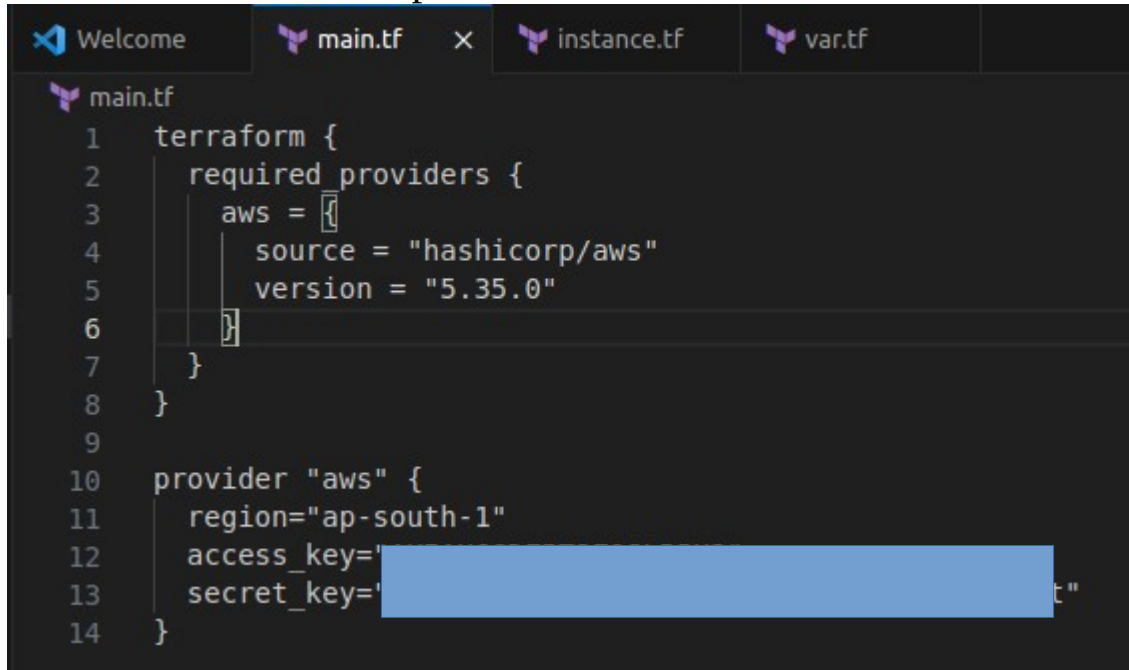


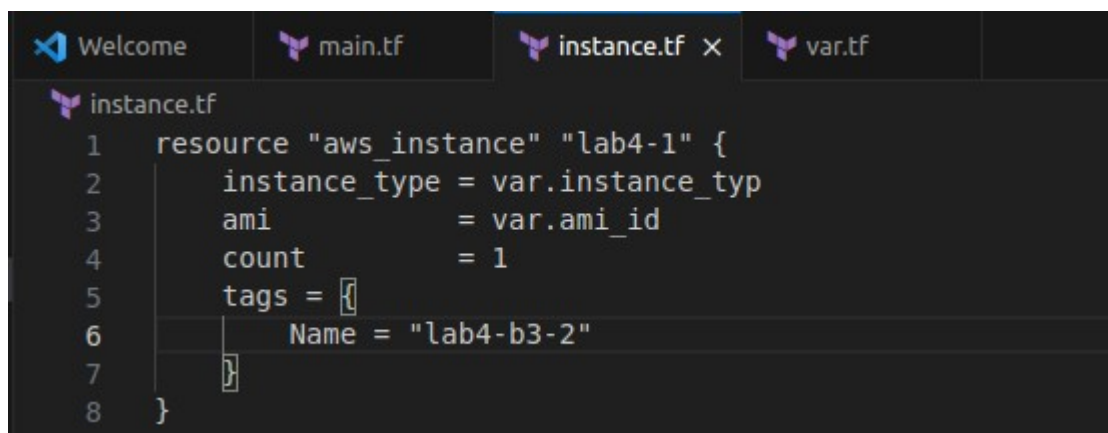
LAB-6

Terraform Multiple tfvars Files

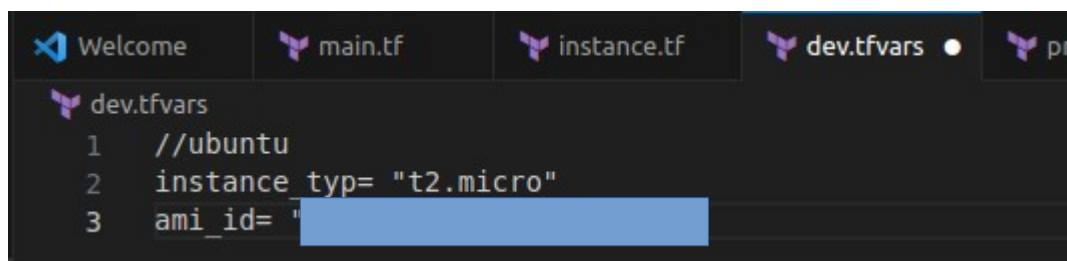
Step 1: Create dev.tfvars and prod.tfvars

A screenshot of the Visual Studio Code editor with the file explorer showing 'main.tf', 'instance.tf', and 'var.tf'. The 'main.tf' file is open and contains Terraform configuration for the AWS provider. The code defines required providers for AWS with source 'hashicorp/aws' and version '5.35.0'. It also defines the 'aws' provider with region 'ap-south-1', an access key, and a secret key (the latter is redacted with a blue box).

```
1 terraform {
2   required_providers {
3     aws = {
4       source = "hashicorp/aws"
5       version = "5.35.0"
6     }
7   }
8 }
9
10 provider "aws" {
11   region="ap-south-1"
12   access_key="
13   secret_key="
14 }
```

A screenshot of the Visual Studio Code editor with the file explorer showing 'main.tf', 'instance.tf', and 'var.tf'. The 'instance.tf' file is open and contains Terraform configuration for an AWS instance. It defines a resource 'aws_instance' named 'lab4-1' with attributes for instance_type, ami, count, tags, and Name. The 'tags' attribute is a map containing 'Name' with value 'lab4-b3-2'. The 'instance_type' and 'ami' attributes are referenced from variables in 'var.tf'.

```
1 resource "aws_instance" "lab4-1" {
2   instance_type = var.instance_typ
3   ami          = var.ami_id
4   count        = 1
5   tags = {
6     Name = "lab4-b3-2"
7   }
8 }
```

A screenshot of the Visual Studio Code editor with the file explorer showing 'main.tf', 'instance.tf', 'dev.tfvars', and 'prod.tfvars'. The 'dev.tfvars' file is open and contains variable definitions for the development environment. It sets 'instance_typ' to 't2.micro' and 'ami_id' to a value (redacted with a blue box).

