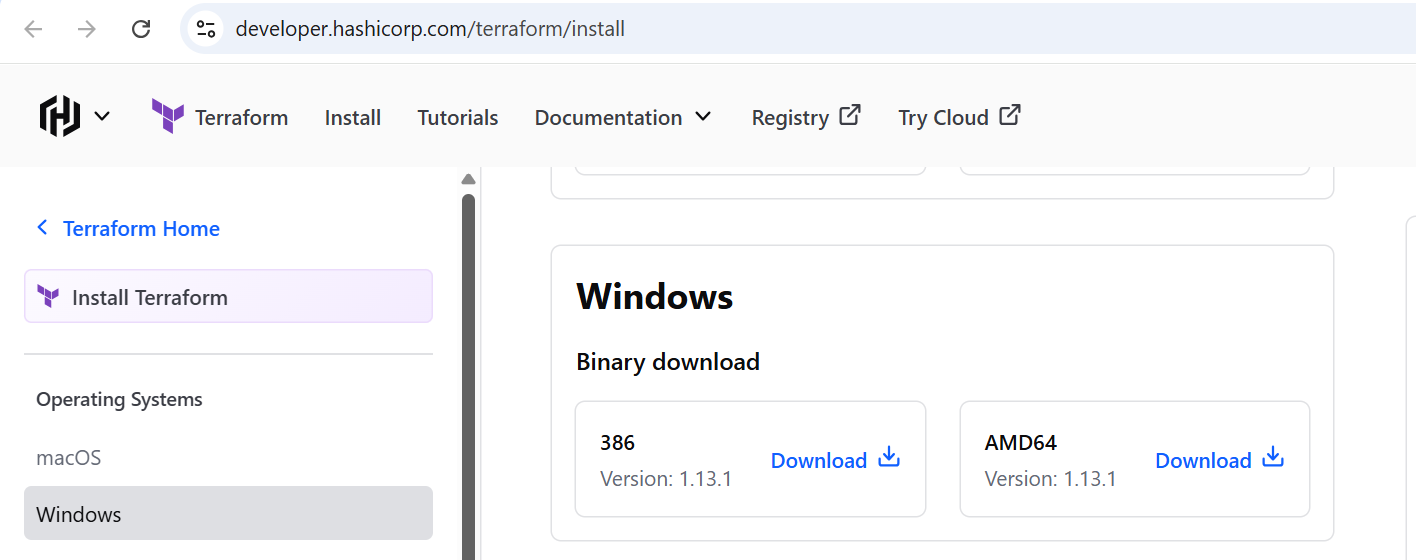
**Terraform-01**

1. **Install Terraform on your PC**

**Step 1: Download Terraform**

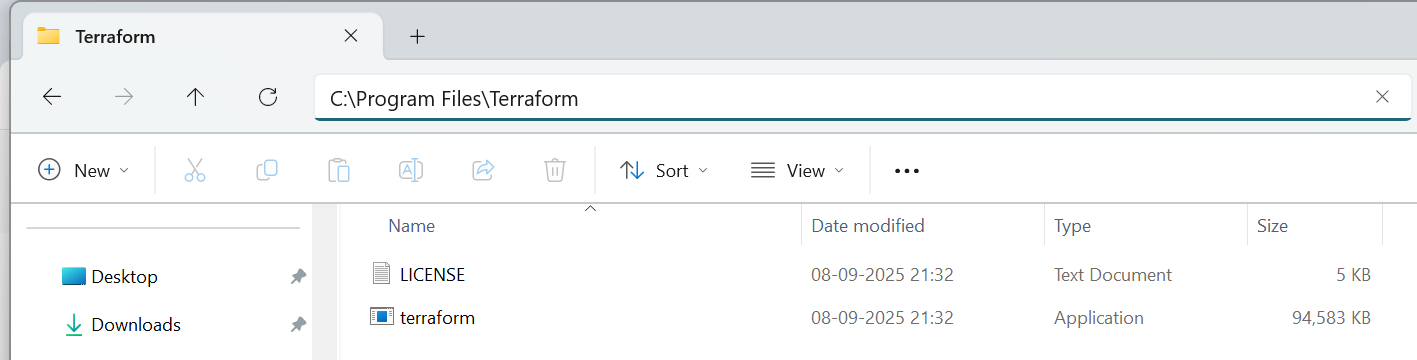
1. Go to the official Terraform download page:  
    https://developer.hashicorp.com/terraform/downloads
2. Under **Windows**, download the **64-bit ZIP file**.  
   (It will be something like terraform\_1.x.x\_windows\_amd64.zip)



**Step 2: Extract the Terraform Executable**

1. Right-click the downloaded .zip file → **Extract All**.
2. Inside, you will see a single file: terraform.exe.
3. Move terraform.exe to:
4. C:\Program Files\Terraform

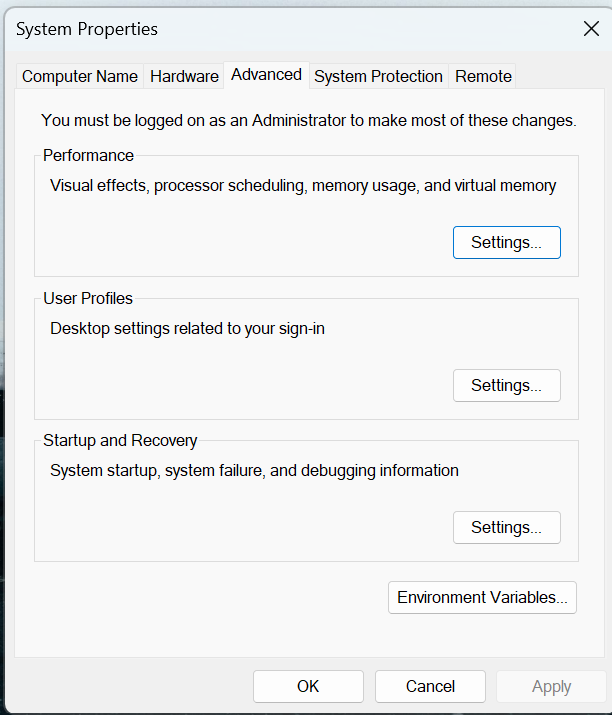
*(Create this folder manually if it doesn’t exist.)*



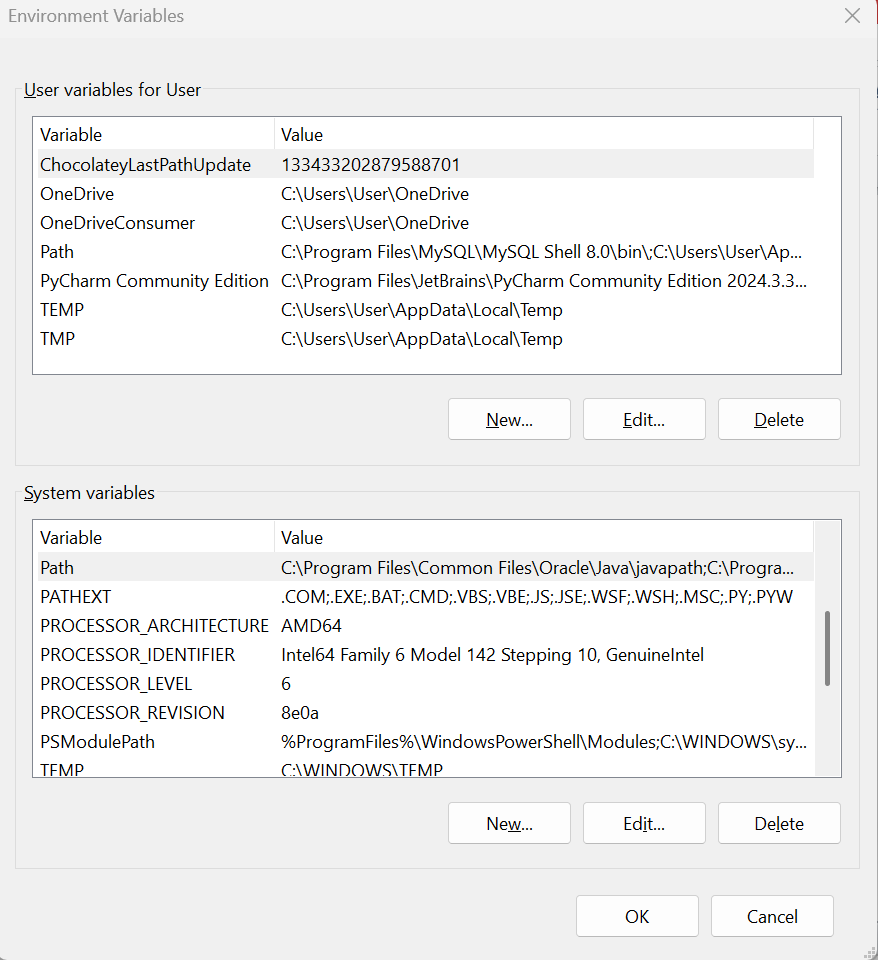
**Step 3: Add Terraform to System PATH**

