

# What is Cloud Computing

## Description

Cloud Computing is not a new concept, it has been around for a while now. Most of us are also using it unknowingly on a day to day basis. For example Google cloud, they provides free cloud storage of 15gb (as of writing this post) and after all the usage, you will have to pay some fee for additional storage. Talking about the application services, it provides docs, sheets and lot of other application services. You can access the storage and its services from anywhere across the world.

The beauty of cloud is that you will only be charged on the resources you will use. If cloud didn't exist, you would have to purchase powerful servers, manage your data centers, their high availability etc. & off course engineers to manage those dŶ™,

Some of the famous cloud providers are as below

- AWS
- GCP (Google Cloud platform)
- Azure
- IBM
- Oracle

We can have our own cloud setup on premises which most of the companies prefer. I have seen most of the banking clients adopting this option.

There is no initial investment when we are choosing the existing cloud provider. They will provider all the infra for us , they will only charge us based on how much we use them and also the maintenance is also very low since they have their own engineering team.

## History of cloud computing

Those of you who have worked in any organization from 1990 to 2000 may remember the changes that have taken place since the advent of computers in the workplace. Each room had an AC-cooled room with several servers. There was a full-time technician to keep an eye on them, and when they said, 'Wait, the server is down,' your work would stop for a while. In the early 2000's, that technique began to change. Those changes revolutionized the computer-related industry. After which it became possible to think of computing as a service. In 1990, Salesforce successfully implemented SaaS (Software as a service) commercially for the first time. After which AWS (Amazon web services) did it in 2002, which provided many services like online storage, machine learning and computation. Today there are many small and big providers like Microsoft Azure, Google Cloud Platform, which are providing cloud-based service to other individuals, small business and global enterprise in association with AWS.

For example, with the introduction of virtual private networks by telecommunications companies, companies no longer need to have their own servers in their offices. Of course, this was just an example. A lot of other things happened in the computer field at that time which brought about a very

rapid change. Cloud computing is a large system that virtually stores the work you do on a computer. Today there are many small and big providers like Microsoft Azure, Google Cloud Platform, which are providing cloud-based service to other individuals, small business and global enterprise in association with AWS.

## What is Cloud computing

This service can be anything like off-site storage or computing resources. Or rather, cloud computing is a computer genre that provides a wide range of scalable and flexible IT-related capabilities with the help of Internet technology. These services include infrastructure, platforms, applications and storage space. In this, users use the services according to their needs and pay for the services they use. They do not have to build their own infrastructure for this. Since large population is using the internet today, most of the businesses want to provide their services to this huge crowd. So the businesses have to develop their products in a way so that it can be reliable, highly available 24/7 and a lot of other requirements. In such a situation, people always need services, without delay. Just imagine a situation if your favourite shopping site amazon is down for an hour, you can think of how much loss amazon can incur. To meet these requirements, we cannot rely on older mainframe computing, so people are switching to cloud technology which addresses most of the problems.

Below are some basic features provided by cloud. Apart from these there are others also which we will discuss in other post as we go along the cloud learning journey

- Storage
- Application services
- Database Security
- Networking
- Scaling
- Load Balancing

## Examples of Cloud Computing

- YouTube is a great example of cloud storage which hosts video files of millions of users.
- Picasa and Flickr which host digital photographs of crores of users on their servers.
- Google Docs which is another great example of cloud computing which allows users to upload their Presentations, Word Documents and Spreadsheets to their data servers. Along with this, it also gives the option to edit and publish those documents.

## Types of Cloud Computing

1. **Private Cloud** – This is the cloud infrastructure that dedicatedly hosts all the applications of a particular IT organization so that it has complete control over the data, so that the possibility of security breach is negligible.
2. **Public Cloud** – This type of cloud infrastructure is hosted by other service providers and then made public. In such a cloud, users have no control or can't see the infrastructure. For example, both Google and Microsoft have their own cloud infrastructure and then reach out to the public.
3. **Community Cloud** – This is a multi-tenant cloud infrastructure in which the cloud is shared with

other IT organizations.

4. **Hybrid Cloud** – These combinations are 2 or more different types of clouds (private, public and community) only then a hybrid cloud infrastructure is created where each cloud remains as a single entity, but all the clouds together form several deployment models, which is very slow.

## Advantages of cloud computing

1. **Cost Savings** – Cost Saving is one of the biggest cloud computing benefits. The cloud helps you to save substantial cost as it does not require any physical hardware. And you do not even need a hardware maintain trained person. All these cloud provenders do it themselves. You can use cloud resources according to your needs. You can take as many cloud resources as you need from the cloud provider. And for the number of days you use the resources you use, the same payment has to be made.
2. **High Speed** – Cloud computing gives you high speed at low cost. Cloud computing deployment provides the necessary resources for your system at a very high speed.
3. **Back-up and restore data** – When you upload data to the cloud, then that data and back-up can be retrieved again very easily. In a very short time.
4. **Automatic software integration** – In cloud computing, any software integration goes something like this which happens automatically. Therefore, you do not need much to manage your software according to the need. Because cloud computing is automatically managed.
5. **Reliability** – Reliability is a very important part of cloud computing because we do Reliability on the cloud, only then can you store your data on the cloud. Therefore you can access and update your data anytime.
6. **Mobility** – You can access the cloud from anywhere. And can take advantage of all the services that the cloud provides. For this you just need to have the internet.
7. **Unlimited Storage capacity** – On the cloud, you provide unlimited storage capacity, which you can increase or decrease according to your need. If you want to increase your store, then you can easily expand it with very little cost. This is a huge benefit of the cloud.
8. **Quick Deployment** – You can do deployment on the cloud in a very short time. So, when you use the cloud, your entire environment can be completed step by step in a very short time. But, the time taken depends on how big your project is and which technology has been used.
9. **Low maintenance cost** – In cloud computing organizations, the maintenance cost of computer hardware and software is greatly reduced. Due to which the cost of organization is reduced.
10. **Data security** – Data security on the cloud is a huge benefit. Cloud provides facilities to provide a lot of security for data security. Which can provide security to the data.

## Category

1. AWS
2. Cloud

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