



PES University

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Department of Computer Science and Engineering

Cloud Computing Assignment

Assignment 5 - Introduction to AWS Key Management Service(KMS)

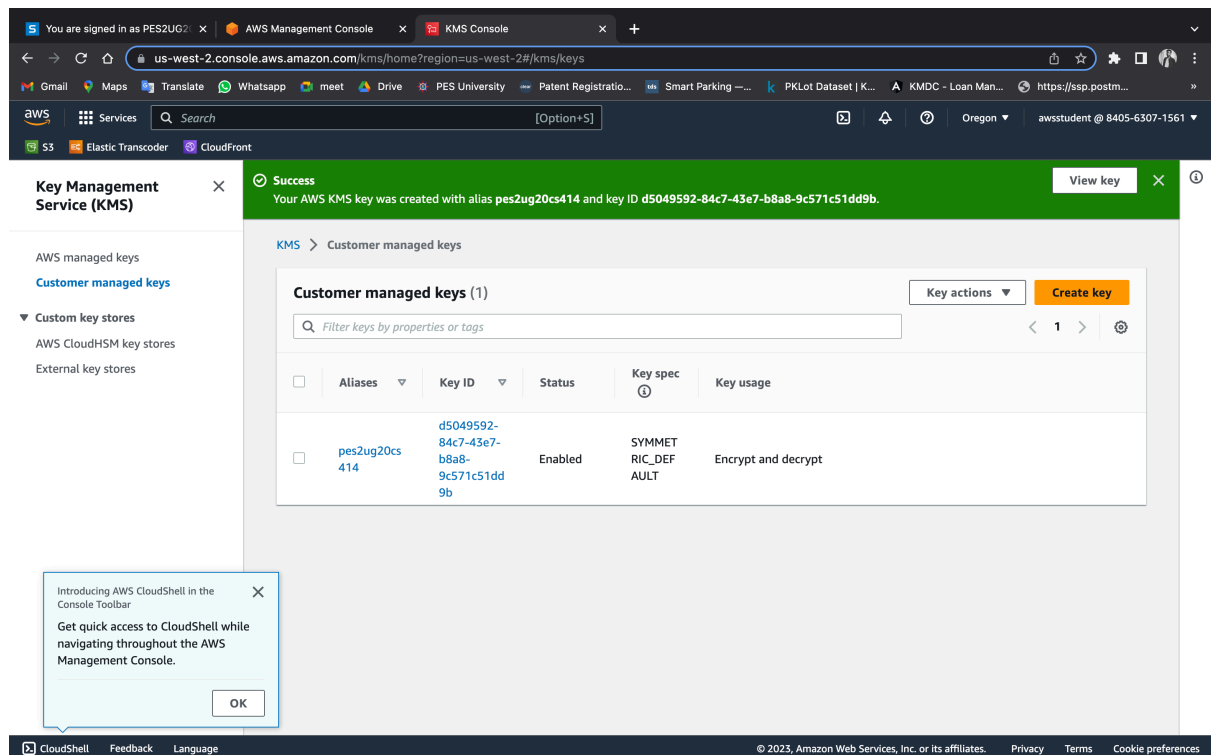
Name : Aditya Rajendra Khot

