

## Assignment - 7

### 1) Create your own new custom VPC

- And configure your EC2 Linux instance inside your custom VPC
- And then create 3 subnets of that VPC
- Attach an internet gateway to your custom VPC

➤ To create a custom VPC:

The screenshot shows the AWS VPC console interface. A green notification banner at the top states: "You successfully created vpc-0279442506f5ed55c / my-customvpc". The left sidebar contains navigation links for "Virtual private cloud" and "Security". The main content area displays the details for the VPC "vpc-0279442506f5ed55c / my-customvpc". A red rectangle highlights the "Details" section, which includes the following information:

| Property                                   | Value                  |
|--|------------------------|
| VPC ID                                     | vpc-0279442506f5ed55c  |
| State                                      | Available              |
| Tenancy                                    | Default                |
| Default VPC                                | No                     |
| Network Address Usage metrics              | Disabled               |
| DHCP option set                            | dopt-01cb2f90eb4194c1f |
| IPv4 CIDR                                  | 10.0.0.0/16            |
| Route 53 Resolver DNS Firewall rule groups | -                      |
| DNS hostnames                              | Disabled               |
| Main route table                           | rtb-0393c948e10a45ef4  |
| IPv6 pool                                  | -                      |
| Owner ID                                   | 361621943543           |
| DNS resolution                             | Enabled                |
| Main network ACL                           | acl-08c075e8a405587f9  |
| IPv6 CIDR (Network border group)           | -                      |

Below the details, the "CIDRs" tab is selected, showing a table with one entry:

| Address type | CIDR        | Network Border Group | Pool | Status     |
|--------------|-------------|----------------------|------|------------|
| IPv4         | 10.0.0.0/16 | -                    | -    | Associated |

The screenshot shows the AWS VPC console interface. A green notification banner at the top states: "You successfully created vpc-0279442506f5ed55c / my-customvpc". The left sidebar contains navigation links for "Virtual private cloud" and "Security". The main content area displays a list of VPCs under the heading "Your VPCs (1/2)". A red rectangle highlights the details of the selected VPC "my-customvpc".

| Name         | VPC ID                | State     | IPv4 CIDR     | IPv6 CIDR |
|--------------|-----------------------|-----------|---------------|-----------|
| my-customvpc | vpc-0279442506f5ed55c | Available | 10.0.0.0/16   | -         |
| -            | vpc-0e4e19f2e4e77c801 | Available | 172.31.0.0/16 | -         |

Below the list, the details for the selected VPC "my-customvpc" are shown:

| Property                                   | Value                  |
|--|------------------------|
| VPC ID                                     | vpc-0279442506f5ed55c  |
| State                                      | Available              |
| Tenancy                                    | Default                |
| Default VPC                                | No                     |
| Network Address Usage metrics              | Disabled               |
| DHCP option set                            | dopt-01cb2f90eb4194c1f |
| IPv4 CIDR                                  | 10.0.0.0/16            |
| Route 53 Resolver DNS Firewall rule groups | -                      |
| DNS hostnames                              | Disabled               |
| Main route table                           | rtb-0393c948e10a45ef4  |
| IPv6 pool                                  | -                      |
| Owner ID                                   | 361621943543           |
| DNS resolution                             | Enabled                |
| Main network ACL                           | acl-08c075e8a405587f9  |
| IPv6 CIDR (Network border group)           | -                      |

➤ Create a 3 subnet and attached it to VPC

You have successfully created 2 subnets: subnet-08c5bfe6f5d960333, subnet-0f3ac1b98e8dc55c1

**Subnets (1/6)** Info

Filter subnets

| Name       | Subnet ID                | State     | VPC                           | IPv4 CIDR      | IPv6 CIDR |
|------------|--------------------------|-----------|-------------------------------|----------------|-----------|
| my-subnet3 | subnet-0f3ac1b98e8dc55c1 | Available | vpc-0279442506f5ed55c   my... | 10.0.64.0/18   | -         |
| my-subnet2 | subnet-08c5bfe6f5d960333 | Available | vpc-0279442506f5ed55c   my... | 10.0.128.0/18  | -         |
| my-subnet1 | subnet-0af1147254ff4fb36 | Available | vpc-0279442506f5ed55c   my... | 10.0.0.0/18    | -         |
| -          | subnet-07ee61b0639d6344d | Available | vpc-0e4e19f2e4e77c801         | 172.31.0.0/20  | -         |
| -          | subnet-0af26ac7285521d07 | Available | vpc-0e4e19f2e4e77c801         | 172.31.32.0/20 | -         |

