

CLOUD COMPUTING

What Is Cloud Computing?

Cloud Computing means storing and accessing the data and programs on remote servers that are hosted on the internet instead of the computer's hard drive or local server. Cloud computing is also referred to as Internet-based computing, it is a technology where the resource is provided as a service through the Internet to the user. The data that is stored can be files, images, documents, or any other storable document.

The following are some of the operations that can be performed with Cloud Computing

- Storage, backup, and recovery of data
- Delivery of software on demand
- Development of new applications and services
- Streaming videos and audio

Why we use Cloud Computing ?

Cloud computing is used for many reasons, including:

- Cost savings: Businesses only pay for the resources they use, and they don't have to pay for unused time.
- Better collaboration: Cloud storage allows people to access data from anywhere, on any device.
- Advanced security: Cloud computing offers a range of security features.
- Data loss prevention: Cloud providers offer backup and disaster recovery features.
- Productivity: Cloud computing removes the need for many time-consuming IT management tasks.
- Agility: Cloud computing gives businesses easy access to a broad range of technologies, allowing them to innovate faster.
- Flexibility: Businesses can rely on an outside organization to take care of IT hosting and infrastructure, freeing up time to focus on other areas of the business.
- Scalability: Businesses can pay only for how much they use, and it's easier and faster to scale up or down.

Cloud Based Services

Cloud Computing can be defined as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer. Companies offering such kinds of [cloud computing](#) services are called [cloud providers](#) and typically charge for cloud computing services based on usage. Grids and clusters are the foundations for cloud computing.

Types of Cloud Computing

Most cloud computing services fall into five broad categories:

1. Software as a service (SaaS)
2. Platform as a service (PaaS)
3. Infrastructure as a service (IaaS)

Software-as-a-Service (SaaS): SaaS model allows to provide software application as a service to the end users. It refers to a software that is deployed on a host service and is accessible via Internet.

Platform as a Service (PaaS): Platform as a Service, also known as PaaS, is a [type of cloud computing service model](#) that offers a flexible, scalable cloud platform to develop, deploy, run, and manage apps. PaaS provides everything developers need for application development without the headaches of updating the operating system and development tools or maintaining hardware. Instead, the entire PaaS environment-or platform-is delivered by a third-party service provider via the cloud.

Infrastructure-as-a-Service(IaaS): IaaS provides the infrastructure such as virtual machines and other resources like virtual-machine disk image library, block and file-based storage, firewalls, load balancers, IP addresses, virtual local area networks etc. Infrastructure as service or IaaS is the basic layer in cloud computing model.

What is Cloud Storage?

In [Cloud Computing](#), Cloud storage is a virtual locker where we can remotely stash any data. When we upload a file to a cloud-based server like Google Drive, OneDrive, or iCloud that file gets copied over the Internet into a data server that is **cloud-based** actual physical space where companies store files on multiple hard drives. Most companies have hundreds of these servers known as 'server farms' spanning across multiple locations. So, if our data gets somehow lost we will not lose our data because it will be backed up by another location

Storage Systems in the Cloud

There are 3 types of storage systems in the Cloud as follows.

- Block-Based Storage System
- File-Based Storage System
- Object-Based Storage System

What is a Cloud Deployment Model?

Cloud Deployment Model functions as a virtual computing environment with a deployment architecture that varies depending on the amount of data you want to store and who has access to the infrastructure.

Types of Cloud Computing Deployment Models

- Public-cloud
- Hybrid-cloud
- Multi-cloud