

EXPERIMENT – 5

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Batch – 2 [DevOps Non-Hons]
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Subject – System Provisioning and Configuration Management Lab

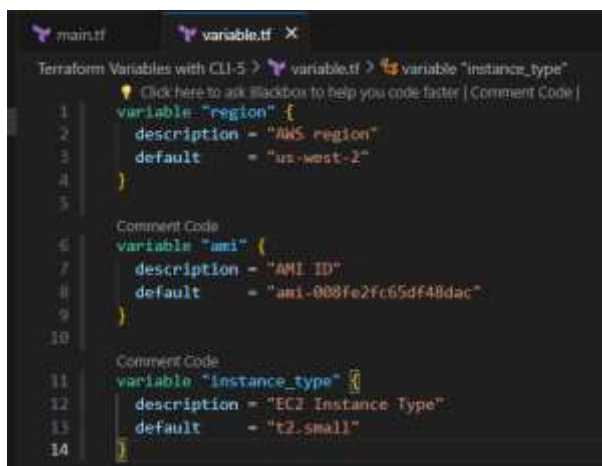
Aim: Terraform Variables with command Line Arguments

1] Create a Terraform Configuration File (main.tf)



```
main.tf Terraform Variables with CLI-5 X main.tf \ variable.tf
Terraform Variables with CLI-5 > main.tf > ...
1 terraform {
2   required_providers {
3     aws = {
4       source = "hashicorp/aws"
5       version = "5.31.0"
6     }
7   }
8 }
9 provider "aws" {
10   region = var.region
11   access_key = "Your IAM access key"
12   secret_key = "Your secret access key"
13 }
14 resource "aws_instance" "Lab5" {
15   ami = var.ami
16   instance_type = var.instance_type
17   tags = {
18     Name = "Tf Var CLI Lab-5"
19   }
20 }
```

2] Create new file name as “variables.tf”



```
main.tf variable.tf X
Terraform Variables with CLI-5 > variable.tf > variable "instance_type"
1 variable "region" {
2   description = "AWS region"
3   default = "us-west-2"
4 }
5
6 variable "ami" {
7   description = "AMI ID"
8   default = "ami-008fe2fc65df48dac"
9 }
10
11 variable "instance_type" {
12   description = "EC2 Instance Type"
13   default = "t2.small"
14 }
```

3] Initialize Terraform using command “terraform init”

```
PS F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts\Terraform Variables -4> terraform init

Initialising 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 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.
```

4] Apply command with command line arguments to set variables values using command “terraform apply -var 'region=us-west-2' -var "ami=ami-008fe2fc65df48dac" -var 'instance_type=t2.small”

```
PS F:\UPES\6th Semester\Sys Provisioning and Cnfg Mgmt\Lab\Terraform-Lab-Scripts\Terraform Variables with CLI-5> terraform apply -var 'region=us-west-2' -var "ami=ami-008fe2fc65df48dac" -var 'instance_type=t2.small'

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.lab5 will be created
+ resource "aws_instance" "lab5" {
  + ami                    = "ami-008fe2fc65df48dac"
  + 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.small"
  + 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)
  + private_ip             = (known after apply)
  + public_dns             = (known after apply)
  + public_ip              = (known after apply)
  + secondary_private_ips  = (known after apply)
  + security_groups        = (known after apply)
  + source_dest_check      = true
  + spot_instance_request_id = (known after apply)
  + subnet_id              = (known after apply)
  + tags                   = {
    + "Name" = "Tf Var CLI Lab-5"
  }
  + tags_all              = {
    + "Name" = "Tf Var CLI Lab-5"
  }
  + tenancy                = (known after apply)
  + user_data              = (known after apply)
  + user_data_base64       = (known after apply)
  + user_data_replace_on_change = false
  + vpc_security_group_ids = (known after apply)
}

Plan: 1 to add, 0 to change, 0 to destroy.

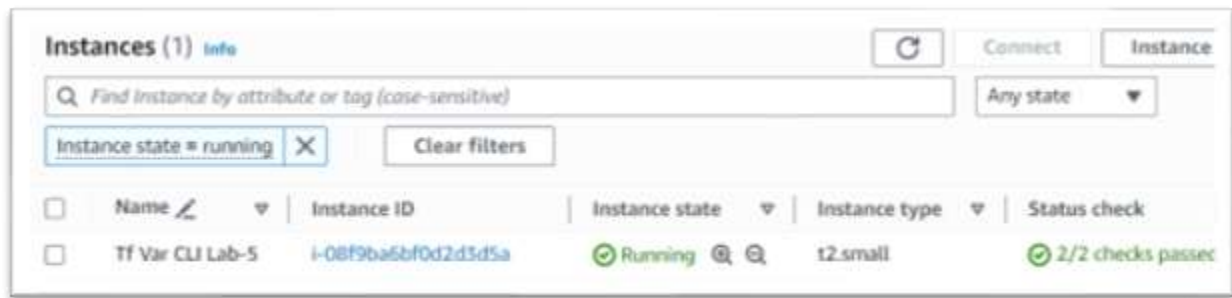
Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

aws_instance.lab5: Creating...
aws_instance.lab5: Still creating... [10s elapsed]
aws_instance.lab5: Still creating... [20s elapsed]
aws_instance.lab5: Still creating... [30s elapsed]
aws_instance.lab5: Creation complete after 37s [id=i-08f9ba6bf8d2d3d5a]

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

5] Verify Resources on AWS Management Console.



6] Cleanup Resources using command “terraform destroy”

