Lab Exercise 5–Provisioning an S3 Bucket on AWS

Exercise Steps:

Step 1: Create a New Directory:

Create a new directory to store your Terraform configuration:

```
mkdir Terraform-S3-Demo
cd Terraform-S3-Demo
```

Step 2: Create the Terraform Configuration File (main.tf):

Create a file named main.tf with the following content:

```
terraform {
  required_providers {
    aws = {
      source  = "hashicorp/aws"
      version = "5.31.0"
    }
  }
}

provider "aws" {
  region     = "us-east-1"  # Replace with your preferred region
  access_key = "your IAM access key"  # Replace with your Access Key
  secret_key = "your secret access key"  # Replace with your Secret Key
}
```

This file sets up the Terraform AWS provider.

Step 3: Create a Terraform Configuration File for the S3 Bucket (s3.tf):

Create another file named s3.tf with the following content:

```
resource "aws_s3_bucket" "my_bucket" {
  bucket = "my-demo-s3-bucket"
  tags = {
    Name        = "Terraform-S3-Bucket"
    }
}
```

This file provisions an S3 bucket with a unique name using a random string suffix.

Step 4: Initialize Terraform:

Run the following command to initialize your Terraform working directory:

```
terraform init
```

Step 5: Review the Plan:

Preview the changes Terraform will make:

```
terraform plan
```

```
PS D:\Coding 3rd Year\SPCM\Code> terraform plan

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the
following symbols:
  + create

Terraform will perform the following actions:

  # aws_s3_bucket.my_bucket will be created
  + resource "aws_s3_bucket" "my_bucket" {
      + acceleration_status         = (known after apply)
      + acl                         = (known after apply)
      + arn                         = (known after apply)
      + bucket                      = "akshit-s3-bucket"
      + bucket_domain_name          = (known after apply)
      + bucket_prefix               = (known after apply)
      + bucket_regional_domain_name = (known after apply)
      + force_destroy               = false
      + hosted_zone_id              = (known after apply)
      + id                          = (known after apply)
      + object_lock_enabled         = (known after apply)
      + policy                      = (known after apply)
      + region                      = (known after apply)
      + request_payer               = (known after apply)
      + tags                        = {
          + "Name" = "Akshit-S3-Bucket"
        }
      + tags_all                    = {
          + "Name" = "Akshit-S3-Bucket"
        }
      + website_domain              = (known after apply)
      + website_endpoint            = (known after apply)

      + cors_rule (known after apply)

      + grant (known after apply)

      + lifecycle_rule (known after apply)

      + logging (known after apply)

      + object_lock_configuration (known after apply)

      + replication_configuration (known after apply)

      + server_side_encryption_configuration (known after apply)

      + versioning (known after apply)

      + website (known after apply)


      + website (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.


Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run
"terraform apply" now.
PS D:\Coding 3rd Year\SPCM\Code>
```

Review the output to ensure it meets your expectations.

Step 6: Apply the Changes:

Create the resources:

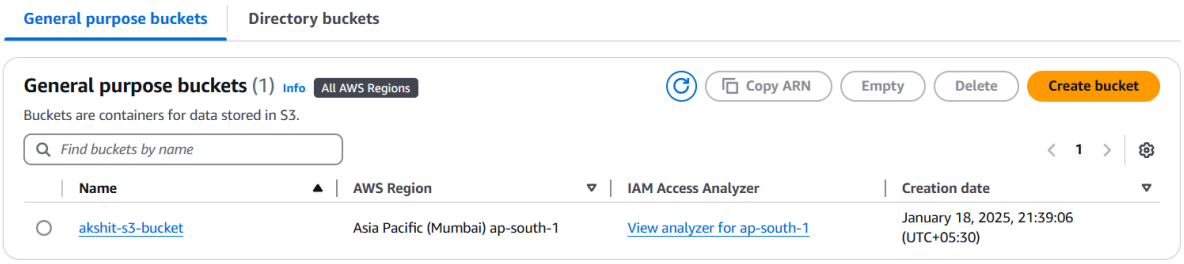
```
terraform apply
```

```
Plan: 1 to add, 0 to change, 0 to destroy.

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

aws_s3_bucket.my_bucket: Creating...
aws_s3_bucket.my_bucket: Creation complete after 2s [id=akshit-s3-bucket]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
PS D:\Coding 3rd Year\SPCM\Code>
```

When prompted, type yes to confirm.

Step 7: Verify Resources:

1. Log in to your AWS Management Console.
2. Navigate to the **S3** dashboard.
3. Verify that the S3 bucket has been created with the specified configuration.



Step 8: Cleanup Resources:

To remove the resources created, run the following command:

terraform destroy

When prompted, type yes to confirm.

```
Plan: 0 to add, 0 to change, 1 to destroy.

Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value: yes

aws_s3_bucket.my_bucket: Destroying... [id=akshit-s3-bucket]
aws_s3_bucket.my_bucket: Destruction complete after 1s

Destroy complete! Resources: 1 destroyed.
PS D:\Coding 3rd Year\SPCM\Code>
```