**Lesson 11 Demo 2**

**Terraform Dynamic Blocks to Deploy EC2 Instance**

**Objective:** To perform terraform dynamic blocks to deploy EC2 instance

**Prerequisites:** You need to have Python 2.7 or higher, a minimum of 8 GB RAM, and an SSH or SCP communicator.

**Tools required:** Ansible and terraform

**Steps to be followed:**

1. Copying VPC ID
2. Creating a terraform main file
3. Executing the main file
4. Verifying rules creation

**Step 1: Copying VPC ID**

* 1. Go to AWS console and search for VPC in the search box and click on it:

A screenshot of a computer

Description automatically generated

* 1. In the left tab, click on **Your VPCs** and then copy your main VPC id and save it:

Graphical user interface, text, application

Description automatically generated

**Step 2: Creating a variable file**

* 1. Create the main file using the below command:

**sudo nano main.tf**



* 1. Enter the following code in the main.tf file:

**provider "aws" {**

**region = "us-east-1"**

**access\_key = " your\_aws\_access\_key\_here 2"**

**secret\_key = "your\_aws\_secret\_key\_here"**

**token = “your\_aws\_token\_here”**

**}**

**locals {**

**ingress\_rules = [{**

**port = 443**

**description = "Port 443"**

**},**

**{**

**port = 80**

**description = "Port 80"**

**}]**

**}**

**resource "aws\_security\_group" "main" {**

**name = "foo"**

**vpc\_id = “your\_aws\_vpc\_id here”**

**dynamic "ingress" {**

**for\_each = local.ingress\_rules**

**content {**

**description = ingress.value.description**

**from\_port = ingress.value.port**

**to\_port = ingress.value.port**

**protocol = "tcp"**

**cidr\_blocks = ["0.0.0.0/0"]**

**}**

**}**

**/\***

**ingress {**

**description = "ajsec bar"**

**from\_port = 443**

**to\_port = 443**

**protocol = "tcp"**

**cidr\_blocks = ["0.0.0.0/0"]**

**}**

**\*/**

**tags = {**

**Name = "one security group"**

**}**

**}**

Text

Description automatically generated

Paste your VPC ID in place of vpc\_id

Press Ctrl + X, then Y, and enter

**Note:** Make sure to replace **access\_key, secret\_key, and token** with your AWS credentials.

**Step 2**: **Executing the main file**

1. Initiate the terraform using the below command:

**terraform init**

Text

Description automatically generated

1. Now use the below command to set the environment:

**terraform plan**

Text

Description automatically generated

Text

Description automatically generated

1. Now use apply command to make the changes and enter yes in the value section:

**terraform apply**

Text

Description automatically generated

Text

Description automatically generated

Multiple rules have been created using dynamic block.

**Step 3: Verifying rules creation**

* 1. Go to AWS console and search for EC2 in the search box and click on it:

Graphical user interface, application

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* 1. In the left tab, click on **Security Groups** and check if security group has been created:
  2. Click on that security group:

Graphical user interface, text, application, email

Description automatically generated

* 1. Scroll down and you can see the multiple rules are created using a single dynamic block rather than creating an ingress rule for each inbound:

Graphical user interface, application

Description automatically generated

You will be able to see multiple ports being created (80 and 443) using a single dynamic block.

This is the use of the dynamic block. You can create multiple ingress rules using a **for\_each** loop with a **dynamic** block.