

# ASSIGNMENT – 11

## Creating VPC and subnets

The screenshot shows the AWS Management Console interface for a VPC. The left sidebar contains navigation links for VPC dashboard, EC2 Global View, and various VPC services. The main content area displays the details for the VPC 'vpc-00ada4b3d40d52c32' under the 'assignment-11' group. The 'Details' tab is active, showing a grid of VPC attributes.

| Details                       |  |                       |                                  |
|-------------------------------|--|-----------------------|----------------------------------|
| VPC ID                        | State                                      | DNS hostnames         | DNS resolution                   |
| vpc-00ada4b3d40d52c32         | Available                                  | Disabled              | Enabled                          |
| Tenancy                       | DHCP option set                            | Main route table      | Main network ACL                 |
| Default                       | dhopt-052808951273687a5                    | rtb-0c0e6c9dcf589e5b1 | acl-0ff09ac1c06f721cf            |
| Default VPC                   | IPv4 CIDR                                  | IPv6 pool             | IPv6 CIDR (Network border group) |
| No                            | 10.0.0.0/16                                | -                     | -                                |
| Network Address Usage metrics | Route 53 Resolver DNS Firewall rule groups | Owner ID              |                                  |
| Disabled                      | -  | 456532073387          |                                  |

Below the details, the 'CIDRs' tab is active, showing a table of CIDR blocks associated with the VPC.

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

The screenshot shows the AWS Management Console interface for the subnets of the VPC 'vpc-00ada4b3d40d52c32'. The left sidebar is the same as the previous screenshot. The main content area displays the 'Subnets (2)' page. A search bar and filter options are at the top. Below, a table lists the subnets.

|                          | Name        | Subnet ID                | State     | VPC                            | IPv4 CIDR   |
|--------------------------|-------------|--------------------------|-----------|--------------------------------|-------------|
| <input type="checkbox"/> | public-sub  | subnet-0486aa3f1e6278c8c | Available | vpc-00ada4b3d40d52c32   ass... | 10.0.1.0/24 |
| <input type="checkbox"/> | private-sub | subnet-01a65942f5c246be2 | Available | vpc-00ada4b3d40d52c32   ass... | 10.0.2.0/24 |

# Route tables & subnet associations

Activities

Google Chrome

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Assignment-11.docx

VPC Management Cons

RDS Management Cons

Instances | EC2 Manage

EC2 Instance Connect

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTables:vpcId=vpc-00ada4b3d40d52c32

aws

Services

Search

[Alt+S]

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VPC dashboard

EC2 Global View

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

Route tables (3)

filter route tables

VPC: vpc-00ada4b3d40d52c32

Clear filters

|                          | Name              | Route table ID        | Explicit subnet associat... | Edge associations | Main | VPC                   |
|--------------------------|-------------------|-----------------------|-----------------------------|-------------------|------|-----------------------|
| <input type="checkbox"/> | -                 | rtb-0c0e6c9dcf589e5b1 | -                           | -                 | Yes  | vpc-00ada4b3d40d52c32 |
| <input type="checkbox"/> | public-assign-11  | rtb-08b0a7f8d09154ca1 | subnet-0486aa3f1e627...     | -                 | No   | vpc-00ada4b3d40d52c32 |
| <input type="checkbox"/> | private-assign-11 | rtb-0959fae94392c6cc0 | subnet-01a65942f5c24...     | -                 | No   | vpc-00ada4b3d40d52c32 |

Select a route table

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VPC Management Cons

RDS Management Cons

Instances | EC2 Manage

EC2 Instance Connect

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:routeTableId=rtb-08b0a7f8d09154ca1

aws

Services

Search

[Alt+S]

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VPC dashboard

EC2 Global View

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

rtb-08b0a7f8d09154ca1 / public-assign-11

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

Details

Info

Route table ID

rtb-08b0a7f8d09154ca1

VPC

vpc-00ada4b3d40d52c32 | assignment-11

Main

No

Owner ID

456532073387

Explicit subnet associations

subnet-0486aa3f1e6278c8c / public-sub

Edge associations

-

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Filter routes

Both

| Destination | Target                | Status | Propagated |
|-------------|-----------------------|--------|------------|
| 0.0.0.0/0   | igw-056468a52630e8d81 | Active | No         |
| 10.0.0.0/16 | local                 | Active | No         |

