**Terraform Final Tasks:**

**1)Create VPC:**

# VPC

resource "aws\_vpc" "main" {

  cidr\_block           = "10.0.0.0/16"

  enable\_dns\_support   = true

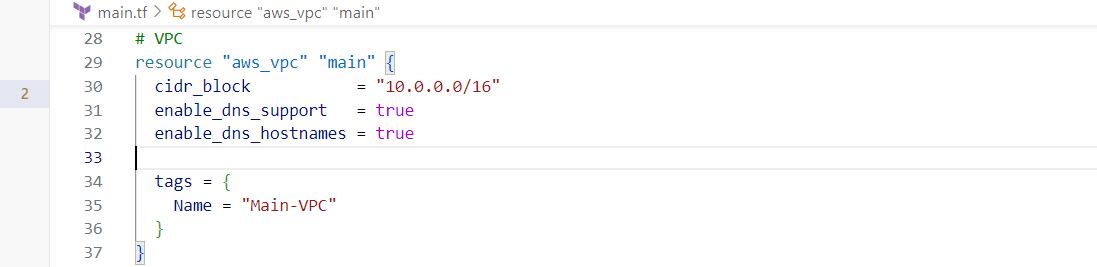
  enable\_dns\_hostnames = true

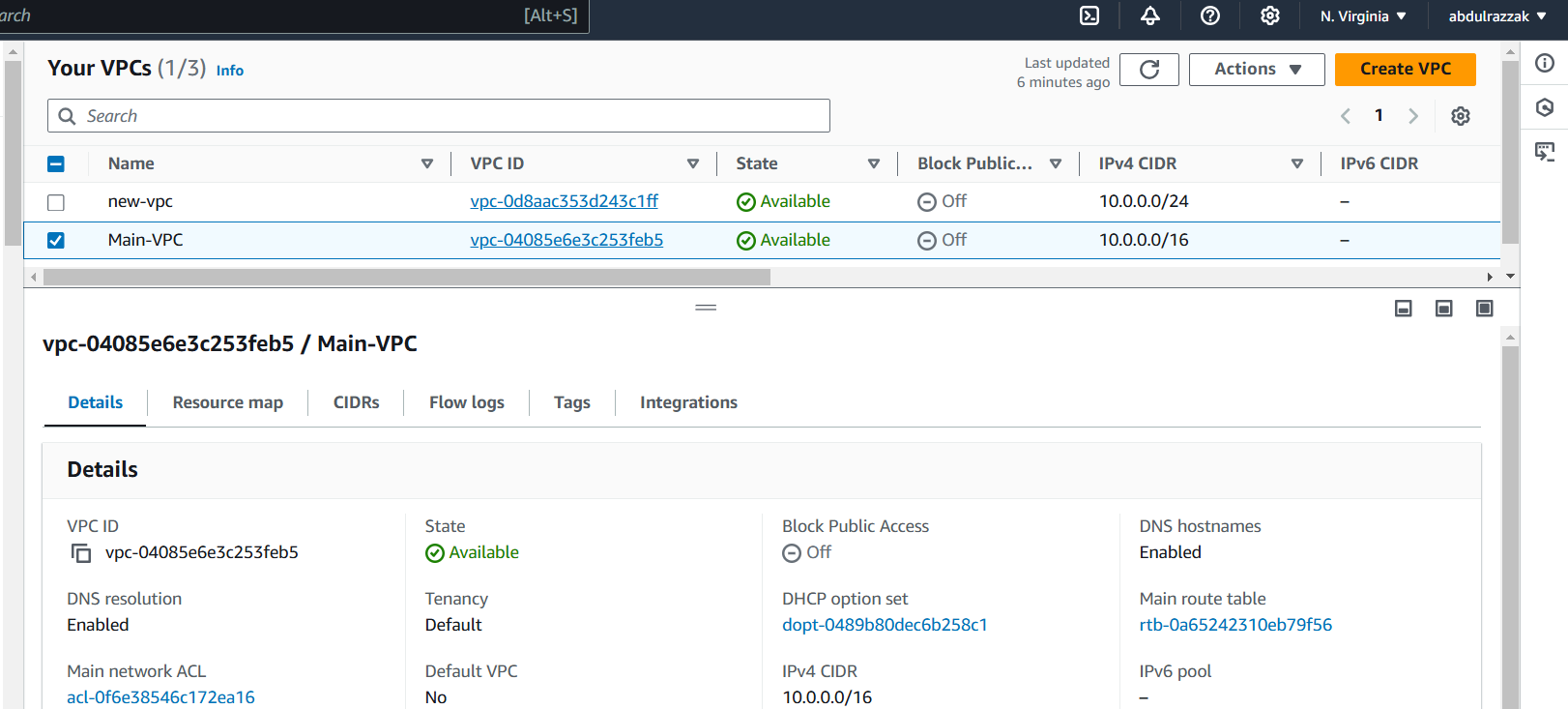
  tags = {

    Name = "Main-VPC"

