Terraform Task

Create a VPC with public subnet, private subnet, route table & IGW by Module in terraform

Name – Shashank Sharma

Note:

Before performing this practical you should configure your system

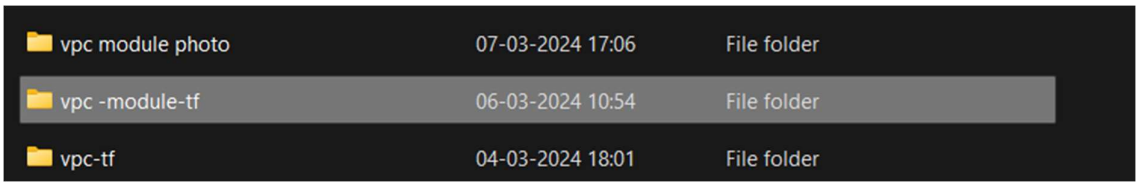
Use following commands to configure the **awscli**

Commands-

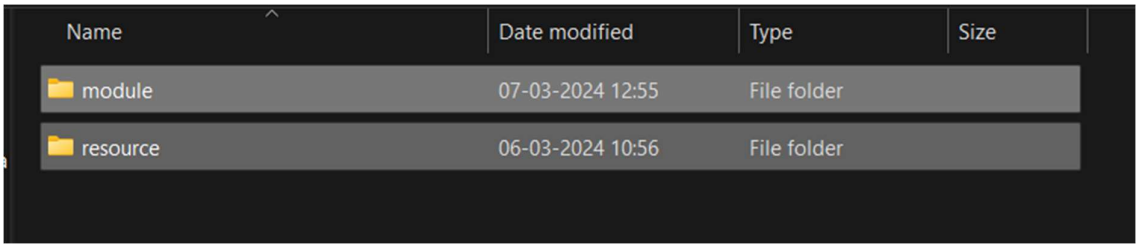
Use command as root user;

- sudo apt install awscli
- aws configure –profile configs
  (put your access key & secret access key)
- ls -a
- cd .aws
- pwd (copy path & paste in DEV folder of main.tf -> module in module =source “/home/username/.aws/credentials”)

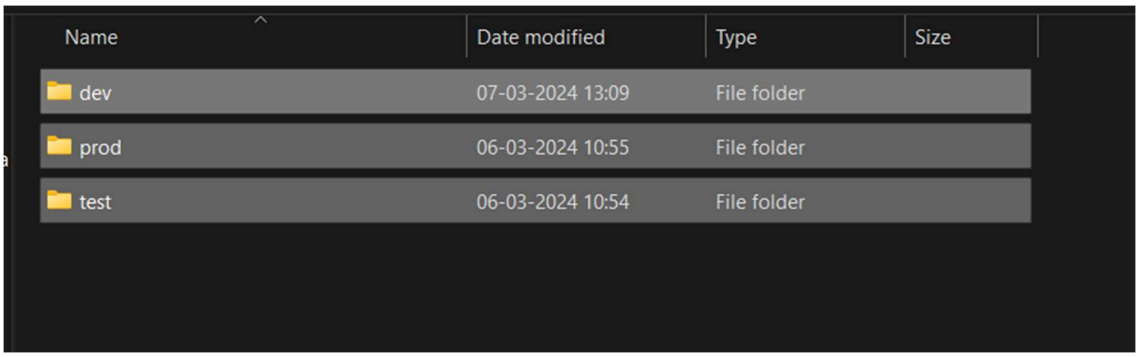
1. Firstly create 1 main folder called as vpc-module-tf (your folder name).



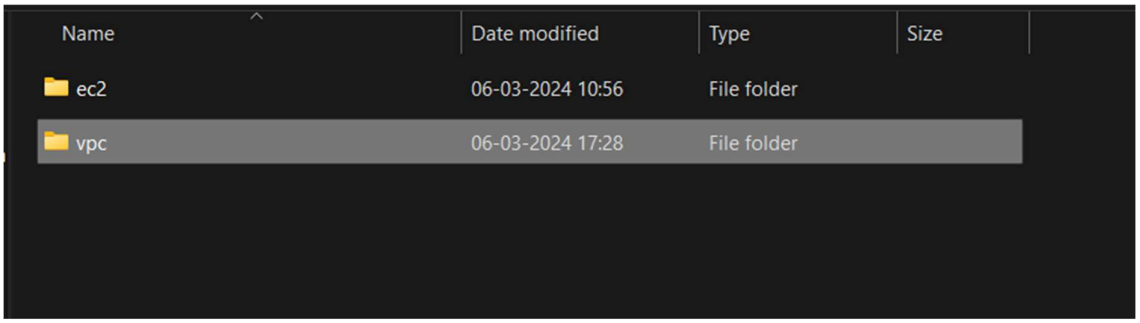
2. Create 2 sub-folder in main folder (module & resource).