SRN : PES2UG20CS414

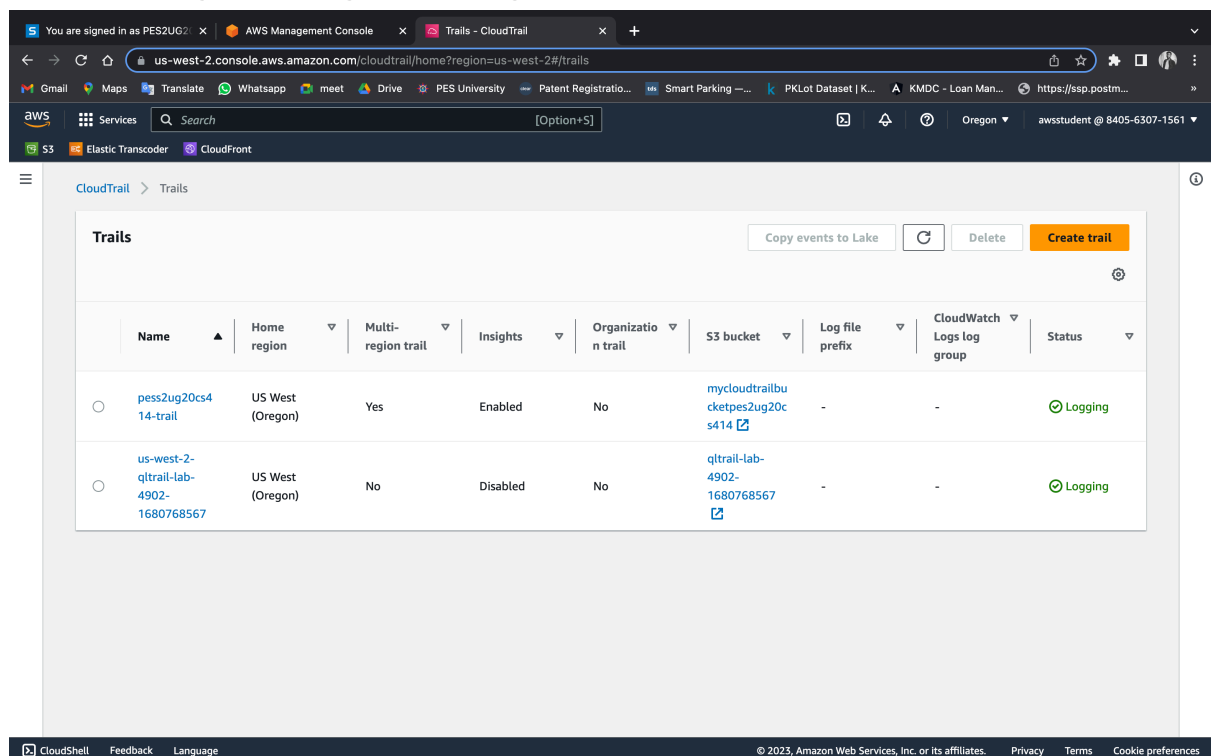
Section : G

Assignment 5 - Introduction to AWS Key Management Service(KMS)

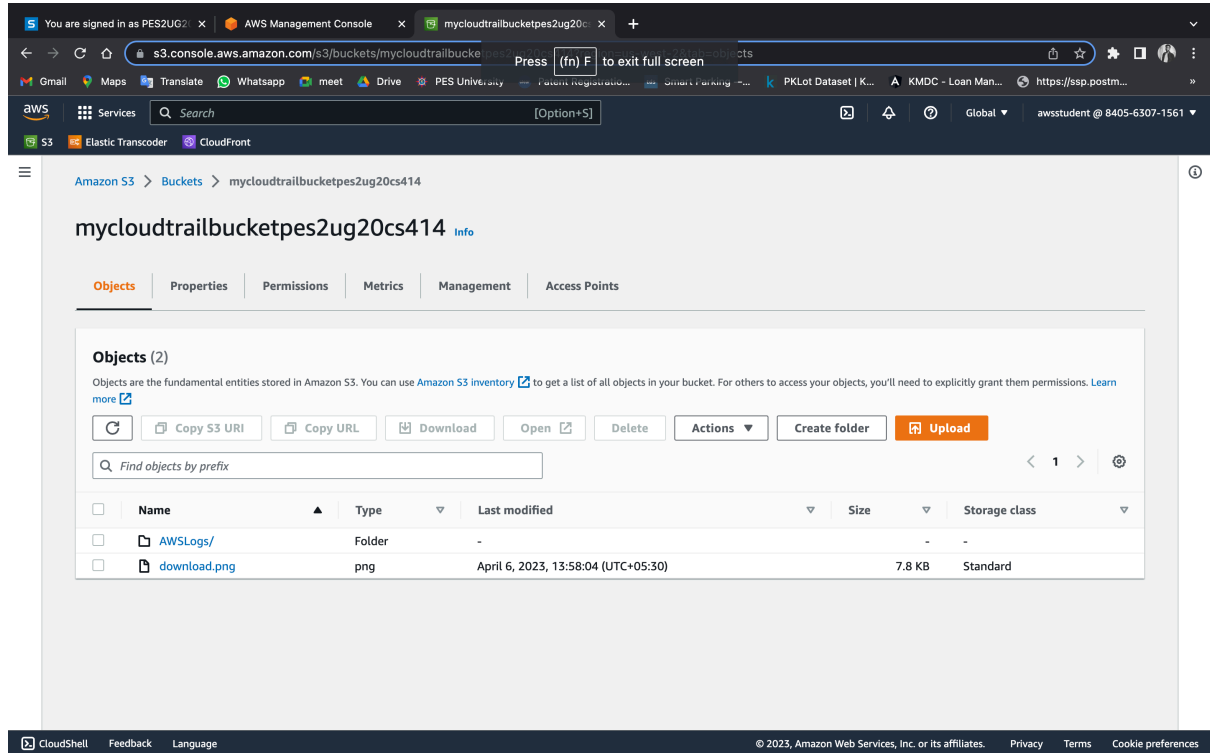
- a. 1a.png: Showing KMS key created. The name of the alias should be: <Your SRN> Eg: pes1201900001 .



