Lab Exercise 5

Terraform Variables with Command Line Arguments

1. **Create a Terraform Directory:**

```
PS E:\> mkdir terraform-cli-variables


    Directory: E:\


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         06-02-2024     21:34                terraform-cli-variables


PS E:\> cd .\terraform-cli-variables\
PS E:\terraform-cli-variables>
```

2. **Create a Terraform Configuration File:**

variables.tf | main.tf | instance.tf

main.tf

```
terraform {
  required_providers {
    aws = {
      source = "hashicorp/aws"
      version = "5.34.0"
    }
  }
}

provider "aws" {
  region = var.region
  access_key = "AKIAVRUVV37F66GBPTT4"
  secret_key = "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"
}
```

instance.tf

```
resource "aws_instance" "My-Instance" {
    instance_type = var.instance_type
    ami = var.ami
    count = 1
    tags = {
        Name = "EC2-INSTANCE"
    }
}
```

variables.tf

```
variable "ami" {
    description = "AWS ami"
    default = ""
}
variable "region" {
    description = "AWS region"
    default = ""
}
variable "instance_type" {
    description = "AWS instance Type"
    default = ""
}
```

3. Use Command Line Arguments:

```
PS E:\terraform-cli-variables> terraform init

Initializing the backend...

Initializing provider plugins...
- Finding hashicorp/aws versions matching "5.34.0"...
- Installing hashicorp/aws v5.34.0...
- Installed hashicorp/aws v5.34.0 (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 repository
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, other
commands will detect it and remind you to do so if necessary.
```

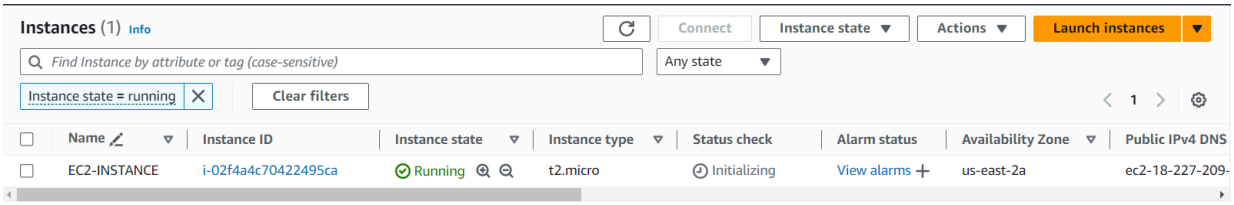
```
PS E:\terraform-cli-variables> terraform apply -var 'ami=ami-05fb0b8c1424f266b' -var 'region=us-east-2' -var 'instance_type=t2.micro'

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_instance.My-Instance[0] will be created
  + resource "aws_instance" "My-Instance" {
      + ami                                  = "ami-05fb0b8c1424f266b"
      + arn                                  = (known after apply)
      + associate_public_ip_address          = (known after apply)
      + availability_zone                    = (known after apply)
      + cpu_core_count                       = (known after apply)
      + cpu_threads_per_core                 = (known after apply)
      + disable_api_stop                     = (known after apply)
      + disable_api_termination              = (known after apply)
      + ebs_optimized                        = (known after apply)
      + get_password_data                    = false
      + host_id                              = (known after apply)
      + host_resource_group_arn              = (known after apply)
      + iam_instance_profile                 = (known after apply)
      + id                                   = (known after apply)
      + instance_initiated_shutdown_behavior = (known after apply)
      + instance_lifecycle                   = (known after apply)
      + instance_state                       = (known after apply)
      + instance_type                        = "t2.micro"
      + ipv6_address_count                   = (known after apply)
      + ipv6_addresses                       = (known after apply)
      + key_name                             = (known after apply)
      + monitoring                           = (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      + placement_partition_number           = (known after apply)
      + primary_network_interface_id         = (known after apply)
      + private_dns                          = (known after apply)
```

4. Verify:



5. Clean Up:

```
PS E:\terraform-cli-variables> terraform destroy -var 'ami=ami-05fb0b8c1424f266b' -var 'region=us-east-2' -var 'instance_type=t2.micro'
aws_instance.My-Instance[0]: Refreshing state... [id=i-02f4a4c70422495ca]

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

Terraform will perform the following actions:

  # aws_instance.My-Instance[0] will be destroyed
  - resource "aws_instance" "My-Instance" {
      - ami                                  = "ami-05fb0b8c1424f266b" -> null
      - arn                                  = "arn:aws:ec2:us-east-2:381492256715:instance/i-02f4a4c70422495ca" -> null
      - associate_public_ip_address          = true -> null
      - availability_zone                    = "us-east-2a" -> null
      - cpu_core_count                       = 1 -> null
      - cpu_threads_per_core                 = 1 -> null
      - disable_api_stop                     = false -> null
      - disable_api_termination              = false -> null
      - ebs_optimized                        = false -> null
      - get_password_data                    = false -> null
      - hibernation                          = false -> null
      - id                                   = "i-02f4a4c70422495ca" -> null
      - instance_initiated_shutdown_behavior = "stop" -> null
      - instance_state                       = "running" -> null
      - instance_type                        = "t2.micro" -> null
      - ipv6_address_count                   = 0 -> null
      - ipv6_addresses                       = [] -> null
      - monitoring                           = false -> null
      - placement_partition_number           = 0 -> null
      - primary_network_interface_id         = "eni-00ff854e87cffe680" -> null
      - private_dns                          = "ip-172-31-11-247.us-east-2.compute.internal" -> null
      - private_ip                           = "172.31.11.247" -> null
      - public_dns                           = "ec2-18-227-209-43.us-east-2.compute.amazonaws.com" -> null
      - public_ip                            = "18.227.209.43" -> null
      - secondary_private_ips                = [] -> null
      - security_groups                      = [
          - "default",
        ] -> null
```