Submitted By :

Sukalyan Maiti & Debadrita Ghosh

Project Guide: Sofikul Mallick

Start Date: July 25, 2020

End Date: Sep 25, 2020

ARDENT

COMPUTECH PVT. LTD

Knowledge is power, power leads to growth, growth is life

CERTIFICATE

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High-End Technology Training and Project

This is to certify that Sukalyan Maiti, Debadrita Ghosh successfully completed the project titled "SIMPLE NOTIFICATION SERVICE BY USING AWS LAMBDA AND S3 SERVICE " under my supervision during the period from 25 July 2020 to 24 September 2020 which is in fulfillment of their training in Cloud Computing using Aws

Signature of the Supervisor

Date: October 12, 2020

Sofikul Mallick

CONTENTS:-

ACKNOWLEDGEMENT

The achievement that is associated with the successful completion of any task would be incomplete without mentioning the names of those people whose endless cooperation made it possible. Their constant guidance and encouragement made all our efforts successful.

We take this opportunity to express our deep gratitude towards our project mentor ***Sofikul Mallick***, for giving such valuable suggestions, guidance, and encouragement during the development of this project work.

ABSTRACT

The report presents the task completed during summer training at Ardent Computech Pvt. Ltd. Which is listed below:

1. Understand the Problem objective
2. Understanding the AWS & build the model.
3. Implementation of simple notification service by using lambda & s3 service.

All these tasks have been completed successfully and results were according to Expectations. All the tasks needed a very systematic approach, starting from the creation of IAM users and until the implementation of the services. The most challenging task was the domain knowledge, to understand the lambda function. Once the S3 bucket has been created, we applied the lambda function to send the notification to the verified email id. It is one of the major areas and needs very fundamental and conceptual knowledge of Cloud Computing.

Introduction

In this project, we used some services and made a new service where if an AMI user or admin delete something from the S3 bucket the system will send a notification to the registered email id/ids.

Problem Statement:-

There will be many IAM users in one AWS account if admin permitted them of s3 services they can do anything with it & if they delete something from the s3 by mistake admin have to take immediate action for this. By using this service admin will get immediate notification if something happens in s3.

The goal of the Project:-

We need to build a service that notifies us when something changes in S3 service

Required concepts for this project

Identity Access Management :

AWS Identity and Access Management (IAM) enables you to manage access to AWS services and resources securely. Using IAM, you can create and manage AWS users and groups, and use permissions to allow and deny their access to AWS resources.

Amazon Simple Storage Service :

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. This means customers of all sizes and industries can use it to store and protect any amount of data for a range of use cases, such as websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides easy-to-use management features so you can organize your data and configure finely-tuned access controls to meet your specific business, organizational, and compliance requirements. Amazon S3 is designed for 99.999999999% (11 9's) of durability, and stores data for millions of applications for companies all around the world.

AWS Lambda :

AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume. With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code and Lambda takes care of everything required to run and scale your code with high availability. You can set up your code to automatically trigger from other AWS services or call it directly from any web or mobile app.

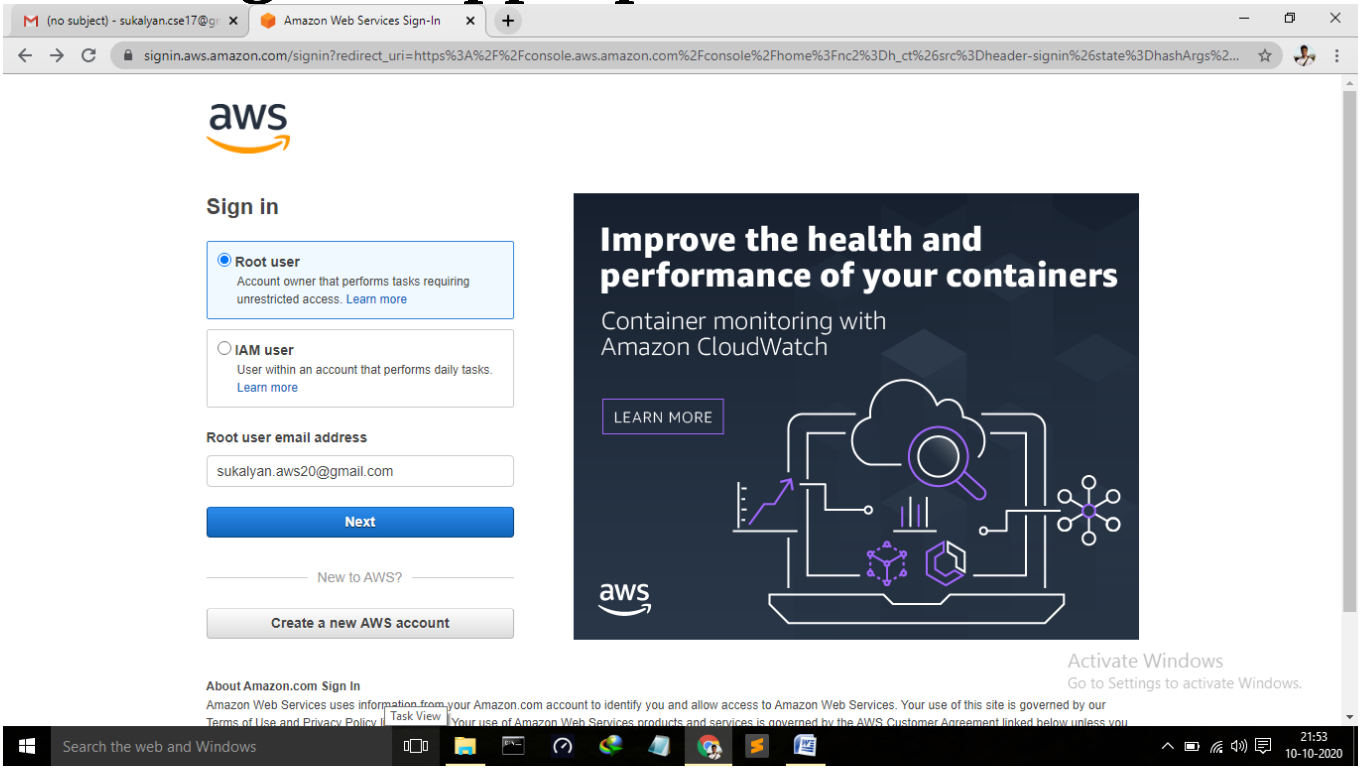
Amazon Simple Notification Service :

Amazon Simple Notification Service (SNS) is a fully managed messaging service for both system-to-system and app-to-person (A2P) communication. It enables you to communicate between systems through publish/subscribe (pub/sub) patterns that enable messaging between decoupled microservice applications or to communicate directly to users via SMS, mobile push, and email.

The system-to-system pub/sub functionality provides topics for high-throughput, push-based, many-to-many messaging. Using Amazon SNS topics, your publisher systems can fanout messages to a large number of subscriber systems or customer endpoints including Amazon SQS queues, AWS Lambda functions, and HTTP/S, for parallel processing. The A2P messaging functionality enables you to send messages to users at scale using either a pub/sub pattern or direct-publish messages using a single API.

Approach for the Service building

Creating the Appropriate IAM Role:-


(no subject) - sukalyan.cse17@g
Amazon Web Services Sign-In
signin.aws.amazon.com/signin?redirect_uri=https%3A%2F%2Fconsole.aws.amazon.com%2Fconsole%2Fhome%3Fnc2%3Dh_ct%26src%3Dheader-signin%26state%3DhashArgs%2...
aws
Improve the health and performance of your containers
Container monitoring with Amazon CloudWatch
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Task View
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Sign in

● Root user
Account owner that performs tasks requiring unrestricted access. Learn more

○ IAM user
User within an account that performs daily tasks. Learn more

Root user email address

sukalyan.aws20@gmail.com

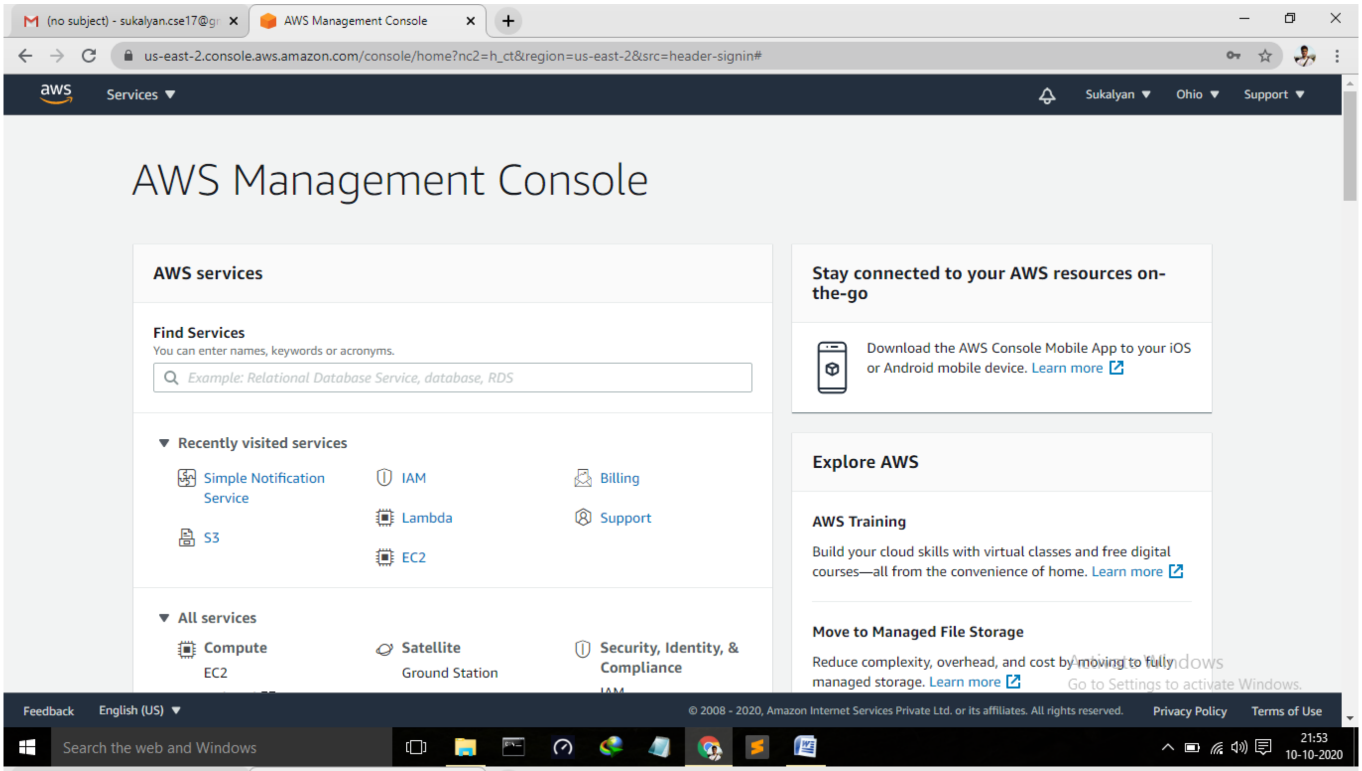
Next

New to AWS?

Create a new AWS account

About Amazon.com Sign In

Amazon Web Services uses information from your Amazon.com account to identify you and allow access to Amazon Web Services. Your use of this site is governed by our Terms of Use and Privacy Policy l Your use of Amazon Web Services products and services is governed by the AWS Customer Agreement linked below unless you


(no subject) - sukalyan.cse17@gr
AWS Management Console
us-east-2.console.aws.amazon.com/console/home?nc2=h_ct&region=us-east-2&src=header-signin#
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼

AWS Management Console

AWS services

Find Services

You can enter names, keywords or acronyms.

