | Search [Option+S] Global cc-de-admin @ code-university ▾

IAM > Roles

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings
- Root access management [New](#)

Access reports

- Access Analyzer
- External access
- Unused access
- Analyzer settings
- Credential report
- Organization activity
- Service control policies
- Resource control policies [New](#)

Role Assignment-03-EC2-S3-Full-Access-Role created.

View role X

Roles (12) [Info](#)

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Search

Role name	Trusted entities	Last activity
Assignment-03-EC2-S3-Full-Access-Role	AWS Service: ec2	-
AWSServiceRoleForAmazonElasticFileSystem	AWS Service: elasticfilesystem (Service-Linked)	6 days ago
AWSServiceRoleForBackup	AWS Service: backup (Service-Linked)	13 hours ago
AWSServiceRoleForECS	AWS Service: ecs (Service-Linked Role)	151 days ago
AWSServiceRoleForElasticLoadBalancing	AWS Service: elasticloadbalancing (Service-Linked)	4 days ago
AWSServiceRoleForLightsail	AWS Service: lightsail (Service-Linked)	19 minutes ago
AWSServiceRoleForOrganizations	AWS Service: organizations (Service-Linked)	-
AWSServiceRoleForSSO	AWS Service: sso (Service-Linked Role)	10 hours ago
AWSServiceRoleForSupport	AWS Service: support (Service-Linked)	237 days ago
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service-Linked)	-
DemoRoleForEC2	AWS Service: ec2	7 days ago
s3crr_role_for_s3-suman-adh-bucket-origin-v2	AWS Service: s3	3 days ago

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4. Assign role to EC2

The screenshot shows the 'Modify IAM role' page in the AWS IAM console. At the top, the navigation bar includes 'Search' and 'Option+S'. On the right, it shows 'United States (N. Virginia)' and 'cc-de-admin @ code-university'. Below the navigation, the breadcrumb trail reads 'EC2 > Instances > i-00bf3b06b991c729c > Modify IAM role'. The main section is titled 'Modify IAM role' with a 'Info' link. A note says 'Attach an IAM role to your instance.' The 'Instance ID' field contains 'i-00bf3b06b991c729c (assignment-03-ec2-instance)'. The 'IAM role' section asks to 'Select an IAM role to attach to your instance or create a new role if you haven't created any.' It shows a dropdown menu with 'Assignment-03-EC2-S3-Full-Access-Role' selected and a 'Create new IAM role' button. At the bottom right are 'Cancel' and 'Update IAM role' buttons.

The screenshot shows the 'Instances' page in the AWS EC2 console. The left sidebar lists 'EC2' (selected), 'Dashboard', 'EC2 Global View', 'Events', 'Instances' (selected), 'Instances Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity Reservations', 'Images', 'AMIs', 'AMI Catalog', 'Elastic Block Store', 'Volumes', 'Snapshots', 'Lifecycle Manager', 'Network & Security', 'Security Groups', and 'Elastic IPs'. The main area displays a message: 'Successfully attached Assignment-03-EC2-S3-Full-Access-Role to instance i-00bf3b06b991c729c'. Below this, a table shows 'Instances (1/1) Info'. The table has columns: 'Name' (checkbox selected), 'Instance ID' (i-00bf3b06b991c729c), 'Instance state' (Running), 'Instance type' (t2.micro), and 'Status check' (2/2 checks passed). At the bottom of the page, there are links for 'CloudShell' and 'Feedback'.

5. Upload file to S3 bucket

The screenshot shows the AWS CloudShell interface. At the top, there is a green success message: "Upload succeeded. For more information, see the Files and folders table." Below this, a summary table shows one file uploaded successfully (Succeeded) and zero files failed. Under the "Files and folders" tab, a table lists a single file named "beach.jpg" with a size of 85.8 KB, which is also marked as "Succeeded".

