

ASSIGNMENT – 7

CREATING MY CUSTOM VPC

The screenshot shows the AWS Management Console interface for the 'Your VPCs' page. The left sidebar contains navigation links for VPC dashboard, EC2 Global View, and various VPC services. The main content area displays a list of VPCs, with 'assignment-vpc' selected. Below the list, the details for 'vpc-0f7d2c8efc03ece84 / assignment-vpc' are shown, including VPC ID, State (Available), DNS hostnames, DNS resolution, Tenancy, DHCP option set, Main route table, Main network ACL, Default VPC, IPv4 CIDR, IPv6 pool, IPv6 CIDR, Network Address Usage metrics, Route 53 Resolver DNS Firewall rule groups, and Owner ID.

| Name | VPC ID | State | IPv4 CIDR |
|----------------|-----------------------|-----------|---------------|
| default-thing | vpc-0e374797aac7137ca | Available | 172.31.0.0/16 |
| assignment-vpc | vpc-0f7d2c8efc03ece84 | Available | 10.0.0.0/16 |

| Property | Value |
|--|------------------------|
| VPC ID | vpc-0f7d2c8efc03ece84 |
| State | Available |
| DNS hostnames | Enabled |
| DNS resolution | Enabled |
| Tenancy | Default |
| DHCP option set | dopt-052808951273687a5 |
| Main route table | rtb-0a4d0e9c6e2c73898 |
| Main network ACL | acl-0d74e2331a56f23db |
| Default VPC | No |
| IPv4 CIDR | 10.0.0.0/16 |
| IPv6 pool | - |
| IPv6 CIDR (Network border group) | - |
| Network Address Usage metrics | Disabled |
| Route 53 Resolver DNS Firewall rule groups | - |
| Owner ID | 456532073387 |

CREATING SUBNETS

The screenshot shows the AWS Management Console interface for the 'Subnets' page. The left sidebar contains navigation links for VPC dashboard, EC2 Global View, and various VPC services. The main content area displays a list of subnets under the VPC 'vpc-0f7d2c8efc03ece84'. The subnets are 'assign-01', 'assign-02', and 'assign-03', all in an 'Available' state. The details for each subnet, including Subnet ID, VPC, and IPv4 CIDR, are shown.

| Name | Subnet ID | State | VPC | IPv4 CIDR |
|-----------|--------------------------|-----------|-----------------------------------|-------------|
| assign-01 | subnet-005bd77e0ccd34571 | Available | vpc-0f7d2c8efc03ece84 assign... | 10.0.0.0/24 |
| assign-02 | subnet-04f5e1d1041772e29 | Available | vpc-0f7d2c8efc03ece84 assign... | 10.0.1.0/24 |
| assign-03 | subnet-0bfc25b078f8ffeb0 | Available | vpc-0f7d2c8efc03ece84 assign... | 10.0.2.0/24 |

CERATING ROUTE TABLE

Activities Google Chrome Jan 6 20:00

Instances | EC2 Management | EC2 Instance Connect | VPC Management Console | 23.20.41.205

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0366d1f2b84b3e5d6

aws Services Search [Alt+S] N. Virginia Abineshkumar

VPC dashboard
EC2 Global View New
Filter by VPC:
Select a VPC

Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only Internet gateways
Carrier gateways
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections

Details Info

| | | | |
|---|--------------------------|---|------------------------|
| Route table ID rtb-0366d1f2b84b3e5d6 | Main No | Explicit subnet associations 3 subnets | Edge associations - |
| VPC vpc-0f7d2c8efc03ece84 assignment-vpc | Owner ID 456532073387 | | |

Routes Subnet associations Edge associations Route propagation Tags

Routes (2) Edit routes

Filter routes Both < 1 > ⚙

| Destination | Target | Status | Propagated |
|-------------|-----------------------|--------|------------|
| 0.0.0.0/0 | lgw-0d1df22f113d48c5c | Active | No |
| 10.0.0.0/16 | local | Active | No |

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SUBNET ASSOCIATIONS

Activities Google Chrome Jan 6 20:00

Instances | EC2 Management | EC2 Instance Connect | VPC Management Console | 23.20.41.205

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0366d1f2b84b3e5d6

aws Services Search [Alt+S] N. Virginia Abineshkumar

VPC dashboard
EC2 Global View New
Filter by VPC:
Select a VPC

Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only Internet gateways
Carrier gateways
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections

