🔐 Task 4: IAM Policies, Secure Storage, and Data Encryption

✅ Objective

Implement and demonstrate key AWS security features including:

- IAM policy creation and enforcement
- S3 bucket-level access control
- Server-side data encryption

👤 IAM Policy

- Created an IAM user: `codtech-user`
- Attached custom policy allowing limited access to `codtech-secure-bucket`
- User can only perform `GetObject` and `PutObject` on that bucket

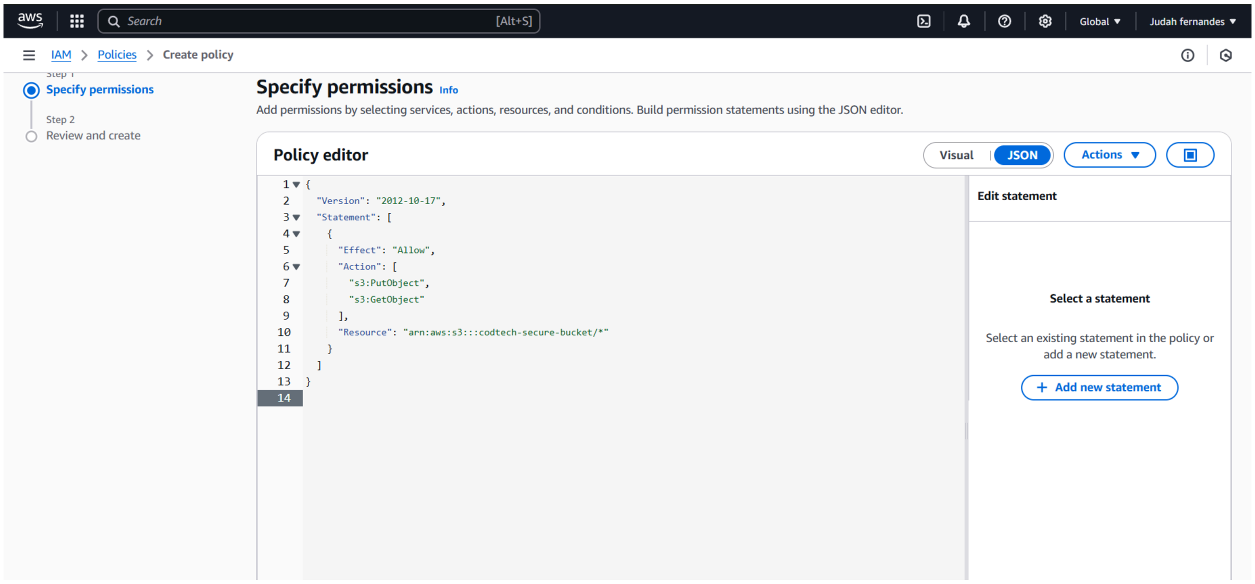
📦 Secure Storage Setup (S3)

- Created a private S3 bucket: `codtech-secure-bucket`
- Blocked all public access
- Uploaded sample file: `confidential.txt`

🔐 Data Encryption

- Enabled **AES-256 encryption** at rest for all objects
- Verified encryption in the object metadata

