Cloud Security Implementation Report – Task 4

Organization: **CODTECH IT SOLUTIONS PVT. LTD.**

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Project Title**: IAM, Secure Storage, and Encryption on AWS**

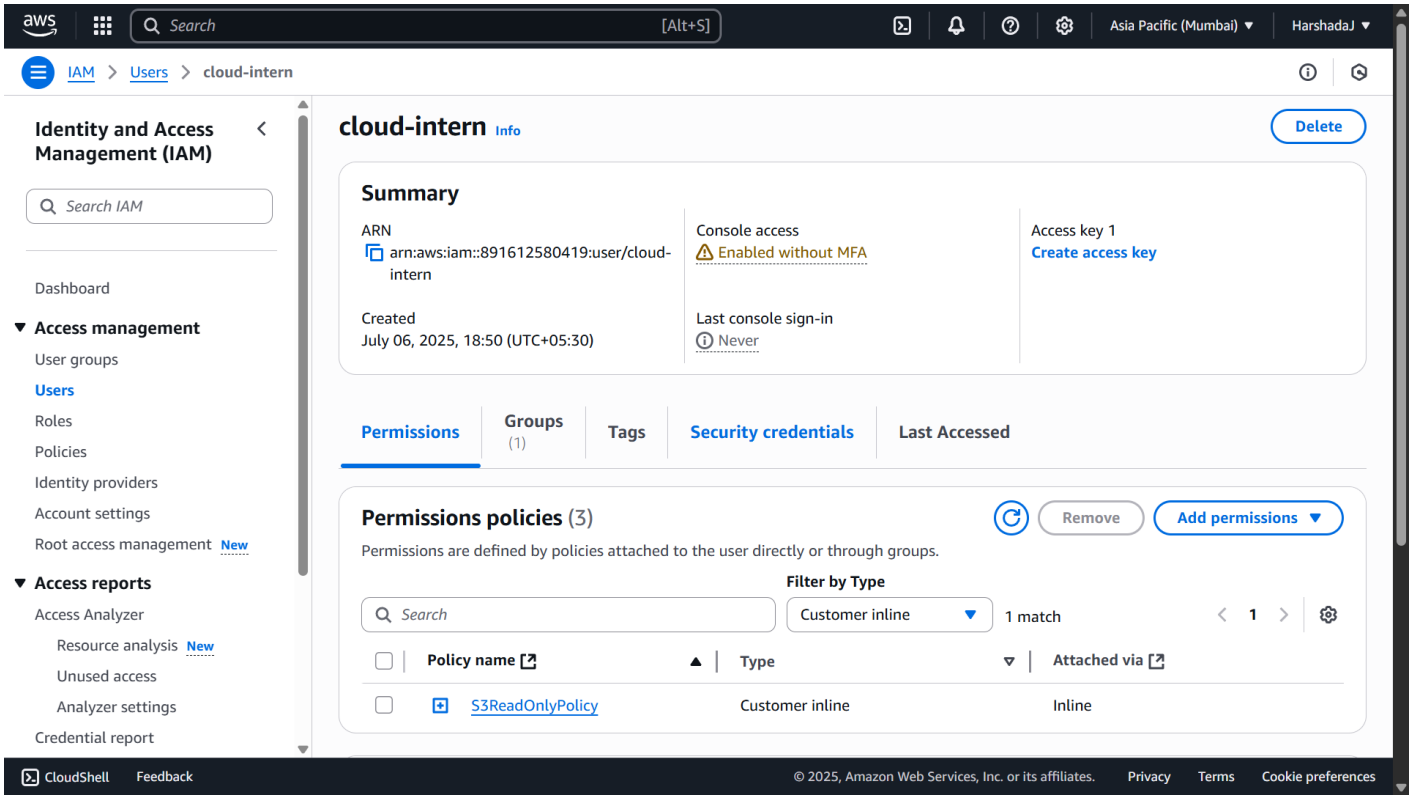
Internship Duration: May 20, 2025 – July 20, 2025

1. Objective

This document outlines the implementation of AWS IAM (Identity and Access Management) policies, S3 secure storage, and encryption mechanisms as part of Task 4 during the Cloud Computing Internship at CODTECH IT SOLUTIONS PVT. LTD.

