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Devops B2

Lab Exercise 8– Terraform Multiple tfvars Files

Objective:

Learn how to use multiple tfvars files in Terraform for different environments.

Prerequisites:

- Terraform installed on your machine.
- Basic knowledge of Terraform configuration and variables.

Steps:

1. Create a Terraform Directory:

```
mkdir terraform-multiple-tfvars
cd terraform-multiple-tfvars
```

- Create Terraform Configuration Files:
- Create a file named main.tf:

# main.tf

```
provider "aws" {
  region = var.region
}

resource "aws_instance" "example" {
  ami           = var.ami
  instance_type = var.instance_type
}
```

- Create a file named variables.tf:

# variables.tf

```
variable "ami" {
  type = string
}

variable "instance_ty" {
  type = string
}
```

2. Create Multiple tfvars Files:

- Create a file named dev.tfvars:

# dev.tfvars

```
ami           = "ami-0123456789abcdef0"
instance_type = "t2.micro"
```

- Create a file named prod.tfvars:

# prod.tfvars

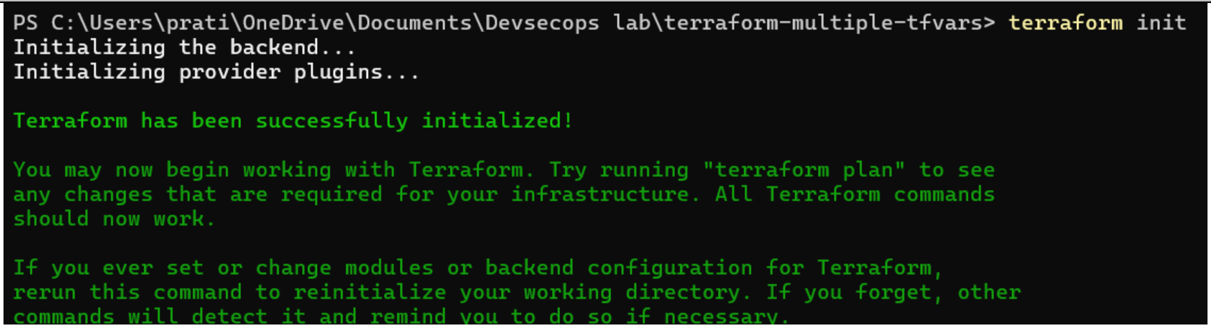
```
ami           = "ami-9876543210fedcba0"
instance_type = "t2.large"
```

- In these files, provide values for the variables based on the environments.

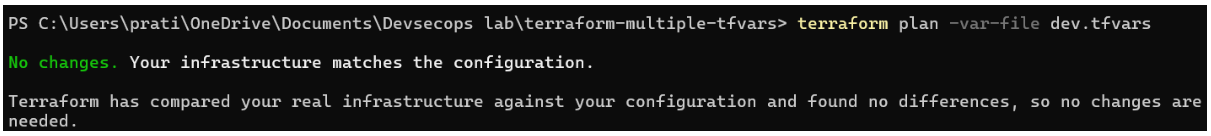
3. Initialize and Apply for Dev Environment:

- Run the following Terraform commands to initialize and apply the configuration for the dev environment:

```
terraform init
terraform apply -var-file=dev.tfvars
```



```
PS C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform init
Initializing the backend...
Initializing provider plugins...

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.
```

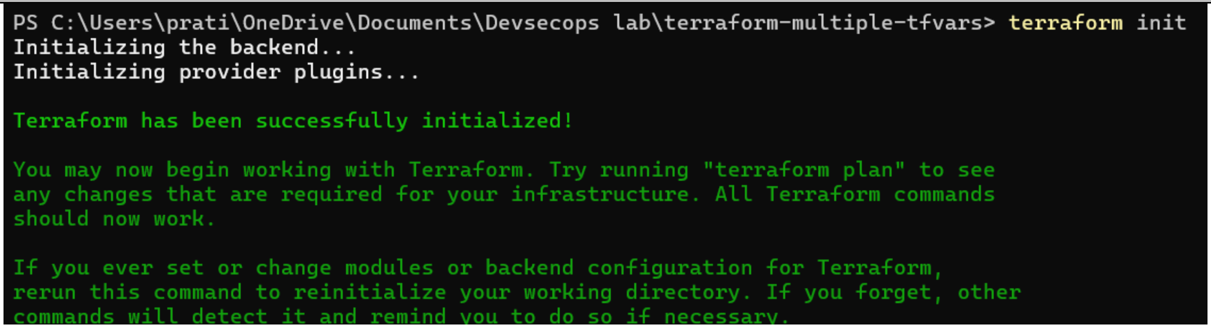


```
PS C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform plan -var-file dev.tfvars

No changes. Your infrastructure matches the configuration.

Terraform has compared your real infrastructure against your configuration and found no differences, so no changes are
needed.
```

