Lab Exercise 5–Provisioning AWS

Exercise Steps:

Step 1: Create a New Directory:

Create a new directory to store your Terraform config

```
[ujjwal@ujjwalmacbook ~ % mkdir Terraform-S3-demo
[ujjwal@ujjwalmacbook ~ % cd Terraform-S3-demo
```

Step 2: Create the Terraform Configuration File

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

```
[ujjwal@ujjwalmacbook Terraform-S3-demo % touch main.tf
[ujjwal@ujjwalmacbook Terraform-S3-demo % vim main.tf
```

```
terraform {
required_ providers {
aws = {
source = "hashicorp/aws"
version = "5.31.0"


}
}
}
provider "aws" {
region
= "ap-south-1"
access_key = "AKIAR3HUOVVNELXXODNN"
secret_key = "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"
}
~
~
```

Step 3: Create a Terraform Configuration File for t

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"
}
~
~
~
```

Step 4: Initialize Terraform:

Run the following command to initialize your Terraform

```
> terraform init

Initializing the backend...
Initializing provider plugins...
- Finding hashicorp/aws versions matching "5.31.0"...
- Installing hashicorp/aws v5.31.0...
- Installed hashicorp/aws v5.31.0 (signed by HashiCorp)
Terraform has created a lock file .terraform.lock.hcl to record the provider
selections it made above. Include this file in your version control repositor
so that Terraform can guarantee to make the same selections by default when
you run "terraform init" in the future.

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, oth
commands will detect it and remind you to do so if necessary.
```

Step 5: Review the Plan:

Preview the changes Terraform will make:

```
> 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                      = "my-demo-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" = "Terraform-S3-Bucket"
        }
      + tags_all                    = {
          + "Name" = "Terraform-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)
    }

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 a
```

Step 6: Apply the Changes:

Create the resources:

```
> terraform apply
  + resource "aws_s3_bucket" "my_bucket" {
      + acceleration_status         = (known after apply)
      + acl                         = (known after apply)
      + arn                         = (known after apply)
      + bucket                      = "my-new-unique-s3-bucket-123456"
      + 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" = "Terraform-S3-Bucket"
        }
      + tags_all                    = {
          + "Name" = "Terraform-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)
    }

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=my-new-unique-s3-bucket-123456]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
```

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.

Bucket Name	Region	Analyzer	Created Date and Time
my-new-unique-s3-bucket-123456	Asia Pacific (Mumbal) ap-south-1	View analyzer for ap-south-1	March 21, 2025, 14:00:00 (UTC+05:30)