This makes Terraform available from **anywhere in Command Prompt or PowerShell**.

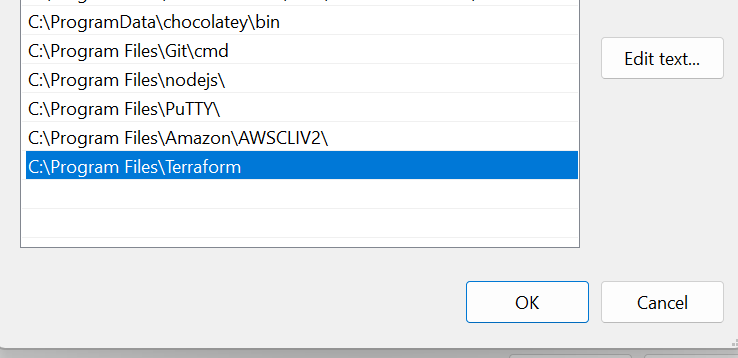
1. Go to search and check for Edit Environment Variable
2. Go to **Advanced** tab → click **Environment Variables**.



1. In **System variables**, scroll and select **Path** → click **Edit**.



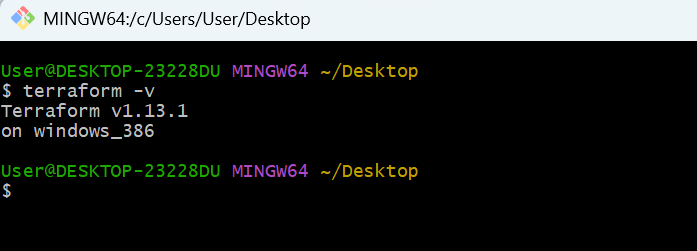
1. Click **New** and add:
2. C:\Program Files\Terraform



1. Click **OK** on all windows to save.

**Step 4: Verify Installation**

1. Open Git bash and
2. Run: and check the version of terraform
3. terraform -version
4. You should see Terraform’s installed version (e.g., Terraform v1.13.1)

****

1. **Execute all the templates shown in video.**

**Step 1: Create Your First Terraform Project**

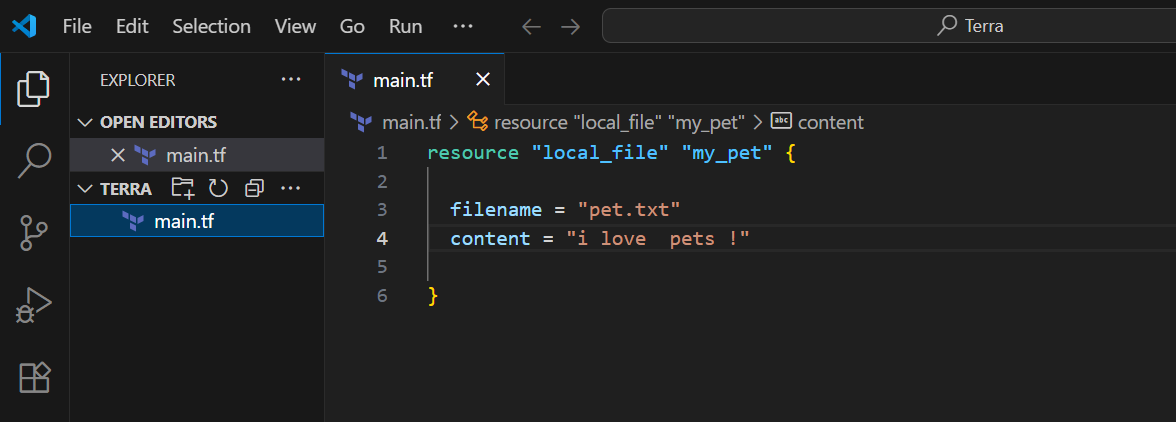
Make a new folder for your project (example: terra).

And open the folder it in the vs code

Inside the folder , create your first Terraform file:

In VS Code → **File → New File → save as main.tf**.

