Lab Exercise 6– Terraform Variables

Objective:

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Batch-2(DevOps)

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
```

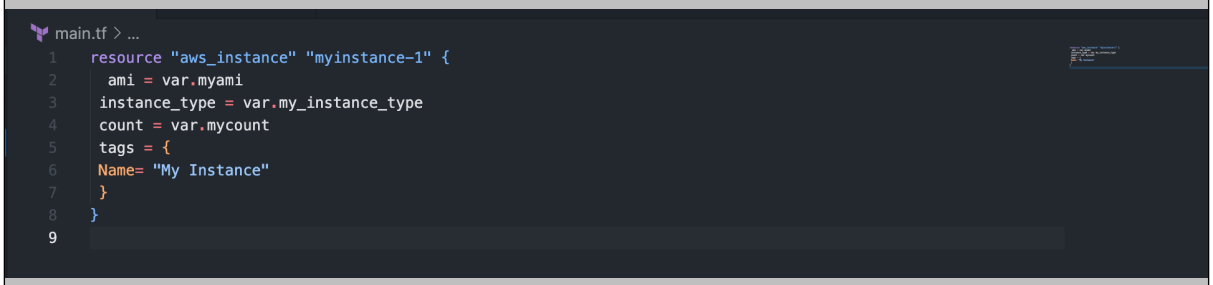
```
adityatomar@Adityas-MacBook-Air VS Code % mkdir terraform-variables
adityatomar@Adityas-MacBook-Air VS Code % cd terraform-variables
adityatomar@Adityas-MacBook-Air terraform-variables % touch main.tf
adityatomar@Adityas-MacBook-Air terraform-variables % touch variables.tf
adityatomar@Adityas-MacBook-Air 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"
}
```

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
```

```
aws_instance.myinstance-1[1]: Creating...
aws_instance.myinstance-1[4]: Creating...
aws_instance.myinstance-1[3]: Creating...
aws_instance.myinstance-1[2]: Creating...
aws_instance.myinstance-1[0]: Creating...
aws_instance.myinstance-1[4]: Still creating... [10s elapsed]
aws_instance.myinstance-1[1]: Still creating... [10s elapsed]
aws_instance.myinstance-1[0]: Still creating... [10s elapsed]
aws_instance.myinstance-1[2]: Still creating... [10s elapsed]
aws_instance.myinstance-1[3]: Still creating... [10s elapsed]
aws_instance.myinstance-1[4]: Creation complete after 17s [id=i-09d4a96c97598e7a8]
aws_instance.myinstance-1[1]: Creation complete after 17s [id=i-0eddfb96c1a1a5ddd]
aws_instance.myinstance-1[0]: Creation complete after 17s [id=i-054e41100978bc144]
aws_instance.myinstance-1[2]: Creation complete after 17s [id=i-0a79ab8bc20ca13af]
aws_instance.myinstance-1[3]: Creation complete after 18s [id=i-0e08dc9d9c8c08e61]

Apply complete! Resources: 5 added, 0 changed, 0 destroyed.
```

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[3]: Destroying... [id=i-0e08dc9d9c8c08e61]
aws_instance.myinstance-1[2]: Destroying... [id=i-0a79ab8bc20ca13af]
aws_instance.myinstance-1[0]: Destroying... [id=i-054e41100978bc144]
aws_instance.myinstance-1[1]: Destroying... [id=i-0eddfb96c1a1a5ddd]
aws_instance.myinstance-1[4]: Destroying... [id=i-09d4a96c97598e7a8]
aws_instance.myinstance-1[4]: Still destroying... [id=i-09d4a96c97598e7a8, 10s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 10s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0eddfb96c1a1a5ddd, 10s elapsed]
aws_instance.myinstance-1[3]: Still destroying... [id=i-0e08dc9d9c8c08e61, 10s elapsed]
aws_instance.myinstance-1[2]: Still destroying... [id=i-0a79ab8bc20ca13af, 10s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 20s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-09d4a96c97598e7a8, 20s elapsed]
aws_instance.myinstance-1[2]: Still destroying... [id=i-0a79ab8bc20ca13af, 20s elapsed]
aws_instance.myinstance-1[3]: Still destroying... [id=i-0e08dc9d9c8c08e61, 20s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0eddfb96c1a1a5ddd, 20s elapsed]
aws_instance.myinstance-1[1]: Still destroying... [id=i-0eddfb96c1a1a5ddd, 30s elapsed]
aws_instance.myinstance-1[3]: Still destroying... [id=i-0e08dc9d9c8c08e61, 30s elapsed]
aws_instance.myinstance-1[2]: Still destroying... [id=i-0a79ab8bc20ca13af, 30s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-09d4a96c97598e7a8, 30s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 30s elapsed]
aws_instance.myinstance-1[1]: Destruction complete after 33s
aws_instance.myinstance-1[3]: Still destroying... [id=i-0e08dc9d9c8c08e61, 40s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-09d4a96c97598e7a8, 40s elapsed]
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 40s elapsed]
aws_instance.myinstance-1[2]: Still destroying... [id=i-0a79ab8bc20ca13af, 40s elapsed]
aws_instance.myinstance-1[3]: Destruction complete after 43s
aws_instance.myinstance-1[2]: Destruction complete after 43s
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 50s elapsed]
aws_instance.myinstance-1[4]: Still destroying... [id=i-09d4a96c97598e7a8, 50s elapsed]
aws_instance.myinstance-1[4]: Destruction complete after 54s
aws_instance.myinstance-1[0]: Still destroying... [id=i-054e41100978bc144, 1m0s elapsed]
aws_instance.myinstance-1[0]: Destruction complete after 1m4s

Destroy complete! Resources: 5 destroyed.
```

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.