Lab Exercise 15– 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.

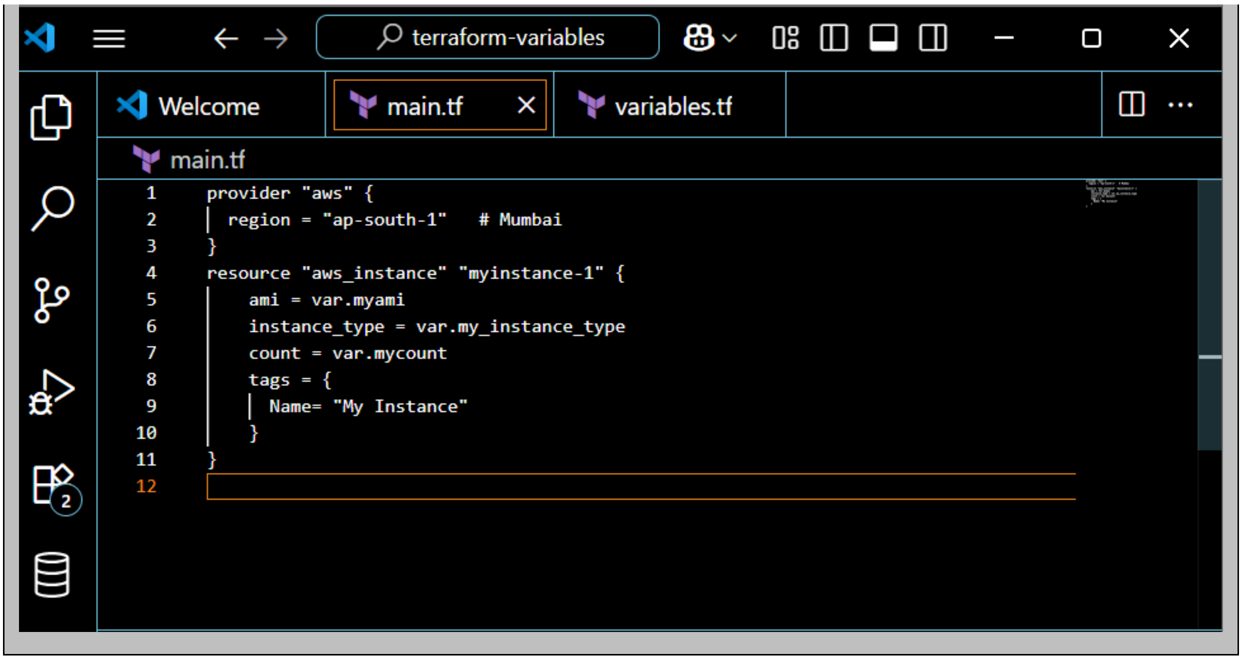
```
mkdir terraform-variables

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"
  }
}
```



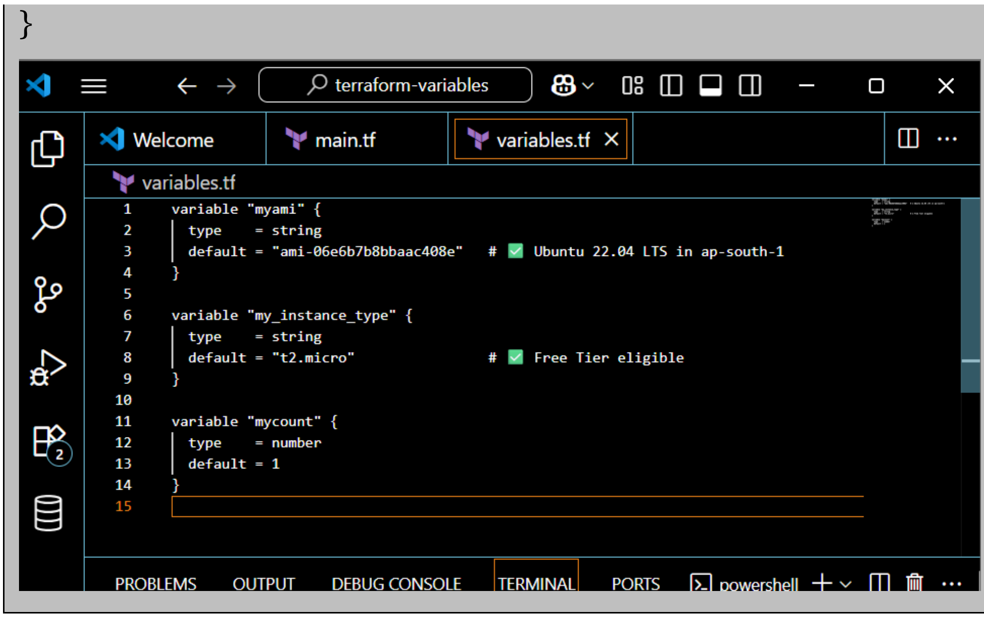
```
provider "aws" {
  region = "ap-south-1"    # Mumbai
}
resource "aws_instance" "myinstance-1" {
    ami = var.myami
    instance_type = var.my_instance_type
    count = var.mycount
    tags = {
      Name= "My Instance"
    }
}
```