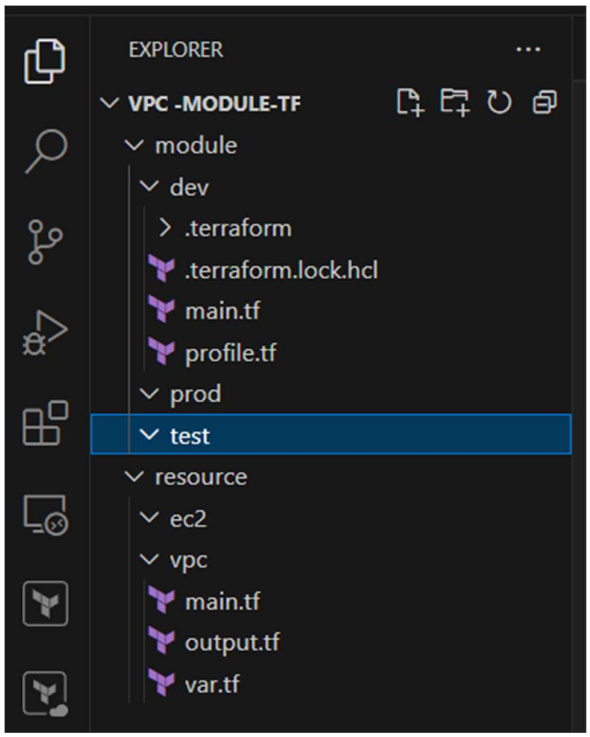
3. Create 3 sub-folder (dev, prod, test) in module folder.



4. Create 1 sub-folder (vpc) in resource folder.



5. Open VS code & make files in DEV folder as will as VPC folder.
6. In DEV folder
    a. Main.tf
    b. Profile.tf
7. In VPC folder
    a. Main.tf
    b. Output.tf
    c. Var.tf



8. Write script in VPC main.tf

main.tf ...\vpc | profile.tf | main.tf ...\dev | output.tf | var.tf

resource > vpc > main.tf > resource "aws_subnet" "private_sub" > vpc_id

```
#create vpc
resource "aws_vpc" "this_vpc" {
    cidr_block = var.this_vpc_cidr_block //"26.11.0.0/16"

    tags = {
      Name = var.this_vpc_Name //"tf_vpc"
    }

}

#create public subnet
resource "aws_subnet" "public_sub" {
    vpc_id = aws_vpc.this_vpc.id
    cidr_block = var.public_sub_cidr_block //"26.11.0.0/17"
    tags ={
        Name = var.public_sub_Name //"public_subnet"
    }
    map_public_ip_on_launch = var.public_sub_map_public_ip_on_launch //true      #to give internet access
}

#create private subnet
resource "aws_subnet" "private_sub" {
    vpc_id = aws_vpc.this_vpc.id
    cidr_block = var.private_sub_cidr_block //"26.11.128.0/18"
    tags ={
        Name = var.private_sub_Name //"private_subnet"
    }
    map_public_ip_on_launch = var.private_sub_map_public_ip_on_launch //false
}

#create private1 subnet
resource "aws_subnet" "private_one_sub" {
    vpc_id = aws_vpc.this_vpc.id
    cidr_block = var.private_one_sub_cidr_block //"26.11.192.0/20"
    tags ={
        Name = var.private_one_sub_Name //"private1_subnet"
    }
    map_public_ip_on_launch = var.private_one_sub_map_public_ip_on_launch //false
}

```

main.tf ...\vpc | profile.tf | main.tf ...\dev | output.tf | var.tf

resource > vpc > main.tf > resource "aws_subnet" "private_sub" > vpc_id

```
40
41  #route table
42  resource "aws_default_route_table" "this_route_table" {
43    default_route_table_id = aws_vpc.this_vpc.default_route_table_id  //aws_vpc.this_d_rt.default_route_table.id
44
45    route {
46
47      cidr_block = var.this_route_table_cidr_block //"0.0.0.0/0"
48      gateway_id = aws_internet_gateway.IGW.id    //aws_internet_gateway.this_d_rt.id
49    }
50    tags = {
51      Name = var.this_route_table_Name //"tf_route"
52    }
53  }
54
55  #create internet gateway
56  resource "aws_internet_gateway" "IGW" {
57      vpc_id = aws_vpc.this_vpc.id
58      tags = {
59        Name = var.IGW_Name //"tf_IGW"
60      }
61
62  }
63
64  #create subnet associate route table
65  resource "aws_route_table_association" "this_rta" {
66      subnet_id = aws_subnet.public_sub.id
67      route_table_id = aws_default_route_table.this_route_table.id
68  }
```