```
1 //ubuntu
2 instance_typ= "t2.micro"
3 ami_id= "
```

```
Welcome  main.tf  instance.tf  dev.tfvars  prod.tfvars
prod.tfvars
1 //windows
2 instance_type="t2.micro"
3 ami_id="a
```

Step 2: Now run terraform cycle

```
~/terraform v1.7.2default as
X terraform init

Initializing the backend...

Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v5.35.0

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.
```

```
~/terraform v1.7.2default as
→ 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

```
~/terraform v1.7.2default as took 49s
X 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)
```

```
~/terraform v1.7.2default as
→ terraform plan -var-file=prod.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-00d59001b2335bdea"
  + 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)
  + 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" = "lab4-b3-2"
  }
```

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

```
~/Documents/SPCH/Terraform v1.7.1default as took 5s
21% → terraform plan -var-file=prod.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-00d59001b2335bdea"
  + 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)
  + 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" = "lab4-b3-2"
  }
```

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	lab4-b3-2	i-06851ce163d29021f	Terminated	t2.micro	-	View alarms	ap-south-1a	-	-	-
<input type="checkbox"/>	lab4-b3-2	i-05d8371df05c1b505	Running	t2.micro	Initializing	View alarms	ap-south-1a	ec2-13-234-18-24.ap-s...	13.234.18.24	-
<input type="checkbox"/>	lab4-b3-2	i-0451a317f765d091a	Terminated	t2.micro	-	View alarms	ap-south-1a	-	-	-


