

## I) Storage as a Service (S3) :-

It is a cloud based model that allows businesses and individuals to rent storage space from a third party provider.

This model offers flexibility, scalability and cost efficiency, making it an attractive option for organization of all sizes.

OB It is a cloud business model in which a company rents its storage area infrastructure to another company or individuals to store the data.

The storage provider provides the client with the software required to access their stored data.

→ SaaS eliminates the need for users to purchase and maintain their own storage infrastructure. Its providers offer a range of storage options based on the amount of data, type of data and level of security required.

The storage can be provided in the form of file, block, or object storage, depending on the need.

# Key features of SaaS are :-

### I) Scalability :-

Its providers offer elastic storage solutions that can grow with our needs.

Whether we need to increase capacity temporarily or permanently, it allows you to scale up or down as required.

## 2) Security :-

Cloud providers implement robust security measures, including encryption, access controls, and regular security audits to ensure data is protected from unauthorized access and breaches.

→ In conclusion, it is revolutionizing how the business manage their data storage needs.

By offering scalable, secure and cost effective storage solutions, it enables organizations to adapt to changing data requirements without the burden of managing physical infrastructure.

2)

## Amazon S3 use cases :-

### a) Data Backup and Recovery :-

It provides a highly durable storage infrastructure designed for mission-critical and primary data storage.

Organisations use amount of data.

Its ideal S3 to store and to protect any data and to for backup, providing redundancy and data integrity with easy retrieval options.

### b) Big data Analytics :-

S3 is a key component in big data ecosystems. Businesses use S3 to store massive amounts of raw data and then process and analyze it using other AWS services like EMR, Amazon Athena, etc.

### Nic) Data Archiving :-

S3, especially with its glacier and glacier deep archive storage classes, is well-suited for long term data archiving.

Businesses use S3 to store infrequently accessed data, regulatory archives and compliance records cost effectively.

### d) Internet of things (IoT) :-

IoT devices generates vast amount of data that needs to be stored reliably and analyzed.

S3 provides a scalable storage solution for this data, allowing for real time analytics and processing using AWS IoT and other services.

### e) Application Hosting :-

Developers use S3 to host assets for web and mobile applications. S3's integration with AWS Cloud Front ~~can~~ enhances application performance by delivering content to users with low latency.

### 3] Steps for S3 :-

Following are the steps for S3 :-

Step 1:- Log on to your AWS console. If you don't have an account create it.

Step 2:- In the search bar at the top of the AWS management console, type "Amazon S3".

Step 3 :- Click on 'S3 - Scalable Storage' in the cloud and proceed further.

Step 4 :- Click on "Create Bucket".

A new pane will open up, where you have to enter the details and configure our bucket.

(Now in the general configuration)

Step 5 :- Enter the name of your bucket. Do consider to follow the naming rules.

Step 6 :- Now choose an AWS region nearest to your location or where you want your data to reside.

- In the Object ownership category, leave it as recommended.
- In Block Public Access, settings for this bucket category, ensure that block ALL PUBLIC ACCESS has been checked (can be changed later).
- In the Bucket Versioning Category, choose disable. Leave other advanced techniques as default.

Step 7 :- Click on Create bucket, and viola! Your bucket is created.

## → Front End :-

The front end is used by the client. It contains client-side interfaces and applications that are required to access the cloud computing platforms.

The front end includes web server, thin and fat clients, tablets and mobile devices.

## → Back End :-

The back end is used by the service provider. It manages all the resources that are required to provide cloud computing services. It includes a huge amount of data storage, security mechanism etc.

