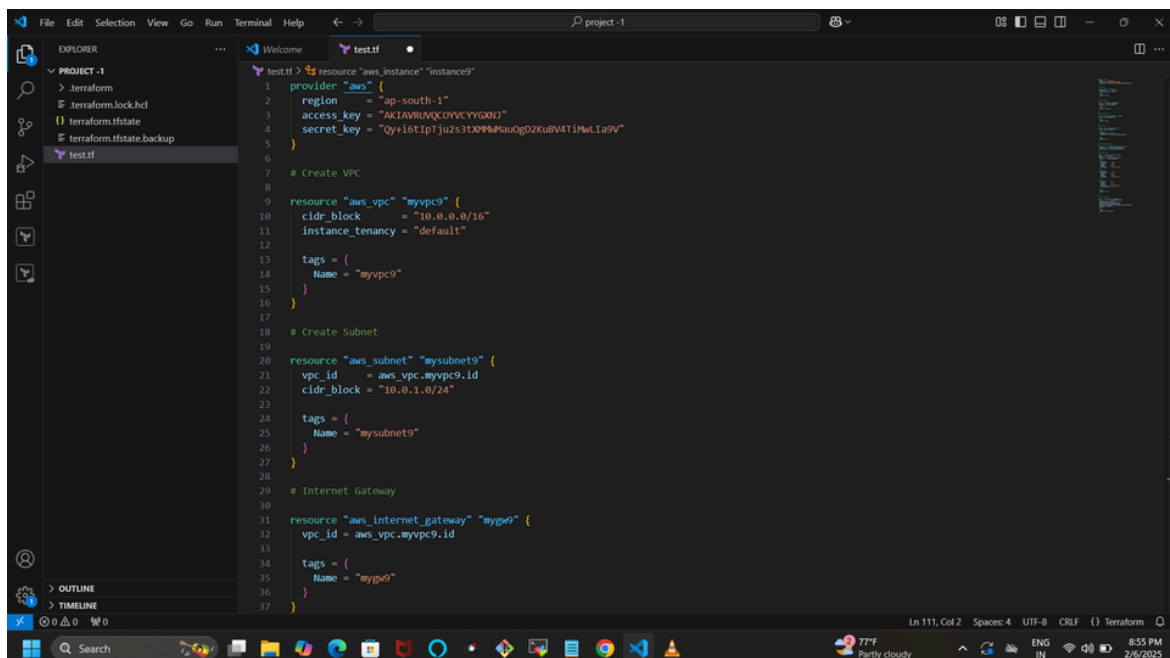


# Module - Terraform

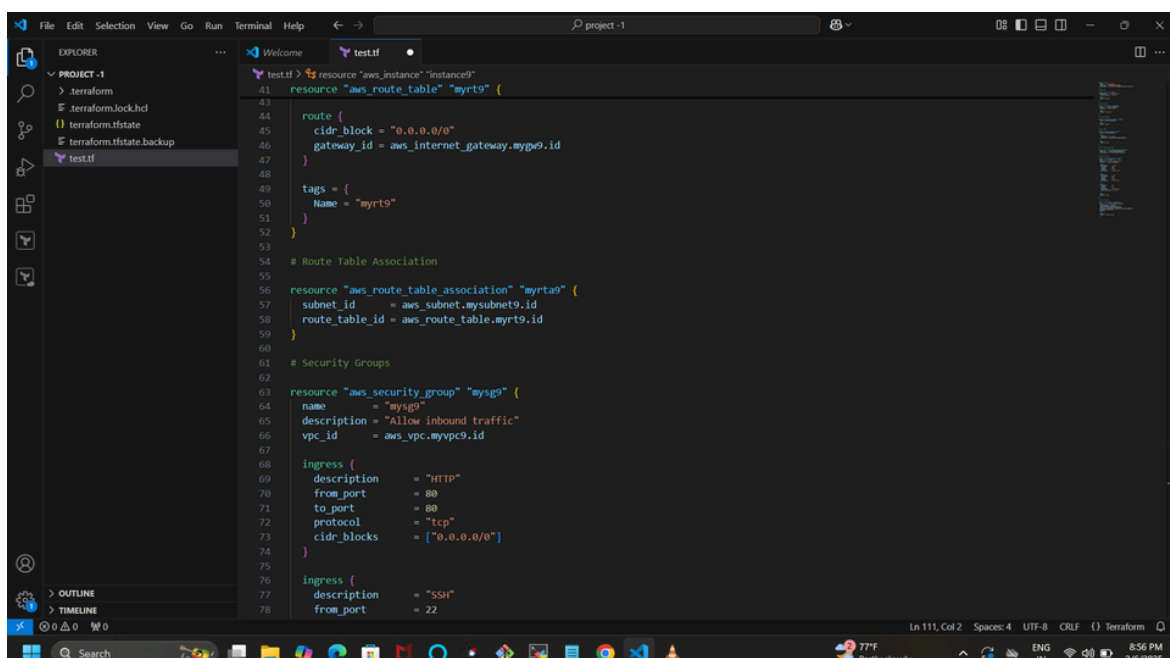
Date of submission - 6/02/25

Submitted by - Chandra Sekhar

**L1- Provision AWS EC2 Instance along with VPC, Subnet, Internet Gateway, Route-Table, Route Table Association, Security Group**

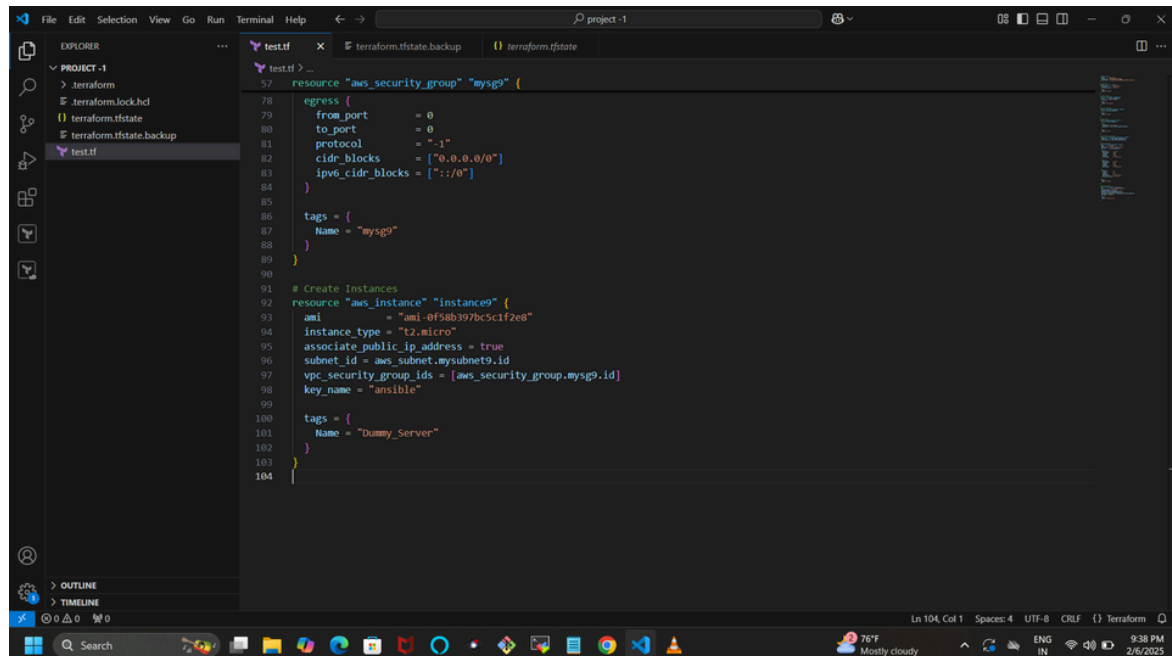


```
1 provider "aws" {
2   region = "ap-south-1"
3   access_key = "AKIAIBUNQOYVCYQXRU"
4   secret_key = "Qy+16t1pFjuZs3tX99@#auOgD2KuBv4TjHwLIa9V"
5 }
6
7 # Create VPC
8
9 resource "aws_vpc" "myvpc9" {
10  cidr_block = "10.0.0.0/16"
11  instance_tenancy = "default"
12
13  tags = {
14    Name = "myvpc9"
15  }
16 }
17
18 # Create Subnet
19
20 resource "aws_subnet" "mysubnet9" {
21  vpc_id = aws_vpc.myvpc9.id
22  cidr_block = "10.0.1.0/24"
23
24  tags = {
25    Name = "mysubnet9"
26  }
27 }
28
29 # Internet Gateway
30
31 resource "aws_internet_gateway" "mygw9" {
32  vpc_id = aws_vpc.myvpc9.id
33
34  tags = {
35    Name = "mygw9"
36  }
37 }
```



