Fundamentals of cloud computing

Desktop Computing

It is a use of standalone computer.

Data Storage

Games

Applications

play mp3/mp4

No Network

No Internet

Server-Client Computing

A group of computers are connected in LAN and one computer act as server and remaining act as clients.

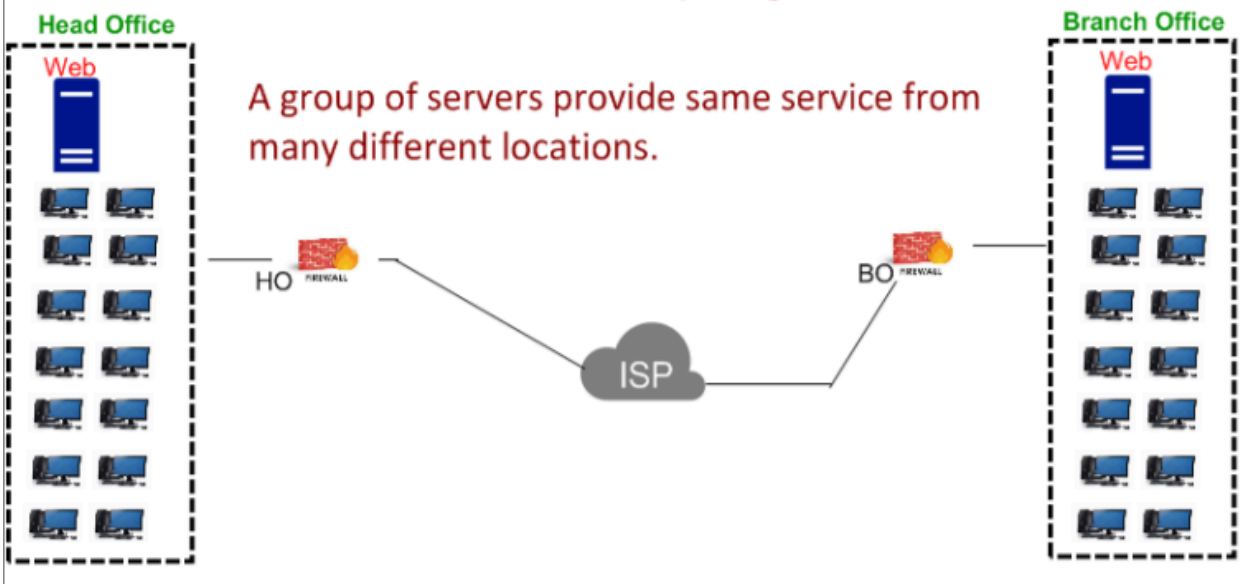
Cluster Computing

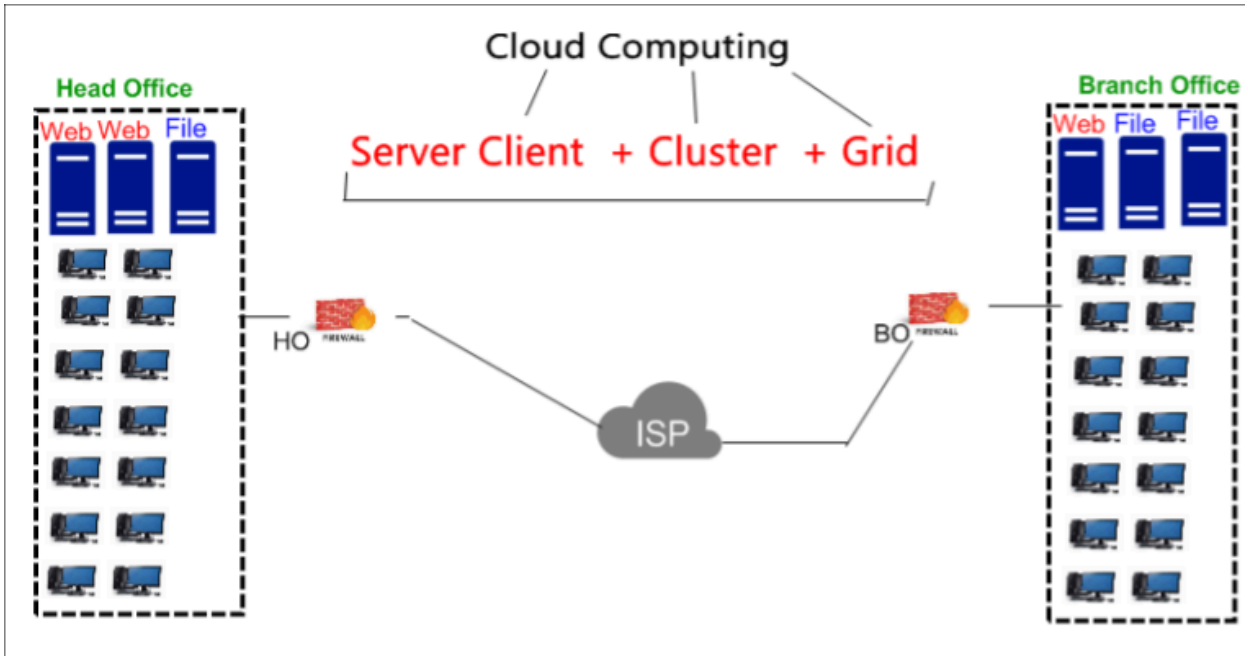
Cluster A cluster is a group of servers. (nodes)

A group of servers provide same serivce with multiple servers in the same location.

