

## CLOUD ASSIGNMENT - 5

### Introduction to AWS Key Management Service(KMS)

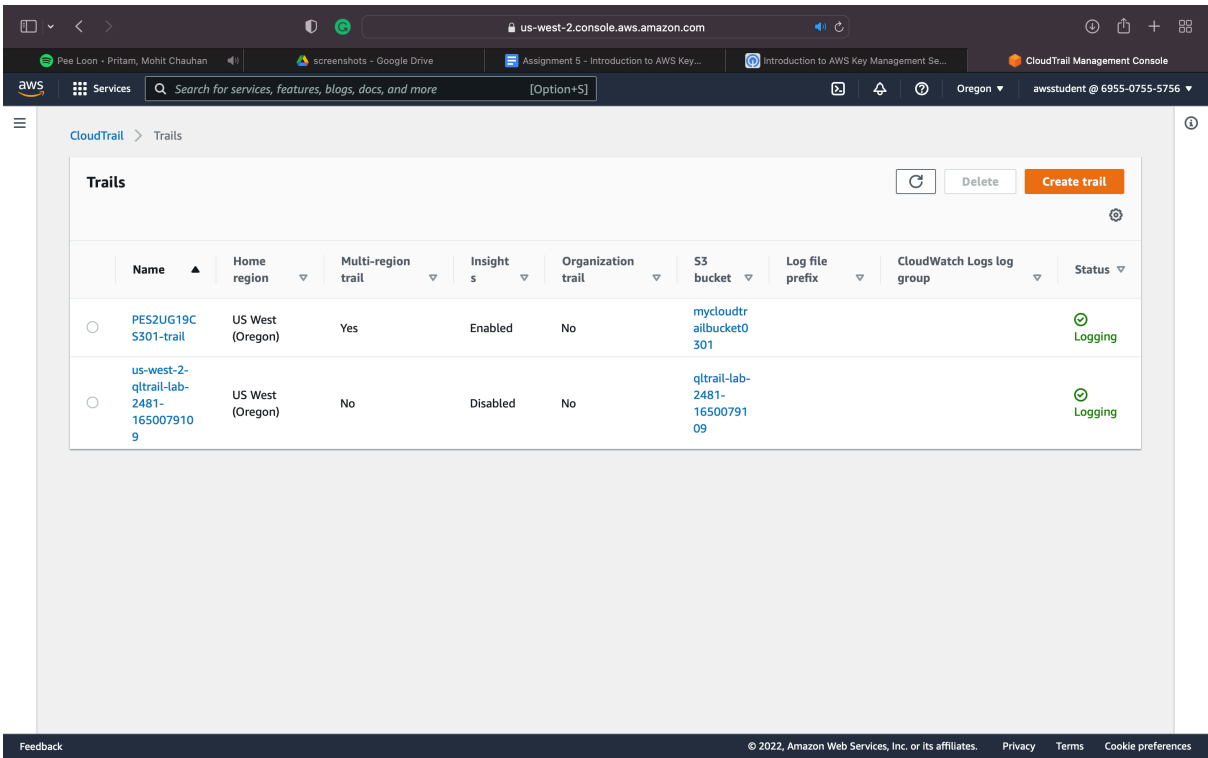
Name: Priya Mohata  
SRN: PES2UG19CS301  
Section: E