Subnet ID: subnet-0af1147254ff4fb36  
Subnet ARN: arn:aws:ec2:ap-south-1:361621943543:subnet/subnet-0af1147254ff4fb36  
State: Available  
Availability Zone: ap-south-1a  
IPv4 CIDR: 10.0.0.0/18  
Availability Zone ID: aps1-az1  
Available IPv4 addresses: 16379  
Network border group: ap-south-1  
Route table: rtb-0393c948e10a45ef4  
Network ACL: acl-08c075e8a405587f9

You have successfully created 2 subnets: subnet-08c5bfe6f5d960333, subnet-0f3ac1b98e8dc55c1

**Subnets (1/6)** Info

Filter subnets

| Name       | Subnet ID                | State     | VPC                           | IPv4 CIDR      | IPv6 CIDR |
|------------|--------------------------|-----------|-------------------------------|----------------|-----------|
| my-subnet3 | subnet-0f3ac1b98e8dc55c1 | Available | vpc-0279442506f5ed55c   my... | 10.0.64.0/18   | -         |
| my-subnet2 | subnet-08c5bfe6f5d960333 | Available | vpc-0279442506f5ed55c   my... | 10.0.128.0/18  | -         |
| my-subnet1 | subnet-0af1147254ff4fb36 | Available | vpc-0279442506f5ed55c   my... | 10.0.0.0/18    | -         |
| -          | subnet-07ee61b0639d6344d | Available | vpc-0e4e19f2e4e77c801         | 172.31.0.0/20  | -         |
| -          | subnet-0af26ac7285521d07 | Available | vpc-0e4e19f2e4e77c801         | 172.31.32.0/20 | -         |

Subnet ID: subnet-08c5bfe6f5d960333  
Subnet ARN: arn:aws:ec2:ap-south-1:361621943543:subnet/subnet-08c5bfe6f5d960333  
State: Available  
Availability Zone: ap-south-1b  
IPv4 CIDR: 10.0.128.0/18  
Availability Zone ID: aps1-az3  
Available IPv4 addresses: 16379  
Network border group: ap-south-1  
Route table: rtb-0393c948e10a45ef4  
Network ACL: acl-08c075e8a405587f9

Filter subnets

| Name       | Subnet ID                | State     | VPC                           | IPv4 CIDR      | IPv6 CIDR |
|------------|--------------------------|-----------|-------------------------------|----------------|-----------|
| my-subnet3 | subnet-0f3ac1b98e8dc55c1 | Available | vpc-0279442506f5ed55c   my... | 10.0.64.0/18   | -         |
| my-subnet2 | subnet-08c5bfe6f5d960333 | Available | vpc-0279442506f5ed55c   my... | 10.0.128.0/18  | -         |
| my-subnet1 | subnet-0af1147254ff4fb36 | Available | vpc-0279442506f5ed55c   my... | 10.0.0.0/18    | -         |
| -          | subnet-07ee61b0639d6344d | Available | vpc-0e4e19f2e4e77c801         | 172.31.0.0/20  | -         |
| -          | subnet-0af26ac7285521d07 | Available | vpc-0e4e19f2e4e77c801         | 172.31.32.0/20 | -         |

**Details**

Subnet ID: subnet-0f3ac1b98e8dc55c1  
Subnet ARN: arn:aws:ec2:ap-south-1:361621943543:subnet/subnet-0f3ac1b98e8dc55c1  
State: Available  
Availability Zone: ap-south-1c  
IPv4 CIDR: 10.0.64.0/18  
Availability Zone ID: aps1-az2  
Available IPv4 addresses: 16379  
Network border group: ap-south-1  
Route table: rtb-0393c948e10a45ef4  
Network ACL: acl-08c075e8a405587f9

- Create a Internet Gateway to your VPC:

