What Are Cloud Servers and How Do They Work?

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In short: A cloud server is a virtual server that runs on a network of physical machines instead of a single computer. You get your own resources that can be increased within minutes, and higher reliability, because if one machine fails another can take over. It suits medium and large projects and applications.

What is a cloud server?

A cloud server is a virtual machine with its own CPU, memory, storage and operating system. Unlike shared hosting, these resources are reserved for you, and unlike a physical dedicated server, they are carved out of a large pool of hardware managed by the provider.

How does it work?

The provider runs a cluster of powerful physical servers connected by a fast network and shared storage. Virtualization software divides this capacity into many isolated servers. Because your server is not tied to one piece of hardware, it can be resized, moved or restored quickly.

Benefits of cloud servers

- **Scalability:** add CPU, RAM or storage within minutes as your traffic grows.
- **Reliability:** hardware failures affect you far less than on a single machine.
- **Full control:** root access to install any software you need.
- **Fast deployment:** a new server is usually ready in seconds or minutes.
- **Snapshots and backups:** save the whole server state and restore it easily.

Cloud server vs traditional VPS

Both give you a private virtual server. A traditional VPS usually lives on one physical machine, while a cloud server draws on a larger cluster, which makes scaling and recovery easier. In practice many providers now use the terms almost interchangeably.

Who should use a cloud server?

- Websites that have outgrown shared hosting.
- Online stores and applications with changing traffic.
- Developers who need full control over the server environment.

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