1a.png

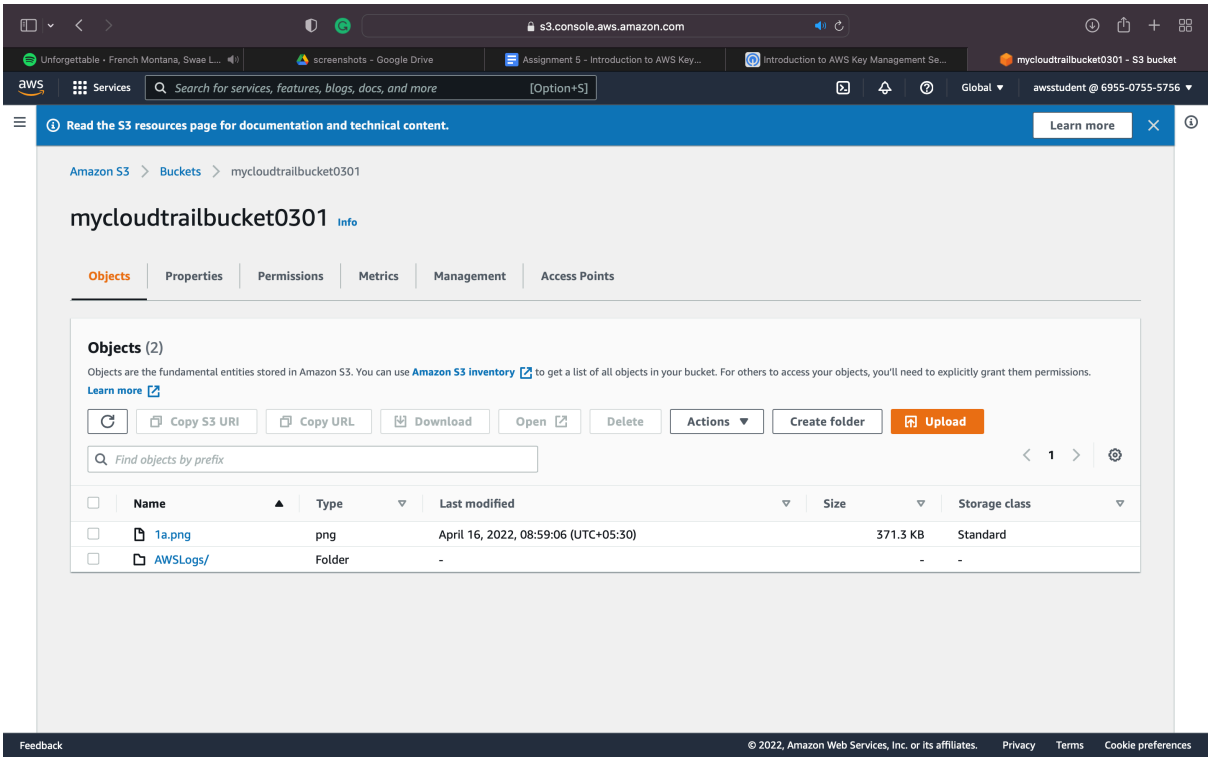
The screenshot shows the AWS Management Console interface for the Key Management Service (KMS). A green success banner at the top states: "Success: Your AWS KMS key was created with alias PES2UG19CS301 and key ID ef0edaf5-7579-4ea7-88e4-ddddf1e8ff73." The left sidebar shows the navigation menu with "Key Management Service (KMS)" selected. The main content area displays "Customer managed keys (1)" with a table listing the newly created key. The table has columns for Aliases, Key ID, Status, Key spec, and Key usage. The key listed is PES2UG19CS301 with key ID ef0edaf5-7579-4ea7-88e4-ddddf1e8ff73, status Enabled, key spec SYMMETRIC\_DEFAULT, and key usage Encrypt and decrypt. The bottom of the console shows a footer with "Feedback" and "© 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

| Aliases       | Key ID                               | Status  | Key spec          | Key usage           |
|---------------|--------------------------------------|---------|-------------------|---------------------|
| PES2UG19CS301 | ef0edaf5-7579-4ea7-88e4-ddddf1e8ff73 | Enabled | SYMMETRIC_DEFAULT | Encrypt and decrypt |