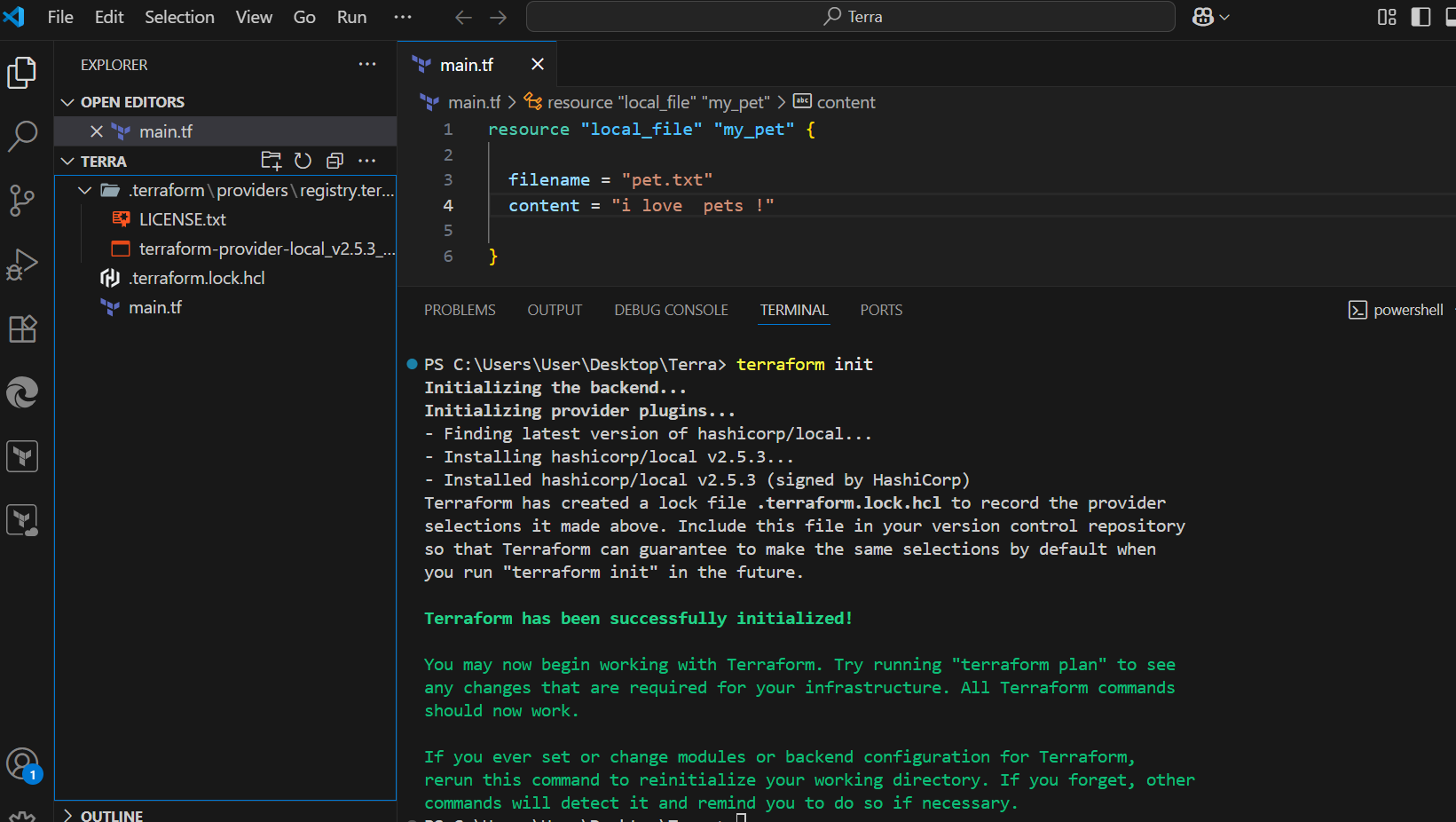
Write a smaple content in it



**Step 2: Run Terraform Commands**

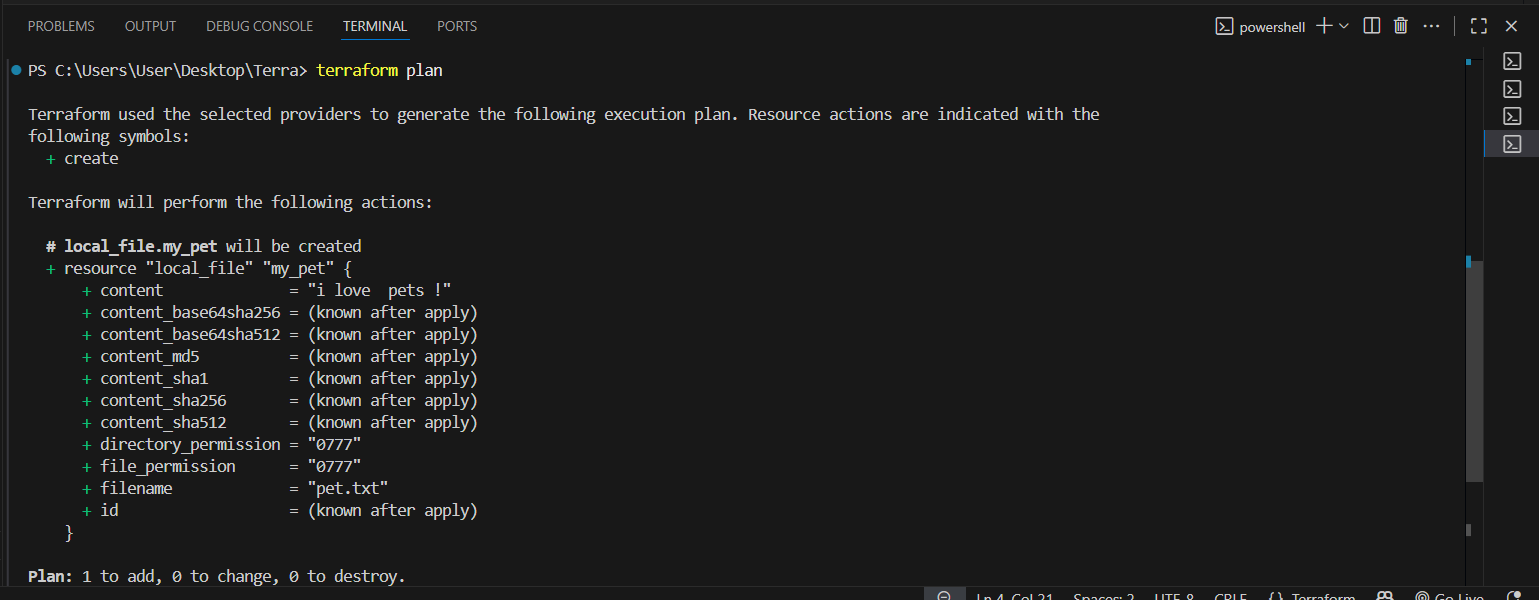
Initialize Terraform

**terraform init**

****

See what will be created:

