

STCLOUD LE2 Reviewer

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1. Cloud Economics and Billing

1. Which of the following is **not** a fundamental cost driver when using a public cloud service?
 - (a) Compute
 - (b) Storage
 - (c) Electricity**
 - (d) Data Transfer
2. Which payment type is best for short-term use cases (< 6 months)?
 - (a) On-demand instance**
 - (b) All-Upfront Reserved Instance (AURI)
 - (c) Partial-Upfront Reserved Instance (PURI)
 - (d) No-Upfront Reserved Instance (NURI)
3. Neuron, a new startup company knows that they need roughly the same computational resources for the next few years, but they want to keep their costs to a minimum for now while they are low on capital. Which payment type should they use?
 - (a) On-demand instance
 - (b) All-Upfront Reserved Instance (AURI)
 - (c) Partial-Upfront Reserved Instance (PURI)
 - (d) No-Upfront Reserved Instance (NURI)**
4. Taro's research needs computational resources to run for at least one year. His lab currently has some capital, but not a lot. Still, he wants to keep his costs down to a minimum. What payment type should he use?
 - (a) On-demand instance
 - (b) All-Upfront Reserved Instance (AURI)
 - (c) Partial-Upfront Reserved Instance (PURI)**
 - (d) No-Upfront Reserved Instance (NURI)
5. What payment option is best described as being able to completely pay for a virtual instance ahead of time, making the operational expenses low (or none in some

cases)?

- (a) On-demand instance
- (b) All-Upfront Reserved Instance (AURI)
- (c) Partial-Upfront Reserved Instance (PURI)
- (d) No-Upfront Reserved Instance (NURI)

6. Which of the following options is the cheapest over prolonged periods?

- (a) On-demand instance
- (b) All-Upfront Reserved Instance (AURI)
- (c) Partial-Upfront Reserved Instance (PURI)
- (d) No-Upfront Reserved Instance (NURI)

7. What is the main purpose of a cloud provider's **free tier**?

- (a) To provide unlimited compute and storage to all users
- (b) To let users try out services with limited resources at no cost
- (c) To allow developers to bypass billing and compliance checks
- (d) To give organizations production-ready infrastructure for free

8. What is the primary purpose of calculating Total Cost of Ownership (TCO) in the context of cloud adoption

- (a) To track monthly cloud billing by service
- (b) To determine how much storage a company needs
- (c) To compare the overall costs of operating in the cloud versus maintaining on-premises infrastructure
- (d) To monitor security compliance across cloud regions

2. Cloud Infrastructure

1. A gaming startup begins with a few users but suddenly goes viral. Their AWS-hosted application automatically adds more servers to keep up with the rising demand without any manual intervention. Which property of a Cloud Computing environment does this situation best exemplify?

- (a) Flexible
- (b) Reliable
- (c) Scalable
- (d) Secure
- (e) Global Network Performance

2. Jarvis needs a powerful machine with GPU for training a neural network, while Nomu just needs a basic server to test some code. Both can choose the specific instance

type that suits their needs. Which property of a Cloud Computing environment does this situation best exemplify?

- (a) Flexible
- (b) Reliable
- (c) Scalable
- (d) Secure
- (e) Global Network Performance

3. While playing Honor of Legends, your game suddenly crashed due to a hardware failure in one of their servers. Which property of a Cloud Computing environment does this situation **not** exemplify?

- (a) Flexible
- (b) Reliable
- (c) Scalable
- (d) Secure
- (e) Global Network Performance

4. Baymax Personal Healthcare Assistant co. needs to store sensitive patient data. They configure their AWS environment with encryption, identity and access management (IAM), and private networks to ensure data confidentiality and integrity. Which property of a Cloud Computing environment does this situation best exemplify?

- (a) Flexible
- (b) Reliable
- (c) Scalable
- (d) Secure
- (e) Global Network Performance

5. Honki: Star Bucks chooses to deploy their servers in multiple regions, so users in Asia, Europe, and the US all experience low latency when accessing content. Which property of a Cloud Computing environment delivered over the Global Infrastructure does this situation best exemplify?

- (a) Flexible
- (b) Reliable
- (c) Scalable
- (d) Secure
- (e) Global Network Performance

6. Determine if each statement is True or False: Data replication across regions is controlled by the server. Commonly, communication between regions uses backbone network infrastructure.

