LAB-6
Terraform Multiple tfvars Files

Step 1: Create dev.tfvars and prod.tfvars

main.tf

```
terraform {
  required_providers {
    aws = {
      source = "hashicorp/aws"
      version = "5.32.1"
    }
  }
}
provider"aws"{
    region = "ap-south-1"
    access_key = "[redacted]"
    secret_key = "[redacted]"
}
```

instance.tf

```
resource"aws_instance" "lab4-1"{
    instance_type = var.instance_typ
    ami = var.ami_id
    count = 1
    tags = {
        Name = "lab4-b3-2"
    }
}
```

dev.tfvars

```
instance_typ = "t2.micro"
ami_id = "[redacted]"
```

main.tf | instance.tf | var.tf | dev.tfvars

dev.tfvars > ami_id

```
1  instance_typ = "t2.micro"
2  ami_id = "[redacted]"
```

Step 2: Now run terraform cycle

```
arnim_taliyan@device:~/Desktop/terraform$ terraform init

Initializing the backend...

Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v5.32.1

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.
arnim_taliyan@device:~/Desktop/terraform$

arnim_taliyan@device:~/Desktop/terraform$ terraform validate
Success! The configuration is valid.
```

Step 3: To run terraform plan we need to use -var-file=dev.tfvars or -var-file=prod.tfvars

```
arnim_taliyan@device:~/Desktop/terraform$ terraform plan -var-file=dev.tfvars

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.lab4-1[0] will be created
  + resource "aws_instance" "lab4-1" {
      + ami                                  = "ami-03f4878755434977f"
      + 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)
```

```
arnim_taliyan@device:~/Desktop/terraform$ terraform plan -var-file=prod.tfvars
aws_instance.lab4-1[0]: Refreshing state... [id=i-0aab56cc725a3d034]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
-/+ destroy and then create replacement

Terraform will perform the following actions:

  # aws_instance.lab4-1[0] must be replaced
-/+ resource "aws_instance" "lab4-1" {
      ~ ami                                  = "ami-03f4878755434977f" -> "ami-05a5bb48beb785bf1" # forces replacement
      ~ arn                                  = "arn:aws:ec2:ap-south-1:533266967718:instance/i-0aab56cc725a3d034" -> (known after apply)
      ~ associate_public_ip_address          = true -> (known after apply)
      ~ availability_zone                    = "ap-south-1a" -> (known after apply)
      ~ cpu_core_count                       = 1 -> (known after apply)
      ~ cpu_threads_per_core                 = 1 -> (known after apply)
      ~ disable_api_stop                     = false -> (known after apply)
      ~ disable_api_termination              = false -> (known after apply)
      ~ ebs_optimized                        = false -> (known after apply)
      - hibernation                          = false -> null
      + host_id                              = (known after apply)
      + host_resource_group_arn              = (known after apply)
      + iam_instance_profile                 = (known after apply)
      ~ id                                   = "i-0aab56cc725a3d034" -> (known after apply)
      ~ instance_initiated_shutdown_behavior = "stop" -> (known after apply)
      + instance_lifecycle                   = (known after apply)
      ~ instance_state                       = "running" -> (known after apply)
      ~ ipv6_address_count                   = 0 -> (known after apply)
      ~ ipv6_addresses                       = [] -> (known after apply)
      + key_name                             = (known after apply)
      ~ monitoring                           = false -> (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      ~ placement_partition_number           = 0 -> (known after apply)
      ~ primary_network_interface_id         = "eni-0a551d62455cf7a55" -> (known after apply)
      ~ private_dns                          = "ip-172-31-41-163.ap-south-1.compute.internal" -> (known after apply)
```

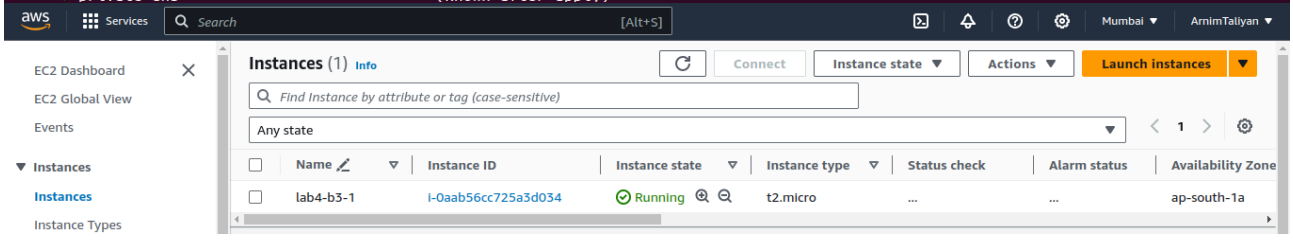
Step 4: To run terraform apply and destroy we need to use -var-file=dev.tfvars or -var-file=prod.tfvars

```
arnim_taliyan@device:~/Desktop/terraform$ terraform apply -var-file=dev.tfvars

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.lab4-1[0] will be created
  + resource "aws_instance" "lab4-1" {
      + ami                                  = "ami-03f4878755434977f"
      + 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)
```