Summary						
Destination	Succeeded	Failed				
s3://suman-miu-assignment-03-task-01-bucket	1 file, 85.8 KB (100.00%)	0 files, 0 B (0%)				

Files and folders (1 total, 85.8 KB)						
<input type="text"/> Find by name						
Name	Folder	Type	Size	Status	Error	Actions
beach.jpg	-	image/jpeg	85.8 KB	Succeeded	-	

6. Copy file from S3 to EC2 using CLI

The screenshot shows the AWS CloudShell interface. The terminal window displays the output of an AWS CLI command, specifically the `aws s3 cp` command used to copy a file from an S3 bucket to an EC2 instance. The output includes the last login details for the EC2 user and the progress of the file transfer.

```
Last login: Mon Feb 24 19:29:05 2025 from ec2-18-206-107-29.compute-1.amazonaws.com
[ec2-user@ip-172-31-83-87 ~]$ aws s3 cp s3://suman-miu-assignment-03-task-01-bucket/beach.jpg /tmp/beach.jpg
2025-02-24T19:29:10Z [INFO] Initiating multipart upload for object 'beach.jpg' at 's3://suman-miu-assignment-03-task-01-bucket'. Total size: 85.8 KB
2025-02-24T19:29:10Z [INFO] Uploading part 1 of 1.
2025-02-24T19:29:10Z [INFO] Uploading part 1 completed. Total size: 85.8 KB
2025-02-24T19:29:10Z [INFO] Multipart upload completed.
```

At the bottom of the terminal window, the instance identifier and IP address are displayed: i-00bf3b06b991c729c (assignment-03-ec2-instance), PublicIPs: 3.86.254.13 PrivateIPs: 172.31.83.87.

A screenshot of the AWS CloudShell interface. At the top, there's a navigation bar with the AWS logo, a search bar containing 'Search', and a button labeled '[Option+S]'. To the right are icons for refresh, notifications, help, and account information ('United States (N. Virginia) ▾' and 'cc-de-admin @ code-university ▾'). Below the navigation bar is a terminal window showing command-line output:

```
[ec2-user@ip-172-31-83-87 ~]$ aws s3 ls
2025-02-24 19:21:57 suman-miu-assignment-03-task-01-bucket
[ec2-user@ip-172-31-83-87 ~]$ ls
[ec2-user@ip-172-31-83-87 ~]$ aws s3 cp s3://suman-miu-assignment-03-task-01-bucket/beach.jpg beach.jpg
downloaded s3://suman-miu-assignment-03-task-01-bucket/beach.jpg to ./beach.jpg
[ec2-user@ip-172-31-83-87 ~]$ ls
beach.jpg
[ec2-user@ip-172-31-83-87 ~]$
```

The terminal window has a large black rectangular redaction box covering the bottom half of the screen area below the command history.

Below the terminal window, there's a status bar with the instance ID 'i-00bf3b06b991c729c (assignment-03-ec2-instance)', public and private IP addresses, and a close button (X). At the very bottom, there are links for 'CloudShell', 'Feedback', and copyright information: '© 2025, Amazon Web Services, Inc. or its affiliates.' followed by 'Privacy', 'Terms', and 'Cookie preferences'.

File is now in EC2.

Task #2 – S3 Event Notification

1. Using task 1 bucket.

The screenshot shows the AWS S3 Buckets page. At the top, there's a header with the AWS logo, a search bar containing 'ec2', and navigation links for 'Amazon S3 > Buckets'. On the right, it shows 'United States (N. Virginia)' and a user 'cc-de-admin @ code-university'. Below the header, a banner says 'Account snapshot - updated every 24 hours' and 'View Storage Lens dashboard'. The main area is divided into 'General purpose buckets' and 'Directory buckets', with 'General purpose buckets' being selected. It lists one bucket: 'suman-miu-assignment-03-task-01-bucket' (Info, All AWS Regions). The bucket details show it was created on February 24, 2025, at 13:21:57 (UTC-06:00) in 'US East (N. Virginia) us-east-1'. There are buttons for 'Copy ARN', 'Empty', 'Delete', and 'Create bucket'. At the bottom, there are links for 'CloudShell', 'Feedback', and copyright information from 2025.

2. Create Event Notification in S3 Bucket with SNS.

The screenshot shows the 'Event notifications' section of the S3 Bucket settings. It has a header with 'Edit', 'Delete', and 'Create event notification' buttons. Below is a table with columns 'Name', 'Event types', 'Filters', 'Destination type', and 'Destination'. A note says 'No event notifications' and 'Choose Create event notification to be notified when a specific event occurs.' with a 'Create event notification' button. The 'Amazon EventBridge' section is collapsed, showing 'Edit' and 'For additional capabilities, use Amazon EventBridge to build event-driven applications at scale using S3 event notifications.' The 'Transfer acceleration' section is collapsed, showing 'Edit' and 'Use an accelerated endpoint for faster data transfers.' The 'Object Lock' section is collapsed, showing 'Edit' and 'Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. Object Lock works only in versioned buckets.' At the bottom, there are links for 'CloudShell', 'Feedback', and copyright information from 2025.