  }

}

****

****

**2) Create Internet gateway:**

resource "aws\_internet\_gateway" "main" {

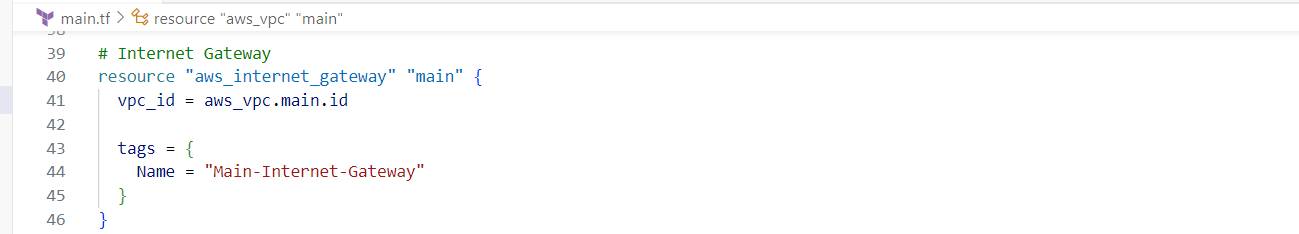
  vpc\_id = aws\_vpc.main.id

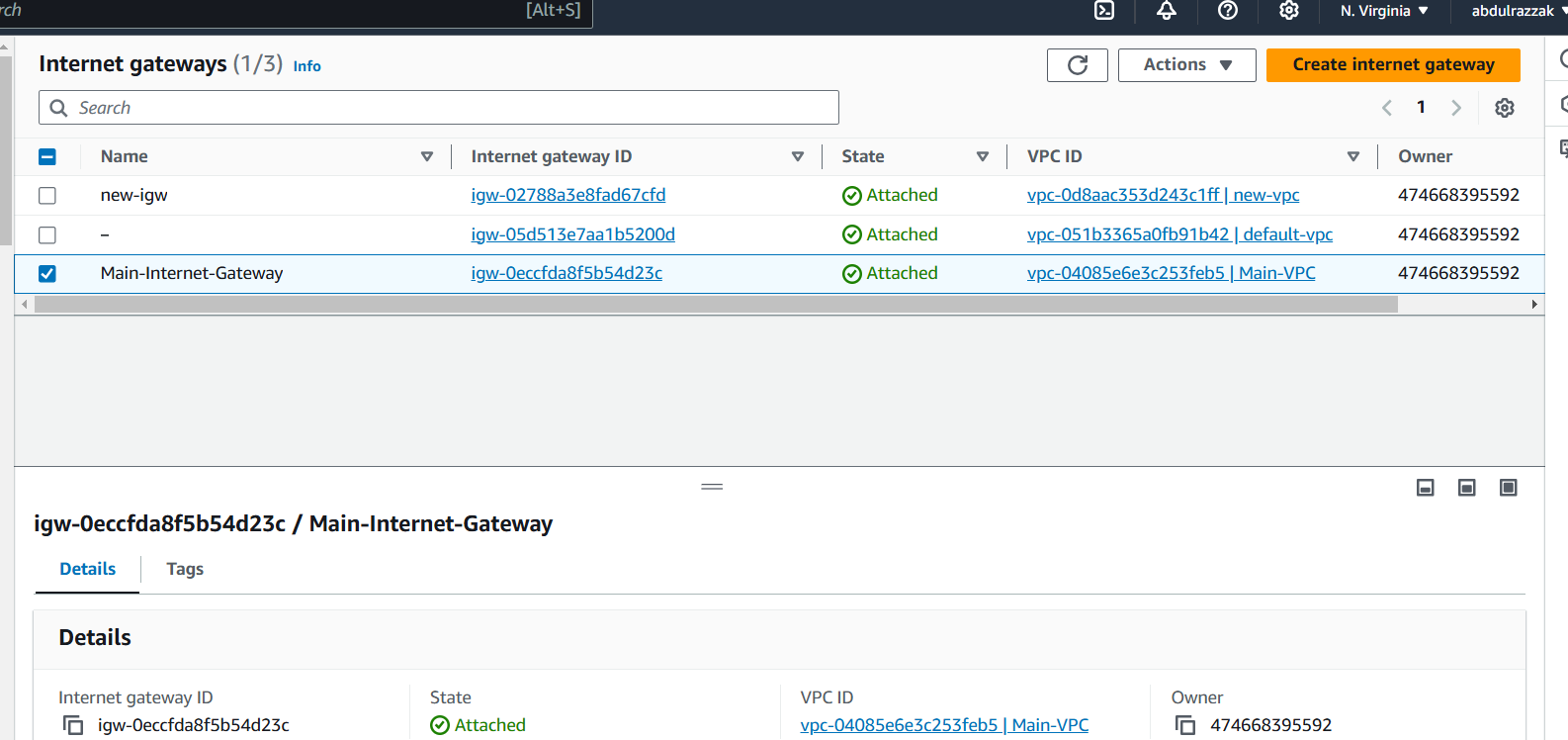
  tags = {

    Name = "Main-Internet-Gateway"

  }

}

****

****

**3) Create Custom Route Table:**

resource "aws\_route\_table" "main" {

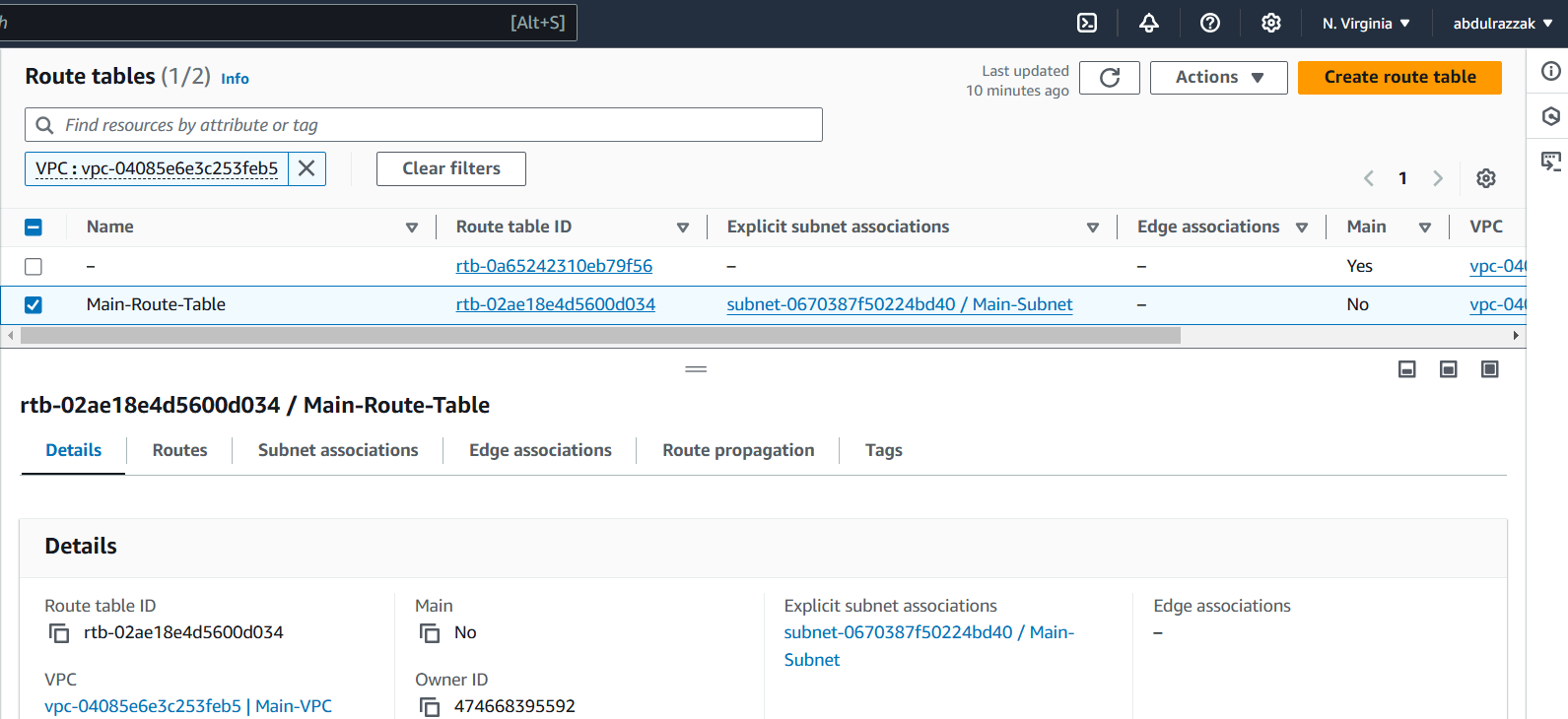
  vpc\_id = aws\_vpc.main.id

  tags = {

    Name = "Main-Route-Table"

  }

}

****

**# Route to allow internet traffic**

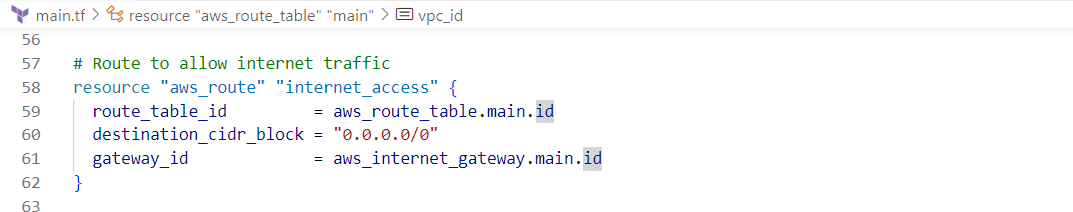
resource "aws\_route" "internet\_access" {

