**Documentation of launching an EC2 instance using Terraform.**

1. I have used a Lab window given by Simplilearn in order to complete this Project.
2. Initially, I have launch an EC2 instance called ubuntu.
3. Used MobaXterm to connect with created ec2.
4. Firstly, we have to install Terraform using this command ;

**[ wget -O- https://apt.releases.hashicorp.com/gpg | sudo gpg --dearmor -o /usr/share/keyrings/hashicorp-archive-keyring.gpg**

**echo "deb [signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg] https://apt.releases.hashicorp.com $(lsb\_release -cs) main" | sudo tee /etc/apt/sources.list.d/hashicorp.list**

**sudo apt update && sudo apt install terraform]**

1. To confirm, is Terraform get installed or not we can cross verify **using terraform --version.**
2. Create a directory as terraform.
3. Switch to created directory which is terraform.
4. Create one file called cred.tf in which put all requisite credential details such as region, access key, secret key & token.
5. Now, switch to Terraform directory and create another file called as main.tf, to write our code to launch an EC2.
6. Added a resource for setup security group for ingress(inbound port) and egress(outbound port).
7. Added another resource in order to create a VM or EC2 instance using scripts such as AMI ID, instance type, key name, tags , Name and owner.
8. Keep the vpc\_security\_group\_ids as same as I have written in the first resource which is “allow\_tls”.
9. Save the written scripts in main.tf file by using escape>:wq!>
10. To initialize, I have used **terraform init** command.
11. To validate, I have used **terraform validate** command.
12. To plan, I have used **terraform plan** command. Plan command is used to view changes required by the current configuration.
13. To apply, I have used **terraform apply** command. Apply command is used to set up or update infrastructure.
14. After successful execution of apply command without exihibiting any error, go to the AWS console and you will see an ec2 instance has been created.
15. I have connected to the newly created ec2 or VM. EC2 instance already come with python so, we don’t need to install python manually. To check python version use **python3 --version**.
16. In order to install Java, I have used this command :-

**sudo apt update**

**sudo apt install openjdk-11-jdk -y**

1. In order to install Jenkins, first we need to install Maven so, I have installed Maven first using this command:- **Sudo apt-get install maven**
2. To install Jenkins, We have to run curl command. Used this command to install Jenkins:-

**curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null**

**echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian-stable binary/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null**

**sudo apt-get update**

**sudo apt-get install jenkins**