2a.png



3a.png



4a.png



4b.png



## 5a.png

```
157ff2a4c24c", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:27:37Z", "eventSource": "s3.amazonaws.com", "eventName": "GetObjectWebsite", "awsRegion": "us-west-2", "sourceIPAddress": "49.207.209.151", "userAgent": "[S3Console/0.4, aws-internal/3. aws-sdk-java/1.11.1030 Linux/5.4.181-109.354.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.302-b08 java/1.8.0_302 vendor/Oracle_Corporation cfg/retry-mode/standard]", "errorCode": "NoSuchWebsiteConfiguration", "errorMessage": "The specified bucket does not have a website configuration", "requestParameters": {"bucketName": "mycloudtrailbucket0301", "website": "", "Host": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "nMgNwCDB3lxbxKiQ8tId9blyQTL8qIFuqzr46cwklh04K7GDG2clq5HQ0bey1RRdPw", "bytesTransferredOut": 349}, "requestID": "3P3DM9M4B9SMYDZ2", "eventID": "d8e9eb2-ac44-4ba6-bb06-dd52aaccb19", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:30:09Z", "eventSource": "kms.amazonaws.com", "eventName": "Decrypt", "awsRegion": "us-west-2", "sourceIPAddress": "AWS Internal", "userAgent": "AWS Internal", "requestParameters": {"encryptionAlgorithm": "SYMMETRIC_DECRYPT", "encryptionContext": {"aws:s3:arn": "arn:aws:s3:::mycloudtrailbucket0301/1a.png"}, "responseElements": null, "requestID": "6898b635-c907-49c4-9082-4fd7344a1d37", "eventID": "a4ceef4-40f8-434b-8d3f-a757671f73ef", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::KMS::Key", "ARN": "arn:aws:kms:us-west-2:695507555756:key/e0f0da45-7579-4ea7-88e4-dddf1e8ff73"}], "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "eventCategory": "Management", "sessionCredentialFromConsole": "true"}, {"eventVersion": "1.08", "userIdentity": {"type": "AWSService", "invokedBy": "cloudtrail.amazonaws.com", "eventTime": "2022-04-16T03:32:35Z", "eventSource": "s3.amazonaws.com", "eventName": "GetBucketAcl", "awsRegion": "us-west-2", "sourceIPAddress": "cloudtrail.amazonaws.com", "userAgent": "cloudtrail.amazonaws.com", "requestParameters": {"bucketName": "mycloudtrailbucket0301", "Host": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com", "acl": ""}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "xf4f7pWLF810++LxJ01VvRCJBUCYDE1DKiV76HsIxLdEP0Oglv15Zm0execv2Vxt37pVQ1", "bytesTransferredOut": 552}, "requestID": "E2ZTEDQNN1XEGCF29", "eventID": "8e19771c-1c04-489d-9f2d-ad601bab92e9", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "shareEventID": "0596c983-5668-4db7-9e0f-2ce6de55d04b", "eventCategory": "Management"}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:32:38Z", "eventSource": "s3.amazonaws.com", "eventName": "GetBucketPublicAccessBlock", "awsRegion": "us-west-2", "sourceIPAddress": "49.207.209.151", "userAgent": "[S3Console/0.4, aws-internal/3. aws-sdk-java/1.11.1030 Linux/5.4.181-109.354.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.302-b08 java/1.8.0_302 vendor/Oracle_Corporation cfg/retry-mode/standard]", "requestParameters": {"publicAccessBlock": "", "bucketName": "mycloudtrailbucket0301", "Host": "s3.us-west-2.amazonaws.com"}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "d8JRSomxV2qcdkbnNDj7tFmKbwG69ak9D2127JnoJtCtCK6PuKp8/08KLdETtH0eVM0zt", "bytesTransferredOut": 330}, "requestID": "BQ3NBW0AQMFZ91", "eventID": "3c8466a7-0b87-4f74-afdd-2ed83d91658d", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "s3.us-west-2.amazonaws.com"}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-
```