VPC > Internet gateways > igw-0f4e2c43fca719871

## igw-0f4e2c43fca719871 / my-ig

Actions ▾

**Details** Info

|  |                   |  |                          |
|--|-------------------|--|--------------------------|
| Internet gateway ID<br>igw-0f4e2c43fca719871 | State<br>Attached | VPC ID<br>vpc-0279442506f5ed55c   my-customvpc | Owner ID<br>361621943543 |
|--|-------------------|--|--------------------------|

**Tags** Manage tags

Search tags

| Key  | Value |
|------|-------|
| Name | my-ig |

- Create a route table

Route tables (1/3) Info

Filter route tables

Actions ▾ Create route table

|                                     | Name     | Route table ID        | Explicit subnet associat... | Edge associations | Main | VPC                           |
|-------------------------------------|----------|-----------------------|-----------------------------|-------------------|------|-------------------------------|
| <input type="checkbox"/>            | -        | rtb-0393c948e10a45ef4 | -                           | -                 | Yes  | vpc-0279442506f5ed55c   my... |
| <input checked="" type="checkbox"/> | my-route | rtb-0e81cf25c4ed63688 | 3 subnets                   | -                 | No   | vpc-0279442506f5ed55c   my... |
| <input type="checkbox"/>            | -        | rtb-00d6f4f408b255257 | -                           | -                 | Yes  | vpc-0e4e19f2e4e77c801         |

|   |                          |   |                        |
|---|--------------------------|---|------------------------|
| Route table ID<br>rtb-0e81cf25c4ed63688     | Main<br>No               | Explicit subnet associations<br>3 subnets | Edge associations<br>- |
| VPC<br>vpc-0279442506f5ed55c   my-customvpc | Owner ID<br>361621943543 |   |                        |

➤ Configure an EC2 Linux instance inside your custom VPC:

The screenshot shows the AWS Management Console 'Instances (1/1) Info' page. A table lists the instance 'machine1' with ID 'i-0e41a70f3fb7b0676', state 'Running', type 't2.micro', and availability zone 'ap-south-1a'. Below the table, the 'Instance: i-0e41a70f3fb7b0676 (machine1)' details are shown. A red box highlights the 'VPC ID' field, which is 'vpc-0279442506f5ed55c (my-customvpc)'.

| Name     | Instance ID         | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IP |
|----------|---------------------|----------------|---------------|--------------|--------------|-------------------|-----------|
| machine1 | i-0e41a70f3fb7b0676 | Running        | t2.micro      | Initializing | No alarms    | ap-south-1a       | -         |

**Instance: i-0e41a70f3fb7b0676 (machine1)**

|  |   |   |
|--|---|---|
| Instance ID<br>i-0e41a70f3fb7b0676 (machine1)                        | Public IPv4 address<br>43.205.206.120   <a href="#">open address</a>          | Private IPv4 addresses<br>10.0.23.215   |
| IPv6 address<br>-  | Instance state<br>Running   | Public IPv4 DNS<br>-  |
| Hostname type<br>IP name: ip-10-0-23-215.ap-south-1.compute.internal | Private IP DNS name (IPv4 only)<br>ip-10-0-23-215.ap-south-1.compute.internal | Elastic IP addresses<br>-   |
| Answer private resource DNS name<br>IPv4 (A)                         | Instance type<br>t2.micro   | AWS Compute Optimizer finding<br><a href="#">Opt-in to AWS Compute Optimizer for recommendation</a> |
| Auto-assigned IP address<br>43.205.206.120 [Public IP]               | VPC ID<br>vpc-0279442506f5ed55c (my-customvpc)                                | <a href="#">Learn more</a>  |

The screenshot shows a terminal window on an Amazon Linux 2 instance. The user runs 'whoami' and 'ip' commands. The output of 'whoami' is 'ec2-user' and the output of 'ip' is '1s'. A red box highlights the instance ID 'i-0e41a70f3fb7b0676 (machine1)' and its public and private IP addresses.

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-23-215 ~]$ whoami
ec2-user
[ec2-user@ip-10-0-23-215 ~]$ pwd
/home/ec2-user
[ec2-user@ip-10-0-23-215 ~]$ ip
[ec2-user@ip-10-0-23-215 ~]$
```

**i-0e41a70f3fb7b0676 (machine1)**  
PublicIPs: 43.205.206.120 PrivateIPs: 10.0.23.215