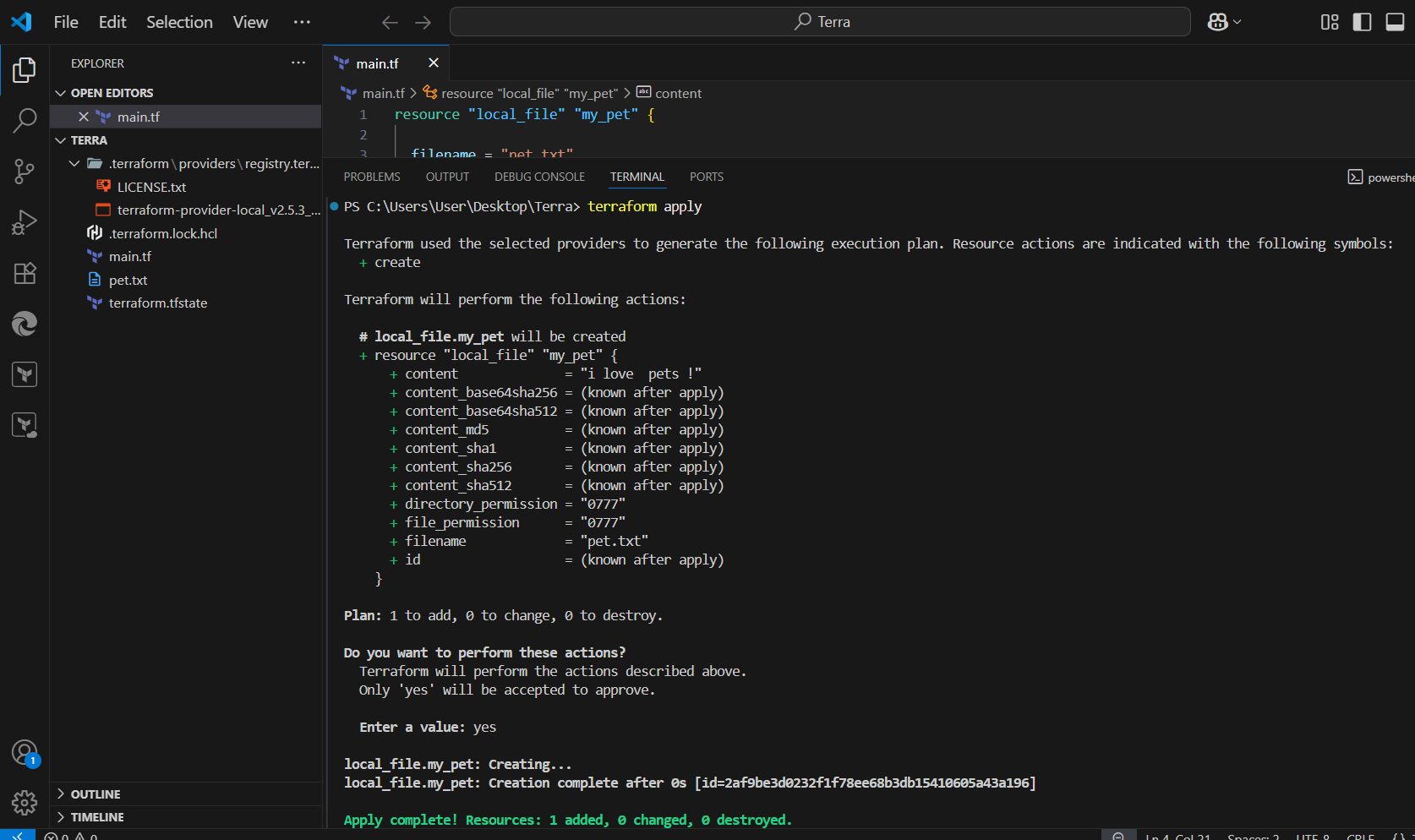
**terraform plan**

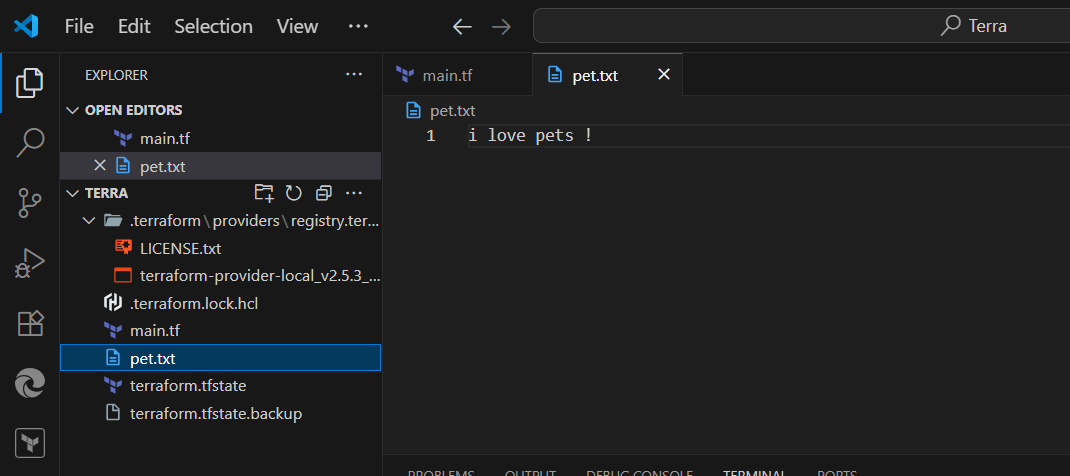
****

Apply changes (actually create resources):

**terraform apply**

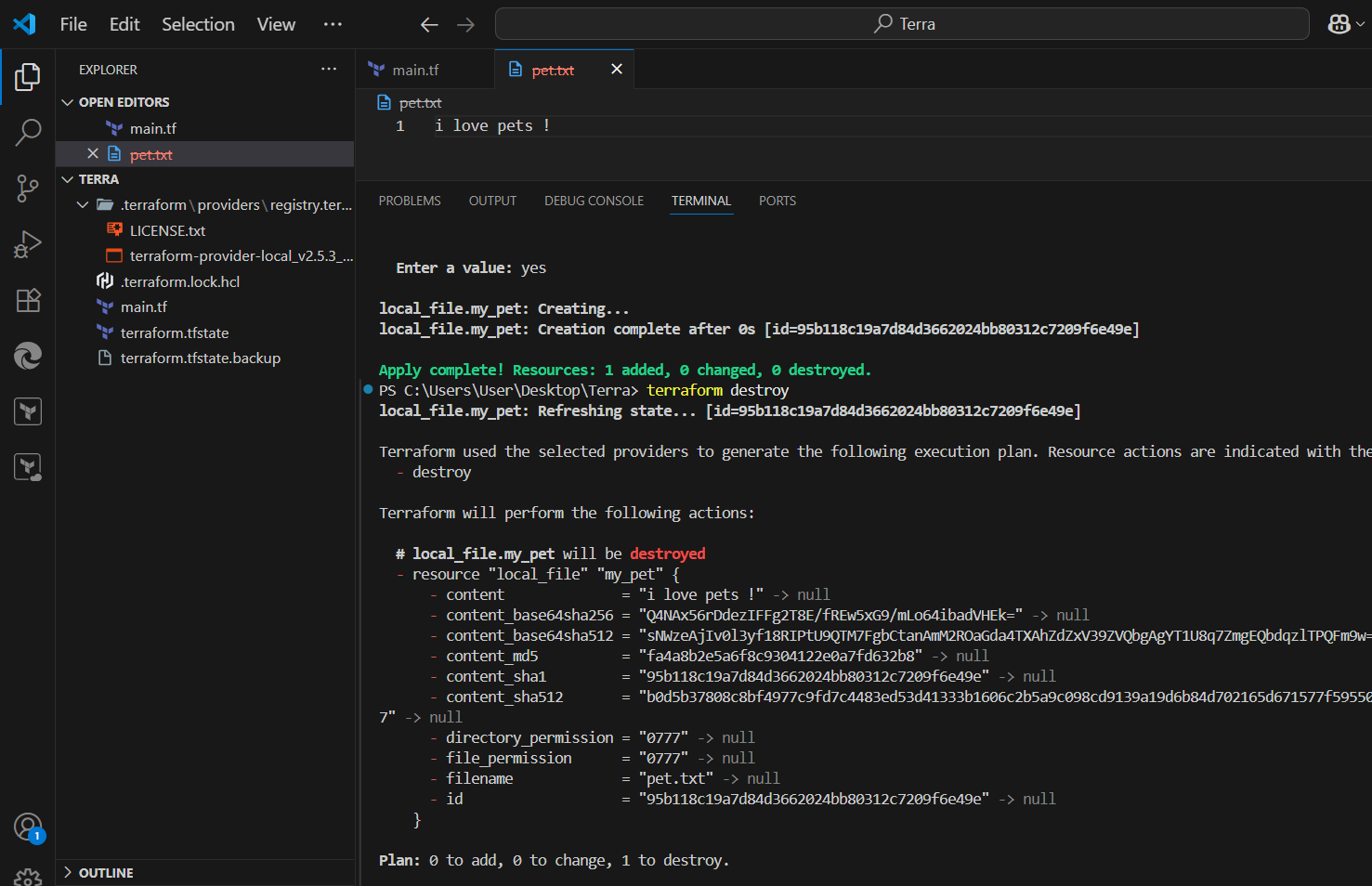
Type yes when asked.

****

****

Destroy resources when finished:

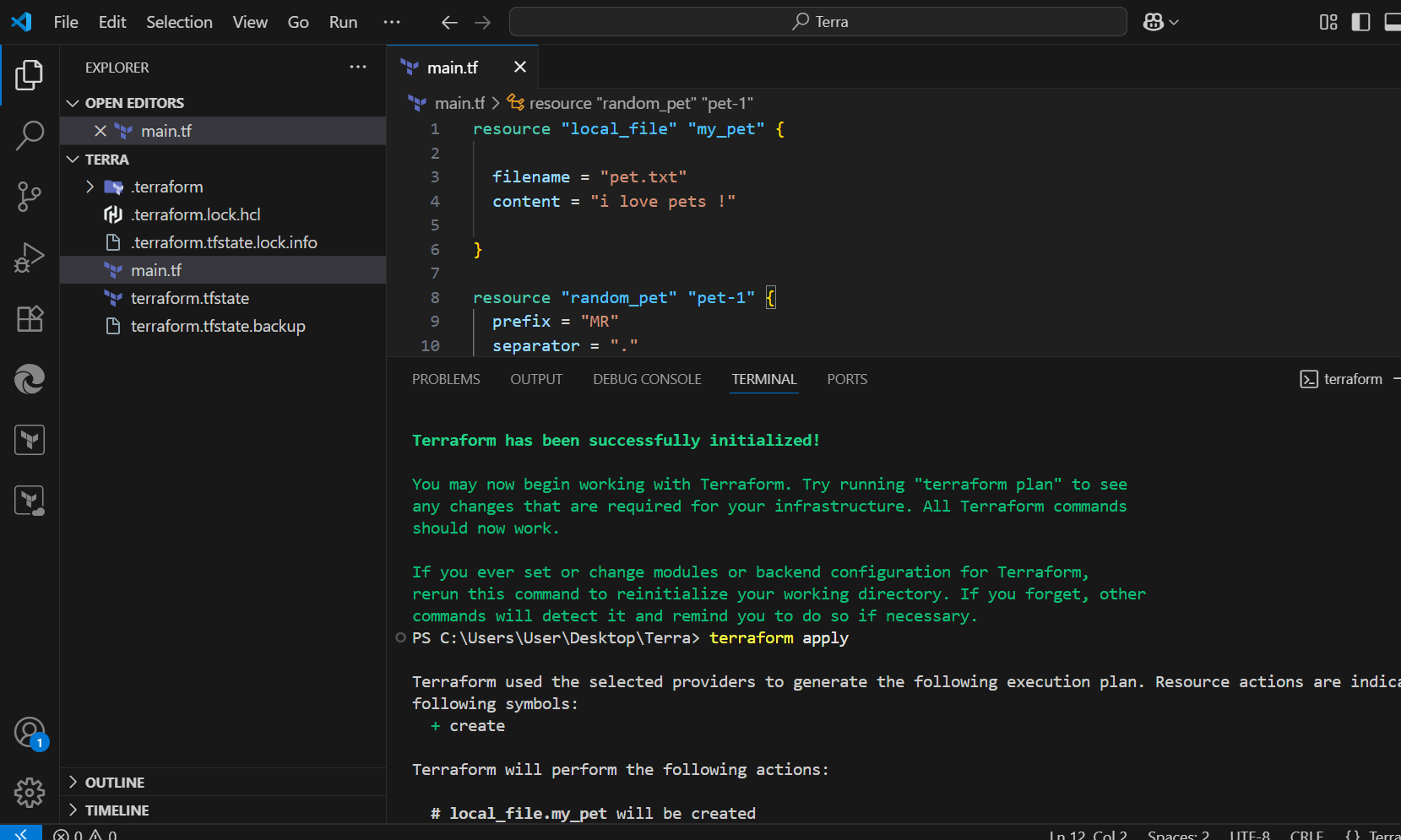
**terraform destroy**

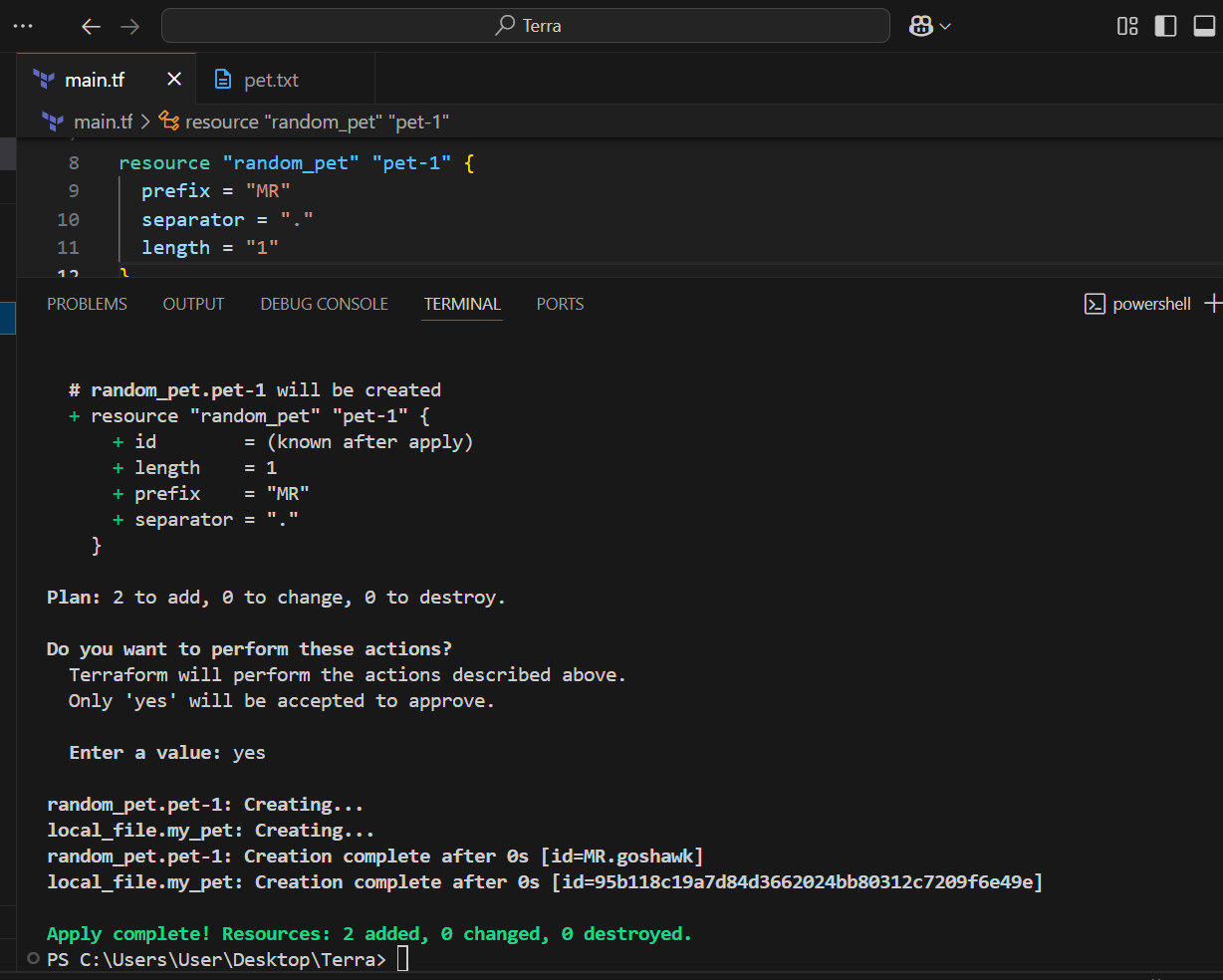
****

Created one more resource

Terraform init

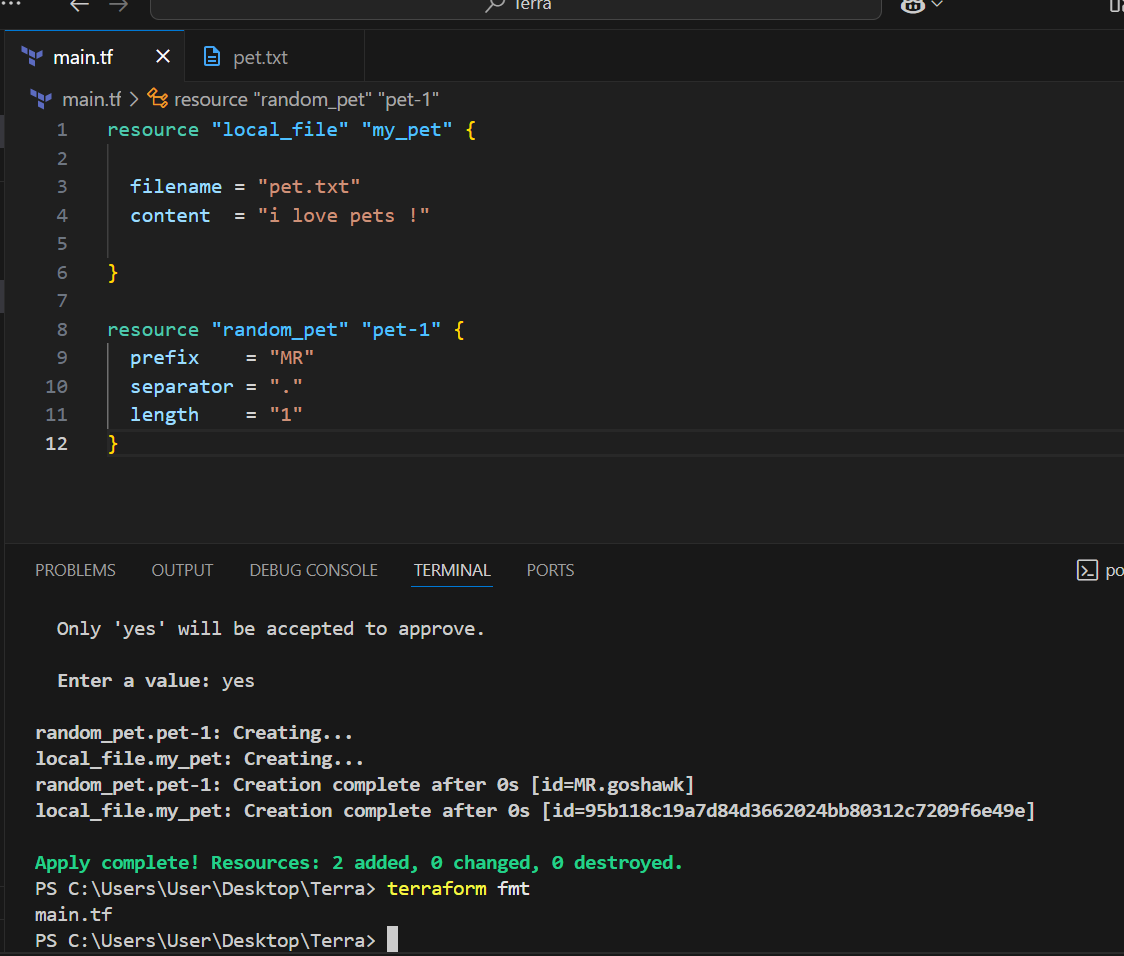
apply

****

****

Terraform fmt

Will format or organize your code.



**3) Note down below points,**

**Terraform Init**

Command: terraform init

* Purpose:
  + Initializes a Terraform working directory.
  + Downloads required **providers** and **modules**.
  + Creates a hidden .terraform folder to manage plugins.
* You must run this **once per project** (or after changing providers).

**Terraform Plan**

Command: terraform plan

Purpose:

* Shows the **execution plan** before making any changes.
* Compares your configuration (.tf files) with the real infrastructure.
* Helps verify what will be created, modified, or destroyed.

Safe to run multiple times (doesn’t change resources).