9. Write script in VPC var.tf.

main.tf ...\vpc | profile.tf | main.tf ...\dev | output.tf | var.tf

resource > vpc > var.tf > variable "private_sub_Name"

```
34  #private1 subnet
35  variable "private_one_sub_cidr_block" {
36      type = string
37      //default = "26.11.192.0/20"
38  }
39
40  variable "private_one_sub_Name" {
41      type = string
42          //default = "private1_subnet"
43  }
44
45  #route table
46  variable "this_route_table_cidr_block" {
47      type = string
48      //default = "0.0.0.0/0"
49  }
50
51  variable "this_route_table_Name" {
52      type = string
53      //default = "tf_route"
54  }
55
56  #internet gateway
57  variable "IGW_Name" {
58      type = string
59     // default = "tf_IGW"
60  }
61
62  #public subnet map
63  variable "public_sub_map_public_ip_on_launch" {
64      type = bool
65      //default = true
66  }
67
68  #private subnet map
69  variable "private_sub_map_public_ip_on_launch" {
70      type = bool
71     // default = false
72  }
73
```

main.tf ...\vpc | profile.tf | main.tf ...\dev | output.tf | var.tf

resource > vpc > var.tf > variable "private_sub_Name"

```
#internet gateway
variable "IGW_Name" {
    type = string
   // default = "tf_IGW"
}

#public subnet map
variable "public_sub_map_public_ip_on_launch" {
    type = bool
    //default = true
}

#private subnet map
variable "private_sub_map_public_ip_on_launch" {
    type = bool
   // default = false
}

#private1 subnet map
variable "private_one_sub_map_public_ip_on_launch" {
    type = bool
    //default = false
}

```

10. Write script in VPC output.tf

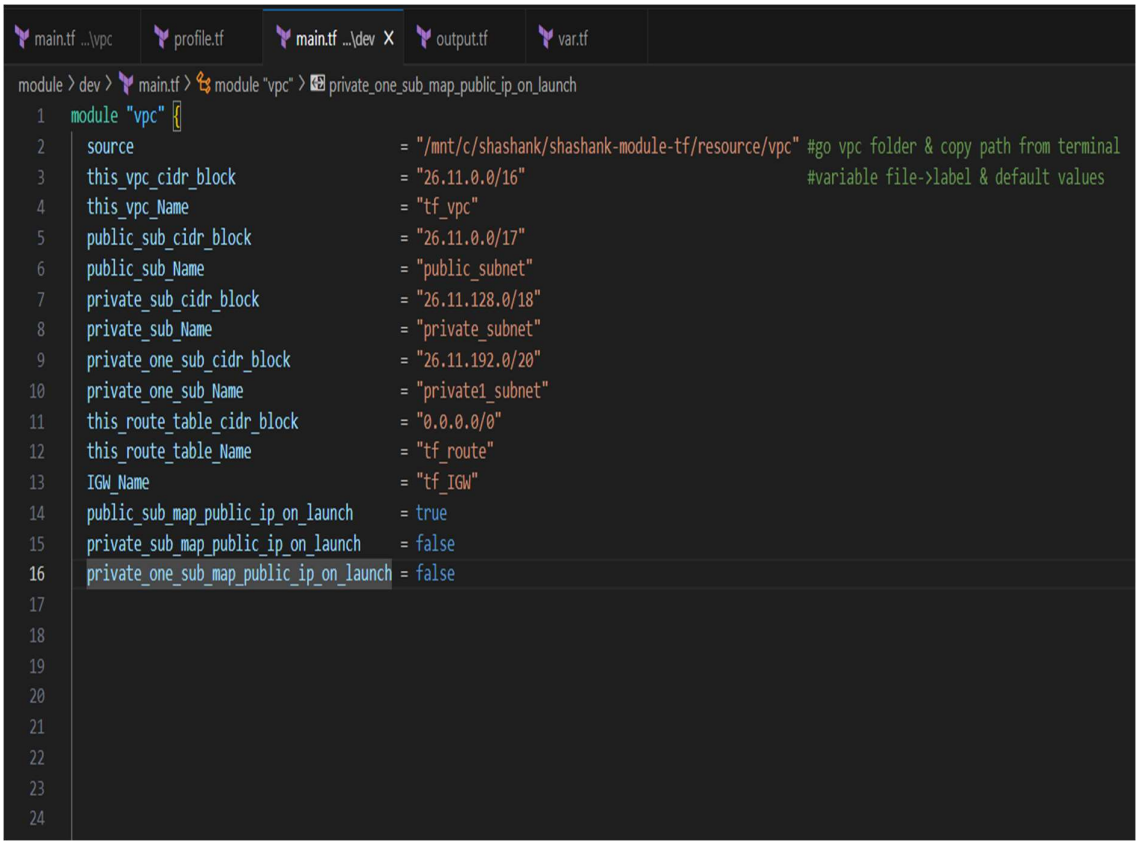
main.tf ...\vpc | profile.tf | main.tf ...\dev | output.tf | var.tf

resource > vpc > output.tf > output "private_subnet_id" > value

```
#vpc
output "vpc_id" {
    description = "vpc id"
    value = aws_vpc.this_vpc.id
}

#public subnet
output "public_subnet_id" {
    description = "show public subnet id"
    value = aws_subnet.private_sub.id
}

#private subnet
output "private_subnet_id" {
    description = "show private subnet id"
    value = aws_subnet.private_sub.id
}

```

11. Write script in DEV profile.tf

12. Write script in DEV main.tf .



13. The final output is;