

## Cloud Computing & AWS Fundamentals – Practice Exercises (Multiple Choice)

### Part 1: Core Concepts & Service Models (20 minutes)

1. Which option best defines cloud computing?
    - A. Buying physical servers and managing them on-site
    - B. Renting computing resources over the internet on demand
    - C. Installing software on local machines only
    - D. Using the internet only for email and browsing
  2. Which of the following lists correctly represents the five essential characteristics of cloud computing?
    - A. High cost, fixed capacity, manual scaling, on-premise, slow provisioning
    - B. On-demand self-service, broad network access, resource pooling, rapid elasticity, measured service
    - C. Virtual machines, containers, databases, storage, networking
    - D. Security, compliance, availability, performance, backups
  3. Which service model allows developers to build applications without managing servers or operating systems?
    - A. IaaS
    - B. SaaS
    - C. PaaS
    - D. On-Premises
  4. A company rents virtual servers and storage over the internet. Which service model is this?
    - A. SaaS
    - B. PaaS
    - C. IaaS
    - D. FaaS
  5. An end user accesses email through a web browser without installing software. Which service model is being used?
    - A. IaaS
    - B. PaaS
    - C. SaaS
    - D. Hybrid Cloud
  6. A startup wants to focus only on writing code for a mobile app and does not want to manage servers, databases, or scaling. Which cloud service model should they choose?
    - A. IaaS
    - B. PaaS
    - C. SaaS
    - D. On-Premises
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### Part 2: AWS Infrastructure & Storage (30 minutes)

7. Which statement best describes an AWS Region?
  - A. A single data center
  - B. A collection of Availability Zones in a geographic area
  - C. A global content delivery location
  - D. A single virtual server
8. What is an Availability Zone (AZ)?
  - A. A worldwide AWS location
  - B. A single server rack
  - C. One or more data centers within a region designed for fault isolation
  - D. A billing boundary
9. What is the primary purpose of AWS Edge Locations?
  - A. Hosting EC2 instances
  - B. Storing databases
  - C. Delivering content with low latency to users
  - D. Managing IAM users
10. To design a highly available web application for users in Europe and North America, which approach is best?
  - A. Deploy in one Availability Zone only
  - B. Deploy in multiple Availability Zones within one region
  - C. Deploy in multiple regions using services like Route 53 and Load Balancers
  - D. Deploy only at Edge Locations
11. Which AWS service is best suited for storing millions of product images for an e-commerce website?
  - A. EBS
  - B. EFS
  - C. S3
  - D. ElastiCache
12. Which storage service is most appropriate for running a MySQL database on EC2?
  - A. S3
  - B. Glacier
  - C. EBS
  - D. EFS
13. Which AWS storage service is best for sharing files across multiple EC2 instances simultaneously?
  - A. EBS
  - B. EFS
  - C. S3 Glacier
  - D. ElastiCache
14. Which service should be used to cache session data for a high-traffic website?
  - A. S3
  - B. Glacier
  - C. ElastiCache
  - D. EFS

15. Which AWS service is most cost-effective for archiving data that must be retained for 10 years?
- A. S3 Standard
  - B. EBS
  - C. ElastiCache
  - D. S3 Glacier
16. You have S3 data that is frequently accessed initially, less accessed after 90 days, and rarely accessed after 365 days. What is the best cost-optimization solution?
- A. Manual file deletion
  - B. S3 Lifecycle Policies
  - C. Moving data to EC2 storage
  - D. Using only S3 Standard
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Part 3: Compute & Security (25 minutes)