The screenshot shows the 'Create event notification' page in the AWS S3 console. The top navigation bar includes the AWS logo, search bar ('ec2'), and account information ('United States (N. Virginia) cc-de-admin @ code-university'). Below the navigation is a breadcrumb trail: 'Amazon S3 > Buckets > suman-miu-assignment-03-task-01-bucket > Create event notification'. The main content area is titled 'Create event notification' with an 'Info' link. A note states: 'To enable notifications, you must first add a notification configuration that identifies the events you want Amazon S3 to publish and the destinations where you want Amazon S3 to send the notifications.' The configuration section is titled 'General configuration'. It contains fields for 'Event name' (set to 'DemoS3ObjectCreatedEvent'), 'Prefix - optional' (set to 'images/'), and 'Suffix - optional' (set to 'jpg'). The 'Event types' section allows selecting events for notification. Under 'Object creation', the 'All object create events' checkbox is checked. To its right, there are two options: 'Put' (s3:ObjectCreated:Put) and 'Post' (s3:ObjectCreated:Post), both with their respective checkboxes. At the bottom of the page are links for 'CloudShell', 'Feedback', and copyright information ('© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences').

2.1. Create SNS topic

The screenshot shows the 'Create topic' page in the AWS SNS console. The top navigation bar includes the AWS logo, search bar ('Search [Option+S]'), and account information ('United States (N. Virginia) cc-de-admin @ code-university'). Below the navigation is a breadcrumb trail: 'Amazon SNS > Topics > Create topic'. The main content area is titled 'Create topic'. The 'Details' section starts with a 'Type' dropdown set to 'Info' (with a note: 'Topic type cannot be modified after topic is created'). It offers two options: 'FIFO (first-in, first-out)' and 'Standard'. The 'Standard' option is selected, highlighted with a blue border, and describes it as providing 'Best-effort message ordering', 'At-least once message delivery', and support for 'Subscription protocols: SQS, Lambda, Data Firehose, HTTP, SMS, email, mobile application endpoints'. The 'Name' field is filled with 'DemoS3ObjectCreated'. A note says: 'Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).' The 'Display name - optional' field contains 'My Topic'. A note says: 'To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message.' A note also says: 'Maximum 100 characters.' The 'Encryption - optional' section notes: 'Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.' The 'Access policy - optional' section notes: 'This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.' At the bottom of the page are links for 'CloudShell', 'Feedback', and copyright information ('© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences').

The screenshot shows the Amazon SNS Topics page. A green success message at the top states: "Topic DemoS3ObjectCreated created successfully. You can create subscriptions and send messages to them from this topic." Below this, the "DemoS3ObjectCreated" topic is listed with its details: Name (DemoS3ObjectCreated), Display name (-), ARN (arn:aws:sns:us-east-1:471112916427:DemoS3ObjectCreated), Topic owner (471112916427), and Type (Standard). There are tabs for Subscriptions, Access policy, Data protection policy, Delivery policy (HTTP/S), Delivery status logging, Encryption, and Tag. The Subscriptions tab is selected, showing a table with one row: ID (83d1704b-46ac-4edd-9ecc-3ee3f...), Endpoint (suman.adhikari@miu.edu), Status (Confirmed), and Protocol (EMAIL). Buttons for Edit, Delete, Request confirmation, Confirm subscription, and Create subscription are available.

2.2. Add Subscription via email

The screenshot shows the Amazon SNS Topics page. A blue banner at the top indicates: "New Feature: Amazon SNS now supports High Throughput FIFO topics. Learn more." Below this, the "DemoS3ObjectCreated" topic is listed with its details: Name (DemoS3ObjectCreated), Display name (-), ARN (arn:aws:sns:us-east-1:471112916427:DemoS3ObjectCreated), Topic owner (471112916427), and Type (Standard). The Subscriptions tab is selected, showing a table with one row: ID (83d1704b-46ac-4edd-9ecc-3ee3f...), Endpoint (suman.adhikari@miu.edu), Status (Confirmed), and Protocol (EMAIL). Buttons for Edit, Delete, Request confirmation, Confirm subscription, and Create subscription are available.

