**AWS-Amazon Web Service.**

**What is Cloud Computing.**

Cloud computing is the delivery of IT resources over the internet, allowing users to access storage, servers, databases, and applications remotely on a pay-as-you-go basis. It offers flexibility, scalability, and cost savings by reducing the need for physical hardware.

**Cloud is all about RIR**

* Rental
* Internet
* Remote

**Top 3 Cloud Service Provider**

1. Amazon Web Services**(AWS) -31%**
2. Microsoft **Azure-25%**
3. Google Cloud Platform**(GCP)-11%**
4. Alibaba -4 %
5. Others-29%

**The cloud manages below of these aspects, which are key components of cloud computing:**

* + Server (engineer)
  + Storage (engineer)
  + Networking (engineer)
  + Database (engineer)
  + Security (engineer)
  + Applications (engineer)

**Cloud Models:** 2 Types

1. Service Models
2. Deployment Models

**Service Models: 3 Types**

**AWS offers a wide range of services across IaaS, PaaS, and SaaS. Here are some key services you might encounter while learning:**

* **SaaS -** Software as a Service
* **IaaS -** Infrastructure as a service
* **PaaS -** Platform as a Service

**Deployment Models: 4 Types**

* **Public cloud**
* **Private cloud**
* **Hybrid cloud**
* **Community cloud**

**Deployment Models:**

**There are four types of deployment models:**

**1.Public Cloud:**

**Eg:** **Gmail,** **Google Drive,** **Dropbox,** **Instagram, and AWS etc…**

**2.Private Cloud:**

### Eg: Example: Bank Using a Private Cloud

**Why a Private Cloud?**  
A bank has very sensitive data (like customer info and transactions) and must follow strict rules to keep that data secure.

**What is the Private Cloud Doing?**  
The bank sets up its own private cloud, which is like having its own “private internet” that only the bank can use. This cloud can be hosted in the bank's data center or managed by a trusted provider.

**Benefits**:

* **Extra Security**: Only the bank’s employees can access this cloud, making it very secure.
* **Control Over Data**: The bank fully controls who accesses its data and how it’s stored.
* **Customized Setup**: The private cloud is set up to meet the bank’s specific needs, including strict data rules.

**Why Choose Private Cloud?**

Organizations like **banks** or **hospitals** pick private clouds to ensure data safety, meet legal rules, and keep full control over sensitive information.

**Hybrid Cloud with example:**

**Educational Institution Example**: A university stores student records and important academic data in a private cloud to keep it safe. For less sensitive tasks, like online learning, they use a public cloud. This way, they can protect private information and easily expand resources for online classes when needed.

**Community Cloud:**

**E-commerce Companies**: A group of online shopping companies uses a community cloud to work together on understanding customer habits and trends. This shared cloud helps them analyze data safely and ensures they follow data privacy rules. By using the cloud, they can access the same tools and look at combined, anonymous data to improve their business strategies.

**Cloud Trial:**

**Track user activity and API usage**

**Example Use Case:**

CloudTrail helps you **track and find who made changes in AWS**, like deleting an S3 bucket. It shows **who, what, when, and where** so you can take action to fix issues.