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"
}
```



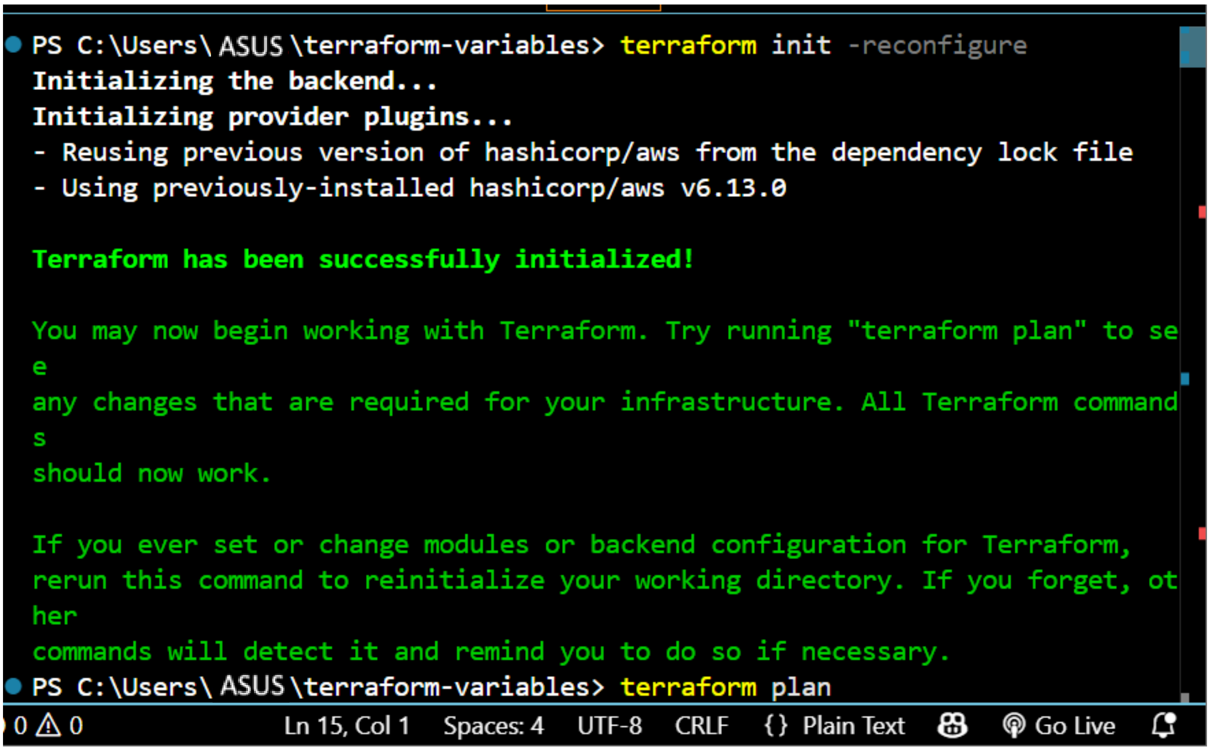
```
variable "myami" {
  type    = string
  default = "ami-06e6b7b8bbaac408e"   # ✅ Ubuntu 22.04 LTS in ap-south-1
}

variable "my_instance_type" {
  type    = string
  default = "t2.micro"                # ✅ Free Tier eligible
}

variable "mycount" {
  type    = number
  default = 1
}

```

4. Initialize and Apply:

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

```
terraform init

terraform plan

terraform apply -auto-approve
```

Observe how the region changes based on the variable override.



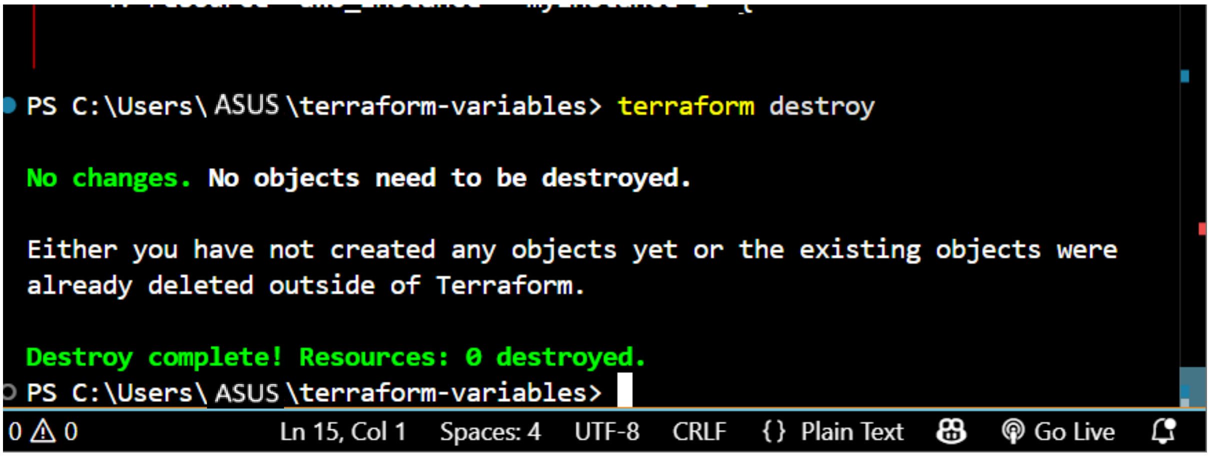
```
PS C:\Users\ ASUS \terraform-variables> terraform init -reconfigure
Initializing the backend...
Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v6.13.0

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to se
e
any changes that are required for your infrastructure. All Terraform command
s
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, ot
her
commands will detect it and remind you to do so if necessary.
PS C:\Users\ ASUS \terraform-variables> terraform plan
```

5. Clean Up:

After testing, you can clean up resources.

```
terraform destroy
```

Confirm the destruction by typing yes.



```
PS C:\Users\ ASUS \terraform-variables> terraform destroy

No changes. No objects need to be destroyed.

Either you have not created any objects yet or the existing objects were
already deleted outside of Terraform.

Destroy complete! Resources: 0 destroyed.
PS C:\Users\ ASUS \terraform-variables>
```

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.