**DevOps Tasks 2**

Create a Terraform project to create:

* 1VPC
* 3 public subnets
* 3 private subnets
* 3 Private routing tables
* 1 public routing table
* 1 internet gateway
* 3 Elastic IP's for NAT Gateways
* 3 NATGateWays

This document will give you brief idea about to create infrastructure on AWS using .tf file

**Pre-requisites:**

1. Terraform must be up and running on server
2. Terraform must be connected to provider AWS using aws configure command.

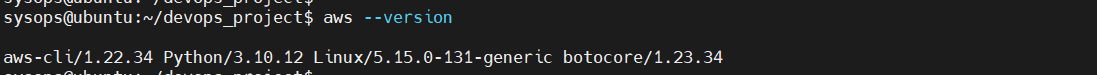
**STEP 1: Install and Configure AWS cli**

$ sudo apt update

$ sudo apt install awscli -y



$ aws –version



$ aws configure



**STEP 2: Write a tf file to create infrastructure on AWS as below**,

$ nano main.tf  
  
provider "aws" {

region = "us-east-1"

}

resource "aws\_vpc" "my\_vpc" {

cidr\_block = "10.0.0.0/16"

tags = {

Name = "MyVPC"

}

}

resource "aws\_subnet" "public\_subnets" {

count = 3

vpc\_id = aws\_vpc.my\_vpc.id

cidr\_block = "10.0.${count.index}.0/24"

map\_public\_ip\_on\_launch = true

tags = {

Name = "Public-Subnet-${count.index + 1}"

}

}

resource "aws\_subnet" "private\_subnets" {

count = 3

vpc\_id = aws\_vpc.my\_vpc.id

cidr\_block = "10.0.${count.index + 3}.0/24"

tags = {

Name = "Private-Subnet-${count.index + 1}"

}

}

resource "aws\_internet\_gateway" "igw" {

vpc\_id = aws\_vpc.my\_vpc.id

tags = {

Name = "My-Internet-Gateway"

}

}

resource "aws\_route\_table" "public\_rt" {

vpc\_id = aws\_vpc.my\_vpc.id

tags = {

Name = "Public-Route-Table"

}

}

resource "aws\_route" "public\_internet\_access" {

route\_table\_id = aws\_route\_table.public\_rt.id

destination\_cidr\_block = "0.0.0.0/0"

gateway\_id = aws\_internet\_gateway.igw.id

}

resource "aws\_eip" "nat" {

count = 3

tags = {

Name = "Elastic-IP-${count.index + 1}"

}

}

resource "aws\_nat\_gateway" "nat" {

count = 3

subnet\_id = element(aws\_subnet.public\_subnets[\*].id, count.index)

allocation\_id = element(aws\_eip.nat[\*].id, count.index)

tags = {

Name = "NAT-Gateway-${count.index + 1}"

}

}

resource "aws\_route\_table" "private\_rt" {

count = 3

vpc\_id = aws\_vpc.my\_vpc.id

tags = {

Name = "Private-Route-Table-${count.index + 1}"

}

}

resource "aws\_route" "private\_nat\_access" {

count = 3

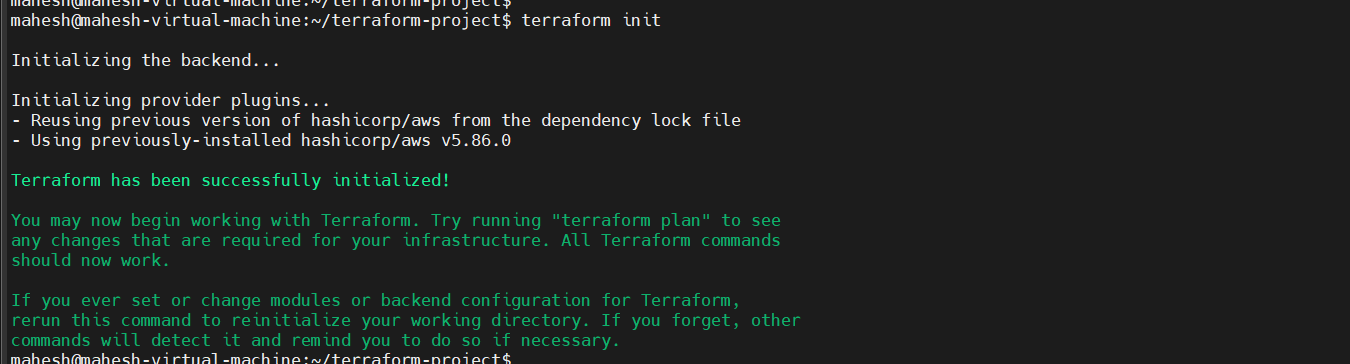
route\_table\_id = aws\_route\_table.private\_rt[count.index].id

destination\_cidr\_block = "0.0.0.0/0"