2. IAM Policy Implementation

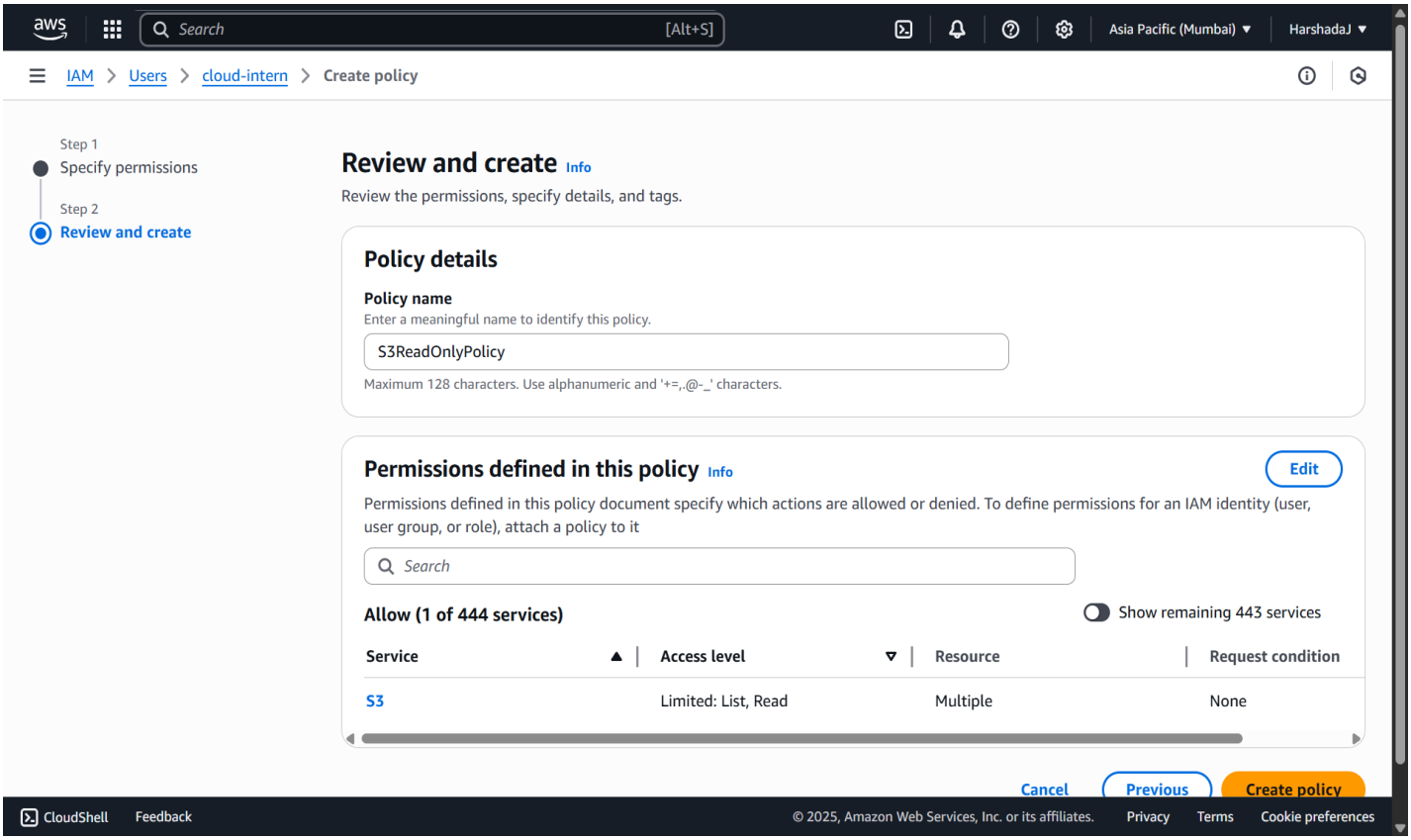
- Created an IAM user `secure-user` with programmatic and console access.



