

# Step By Step Guide: For Creating VPC and VPC-Peering AND allow Jump server

## Step 1: Creating a VPC and Subnets

### a. Open VPC Service:

- Open the AWS Management Console and navigate to the VPC service.

### b. Create VPC:

- Click on "Create VPC."
- Choose the option "VPC only" and provide a CIDR block for the VPC, such as "10.0.0.0/22".
- Click on "Create VPC."

### c. Create Subnets:

- Go to Subnets and click on "Create Subnet."
- Choose the newly created VPC in the VPC ID option.
- Choose an availability zone and provide an IPv4 CIDR block for the public subnet, e.g., "10.0.1.0/24".
- Create the public subnet.
- Repeat the same process for creating a private subnet with a different IPv4 CIDR block, e.g., "10.0.2.0/24".

## Step 2: Creating an Internet Gateway and Attaching it to the Public Subnet

### a. Create Internet Gateway:

- Go to Internet Gateways and click on "Create internet gateway."
- Provide a name and create the internet gateway.
- Click on "Actions" and then "Attach to VPC." Select your VPC and attach it.

### b. Configure Route Table:

- Go to Route Tables and create a new route table.
- Associate the route table with your VPC.
- In the Routes section, add a route for "0.0.0.0/0" to the Internet Gateway.
- Associate the public subnet with this route table.

## Step 3: Creating a NAT Gateway and Attaching it to the Private Subnet

### a. Create NAT Gateway:

- Create a NAT Gateway for the public subnet and assign an Elastic IP.

### b. Configure Route Table:

- Create another route table for the private subnet.
- Add a route for the public subnet CIDR block to the NAT Gateway.
- Associate the private subnet with this route table.

## Step 4: Launching Instances in Both Subnets

### a. Launch Instances:

- Go to EC2 service and launch two instances, one in the public subnet and another in the private subnet.
- Choose the newly created VPC for both instances.
- Ensure SSH access in security groups.
- Note down public IP for the instance in the public subnet and private IP for the instance in the private subnet (Jump Server).

### b. Access Instances:

- Use SSH to connect to the instance in the public subnet.
- Copy the key file to the public instance.
- SSH into the private instance (Jump Server) from the public instance.

**Step 5: VPC Peering****a. Create Another VPC:**

- Create another VPC with a different CIDR range.

**b. Create Peering Connection:**

- Go to Peering Connections and create a new peering connection.
- Choose your first VPC as the requester and the second VPC as the acceptor.
- Click on "Create peering connection."

**c. Accept Connection:**

- Click on "Actions" in the peering connection and accept the connection request.

**d. Modify Route Tables:**

- Go to Route Tables and modify the route section.
- Add a route for the subnet CIDR block of the other VPC to the VPC peering connection.

This documentation provides detailed steps for setting up a VPC, creating subnets, configuring internet and NAT gateways, launching instances, and establishing VPC peering connections. Each step is outlined clearly for easy understanding and implementation.