## 5b.png

```
2.amazonaws.com", "policy": "", "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "Gx6VtIrx7eJONcvlT5ag04KlyV5idfP09MH8eXms/w-172FaPht04HANoAS5r/V877NV05rc", "bytesTransferredOut": 700}, "requestID": "3P38DZP708W1878n", "eventID": "e870ff26-70ef-42a8-a19e-157ff2a4c24c", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:27:37Z", "eventSource": "s3.amazonaws.com", "eventName": "GetObjectWebsite", "awsRegion": "us-west-2", "sourceIPAddress": "49.207.209.151", "userAgent": "[S3Console/0.4, aws-internal/3. aws-sdk-java/1.11.1030 Linux/5.4.181-109.354.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.302-b08 java/1.8.0_302 vendor/Oracle_Corporation cfg/retry-mode/standard]", "errorCode": "NoSuchWebsiteConfiguration", "errorMessage": "The specified bucket does not have a website configuration", "requestParameters": {"bucketName": "mycloudtrailbucket0301", "website": "", "Host": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "nMgNwCDB3lxbxKiQ8tId9blyQTL8qIFuqzr46cwklh04K7GDG2clq5HQ0bey1RRdPw", "bytesTransferredOut": 349}, "requestID": "3P3DM9M4B9SMYDZ2", "eventID": "d8e9eb2-ac44-4ba6-bb06-dd52aaccb19", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com"}}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:30:09Z", "eventSource": "kms.amazonaws.com", "eventName": "Decrypt", "awsRegion": "us-west-2", "sourceIPAddress": "AWS Internal", "userAgent": "AWS Internal", "requestParameters": {"encryptionAlgorithm": "SYMMETRIC_DECRYPT", "encryptionContext": {"aws:s3:arn": "arn:aws:s3:::mycloudtrailbucket0301/1a.png"}, "responseElements": null, "requestID": "6898b635-c907-49c4-9082-4fd7344a1d37", "eventID": "a4ceef4-40f8-434b-8d3f-a757671f73ef", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::KMS::Key", "ARN": "arn:aws:kms:us-west-2:695507555756:key/e0f0da45-7579-4ea7-88e4-dddf1e8ff73"}], "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "eventCategory": "Management", "sessionCredentialFromConsole": "true"}, {"eventVersion": "1.08", "userIdentity": {"type": "AWSService", "invokedBy": "cloudtrail.amazonaws.com", "eventTime": "2022-04-16T03:32:35Z", "eventSource": "s3.amazonaws.com", "eventName": "GetBucketAcl", "awsRegion": "us-west-2", "sourceIPAddress": "cloudtrail.amazonaws.com", "userAgent": "cloudtrail.amazonaws.com", "requestParameters": {"bucketName": "mycloudtrailbucket0301", "Host": "mycloudtrailbucket0301.s3.us-west-2.amazonaws.com", "acl": ""}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "xf4f7pWLF810++LxJ01VvRCJBUCYDE1DKiV76HsIxLdEP0Oglv15Zm0execv2Vxt37pVQ1", "bytesTransferredOut": 552}, "requestID": "E2ZTEDQNN1XEGCF29", "eventID": "8e19771c-1c04-489d-9f2d-ad601bab92e9", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "shareEventID": "0596c983-5668-4db7-9e0f-2ce6de55d04b", "eventCategory": "Management"}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer": {"type": "IAMUser", "principalId": "AIDAFPCDZELP3BVSYP6", "arn": "arn:aws:iam:695507555756:user/awsstudent", "accountId": "695507555756", "userName": "awsstudent", "webIdFederationData": {"attributes": {"creationDate": "2022-04-16T03:18:37Z", "mfaAuthenticated": "false"}}, "eventTime": "2022-04-16T03:32:38Z", "eventSource": "s3.amazonaws.com", "eventName": "GetBucketPublicAccessBlock", "awsRegion": "us-west-2", "sourceIPAddress": "49.207.209.151", "userAgent": "[S3Console/0.4, aws-internal/3. aws-sdk-java/1.11.1030 Linux/5.4.181-109.354.amzn2int.x86_64 OpenJDK_64-Bit_Server_VM/25.302-b08 java/1.8.0_302 vendor/Oracle_Corporation cfg/retry-mode/standard]", "requestParameters": {"publicAccessBlock": ""}, "bucketName": "mycloudtrailbucket0301", "Host": "s3.us-west-2.amazonaws.com"}, "responseElements": null, "additionalEventData": {"SignatureVersion": "SigV4", "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "bytesTransferredIn": 0, "AuthenticationMethod": "AuthHeader", "x-amz-id-2": "d8JRSomxV2qcdkbnNDj7tFmKbwG69ak9D2127JnoJtCtCK6PuKp8/08KLdETtH0eVM0zt", "bytesTransferredOut": 330}, "requestID": "BQ3NBW0AQMFZ91", "eventID": "3c8466a7-0b87-4f74-afdd-2ed83d91658d", "readOnly": true, "resources": [{"accountId": "695507555756", "type": "AWS::S3::Bucket", "ARN": "arn:aws:s3:::mycloudtrailbucket0301", "eventType": "AwsApiCall", "managementEvent": true, "recipientAccountId": "695507555756", "vpceEndpointId": "vpce-a0d039c9", "eventCategory": "Management", "tlsDetails": {"tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "s3.us-west-2.amazonaws.com"}, {"eventVersion": "1.08", "userIdentity": {"type": "FederatedUser", "principalId": "695507555756:awsstudent", "arn": "arn:aws:sts:695507555756:federated-user/awsstudent", "accountId": "695507555756", "accessKeyId": "ASIA2D333CWNNWMMVYB", "sessionContext": {"sessionIssuer":
```

