**Hosting a web page using newly created VPC**

**✅ STEP 1: Create a VPC**

1. Go to **VPC Console** → Click **“Create VPC”**
2. Choose **“VPC only”**
3. Set the **VPC Name**: MyVPC
4. **IPv4 CIDR block**: 10.0.0.0/16
5. Leave other defaults → Click **“Create VPC”**

**✅ STEP 2: Create 2 Subnets**

**Public Subnet 1:**

1. Go to **Subnets** → Click **“Create subnet”**
2. **Name**: PublicSubnet1
3. **VPC**: Select MyVPC
4. **AZ**: Choose us-east-1a (or any)
5. **CIDR block**: 10.0.1.0/24
6. Click **Create subnet**

**Public Subnet 2:**

Repeat above steps with:

* Name: PublicSubnet2
* AZ: us-east-1b
* CIDR block: 10.0.2.0/24

**✅ STEP 3: Enable Auto-Assign Public IP for Subnets**

1. Select each subnet (one by one)
2. Go to **Actions** → **Edit subnet settings**
3. Enable **“Auto-assign public IPv4 address”**
4. Save

**✅ STEP 4: Create an Internet Gateway (IGW)**

1. Go to **Internet Gateways** → Click **“Create internet gateway”**
2. **Name**: MyIGW
3. Click **Create**, then **Attach to VPC** → Select MyVPC

**✅ STEP 5: Create a Route Table**

1. Go to **Route Tables** → Click **“Create route table”**
2. Name: PublicRouteTable
3. VPC: MyVPC → Create
4. Select the new route table → **Routes → Edit routes**
   * Add route:
     + Destination: 0.0.0.0/0
     + Target: Internet Gateway → select MyIGW
5. Click **Save routes**

**✅ STEP 6: Associate Subnets with Route Table**

1. Select the route table PublicRouteTable
2. Go to **Subnet associations → Edit subnet associations**
3. Select both PublicSubnet1 and PublicSubnet2
4. Click **Save associations**

**✅ STEP 7: Create a Security Group**

1. Go to **Security Groups** → Click **Create**
2. Name: WebSG, VPC: MyVPC
3. **Inbound Rules** → Add Rule:
   * Type: HTTP
   * Port: 80
   * Source: 0.0.0.0/0
4. Outbound rule can stay default (allow all)
5. Click **Create**

**✅ STEP 8: Launch an EC2 Instance with User Data**

1. Go to **EC2 Dashboard → Launch Instance**
2. Name: WebServer
3. AMI: Choose **Amazon Linux 2**
4. Instance type: t2.micro (Free tier)
5. **Key Pair**: Select or create one
6. Network:
   * VPC: MyVPC
   * Subnet: PublicSubnet1
   * Auto-assign Public IP: **Enable**
7. **Security Group**: Select WebSG
8. Scroll down → Expand **Advanced details**
9. In **User data**, paste the script:

bash

CopyEdit

#!/bin/bash

yum update -y

yum install -y httpd

systemctl start httpd

systemctl enable httpd

echo "<h1>Hello from EC2 Web Server</h1>" > /var/www/html/index.html

1. Click **Launch Instance**

**✅ STEP 9: Access Your Web Server**

1. Once instance is running, copy the **Public IP**
2. Open browser: http://<your-ec2-public-ip>:80
3. You should see the sample web page.