Details Info

| | | | |
|---|--------------------------|---|------------------------|
| Route table ID rtb-0366d1f2b84b3e5d6 | Main No | Explicit subnet associations 3 subnets | Edge associations - |
| VPC vpc-0f7d2c8efc03ece84 assignment-vpc | Owner ID 456532073387 | | |

Routes Subnet associations Edge associations Route propagation Tags

Explicit subnet associations (3) Edit subnet associations

Find subnet association < 1 > ⚙

| Subnet ID | IPv4 CIDR | IPv6 CIDR |
|--------------------------------------|-------------|-----------|
| subnet-005bd77e0ccd34571 / assign-01 | 10.0.0.0/24 | - |
| subnet-04f5e1d1041772e29 / assign-02 | 10.0.1.0/24 | - |
| subnet-0bfc25b078f8ffeb0 / assign-03 | 10.0.2.0/24 | - |

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ATTACHING IGW TO VPC

The screenshot shows the AWS VPC console interface. The breadcrumb navigation is **VPC > Internet gateways > igw-0d1df22f113d48c5c**. The main heading is **igw-0d1df22f113d48c5c / assignment-igw**. The **Details** tab is active, displaying the following information:

| Internet gateway ID | State | VPC ID | Owner |
|-----------------------|----------|--|--------------|
| igw-0d1df22f113d48c5c | Attached | vpc-0f7d2c8efc03ece84 assignment-vpc | 456532073387 |

Below the details, the **Tags** section shows a single tag:

| Key | Value |
|------|----------------|
| Name | assignment-igw |

The left sidebar shows the navigation menu with **Internet gateways** highlighted. The footer contains the text: © 2023, Amazon Web Services India Private Limited or its affiliates.

CONFIGURING T2 MICRO INSIDE MY ASSIGNMENT-VPC

The screenshot shows the AWS EC2 console interface. The breadcrumb navigation is **EC2 > Instances > i-027b0d6d865bb8fd6**. The main heading is **Instance summary for i-027b0d6d865bb8fd6 (vpc-assignment)**. The instance is in the **Running** state.

| Instance ID | Public IPv4 address | Private IPv4 addresses |
|--------------------------------------|-----------------------------|------------------------|
| i-027b0d6d865bb8fd6 (vpc-assignment) | 23.20.41.205 open address | 10.0.0.70 |

Other instance details include:

- Instance state:** Running
- Private IP DNS name (IPv4 only):** ip-10-0-0-70.ec2.internal
- Instance type:** t2.micro
- VPC ID:** vpc-0f7d2c8efc03ece84 (assignment-vpc)
- Subnet ID:** subnet-005bd77e0ccd34571 (assign-01)
- Auto-assigned IP address:** 23.20.41.205 [Public IP]
- Private IPv4 DNS:** ec2-23-20-41-205.compute-1.amazonaws.com | open address
- Auto Scaling Group name:** -

The left sidebar shows the navigation menu with **Instances** highlighted. The footer contains the text: © 2023, Amazon Web Services India Private Limited or its affiliates.

MY SECURITY GROUP

Activities Google Chrome Jan 6 19:55

EC2 Management Console x EC2 Instance Connect x Egress only internet gate x 23.20.41.205

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ModifyInboundSecurityGroupRules:securityGroupId=sg-05439ca9b282353ff

aws Services Search [Alt+S]

EC2 > Security Groups > sg-05439ca9b282353ff - launch-wizard-4 > Edit inbound rules

Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the Instance.

Inbound rules [Info](#)

| Security group rule ID | Type Info | Protocol Info | Port range Info | Source Info | Description - optional Info | |
|------------------------|---------------------------|-------------------------------|---------------------------------|---|---|--------|
| sgr-087fad80dbf9ef44 | HTTP | TCP | 80 | Custom <input type="text" value="0.0.0.0/0"/> | | Delete |
| sgr-0e00e1e7f6a061c4d | HTTPS | TCP | 443 | Custom <input type="text" value="0.0.0.0/0"/> | | Delete |
| sgr-076c2db41ccff822d | SSH | TCP | 22 | Custom <input type="text" value="0.0.0.0/0"/> | | Delete |

[Add rule](#)

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CONNECTING MY INSTANCE

Activities Google Chrome Jan 6 19:50

Instance details | EC2 Man x EC2 Instance Connect x Egress only internet gate x 23.20.41.205

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-027b0d6d865bb8fd6&osUser=ec2-user&ssh...