- Load balancing
- Fault Tolerance

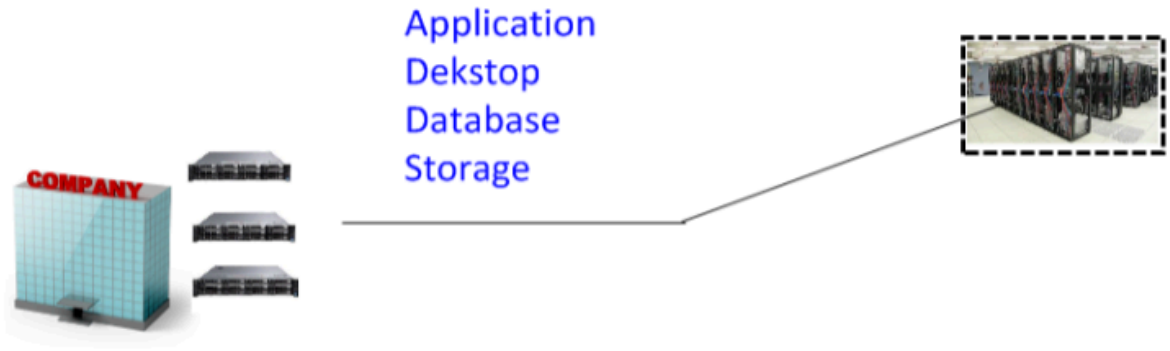
Grid Computing





What is Cloud Computing?

It is use of remote servers rather than local servers.



Service model of Cloud

Infrastructure as a Service IaaS

Platform as a Service PaaS

Software as a Service SaaS

IaaS

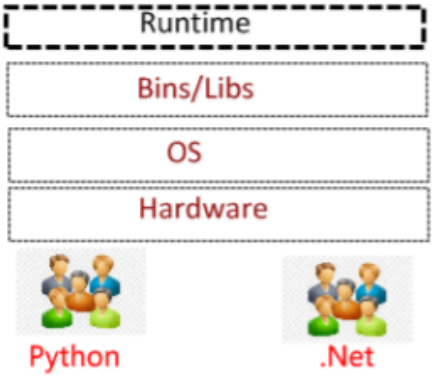
It delivers computer infrastructure like CPU, Storage, RAM, Network on an outsourced basis to support enterprise operations.