Example: Relational Database Service, database, RDS

▼ Recently visited services

Simple Notification Service
S3
IAM
Lambda
EC2
Billing
Support

▼ All services

Compute
EC2

Satellite
Ground Station

Security, Identity, & Compliance
IAM

Stay connected to your AWS resources on-the-go

Download the AWS Console Mobile App to your iOS or Android mobile device. Learn more

Explore AWS

AWS Training

Build your cloud skills with virtual classes and free digital courses—all from the convenience of home. Learn more

Move to Managed File Storage

Reduce complexity, overhead, and cost by moving to fully managed storage. Learn more

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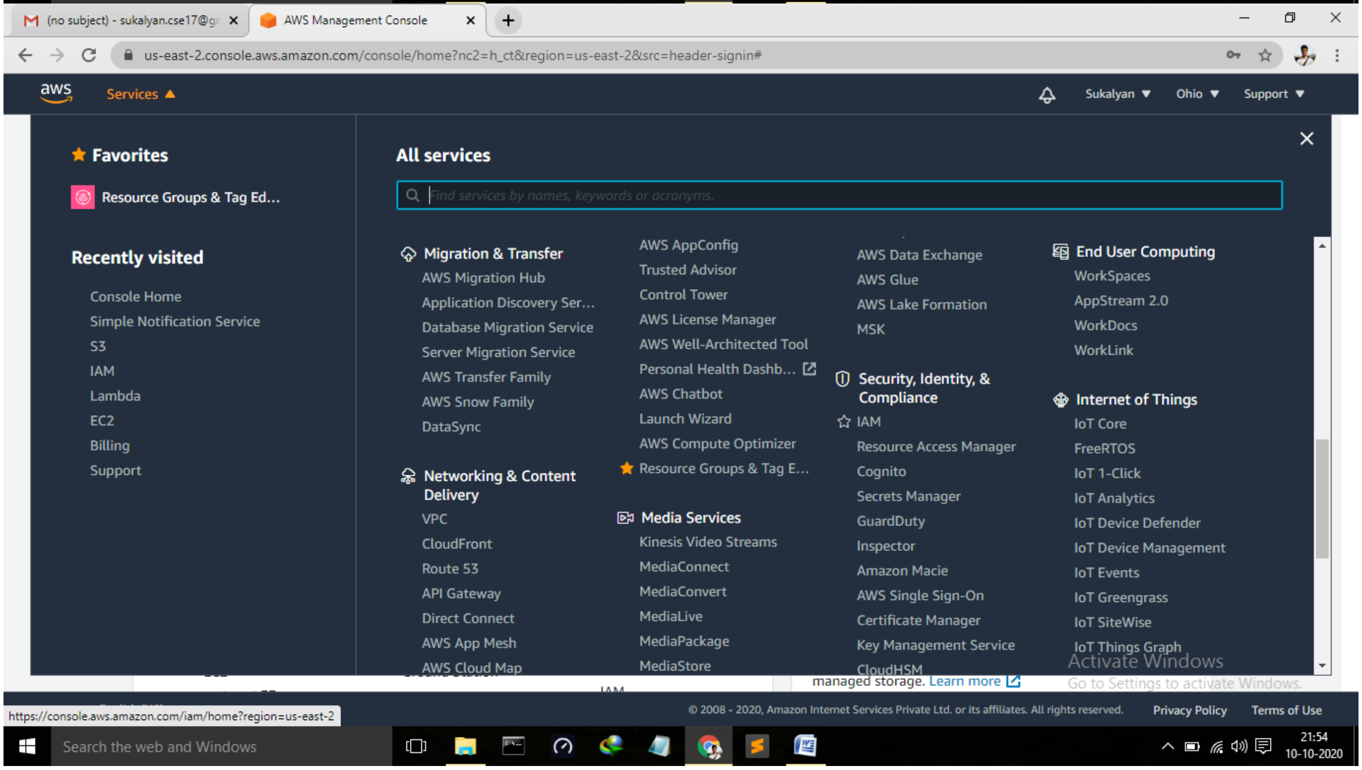
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AWS Management Console
us-east-2.console.aws.amazon.com/console/home?nc2=h_ct&region=us-east-2&src=header-signin#
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★ Favorites

Resource Groups & Tag Ed...

Recently visited

Console Home
Simple Notification Service
S3
IAM
Lambda
EC2
Billing
Support

All services

Find services by names, keywords or acronyms.

Migration & Transfer
AWS Migration Hub
Application Discovery Ser...
Database Migration Service
Server Migration Service
AWS Transfer Family
AWS Snow Family
DataSync

Networking & Content Delivery
VPC
CloudFront
Route 53
API Gateway
Direct Connect
AWS App Mesh
AWS Cloud Map

AWS AppConfig
Trusted Advisor
Control Tower
AWS License Manager
AWS Well-Architected Tool
Personal Health Dashb...
AWS Chatbot
Launch Wizard
AWS Compute Optimizer
★ Resource Groups & Tag E...

Media Services
Kinesis Video Streams
MediaConnect
MediaConvert
MediaLive
MediaPackage
MediaStore

AWS Data Exchange
AWS Glue
AWS Lake Formation
MSK

Security, Identity, & Compliance
☆ IAM
Resource Access Manager
Cognito
Secrets Manager
GuardDuty
Inspector
Amazon Macie
AWS Single Sign-On
Certificate Manager
Key Management Service
CloudHSM

End User Computing
WorkSpaces
AppStream 2.0
WorkDocs
WorkLink

Internet of Things
IoT Core
FreeRTOS
IoT 1-Click
IoT Analytics
IoT Device Defender
IoT Device Management
IoT Events
IoT Greengrass
IoT SiteWise
IoT Things Graph

managed storage. Learn more
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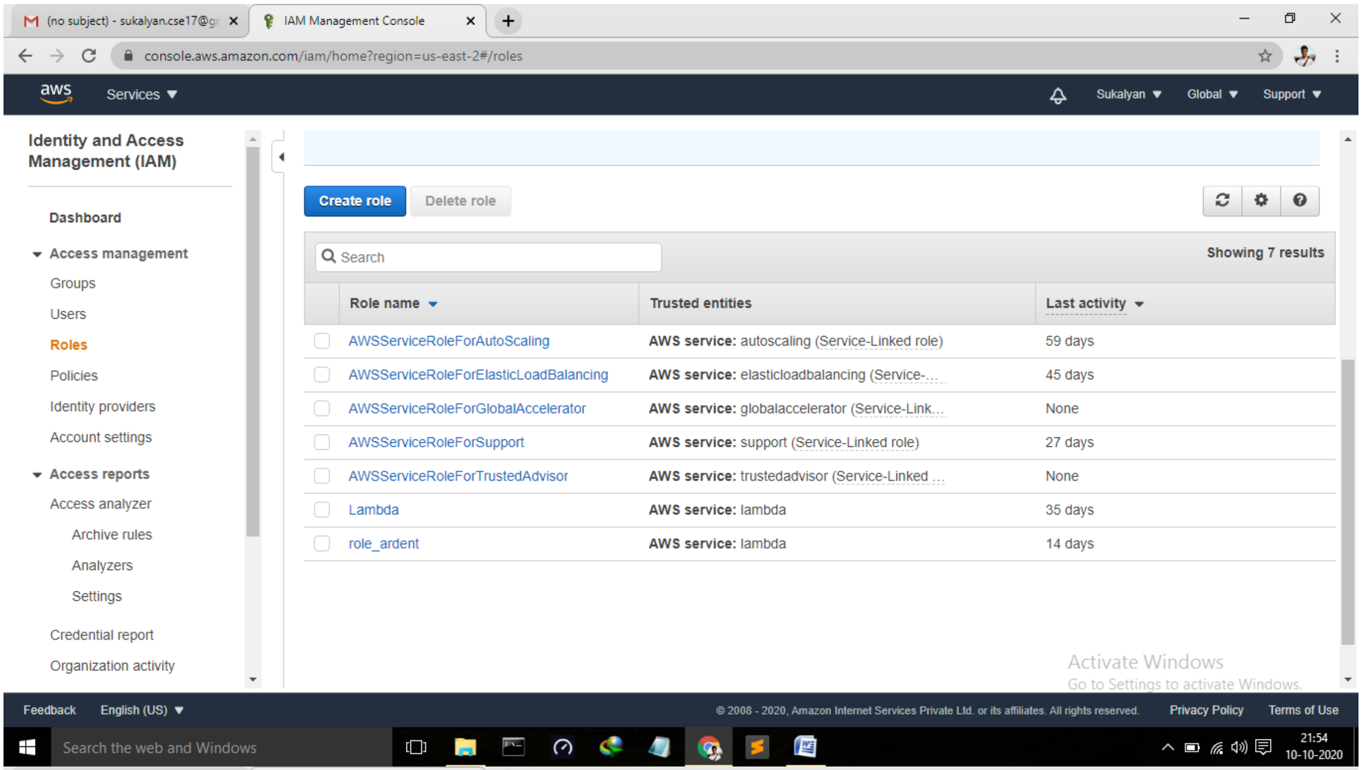

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IAM Management Console
console.aws.amazon.com/iam/home?region=us-east-2#/roles
aws
Services
Sukalyan
Global
Support

Identity and Access Management (IAM)

- Dashboard
- Access management
  - Groups
  - Users
  - Roles
  - Policies
  - Identity providers
  - Account settings
- Access reports
  - Access analyzer
    - Archive rules
    - Analyzers
    - Settings
  - Credential report
  - Organization activity

Create role | Delete role

Search | Showing 7 results

	Role name	Trusted entities	Last activity
□	AWSServiceRoleForAutoScaling	**AWS service:** autoscaling (Service-Linked role)	59 days
□	AWSServiceRoleForElasticLoadBalancing	**AWS service:** elasticloadbalancing (Service-...	45 days
□	AWSServiceRoleForGlobalAccelerator	**AWS service:** globalaccelerator (Service-Link...	None
□	AWSServiceRoleForSupport	**AWS service:** support (Service-Linked role)	27 days
□	AWSServiceRoleForTrustedAdvisor	**AWS service:** trustedadvisor (Service-Linked ...	None
□	Lambda	**AWS service:** lambda	35 days
□	role_ardent	**AWS service:** lambda	14 days

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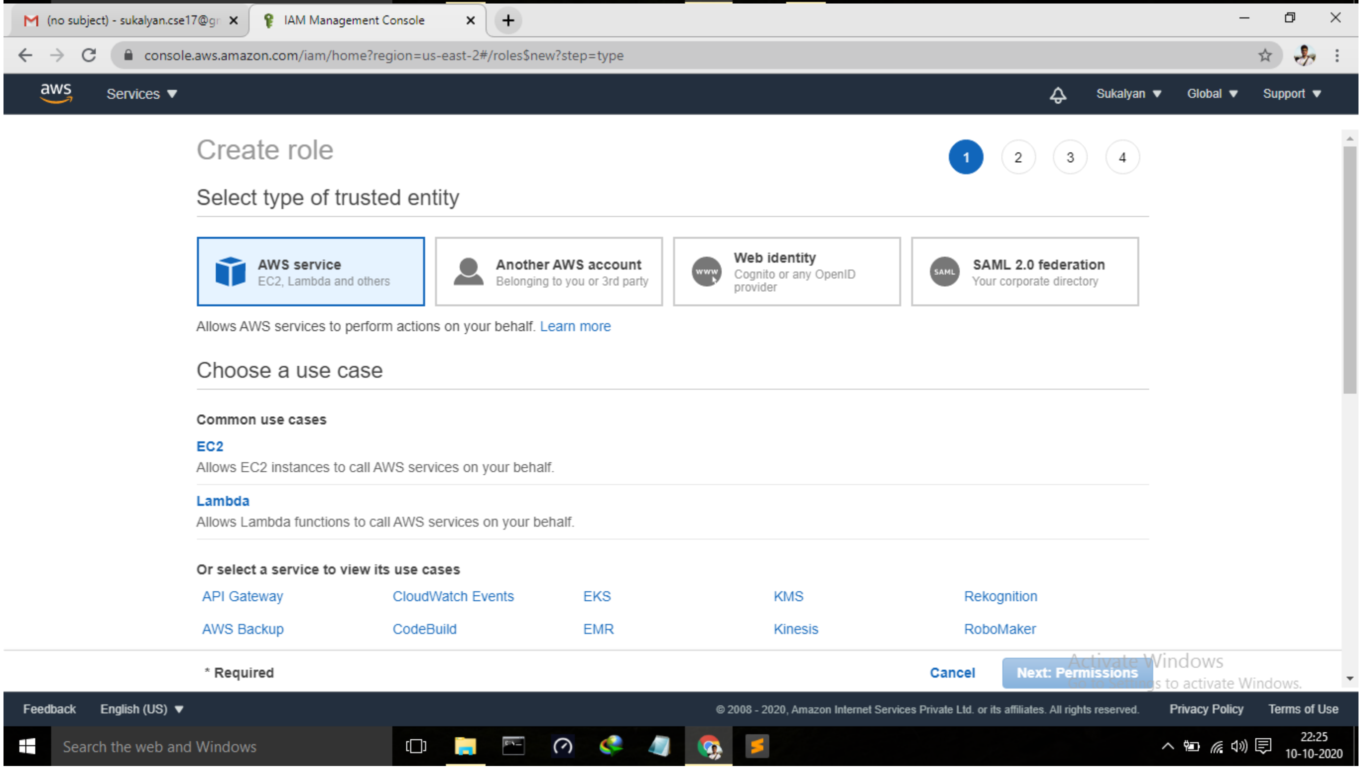

(no subject) - sukalyan.cse17@gr
IAM Management Console
console.aws.amazon.com/iam/home?region=us-east-2#/roles$new?step=type
aws
Services
Sukalyan
Global
Support
1
2
3
4

Create role

Select type of trusted entity

- **AWS service** EC2, Lambda and others (selected)
- **Another AWS account** Belonging to you or 3rd party
- **Web identity** Cognito or any OpenID provider
- **SAML 2.0 federation** Your corporate directory

Allows AWS services to perform actions on your behalf. Learn more

Choose a use case

Common use cases

EC2
Allows EC2 instances to call AWS services on your behalf.

Lambda
Allows Lambda functions to call AWS services on your behalf.