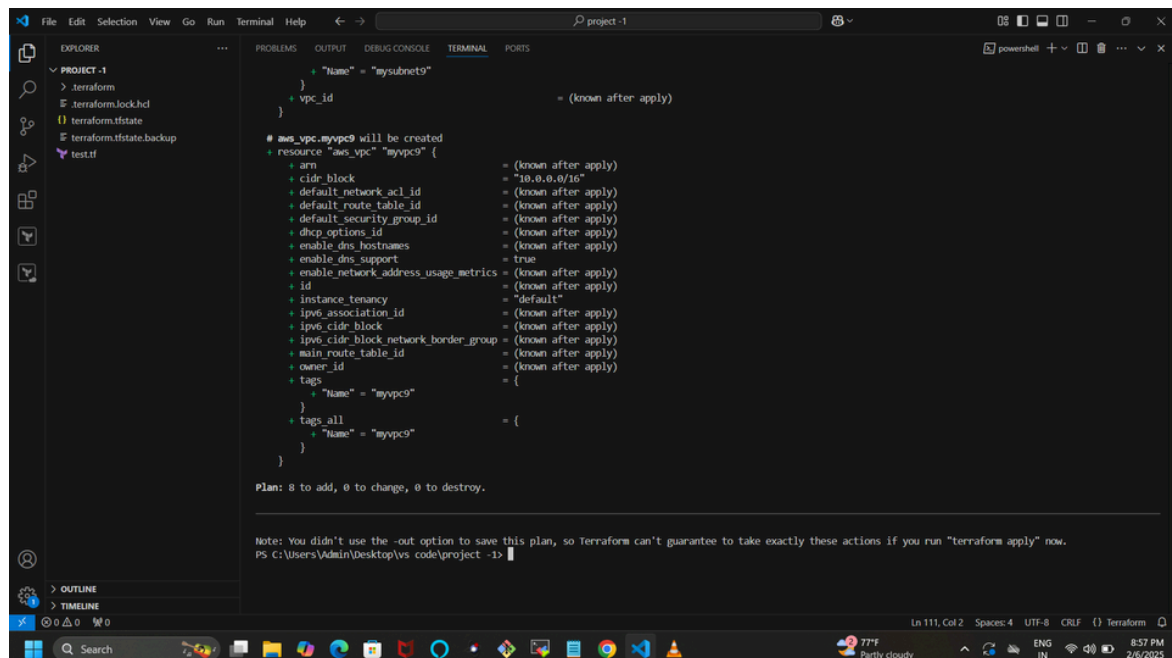
```
41 resource "aws_route_table" "myrt9" {
42
43   route {
44     cidr_block = "0.0.0.0/0"
45     gateway_id = aws_internet_gateway.mygw9.id
46   }
47
48   tags = {
49     Name = "myrt9"
50   }
51 }
52
53 # Route Table Association
54
55 resource "aws_route_table_association" "myrta9" {
56  subnet_id = aws_subnet.mysubnet9.id
57  route_table_id = aws_route_table.myrt9.id
58 }
59
60 # Security Groups
61
62 resource "aws_security_group" "mysg9" {
63  name = "mysg9"
64  description = "Allow inbound traffic"
65  vpc_id = aws_vpc.myvpc9.id
66
67  ingress {
68    description = "HTTP"
69    from_port = 80
70    to_port = 80
71    protocol = "tcp"
72    cidr_blocks = ["0.0.0.0/0"]
73  }
74
75  ingress {
76    description = "SSH"
77    from_port = 22
78  }
79 }
```

# writing terraform init to initialize



```
57 resource "aws_security_group" "mysg9" {
58   ingress {
59     from_port = 0
60     to_port   = 0
61     protocol = "-1"
62     cidr_blocks = ["0.0.0.0/0"]
63     ipv6_cidr_blocks = [ ":::/0" ]
64   }
65   tags = {
66     Name = "mysg9"
67   }
68 }
69
70 # Create Instances
71 resource "aws_instance" "instance9" {
72   ami           = "ami-0f58b397bc5c1f2e8"
73   instance_type = "t2.micro"
74   associate_public_ip_address = true
75   subnet_id     = aws_subnet.mysubnet9.id
76   vpc_security_group_ids = [aws_security_group.mysg9.id]
77   key_name      = "ansible"
78   tags = {
79     Name = "Dummy_Server"
80   }
81 }
82
```

