

# Cloud Computing Q&A Guide

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Here's a **well-structured Cloud Computing Oral Question Bank** with concise answers and tips to help you prepare confidently:

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## Basic Cloud Concepts

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### 1. What is cloud computing?

Delivery of computing services (like storage, processing, databases, and more) over the internet on a pay-as-you-go basis.

### 2. What are characteristics of cloud computing?

- On-demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

### 3. Which are different cloud service providers?

- Amazon Web Services (AWS)
  - Microsoft Azure
  - Google Cloud Platform (GCP)
  - IBM Cloud
  - Oracle Cloud
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## Service & Deployment Models

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#### 4. Explain service models of cloud computing.

- **IaaS (Infrastructure as a Service):** AWS EC2, Azure VM
- **PaaS (Platform as a Service):** Google App Engine, AWS Elastic Beanstalk
- **SaaS (Software as a Service):** Gmail, Dropbox

#### 5. Explain deployment models of cloud computing.

- **Public Cloud:** AWS, Azure
- **Private Cloud:** Internal data center for a single organization
- **Hybrid Cloud:** Combination of public and private
- **Community Cloud:** Shared by multiple organizations

#### 6. What are types of cloud?

Public, Private, Hybrid, Community (same as deployment models)

#### 7. Explain private cloud with example.

Cloud infrastructure operated solely for one organization.

*Example: VMware vSphere in a private data center.*

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## Cloud Storage & AWS Services

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#### 8. How data stored in cloud computing?

- GFS (Google File System)
- HDFS (Hadoop Distributed File System)  
Used for distributed storage and redundancy.

#### 9. What are different services provided by AWS?

- Compute (EC2, Lambda)
- Storage (S3, EBS)
- Database (RDS, DynamoDB)
- Networking (VPC, CloudFront)
- Developer Tools (CodeBuild, CodeDeploy)

**10. What is EC2? How to launch EC2 instance?**

Elastic Compute Cloud – a virtual server.

Launch via AWS Console > Choose AMI > Select Instance Type > Configure > Launch with Key Pair.

**11. What is AMI?**

Amazon Machine Image – a pre-configured template for EC2 instances.

**12. What is Security Group? What is its use?**

Virtual firewall to control traffic for EC2 instances.

**13. What are types of EC2 instances?**

- General Purpose (t3, t2)
- Compute Optimized (c5)
- Memory Optimized (r5)
- Storage Optimized (i3)

**14. What do you mean by t2.micro in context of EC2?**

A free-tier eligible EC2 instance type (1 vCPU, 1GB RAM).

**15. What is AWS CLI?**

Command Line Interface for managing AWS services using terminal.

**16. What is RDS? Its use.**

Relational Database Service – managed databases like MySQL, PostgreSQL.

**17. What is IAM user? Why we should create IAM user?**

Identity Access Management user – allows secure access to AWS services without using root.

**18. What is the use of cloud9 service?**

Cloud-based IDE to write, run, and debug code.

**19. What is the use of Amazon Quicksight service?**

BI service for dashboards, data analysis, and visualizations.

**20. What is LightSail?**

Simplified platform to launch websites or apps with pre-configured templates.

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## Virtualization & Security

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**21. What is Virtualization?**

Creating virtual instances of resources (like OS, server, storage).

**22. What are the types of virtualization?**

- Full virtualization
- Para-virtualization
- OS-level virtualization

**23. What is the role of Hypervisor?**

Software that creates and manages virtual machines.

**24. What is the difference between root user and IAM user?**

Root: Full account access.

IAM: Limited, controlled access (recommended for daily use).

**25. What is Amazon S3, and why is it important?**

Simple Storage Service – object storage for any type of data, scalable and durable.

**26. Explain the concept of 'Regions' and 'Availability Zones' in AWS.**

- **Region:** Geographic location (e.g., us-east-1)
- **Availability Zone:** Data center(s) within a region

**27. Explain Amazon RDS and Amazon DynamoDB.**

- RDS: Managed SQL databases
- DynamoDB: NoSQL key-value and document database

**28. Explain Elastic Load Balancer.**

Distributes incoming traffic across multiple EC2 instances.

**29. What is the maximum number of S3 buckets you can create?**

100 per AWS account (default, can be increased via request)

**30. What is the name of Amazon's Content Delivery Network?**

Amazon CloudFront

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## **Monitoring & Additional Services**

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**31. What is CloudWatch?**

Monitoring and observability service for AWS resources and applications.

**32. What is EBS snapshot?**

Backup of EBS volume stored in S3.

**33. What are key pairs?**

Public/private key used for secure SSH access to EC2.

**34. What is auto-scaling?**

Automatically adds/removes EC2 instances based on traffic/load.

**35. Which are the companies that use AWS?**

Netflix, Airbnb, Samsung, NASA, BMW, LinkedIn

**36. How Do You Monitor And Log AWS Resources?**

Using **CloudWatch**, **CloudTrail**, and third-party tools.

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## **Other Cloud Technologies**

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**37. What are OpenStack services?**

Open-source cloud platform with services like Nova (compute), Swift (storage), Neutron (networking)

**38. What is Google App Engine?**

PaaS offering from Google Cloud to deploy and scale apps without managing servers.

**39. Give example of SAAS**

- Gmail
- Google Drive
- Microsoft Office 365

**40. Explain future trends in cloud computing**

- Serverless computing
  - Edge computing
  - AI & ML integration
  - Multi-cloud strategies
  - Quantum cloud computing
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## **Containers, DevOps & Comparison**

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#### 41. What is container?

Lightweight, portable unit that contains app and its environment.

#### 42. What is Docker and Kubernetes?

- **Docker:** Platform to create and run containers
- **Kubernetes:** Orchestrates containers across clusters

#### 43. What is DevOps?

Culture and set of practices that integrate development and operations for faster delivery.

#### 44. Compare between AWS and Microsoft Azure

| Feature         | AWS                    | Azure          |
|-----------------|------------------------|----------------|
| Market Share    | Largest cloud provider | Second largest |
| Storage Service | S3                     | Blob Storage   |
| Compute Service | EC2                    | Azure VM       |
| AI Integration  | SageMaker              | Azure ML       |
| Developer Tools | CodeBuild, CodeDeploy  | Azure DevOps   |

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