Or select a service to view its use cases

API Gateway	CloudWatch Events	EKS	KMS	Rekognition
AWS Backup	CodeBuild	EMR	Kinesis	RoboMaker

* Required | Cancel | Next: Permissions

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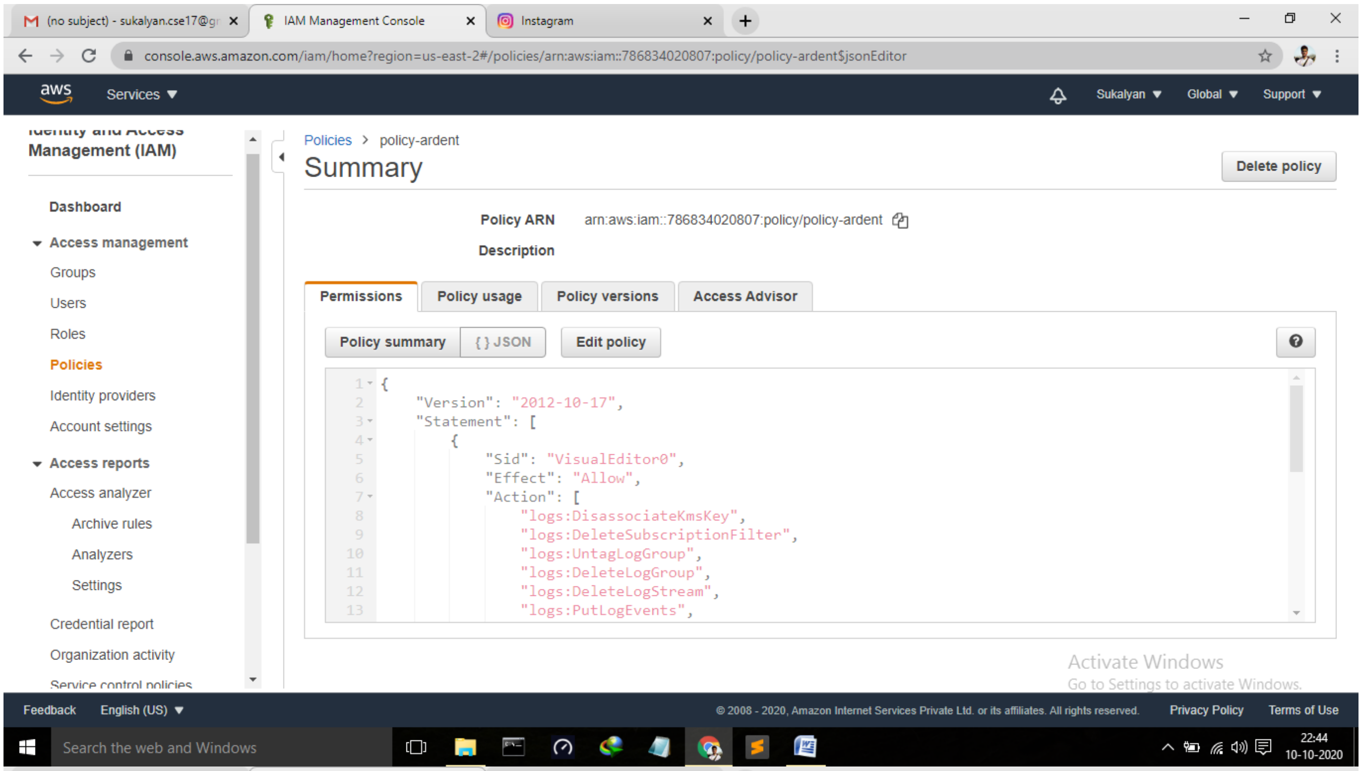

Summary

Policy ARN arn:aws:iam::786834020807:policy/policy-ardent

Description

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "VisualEditor0",
            "Effect": "Allow",
            "Action": [
                "logs:DisassociateKmsKey",
                "logs:DeleteSubscriptionFilter",
                "logs:UntagLogGroup",
                "logs:DeleteLogGroup",
                "logs:DeleteLogStream",
                "logs:PutLogEvents",
```

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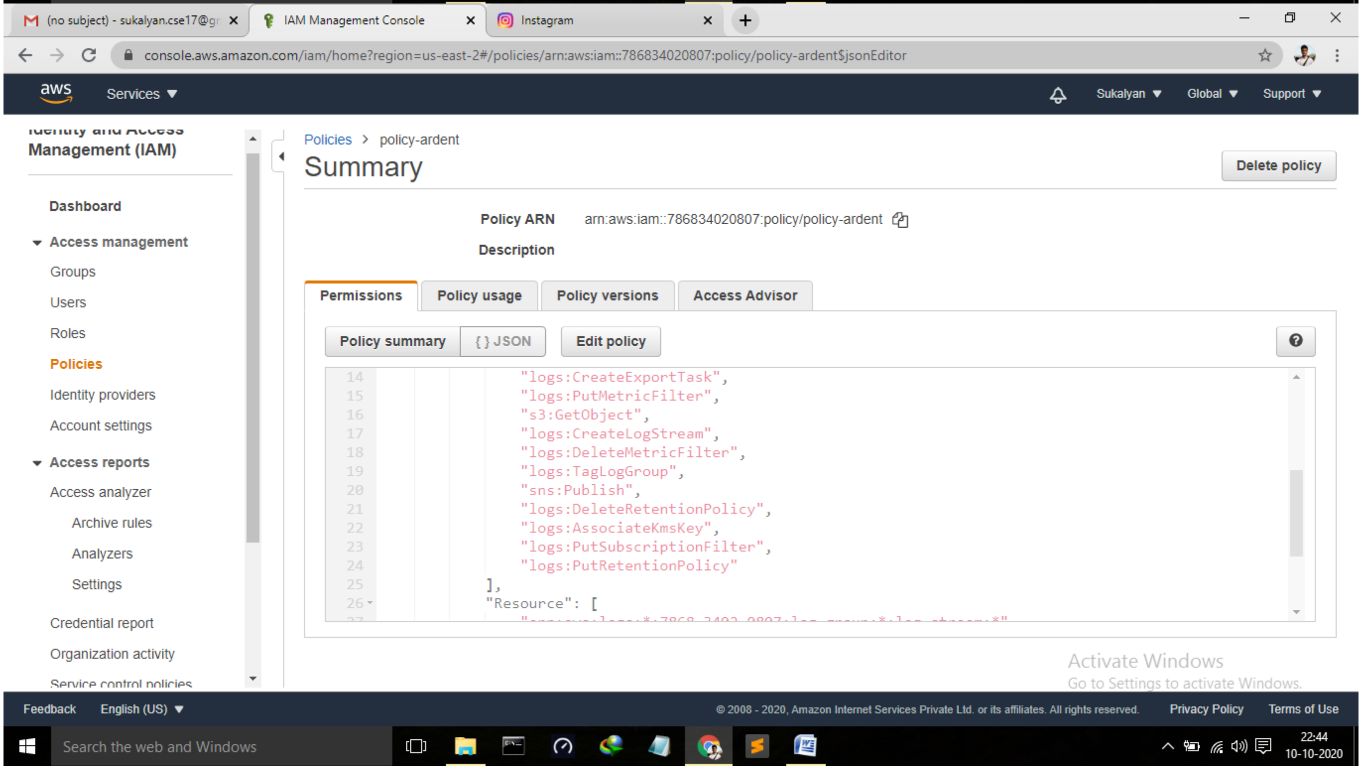

Summary

Policy ARN arn:aws:iam::786834020807:policy/policy-ardent

Description

```
                "logs:CreateExportTask",
                "logs:PutMetricFilter",
                "s3:GetObject",
                "logs:CreateLogStream",
                "logs:DeleteMetricFilter",
                "logs:TagLogGroup",
                "sns:Publish",
                "logs:DeleteRetentionPolicy",
                "logs:AssociateKmsKey",
                "logs:PutSubscriptionFilter",
                "logs:PutRetentionPolicy"
            ],
            "Resource": [
```

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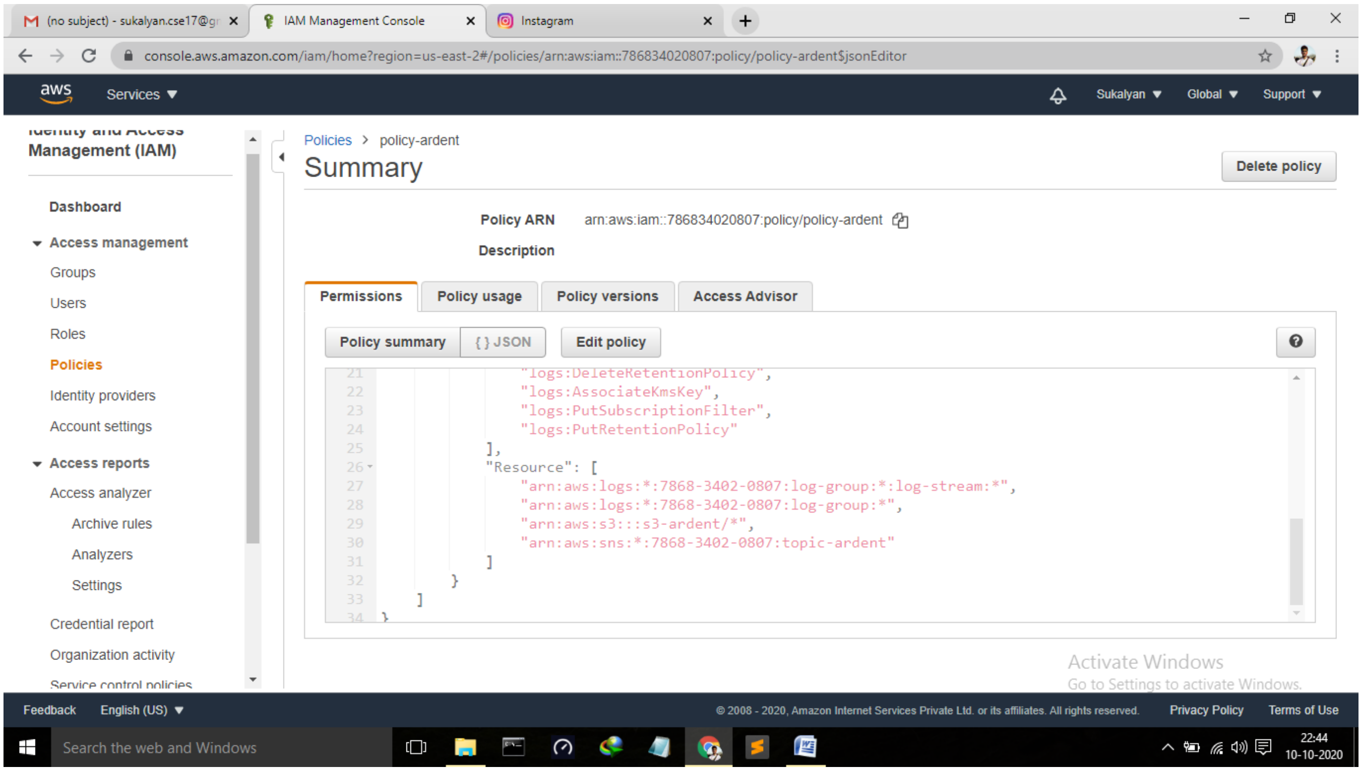
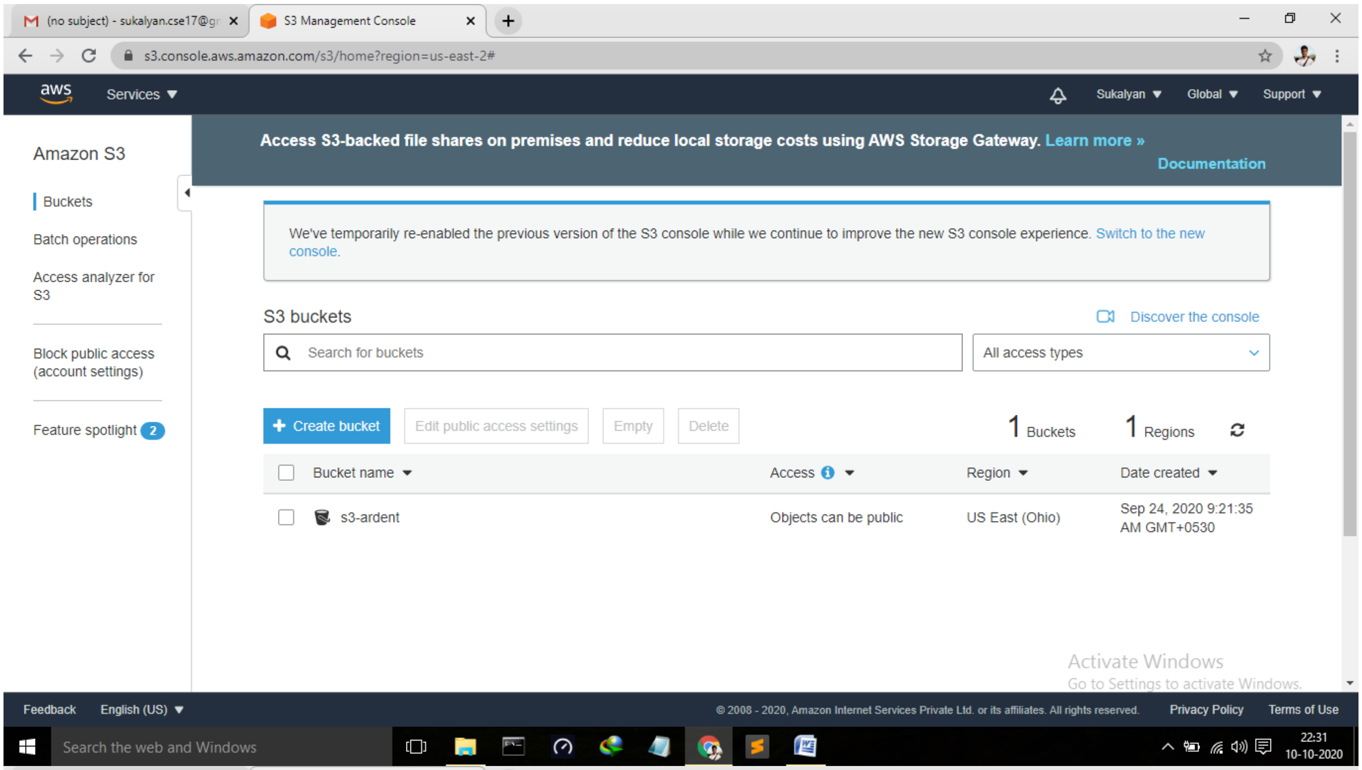


Policy ARN arn:aws:iam::786834020807:policy/policy-ardent

Description