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Assignment-11.docx - G x VPC Management Cons x RDS Management Cons x Instances | EC2 Manage x EC2 Instance Connect x +

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0959fae94392c6cc0

aws Services Search [Alt+S]

VPC dashboard x  
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

Security  
Network ACLs  
Security groups

Network Analysis  
Reachability Analyzer

VPC > Route tables > rtb-0959fae94392c6cc0

rtb-0959fae94392c6cc0 / private-assign-11

Actions

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

**Details** Info

|  |                          |  |                        |
|--|--------------------------|--|------------------------|
| Route table ID<br>rtb-0959fae94392c6cc0      | Main<br>No               | Explicit subnet associations<br>subnet-01a65942f5c246be2 / private-sub | Edge associations<br>- |
| VPC<br>vpc-00ada4b3d40d52c32   assignment-11 | Owner ID<br>456532073387 |  |                        |

Routes Subnet associations Edge associations **Route propagation** Tags

**Routes (2)** [Edit routes](#)

Filter routes Both

| Destination | Target                | Status | Propagated |
|-------------|-----------------------|--------|------------|
| 0.0.0.0/0   | nat-0a76b0b4fcdf52e5e | Active | No         |
| 10.0.0.0/16 | local                 | Active | No         |

https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#

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## Created NAT gateway

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us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#NatGatewayDetails:natGatewayId=nat-0a76b0b4fcdf52e5e

aws Services Search [Alt+S]

VPC dashboard x  
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

VPC > NAT gateways > nat-0a76b0b4fcdf52e5e

nat-0a76b0b4fcdf52e5e / for-assignment-11

Delete

**Details** Info

|  |   |   |   |
|--|---|---|---|
| NAT gateway ID<br>nat-0a76b0b4fcdf52e5e  | Connectivity type<br>Public                     | State<br>Available  | State message<br>-                            |
| NAT gateway ARN<br>arn:aws:ec2:us-east-1:456532073387:natgateway/nat-0a76b0b4fcdf52e5e | Elastic IP address<br>3.221.65.36               | Primary private IPv4 address<br>10.0.1.103                | Network interface ID<br>eni-09fccf50de533b8ef |
| VPC<br>vpc-00ada4b3d40d52c32 / assignment-11   | Subnet<br>subnet-0486aa3f1e6278c8c / public-sub | Created<br>Tuesday, January 24, 2023 at 08:25:56 GMT+5:30 | Deleted<br>-                                  |

Monitoring Tags

**Monitoring**

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## Creating IGW

The screenshot shows the AWS Management Console interface for an Internet Gateway. The breadcrumb navigation indicates the path: VPC > Internet gateways > igw-056468a52630e8d81. The main heading is 'igw-056468a52630e8d81 / assign-11-igw'. The 'Details' section shows the following information:

| Internet gateway ID   | State    | VPC ID                                | Owner        |
|-----------------------|----------|---------------------------------------|--------------|
| igw-056468a52630e8d81 | Attached | vpc-00ada4b3d40d52c32   assignment-11 | 456532073387 |

The 'Tags' section shows a single tag with the key 'Name' and value 'assign-11-igw'.

## Creating DB with MYSQL

The screenshot shows the AWS Management Console interface for an Amazon RDS database instance. The breadcrumb navigation indicates the path: RDS > Databases > assignment-db. The main heading is 'assignment-db'. The 'Summary' section shows the following information:

| DB Identifier | CPU   | Status    | Class       |
|---------------|-------|-----------|-------------|
| assignment-db | 5.25% | Available | db.t2.micro |

The 'Role' section shows the instance is in the 'Instance' state with 0 connections. The 'Engine' is 'MySQL Community' and the 'Region & AZ' is 'us-east-1b'.