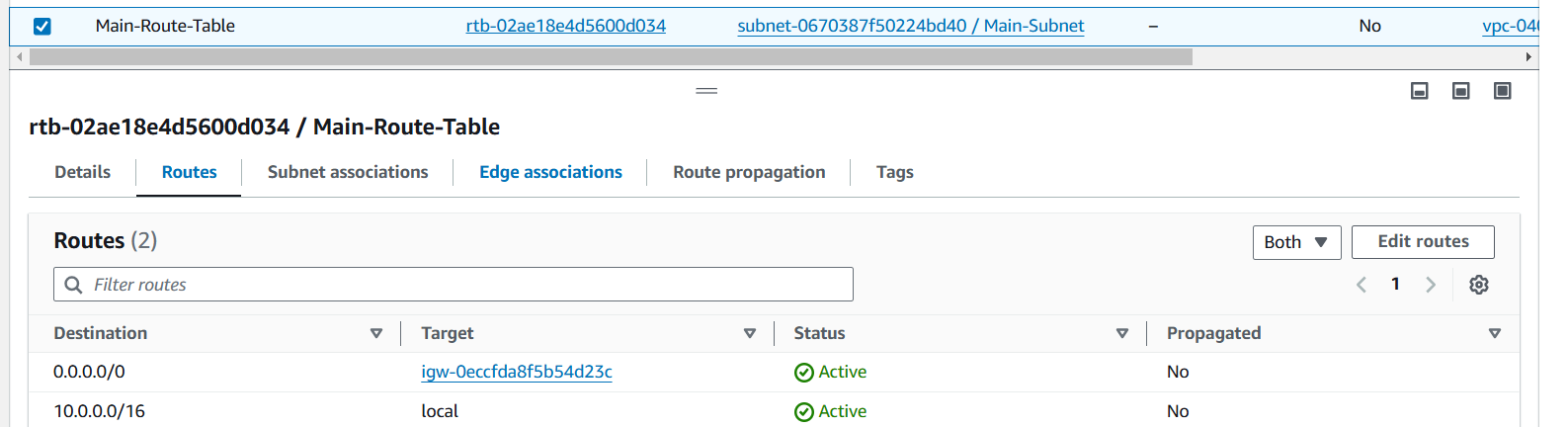
  route\_table\_id         = aws\_route\_table.main.id

  destination\_cidr\_block = "0.0.0.0/0"

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

}





**4) Create Subnet:**

**resource "aws\_subnet" "main" {**

**vpc\_id                  = aws\_vpc.main.id**

**cidr\_block              = "10.0.1.0/24"**

**map\_public\_ip\_on\_launch = true**

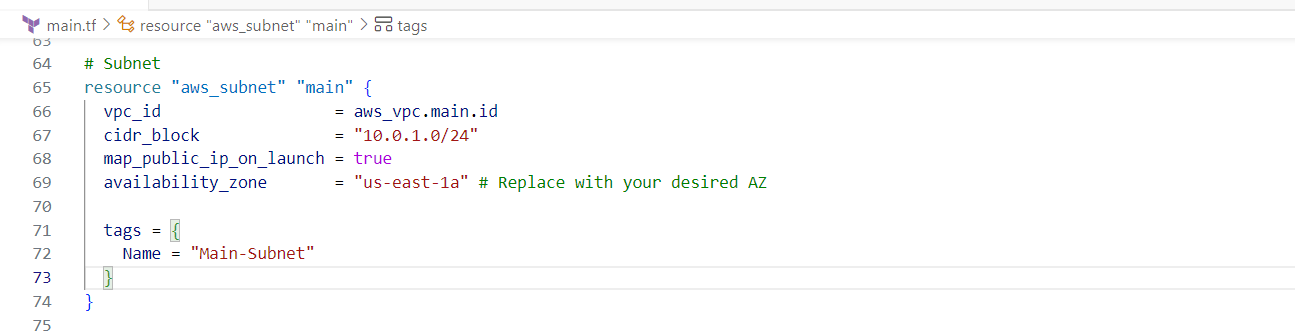
**availability\_zone       = "us-east-1a" # Replace with your desired AZ**

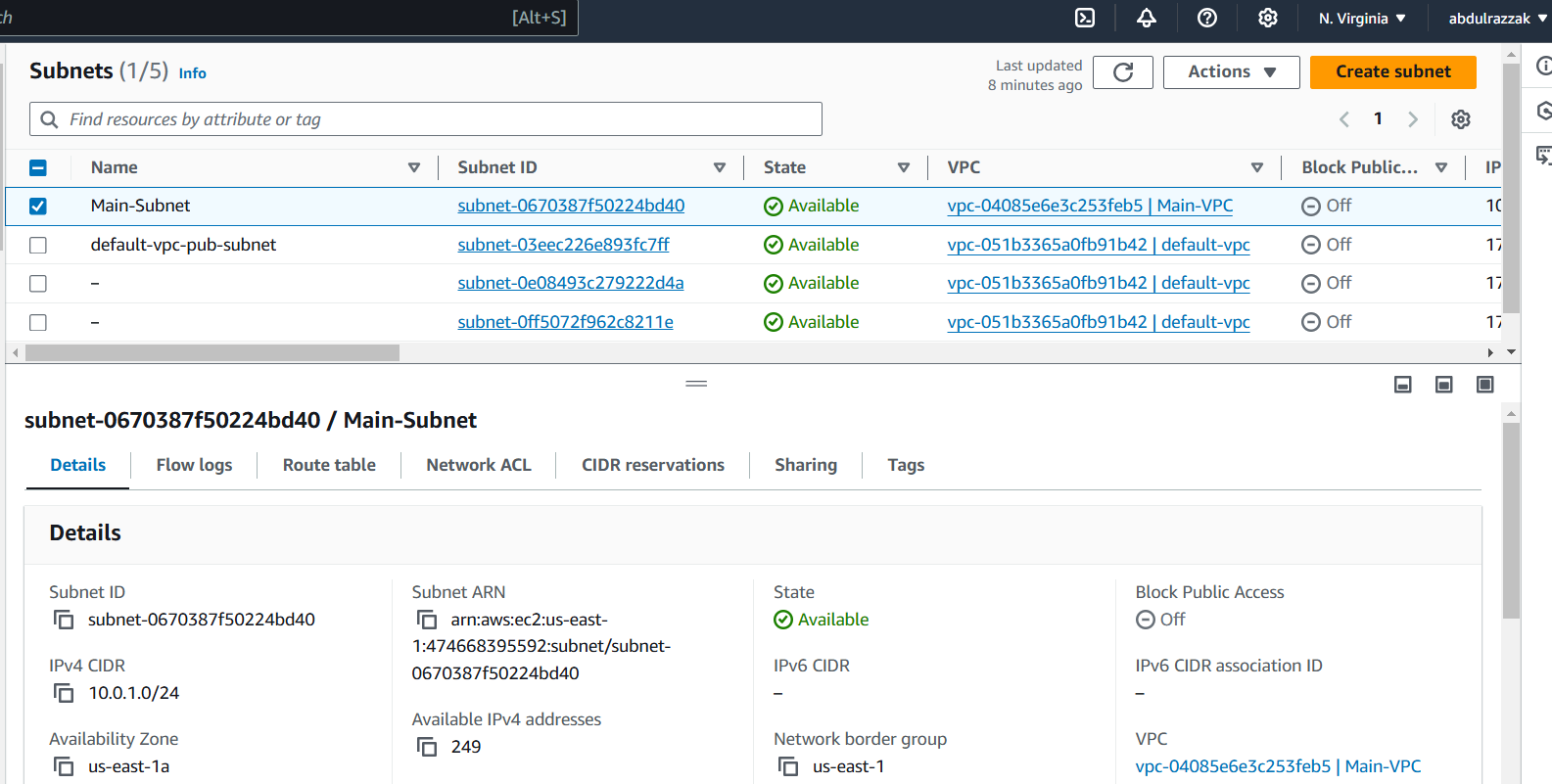
**tags = {**

**Name = "Main-Subnet"**

**}**

**}**

****

****

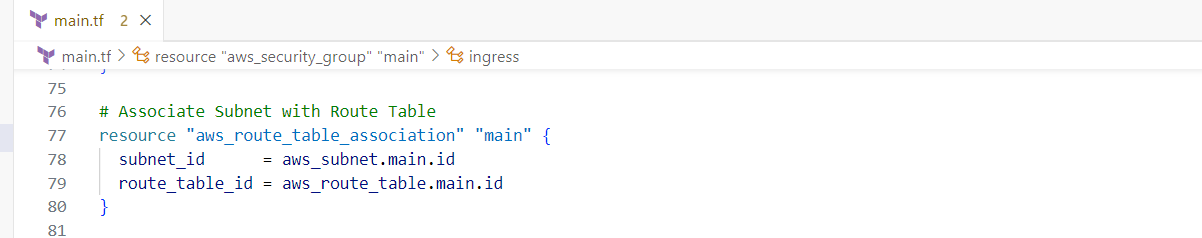
**5) Associate subnet with Route Table:**