```
                "logs:DeleteRetentionPolicy",
                "logs:AssociateKmsKey",
                "logs:PutSubscriptionFilter",
                "logs:PutRetentionPolicy"
            ],
            "Resource": [
                "arn:aws:logs:*:7868-3402-0807:log-group:*:log-stream:*",
                "arn:aws:logs:*:7868-3402-0807:log-group:*",
                "arn:aws:s3:::s3-ardent/*",
                "arn:aws:sns:*:7868-3402-0807:topic-ardent"
            ]
        }
    ]
}
```

Creating the S3 bucket:-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S3 Management Console
s3.console.aws.amazon.com/s3/home?region=us-east-2#
aws
Services
Sukalyan
Global
Support
Amazon S3
Buckets
Batch operations
Access analyzer for S3
Block public access (account settings)
Feature spotlight 2
Documentation
Discover the console
Search for buckets
All access types
Create bucket
Edit public access settings
Empty
Delete
Activate Windows
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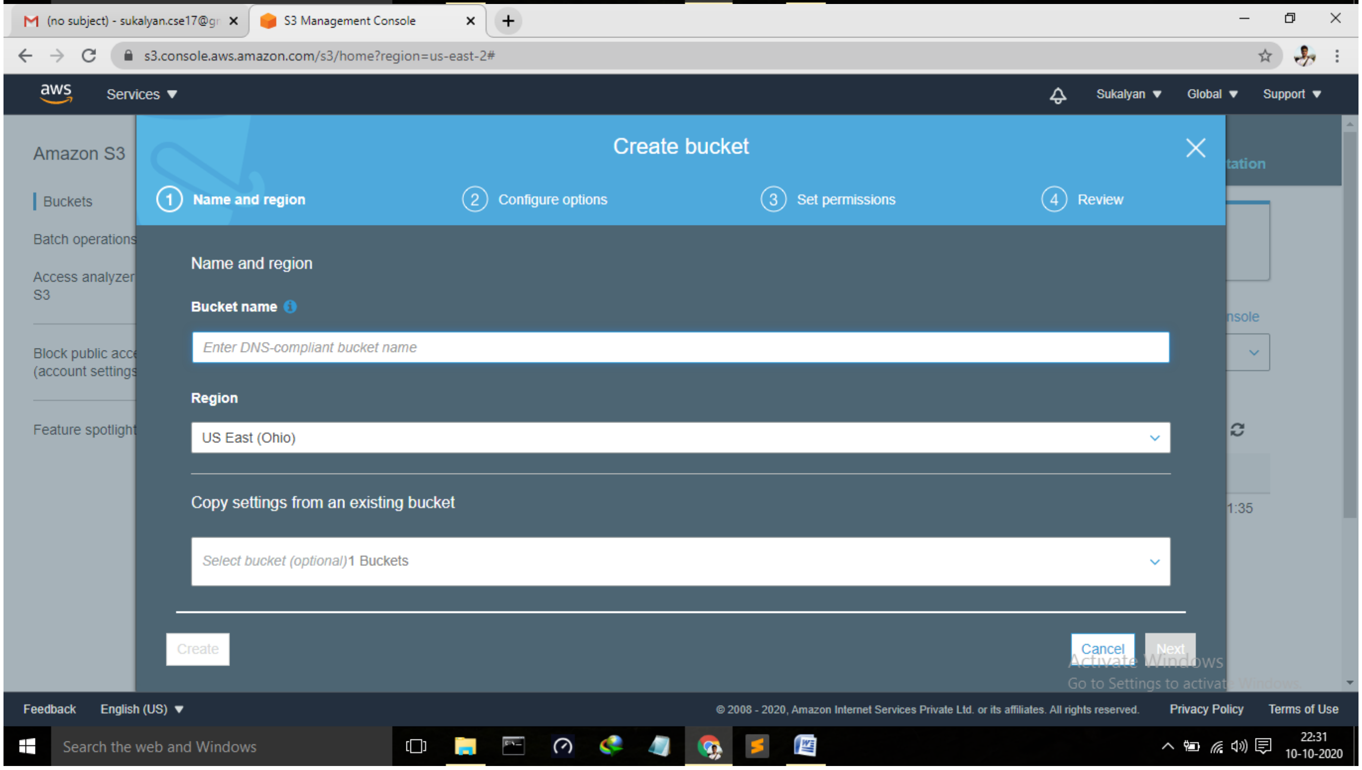
Access S3-backed file shares on premises and reduce local storage costs using AWS Storage Gateway. Learn more »

We've temporarily re-enabled the previous version of the S3 console while we continue to improve the new S3 console experience. Switch to the new console.

S3 buckets

1 Buckets 1 Regions

□	Bucket name	Access	Region	Date created
□	s3-ardent	Objects can be public	US East (Ohio)	Sep 24, 2020 9:21:35 AM GMT+0530



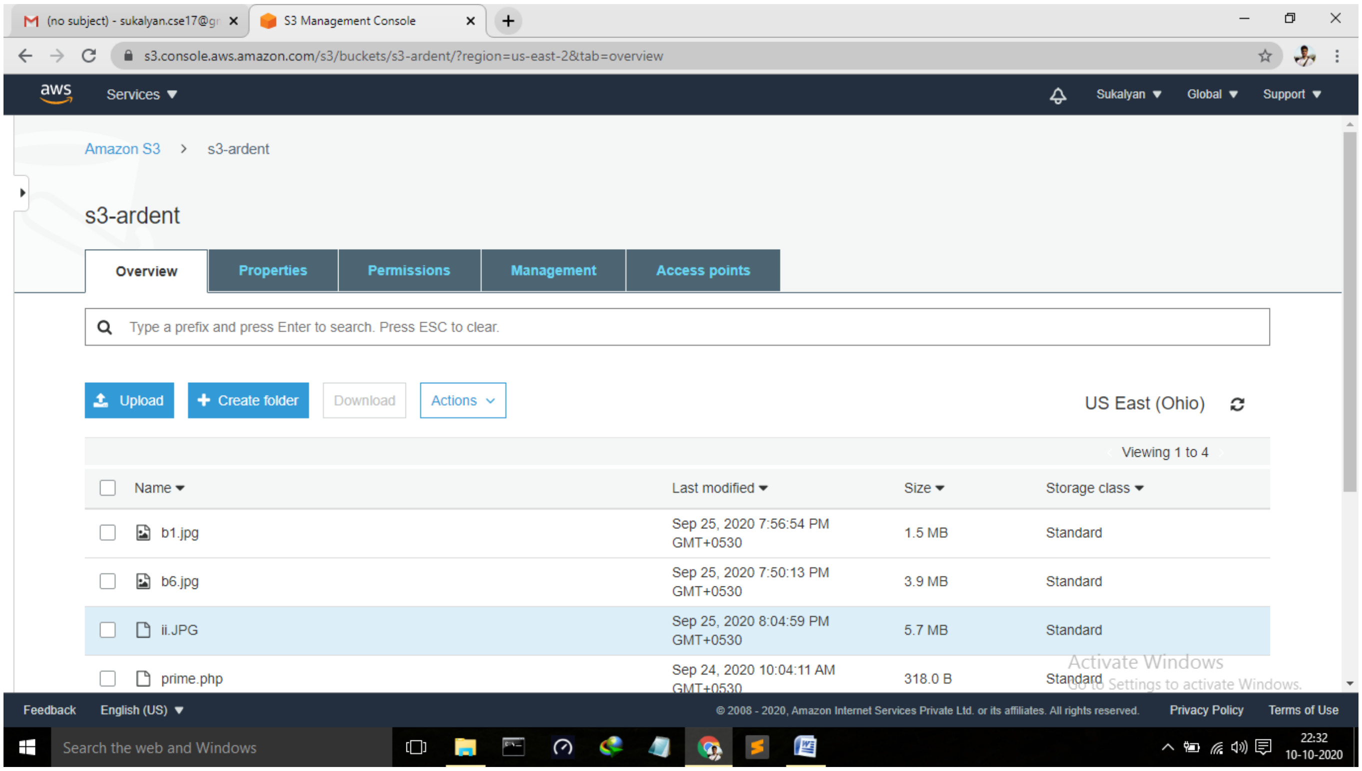
Name and region

Bucket name: Enter DNS-compliant bucket name

Region: US East (Ohio)

Copy settings from an existing bucket

Select bucket (optional)1 Buckets


(no subject) - sukalyan.cse17@gr
S3 Management Console
s3.console.aws.amazon.com/s3/buckets/s3-ardent/?region=us-east-2&tab=overview
aws
Services
Sukalyan
Global
Support
Overview
Properties
Permissions
Management
Access points
Type a prefix and press Enter to search. Press ESC to clear.
Upload
Create folder
Download
Actions
US East (Ohio)
Viewing 1 to 4
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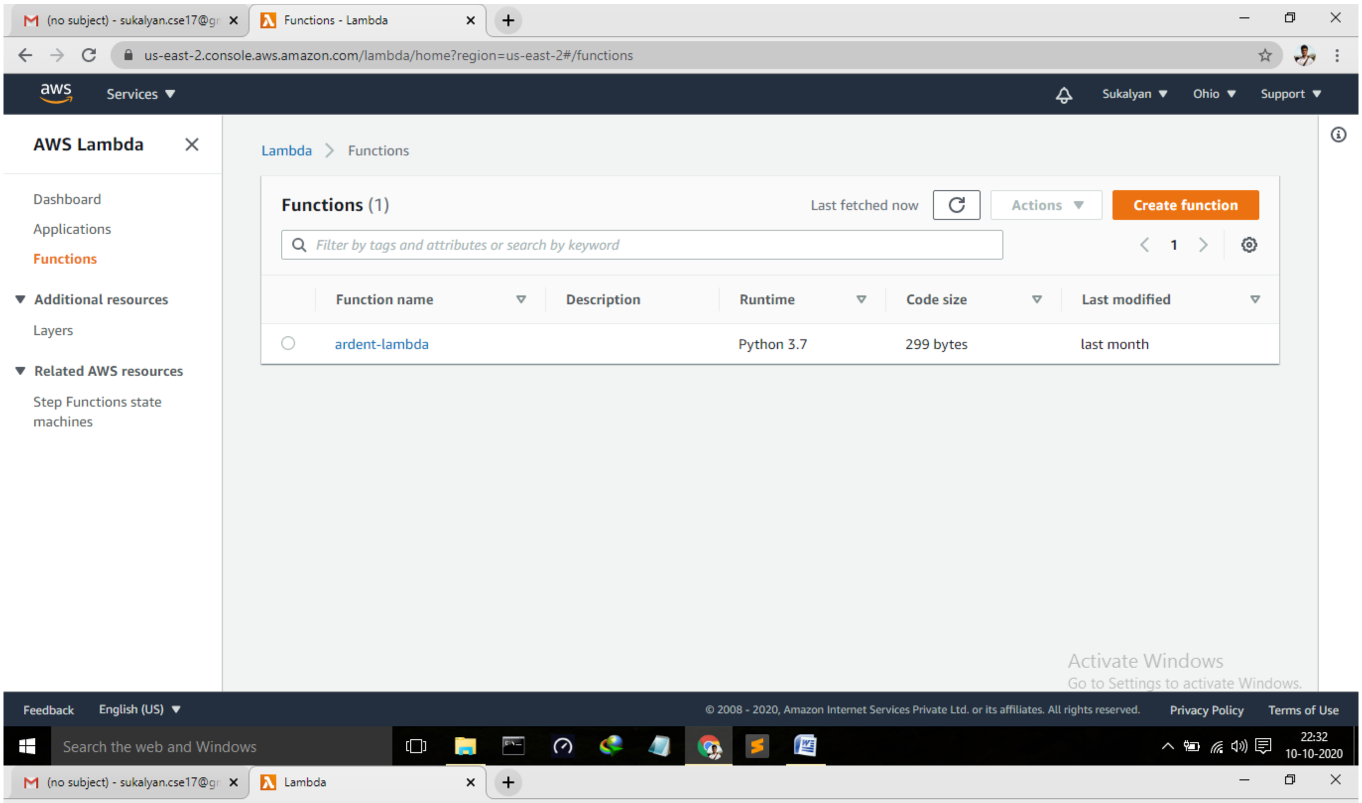
Amazon S3 > s3-ardent

s3-ardent

□	Name	Last modified	Size	Storage class
□	b1.jpg	Sep 25, 2020 7:56:54 PM GMT+0530	1.5 MB	Standard
□	b6.jpg	Sep 25, 2020 7:50:13 PM GMT+0530	3.9 MB	Standard
□	ii.JPG	Sep 25, 2020 8:04:59 PM GMT+0530	5.7 MB	Standard
□	prime.php	Sep 24, 2020 10:04:11 AM GMT+0530	318.0 B	Standard

Creating the Lambda Function:-


(no subject) - sukalyan.cse17@gr
Functions - Lambda
us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/functions
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
AWS Lambda
Dashboard
Applications
Functions
▼ Additional resources
Layers
▼ Related AWS resources
