1. Install Terraform on your PC

Go to broser search for terraform download

There you can find windows download click on that it will be downloaded

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Go to your files in that download you will finf terraform application install it

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Then right click on it and extract files

Then copy that and paste in c drive

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Then save terraform url and paste it in system environmental variable

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Select edit and paste url

Then open in gitbash to check whether the terraform is installed or not

A computer code with numbers and symbols

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1. Execute all the templates shown in video.

First create folder on deskptop

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Open virtua studio ten click file there select open folder and select your folder and open

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Create a new file with .tf (main.tf)

Then write a script

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Then Run commands

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A screenshot of a computer program

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output

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Multiple providers:

==================

resource "local\_file" "pet" {

filename = "/root/pets.txt"

content = "we love pets!"

}

resource "random\_pet" "mypet" {

prefix = "MR"

separator = "."

length = "1"

}

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output

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1. Note down below points, Terraform Init Terraform Plan Terraform Apply Terraform Provider.

**1. Terraform Init**

* **Command:** terraform init
* **Purpose:** Initializes your Terraform working directory.
* **What it does:**
  + Downloads the required provider plugins.
  + Sets up .terraform directory.
  + Prepares the backend (if configured).
* **When to use:** Run this once after creating or cloning your Terraform code.

**2. Terraform Plan**

* **Command:** terraform plan
* **Purpose:** Shows what Terraform **will do** without making any changes.
* **What it does:**
  + Compares your current infrastructure state with the desired state in your .tf files.
  + Outputs an **execution plan** (what will be created, changed, or destroyed).
* **When to use:** Before running terraform apply — to **review changes**.

**3. Terraform Apply**

* **Command:** terraform apply
* **Purpose:** **Applies** the changes to reach the desired state.
* **What it does:**
  + Reads the execution plan.
  + Asks for confirmation (unless using -auto-approve).
  + Provisions/updates/destroys infrastructure based on .tf files.
* **When to use:** After reviewing and approving the terraform plan.

**4. Terraform Provider**

* **Definition:** A **provider** is a plugin that Terraform uses to manage resources.
* **Examples:** AWS, Azure, Google Cloud, Local, Docker, etc.
* **How to declare:**

provider "local" {}

* **Purpose:** Lets Terraform know **which platform** (cloud or local) it's working

1. Integrate a sample Terraform template in Jenkins

**Create a Simple Terraform Template**

1. On your local machine, create a folder named terraform-basic.
2. Inside the folder, create a file named main.tf

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Push this folder to GitHub Create a New Repo on GitHub

Push Local Folder to GitHub

git init

git add .

git commit -m "Initial commit of Terraform project"

git remote add origin <https://github.com/nithinreddy/terraform-demo.git>

git push -u origin master

Check in github repo

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Make Sure Terraform is Installed on Jenkins Server

sudo yum install -y yum-utils

sudo yum-config-manager --add-repo https://rpm.releases.hashicorp.com/AmazonLinux/hashicorp.repo

sudo yum -y install terraform

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: Create Jenkins Freestyle Project

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**Scroll to Build Section**

* Click **“Add build step”** → Choose **“Execute shell”**

#!/bin/bash

echo "Step 1: Go to workspace"

cd $WORKSPACE

echo "Step 2: Initialize Terraform"

terraform init

echo "Step 3: Terraform Plan"

terraform plan -out=tfplan

echo "Step 4: Terraform Apply"

terraform apply -auto-approve tfplan

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Scroll down and click **Save**.

On the job page, click **Build Now**

Verify Output

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