- Assigned a custom IAM policy with least privilege access to only one S3 bucket.

IAM Policy JSON:

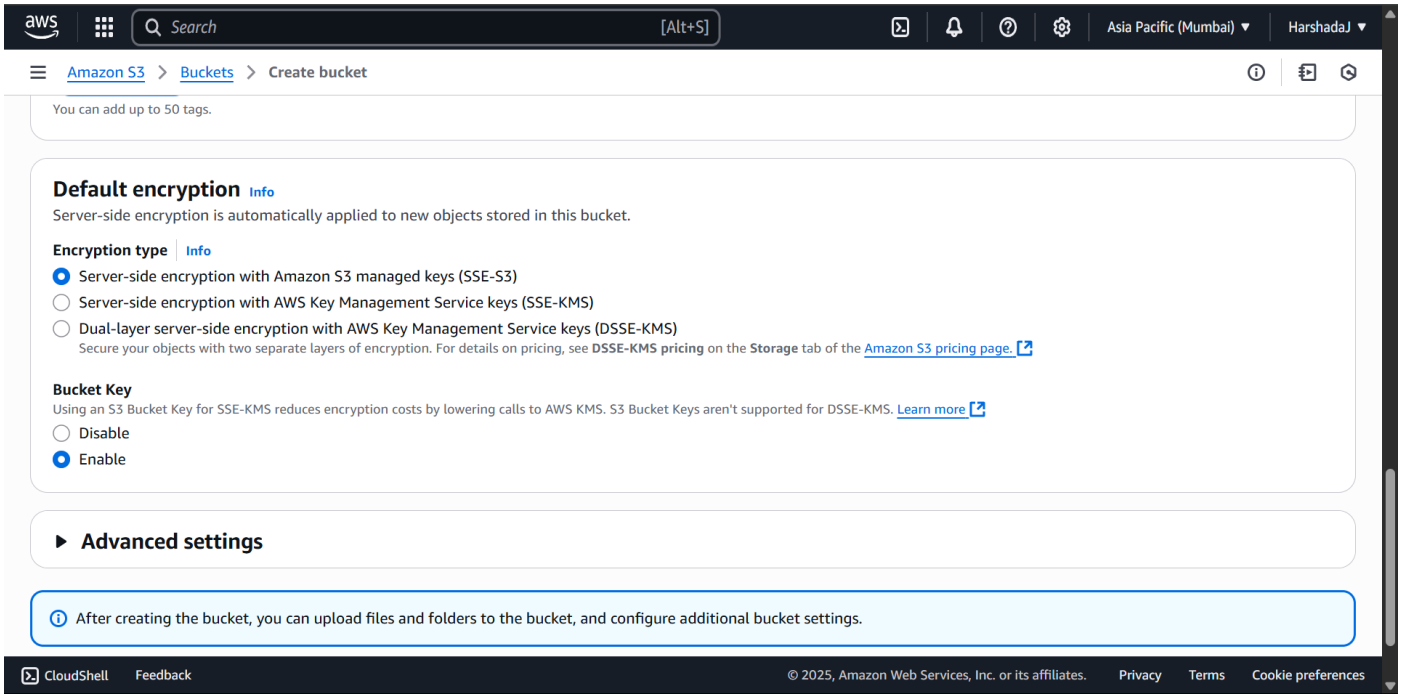
```
{
 "Version": "2012-10-17",
 "Statement": [
  {
   "Effect": "Allow",
   "Action": ["s3:ListBucket", "s3:GetObject", "s3:PutObject"],
   "Resource": [
    "arn:aws:s3:::secure-storage-demo",
    "arn:aws:s3:::secure-storage-demo/*"
   ]
  }
 ]
}
```