aws Services Search [Alt+S]

```
Verifying : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 2/9
Verifying : httpd-tools-2.4.54-1.amzn2.x86_64 3/9
Verifying : mod_http2-1.15.19-1.amzn2.0.1.x86_64 4/9
Verifying : httpd-2.4.54-1.amzn2.x86_64 5/9
Verifying : mailcap-2.1.41-2.amzn2.noarch 6/9
Verifying : generic-logos-httpd-18.0.0-4.amzn2.noarch 7/9
Verifying : httpd-filesystem-2.4.54-1.amzn2.noarch 8/9
Verifying : apr-1.7.0-9.amzn2.x86_64 9/9

Installed:
  httpd.x86_64 0:2.4.54-1.amzn2

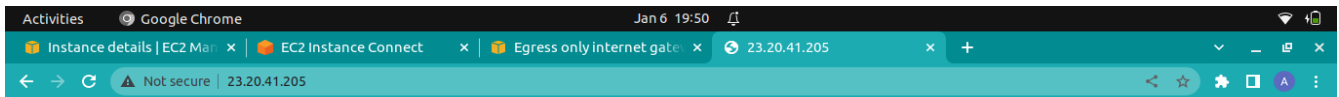
Dependency Installed:
  apr.x86_64 0:1.7.0-9.amzn2          apr-util.x86_64 0:1.6.1-5.amzn2.0.2          apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2
  generic-logos-httpd.noarch 0:18.0.0-4.amzn2  httpd-filesystem.noarch 0:2.4.54-1.amzn2          httpd-tools.x86_64 0:2.4.54-1.amzn2
  mailcap.noarch 0:2.1.41-2.amzn2      mod_http2.x86_64 0:1.15.19-1.amzn2.0.1

Complete!
[root@ip-10-0-0-70 ec2-user]# systemctl start httpd
[root@ip-10-0-0-70 ec2-user]# systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[root@ip-10-0-0-70 ec2-user]# cd /var/www/html
[root@ip-10-0-0-70 html]# echo "<h1>hello world</h1>" > index.html
[root@ip-10-0-0-70 html]# cat index.html
<h1>hello world</h1>
[root@ip-10-0-0-70 html]#
```

i-027b0d6d865bb8fd6 (vpc-assignment)

PublicIPs: 23.20.41.205 PrivateIPs: 10.0.0.70

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hello world

CONNECTING MY EC2 INSTANCE TO MY TERMINAL (SSH AGENT FORWARDING)

```
Activities Terminal Jan 6 20:09 ec2-user@ip-10-0-0-70:~  
abi@abi-X555LAB:~/Desktop/aws key/virginia$ ssh-add -k cloudlearner-1.pem  
Identity added: cloudlearner-1.pem (cloudlearner-1.pem)  
abi@abi-X555LAB:~/Desktop/aws key/virginia$ ssh-add -l  
2048 SHA256:ZX5K09nN7Hr+o27C51MVNjMxVhIT1Ewxze2jggWbC+0 cloudlearner-1.pem (RSA)  
abi@abi-X555LAB:~/Desktop/aws key/virginia$ ssh -a ec2-user@23.20.41.205  
Last login: Fri Jan 6 14:11:22 2023 from ec2-18-206-107-27.compute-1.amazonaws.com  
  
  _ | _ | _ )  
  _ | ( _ /  
  _ \ _ | _ |  
Amazon Linux 2 AMI  
  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-10-0-0-70 ~]$ ping google.com  
PING google.com (172.253.122.113) 56(84) bytes of data:  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=1 ttl=95 time=1.92 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=2 ttl=95 time=1.97 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=3 ttl=95 time=3.25 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=4 ttl=95 time=1.99 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=5 ttl=95 time=2.01 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=6 ttl=95 time=2.01 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=7 ttl=95 time=2.00 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=8 ttl=95 time=1.98 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=9 ttl=95 time=2.10 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=10 ttl=95 time=2.18 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=11 ttl=95 time=2.02 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=12 ttl=95 time=2.02 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=13 ttl=95 time=2.00 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=14 ttl=95 time=1.99 ms  
64 bytes from bh-in-f113.1e100.net (172.253.122.113): icmp_seq=15 ttl=95 time=2.47 ms  
^C  
--- google.com ping statistics ---  
15 packets transmitted, 15 received, 0% packet loss, time 14016ms  
rtt min/avg/max/mdev = 1.922/2.138/3.251/0.324 ms  
[ec2-user@ip-10-0-0-70 ~]$
```

