

# Terraform

PRAVEEN J – 22CSR152/CSE

```
terraform {  
  required_providers {  
    aws = {  
      source = "hashicorp/aws"  
      version = "5.92.0"  
    }  
  }  
}
```

```
provider "aws" {  
  # Configuration options  
}
```

Terraform version:

```
terraform {  
  required_providers {  
    aws = {  
      source = "hashicorp/aws"  
      version = "~> 5.0"  
    }  
  }  
}
```

# Configure the AWS Provider

```
provider "aws" {  
    region = "us-east-1"  
}
```

# Create a VPC

```
resource "aws_vpc" "example" {  
    cidr_block = "10.0.0.0/16"  
}
```

```
region = "us-east-1"
```

```
resource "aws_vpc" "myvpc" {  
    cidr_block = "10.0.0.0/16"
```

```
tags = {  
    Name = "demovpc"  
}
```

```
resource "aws_subnet" "pubsub" {  
    vpc_id = aws_vpc.myvpc.id  
    cidr_block = "10.0.1.0/24"  
    availability_zone = "us-east-1a"
```

```
tags = {  
    Name = "sn1"  
}  
}
```

## Internet Gateway:

```
resource "aws_internet_gateway" "tfigw" {  
    vpc_id = aws_vpc.myvpc.id
```

```
tags = {  
    Name = "tfigw"  
}  
}
```

```
resource "aws_route_table" "tfpubrt" {  
    vpc_id = aws_vpc.myvpc.id  
  
    route {  
        cidr_block = "0.0.0.0/0"  
        gateway_id = aws_internet_gateway.tfigw.id  
    }  
}
```

```
tags = {  
    Name = "tfpublicroute"  
}  
}
```

```
resource "aws_route_table_association" "pubsn1" {  
    subnet_id    = aws_subnet.pubsub.id  
    route_table_id = aws_route_table.tfpubrt.id  
}
```

```
resource "aws_route_table_association" "pubsn2" {  
    subnet_id    = aws_subnet.pub_sub.id  
    route_table_id = aws_route_table.tfpubrt.id  
}
```

```
resource "aws_eip" "tfeip" {  
    domain = "vpc"  
}
```

```
resource "aws_nat_gateway" "tfnat" {  
    allocation_id = aws_eip.tfeip.id  
    subnet_id    = aws_subnet.pub_sub.id
```

```
tags = {  
    Name = "gw NAT"  
}  
}
```

```
resource "aws_route_table" "tfprirt" {  
    vpc_id = aws_vpc.myvpc.id  
  
    route {  
        cidr_block = "0.0.0.0/0"  
        gateway_id = aws_nat_gateway.tfnat.id  
    }  
}
```

```
tags = {  
    Name = "tfprivateroute"  
}  
}
```

```
resource "aws_security_group" "allow_tfsg" {  
    name      = "allow_tfsg"  
    description = "Allow TLS inbound traffic"  
    vpc_id    = aws_vpc.myvpc.id  
  
    ingress {
```

```
description    = "HTTPS "
from_port      = 443
to_port        = 443
protocol       = "tcp"
cidr_blocks    = ["0.0.0.0/0"]
}

ingress {
  description   = "HTTP "
  from_port     = 80
  to_port       = 80
  protocol      = "tcp"
  cidr_blocks   = ["0.0.0.0/0"]
}

ingress {
  description   = "SSH"
  from_port     = 22
  to_port       = 22
  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 = "TfsecurityGroup"
```

```
}
```

```
}
```

```
#terraform init
```

```
#terraform validate
```

```
#terraform plan
```

```
#terraform apply
```

```
#terraform destroy
```