17. Which statement correctly compares EC2 and Lambda?
- A. EC2 is serverless; Lambda requires server management
  - B. Lambda is event-driven; EC2 provides full control over virtual machines
  - C. Both require managing operating systems
  - D. Lambda is better for long-running workloads
18. When is EC2 a better choice than Lambda?
- A. Short-lived event-driven tasks
  - B. Applications requiring full OS control
  - C. Infrequent background jobs
  - D. Simple API endpoints
19. Which scenario is best suited for AWS Lambda?
- A. A legacy application running 24/7
  - B. A database server
  - C. An event-triggered image resizing function
  - D. A custom Linux environment
20. Which choice helps ensure an EC2 instance stays within the AWS Free Tier?
- A. Using a GPU-based instance
  - B. Choosing a t2.micro or t3.micro instance
  - C. Running the instance 24/7 for multiple years
  - D. Attaching multiple large EBS volumes
21. In the AWS Shared Responsibility Model, what is AWS responsible for?
- A. Securing customer data
  - B. Managing applications
  - C. Securing the physical infrastructure
  - D. Managing IAM users
22. What is the customer responsible for when using EC2?
- A. Physical data center security
  - B. Hypervisor patching

- C. Operating system and application security
  - D. Global network availability
23. What is the primary purpose of AWS IAM?
- A. Encrypting data
  - B. Managing access and permissions
  - C. Storing secrets
  - D. Monitoring performance
24. How does IAM differ from AWS KMS?
- A. IAM manages encryption keys; KMS manages users
  - B. IAM controls access; KMS manages encryption keys
  - C. Both are used for monitoring
  - D. Both provide storage services
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#### Part 4: Data & Analytics Pipeline (30 minutes)

25. Which service is best used to schedule a data pipeline to run every night at 2 AM?
- A. AWS Lambda
  - B. Amazon EventBridge
  - C. Amazon S3
  - D. AWS Glue
26. Which service is most suitable for storing large amounts of structured and unstructured data at scale?
- A. Amazon S3
  - B. Amazon EC2
  - C. Amazon RDS
  - D. Amazon CloudWatch
27. Which AWS service allows analysts to run SQL queries directly on data stored in S3 without managing servers?
- A. Amazon Redshift
  - B. Amazon Athena
  - C. Amazon EC2
  - D. Amazon DynamoDB
28. Which AWS service is best for visualizing analytics data in dashboards?
- A. Amazon CloudWatch
  - B. Amazon QuickSight
  - C. Amazon Glue
  - D. Amazon EMR
29. What is the primary role of AWS Glue in a data pipeline?
- A. Data visualization
  - B. Data storage
  - C. ETL (Extract, Transform, Load)
  - D. Content delivery

30. What problem does the AWS Glue Crawler solve?
- A. Scheduling jobs
  - B. Encrypting data
  - C. Automatically discovering schemas and metadata
  - D. Query optimization
31. When should Amazon Redshift be chosen over Amazon Athena?
- A. For ad-hoc queries on S3
  - B. For large-scale, complex analytical workloads with frequent queries
  - C. For event-driven processing
  - D. For real-time caching
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Part 5: Azure & Cross-Cloud Concepts (15 minutes)

32. What is the Azure equivalent of AWS EC2?
- A. Azure Functions
  - B. Azure App Service
  - C. Azure Virtual Machines
  - D. Azure Blob Storage
33. What is the Azure equivalent of AWS S3?
- A. Azure Files
  - B. Azure Disk Storage
  - C. Azure Blob Storage
  - D. Azure Data Lake
34. What is the Azure equivalent of AWS IAM?
- A. Azure Monitor
  - B. Azure Active Directory
  - C. Azure Key Vault
  - D. Azure DevOps
35. What best describes an Azure Resource Group?
- A. A physical data center
  - B. A billing account
  - C. A logical container for managing related resources
  - D. A virtual network
36. Why are Azure Resource Groups useful?
- A. They improve internet speed
  - B. They simplify management, access control, and lifecycle of resources
  - C. They replace virtual machines
  - D. They provide automatic backups
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Bonus Challenge (Optional – 10 minutes)

37. Your AWS bill is much higher than expected. What should you check first?
- A. IAM roles
  - B. EC2 and RDS usage
  - C. Edge Locations
  - D. Availability Zones
38. Which AWS service helps analyze and track AWS spending?
- A. CloudTrail
  - B. AWS Cost Explorer
  - C. AWS Trusted Advisor
  - D. AWS Inspector
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