Terraform Workspaces - Step by Step Lab

This lab guide will walk you through using Terraform Workspaces to manage multiple environments (dev, staging, prod) with the same configuration files.

Step 1: Setup Project

Create a new project folder and move into it.

```
mkdir tf-workspace-demo
cd tf-workspace-demo
```

Step 2: Create main.tf

Create a file named main.tf with the following content:

```
provider "aws" {
  region = "us-east-1"
}

resource "aws_s3_bucket" "demo" {
  bucket = "tf-ws-demo-${terraform.workspace}"
  acl    = "private"
}
```

Step 3: Initialize Terraform

Initialize Terraform in the project directory.

```
terraform init
```

Step 4: Check Current Workspace

Check which workspace you are currently in.

```
terraform workspace show
```

Step 5: List Workspaces

List all available workspaces.

```
terraform workspace list
```

Step 6: Create Workspaces

Create new workspaces for dev, staging, and prod.

```
terraform workspace new dev
terraform workspace new staging
terraform workspace new prod
```

Step 7: Deploy in dev

Switch to dev workspace and apply configuration.

```
terraform workspace select dev
terraform apply -auto-approve
```

Step 8: Deploy in prod

Switch to prod workspace and apply configuration.
```
terraform workspace select prod
terraform apply -auto-approve
```

Step 9: Verify State Isolation

Check separate state files created for each workspace.
```
ls .terraform/terraform.tfstate.d/
```

Step 10: Cleanup

Destroy resources from each workspace when no longer needed.
```
terraform workspace select dev
terraform destroy -auto-approve

terraform workspace select prod
terraform destroy -auto-approve
```