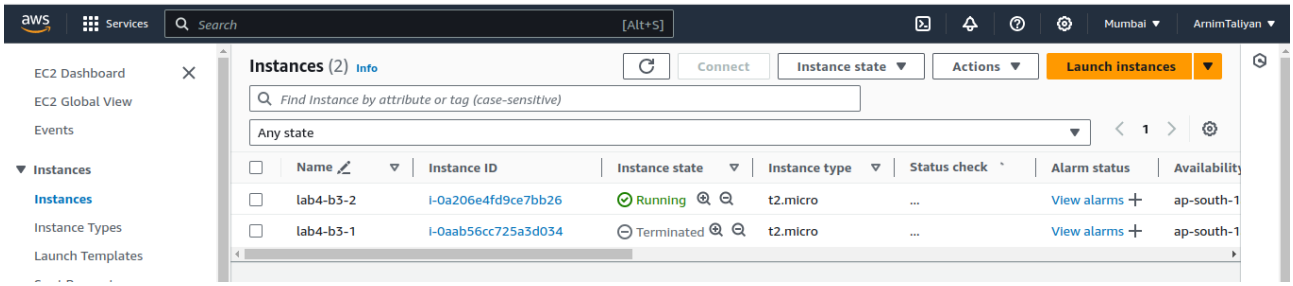


```
arnim_taliyan@device:~/Desktop/terraform$ terraform apply -var-file=prod.tfvars
aws_instance.lab4-1[0]: Refreshing state... [id=i-0aab56cc725a3d034]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
-/+ destroy and then create replacement

Terraform will perform the following actions:

  # aws_instance.lab4-1[0] must be replaced
-/+ resource "aws_instance" "lab4-1" {
      ~ ami                                  = "ami-03f4878755434977f" -> "ami-05a5bb48beb785bf1" # forces replacement
      ~ arn                                  = "arn:aws:ec2:ap-south-1:533266967718:instance/i-0aab56cc725a3d034" -> (known after apply)
      ~ associate_public_ip_address          = true -> (known after apply)
      ~ availability_zone                    = "ap-south-1a" -> (known after apply)
      ~ cpu_core_count                       = 1 -> (known after apply)
      ~ cpu_threads_per_core                 = 1 -> (known after apply)
      ~ disable_api_stop                     = false -> (known after apply)
      ~ disable_api_termination              = false -> (known after apply)
      ~ ebs_optimized                        = false -> (known after apply)
      - hibernation                          = false -> null
      + host_id                              = (known after apply)
      + host_resource_group_arn              = (known after apply)
      + iam_instance_profile                 = (known after apply)
      ~ id                                   = "i-0aab56cc725a3d034" -> (known after apply)
      ~ instance_initiated_shutdown_behavior = "stop" -> (known after apply)
      + instance_lifecycle                   = (known after apply)
      ~ instance_state                       = "running" -> (known after apply)
      ~ ipv6_address_count                   = 0 -> (known after apply)
      ~ ipv6_addresses                       = [] -> (known after apply)
      + key_name                             = (known after apply)
      ~ monitoring                           = false -> (known after apply)
      + outpost_arn                          = (known after apply)
      + password_data                        = (known after apply)
      + placement_group                      = (known after apply)
      ~ placement_partition_number           = 0 -> (known after apply)
      ~ primary_network_interface_id         = "eni-0a551d62455cf7a55" -> (known after apply)
      ~ private_dns                          = "ip-172-31-41-163.ap-south-1.compute.internal" -> (known after apply)
```

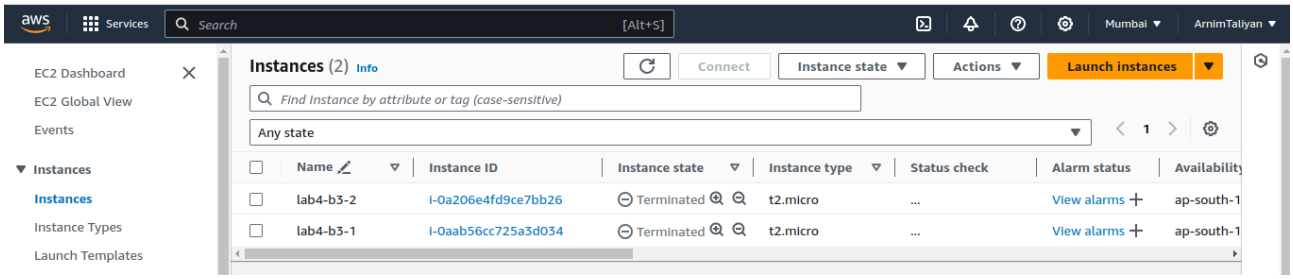



```
arnim_taliyan@device:~/Desktop/terraform$ terraform destroy -var-file=prod.tfvars
aws_instance.lab4-1[0]: Refreshing state... [id=i-0a206e4fd9ce7bb26]

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.lab4-1[0] will be destroyed
  - resource "aws_instance" "lab4-1" {
      - ami                                  = "ami-05a5bb48beb785bf1" -> null
      - arn                                  = "arn:aws:ec2:ap-south-1:533266967718:instance/i-0a206e4fd9ce7bb26" -> null
      - associate_public_ip_address          = true -> null
      - availability_zone                    = "ap-south-1a" -> 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-0a206e4fd9ce7bb26" -> 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-0fcdbabc3cf17a8d8" -> null
      - private_dns                          = "ip-172-31-33-94.ap-south-1.compute.internal" -> null
      - private_ip                           = "172.31.33.94" -> null
      - public_dns                           = "ec2-13-233-216-184.ap-south-1.compute.amazonaws.com" -> null
      - public_ip                            = "13.233.216.184" -> null
      - secondary_private_ips                = [] -> null
      - security_groups                      = [
          - "default",
        ] -> null
```



When we run terraform apply -var-file=prod.tfvars previously created terraform apply -var-file=dev.tfvars automatically destroy.