PaaS

Python App

.Net App

It provides a platform that allows developers to develop, run, test and manage applications without building and maintaining the infrastructure.



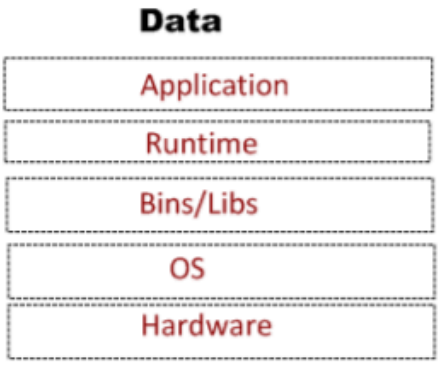
Python

.Net

IT Team

SaaS

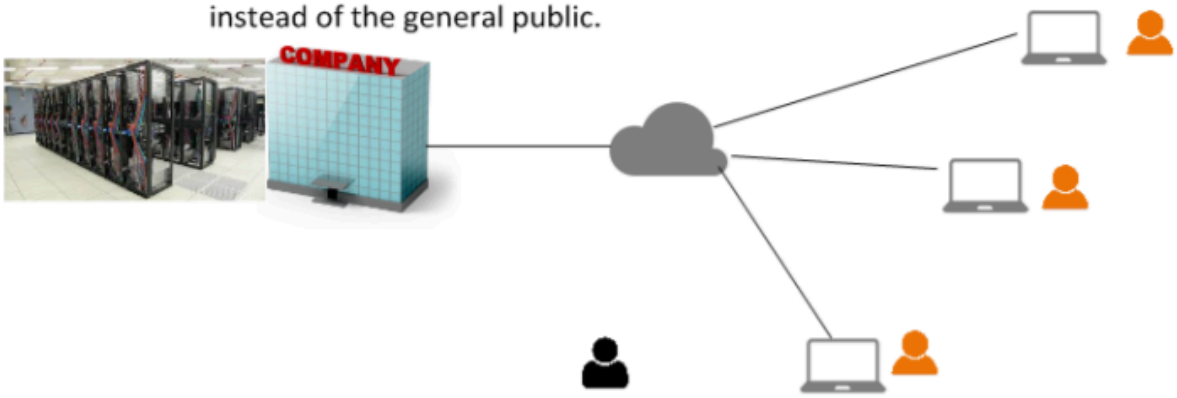
It allows users to connect and use cloud based applications over the internet.