Step Functions state machines
Lambda > Functions
Last fetched now
Actions ▼
Create function
Filter by tags and attributes or search by keyword
Activate Windows
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Feedback
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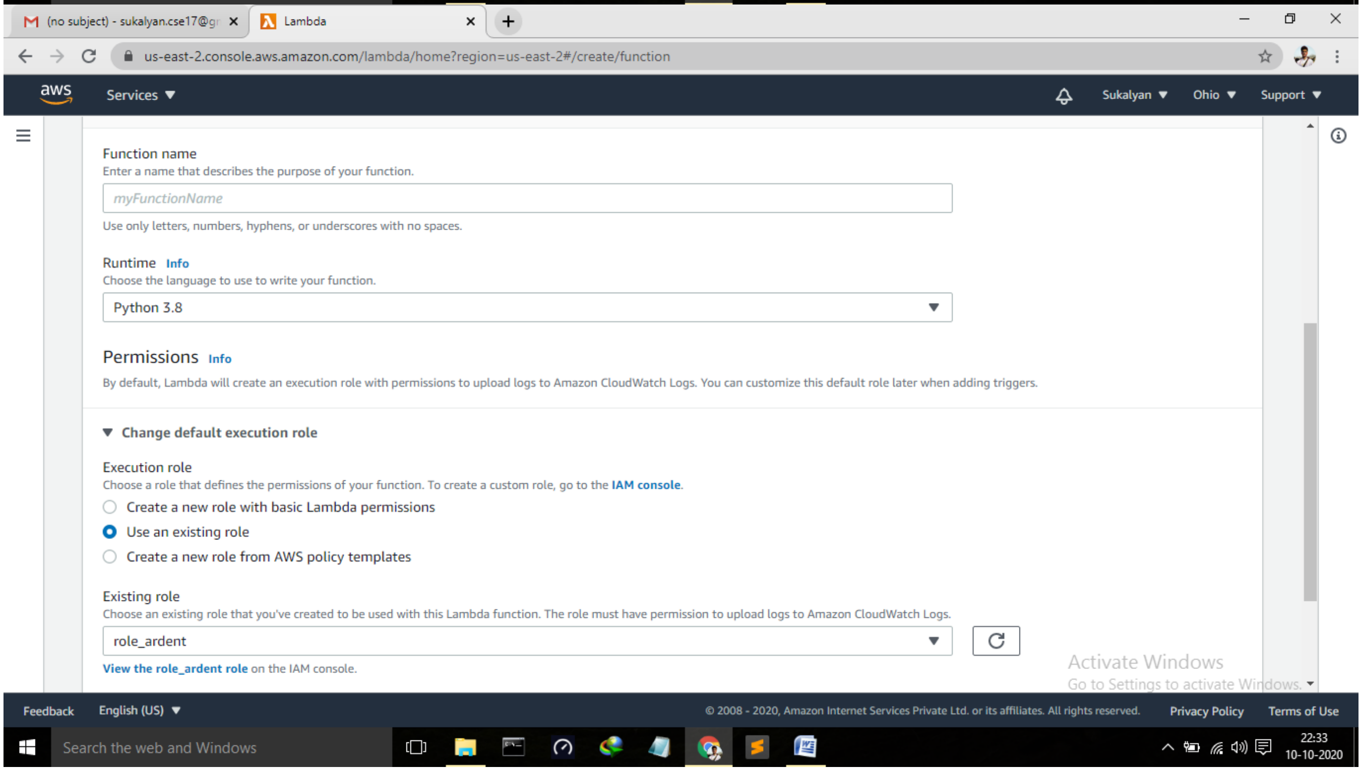
Functions (1)

	Function name	Description	Runtime	Code size	Last modified
○	ardent-lambda		Python 3.7	299 bytes	last month


(no subject) - sukalyan.cse17@gr
Lambda
us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/create/function
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
Info
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Function name

Enter a name that describes the purpose of your function.

myFunctionName

Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime

Choose the language to use to write your function.

Python 3.8 ▼

Permissions

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ 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.

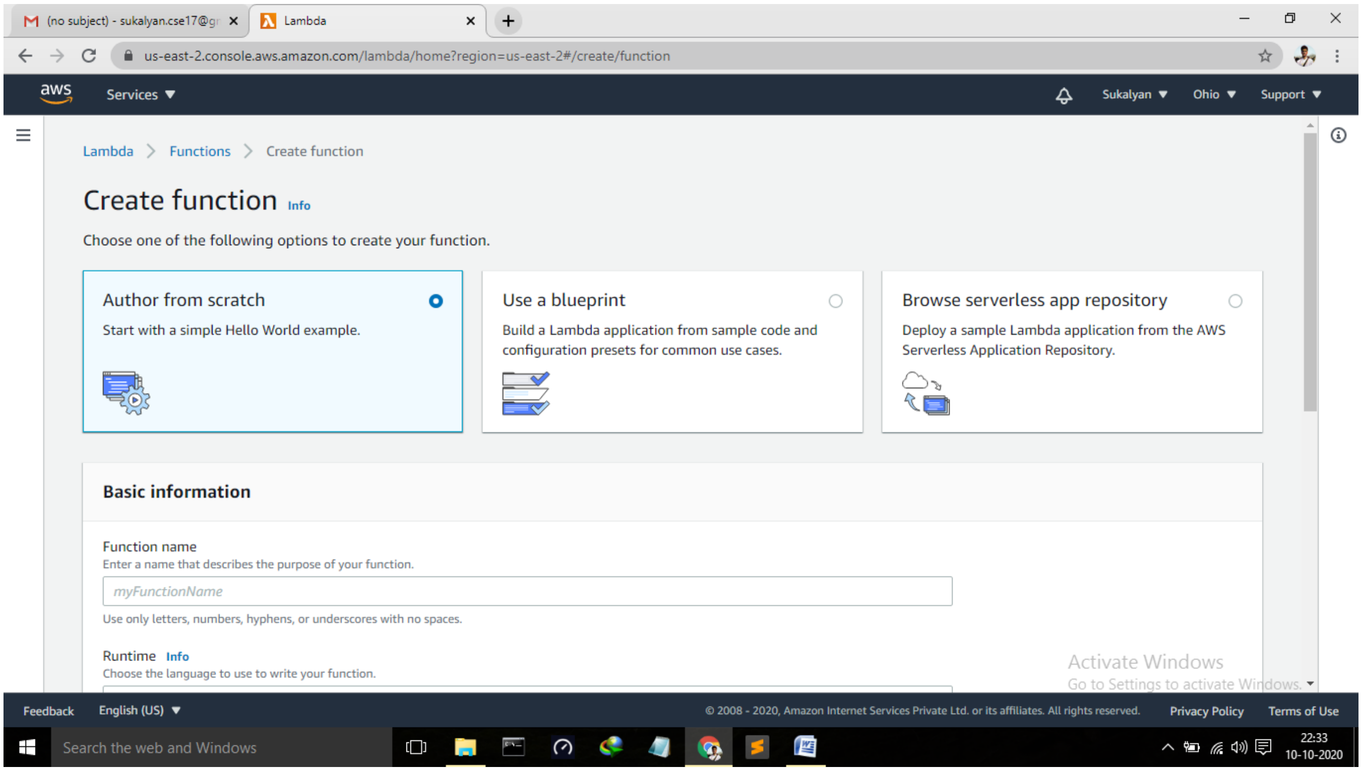
- ○ Create a new role with basic Lambda permissions
- ● Use an existing role
- ○ Create a new role from AWS policy templates

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.

role_ardent ▼

View the role_ardent role on the IAM console.


(no subject) - sukalyan.cse17@gr
Lambda
us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/create/function
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
Lambda > Functions > Create function

Create function Info

Choose one of the following options to create your function.

● Author from scratch
Start with a simple Hello World example.

○ Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.

○ Browse serverless app repository
Deploy a sample Lambda application from the AWS Serverless Application Repository.

Basic information

Function name
Enter a name that describes the purpose of your function.
myFunctionName
Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info
Choose the language to use to write your function.

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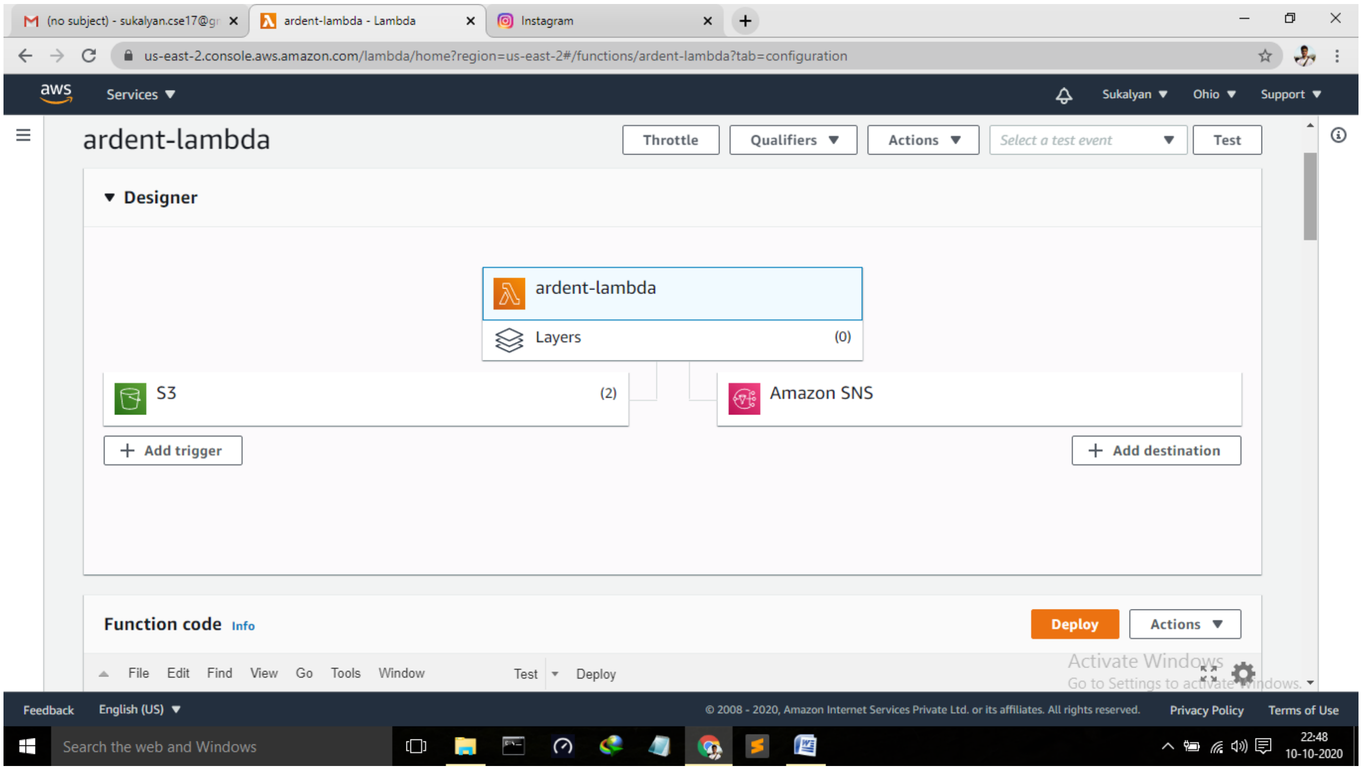
(no subject) - sukalyan.cse17@gr
ardent-lambda - Lambda
Instagram
us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/functions/ardent-lambda?tab=configuration
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼

ardent-lambda

Throttle
Qualifiers ▼
Actions ▼
Select a test event ▼
Test

▼ **Designer**

ardent-lambda
Layers (0)
S3 (2)
Amazon SNS
+ Add trigger
+ Add destination

Function code Info

Deploy
Actions ▼
File Edit Find View Go Tools Window Test ▾ Deploy
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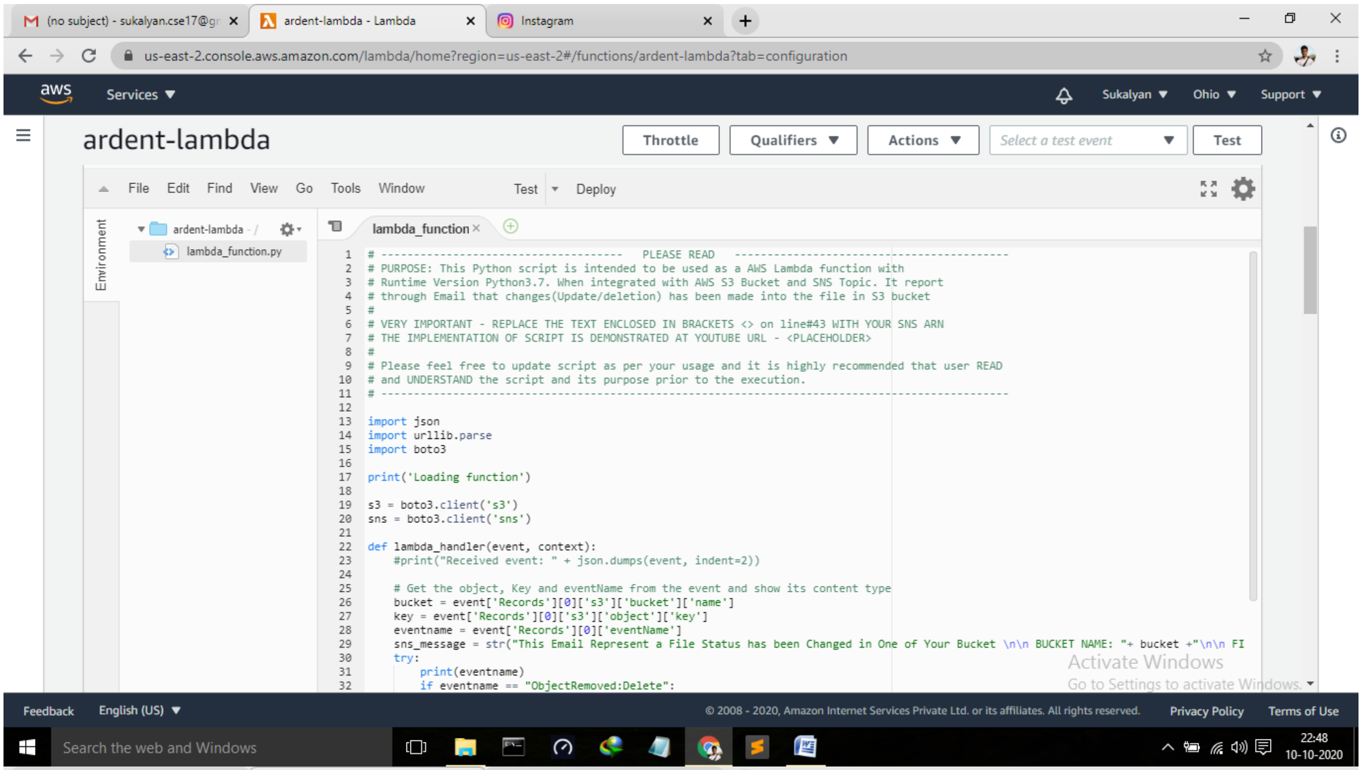
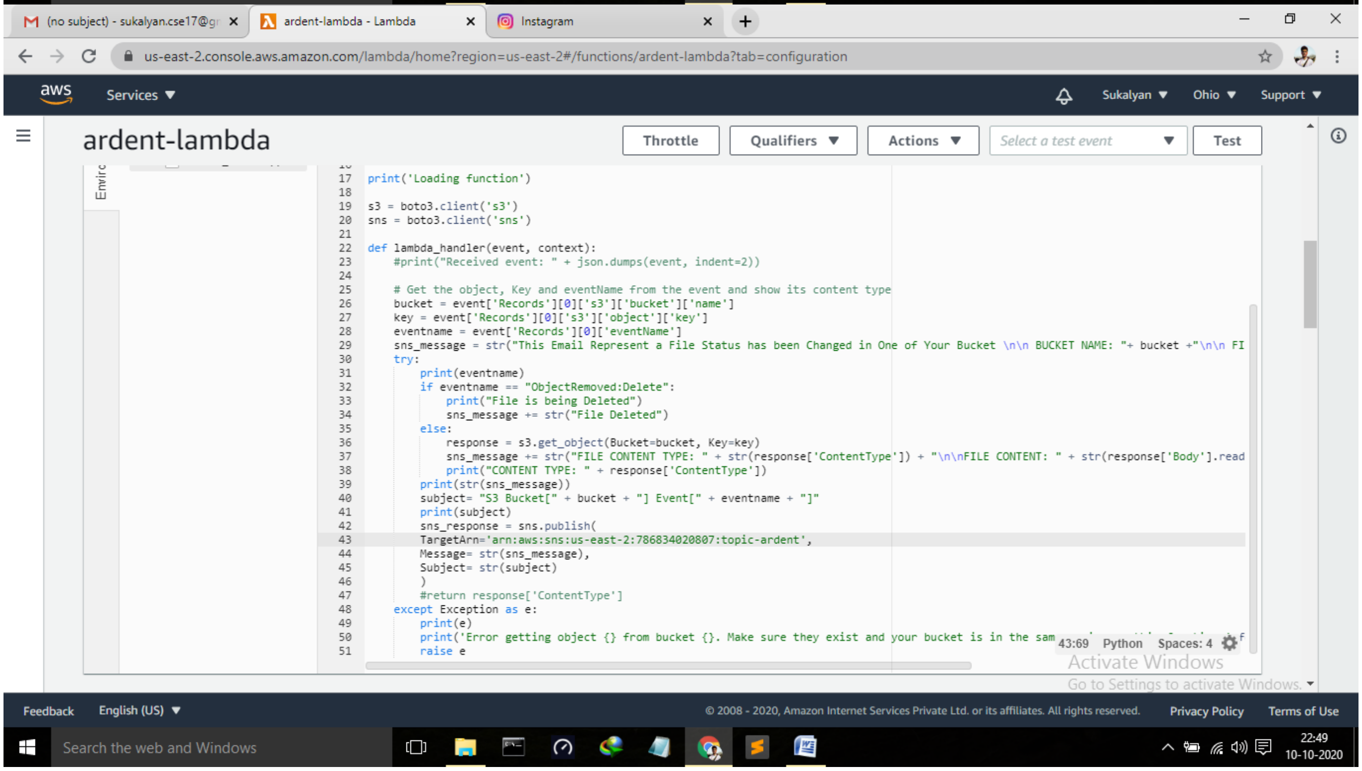