**Terraform Apply**

Command: terraform apply

Purpose:

* Executes the actions from the **plan**.
* Actually **creates, updates, or deletes** resources.
* Terraform will ask for confirmation (yes) before applying.

After running, infrastructure is live.

**Terraform Provider**

A **plugin** that lets Terraform interact with cloud platforms, SaaS, or APIs.

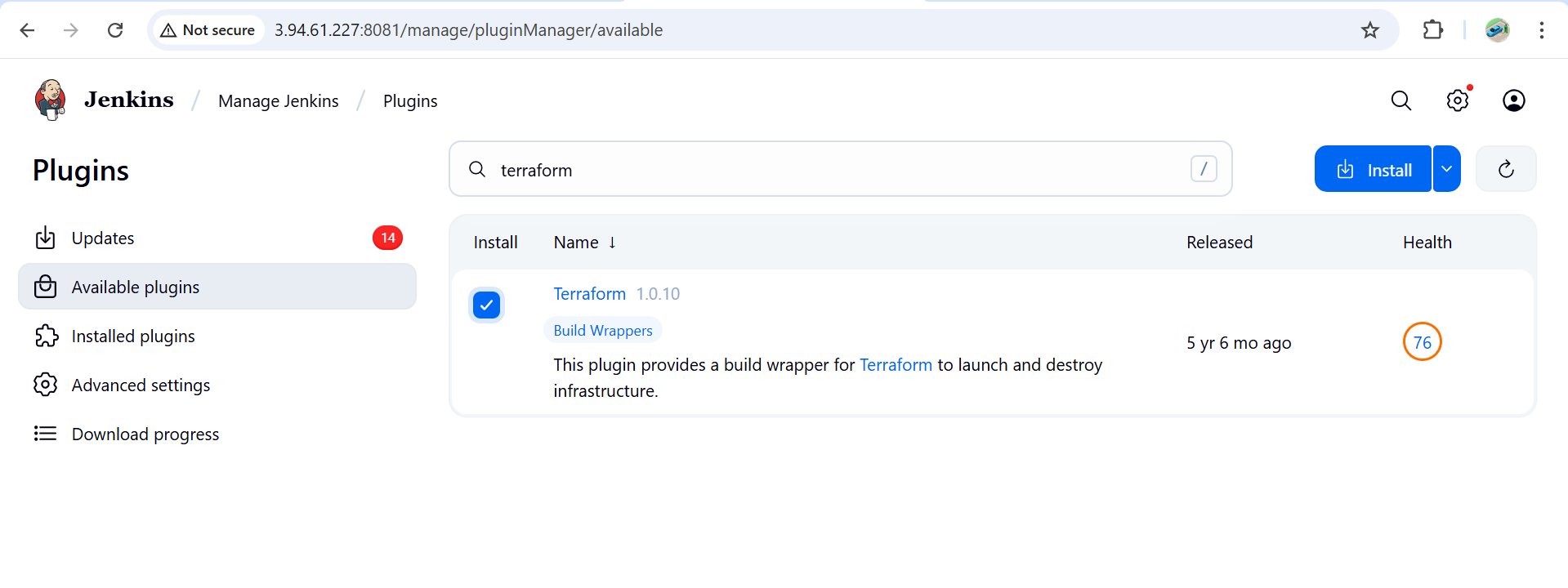
Example providers: aws, azurerm, google, kubernetes, docker.

**4).Integrate a sample Terraform template in Jenkins.**

## Prerequisites

1. **Jenkins server** up and running.
2. **Terraform installed** on Jenkins node/agent (terraform -v should work).
3. **AWS credentials** (or whichever cloud provider you want) configured in Jenkins:
   * Best practice: store them as **Jenkins credentials** (e.g., AWS Access Key + Secret Key).
4. A **Git repo** containing Terraform code (for example: main.tf).

