Terraform + Aws

**1) download and install terraform unzip it and copy the address and set it to environment variables**

windows << edit environment variables << environment variables << path << double -click New << add the path << open cmd and type (terraform version) to validate

**2) download and install aws cli << open cmd and type (aws --version) to validate**

**3) create aws free account**

i) After root user is created add MFA

ii) Go to Users << create user << Select add user to group option << create group (search admin and select policy name with AdministratorAccess and

Description with Provides full access to AWS services and resources).

iii) Create user

iv) Logout from root user and login using the newly created user << Add MFA

**4) Open Visual Code << create a directory where all your files will be kept (TF-AWS)**

**5) Set the environment path**

$env:Path = [System.Environment]::GetEnvironmentVariable("Path","Machine")

**6) run (aws iam list-users)**

It would give some key credentials related error To fix this go to AWS Console << Users << select the available user(tf-user) go to Security credentials

<< Create Acces Key << Command Line Interface (CLI) << give any tag name << Create access key.

7**) set the environment for access key**

$Env:AWS\_ACCESS\_KEY\_ID="AKIA5FUFRZJTOGBEDBLZ"

$Env:AWS\_SECRET\_ACCESS\_KEY="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"

**8) Run (aws iam list-users) it will generate below output**

{

"Users": [

{

"Path": "/",

"UserName": "tf-user",

"UserId": "AIDA5FUFRZJTLZMXVPB7O",

"Arn": "arn:aws:iam::905444444774:user/tf-user",

"CreateDate": "2025-06-19T13:59:58+00:00",

"PasswordLastUsed": "2025-06-19T14:03:38+00:00"

}

]

}

**8) Let's create a EC2 instance first with console**

Go to EC2 << Launch Instance << Name << AMI (which OS to be used in this case linux) << Instance type (t3.micro as this is free) << Key pair << Create key pair

<< Key pair name << Key pair type (RSA) << private key format (.pem) this would be download file a pem file << Network Settings << Create security group << Allow SSH traffic(Anywhere)

<< Select all other options as default << Launch instance..

**9) For creating an instance with the help of terraform follow below steps**

(i) Add extension required to code for terraform. Find the extension tab in visual code and search (HarshiCorp terraform) and then select install

(ii) Go to (https://registry.terraform.io/browse/providers) and then go to AWS providers << then use provider

(iii) Create another directory inside TF-AWS < aws-ec2.

(iv) After creating the directory create a .tf file and include the sample code from the teraform registry provider.

**10) After copying the code make necessary changes to the code as required like AMI Id, instance class, location etc...**

terraform {

required\_providers {

aws = {

source = "hashicorp/aws"

version = "6.0.0"

}

}

}

provider "aws" {

# Configuration options

region = "eu-north-1"

}

resource "aws\_instance" "mytestserver2" {

ami = "ami-0989038dff76173d3"

instance\_type = "t3.micro"

tags = {

Name = "mytestserver2"

}

}

**11) To execute this code you need to initialize (init) the terraform package so that AWS is aware and can make necessary changes from here**

**On the sub-directory(aws-ec2) created under main folder (TF-AWS) right click and run**

(i) terraform init - to initialize provider plugins

(ii) terraform plan - to compile the terraform code and look for any errors

(iii) terraform apply - this will use the above code and create the instance.

(iv) terraform destroy - this will destroy all the instance running on the AWS environment