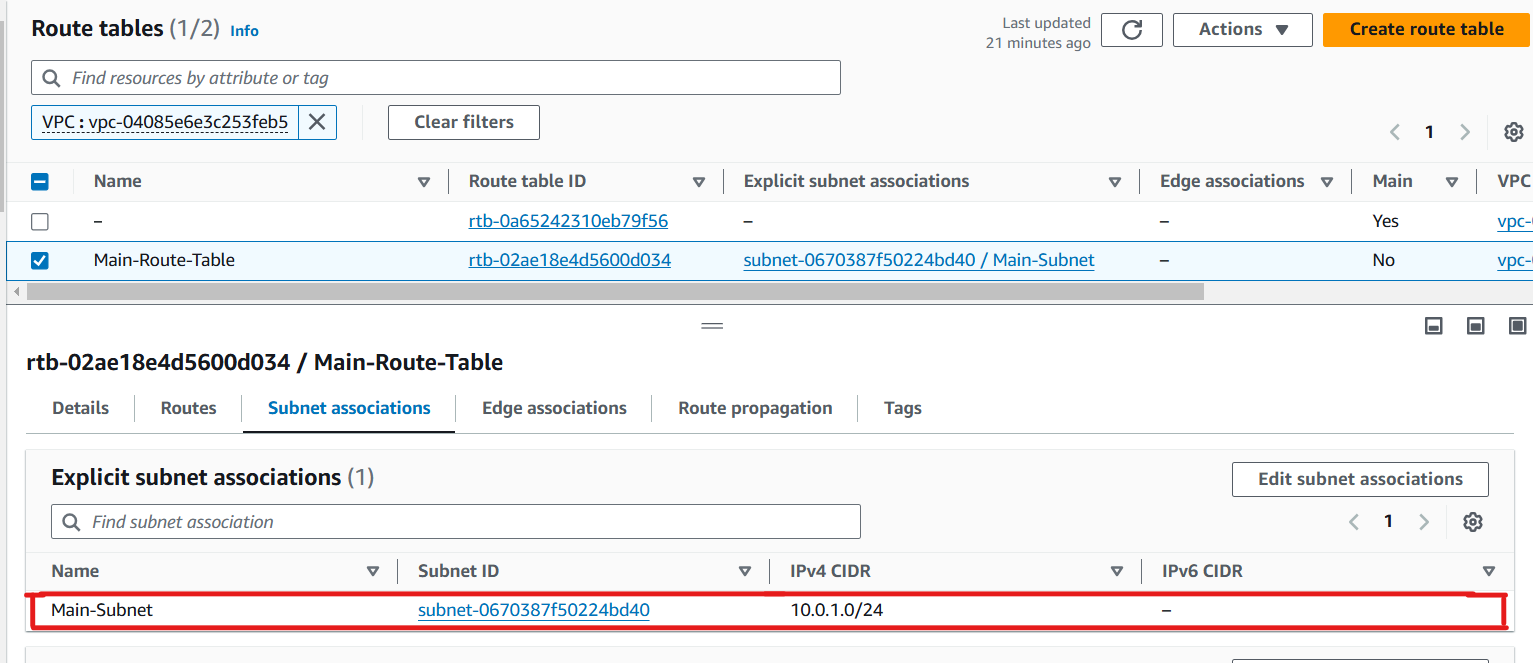
**resource "aws\_route\_table\_association" "main" {**