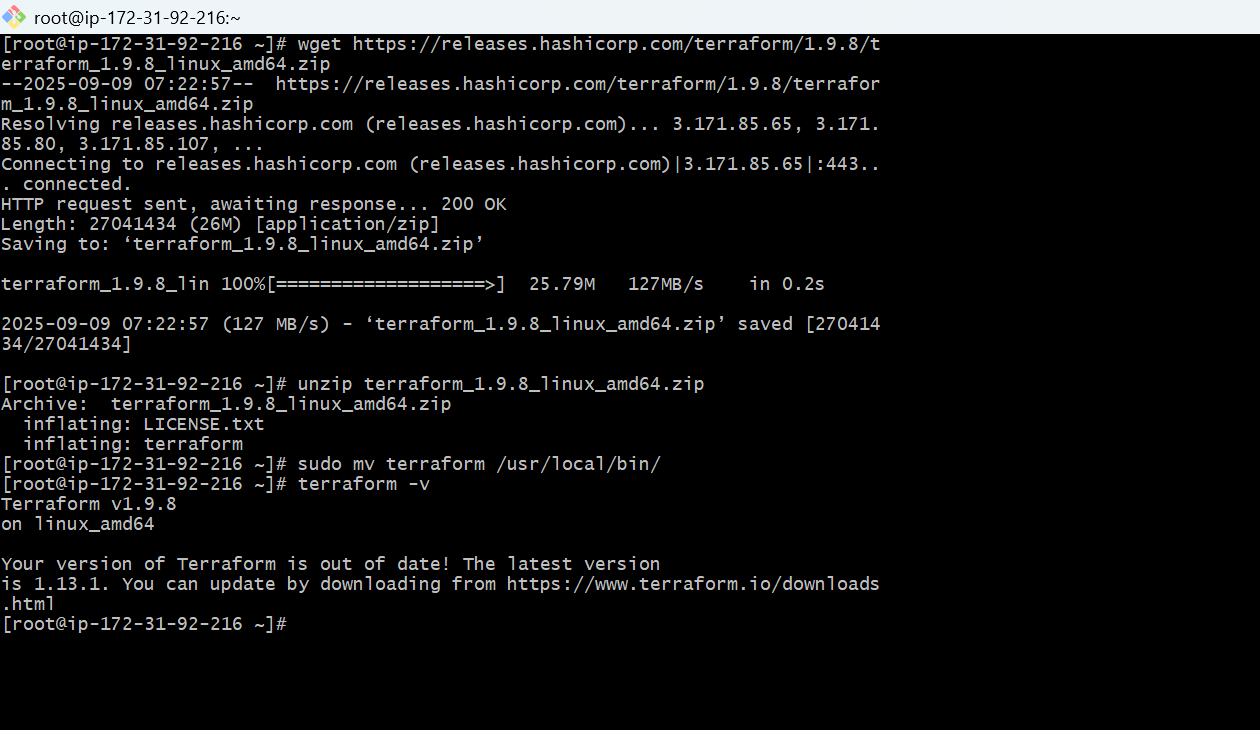
Install terraform plugin

****

**Step-1 : In Jenkins server install terraform**  
wget   
https://releases.hashicorp.com/terraform/1.9.8/terraform\_1.9.8\_linux\_amd64.zip

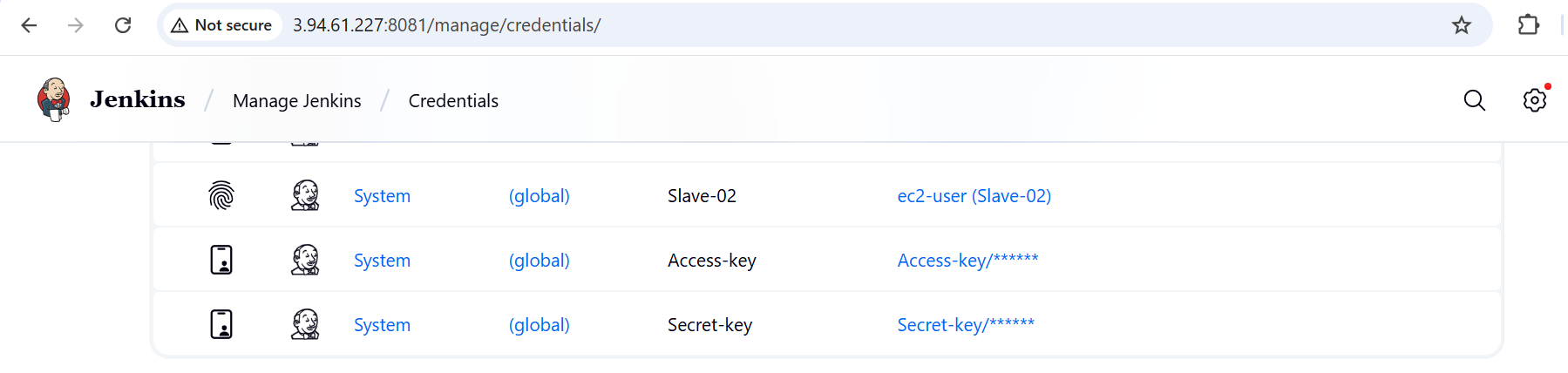
unzip terraform\_1.9.8\_linux\_amd64.zip

sudo mv terraform /usr/local/bin/

****

**Create and add credentials of AWS in Jenkins Credentials**

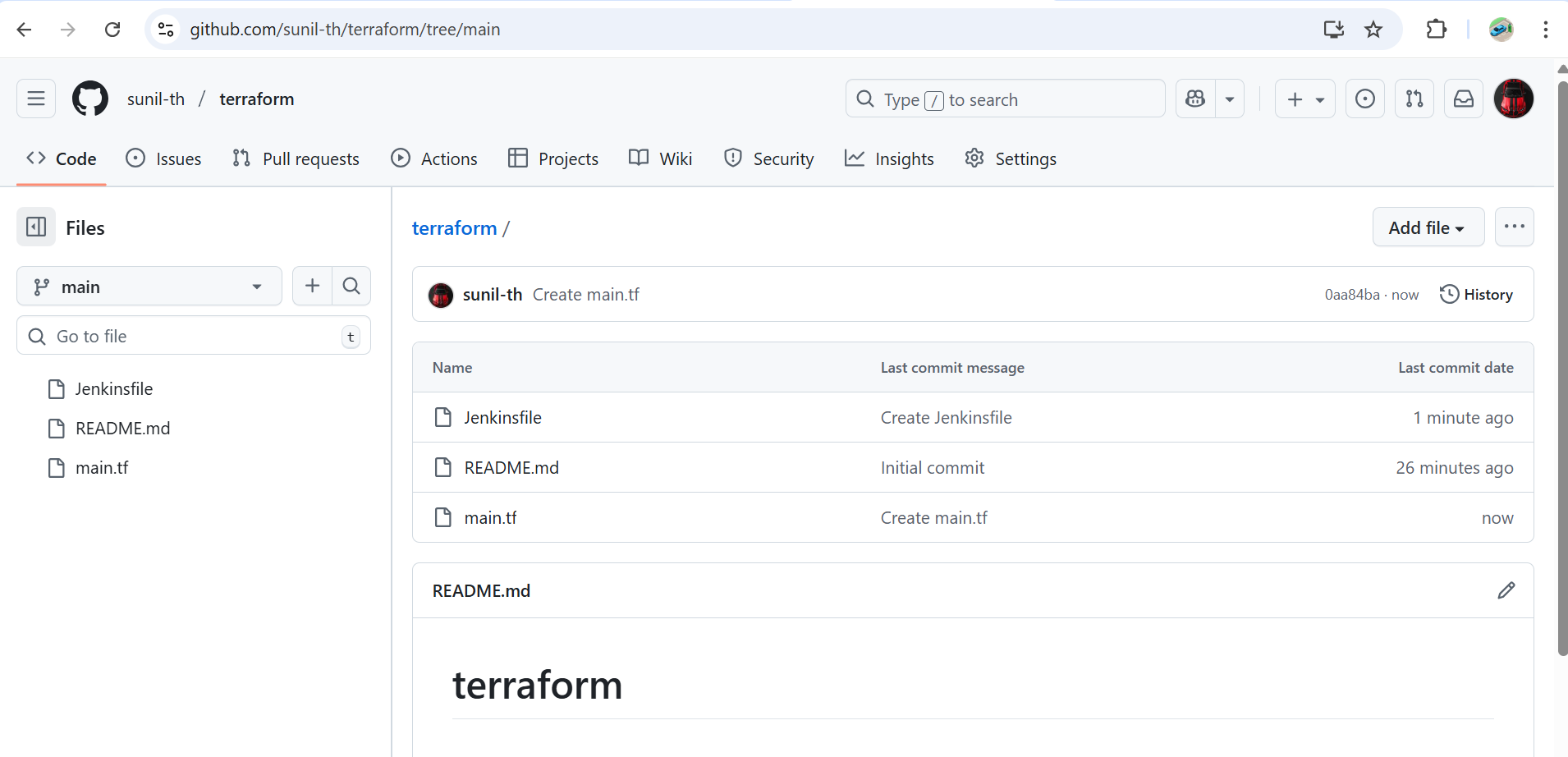
**Create access keys, Access-Key, Secret-key**