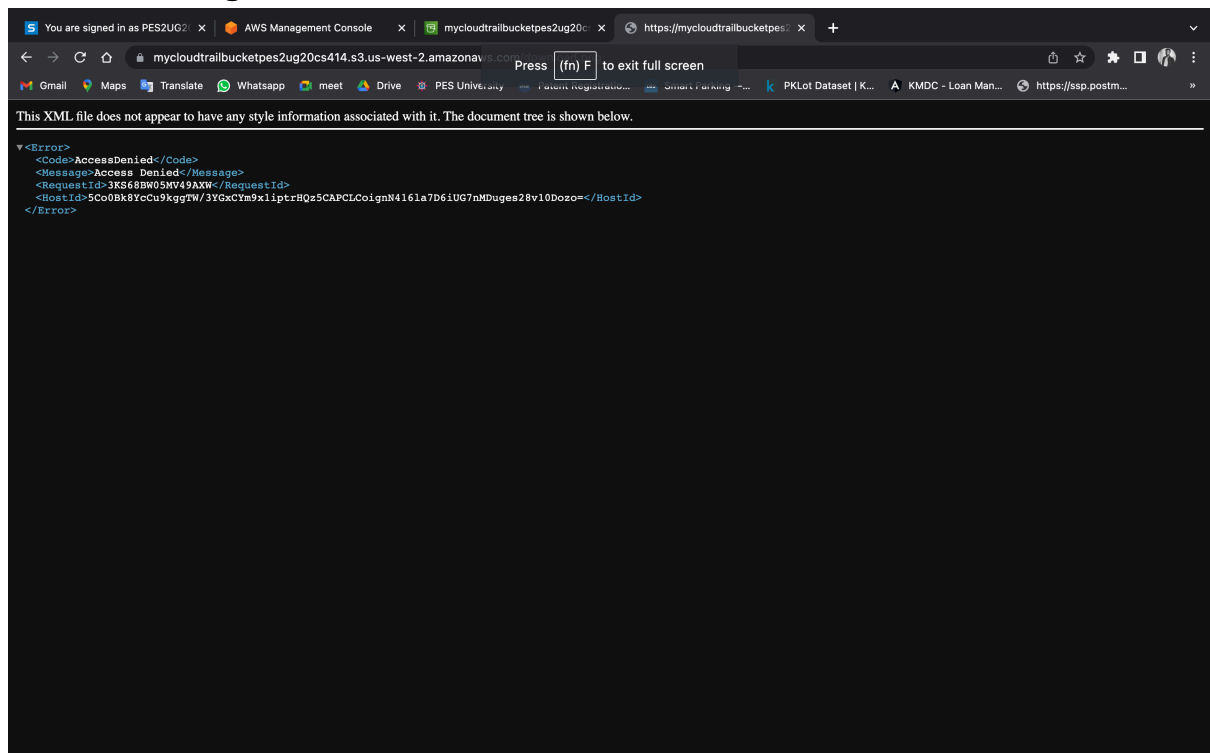
- b. 2a.png: Showing the configured CloudTrail named YourSRN-trail