**subnet\_id      = aws\_subnet.main.id**

**route\_table\_id = aws\_route\_table.main.id**

**}**

****

****

**6) Create Security Group to allow port 22.80,443**

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

**vpc\_id = aws\_vpc.main.id**

**ingress {**

**from\_port   = 22**

**to\_port     = 22**

**protocol    = "tcp"**

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

**}**

**ingress {**

**from\_port   = 80**

**to\_port     = 80**

**protocol    = "tcp"**

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

**}**

**ingress {**

**from\_port   = 443**

**to\_port     = 443**

**protocol    = "tcp"**

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

**}**

**egress {**

**from\_port   = 0**

**to\_port     = 0**

**protocol    = "-1"**

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

**}**

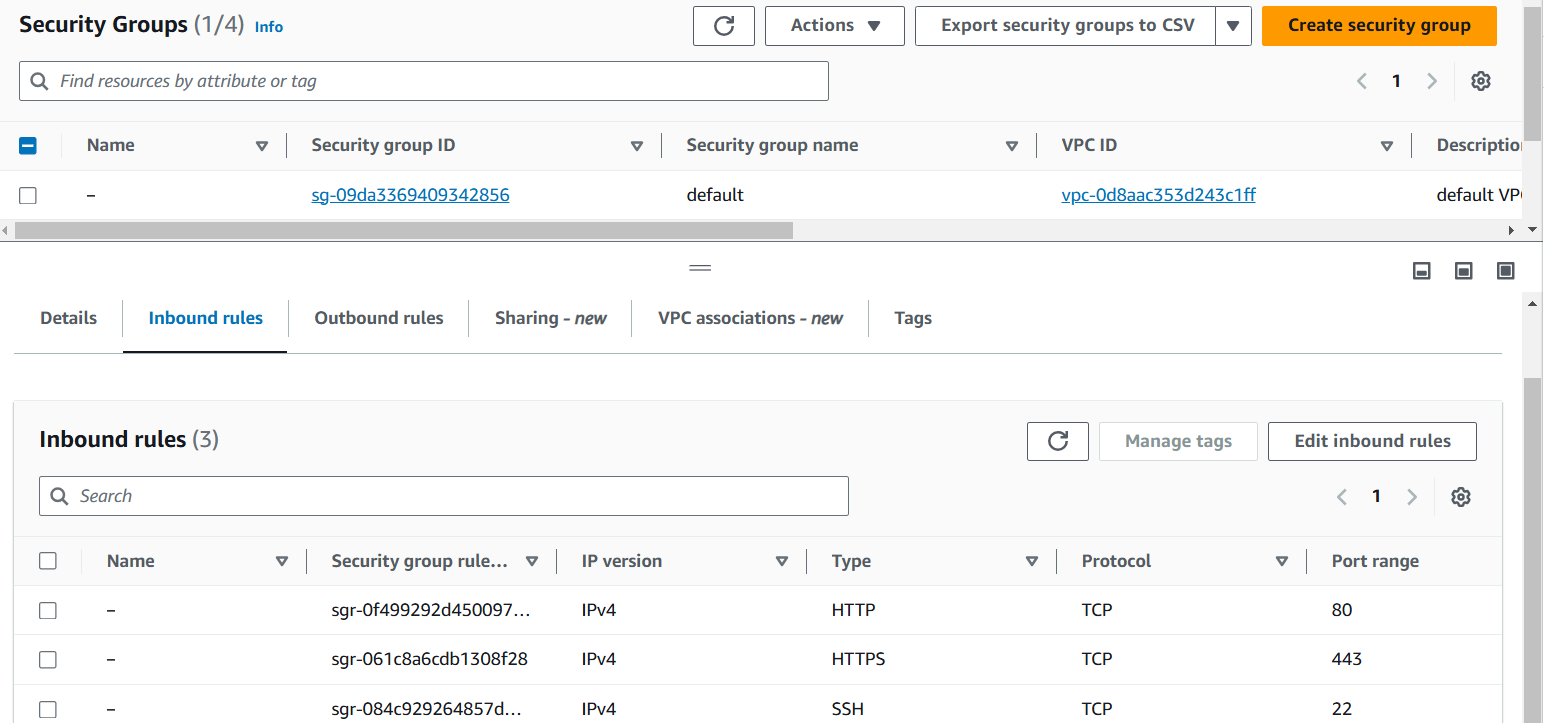
**tags = {**

**Name = "Main-Security-Group"**

**}**

**}**

****

****

**7) Create a network interface with an ip in the subnet that was created in step 4**

**resource "aws\_network\_interface" "main" {**

**subnet\_id       = aws\_subnet.main.id**

**private\_ips     = ["10.0.1.10"]**

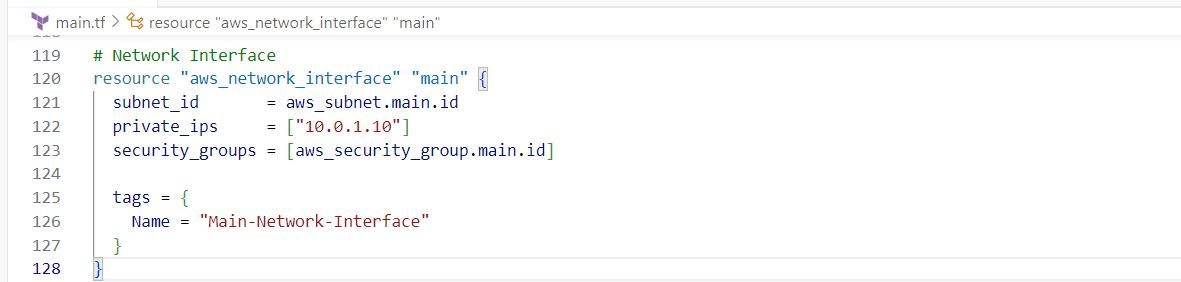
**security\_groups = [aws\_security\_group.main.id]**