📸 Screenshots



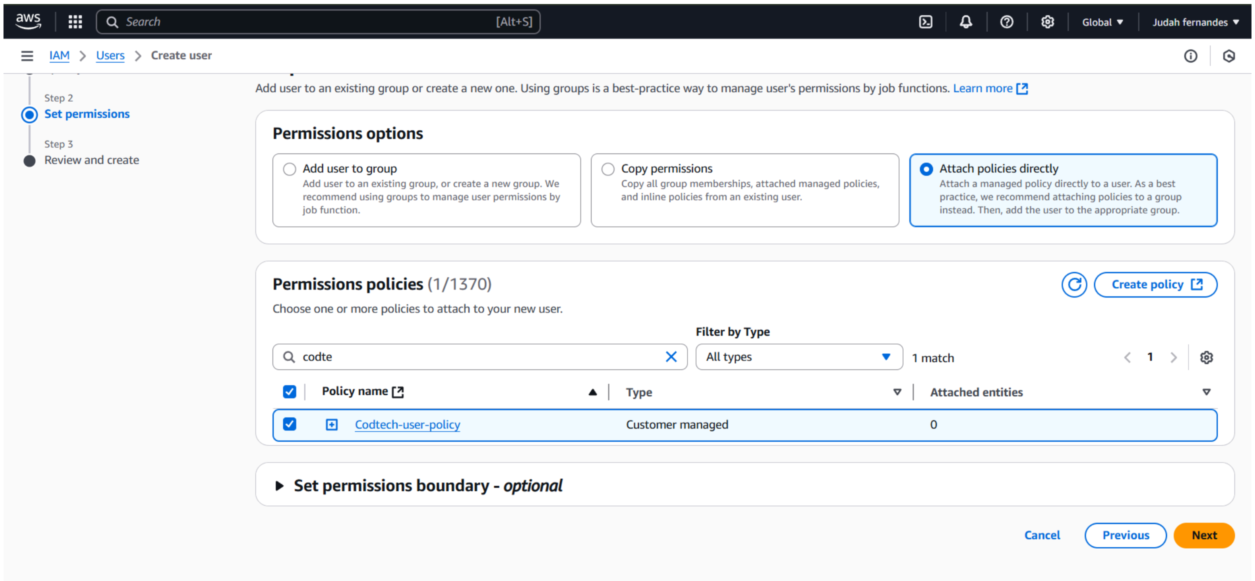
Specify permissions Info

Add permissions by selecting services, actions, resources, and conditions. Build permission statements using the JSON editor.

Policy editor

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

Edit statement
Select a statement
Select an existing statement in the policy or add a new statement.
+ Add new statement



Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. Learn more

Permissions options

○ Add user to group
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

○ Copy permissions
Copy all group memberships, attached managed policies, and inline policies from an existing user.

● Attach policies directly
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

Permissions policies (1/1370)

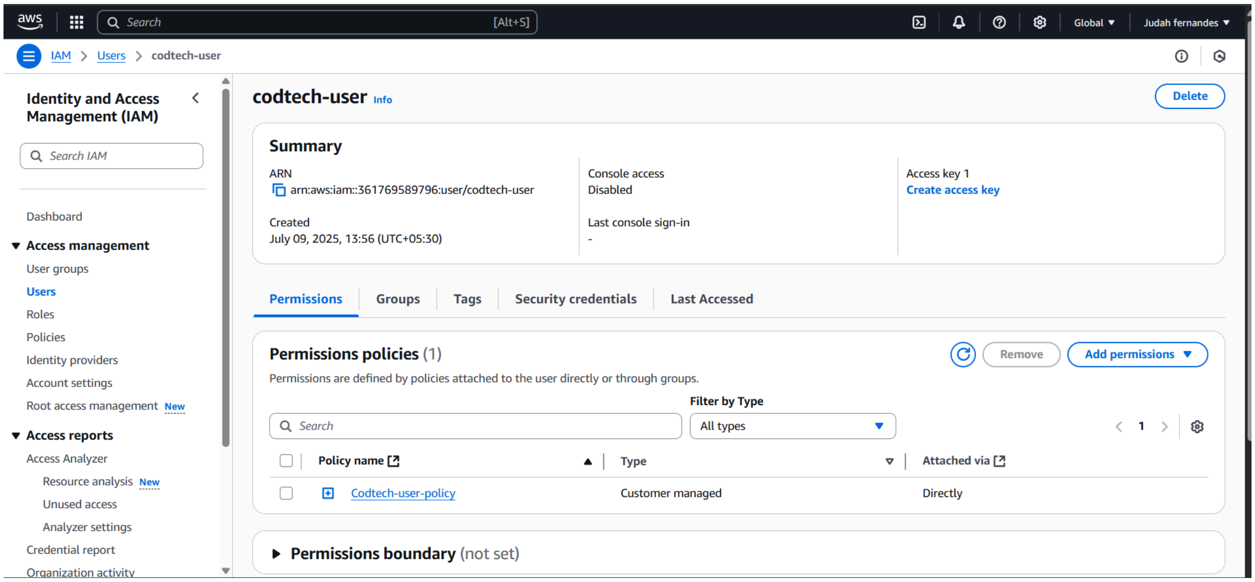
Choose one or more policies to attach to your new user.

