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1.What is Cloud?

Cloud is a technology that allows users to access and store data, applications, and services over the internet instead of on local servers or personal computers. It provides on-demand delivery of IT resources such as servers, storage, databases, networking, software, and analytics.

**Key Characteristics of Cloud Computing:**

1. **On-Demand Self-Service**: Users can access computing resources as needed without requiring human interaction with service providers.
2. **Broad Network Access**: Resources are available over the internet and accessible through various devices like laptops, tablets, and smartphones.
3. **Resource Pooling**: Cloud providers use a multi-tenant model to serve multiple customers using shared resources dynamically allocated and reallocated as needed.
4. **Rapid Elasticity**: Resources can be scaled up or down quickly based on demand.
5. **Measured Service**: Usage is tracked and billed based on actual consumption, making it cost-efficient.

2.Explain differences between Private and Public Cloud?

In a private cloud, a single organization controls and maintains the underlying infrastructure to deliver the IT resources. In a public cloud, external cloud providers deliver the resources as a fully managed service. For example, applications require computing resources like internal memory, data storage, and CPU.

3.Write top 10 Cloud Providers?

Some of the top cloud service providers include:

* **Amazon Web Services (AWS)**: A top choice for public cloud. In Q4 2023, AWS had a 31% market share.
* **Microsoft Azure**: A top choice for developer solutions. In Q4 2023, Azure had a 24% market share.
* **Google Cloud Platform (GCP)**: A top choice for cloud computing. In Q4 2023, GCP had an 11% market share.
* **Alibaba Cloud**: A top choice for elastic computing. In Q4 2023, Alibaba Cloud had a 4% market share.
* **Oracle Cloud**: A top choice for data management. Oracle Cloud provides servers, storage, network, applications, and services.
* **IBM Cloud**: A top choice for integrated cloud experience.
* **Digital Ocean**: A top choice for web applications.
* **Tencent Cloud**: A top choice for helping global enterprises succeed in China.
* **Salesforce**: A top choice for CRM solutions.
* **VMWare**: A top choice for multi-cloud services.

4.What is a Server?

Server processes requests sent over a network and replies to them. A client is the device that submits a request and waits for a response from the server. The computer system that accepts requests for online files and transmits those files to the client is referred to as a “server” in the context of the Internet.

Servers may include database servers, mail servers, print servers, web server, application servers, and game servers etc

Servers are the backbone of network architecture, enabling efficient data management and communication.

5.Write differences between Cloud and Server?

 In cloud server, we store our data in a shared virtual environment. In contrast, the traditional, or on-site, server that is housed on your premises is either managed by our own IT staff or outsourced to another IT provider.

6.What is Cloud Computing?

Cloud computing is the delivery of computing services over the internet, or "the cloud". It allows users to access computing resources like storage, servers, databases, networking, software, analytics, and intelligence on demand.

Cloud computing offers many benefits, including:

* **Flexibility**: Users can access cloud services from anywhere with an internet connection.
* **Efficiency**: Enterprises can develop new applications and rapidly get them into production.
* **Cost savings**: Users typically pay only for cloud services they use, helping to lower operating costs.
* **Scalability**: It's easier to scale computing resources as needed.

7.Explain Types of Cloud Computing?

There are four types of cloud computing: private clouds, public clouds, hybrid clouds, and multi clouds. There are also three types of cloud computing services: Infrastructure-as-a-Service (IaaS), Platforms-as-a-Service (PaaS), and Software-as-a-Service (SaaS).

8.Write Few Lines about Software Development Life Cycle? (SDLC)

**SDLC (Software Development Life Cycle)** is a systematic process used to develop software with high quality and cost efficiency. It provides a structured framework for planning, creating, testing, and deploying software.

**Phases of SDLC**

1. **Requirement Gathering and Analysis**
   * Collect and analyse business and user requirements.
   * Document specifications for the project.
   * Outcome: *Requirement Specification Document.*
2. **System Design**
   * Define the system architecture, design the UI, database, and system structure.
   * Translate requirements into technical specifications.
   * Outcome: *System Design Document.*
3. **Implementation (Coding)**
   * Developers write code based on the design document.
   * Programming languages and tools are used to build the software.
   * Outcome: *Executable software components.*
4. **Testing**
   * Test the software for defects, bugs, and functionality issues.
   * Ensure that the software meets the requirements and is free from defects.
   * Outcome: *Test Results and Bug Reports.*
5. **Deployment**
   * Release the software into the production environment.
   * Configure and install the software on the user’s system.
   * Outcome: *Operational Software.*
6. **Maintenance**
   * Monitor performance, resolve issues, and implement enhancements.
   * Ensure the software adapts to changes in requirements.
   * Outcome: *Updated and improved software.*