```
1   # -------------------------------------   PLEASE READ   ----------------------------------------
2   # PURPOSE: This Python script is intended to be used as a AWS Lambda function with
3   # Runtime Version Python3.7. When integrated with AWS S3 Bucket and SNS Topic. It report
4   # through Email that changes(Update/deletion) has been made into the file in S3 bucket
5   #
6   # VERY IMPORTANT - REPLACE THE TEXT ENCLOSED IN BRACKETS <> on line#43 WITH YOUR SNS ARN
7   # THE IMPLEMENTATION OF SCRIPT IS DEMONSTRATED AT YOUTUBE URL - <PLACEHOLDER>
8   #
9   # Please feel free to update script as per your usage and it is highly recommended that user READ
10  # and UNDERSTAND the script and its purpose prior to the execution.
11  # -----------------------------------------------------------------------------------------------
12
13  import json
14  import urllib.parse
15  import boto3
16
17  print('Loading function')
18
19  s3 = boto3.client('s3')
20  sns = boto3.client('sns')
21
22  def lambda_handler(event, context):
23      #print("Received event: " + json.dumps(event, indent=2))
24
25      # Get the object, Key and eventName from the event and show its content type
26      bucket = event['Records'][0]['s3']['bucket']['name']
27      key = event['Records'][0]['s3']['object']['key']
28      eventname = event['Records'][0]['eventName']
29      sns_message = str("This Email Represent a File Status has been Changed in One of Your Bucket \n\n BUCKET NAME: "+ bucket +"\n\n FI
30      try:
31          print(eventname)
32          if eventname == "ObjectRemoved:Delete":
```


(no subject) - sukalyan.cse17@gr
ardent-lambda - Lambda
Instagram
us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/functions/ardent-lambda?tab=configuration
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
ardent-lambda
Throttle
Qualifiers ▼
Actions ▼
Select a test event ▼
Test
43:69
Python
Spaces: 4
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22:49
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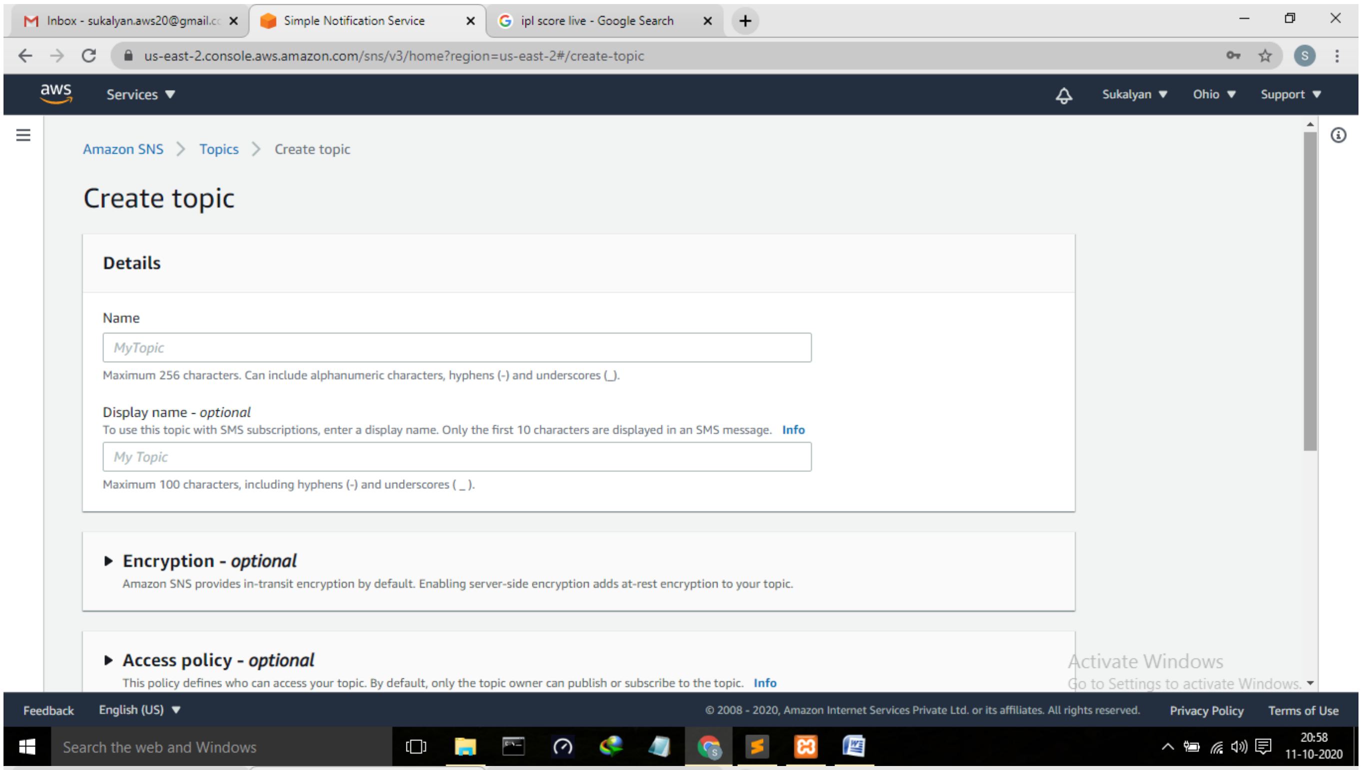
```
17  print('Loading function')
18
19  s3 = boto3.client('s3')
20  sns = boto3.client('sns')
21
22  def lambda_handler(event, context):
23      #print("Received event: " + json.dumps(event, indent=2))
24
25      # Get the object, Key and eventName from the event and show its content type
26      bucket = event['Records'][0]['s3']['bucket']['name']
27      key = event['Records'][0]['s3']['object']['key']
28      eventname = event['Records'][0]['eventName']
29      sns_message = str("This Email Represent a File Status has been Changed in One of Your Bucket \n\n BUCKET NAME: "+ bucket +"\n\n FI
30      try:
31          print(eventname)
32          if eventname == "ObjectRemoved:Delete":
```