2.3. Update SNS access policy to allow S3 event publishing

The screenshot shows the AWS SNS Access policy configuration page for a topic named "DemoS3ObjectCreated". The "Access policy" tab is selected. The policy document is displayed as JSON:

```
{  
    "Version": "2012-10-17",  
    "Id": "example-ID",  
    "Statement": [  
        {  
            "Sid": "Example SNS topic policy",  
            "Effect": "Allow",  
            "Principal": {  
                "Service": "s3.amazonaws.com"  
            },  
            "Action": "SNS:Publish",  
            "Resource": "arn:aws:sns:us-east-1:471112916427:DemoS3ObjectCreated",  
            "Condition": {  
                "StringEquals": {  
                    "aws:SourceAccount": "471112916427"  
                },  
                "ArnLike": {  
                    "aws:SourceArn": "arn:aws:s3:::suman-miu-assignment-03-task-01-bucket"  
                }  
            }  
        }  
    ]  
}
```

Below the JSON, a note states: "This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic."

At the bottom of the page, there are links for CloudShell, Feedback, and a copyright notice: "© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

3. Event created with given SNS topic

The screenshot shows the AWS S3 Bucket properties page for a bucket named "suman-miu-assignment-03-task-01-bucket". The "Event notifications" section is expanded, showing one notification rule:

Name	Event types	Filters	Destination type	Destination
DemoS3ObjectCreatedEvent	All object create events	-	SNS topic	DemoS3ObjectCreated

Below the table, the "Amazon EventBridge" section is collapsed. The "Transfer acceleration" section is also present.

At the bottom of the page, there are links for CloudShell, Feedback, and a copyright notice: "© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

4. Upload a file to S3.

The screenshot shows the AWS S3 'Upload' interface. At the top, there's a navigation bar with the AWS logo, a search bar, and options for 'Option+S' and 'Search'. The main title is 'Amazon S3 > Buckets > suman-miu-assignment-03-task-01-bucket > Upload'. On the right, there are icons for notifications, a bell, and account information ('United States (N. Virginia) ▾ cc-de-admin @ code-unity-dev'). Below the title, a section titled 'Upload' has an 'Info' link. A note says: 'Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)'.

A large central area has a dashed border and contains the text: 'Drag and drop files and folders you want to upload here, or choose Add files or Add folder.'

Below this, a table lists 'Files and folders (1 total, 108.4 KB)'. It shows one item: 'coffee.jpg' (image/jpeg, 108.4 KB). There are buttons for 'Remove', 'Add files', and 'Add folder'.

Files and folders (1 total, 108.4 KB)			
All files and folders in this table will be uploaded.			
<input type="text"/> Find by name			
Name	Folder	Type	Size
coffee.jpg	-	image/jpeg	108.4 KB

At the bottom, there's a 'Destination' section with an 'Info' link. It shows the destination as 's3://suman-miu-assignment-03-task-01-bucket'. Under 'Destination details', it says: 'Bucket settings that impact new objects stored in the specified destination.' There are also sections for 'Permissions' (with a note about granting public access) and 'Properties' (with a note about specifying storage class, encryption settings, tags, and more).

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with the AWS logo, a search bar containing 'Search' with a keyboard shortcut '[Option+S]', and account information for 'United States (N. Virginia)' and 'cc-de-admin @ code-university'. Below the navigation bar is a green success message box with the text 'Upload succeeded' and a link 'For more information, see the Files and folders table.' On the left, a sidebar displays the 'Upload: status' section. A note below it says 'After you navigate away from this page, the following information is no longer available.' The main content area is titled 'Summary' and shows two sections: 'Succeeded' (1 file, 108.4 KB) and 'Failed' (0 files, 0 B). At the bottom, there are tabs for 'Files and folders' (which is selected) and 'Configuration'. The 'Files and folders' tab shows a table with one item: 'coffee.jpg' (image/jpeg, 108.4 KB, Status: Succeeded).

aws Search [Option+S] United States (N. Virginia) cc-de-admin @ code-university

Upload succeeded
For more information, see the [Files and folders table](#).