- (a) First statement TRUE; Second statement TRUE
 - (b) First statement TRUE; Second statement FALSE**
 - (c) First statement FALSE; Second statement TRUE
 - (d) First statement FALSE; Second statement FALSE
7. Determine if each statement is True or False: Each region provides full redundancy and connectivity to the network. A region typically has only one Availability Zone.
- (a) First statement TRUE; Second statement TRUE
 - (b) First statement TRUE; Second statement FALSE
 - (c) First statement FALSE; Second statement TRUE
 - (d) First statement FALSE; Second statement FALSE**
8. When selecting a region, which should be your utmost priority?
- (a) Data Governance and Legal Requirements**
 - (b) Latency
 - (c) Services available within the region
 - (d) Costs
9. A healthcare provider is launching a patient data platform in Europe. Due to strict privacy regulations, they must store and process all data within the European Union. When selecting a region, which consideration does this situation best exemplify?
- (a) Data Governance and Legal Requirements**
 - (b) Latency
 - (c) Services available within the region
 - (d) Costs
10. RekUCorp, a startup with a tight budget, is exploring different deployment regions. They pick the region with the lowest OpEx for storage and compute. Which consideration does this situation best exemplify?
- (a) Data Governance and Legal Requirements
 - (b) Latency
 - (c) Services available within the region
 - (d) Costs**
11. AdelriCo. needs access to advanced machine learning hardware for a project. Only certain regions offer the compute capabilities they require, so they choose a region that supports the specific tools. Which consideration does this situation best exemplify?
- (a) Data Governance and Legal Requirements
 - (b) Latency
 - (c) Services available within the region**
 - (d) Costs

12. A renowned game company is launching a multiplayer title aimed at players in the Philippines. Which consideration would best fit the goal of providing the best player experience?
- (a) Data Governance and Legal Requirements
 - (b) Latency**
 - (c) Services available within the region
 - (d) Costs
13. Determine if each statement is True or False: Data centers are where the data resides and data processing occurs. Each data center has a single source of power and networking, and is housed in a separate facility.
- (a) First statement TRUE; Second statement TRUE
 - (b) First statement TRUE; Second statement FALSE**
 - (c) First statement FALSE; Second statement TRUE
 - (d) First statement FALSE; Second statement FALSE
14. True or False: A data center typically hosts only virtual servers, around 50,000 to 80,000 of them.
- (a) True
 - (b) False**
15. What are the components of AWS Points of Presence?
- (a) Availability Zones and Regions
 - (b) Edge Locations and Regional Edge Caches**
 - (c) Data Centers and Local Zones
 - (d) Internet Gateways and NAT Devices
16. True or False: Regional edge caches used for content with frequent access.
- (a) True**
 - (b) False
17. An online ticketing system automatically adds more virtual machines during a sudden surge in users trying to book Taylor Swift tickets. After the event, it reduces the number of resources without manual action. Which feature of Global Infrastructure does this situation best exemplify?
- (a) Elasticity**
 - (b) Scalability
 - (c) Fault Tolerance
 - (d) High Availability

18. Pyro, a startup, gradually expands its cloud resources as its user base increases month by month. Which feature of Global Infrastructure does this situation best exemplify?
 - (a) Elasticity
 - (b) Scalability**
 - (c) Fault Tolerance
 - (d) High Availability
19. The Bank of the Panini Islands (BPI) app is deployed across multiple zones and continues to provide services even when one zone experiences an outage without any need for manual recovery steps.
 - (a) Elasticity
 - (b) Scalability
 - (c) Fault Tolerance
 - (d) High Availability**
20. A hardware failure causes a server in a cloud environment to go down, but the application keeps running normally by shifting workloads to a backup server.
 - (a) Elasticity
 - (b) Scalability
 - (c) Fault Tolerance**
 - (d) High Availability

3. Cloud Security

1. Neuron has recently created an AWS account to utilize Amazon EC2 and Amazon EBS. They enabled MFA and then created multiple IAM users for their employees and then put them into groups, and assigned policies to each group. They made sure to carefully limit the permissions of every employee when creating each policy. What rule did Neuron break?
 - (a) They did not follow the principle of least privilege
 - (b) They did not log out of the root user account.**
 - (c) They forgot to set up IAM roles to each user
 - (d) They have not enabled a billing report.
2. True or False. Cloud service providers are responsible for managing passwords and settings for each user of your application.
 - (a) True
 - (b) False**

3. Which of the following is NOT managed by cloud service providers

- (a) Auditing the hardware infrastructure
- (b) Intrusion detection on network infrastructure
- (c) Physical security of data centers
- (d) Encryption of network traffic protection**

4. What is the main difference between an IAM policy and an IAM role?

- (a) Policies are temporary but roles are permanent
- (b) Roles are permanent but policies are temporary
- (c) Policies are assigned to users while roles are assigned to groups**
- (d) Policies are assigned to groups while roles are assigned to users