****

**In Jenkins tools added terrform**

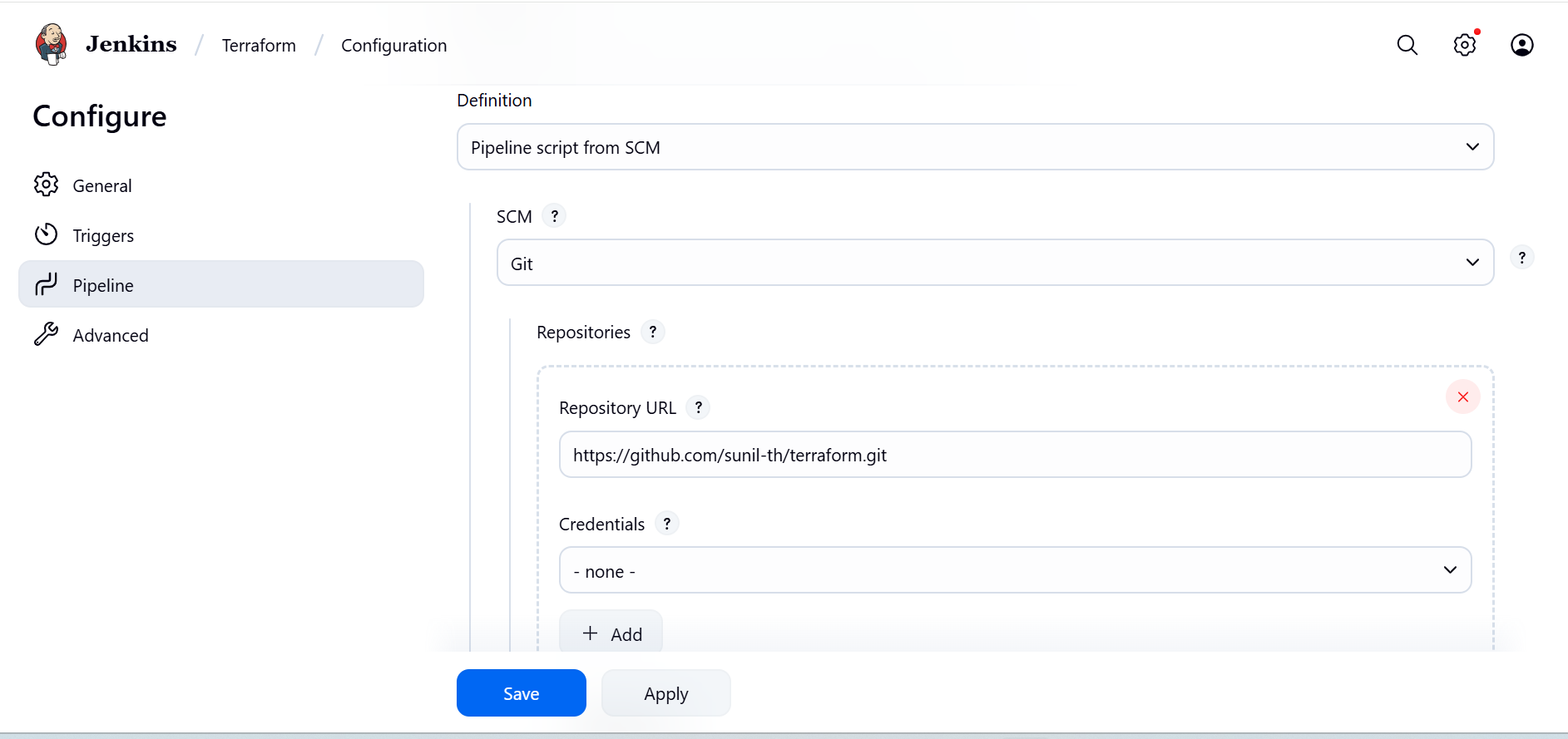
****

**Create a New repo in git hub and and 2 new files main.tf and Jenkinfile in the git hub repo**

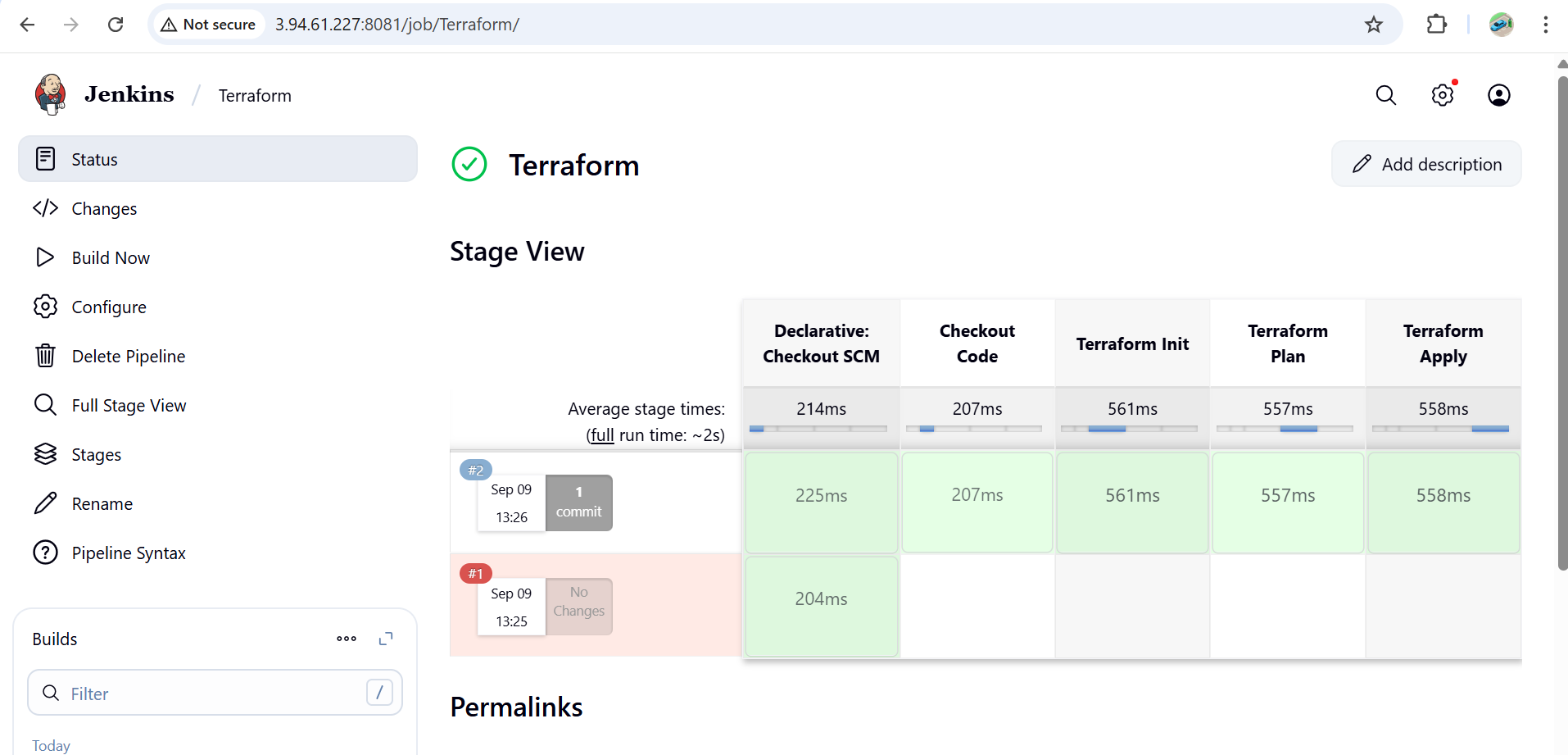
****

**Create a new item terraform job.in Jenkins**

**And select the pipeline and the git hub url and the branch in the configurations**

****

**Save and build the job**

****

**check in jenkins ec2 workspace.**

****