

## ① Where does cloud actually live?

→ There are 4-types:

- (i) Public
- (ii) Private
- (iii) Hybrid
- (iv) Multi-cloud



### ① Public Cloud

→ Public cloud is like living in a large apartment complex.

The building is owned & maintained by someone else. You just rent your unit.

→ In technical terms, a third-party provider like AWS, Azure or GCP owns & manages all the infrastructure. Multiple companies & users share the same physical hardware, but their data & applications are completely isolated from each other.

#### Real-world example:

- ① Startups hosting their apps on AWS.
- ② Students using Google Drive
- ③ Companies running websites on Azure

#### Key characteristics:

- (i) Pay-as-you-go pricing
- (ii) No hardware to manage
- (iii) Instantly scalable
- (iv) Accessible from anywhere

### ② Private Cloud

→ Private cloud is like owning your own house. You own everything - the land, the building, the maintenance. Complete control, complete privacy, but also complete responsibility.

→ A private cloud is dedicated exclusively to one organization. Either it runs on the company's own data center or it's hosted by a third party but it's never shared with anyone else.

#### Real-world examples

- ① Banks & financial institutions
- ② Government organizations
- ③ Hospitals

#### Key characteristics

- ① Maximum security & control
- ② Highly customizable
- ③ Expensive to setup & maintain

### ③ Hybrid Cloud

→ Hybrid Cloud combines both public & private cloud. Sensitive data stays in the private cloud while non-sensitive workloads run on public cloud.

→ The two environments are connected & work seamlessly.

#### Real-world Example



### ④ Multi-Cloud

→ Multi-Cloud means using two or more cloud providers simultaneously. A company might use AWS for computing, Google Cloud for machine learning and Azure for Microsoft integrations all at the same time.

#### Real-world example:

→ Netflix uses AWS but also relies on GCP for certain services.