Virtual Private Cloud (VPC)

1 hour | 18 Questions | 3.33 Minutes per Question | Intermediate (/search?type=Practice Exam Challenge&difficulty=Intermediate&categories=AWS)

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Congratulations!

You passed this challenge on this attempt.

Expectations Report Card

Virtual Private Cloud (VPC) for AWS Certified Solutions Architect - Associate Level 88.89%

Exam Breakdown

Virtual Private Cloud (VPC) for AWS Certified Solutions Architect - Associate Level

1. Which are reserved IPs within a subnet?

A Network, Router, DNS, Future, Broadcast

B Network, Router, VPC, Future, Broadcast

C Network, DNS, Future, Broadcast

D Router, DNS, Future, Broadcast

Correct Answer: A

Why is this correct?

The first IP in a subnet is reserved for the network address.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 2

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2. Which is true of a subnet CIDR block?

A They can be larger than the VPC.

B The maximum size of a CIDR is /8, and the min size is /28.

C They can be created outside the range a VPC's CIDR block.

D Subnet CIDRs cannot overlap with other subnets inside the same VPC.

Correct Answer: D

Why is this correct?

This statement is true. A subnet CIDR cannot overlap with other subnets because devices in a subnet could potentially have the same IP.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 2

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3. Which options state the difference between a security group and a NACL?

A NACLs are assigned to a specific resource, while security groups are assigned to a subnet.

B Security groups are assigned to a specific resource, while NACLs are assigned to a subnet.

C NACLs do **not** allow for explicit denies, while security groups do.

D Security groups are stateful, while NACLs are stateless.

E Security groups do **not** allow for explicit denies, while NACLs do.

Correct Answer: B

Why is this correct?

Security groups can be assigned to specific resources like EC2 instances. NACLs work on a layer 4 (Transport Layer), and this regulated in/out traffic to subnets, regardless of the type of resources inside.
Video for reference: Network ACLs

Correct Answer: D

Why is this correct?

Security groups are stateful, meaning they remember and allow session traffic. NACLs are stateless, and they don't remember or allow session traffic automatically.
Video for reference: Network ACLs

Correct Answer: E

Why is this correct?

You **cannot** explicitly deny traffic like you can in an NACL.
Video for reference: Network ACLs

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4. Complete the following sentence. To achieve high availability, you need to put as many Dynamic NAT gateways as you have __.

A EC2 instances

B private subnets

C AZs

D VPCs

Correct Answer: C

Why is this correct?

To achieve high availability, you need to put as many Dynamic NAT gateways as you have Availability Zones.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 1

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5. Assuming we are working with a custom VPC, what are the three steps needed to enable internet access to a subnet?

A Add a router

B Create an internet gateway and attach to a VPC

C Add a routing rule to forward internet bound traffic to the internet gateway

D Add a BGP to the route table

E Allocate public IPs for a subnet and enable auto-assign for resources within the subnet

Correct Answer: B

Why is this correct?

This is the second step in creating a public subnet. By default, custom VPCs do **not** automatically come with internet gateways (default VPCs do). Remember to attach the IGW to the VPC.
Video for reference: Routing and Internet Gateway

Correct Answer: C

Why is this correct?

Adding a route is the final step in creating a public subnet. By adding a route, it commands the VPC router to forward any internet traffic through the internet gateway.
Video for reference: Routing and Internet Gateway

Correct Answer: E

Why is this correct?

Step one is to allocate public IPs for the subnet. As a result, resources will obtain a public IP, by default, when placed in the subnet.
Video for reference: Routing and Internet Gateway

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6. Pick the statements that are true of NACLs.

A NACL can be associated with one or more subnets.

B NACLs rules are prioritized by rule numbers; the higher rule numbers are prioritized first.

C Custom NACLs contain default rules.

D NACLs pertain to traffic that leaves or enters a subnet.

Correct Answer: A

Why is this correct?

This statement is true. NACLs can be associated with one or more subnets. However, a subnet can only have one NACL.
Video for reference: Network ACLs

Correct Answer: C

Why is this correct?

Custom NACLs come with a "*" Rule # and an ALL Traffic DENY rule for both Inbound and Outbound Rules.
Video for reference: Network ACLs

Correct Answer: D

Why is this correct?

This statement is true. NACLs do **not** pertain to traffic within a subnet, only to traffic exiting and entering a subnet.
Video for reference: Network ACLs

INCORRECT

7. Select the statement that is true of Dynamic NAT gateway.

A DNAT gateways are scalable.

B All of these answers are correct.

C DNAT gateways are placed in private subnets.

D DNAT gateways use a 1:1 ratio for translating IPs.

Your Answer: C

Why is this incorrect?

This statement is **not** true. DNATs are to be placed in public, not private subnets.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 1

Correct Answer: A

Why is this correct?

They are fault-tolerant and can scale in response to load.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 1

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8. EC2 instances inside our private subnet only need access to the internet for updates. From the options below, what key component allows us to achieve only outgoing internet access to an EC2?

A By placing the EC2s in a public subnet

B By assigning each EC2 an Elastic Static IP

C By using a DNAT gateway

D By placing the EC2s in a private subnet

Correct Answer: C

Why is this correct?

Dynamic Network Address Translation allows EC2s to only have a private IP. The DNAT will translate private to public IPs when the EC2 needs an update.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 1

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9. Your NAT gateway has reached its bandwidth limit. Pick the option that provides more bandwidth to NAT gateways.

A None of these answers will help increase bandwidth with NAT gateways.

