

Session - 1What is cloud computing

The delivery of computing services like servers, storages, databases, networking & software through internet.

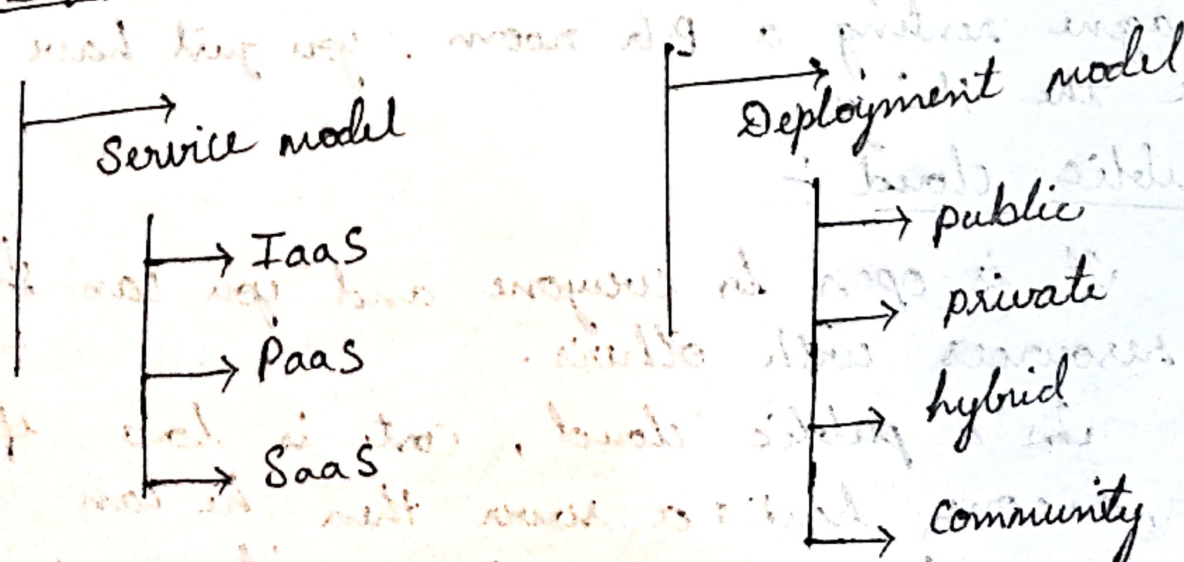
Two types of Servers :-

1. On-premises / physical servers
2. Cloud providers / platform

If we run our application on-premises, we will have some drawbacks like.

- heavy maintenance like space, cooling, power supply
- high technical team
- Scaling is not easy.

Due to this cloud came in cloud will take care of your servers, DB's, networking and other services and you can access them through internet.

Types of cloud computing :-



## Infrastructure as a Service (IaaS) :-

In IaaS, cloud provider gives you the basic infrastructure like VM's, storage & networking.

Ex:- AWS EC2, Google compute engine, Azure VM's

Imagine like buying a land, here you are responsible for the building the house & interior.

## Platform as a Service (PaaS) :-

Cloud provider supplies development platform along with the infrastructure. you have to focus on building and deploying your application.

development tools like O.S, DB & runtime env.

Ex:- AWS elastic beanstalk, google app engine, heroku.

Imagine buying a house, here you are responsible for interior.

## Software as a Service :-

In SaaS, everything is managed for you. you have to login and start using the software.

Ex:- AWS code pipeline, Azure code pipeline

Imagine renting a P.G room. you just have to use the things.

## public cloud :-

It is open to everyone and you can share resources with others.

In a public cloud, cost is low, if someone hack's a server then he can access entire network. So, security is low.



## private cloud:-

It is like owning your personal library.  
only you can access it and the resources are dedicated entirely to you.

→ higher security, cost, adding resources may take time.

## Hybrid cloud:-

public & private combination.  
you keep some resources private and other for public.

Imagine a hospital, they will have some public info like Doctor's location, contact will be hosted in public and death rate, medication, billing will be hosted in private.

## Community cloud:-

organization with similar needs share the common cloud infra.

→ cost will be divided  
→ strong isolation

In 2024,

AWS → 30% market value

Azure → 21%

GCP → 12%

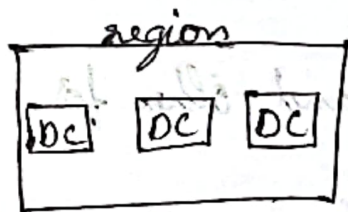
Alibaba → 4%, Oracle → 3%

IBM & Salesforce → 2%

AWS is invented in 2004, introduced in 2006, Demand came in 2008

## why AWS is so popular :-

- It offers multiple services on different domains with the combination of SaaS, PaaS, IaaS.
- 200+ services on multiple domains.
- 33 geographic regions
- 99 availability zones [Data centers]



→ group of data centers

- pay as you go model
- provides flexibility like O.S

## Advantages of AWS :-

- 24/7 support
- customization
- Disaster recovery
- speed & agility
- Access third party API
- pay as you go
- Security