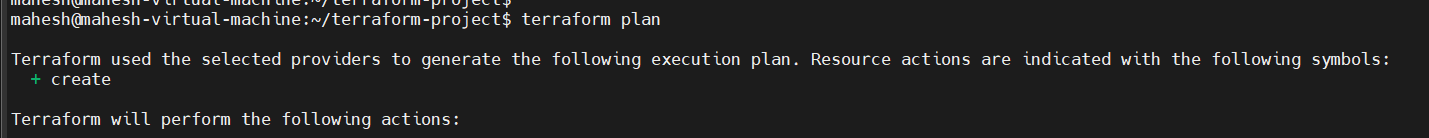
nat\_gateway\_id = aws\_nat\_gateway.nat[count.index].id

}

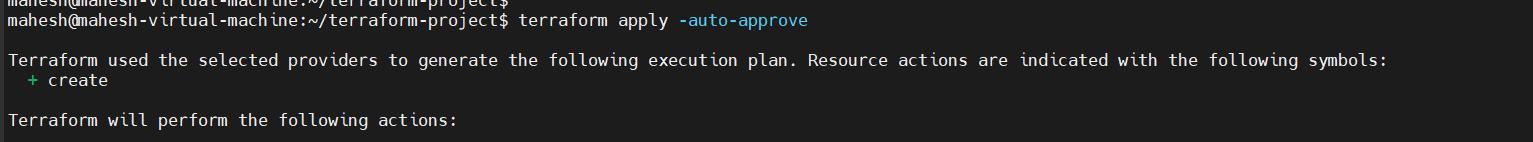
$ terraform init



$ terraform plan



$ terraform apply -auto-approve

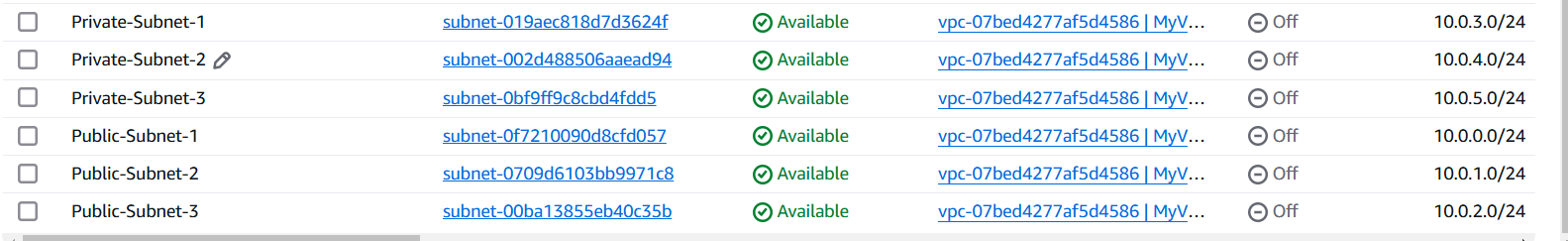


Next, check on AWS as below,

* VPC



* SUBNET



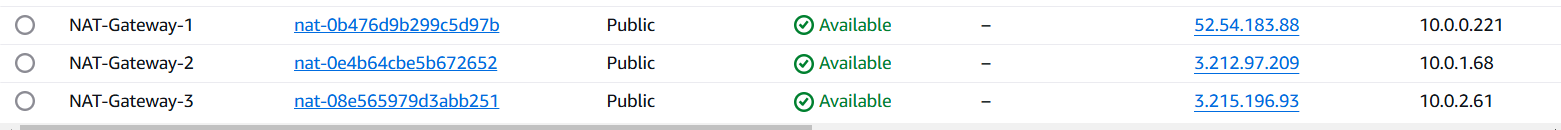
* ROUTE-TABLE



* Internet-Gateway



* NAT-Gateway



* Elastic-IP