5. What is the purpose of a key management service?

- (a) To create, store, and manage cryptographic keys used for data encryption**
- (b) To automatically generate user passwords for cloud applications
- (c) To store user credentials and login sessions in a centralized directory
- (d) To scan cloud applications for malware and unauthorized access

6. What is the principle of least privilege?

- (a) Giving temporary access to certain resources only at certain times
- (b) Restricting access to IT staff only
- (c) Giving everyone admin
- (d) Giving users access to only the resources that they need**

7. Customer or Cloud Provider? Who is responsible for server-side encryption?

- (a) Customer**
- (b) Cloud Provider

8. Customer or Cloud Provider? Who is responsible for database uptime maintenance?

- (a) Customer
- (b) Cloud Provider**

9. Customer or Cloud Provider? Who is responsible for maintaining client-side data integrity

- (a) Customer**
- (b) Cloud Provider

10. Renzo is a manager at Neuron in which he has to setup IAM permissions for a new employee. However, he did not explicitly deny access for the employee to view restricted instances that he should not be able to access. Given this, can the employee access the restricted instances?
 - (a) Yes
 - (b) No**
11. What is the main purpose of encrypting data at rest?
 - (a) To reduce potential attacks
 - (b) To ensure only the designated application can access the data
 - (c) It replaces the need for access controls by securing storage media.
 - (d) To prevent unauthorized access to stored data**
12. Which protocol is commonly used to secure data in transit by ensuring both encryption and integrity?
 - (a) FTP
 - (b) HTTP
 - (c) SMTP
 - (d) TLS**

4. Cloud Network and Content Delivery

1. Select the correct answer:
 - (a) IPv4 addresses are 48 bits long, IPv6 addresses are 192 bits long
 - (b) IPv4 addresses are 32 bytes long, IPv6 addresses are 128 bits long
 - (c) IPv4 addresses are 32 bits long, IPv6 addresses are 48 bytes long
 - (d) IPv4 addresses are 32 bits long, IPv6 addresses are 128 bits long**
2. In the IP address 192.168.69.4 with a subnet mask of 255.255.0.0, what are the network and host parts?
 - (a) Network: 192.168.69, Host: .4
 - (b) Network: 192.168, Host: .69.4**
 - (c) Network: 192.168.69, Host: .0
 - (d) Network: 192, Host: .168.69.4
3. Given a network with address 10.0.0.0/8, what is the subnet mask?

- (a) 255.255.255.0
- (b) 255.255.0.0
- (c) 255.255.128.0
- (d) 255.0.0.0**

4. Given a network with address 192.168.128.0/17, what is the subnet mask?

- (a) 255.255.255.0
- (b) 255.255.0.0
- (c) 255.255.128.0**
- (d) 255.0.0.0

5. This OSI layer is responsible for the transmission of raw bits over a physical medium such as cables or fiber optics.

- (a) Application Layer
- (b) Network Layer
- (c) Physical Layer**
- (d) Presentation Layer

6. This layer handles MAC addressing and error detection in direct node-to-node data transfers.

- (a) Transport Layer
- (b) Network Layer
- (c) Data Link Layer**
- (d) Session Layer

7. This layer is responsible for logical addressing and routing, such as using IP addresses.

- (a) Data Link Layer
- (b) Network Layer**
- (c) Application Layer
- (d) Physical Layer

8. This layer provides reliable end-to-end communication, including segmentation, flow control, and error correction.

- (a) Transport Layer**
- (b) Session Layer
- (c) Data Link Layer
- (d) Application Layer

9. This layer manages sessions, keeping track of connections and dialogs between computers.

- (a) Presentation Layer
 - (b) Session Layer**
 - (c) Transport Layer
 - (d) Physical Layer
10. This layer deals with data formatting, compression, and encryption before data is transmitted.
- (a) Presentation Layer**
 - (b) Application Layer
 - (c) Network Layer
 - (d) Session Layer
11. This layer is closest to the user and provides services such as email, file transfer, and web browsing.
- (a) Presentation Layer
 - (b) Network Layer
 - (c) Session Layer
 - (d) Application Layer**
12. What is a subnet in computer networking?
- (a) A physical connection between two routers
 - (b) A device that distributes IP addresses to clients
 - (c) A logically divided portion of a larger IP network**
 - (d) A list of all MAC addresses in a local network
13. What is **not** a characteristic of a VPC?
- (a) It is a network created for resources within your organization's cloud
 - (b) It allows for the creation of subnets within it
 - (c) All VPCs within your cloud account are connected with each other**
 - (d) You can define routing rules and security settings within a VPC
14. In a cloud environment, what is an **ACL** (Access Control List)?
- (a) A log of user login attempts across cloud services
 - (b) A list of API endpoints available in a cloud function
 - (c) A set of rules that control inbound and outbound traffic to cloud resources**
 - (d) A list of users with admin access to cloud billing settings

5. Cloud Compute Services

1. A company wants to not have to worry about their infrastructure and just focus solely on coding. Which compute service is the best for them to use?