```
~/Documents/SPCM/Terraform v1.7.1default as took 37s
20% → terraform apply -var-file=prod.tfvars
aws_instance.lab4-1[0]: Refreshing state... [id=i-06851ce163d29021f]
```

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-00d59001b2335bdea" # forces replacement
  ~ arn                        = "arn:aws:ec2:ap-south-1:698194348131:instance/i-06851ce163d29021f" -> (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-06851ce163d29021f" -> (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-0c81b3fd4d3d22579" -> (known after apply)
  ~ private_dns                 = "ip-172.31.42.61.ap-south-1.compute.internal" -> (known after apply)
  ~ private_ip                  = "172.31.42.61" -> (known after apply)
  ~ public_dns                  = "ec2-35.154.246.64.ap-south-1.compute.amazonaws.com" -> (known after apply)
  ~ public_ip                   = "35.154.246.64" -> (known after apply)
  ~ secondary_private_ips       = [] -> (known after apply)
  ~ security_groups             = [
    ~ "default",
  ] -> (known after apply)
  + spot_instance_request_id    = (known after apply)
  ~ subnet_id                   = "subnet-0d78b64e981bd0f9d" -> (known after apply)
```

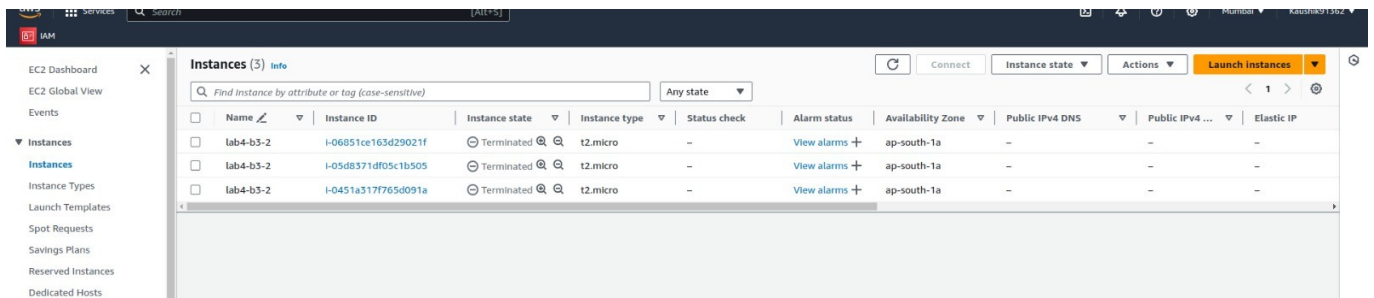
Instances (3) Info									
Find Instance by attribute or tag (case-sensitive)									
	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
<input type="checkbox"/>	lab4-b3-2	i-06851ce163d29021f	Terminated	t2.micro	-	View alarms +	ap-south-1a	-	-
<input type="checkbox"/>	lab4-b3-2	i-05d8371df05c1b505	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	ec2-13.234-18-24.ap-s...	13.234.18.24
<input type="checkbox"/>	lab4-b3-2	i-0451a317f765d091a	Terminated	t2.micro	-	View alarms +	ap-south-1a	-	-

```
~/Documents/SPCM/Terraform v1.7.1default as took 1m23s
26% → terraform destroy -var-file=prod.tfvars
aws_instance.lab4-1[0]: Refreshing state... [id=i-05d8371df05c1b505]
```

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-00d59001b2335bdea" -> null
  ~ arn                        = "arn:aws:ec2:ap-south-1:698194348131:instance/i-05d8371df05c1b505" -> 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-05d8371df05c1b505" -> 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-01f6f383650a264df" -> null
```



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