Top Cloud Computing Interview Questions – Most Asked

Here we have a set of the most asked Cloud Computing interview questions that can help you clear your cloud job interview. You will learn different layers of cloud architecture, APIs for cloud, main components of AWS and Azure, cloud availability and reliability, layers of PaaS architecture, cloud service models, importance of Hybrid cloud, cloud security management, and more. Learn more on Cloud Computing from Intellipaat **AWS Certification Training (https://intellipaat.com/aws-certification-training-online/)** and excel in your career!

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Top Answers to Cloud Computing Interview Questions

1. Compare between Cloud and On-premise Computing.

Criteria	Cloud	On-premise
Initial cost	Low	High
Maintenance and support	Hassle-free	Needs attention
Upgrade	Automatic	Manual
Scalability	Excellent	Good
Pay as you go	Yes	No

2. What is a Cloud?

A cloud is a collaboration of networks, hardware, services, storage, and interfaces that help in delivering computing as a service. It has three users:

1. End users
2. Business management users
3. Cloud service providers

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3. What is Cloud Computing?

It is an advanced-stage technology implemented so that the cloud provides its services globally as per the user requirements. It provides a method to access several servers worldwide.

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4. What are the benefits of Cloud Computing?

The main benefits of Cloud Computing are:

- Data backup and storage of data
- Powerful server capabilities
- Incremented productivity
- Cost-effective and time-saving

5. Mention the layers of PaaS architecture.

Cloud Controller

- Automatically creates virtual machines and controllers
- Deploys applications
- Connects to services
- Automatically scales up and down

Storage Services

- Object
- NoSQL
- Relational
- Block storage

Applications Stored in Storage Services

- Simple-to-scale applications
- Easier recovery from failure

6. What are the cloud service models?

Infrastructure as a Service (IaaS)
Platform as a Service (PaaS)
Software as a Service (SaaS)

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7. What are the components of Windows Azure?

Windows Azure Platform Services

- Cloud
- SQL Azure

- App Fabric: Allows fabric cloud

8. What are the differences occurred in distributed operations?

FC: Master–Slave operations
Nova: Parallel process and its shared database

9. Which agent is equivalent of Nova Compute?

Azure Agent

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10. Mention the reliability and availability of Cloud Computing.

Use of Fault Domains:

- Two virtual machines are in a single fault domain if a single hardware can bring down both the virtual machines.
- Azure automatically distributes instances of a role across fault domains.

Use of Upgrade Domains:

- When a new version of the software is rolled out, then only one up-gradation of the domain is done at a time.
- It ensures that any instance of the service is always available.
- There is an availability of the applications in multiple instances.

Storage and Network Availability:

- Copies of data are stored in different domains.
- it is a mechanism to guard against DoS and DDoS attacks.

11. Give the best example for the open-source Cloud Computing.

OpenStack

12. What is an AMI? How do we implement it?

AMI is Amazon Machine Image, which basically is a copy of your root file system. It feeds the information required to launch an instance.

We implement AMI by specifying an AMI whenever we want to launch an instance. Multiple

instances can be launched from a single AMI with the same configuration.
In the case of launching instances with different configurations, we would need to launch different AMIs.

AMI includes one or more snapshots of your EBS volumes, in the case of instance-store backed AMIs, along with a template for the root volume of your instance (like an operating system, an application server, and applications).

It launches the permissions that decide which AWS accounts can use the AMI for launching instances. It also needs a block device mapping for specifying the volumes in order to attach them to the instances whenever they are launched.

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13. Why Hybrid Clouds are so important?

Cloud Bursting:
Access capacity and specialized software are available in rhe public cloud and not in the private cloud.
Examples: Virtual Amazon and Dynamo

Leveraging the best of both worlds, there are hybrid clouds.

vCloud:

- It is a VMware cloud.
- It is expensive.
- It gives enterprise quality.

OpenStack:

- It has commodity servers and storage.
- It is less reliable.
- We can run web servers on OpenStack.
- the database is built on vCloud.

14. List the platforms that are used for large-scale Cloud Computing.

The platforms that are used for large-scale Cloud Computing are:

- Apache Hadoop
- MapReduce

15. Mention the different types of models used for the deployment in Cloud

Computing.

The different deployment models in Cloud Computing are:

- Private Cloud
- Public Cloud
- Community Cloud
- Hybrid Cloud

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16. Explain security management in terms of Cloud Computing.

- **Identity management** access provides the authorization of application services.
- **Access control** permission is given to users to have complete controlling access of another user who is entering into the cloud environment.
- **Authentication and authorization** provide permission to only the authorized and authenticated users to access the data and applications.