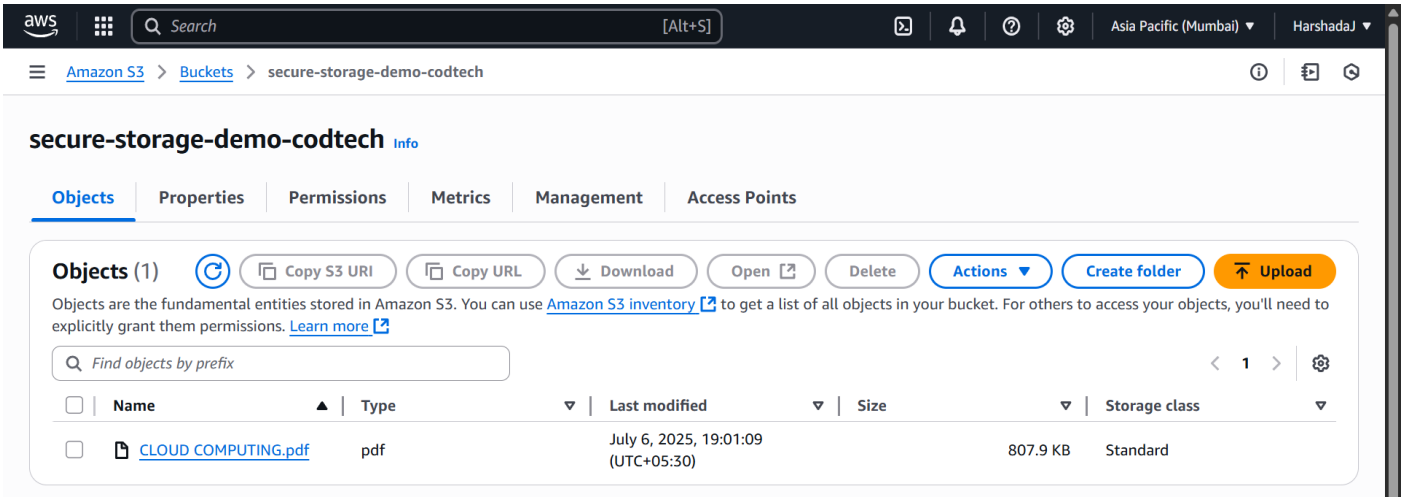


3. Secure S3 Bucket Configuration

- Created S3 bucket named `secure-storage-demo`.

- Chose AWS-Managed Keys (**SSE-S3**) or Customer-Managed Keys (SSE-KMS).