Upload: status Close

After you navigate away from this page, the following information is no longer available.

Summary

Succeeded	Failed
1 file, 108.4 KB (100.00%)	0 files, 0 B (0%)

Files and folders Configuration

Files and folders (1 total, 108.4 KB)

Find by name

Name	Folder	Type	Size	Status	Error
coffee.jpg	-	image/jpeg	108.4 KB	Succeeded	-

5. Verify SNS topic creation in email.

Amazon S3 Notification

AN ○ AWS Notifications <no-reply@sns.amazonaws.com>

To: Suman Adhikari

Today at 2:33 PM

[You don't often get email from no-reply@sns.amazonaws.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

"Records": [{"eventVersion": "2.1", "eventSource": "aws:s3", "awsRegion": "us-east-1", "eventTime": "2025-02-24T20:32:57.837Z", "eventName": "ObjectCreated:Put", "userIdentity": {"principalId": "AWS-AIDAW3MEETXFTIMAZCBU"}, "requestParameters": {"sourceIPAddress": "2.56.191.91"}, "responseElements": {"x-amz-request-id": "A9VYQ49WHBP3PB1", "x-amz-id-2": "qp2FGUsyONlyEtej9TaGytu+mb/IVLH4ZSXk/pwAsI7zXcedeWUnett7HuWGJSjOAtArHB6COaqOfEVluxeqpAtLsyM"}, "s3": {"s3SchemaVersion": "1.0", "configurationId": "DemoS3ObjectCreatedEvent", "bucket": {"name": "suman-miu-assignment-03-task-01-bucket", "ownerIdentity": {"principalId": "A2J6ZDMDYXL2VU"}, "arn": "arn:aws:s3:::suman-miu-assignment-03-task-01-bucket"}, "object": {"key": "coffee.jpg", "size": 110985, "eTag": "b3b29d095d73d905171d1f5498e1e578", "versionId": "R.AyVUU.QApYkwhYDgh9Hkq7Dfh", "sequencer": "0067BCD779c8E2DC9B"}}]}]

--

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<https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsns.us-east-1.amazonaws.com%2Funsubscribe.html%3FSSubscriptionArn%3Darn%3Aaws%3Asns%3Aus-east-1%3A4711129164275%3ADemoS3ObjectCreated%3A83d1704b-46ac-4edd-9ecc-3ea3f3a4b8a4%26Endpoint%3Dsuman.adhikari%40miu.edu&data=05%7C02%7Csuman.adhikari%40miu.edu%7C6fe85ee631c14464f79808dd55126d59%7C28id0d9ee529413f88d57133f67675ef%7C0%7C0%7C638760259850308222%7CUnknown%7CTWFpbGzb3d8ey/FbxBoeU1hcGkiOnRydWJslIYOilwljAuMDAwMCislAOIxW4zMlslkFOljoITWFpbCislldUljoyO%3D%3D%7C0%7C%7C%7C&data=WAKBTjlARnBBPnJrx%2B46DOX8Opzwll8FU SNuI0qbc%3D&reserved=0>

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Task #3 – S3 Signed URL

1. Create IAM role for Lambda for S3 Full Access

Step 1
 Select trusted entity
 Step 2
 Add permissions
 Step 3
 Name, review, and create

Select trusted entity Info

Trusted entity type

AWS service Allow AWS services like EC2, Lambda, or others to perform actions in this account.

AWS account Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

Web identity Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

SAML 2.0 federation Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

Custom trust policy Create a custom trust policy to enable others to perform actions in this account.

Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case Lambda

Choose a use case for the specified service.
Use case
 Lambda Allows Lambda functions to call AWS services on your behalf.

