1. **What is cloud?**

The term **cloud** refers to a vast network of servers accessible via the internet that store, manage, and process data. Instead of relying on local computers or devices for storage and computing power, people and businesses use cloud to access these resources remotely.

1. **Difference between the public and private cloud?**

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| **Feature** | | **Public Cloud** | | | **Private Cloud** | |
| **Definition** | | A cloud environment where services and infrastructure are shared among multiple users over the internet. | | | A dedicated cloud environment reserved for a single organization. | |
| **Ownership** | | Owned, managed, and operated by third-party providers like AWS, Microsoft Azure, or Google Cloud. | | | Owned and managed by the organization itself or a third-party provider exclusively for the organization. | |
| **Accessibility** | | Accessible to multiple organizations or individuals via the internet. | | | Accessible only by the organization through secure private networks. | |
| **Cost** | | Pay-as-you-go pricing, lower upfront costs. | | | Higher upfront investment for infrastructure, but better control over long-term costs. | |
| **Scalability** | | Highly scalable with virtually unlimited resources. | | | Limited scalability, dependent on in-house infrastructure capacity. | |
| **Maintenance** | | Maintenance handled entirely by the cloud provider. | | | Maintenance is the responsibility of the organization (or outsourced to a managed service provider). | |
| **Security** | | Good security, but shared environment poses potential risks. | | | Higher security and privacy due to dedicated resources and controlled access. | |
| **Customization** | | Limited customization as resources are shared. | | | Highly customizable to meet specific organizational needs. | |
| **Use Cases** | | Ideal for small to medium businesses, startups, and applications requiring rapid scaling. | | | Suitable for large enterprises with strict regulatory, security, or compliance requirements. | |
| **Examples** | | Google Cloud Platform, AWS, Microsoft Azure. | | | VMware Private Cloud, OpenStack, on-premise cloud solutions. | |
| **Deployment Time** | | Quick setup with no hardware procurement needed. | | | Longer setup time due to hardware procurement and configuration. | |
| **Resource Sharing** | | Shared resources among multiple users. | | | Dedicated resources for a single organization. | |
| **Compliance** | | May have limitations in meeting specific compliance standards. | | | Easier to meet industry-specific compliance standards (e.g., HIPAA, GDPR). | |
| **Performance** | | Performance can be affected by other users (multi-tenant environment). | | | Predictable performance as resources are not shared. | |
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1. **Top 10 cloud providers?**

Amazon Web Service(AWS)

Microsoft Azure

Google cloud platform(GCP)=

Alibaba cloud

Oracle cloud

IBM

Digital ocean

Tencent cloud

Salesforce

VMWare

1. **What is a server?**

A **server** is a computer or system that provides resources, services, or data to other computers, called **clients**, over a network. Servers are designed to handle requests and deliver responses, enabling functionalities like hosting websites, running applications, or storing files.

1. **Difference between the cloud and server?**

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| | **Feature** | **Cloud** | **Server** | | --- | --- | --- | | **Definition** | A network of remote servers providing resources and services over the internet. | A physical or virtual machine providing specific services (e.g., hosting, file storage). | | **Accessibility** | Accessible from anywhere with an internet connection. | Accessible over a specific network (local or internet). | |  |  |  | | **Ownership** | Owned and managed by cloud providers (e.g., AWS, Azure). | Can be privately owned or rented (e.g., dedicated hosting). | | **Scalability** | Highly scalable with on-demand resources. | Limited scalability (requires hardware upgrades for scaling). | | **Cost** | Pay-as-you-go model, based on usage. | Higher upfront cost for purchasing hardware. Ongoing maintenance costs. | | **Maintenance** | Managed by the cloud provider. | Requires manual management and maintenance. | | **Deployment** | Rapid deployment, virtualized infrastructure. | Requires manual setup and configuration. | | **Flexibility** | Highly flexible, dynamic, and adaptable to changes in workload. | Less flexible; requires physical hardware changes for scaling. | | **Security** | Security managed by the cloud provider, but shared responsibility with the user. | Security is entirely managed by the owner or hosting provider. | | **Examples** | Google Drive, AWS, Microsoft Azure. | A company’s internal file server, web hosting servers. | | **Use Cases** | Suitable for scalable, global applications and services. | Suitable for consistent workloads or specific security requirements. | | **Hardware Dependency** | No dependency on specific physical hardware. | Dependent on physical hardware. | | **Resource Sharing** | Resources are shared dynamically across users. | Resources are dedicated to a single user or application. | |

1. **What is mean by cloud computing?**

**Cloud Computing** refers to the delivery of computing resources—such as servers, storage, databases, networking, software, and analytics—over the internet, often referred to as "the cloud." Instead of owning and managing physical hardware, businesses and individuals can access these resources on-demand from cloud service providers.

1. **What are the types of cloud computing?**

1.**Infrastructure as a Service (IaaS)**:

* Provides virtualized computing resources like servers, storage, and networking.
* Example: AWS EC2, Microsoft Azure Virtual Machines.

2.**Platform as a Service (PaaS)**:

* Offers a platform for developers to build, test, and deploy applications without managing the underlying infrastructure.
* Example: Google App Engine

3.**Software as a Service (SaaS)**:

* Delivers software applications over the internet on a subscription basis.
* Example: Gmail, Microsoft Office 365, Salesforce.

1. **What is SDLC?**

The **Software Development Life Cycle (SDLC)** is a structured process used by software development teams to design, develop, test, and deploy software applications. It ensures that the software meets the required quality standards and fulfills user needs effectively.