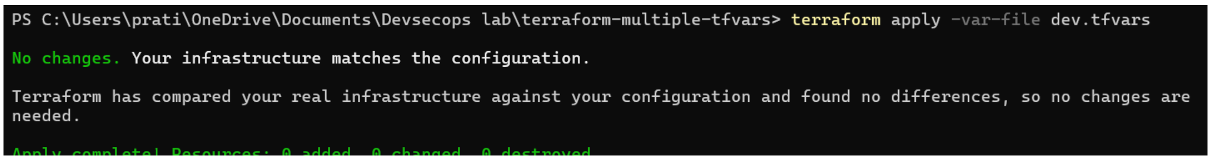
4. Initialize and Apply for Prod Environment:

- Run the following Terraform commands to initialize and apply the configuration for the prod environment:

```
terraform init
terraform apply -var-file=prod.tfvars
```



```
PS C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform init
Initializing the backend...
Initializing provider plugins...

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 C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform apply -var-file dev.tfvars

No changes. Your infrastructure matches the configuration.

Terraform has compared your real infrastructure against your configuration and found no differences, so no changes are
needed.

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

5. Test and Verify:

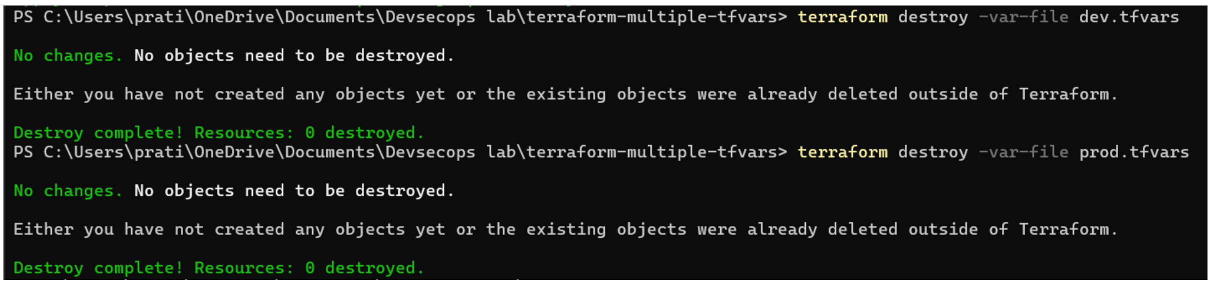
- Observe how different tfvars files are used to set variable values for different environments during the apply process.
- Access the AWS Management Console or use the AWS CLI to verify the creation of resources in the specified regions and instance types.

6. Clean Up:

- After testing, you can clean up resources:

```
terraform destroy -var-file=dev.tfvars
terraform destroy -var-file=prod.tfvars
```

- Confirm the destruction by typing yes.



```
PS C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform destroy -var-file dev.tfvars

No changes. No objects need to be destroyed.

Either you have not created any objects yet or the existing objects were already deleted outside of Terraform.

Destroy complete! Resources: 0 destroyed.
PS C:\Users\prati\OneDrive\Documents\Devsecops lab\terraform-multiple-tfvars> terraform destroy -var-file prod.tfvars

No changes. No objects need to be destroyed.

Either you have not created any objects yet or the existing objects were already deleted outside of Terraform.

Destroy complete! Resources: 0 destroyed.
```

7. Conclusion:

This lab exercise demonstrates how to use multiple tfvars files in Terraform to manage variable values for different environments. It allows you to maintain separate configuration files for different environments, making it easier to manage and maintain your infrastructure code. Experiment with different values in the dev.tfvars and prod.tfvars files to observe how they impact the infrastructure provisioning process for each environment.