- (a) Containers
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute**
2. You need to host a login system that will be used across multiple apps. Which compute service is the best for this system?
- (a) Containers**
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute
3. You run a company that needs to run and host a database. Which compute service is the best for this system?
- (a) Containers
 - (b) Virtual Machine**
 - (c) Orchestration
 - (d) Serverless Compute
4. A service for sending notification emails in Canvas is needed everytime a new announcement in STHCIUX is made. Which compute service is the best for this feature?
- (a) Containers
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute**
5. A startup company really does not want to bother with managing containers or their microservices, which compute service is best for this feature?
- (a) Containers
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute**
6. A company has a very limited budget in hosting their website to gain traction. They want to spend the least possible in doing so. Which compute service is the best for the company?
- (a) Containers
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute**

7. A weather app calls an API in order to retrieve the data of the current weather in different regions in the world. Which compute service is the best for the feature?
 - (a) Containers
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute**
8. A hospital needs to host a digital file-based system and needs to protect their data with lots of security. Which of these compute services is the best for the system.
 - (a) Containers
 - (b) Virtual Machine**
 - (c) Orchestration
 - (d) Serverless Compute
9. A friend group wants to host manage multiple Minecraft servers but different game versions. Which of the following is the best compute service for this?
 - (a) Containers**
 - (b) Virtual Machine
 - (c) Orchestration
 - (d) Serverless Compute

6. Cloud Storage Services

1. BetterInternship wants to store their outdated data as they don't need it anymore. Which of the following is the best storage service for this?
 - (a) Archival Storage**
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
2. Neuron has a VM pool that they use in case one of their VMs goes down. The processing that needs to be done on these VMs are done on files. Which of the following is the best storage service for this?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System**

3. Venyu bought a virtual machine cloud instance and now needs to store their data so that they may access it quickly. Which of the following is the best storage service for this?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
4. Quasar wants to allow the user to upload profile pictures to their website. Which of these storage services is best suited for file-based storage?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
5. LittleBranch has a lot of bookings in which the website needs to pull data constantly from the servers to have real-time updates. Which of these are the best storage service for their website?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
6. Shawn's Customs has lots of images of custom shirts that needs to be saved for the orders that still need to be printed. Which of these are the best storage service for their website?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
7. Dala has a lot of outdated patient data that will rarely be accessed due to it being decades old. Which of these are the best storage service for their website?
 - (a) Archival Storage
 - (b) Block Storage
 - (c) Object Storage
 - (d) Network File System
8. RequiemHub runs its web application using multiple EC2 instances. Each instance needs its own persistent storage for storing the application code, logs, and operating

system files. Which of these are the best storage service for their website?

- (a) Archival Storage
- (b) Block Storage**
- (c) Object Storage
- (d) Network File System

7. Cloud Database Services

1. Discord as an application processes millions to billions of messages on the daily. These messages may be unstructured or semi-structured. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL**
 - (c) Enterprise SQL
 - (d) Data Warehousing
2. Proctor & Gamble, a large multinational corporation, needs a database to store data critical to their operations. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL
 - (c) Enterprise SQL**
 - (d) Data Warehousing
3. A company needs to analyze massive volumes of historical sales data from the past 10 years to identify trends and generate monthly reports. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL
 - (c) Enterprise SQL
 - (d) Data Warehousing
4. You're designing a backend for an e-commerce website that must support joins, constraints, and transactions with strong data consistency. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL
 - (c) Enterprise SQL
 - (d) Data Warehousing**

5. A brand-new startup needs to create and iterate on their product quickly, and therefore their data shape will change frequently. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL**
 - (c) Enterprise SQL
 - (d) Data Warehousing
6. Your client is a company that required maximum uptime and support in case the database goes down. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL
 - (c) Enterprise SQL**
 - (d) Data Warehousing
7. You are working at a research lab collecting data that would later be analyzed. Which of these database services are the best for this use case?
 - (a) Relational SQL
 - (b) Non SQL
 - (c) Enterprise SQL
 - (d) Data Warehousing**