Filter by Type

Search: codte — All types — 1 match

☑	Policy name	Type	Attached entities
☑	⊞ Codtech-user-policy	Customer managed	0

▶ Set permissions boundary - *optional*



codtech-user Info

Summary

ARN
arn:aws:iam::361769589796:user/codtech-user

Created
July 09, 2025, 13:56 (UTC+05:30)

Console access
Disabled

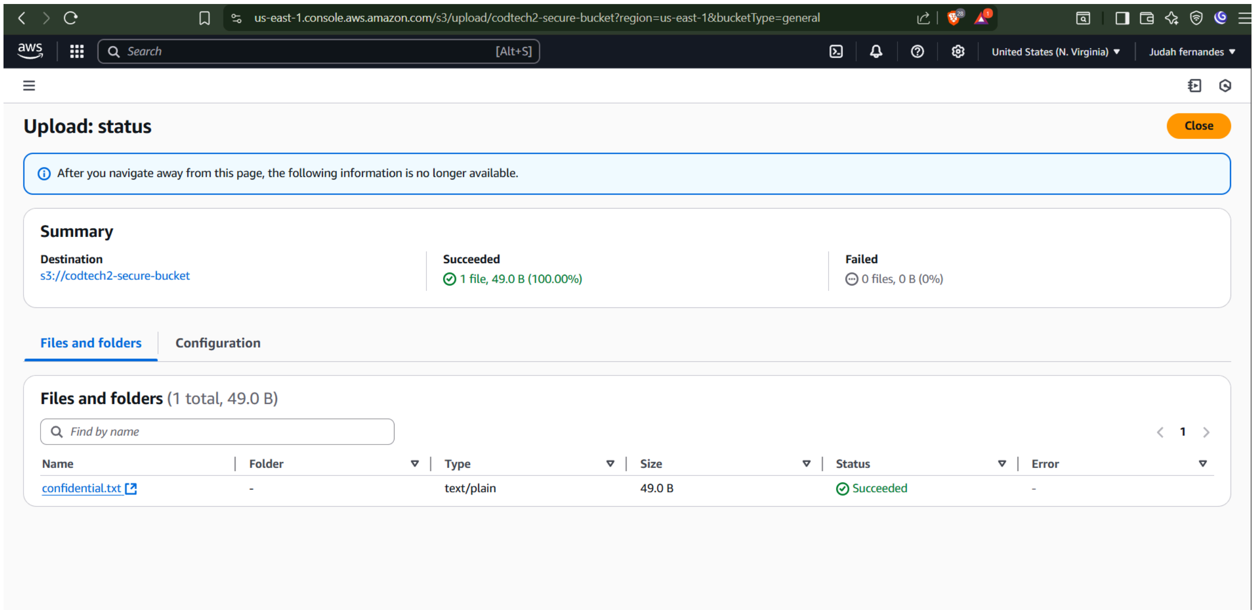
Last console sign-in
-

Access key 1
Create access key

Permissions policies (1)

Permissions are defined by policies attached to the user directly or through groups.

Policy name	Type	Attached via
Codtech-user-policy	Customer managed	Directly


us-east-1.console.aws.amazon.com/s3/upload/codtech2-secure-bucket?region=us-east-1&bucketType=general
aws
Search [Alt+S]
United States (N. Virginia)
Judah fernandes
Close
Files and folders
Configuration
Find by name
1

Upload: status

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

Summary

Destination
s3://codtech2-secure-bucket

Succeeded
1 file, 49.0 B (100.00%)

Failed
0 files, 0 B (0%)

Files and folders (1 total, 49.0 B)

Name	Folder	Type	Size	Status	Error
confidential.txt	-	text/plain	49.0 B	Succeeded	-

✅ Completed

📅 Date: [9th July 2025]

🔐 Platform: AWS

🧠 Skills Demonstrated: IAM roles, least-privilege access, S3 bucket policy, server-side encryption