* VPC by using Terraform *

1) Create VPC (my-vpc) cidr block = "10.0.0.0/16"

2) Public subnet (1) => cidr block = "10.0.1.0/24"

3) private subnet (2) => cidr block = "10.0.2.0/24"

```
Terraform {
required_Providers {
aws = {
source = "hashicorp/aws"
version = "5.54.1"
}
}
}

Provider "aws" {
region = ~~"ap-south-1"~~ "eu-north-1"
}
```

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Create a vpc

```
resource "aws_vpc" "my_vpc" {
  cidr_block = "10.0.0.0/16"
  tags = {
    Name = "my_vpc"
  }
}
```

Create a subnet

private subnet :-

```
resource "aws_subnet" "private-subnet" {
  cidr_block = "10.0.1.0/24"
  vpc_id = aws_vpc.my_vpc.id
  tags = {
    Name = "private-subnet"
  }
}
```

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public subnet

```
resource "aws_subnet" "public-subnet" {
  cidr_block = "10.0.2.0/24"
  vpc_id = aws_vpc.my_vpc.id
  tags = {
  Name = "public-subnet"
  }
}
```

Internet getway

```
resource" aws_internet_getway" "my-igw"{
  VPC_id = " aws_vpc.my_vpc.id"
  tags = {
  Name = " my-igw"
  }
}
```

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Routing Table

```
resource " aws_route_table" "my-rt" {
vpc_id = 'aws_vpc.my_vpc.id

route = {
cidr_block = " 0.0.0.0/0 "
getway_id = " aws_internet_getway.my-igw.id

}
}

resource " aws_route_table_association" " public-subnet" {
route_table_id = aws_route_table.my-rt.id
subnet_id = public. aws_subnet.public_subnet.id

}
```

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aws-ec2 > main.tf > provider "aws" > region

```
terraform {
  required_providers {
    aws = {
      source = "hashicorp/aws"
      version = "5.54.1"
    }
  }
}

provider "aws" {
  region = "eu-north-1"
}
```

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```
#Create a VPC
resource "aws_vpc" "my_vpc" {
  cidr_block = "10.0.0.0/16"
  tags = {
    Name = "my_vpc"
  }
}

#Privte subnet
resource "aws_subnet" "private-subnet" {
  cidr_block = "10.0.1.0/24"
  vpc_id = aws_vpc.my_vpc.id
}
```

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```
  tags = {
    Name = "private-subnet"
  }
}

#Public subnet
resource "aws_subnet" "public-subnet" {
  cidr_block = "10.0.2.0/24"
  vpc_id = aws_vpc.my_vpc.id
  tags = {
    Name = "public-subnet"
  }
}
```

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aws-vpc > main.tf > resource "aws_route_table" "name"

```
39
40  #Internet gateway
41  resource "aws_internet_gateway" "my-igw" {
42    vpc_id = aws_vpc.my_vpc.id
43    tags = {
44      Name = "my-igw"
45    }
46  }
47
48  #Routing table
49  resource "aws_route_table" "name" {
50
51  }
```

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```
}

#Routing table
resource "aws_route_table" "my-rt" {
  vpc_id = aws_vpc.my_vpc.id

  route = {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.my-igw.id
  }
}
```

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```
#Routing table
resource "aws_route_table" "my-rt" {
  vpc_id = aws_vpc.my_vpc.id

  route = {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.my-igw.id
  }
}

resource "aws_route_table_association" "public-sub" {
  route_table_id = aws_route_table.my-rt.id
  subnet_id = aws_subnet.public-subnet.id
}
```

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