**Task #6 – VPC**

**Sub-task 1 – Create a VPC which fulfills the following architecture**

* 1. **The VPC should have a name following this convention <ProjectName>-Network and a CIDR block of 10.0.0.0/16.**

Graphical user interface, text, application, email

Description automatically generated

**1.2 Create an internet gateway named <ProjectName>-IGW and attach it to the VPC**

Graphical user interface, text, application

Description automatically generated

**1.3 Create two public subnets in the VPC:**

**a. <ProjectName>-PublicSubnet-A in the first AZ with a CIDR block of 10.0.11.0/24.**

Graphical user interface, text, application

Description automatically generated

**b. <ProjectName>-PublicSubnet-B in the second AZ with a CIDR block of 10.0.21.0/24.**Graphical user interface, text, application, chat or text message

Description automatically generated

**c. Make them public and choose Auto-Assign Public IP.**

Graphical user interface, text, application, email

Description automatically generated

**d. Create a new route table named <ProjectName>-PublicRouteTable. Add a 10.0.0.0/16 – Local route and a route to the <ProjectName> IGW to it.**

Graphical user interface, application, Teams

Description automatically generated

**e. Associate the subnets with the new route table.**

Text, timeline

Description automatically generated

Graphical user interface, text, application

Description automatically generated

**1.4 Create private subnet in the VPC:**

**a. <ProjectName>-PrivateSubnet-A in the first AZ with a CIDR block of 10.0.12.0/24**

Graphical user interface, application

Description automatically generated

**b. Create a new route table named <ProjectName>-PublicRouteTable.**

Graphical user interface, application

Description automatically generated

**c. Associate the subnets with the new route table.**

Graphical user interface, text, application, email

Description automatically generated

**5. Create DB subnet in the VPC:**

**a. <ProjectName>-DbSubnet-A in the first AZ with a CIDR block of 10.0.13.0/24.**

Graphical user interface, text, application

Description automatically generated

**b. Create a new route table named <ProjectName>-DbRouteTable. Add a 10.0.0.0/16 – Local route to it.**

Graphical user interface, text, application, email

Description automatically generated

**c. Associate DB subnet with the new route table.**

Graphical user interface, text, application, email

Description automatically generated

**6. Create NAT gateway for the private subnet in public subnet:**

**a. <ProjectName>-NatGateway-A with an elastic IP for the subnet <ProjectName>-PrivateSubnet-A.**

Graphical user interface, text, application, email

Description automatically generated

**B. Add the gateway A the route table <ProjectName>-PrivateRouteTable-A**

Graphical user interface, text, application, email

Description automatically generated

**7. Create a bastion host in the public subnet in the second AZ**

Graphical user interface, text, application, email

Description automatically generated

**8. Create EC2 instance in the public subnet in the first AZ. Install the application developed in module 3 on the public instance**

Graphical user interface, text, application

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Graphical user interface, text, application

Description automatically generated

**9. Create one EC2 instance in the private subnet and one EC2 instance in the DB subnet. The instances do not have to have any special contents.**Graphical user interface, text, application

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Graphical user interface, text, application

Description automatically generated

**10. Create security groups:**

**a. To allow inbound SSH traffic only from your IP address. Apply security group to the bastion host.**Graphical user interface, text, application, email

Description automatically generated

**b. To allow inbound HTTP/S traffic from anywhere. Apply security group to the public instance.**

Graphical user interface, application

Description automatically generated

**c. To allow all inbound traffic from other instances associated with this security group**A screenshot of a computer

Description automatically generated

**11. Ensure:**

1. **the application on the public instance is available from anywhere**

Graphical user interface, text, application, chat or text message

Description automatically generated

1. **the private and DB instances are available from the bastion ONLY when you’re connected to it over SSH**

Graphical user interface, text, application

Description automatically generated

Text

Description automatically generated

Text

Description automatically generated with medium confidence

A picture containing text

Description automatically generated

1. **the bastion host and public instance have access to the Internet**

Graphical user interface, text

Description automatically generated

Text

Description automatically generated

1. **the private instance has access to the Internet**

**Connected to private subnet via Bastion**

Text

Description automatically generated

Text

Description automatically generated

1. **the private and public instances have access to the DB instance (ping again)**

**From private subnet**

Graphical user interface

Description automatically generated with medium confidence

**From public subnet**

Text

Description automatically generated

1. **the DB instance doesn’t have Internet access**

**- Connected to DB subnet via bastion**

Text

Description automatically generated

Text

Description automatically generated