```
33              print("File is being Deleted")
34              sns_message += str("File Deleted")
35          else:
36              response = s3.get_object(Bucket=bucket, Key=key)
37              sns_message += str("FILE CONTENT TYPE: " + str(response['ContentType']) + "\n\nFILE CONTENT: " + str(response['Body'].read
38              print("CONTENT TYPE: " + response['ContentType'])
39          print(str(sns_message))
40          subject= "S3 Bucket[" + bucket + "] Event[" + eventname + "]"
41          print(subject)
42          sns_response = sns.publish(
43          TargetArn='arn:aws:sns:us-east-2:786834020807:topic-ardent',
44          Message= str(sns_message),
45          Subject= str(subject)
46          )
47          #return response['ContentType']
48      except Exception as e:
49          print(e)
50          print('Error getting object {} from bucket {}. Make sure they exist and your bucket is in the sam
51          raise e
```

Creating The SNS Service


Inbox - sukalyan.aws20@gmail.c
Simple Notification Service
ipl score live - Google Search
us-east-2.console.aws.amazon.com/sns/v3/home?region=us-east-2#/create-topic
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
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20:58
11-10-2020

Amazon SNS > Topics > Create topic

Create topic

Details

Name

MyTopic

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).

Display name - *optional*

To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message. **Info**

My Topic

Maximum 100 characters, including hyphens (-) and underscores (_).

▶ **Encryption - *optional***

Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

▶ **Access policy - *optional***

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic. **Info**

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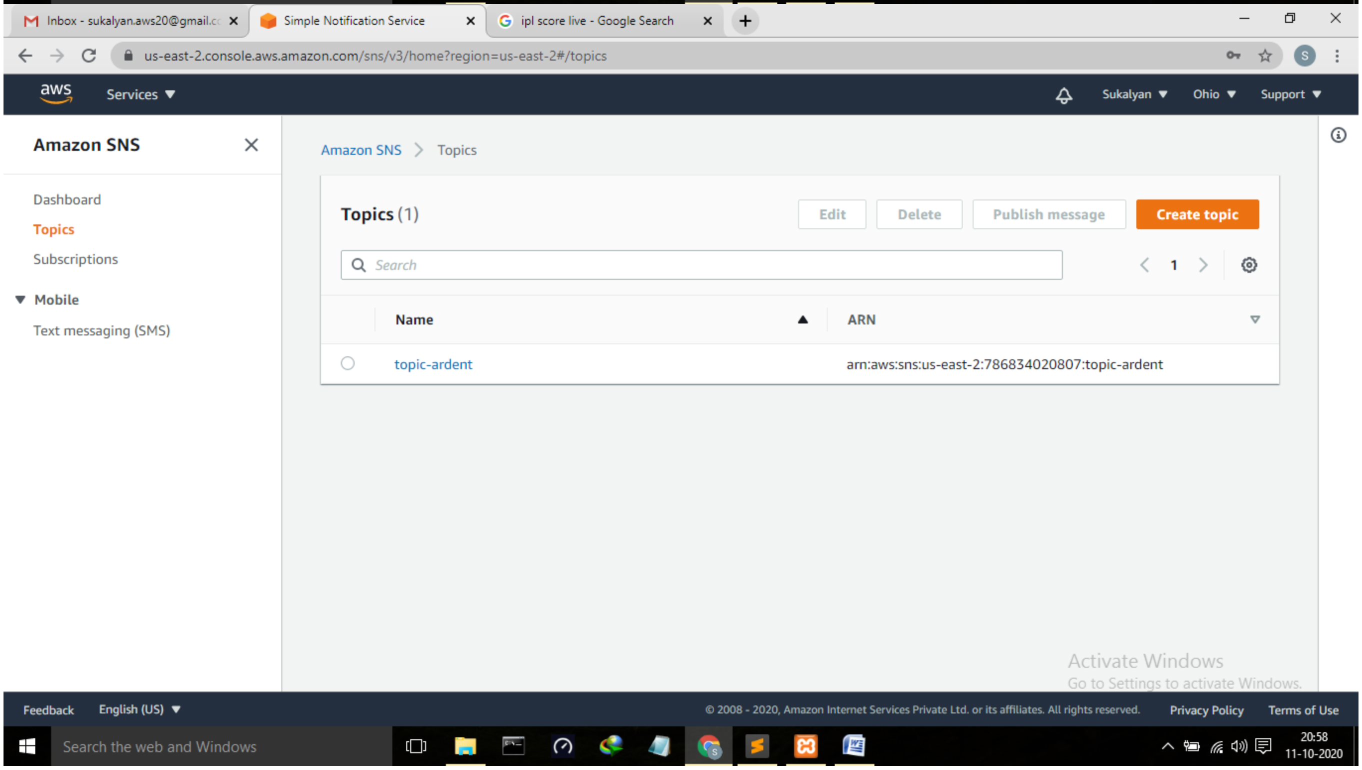

Amazon SNS > Topics

Topics (1)

	Name ▲	ARN
○	topic-ardent	arn:aws:sns:us-east-2:786834020807:topic-ardent

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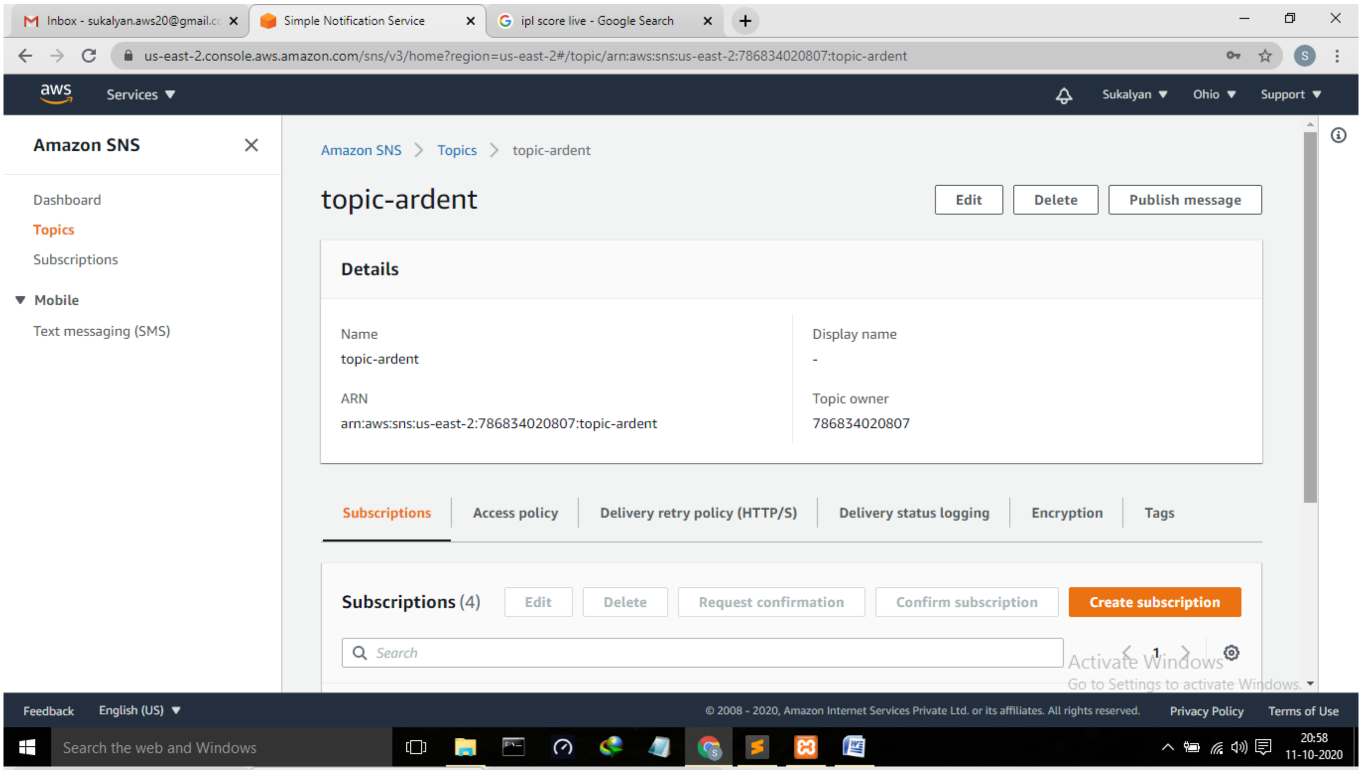
Inbox - sukalyan.aws20@gmail.c
Simple Notification Service
ipl score live - Google Search
us-east-2.console.aws.amazon.com/sns/v3/home?region=us-east-2#/topic/arn:aws:sns:us-east-2:786834020807:topic-ardent
aws
Services ▼
Sukalyan ▼
Ohio ▼
Support ▼
Amazon SNS
Dashboard
Topics
Subscriptions
▼ Mobile
Text messaging (SMS)
Amazon SNS > Topics > topic-ardent
Edit
Delete
Publish message
Subscriptions
Access policy
Delivery retry policy (HTTP/S)
Delivery status logging
Encryption
Tags
Edit
Delete
Request confirmation
Confirm subscription
Create subscription
Search
1
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11-10-2020

topic-ardent

Details

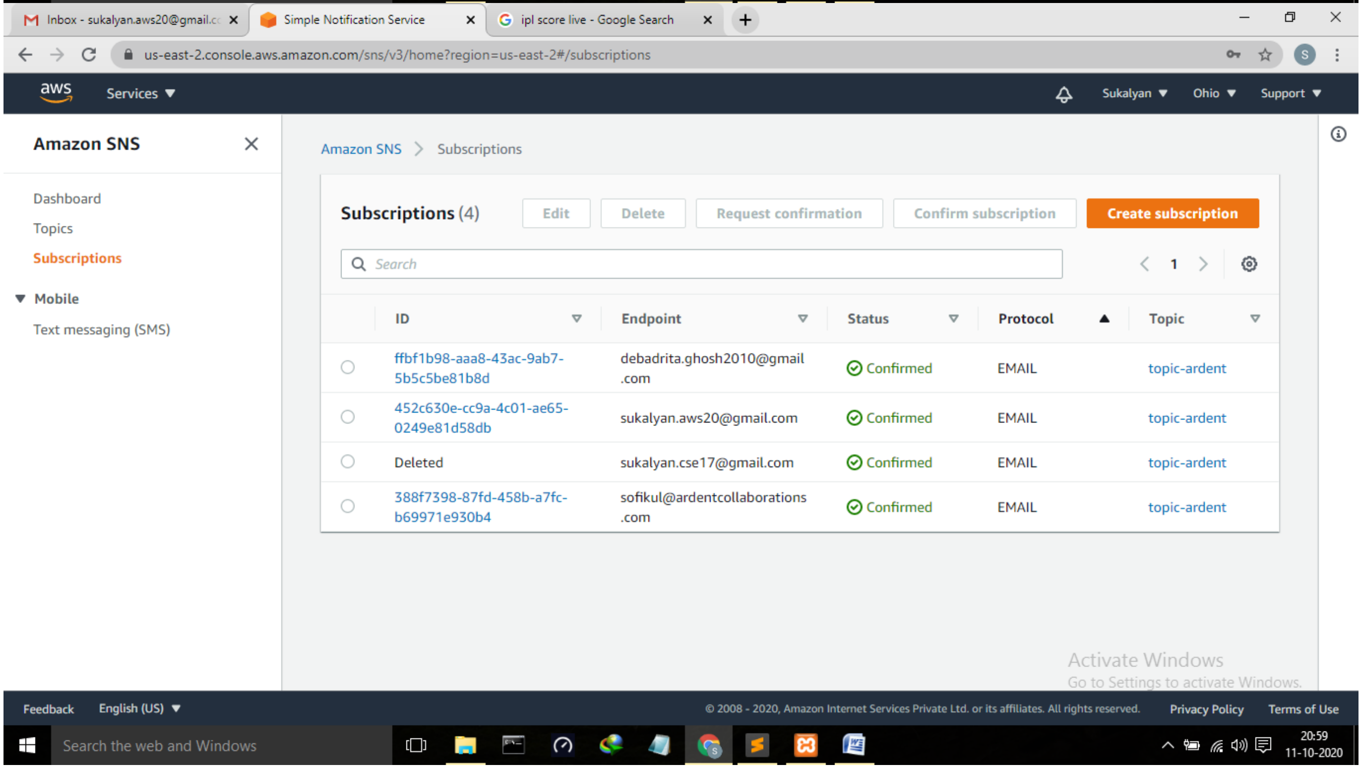
Name
topic-ardent

ARN
arn:aws:sns:us-east-2:786834020807:topic-ardent

Display name
-

Topic owner
786834020807

Subscriptions (4)


Inbox - sukalyan.aws20@gmail.c
Simple Notification Service
ipl score live - Google Search
us-east-2.console.aws.amazon.com/sns/v3/home?region=us-east-2#/subscriptions
aws
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Sukalyan ▼
Ohio ▼
Support ▼
Amazon SNS
Dashboard
Topics
Subscriptions
▼ Mobile
Text messaging (SMS)
Amazon SNS > Subscriptions
Edit
Delete
Request confirmation
Confirm subscription
Create subscription
Search
1
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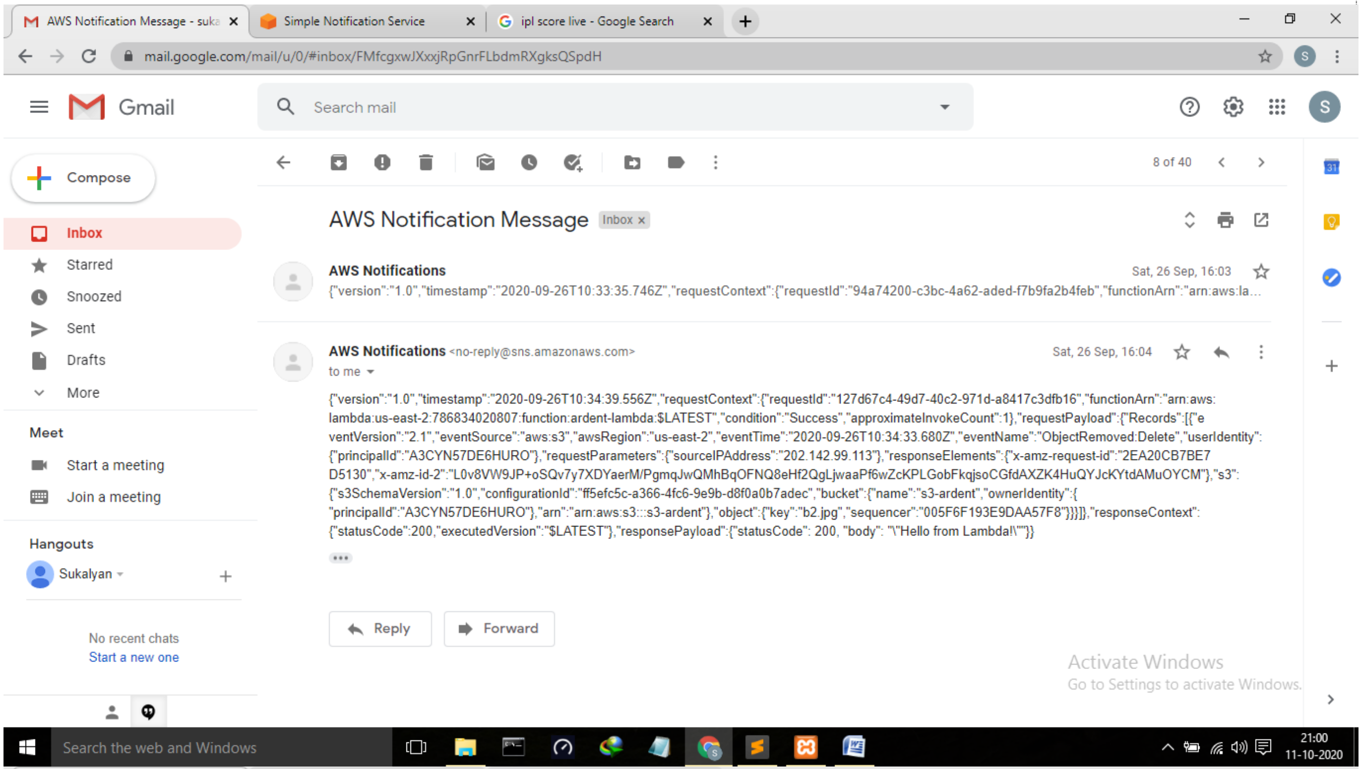
Search the web and Windows
20:59
11-10-2020

Subscriptions (4)

	ID	Endpoint	Status	Protocol	Topic
○	ffbf1b98-aaa8-43ac-9ab7-5b5c5be81b8d	debadrita.ghosh2010@gmail.com	✓ Confirmed	EMAIL	topic-ardent
○	452c630e-cc9a-4c01-ae65-0249e81d58db	sukalyan.aws20@gmail.com	✓ Confirmed	EMAIL	topic-ardent
○	Deleted	sukalyan.cse17@gmail.com	✓ Confirmed	EMAIL	topic-ardent
○	388f7398-87fd-458b-a7fc-b69971e930b4	sofikul@ardentcollaborations.com	✓ Confirmed	EMAIL	topic-ardent

Auto-Generated E-Mail:-


AWS Notification Message - suka
Simple Notification Service
ipl score live - Google Search
mail.google.com/mail/u/0/#inbox/FMfcgxwJXxxjRpGnrFLbdmRXgksQSpdH
Gmail
Search mail
Compose
Inbox
Starred
Snoozed
Sent
Drafts
More
Meet
Start a meeting
Join a meeting
Hangouts
Sukalyan
No recent chats
Start a new one
8 of 40
Reply
Forward
Activate Windows
Go to Settings to activate Windows.
Search the web and Windows
21:00
11-10-2020

AWS Notification Message Inbox

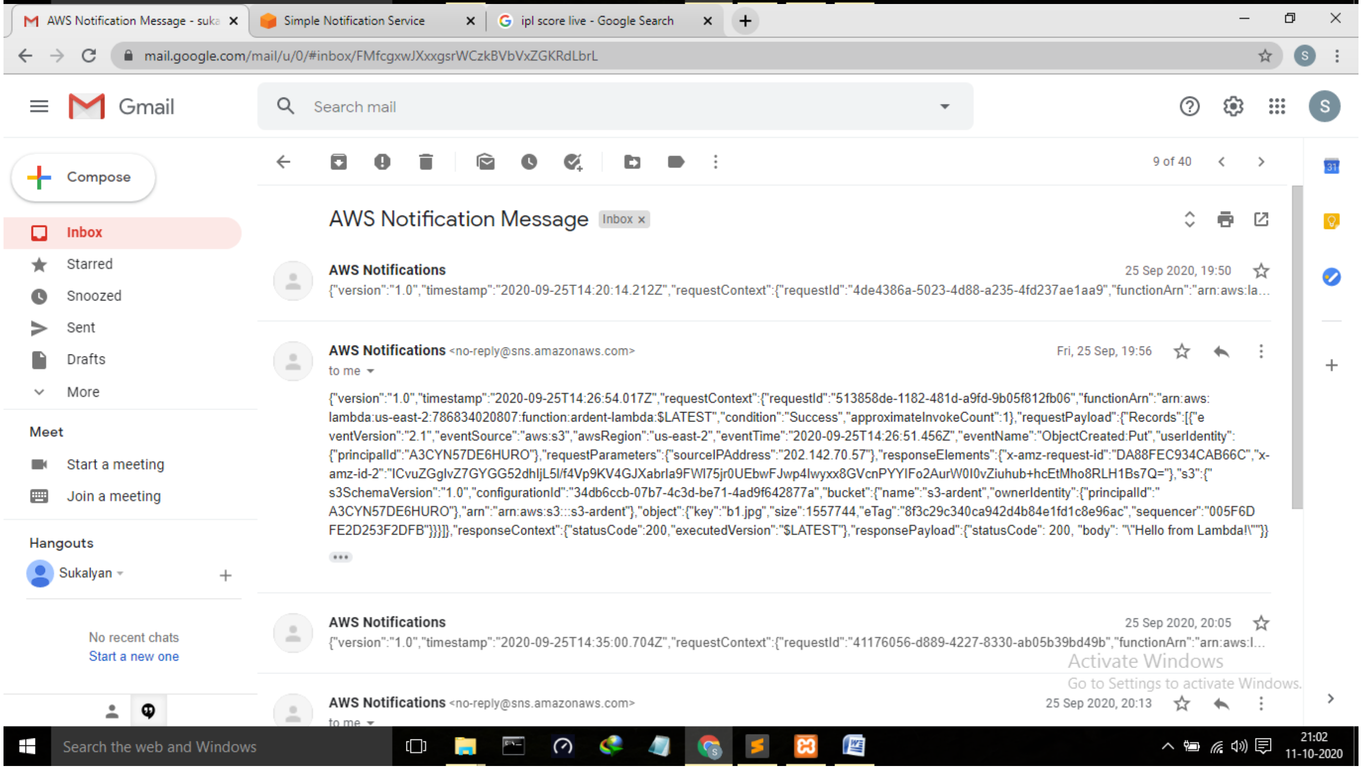
AWS Notifications Sat, 26 Sep, 16:03

