**CLOUD COMPUTING**

When we are at a situation to do many tasks..it is not possible to do all these in a single computer and also we cant’t buy as many computers to do these tasks. Here comes the role of cloud computing.

You use powerful computers over the internet to store files, run apps, or host websites — without needing to own or manage any hardware.

Example: Using Google Drive to store files, or watching Netflix (which runs on cloud servers).



SERVER:

Servers are like super computers that store data and run applications.

* In the cloud, these servers live in big buildings called **data centers**.
* You can use these servers from **anywhere in the world**, just like streaming music or backing up your photos online.



SCALABILITY:

**Scalability** means your system can **grow** to handle that load without crashing.

* Like hiring more staff during a busy season — then letting them go when the rush is over.
* In cloud terms: You can add more servers or power to handle traffic.

ELASTICITY:

Elasticity is like a **rubber band** — it stretches when needed and goes back to normal afterward.

* Your app or website automatically gets more resources when traffic increases — and releases them when things are quiet.
* You **save money** because you only use what you need, **when you need it**.

Cloud makes teamwork super easy!

* Think of **Google Docs** — multiple people can **edit a document together** in real time, from different places.
* You don’t need to email files back and forth.
* This works for files, code, presentations, even entire applications.

| **Concept** | **Key Idea** | **Example** |
| --- | --- | --- |
| Servers | Virtual machines in data centers | AWS EC2, Azure VM |
| Scalability | System grows/shrinks to meet demand | Add more instances during peak traffic |
| Elasticity | Auto-adjusts resources in real-time | Auto-scale web servers |
| Collaboration | Work together in real-time via the cloud | Google Docs, GitHub, Microsoft Teams |

