Lab Exercise 6– Terraform Variables
Objective:

Learn how to define and use variables in Terraform configuration.

Prerequisites:

☐ Install Terraform on your machine.

Steps:

1. Create a Terraform Directory:

 Create a new directory for your Terraform project.

```
mkdir terraform-variables

cd terraform-variables
```

2. Create a Terraform Configuration File:

 Create a file named main.tf within your project directory.

 # main.tf

```
resource "aws_instance" "myinstance-1" {
  ami = var.myami
  instance_type = var.my_instance_type
  count = var.mycount
  tags = {
   Name= "My Instance"
  }
}
```

3. Define Variables:

 Open a new file named variables.tf. Define variables for region, ami, and instance_type.

variables.tf

```
variable "myami" {
 type = string
 default = "ami-08718895af4dfa033"
}


variable "mycount" {

 type = number
 default = 5
}


variable "my_instance_type" {
   type = string
   default = "t2.micro"
}
```

4. Initialize and Apply:

 Run the following Terraform commands   to   initialize   and   apply   the configuration.

```
terraform init

terraform plan

terraform apply -auto-approve

```

```
Plan: 5 to add, 0 to change, 0 to destroy.
aws_instance.myinstance-1[4]: Creating...
aws_instance.myinstance-1[2]: Creating...
aws_instance.myinstance-1[1]: Creating...
aws_instance.myinstance-1[3]: Creating...
aws_instance.myinstance-1[0]: Creating...
aws_instance.myinstance-1[4]: Still creating... [10s elapsed]
aws_instance.myinstance-1[2]: Still creating... [10s elapsed]
aws_instance.myinstance-1[1]: Still creating... [10s elapsed]
aws_instance.myinstance-1[3]: Still creating... [10s elapsed]
aws_instance.myinstance-1[0]: Still creating... [10s elapsed]
aws_instance.myinstance-1[0]: Creation complete after 19s [id=i-0349ae043b865a638]
aws_instance.myinstance-1[1]: Creation complete after 20s [id=i-0afcb5dfcee388368]
aws_instance.myinstance-1[3]: Creation complete after 20s [id=i-0d6701f88c91fc6b8]
aws_instance.myinstance-1[4]: Creation complete after 20s [id=i-08fe1d8f738b0cb44]
aws_instance.myinstance-1[2]: Still creating... [20s elapsed]
aws_instance.myinstance-1[2]: Creation complete after 20s [id=i-03e0cd19af743461a]

Apply complete! Resources: 5 added, 0 changed, 0 destroyed.
PS E:\collagefiles\sem 6\system provisioning lab>
```

Observe how the region changes based on the variable override.

5. Clean Up:

After testing, you can clean up resources.

terraform destroy

```
aws_instance.myinstance-1[2]: Still destroying... [id=i-03e0cd19af743461a, 20s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-08fe1d8f738b0cb44, 20s elapsed]
aws_instance.myinstance-1[3]: Still destroying... [id=i-0d6701f88c91fc6b8, 20s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0afcb5dfcee388368, 20s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-0349ae043b865a638, 20s elapsed]
aws_instance.myinstance-1[3]: Still destroying... [id=i-0d6701f88c91fc6b8, 30s elapsed]
aws_instance.myinstance-1[2]: Still destroying... [id=i-03e0cd19af743461a, 30s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-08fe1d8f738b0cb44, 30s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0afcb5dfcee388368, 30s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-0349ae043b865a638, 30s elapsed]
aws_instance.myinstance-1[3]: Destruction complete after 35s
aws_instance.myinstance-1[4]: Destruction complete after 35s
aws_instance.myinstance-1[2]: Still destroying... [id=i-03e0cd19af743461a, 40s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0afcb5dfcee388368, 40s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-0349ae043b865a638, 40s elapsed]
aws_instance.myinstance-1[0]: Destruction complete after 46s
aws_instance.myinstance-1[2]: Destruction complete after 46s
aws_instance.myinstance-1[1]: Still destroying... [id=i-0afcb5dfcee388368, 50s elapsed]
aws_instance.myinstance-1[1]: Destruction complete after 57s

Destroy complete! Resources: 5 destroyed.
PS E:\collagefiles\sem 6\system provisioning lab>
```

Confirm the destruction by typing yes.

6. Conclusion:

This lab exercise introduces you to Terraform variables and demonstrates how to use them in your configurations. Experiment with different variable values and overrides to understand their impact on the infrastructure provisioning process.