```
{"version":"1.0","timestamp":"2020-09-26T10:33:35.746Z","requestContext":{"requestId":"94a74200-c3bc-4a62-aded-f7b9fa2b4feb","functionArn":"arn:aws:la...
```

AWS Notifications <no-reply@sns.amazonaws.com> Sat, 26 Sep, 16:04

to me

```
{"version":"1.0","timestamp":"2020-09-26T10:34:39.556Z","requestContext":{"requestId":"127d67c4-49d7-40c2-971d-a8417c3dfb16","functionArn":"arn:aws:
lambda:us-east-2:786834020807:function:ardent-lambda:$LATEST","condition":"Success","approximateInvokeCount":1},"requestPayload":{"Records":[{"e
ventVersion":"2.1","eventSource":"aws:s3","awsRegion":"us-east-2","eventTime":"2020-09-26T10:34:33.680Z","eventName":"ObjectRemoved:Delete","userIdentity":
{"principalId":"A3CYN57DE6HURO"},"requestParameters":{"sourceIPAddress":"202.142.99.113"},"responseElements":{"x-amz-request-id":"2EA20CB7BE7
D5130","x-amz-id-2":"L0v8VW9JP+oSQv7y7XDYaerM/PgmqJwQMhBqOFNQ8eHf2QgLjwaaPf6wZcKPLGobFkqjsoCGfdAXZK4HuQYJcKYtdAMuOYCM"},"s3":
{"s3SchemaVersion":"1.0","configurationId":"ff5efc5c-a366-4fc6-9e9b-d8f0a0b7adec","bucket":{"name":"s3-ardent","ownerIdentity":{
"principalId":"A3CYN57DE6HURO"},"arn":"arn:aws:s3:::s3-ardent"},"object":{"key":"b2.jpg","sequencer":"005F6F193E9DAA57F8"}}}]},"responseContext":
{"statusCode":200,"executedVersion":"$LATEST"},"responsePayload":{"statusCode": 200, "body": "\"Hello from Lambda!\""}}
```


AWS Notification Message - suka
Simple Notification Service
ipl score live - Google Search
mail.google.com/mail/u/0/#inbox/FMfcgxwJXxxgsrWCzkBVbVxZGKRdLbrL
Gmail
Search mail
Compose
Inbox
Starred
Snoozed
Sent
Drafts
More
Meet
Start a meeting
Join a meeting
Hangouts
Sukalyan
No recent chats
Start a new one
9 of 40
Activate Windows
Go to Settings to activate Windows.
Search the web and Windows
21:02
11-10-2020

AWS Notification Message Inbox

AWS Notifications 25 Sep 2020, 19:50

```
{"version":"1.0","timestamp":"2020-09-25T14:20:14.212Z","requestContext":{"requestId":"4de4386a-5023-4d88-a235-4fd237ae1aa9","functionArn":"arn:aws:la...
```

AWS Notifications <no-reply@sns.amazonaws.com> Fri, 25 Sep, 19:56

to me

```
{"version":"1.0","timestamp":"2020-09-25T14:26:54.017Z","requestContext":{"requestId":"513858de-1182-481d-a9fd-9b05f812fb06","functionArn":"arn:aws:
lambda:us-east-2:786834020807:function:ardent-lambda:$LATEST","condition":"Success","approximateInvokeCount":1},"requestPayload":{"Records":[{"e
ventVersion":"2.1","eventSource":"aws:s3","awsRegion":"us-east-2","eventTime":"2020-09-25T14:26:51.456Z","eventName":"ObjectCreated:Put","userIdentity":
{"principalId":"A3CYN57DE6HURO"},"requestParameters":{"sourceIPAddress":"202.142.70.57"},"responseElements":{"x-amz-request-id":"DA88FEC934CAB66C","x-
amz-id-2":"ICvuZGglvZ7GYGG52dhljL5l/f4Vp9KV4GJXabrla9FWl75jr0UEbwFJwp4lwyxx8GVcnPYYIFo2AurW0I0vZiuhub+hcEtMho8RLH1Bs7Q="},"s3":{"
s3SchemaVersion":"1.0","configurationId":"34db6ccb-07b7-4c3d-be71-4ad9f642877a","bucket":{"name":"s3-ardent","ownerIdentity":{"principalId":"
A3CYN57DE6HURO"},"arn":"arn:aws:s3:::s3-ardent"},"object":{"key":"b1.jpg","size":1557744,"eTag":"8f3c29c340ca942d4b84e1fd1c8e96ac","sequencer":"005F6D
FE2D253F2DFB"}}}]},"responseContext":{"statusCode":200,"executedVersion":"$LATEST"},"responsePayload":{"statusCode": 200, "body": "\"Hello from Lambda!\""}}
```

AWS Notifications 25 Sep 2020, 20:05

```
{"version":"1.0","timestamp":"2020-09-25T14:35:00.704Z","requestContext":{"requestId":"41176056-d889-4227-8330-ab05b39bd49b","functionArn":"arn:aws:l...
```

AWS Notifications <no-reply@sns.amazonaws.com> 25 Sep 2020, 20:13

to me

Summary

The Project is an implementation of AWS by which we created a service by which we can get an auto-generated mail if something happens in s3 storage

Various AWS services were used to make this project.

Limitations

- Currently, we don’t have any front End for this project so now we can’t upload any file to s3 storage from the website

Future Scope And Further Enhancements

- We can create a front end to upload files from a website to s3 storage.
- We can make this project more efficient by adding a mobile SMS facility.

Bibliography

- https://www.youtube.com
- https://docs.aws.amazon.com
- https://github.com/shankysharma86/aws/tree/master/S3-Lambda-SNS-Resources