

Quiz: Virtual Private Cloud (VPC)

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1. What IPv4 address block can you use when creating a VPC?
 - A. Any Private IPv4 Address Block
 - B. Any Public IPv4 Address Block
 - C. Public IPv4 address block that you own
 - D. Private IPv4 address block or Public IPv4 address block that you own
2. You are planning to run a web application on an EC2 instance. This application needs to be accessible from anywhere. Where will you launch the instance?
 - A. Public Subnet
 - B. Private Subnet
 - C. Private Subnet with NAT
 - D. Public Subnet with NAT
3. A database server running on EC2 instance needs to periodically download software updates from the internet. Only the application servers can make inbound connections to the database. Where will you run the database instance?
 - A. Public Subnet
 - B. Private Subnet
 - C. Private Subnet with NAT
 - D. Public Subnet with NAT
4. When you create a VPC it spans:
 - A. Region
 - B. Availability Zone
 - C. Multiple Regions
 - D. Select Availability Zones in Region
5. You are designing application that consists of a web tier and application tier. You want to host the web tier in a public subnet and application tier in a private subnet. For high availability, you want to deploy this system across two availability zones. How many subnets are needed to deploy this application?
 - A. Two
 - B. Four
 - C. Six
 - D. One
6. You have a NAT instance. Should the Source, Destination IP check be enabled or disabled?
 - A. Source should be enabled, and destination disabled
 - B. Source should be disabled and destination enabled
 - C. Source and Destination check should be disabled
 - D. Source and Destination check should be enabled
7. You have two VPCs one in Oregon region and another one in Frankfurt region. Instances in the two VPCs need to communicate using private network and not span the public internet. What option is recommended?
 - A. Peering Connection
 - B. VPN Connection
 - C. Direct Connect

- D. Hardware VPN
8. Peering connection cannot be established when:
- A. VPCs are in the same region
 - B. VPCs are in different regions
 - C. VPCs belong to different accounts
 - D. VPCs have overlapping IP ranges
9. EC2 instance needs to periodically transfer log files to S3 bucket in the same region. You want to avoid using internet for transferring files to S3. What option can you use?
- A. Deploy EC2 instance in a Private subnet
 - B. NAT Gateway
 - C. VPC Endpoint
 - D. Direct Connect
10. Your application is expected to receive a lot of traffic after a promotion event. This application has an Elastic Load Balancer for distributing requests to EC2 web servers. What specific steps do you take to ensure internet gateway scales with the traffic?
- A. Deploy one internet gateway per availability zone
 - B. No specific action is needed
 - C. Configure Autoscaling for internet gateway
 - D. Enable Dynamic Scaling

Answers:

- 1. D – You can use any Private IP address range or customer-owned Public IP address range.
Reference <https://aws.amazon.com/vpc/faqs/>
- 2. A - Public subnet allows inbound access from internet to your instances
- 3. C – Private Subnet with NAT. NAT is used for outbound internet access and it blocks any unsolicited inbound access
- 4. A – VPC spans all availability zones in a Region
- 5. B – Application is deployed in two availability zones and within each availability zone you need one public and one private subnet
- 6. C – Source and Destination check needs to be disabled for NAT instances. Only then you can use them in the route table
- 7. A – Peering Connection allows instances to communicate using private IP address. Traffic is routed through Amazon's global network and does not traverse public internet

Reference: <https://aws.amazon.com/vpc/faqs/>

- 8. D – peered VPCs must have non-overlapping IP ranges
- 9. C – VPC Endpoints allow you to route traffic using AWS network. Data routed through VPC endpoints do not traverse internet.
- 10. B - Internet gateway is a managed service and automatically scales, redundant and highly available