**Objective**: Provision a simple web server infrastructure on AWS using Terraform.

**Requirements**:

1. AWS account with access keys configured.
2. Terraform installed on your local machine.

**Steps**:

1. **Setup AWS Credentials**: Make sure you have your AWS access key ID and secret access key. You can set them as environment variables or configure them in the **~/.aws/credentials** file.
2. **Initialize Terraform Configuration**: Create a new directory for your Terraform configuration. Inside this directory, create a file named **main.tf** where you'll define your infrastructure.
3. **Define Provider**: In your **main.tf** file, define the AWS provider. This tells Terraform which cloud provider to use.

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provider "aws" { region = "us-east-1" // Change to your preferred region }

1. **Create Resources**: Declare the resources you want to provision. For this exercise, let's create a simple EC2 instance running a basic web server.

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resource "aws\_instance" "web\_server" { ami = "ami-0c55b159cbfafe1f0" // Amazon Linux AMI ID instance\_type = "t2.micro" tags = { Name = "WebServer" } }

1. **Plan**: Run **terraform plan** in your terminal to see what changes Terraform will make to your infrastructure.
2. **Apply**: If the plan looks good, apply the changes by running **terraform apply**. Terraform will prompt you to confirm the changes before applying them.
3. **Access the Web Server**: Once Terraform has finished applying the changes, you can access your web server by using its public IP address. You can find the public IP address in the output of **terraform apply**.
4. **Destroy**: After you're done experimenting, run **terraform destroy** to tear down the resources created by Terraform. This will ensure that you don't continue to incur charges for resources you no longer need.

That's it! This exercise should give you a basic understanding of how to use Terraform to provision infrastructure on AWS. Feel free to explore more advanced features and configurations as you become more comfortable with the tool.

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