17. Which are the layers of Cloud Computing?

The different layers used by cloud architecture are as follows:

- CLC or Cloud Controller
- Walrus
- Cluster Controller
- Storage Controller (SC)
- Node Controller (NC)

18. Explain the full form and the usage of 'Eucalyptus' in Cloud Computing.

The full form of 'Eucalyptus' is 'Elastic Utility Computing Architecture for Linking Your Programs to Useful Systems'.

Eucalyptus is an open-source software infrastructure in Cloud Computing, which enables us to implement clusters in the Cloud Computing platform. It is mainly used to build public, hybrid, and private clouds. It has capabilities to convert our own data center into a private cloud and provides its functionalities for various other organizations.

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19. Mention the names of some large cloud providers and databases.

- Google Bigtable
- Amazon Simple Database
- Cloud-based SQL (Sequential Query Language)

20. Explain the difference between cloud and traditional data centers.

- The traditional data center is expensive due to heating and hardware/software issues. Mostly, the expenditure is on the maintenance of the data centers.
- Cloud is scaled up when there is an increase in demand, hence such expenditure issues are not faced in Cloud Computing.

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21. What are the uses of APIs in cloud services?

- APIs (Application Programming Interfaces) are used to eliminate the necessity to write complete programs.
- Here, instructions are provided to make communication between one or more applications.
- Creation of applications is made easy and accessible for the link of cloud services with other systems.

22. Mention different data center deployments of Cloud Computing.

Cloud Computing consists of different data centers as follows:

- **Containerized data centers:** Containerized data centers are the packages that contain a consistent set of servers, network components, and storage delivered to large

warehouse kind of facilities. Here, each deployment is relatively unique.

- **Low-density data centers:** Containerized data centers promote heavy density which in turn causes much heat and significant engineering troubles. **Low-density data centers** are the solution to this problem. Here, the equipment is established far apart so that it cools down the generated heat.

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23. List down the three basic functioning clouds in Cloud Computing.

- Professional cloud
- Personal cloud
- Performance cloud

24. What are the characteristics of cloud architecture that differ from traditional cloud architecture?

The characteristics are:

- In cloud, the hardware requirement is fulfilled as per the demand created for cloud architecture.
- Cloud architecture is capable of scaling up resources when there is a demand.
- Cloud architecture is capable of managing and handling dynamic workloads without any point of failure.

25. What are the building blocks of cloud architecture?

- Reference architecture
- Technical architecture
- Deployment operation architecture

26. Explain AWS.

AWS stands for Amazon Web Services which is a collection of remote computing services also known as Cloud Computing. This technology is also known as IaaS or Infrastructure as a Service.

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27. Mention the key components of AWS.

The key components of AWS are as follows:

- **Route 53:** It is a DNS (Domain Name Server) web-based service platform.
- **Simple E-mail Service:** Sending of e-mail is done by using a RESTFUL API call or via regular SMTP (Simple Mail Transfer Protocol).
- **Identity and Access Management:** Improvised security and identity management are provided for an AWS account.
- **Simple Storage Device (S3):** It is a huge storage medium, widely used for AWS services.
- **Elastic Compute Cloud (EC2):** It allows on-demand computing resources for hosting applications and essentially useful for unpredictable workloads.
- **Elastic Block Stores (EBS):** They are storage volumes attached to EC2 and allow the data lifespan of a single EC2.
- **CloudWatch:** It is used to monitor AWS resources, and it allows administrators to view and collect keys required. Access is provided so that one can set a notification alarm in the case of trouble.

28. Explain how you can vertically scale an Amazon instance.

This is one of the essential features of AWS and cloud virtualization. We spinup a newly developed large instance where we pause that instance and detach the root EBS volume from the server and discard. Later, we stop our live instance and detach its root volume connected. here, we note down the unique device ID and attach the same root volume to the new server, and we restart it again. This results in a vertically scaled Amazon instance.

29. Explain the security usage in the Amazon Web Services model.

- AWS supports security groups.
- Access is provided to create a security group for a jump box with SSH access only for port 22 open. Later, a webserver group and a database group are created. The webserver group provides 80 and 443 from around the world, but only port 22 will be vital among the jump box group. The database group allows port 3306 from the webserver group and port 22 from the jump box group. The addition of any machines to the webserver group can store in the database. No one can directly SSH to any of our boxes.

30. What are reasons that make Amazon so big?

- In Amazon, the backup storage of EBS volumes is maintained by inserting the snapshot facility via an API call or via a GUI interface like Elasticfox.
- Performance is improved by using Linux software RAID and striping across four volumes.

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