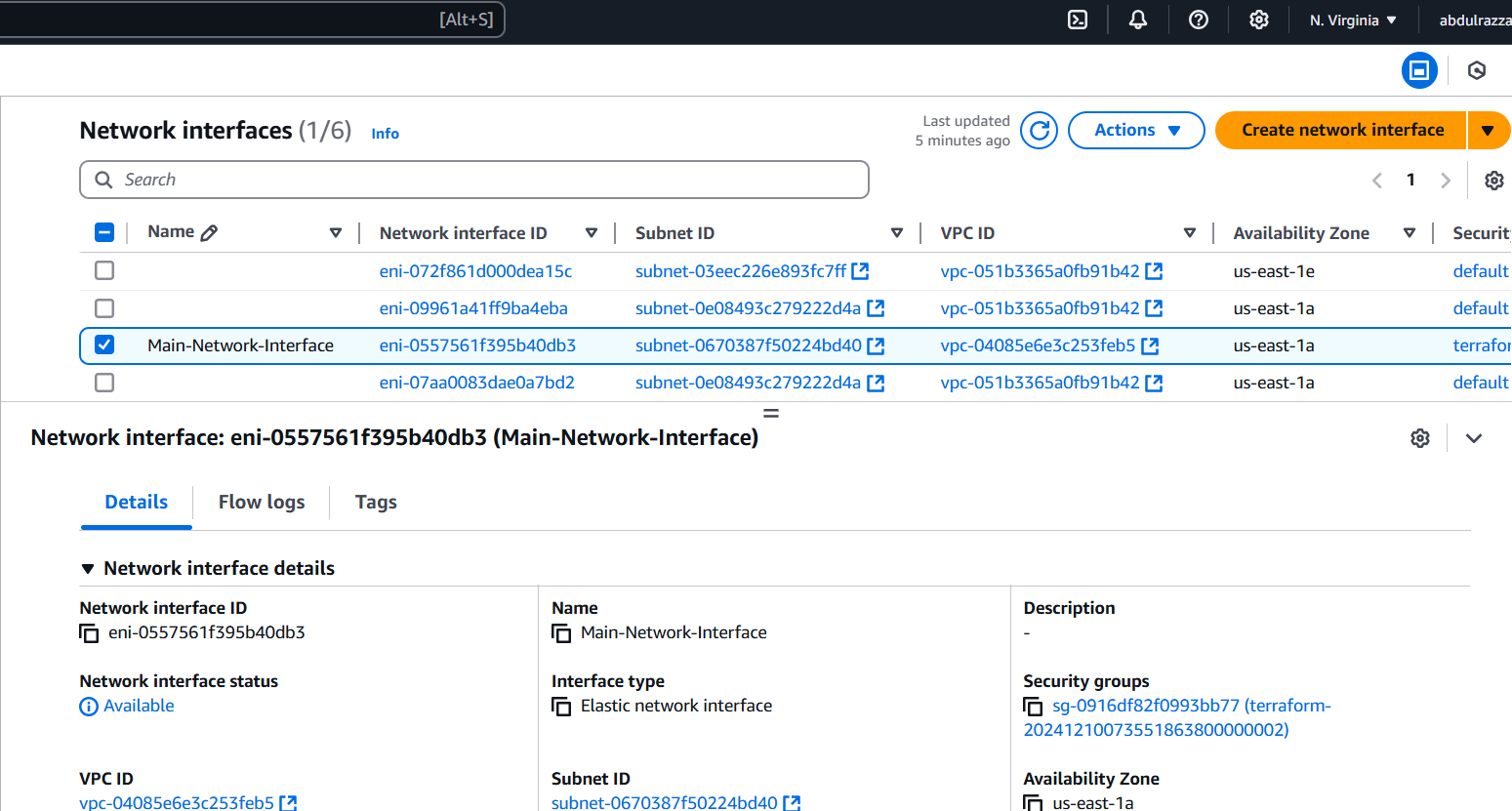
**tags = {**

**Name = "Main-Network-Interface"**

**}**

**}**

****

****

**8) Assign an elastic IP to the network interface created in step 7**

**resource "aws\_eip" "main" {**

**network\_interface = aws\_network\_interface.main.id**

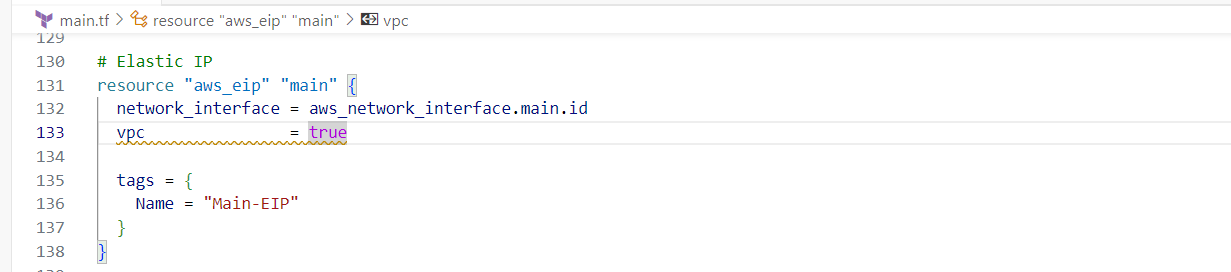
**vpc               = true**

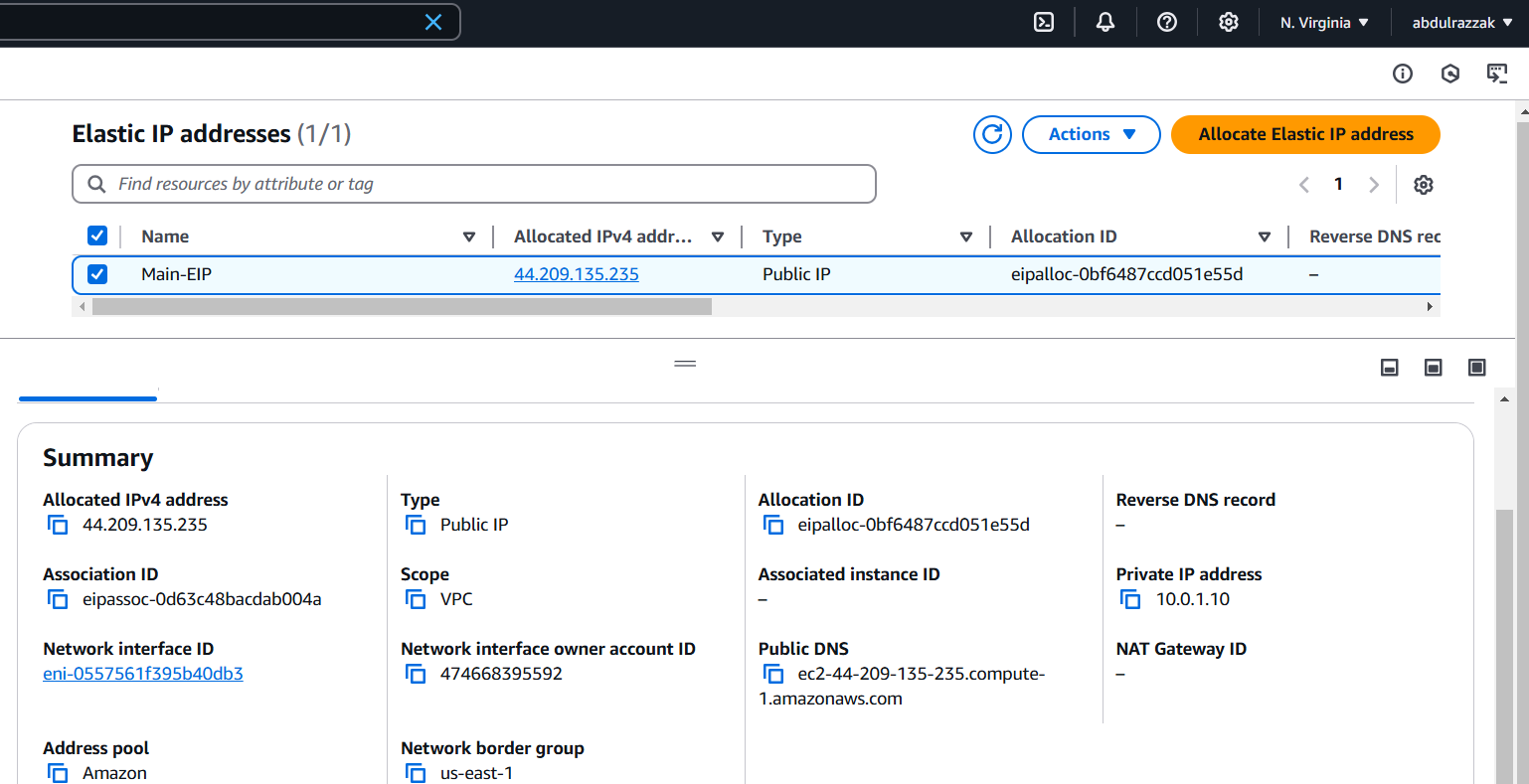
**tags = {**

**Name = "Main-EIP"**

**}**

**}**

****

****

**9) Create Ubuntu server and install/enable apache2**

**resource "aws\_instance" "ubuntu" {**

**ami                    = "ami-0e2c8caa4b6378d8c"**

**instance\_type          = "t2.micro"**

**subnet\_id              = aws\_subnet.main.id**

**associate\_public\_ip\_address = true**

**tags = {**

**Name = "Ubuntu-Server"**

**}**

**user\_data = <<-EOF**

**#!/bin/bash**

**apt-get update -y**

**apt-get install -y apache2**

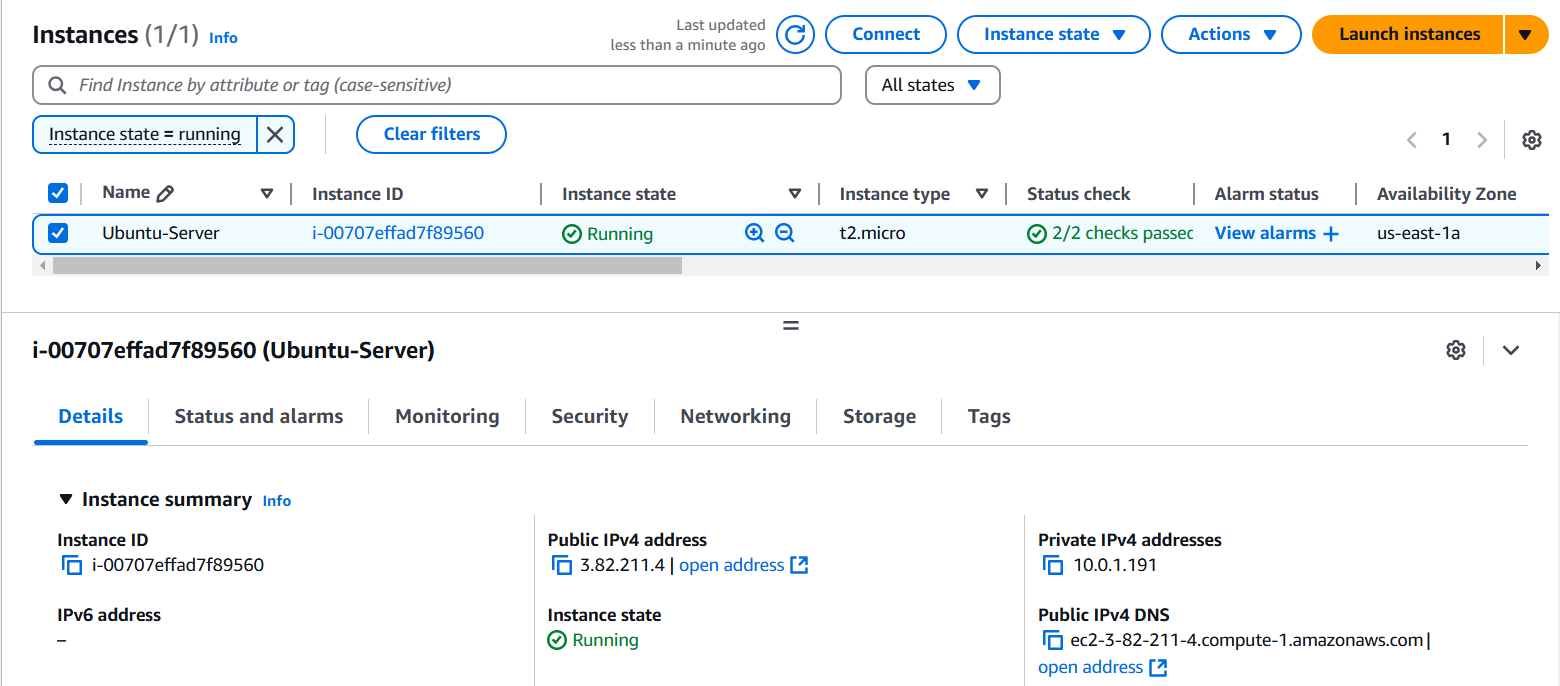