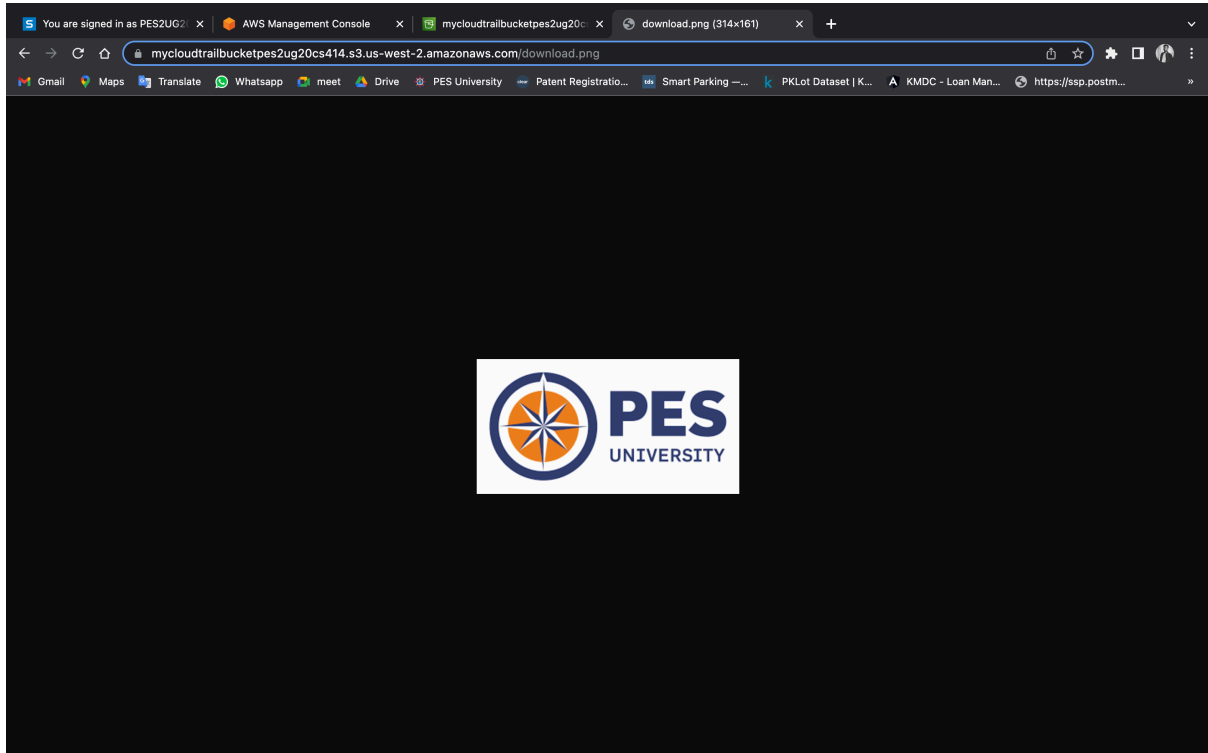
- c. 3a.png: Showing the configured bucket named mycloudtrailbucketXXXX. where XXXX are the last 4 digits of your SRN. You can pad it with 0s if you have less than 4 digits.



- d. 4a.png: Showing the “Access Denied” page when you open the link to the image stored in the bucket.