# writing terraform plan command



```

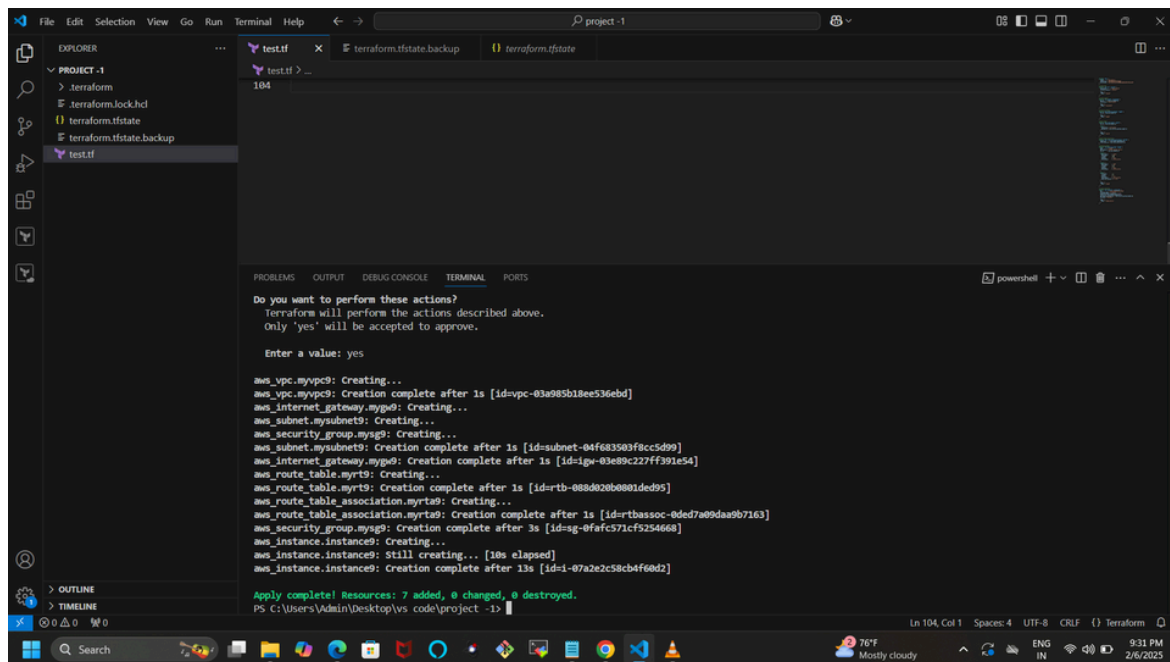
+ Name = "mysubnet9"
+ vpc_id = (known after apply)
}

# aws_vpc.myvpc9 will be created
+ resource "aws_vpc" "myvpc9" {
+   cidr_block = "10.0.0.0/16"
+   default_network_acl_id = (known after apply)
+   default_route_table_id = (known after apply)
+   default_security_group_id = (known after apply)
+   dhcp_options_id = (known after apply)
+   enable_dns_hostnames = (known after apply)
+   enable_dns_support = true
+   enable_network_address_usage_metrics = (known after apply)
+   id = (known after apply)
+   instance_tenancy = "default"
+   ipv6_association_id = (known after apply)
+   ipv6_cidr_block = (known after apply)
+   ipv6_cidr_block_network_border_group = (known after apply)
+   main_route_table_id = (known after apply)
+   owner_id = (known after apply)
+   tags = {
+     Name = "myvpc9"
+   }
+   tags_all = {
+     Name = "myvpc9"
+   }
}

Plan: 8 to add, 0 to change, 0 to destroy.

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.
PS C:\Users\Admin\Desktop\vs code\project -1>
```

# writing terraform apply command



```
Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

aws_vpc.myvpc9: Creating...
aws_vpc.myvpc9: Creation complete after 1s [id=vpc-03a985b18ee536ebd]
aws_internet_gateway.mygw9: Creating...
aws_subnet.mysubnet9: Creating...
aws_subnet.mysubnet9: Creation complete after 1s [id=subnet-04f683503f8cc5d99]
aws_internet_gateway.mygw9: Creation complete after 1s [id=igw-03e89c227ff391e54]
aws_route_table.myrt9: Creating...
aws_route_table.myrt9: Creation complete after 1s [id=rtb-088d020b0801ded95]
aws_route_table_association.myrt9: Creating...
aws_route_table_association.myrt9: Creation complete after 1s [id=rtbassoc-0ded7a09daa9b7163]
aws_security_group.mysg9: Creation complete after 3s [id=sg-0f4fc571cf5254668]
aws_instance.instance9: Creating...
aws_instance.instance9: Still creating... [10s elapsed]
aws_instance.instance9: Creation complete after 13s [id=i-07a2e2c58cb4f60d2]

Apply complete! Resources: 7 added, 0 changed, 0 destroyed.
PS C:\Users\Admin\Desktop\vs code\project -1>
```

we can see the instance been launched