**systemctl enable apache2**

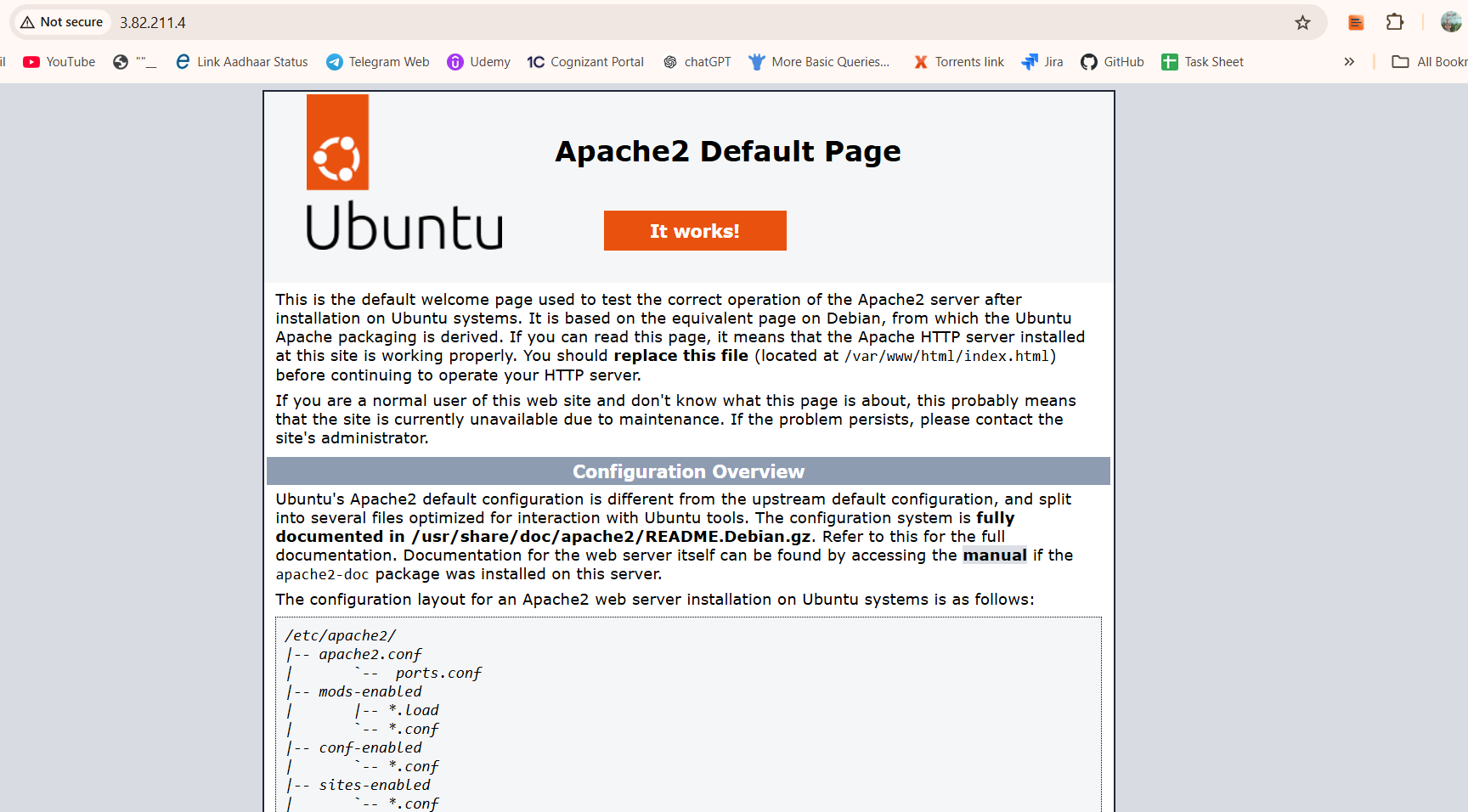
**systemctl start apache2**

**EOF**

**}**

****

****

****

* **Configure s3 as backend and dynamo db locking for multi user execution.**

resource "aws\_s3\_bucket" "s3\_bucket" {

  bucket = "s3-10-dec-2024"

  acl = "private"

}

resource "aws\_dynamodb\_table" "dynamodb-terraform-state-lock" {

  name = "terraform-state-lock-dynamo"

  hash\_key = "LockID"

  read\_capacity = 20

  write\_capacity = 20

  attribute {

    name = "LockID"

    type = "S"

  }

}

terraform {

  backend "s3" {

    bucket = "s3-10-dec-2024"

    dynamodb\_table = "terraform-state-lock-dynamo"

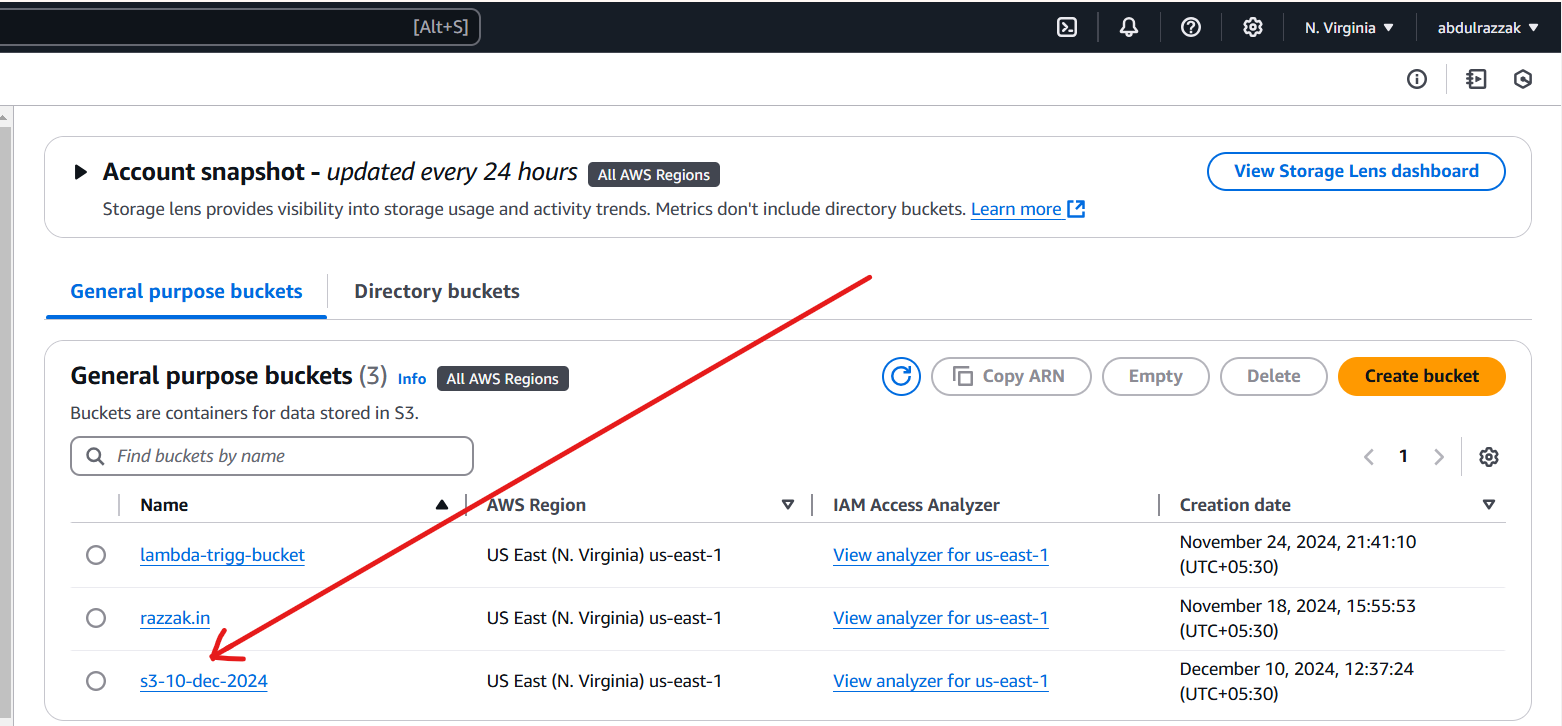
    key    = "terraform.tfstate"