6a.png

The screenshot shows the AWS Key Management Service (KMS) console for the 'us-west-2' region. The left sidebar contains the 'Key Management Service (KMS)' menu with options for 'AWS managed keys', 'Customer managed keys', and 'Custom key stores'. The main content area displays the 'Key deletion' section with a checkbox 'Allow key administrators to delete this key' which is checked. Below this is the 'Key users' section, which includes a search bar and a table with columns 'Name', 'Path', and 'Type'. The table is currently empty, displaying 'Empty Resources' and 'No resources to display'. At the bottom of the main content area is the 'Other AWS accounts' section with an 'Add other AWS accounts' button. The footer of the console shows 'Feedback', '© 2022, Amazon Web Services, Inc. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

| Name       | Path | Type |
|------------|------|------|
| awsstudent | /    | User |

**Key deletion**

☒ Allow key administrators to delete this key

**Key users**

The following IAM users and roles can use this key for cryptographic operations. They can also allow AWS services that are integrated with KMS to use the key on their behalf. [Learn more](#)

| Name                    | Path | Type |
|-------------------------|------|------|
| Empty Resources         |      |      |
| No resources to display |      |      |

**Other AWS accounts**

6b.png

This screenshot is identical to the one in 6a.png, showing the AWS Key Management Service (KMS) console. It displays the 'Key deletion' section with the checkbox 'Allow key administrators to delete this key' checked. The 'Key users' section shows a search bar and an empty table with columns 'Name', 'Path', and 'Type'. The 'Other AWS accounts' section is at the bottom with an 'Add other AWS accounts' button. The footer includes 'Feedback', '© 2022, Amazon Web Services, Inc. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

| Name       | Path | Type |
|------------|------|------|
| awsstudent | /    | User |

**Key deletion**

☒ Allow key administrators to delete this key

**Key users**

The following IAM users and roles can use this key for cryptographic operations. They can also allow AWS services that are integrated with KMS to use the key on their behalf. [Learn more](#)

| Name                    | Path | Type |
|-------------------------|------|------|
| Empty Resources         |      |      |
| No resources to display |      |      |

**Other AWS accounts**