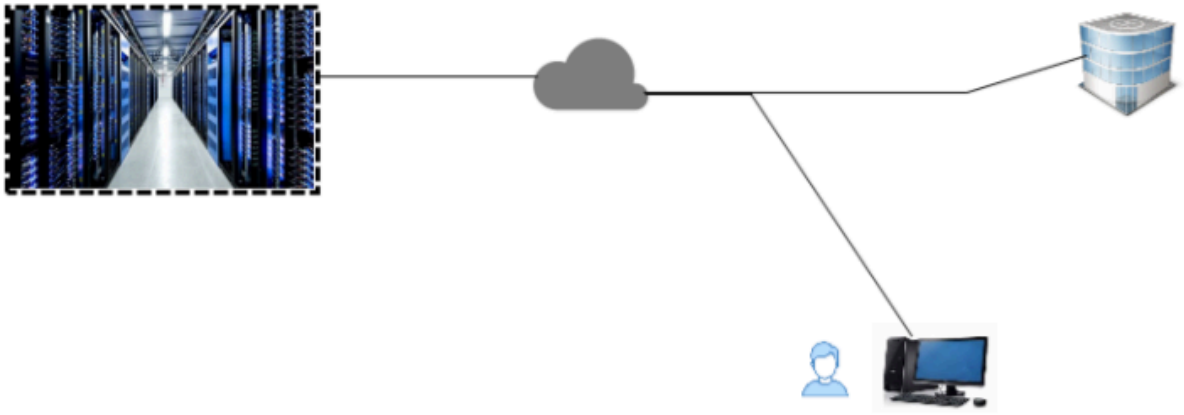
Types of Cloud

- Private Cloud
- Public Cloud
- Hybrid Cloud

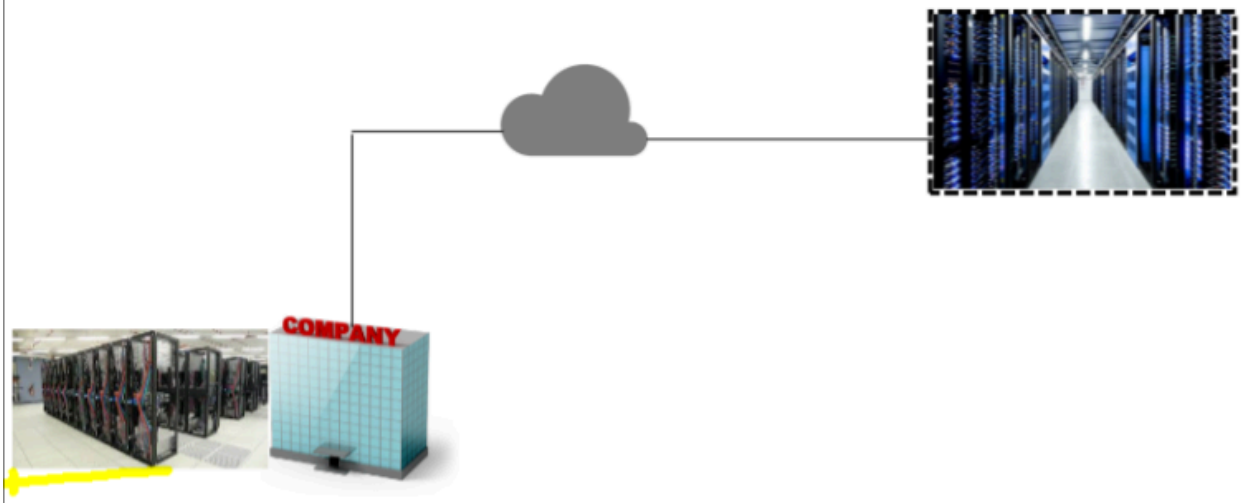
Private Cloud: The Private Cloud is defined as computing services offered either over the internet or a private internal network and only to selected users instead of the general public.



Public Cloud: The Public Cloud is defined as computing services offered by third-party providers over the public internet, making them available to anyone who wants to use or purchase them.



Hybrid Cloud: A hybrid cloud is a computing environment which combines a public cloud and a private cloud by allowing data and applications to be shared between them.



Advantages of Cloud Computing

Variable vs Capital Expense

Instead of having to invest heavily in data centers and servers before knowing how we are going to use them.

We can pay only when we consume resources and pay only for how much we consume.

Stop Guessing Capacity

Organizations can access as much or as little as they need and scale up and down as required with only a few minutes of notice.

Increase Speed and Agility

It allows organizations to reduce the time it takes to make those resources available to developers from weeks to just minutes.

The cost and time it takes to experiment and develop is lower.

Focus on Business

It allows organizations to focus on thier business priorities, instead of heavy lifting of servers, racking, stacking and powering servers.

Go Global in Minutes

Organizations can easily deploy their applications to multiple locations around the world with just few clicks.

Parts of cloud

Frontend	Backend
Web UI (User Interface) **AWS --- Console** **Azure ---- Portal** **GCP ----- Console**	Programming Tools Technologies Vendor-Products

We can use these console/Portal to manage cloud resources/services.

Deployment methods of Cloud

Cloud Based Deployment	Hybrid Deployment
Place all servers in cloud. 	Place few servers in On-premises few in Cloud aswell. 

Virtualization

Running multiple Virtual Machines in a physical machine is called Vitualization.