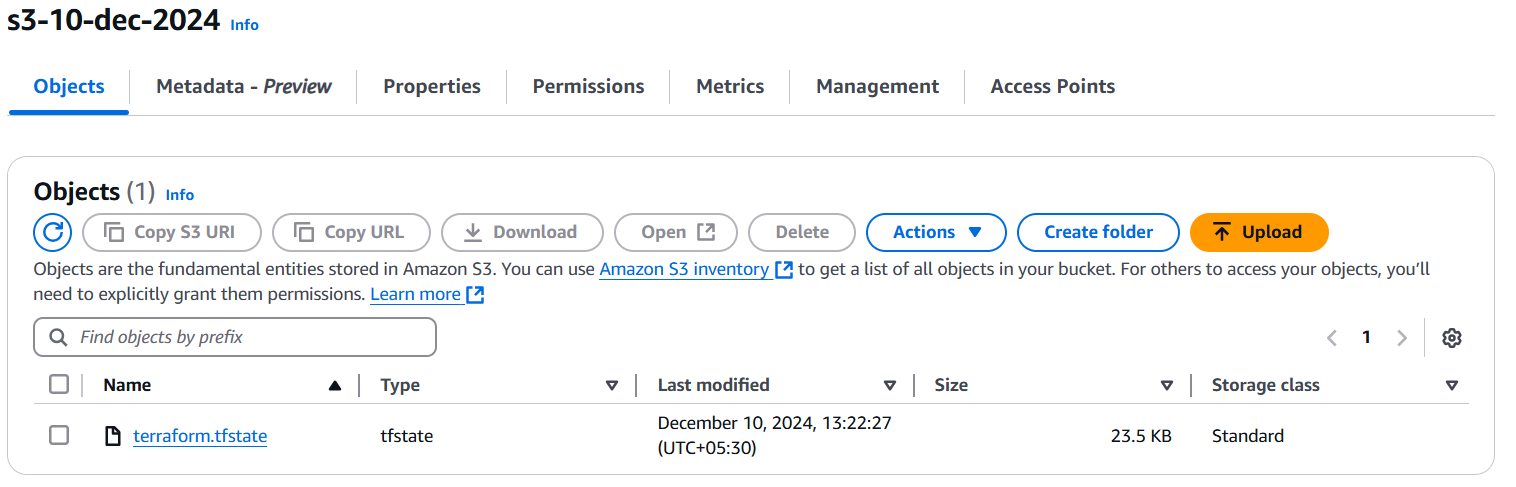
    region = "us-east-1"

  }

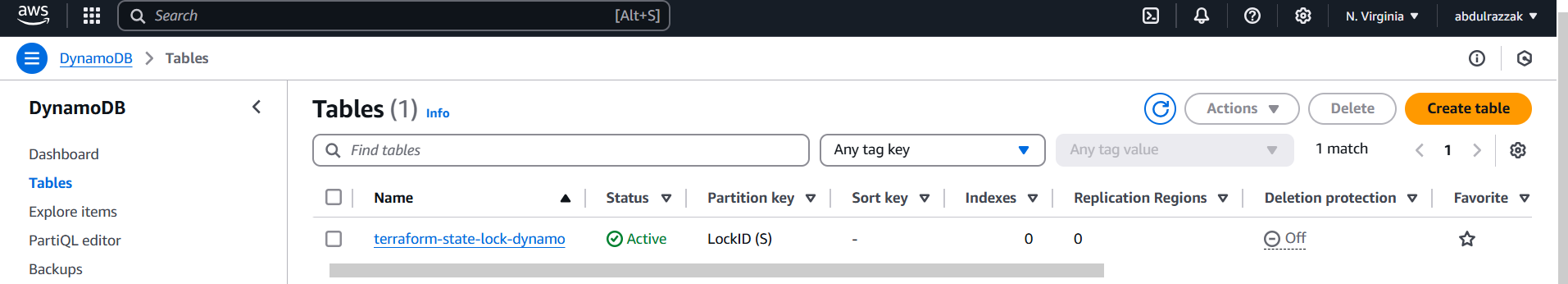
}

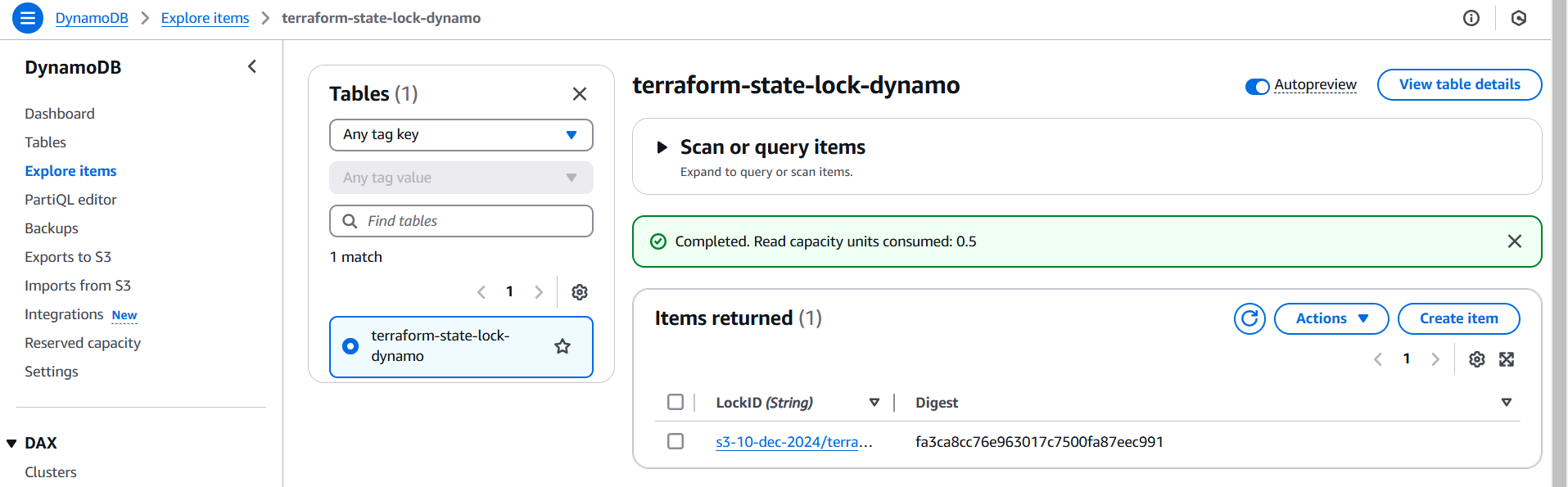
****

****

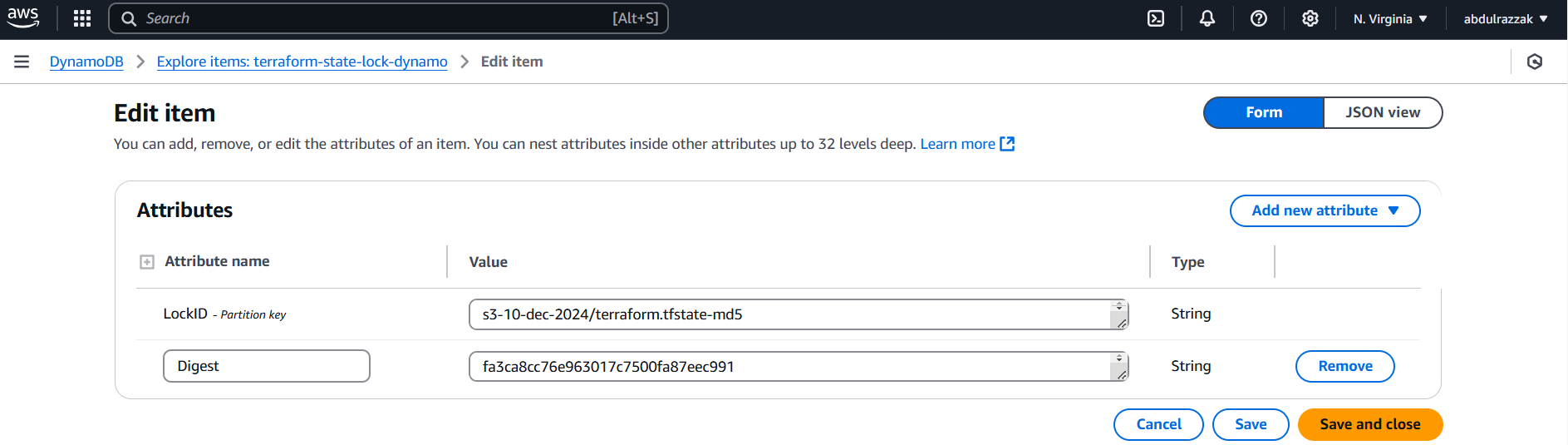
****

**>>>Dynamo Table:**

****

****

**>>>Lock Id:**

****