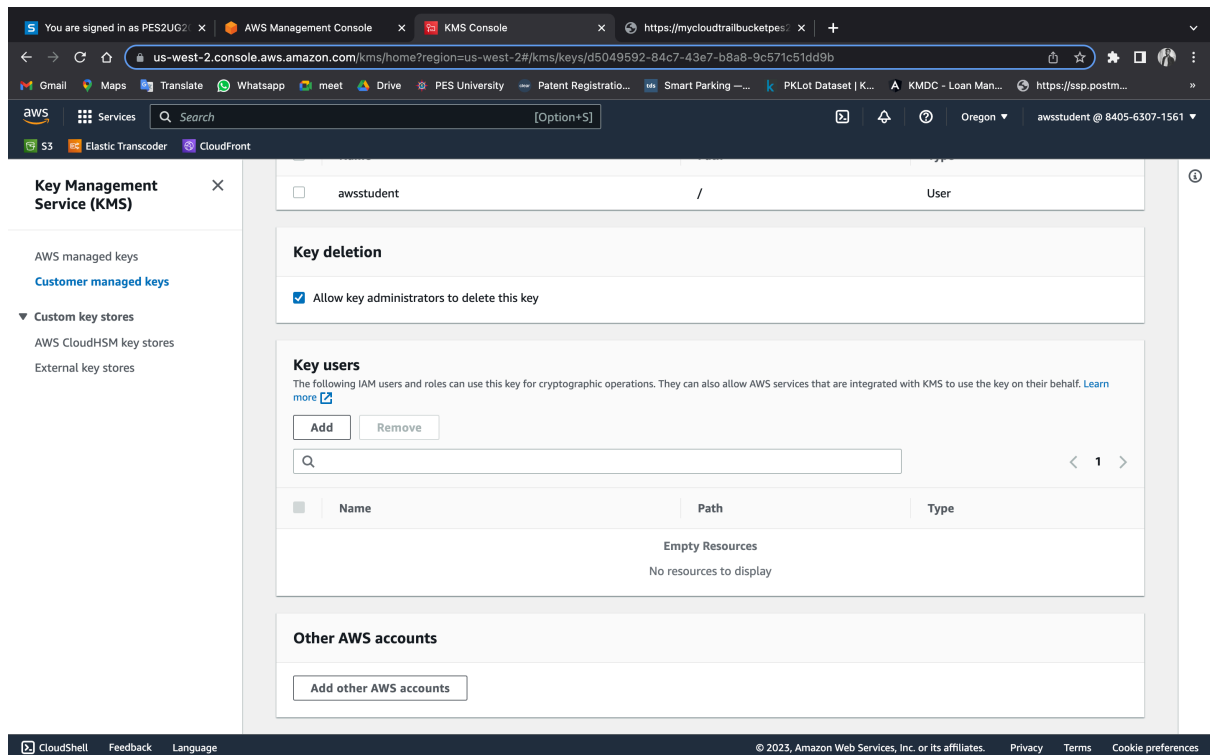
- e. 4b.png: Showing the “Requests specifying Server Side Encryption with AWS KMS managed keys require AWS Signature Version 4” page when you open the link to the image stored in the bucket.