```
PS F:\JPES\6th Semester\Sys Provisioning and Config Mgmt\Lab\Terraform-Lab-Scripts\Terraform Variables with CLI-5> terraform destroy -auto-approve
aws_instance.Lab5: Refreshing state... [id=i-08f9ba6bf0d2d3d5a]

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.Lab5 will be destroyed
- resource "aws_instance" "Lab5" {
  ami           = "ami-008fe2fc05df48dac" -> null
  arn           = "arn:aws:ec2:us-west-2:394464380021:instance/i-08f9ba6bf0d2d3d5a" -> null
  associate_public_ip_address = true -> null
  availability_zone            = "us-west-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-08f9ba6bf0d2d3d5a" -> null
  instance_initiated_shutdown_behavior = "stop" -> null
  instance_state              = "running" -> null
  instance_type              = "t2.small" -> null
  ipv6_address_count          = 0 -> null
  ipv6_addresses              = [] -> null
  monitoring                  = false -> null
  placement_partition_number = 0 -> null
  primary_network_interface_id = "eni-03eca780f4317e1cb" -> null
  private_dns                 = "ip-172-31-18-254.us-west-2.compute.internal" -> null
  private_ip                  = "172.31.18.254" -> null
  public_dns                  = "ec2-35-91-130-60.us-west-2.compute.amazonaws.com" -> null
  public_ip                   = "35.91.130.60" -> null
  secondary_private_ips       = [] -> null
  security_groups             = [
    "default",
  ]
}
```

```
- root_block_device {
  - delete_on_termination = true -> null
  - device_name           = "/dev/sda1" -> null
  - encrypted             = false -> null
  - iops                  = 100 -> null
  - tags                  = {} -> null
  - throughput            = 0 -> null
  - volume_id             = "vol-0fd901a725d640096" -> null
  - volume_size           = 8 -> null
  - volume_type           = "gp2" -> null
}

Plan: 0 to add, 0 to change, 1 to destroy.
aws_instance.Lab5: Destroying... [id=i-08f9ba6bf0d2d3d5a]
aws_instance.Lab5: Still destroying... [id=i-08f9ba6bf0d2d3d5a, 10s elapsed]
aws_instance.Lab5: Still destroying... [id=i-08f9ba6bf0d2d3d5a, 21s elapsed]
aws_instance.Lab5: Still destroying... [id=i-08f9ba6bf0d2d3d5a, 31s elapsed]
aws_instance.Lab5: Destruction complete after 33s

Destroy complete! Resources: 1 destroyed.
```