The 'Connectivity & security' section shows the following information:

| Endpoint & port                               | Networking                      | Security                                    |
|---|---------------------------------|---|
| Endpoint<br>assignment-db.cvbg7tqvjd.us-east- | Availability Zone<br>us-east-1b | VPC security groups<br>launch-wizard-5 (sg- |

## Connectivity and security

The screenshot shows the AWS Management Console for an RDS instance in the us-east-1 region. The 'Connectivity & security' tab is selected, displaying three main sections: Endpoint & port, Networking, and Security.

| Endpoint & port  | Networking   | Security   |
|--|--|--|
| <b>Endpoint</b><br>assignment-db-cvbg7tvcjdb.us-east-1.rds.amazonaws.com | <b>Availability Zone</b><br>us-east-1b                                 | <b>VPC security groups</b><br>launch-wizard-5 (sg-0f381d296836dc505)<br>Active       |
| <b>Port</b><br>3306  | <b>VPC</b><br>assignment-11 (vpc-00ada4b3d40d52c32)                    | <b>Publicly accessible</b><br>No   |
|  | <b>Subnet group</b><br>default-vpc-00ada4b3d40d52c32                   | <b>Certificate authority</b> Info<br>rds-ca-2019                                     |
|  | <b>Subnets</b><br>subnet-0486aa3f1e6278c8c<br>subnet-01a65942f5c246be2 | <b>Certificate authority date</b><br>August 22, 2024, 22:38 (UTC+05:30)              |
|  | <b>Network type</b><br>IPv4  | <b>DB instance certificate expiration date</b><br>August 22, 2024, 22:38 (UTC+05:30) |

## Launched an instance and connected to DB

The screenshot shows the AWS Management Console for an EC2 instance in the us-east-1 region. The 'Instance details' tab is selected, displaying the 'Instance summary for i-0b0b183baeddf9081 (db-fire-01)'. The instance is in the 'Running' state.

| Instance ID   | Public IPv4 address   | Private IPv4 addresses  |
|---|---|---|
| i-0b0b183baeddf9081 (db-fire-01)                            | 3.84.231.238   <a href="#">open address</a>                         | 10.0.1.49   |
| <b>IPV6 address</b><br>-                                    | <b>Instance state</b><br>Running                                    | <b>Public IPv4 DNS</b><br>-   |
| <b>Hostname type</b><br>IP name: ip-10-0-1-49.ec2.internal  | <b>Private IP DNS name (IPv4 only)</b><br>ip-10-0-1-49.ec2.internal | <b>Elastic IP addresses</b><br>-  |
| <b>Answer private resource DNS name</b><br>IPv4 (A)         | <b>Instance type</b><br>t2.micro                                    | <b>AWS Compute Optimizer finding</b><br>Opt-in to AWS Compute Optimizer for recommendations.   <a href="#">Learn more</a> |
| <b>Auto-assigned IP address</b><br>3.84.231.238 [Public IP] | <b>VPC ID</b><br>vpc-00ada4b3d40d52c32 (assignment-11)              | <b>Auto Scaling Group name</b><br>-   |
| <b>IAM Role</b><br>-  | <b>Subnet ID</b><br>subnet-0486aa3f1e6278c8c (public-sub)           |   |

Activities

Google Chrome

Jan 24 15:03

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#databases:

Assignment-11.docx - G... NAT gateways | VPC Ma... RDS Management Cons... EC2 Management Cons... EC2 Instance Connect

aws Services Search [Alt+S]

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Connection setup successfully for RDS database [assignment-db](#) and EC2 instance [i-0b0b183baeddf9081](#)

Details

Create security group for RDS database [assignment-db](#)

Successfully created [rds-ec2-2](#)

Create security group for EC2 Instance [i-0b0b183baeddf9081](#)

Successfully created [ec2-rds-2](#)

Remove default egress rule [rds-ec2-2](#)

Succeeded

Remove default egress rule [ec2-rds-2](#)

Succeeded

Create security group rules for RDS database security group ([rds-ec2-2](#))

Succeeded

Create security group rules for EC2 Instance security group ([ec2-rds-2](#))

Succeeded

Attach security group [ec2-rds-2](#) to [i-0b0b183baeddf9081](#)

Succeeded

Attach security group [rds-ec2-2](#) to [assignment-db](#)

Succeeded

RDS > Databases

Databases

Group resources

Modify

Actions

Restore from S3

Create database

Filter by databases

DB identifier

Role

Engine

Region & AZ

Size

Status

CPU

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