- f. 5a.png: Showing the key-id being present in the json we get from .gzip'ed cloud trail logs.

```
{
  "Records": [
    {
      "eventVersion": "1.08",
      "userIdentity": {
        "type": "FederatedUser",
        "principalId": "076023095110:awsstudent",
        "arn": "arn:aws:sts::076023095110:federated-user/awsstudent",
        "accountId": "076023095110",
        "accessKeyId": "ASIARDM2UL5D33TVHLHC",
        "sessionContext": {
          "sessionIssuer": {
            "type": "IAMUser",
            "principalId": "AIDAI3332JYH3MKUEQJW",
            "arn": "arn:aws:iam::076023095110:user/awsstudent",
            "accountId": "076023095110",
            "userName": "awsstudent",
            "webIdFederationData": {},
            "attributes": {
              "creationDate": "2023-04-06T08:10:40Z",
              "mfaAuthenticated": "false"
            }
          },
          "eventTime": "2023-04-06T08:45:33Z",
          "eventSource": "s3.amazonaws.com",
          "eventName": "GetAccountPublicAccessBlock",
          "awsRegion": "us-west-2",
          "sourceIPAddress": "172.17.223.194",
          "userAgent": "S3Console/0.4, aws-internal/3 aws-sdk-java/1.11.1030 Linux/5.4.235-151.344.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.362-b10 java/1.8.0_362 vendor/Oracle_Corporation",
          "requestParameters": {
            "publicAccessBlockConfiguration": {
              "blockConfiguration": "The public access block configuration was not found"
            }
          },
          "responseElements": null,
          "additionalEventData": {
            "SignatureVersion": "SigV4",
            "CipherSuite": "ECDHE-RSA-AES128-GCM-HA256",
            "bytesTransferredIn": 0,
            "AuthenticationMethod": "AuthHeader",
            "x-amz-id-": "4uY9PgyBd/CdX1Ywt00ppv0Z7T8DeJnc/erYDMN1VhwtagtOrMb1Pei4HSrGe7APwK00U3CzWg=",
            "bytesTransferredOut": 371,
            "requestID": "1412E3P6C2B0VB7K",
            "eventID": "7831c6f0-c7a7-7ab-b26e-a5f7d3b49719",
            "readOnly": true,
            "eventCategory": "Management",
            "eventTime": "2023-04-06T08:45:33Z",
            "eventSource": "s3.amazonaws.com",
            "eventName": "GetBucketOwnershipControls",
            "awsRegion": "us-west-2",
            "sourceIPAddress": "1.6.180.187",
            "userAgent": "S3Console/0.4, aws-internal/3 aws-sdk-java/1.11.1030 Linux/5.4.235-151.344.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.362-b10 java/1.8.0_362 vendor/Oracle_Corporation",
            "requestParameters": {
              "ownershipControls": {
                "bucketName": "aws-cloudtrail-logs-pes2ug20cs449",
                "host": "s3.us-west-2.amazonaws.com",
                "responseElements": null,
                "additionalEventData": {
                  "SignatureVersion": "SigV4",
                  "CipherSuite": "ECDHE-RSA-AES128-GCM-HA256",
                  "bytesTransferredIn": 0,
                  "AuthenticationMethod": "AuthHeader",
                  "x-amz-id-": "bMg0Kh9TVg0G85FCZAZXG0RnfFnkZLwKUMuXwU1H/ZaPOOLXliH0R050/7R5S0xtbTbc",
                  "bytesTransferredOut": 311,
                  "requestID": "141570E2V8B0VH03",
                  "eventID": "e237a1a4-14cb-c39-9f08-0a13fb3a3d6e",
                  "readOnly": true,
                  "resources": {
                    "accountID": "076023095110",
                    "type": "AWS::S3::Bucket",
                    "ARN": "arn:aws:s3:::aws-cloudtrail-logs-pes2ug20cs449",
                    "eventTime": "2023-04-06T08:45:33Z",
                    "eventSource": "s3.amazonaws.com",
                    "eventName": "GetBucketVersioning",
                    "awsRegion": "us-west-2",
                    "sourceIPAddress": "1.6.180.187",
                    "userAgent": "S3Console/0.4, aws-internal/3 aws-sdk-java/1.11.1030 Linux/5.4.235-151.344.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.362-b10 java/1.8.0_362 vendor/Oracle_Corporation",
                    "requestParameters": {
                      "bucketName": "aws-cloudtrail-logs-pes2ug20cs449",
                      "host": "s3.us-west-2.amazonaws.com",
                      "responseElements": null,
                      "additionalEventData": {
                        "SignatureVersion": "SigV4",
                        "CipherSuite": "ECDHE-RSA-AES128-GCM-HA256",
                        "bytesTransferredIn": 0,
                        "AuthenticationMethod": "AuthHeader",
                        "x-amz-id-": "40R3h1KaE4f86bhZyZcyg8f0edematJpZ5eXndQp4c7L5eOMggC500wH7EsZfIod29y40=",
                        "bytesTransferredOut": 113,
                        "requestID": "MHZTBDHAC3Y45B2K",
                        "eventID": "15cfca26-18a5-6ce-8906-8ef1e864dbb8",
                        "readOnly": true,
                        "resources": {
                          "accountID": "076023095110",
                          "type": "AWS::S3::Bucket",
                          "ARN": "arn:aws:s3:::aws-cloudtrail-logs-"
                        }
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  ]
}
```

g. 6a.png: Showing the state of key users after the user has been removed.



h. 6b.png: Showing the state of key users after the user has been added.