Cancel Next

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Step 3
 Name, review, and create

Role name
Enter a meaningful name to identify this role.
DemoS3FullAccessForLambdaRole

Description
Add a short explanation for this role.
Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=,. @/[]#\$%^&`~!`

Step 1: Select trusted entities Edit

Trust policy

```
1- [ { "Version": "2012-10-17", "Statement": [ 4- { "Effect": "Allow", "Action": [ 5- "sts:AssumeRole" ], "Principal": { 6- "Service": [ 7- "lambda.amazonaws.com" ] } } ] } ]
```

Step 2: Add permissions Edit

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2. Create Lambda Function

The screenshot shows the 'Create function' wizard in the AWS Lambda console. The 'Basic information' step is selected. The function name is set to 'Assignment-03-Task-03-S3-Access-Lambda'. The runtime is 'Node.js 22.x'. The architecture is 'x86_64'. Under 'Permissions', it shows the default execution role 'DemoS3FullAccessForLambdaRole' selected. A note indicates that Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs.

Change default execution role

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).
 Create a new role with basic Lambda permissions
 Use an existing role
 Create a new role from AWS policy templates

Existing role
Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.
DemoS3FullAccessForLambdaRole [View the DemoS3FullAccessForLambdaRole role](#) on the IAM console.

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The screenshot shows the 'Function overview' page for the created Lambda function. It displays the function name 'Assignment-03-Task-03-S3-Access-Lambda', a description, and the ARN. The status message indicates success: 'Successfully created the function Assignment-03-Task-03-S3-Access-Lambda. You can now change its code and configuration. To invoke your function with a test event, choose "Test".' The 'Code' tab is selected, showing the code source with files 'index.mjs' and 'index.mis'. The 'Test' tab is also visible.

Assignment-03-Task-03-S3-Access-Lambda

Throttle Copy ARN Actions

Function overview Info

Description -

Last modified 1 second ago

Function ARN arn:aws:lambda:us-east-1:471112916427:function:Assignment-03-Task-03-S3-Access-Lambda

Function URL Info -

Code Test Monitor Configuration Aliases Versions

Code source Info

Upload from

EXPLORER ... JS index.mjs X

ASSIGNMENT-03-TASK-03-S3-ACCESS-LAMBDA JS index.mis > ...

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3. Update Function code in index.mjs and Deploy

The screenshot shows the AWS Lambda function editor for the function 'Assignment-03-Task-03-S3-Access-Lambda'. A green success message at the top states 'Successfully updated the function Assignment-03-Task-03-S3-Access-Lambda.' The code source tab is selected, displaying the file 'index.mjs' with the following content:

```
index.mjs x
JS index.mjs > [e] handler
1 import {S3Client, GetObjectCommand} from '@aws-sdk/client-s3';
2 import {getSignedUrl} from '@aws-sdk/s3-request-presigner';
3
4
5 const region = 'us-east-1';
6 const client = new S3Client({region: region});
7
8
9 export const handler = async (event) => [
10   // s3://suman-miu-assignment-03-task-01-bucket/beach.jpg
11
12   const params = {
13     Bucket: 'suman-miu-assignment-03-task-01-bucket',
14     Key: 'beach.jpg',
15   };
16
17   const command = new GetObjectCommand(params);
18   const url = await getSignedUrl(client, command, { expiresIn: 3600 });
19
20   return url;
21 ];
22
23 ]
```

The left sidebar shows the 'EXPLORER' and 'DEPLOY' sections. Under 'DEPLOY', there are two buttons: 'Deploy (F5U)' and 'Test (F5T)', both of which are highlighted in blue. Below the code editor, there is a section for 'TEST EVENTS [SELECTED: (UNSAVED) TEST EV...]' with options to 'Create new test event' or 'Edit saved event'.

4. Create a Test and execute it.

The screenshot shows the 'Test event' configuration page for the function 'Assignment-03-Task-03-S3-Access-Lambda'. A green success message at the top states 'The test event DemoS3PresignedUrlLambda was successfully saved.' The 'Test event' tab is selected, showing the following configuration:

- Test event action:** A radio button is selected for 'Create new event'.
- Event name:** The input field contains 'DemoS3PresignedUrlLambda'. A note below says: 'Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.'
- Event sharing settings:**
 - Private:** This event is only available in the Lambda console and to the event creator. You can configure a total of 10.
 - Shareable:** This event is available to IAM users within the same account who have permissions to access and use shareable events.
- Template - optional:** An empty text area for defining the event template.
- Event JSON:** A text area containing the JSON object '{ }'. To its right are 'Format JSON' and 'Copy' buttons.

The bottom of the page includes standard AWS navigation links: CloudShell, Feedback, © 2025, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

5. Run it in browser.