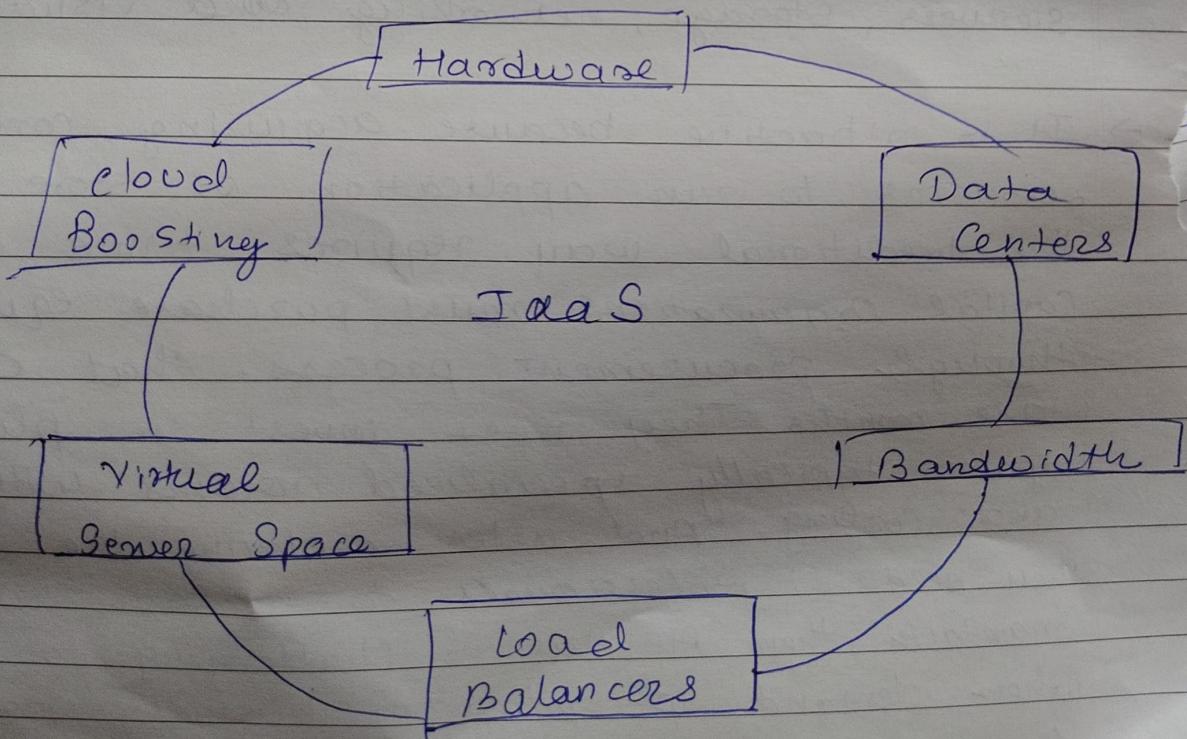
## 2] IAAS :-

Infrastructure as a Service (IaaS) is a cloud computing model that provides on demand access to computing resources such as servers, storage, networking and visualization.

→ It is attractive because acquiring computing resources to run application or store data the traditional way requires time and capital. Organizations must purchase equipment through procurement process, that can take months. They must invest in physical spaces, typically specialized rooms with power and cooling. And after deploying the systems, they need IT professionals to manage and maintain them. All this is challenging to scale when demand spikes or business grows. You run the risk of running out of capacity.

or over building and paying for infrastructure that you will never use.

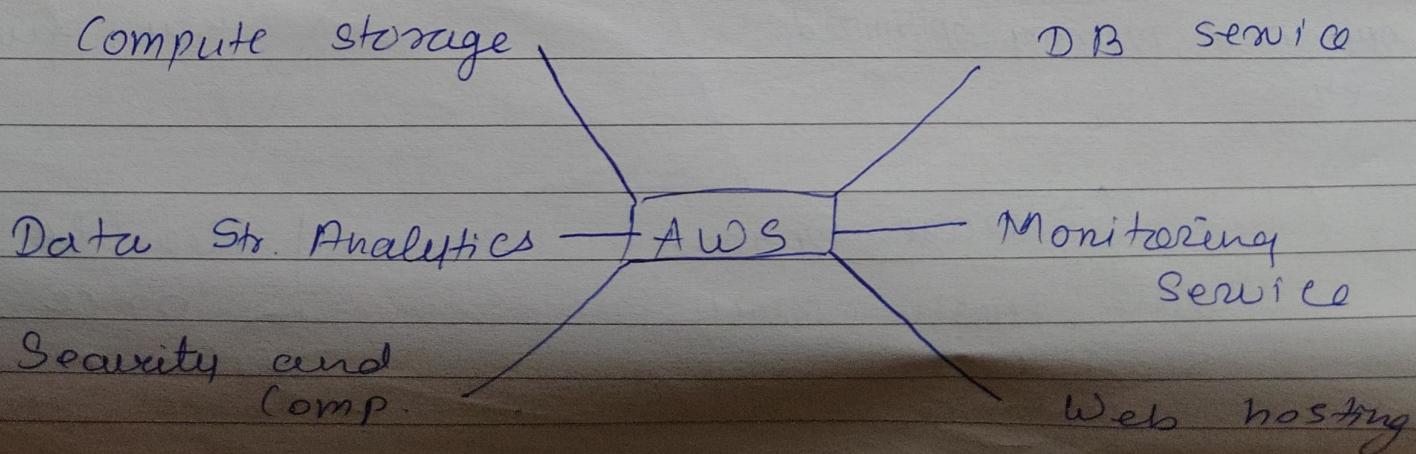
- It is the on-demand availability of highly Scalable computing resources as services over the internet. It eliminates the need for enterprises to procure, configure or measure manage the infrastructure themselves and they only pay for what they use.
- It manages
  - 1) Applications
  - 2) Data
  - 3) Runtime
  - 4) Middleware
  - 5) O/S
- It delivers the following



(5)

3) AWS :- It is the abbreviation used for, Amazon Web Services. It offers a broad set of global cloud based products including computer, storage, databases, analytics, networking, mobile, developer tool, management tools, IoT, security and enterprise applications. On demand, available in seconds, with pay-as-you-go pricing. From data warehousing to deployment tools, directories to content delivery, over 200 AWS services are there to avail.

→ New services can be provisioned quickly, without the ~~support~~ upfront fixed expense. This allows enterprise, start-ups, small and medium-sized businesses and customers in public sector to access the building blocks they need to respond quickly to changing business requirements. This white provides you with an overview of the benefits of the AWS cloud and introduces you to the services that make up the platform.



Q) EC2 :- It is an abbreviation used for elastic compute cloud. It is a web service that provides resizable computing capacity in the cloud, making web scale cloud computing easier for developers.

→ It is designed to enable designer developers to configure and scale computing capacity with minimal friction. By offering a variety of instance types tailored to different use cases, EC2 provides the flexibility to choose the right mix of resources for our application.

# Key features of EC2 are :- like Amazon Virtual Private Cloud

It takes Scalability,  
about auto scaling and  
elastic load balancing

(VPC) and Networking  
elastic IP address

For eg general purpose, complete optimized, memory optimized etc.

EC2

Security  
like security groups and key pairs

Storage Options  
like Elastic Block Store (EBS) and instance store

Flexible price  
like on demand instances, reserved instances, spot instances & saving plan