B Reduce the number of instances in a subnet

C Launch the NAT gateway into a private subnet

D Scale the NAT gateway

Correct Answer: D

Why is this correct?

Scale the NAT gateway by splitting resources into different subnets inside an AZ. Afterward, specify that each of those subnets goes to a separate NAT Gateway.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 2

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10. How is a Dynamic NAT gateway different than Static NAT gateway?

A SNAT gateways can translate multiple EC2 private IPs into one Elastic static IP, while DNAT translates at a 1:1 ratio.

B SNAT and DNAT gateways are the same

C SNAT gateway lives in a private subnet, while DNAT lives in a public subnet.

D SNAT gateway translates private to public IPs at a 1:1 ratio, while DNAT gateways translate a range of private IPs to public.

Correct Answer: D

Why is this correct?

Static NAT: A private IP is mapped to a public IP. **Dynamic NAT:** A range of private addresses, are mapped onto one or more public IPs.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 1

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11. Which is true of DHCP?

A DHCP options sets are editable.

B A DHCP option set can be associated with multiple VPCs.

C None of these answers are true.

D DHCP is a protocol that auto-configure subnets.

Correct Answer: C

Why is this correct?

DHCP assigns IPs to devices within a network, its options set belongs to only one VPC, and it's not editable.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 2

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12. Pick the statements that are true of a bastion host.

A Does **not** have to be updated regularly.

B Reside in a private VPC.

C Are accessible via SSH and RDP.

D Functions as a VPC entry point for trusted admins.

E Sometimes referred to as a JumpBox.

Correct Answer: C

Why is this correct?

Bastion hosts supply the secure protocols, SSH and RDP, for entry into the VPC.
Video for reference: Bastion Host/JumpBox

Correct Answer: D

Why is this correct?

A bastion host is a service that is deployed for secure incoming access, which is ideal for system admins.
Video for reference: Bastion Host/JumpBox

Correct Answer: E

Why is this correct?

Bastion hosts are referred to as a JumpBox.
Video for reference: Bastion Host/JumpBox

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13. What is a bastion host?

A A service that is deployed into a VPC for monitoring private resources.

B A service that provides Static NAT.

C A service that is deployed into a public VPC for secure access to a private resource.

D A service that allows traffic to be routed between subnets.

Correct Answer: C

Why is this correct?

A bastion host lets you securely access private resources via the SSH/RPD protocol.
Video for reference: Bastion Host/JumpBox

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14. What are the benefits of a VPC?

A Choice of region

B Can span across regions

C All AWS services work with any type of VPC

D Provides a virtual private data center inside the AWS platform

E Malware is isolated within a VPC

F Choice of three types of VPCs

Correct Answer: A

Why is this correct?

AWS gives the option to create a VPC in many regions.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: D

Why is this correct?

A VPC is a Virtual Private Cloud, meaning it's a private data center inside the AWS platform.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: E

Why is this correct?

You can isolate malware by VPC isolation.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

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15. What entities are included when a default VPC is created?

A NACL

B Firewall

C DHCP

D An attached internet gateway

E Security Group

F Public subnet

Correct Answer: A

Why is this correct?

A NACL (Network Access Control Lists) is a layer of security that is created when a default VPC is launched.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: C

Why is this correct?

A DHCP is automatically added when a default VPC is created.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: D

Why is this correct?

An internet gateway is automatically attached when a default VPC is created.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: E

Why is this correct?

A security group is automatically created when a default VPC is launched.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

Correct Answer: F

Why is this correct?
When a default VPC is created, it also forms a public subnet inside every AZ in that region.
Video for reference: Virtual Private Cloud (VPC) and Subnets: Part 1

INCORRECT

16. You've set up a private EC2 instance to have limited outbound access to the internet by way of a NAT gateway. You ping a public IP and receive a response. Why does the NAT gateway allow this inbound response?

A NAT gateways always allow inbound traffic.

B NAT gateways understand and allow session traffic.

C The NAT gateway was set up incorrectly.

D NAT gateway only allows ping requests back into the environment.

Your Answer: A

Why is this incorrect?
NAT gateways do **not** always allow inbound traffic.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 2

Correct Answer: B

Why is this correct?
NAT gateway understands the session. The NAT gateway will allow inbound information because the request was a response to the private resource's request.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 2

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17. How much bandwidth can a NAT gateway support?

A Individual NAT gateways can handle 8GB of bandwidth and can scale up to 55GB.

B Individual NAT gateways can handle 4GB of bandwidth and can scale up to 50GB.

C Individual NAT gateways can handle 5GB of bandwidth and can scale up to 45GB.

D Individual NAT gateways can handle 2GB of bandwidth and can scale up to 40GB.

Correct Answer: C

Why is this correct?
NAT can handle 5GB of bandwidth. Add more IGWs, and it can scale up to 45GB.
Video for reference: NAT, NAT Instance, and NAT Gateway: Part 2

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18. Which statements are true of an internet gateway?

A Automatically created for each AZ

B Automatically has routing rules to the public internet

C Performs Static NAT

D Applies public IPv4 addresses to a resource's network interface

E Handles the communication to and from the public internet

Correct Answer: C

Why is this correct?

When the IGW receives a packet from a resource with a public IP, it will adjust the packets. It replaces the private IP with the associated public IP address. This process is known as SNAT.
Video for reference: Routing and Internet Gateway

Correct Answer: E

Why is this correct?

This statement is true. It handles the communication from the subnets to the public internet.
Video for reference: Routing and Internet Gateway