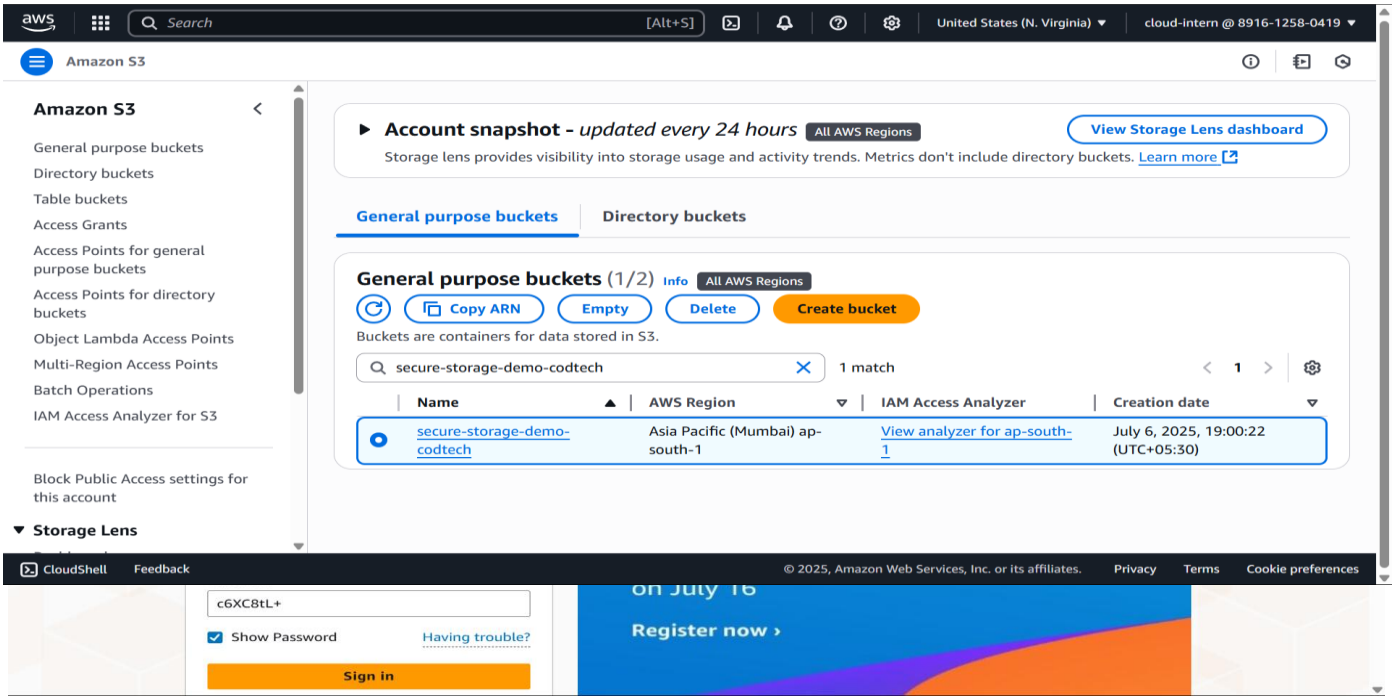


5. Testing & Validation

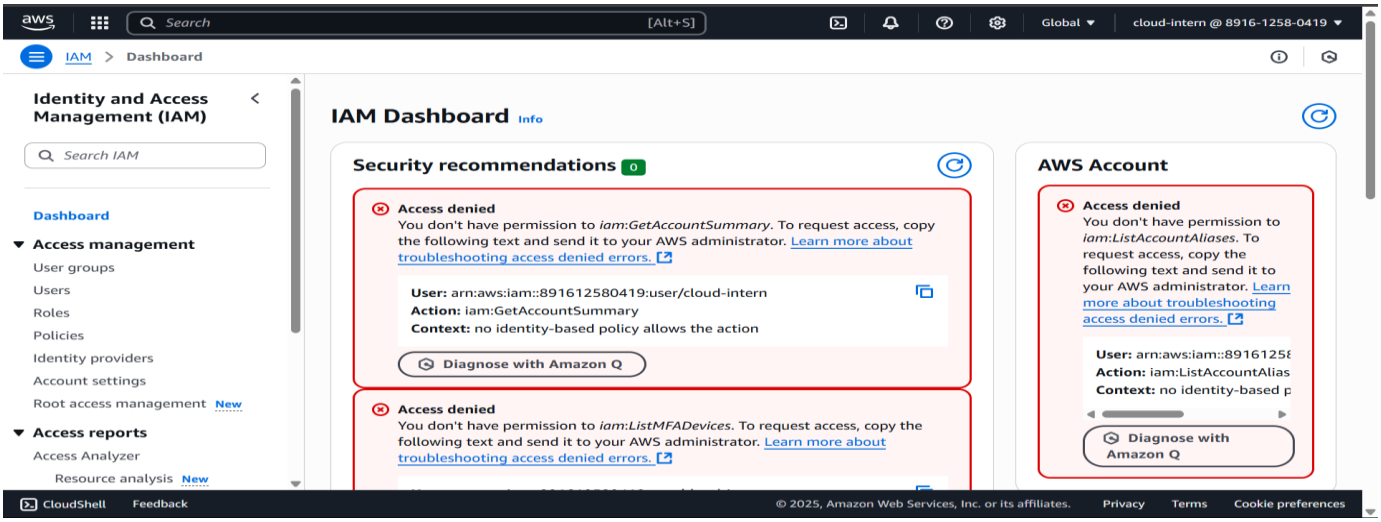
-Open a private/incognito browser.

-Use the IAM login URL.

-Log in as **cloud-intern**-user.



-Try to list objects from the bucket.



7. Conclusion

The implementation ensured secure cloud storage using AWS best practices. IAM policies enforced access control, S3 configuration enabled encrypted storage. This setup demonstrates a practical understanding of cloud security principles.