

## Introduction to Cloud Computing and AWS



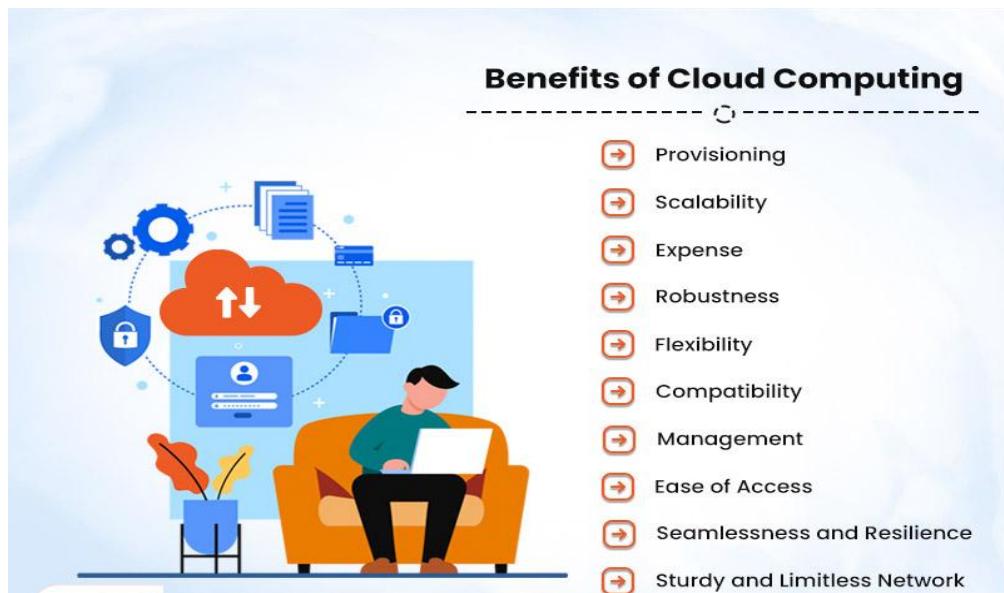
### **What is Cloud Computing?**

Cloud computing is the delivery of computing resources such as servers, storage, databases, networking, software, and analytics over the internet — also known as “the cloud.” Instead of buying and maintaining physical infrastructure, organizations can rent these services from cloud providers on a pay-as-you-go basis. This model helps businesses reduce upfront costs, scale more efficiently, and focus on innovation rather than infrastructure management.

### **Example:**

Imagine you want to host a website. In the traditional method, you’d need to buy a server, set up hardware, manage power, install software, and ensure physical security. But with cloud computing, you can launch a virtual server within minutes on platforms like AWS, attach storage, deploy your application, and make it live — all with just a few clicks and no physical setup (just like electricity or mobile data)

## Why Do We Need Cloud Computing? (Benefits)



- Cost-Effective: Pay only for what you use. No need to invest in physical hardware or infrastructure upfront.
- Scalability: Easily scale resources up or down based on your application's demand.
- High Availability: Cloud providers ensure minimal downtime with multiple data centers and failover mechanisms.
- Global Reach: Deploy applications in various regions across the world to reduce latency and improve user experience.
- Automatic Updates: Cloud services receive regular software and security updates without manual intervention.
- Data Backup & Recovery: Built-in backup and disaster recovery options reduce the risk of data loss.
- Security: Major cloud providers follow strict security standards, encryption, and compliance protocols.
- Flexibility & Agility: Easily experiment, test, and deploy applications without worrying about infrastructure limitations.
- Collaboration: Enables teams to access, edit, and share files in real-time from any location.

## Leading Cloud Providers in the Market:



### 1) Amazon Web Services (AWS)

- ✚ Launched in 2006
- ✚ World's largest and most widely adopted cloud platform
- ✚ Offers 200+ fully featured services
- ✚ Known for scalability, global infrastructure, and security
- ✚ Used by major companies like Netflix, NASA, Airbnb, and Samsung



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### 2) Microsoft Azure



- ✚ Launched in 2010
  - ✚ Strong integration with Microsoft tools (Windows, Office 365, Active Directory)
  - ✚ Ideal for enterprise and hybrid cloud solutions
  - ✚ Offers a wide range of cloud services
  - ✚ Trusted by companies like Adobe, HP, and the U.S. government
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### 3) Google Cloud Platform (GCP)

- Launched in 2008
  - Best known for AI, machine learning, and big data tools
  - Offers services like BigQuery, Vertex AI, and Kubernetes
  - Preferred by data-driven companies and research organizations
  - Used by Spotify, PayPal, and Twitter
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### 4) IBM Cloud



- Focused on hybrid cloud and enterprise-grade AI solutions
  - Offers services like Watson AI and Red Hat OpenShift
  - Popular in finance, healthcare, and regulated industries
  - Known for strong compliance and legacy system integration
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### 5) Oracle Cloud



- Specializes in database-driven applications
  - Offers high-performance Oracle database services
  - Designed for enterprise workloads with strong SLAs
  - Used by companies needing scalable, secure database infrastructure
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### 6) Alibaba Cloud

- Launched in 2009 (part of Alibaba Group)
- Leading cloud provider in China and Asia-Pacific region
- Offers a wide range of cloud services (compute, storage, security)
- Strong presence in e-commerce, logistics, and fintech sectors
- Trusted by businesses expanding in the APAC market



## Why AWS is the Top Cloud Provider in the Market



- **Early Mover Advantage:** Launched in 2006, AWS was one of the first major cloud providers and set the foundation for modern cloud computing.
- **Largest Service Portfolio:** Offers **200+ fully featured services** across compute, storage, database, analytics, machine learning, IoT, and more.
- **Global Infrastructure:** Operates in **32+ regions** and **100+ availability zones** worldwide, enabling low-latency and highly available deployments.
- **Trusted by Industry Leaders:** Used by top organizations like **Netflix, NASA, Airbnb, and Adobe** for their mission-critical workloads.
- **Scalability & Flexibility:** Easily scale applications up or down based on demand without manual intervention.
- **Pay-as-You-Go Pricing:** Only pay for what you use with no upfront costs, making it cost-efficient for businesses of all sizes.
- **Strong Security Model:** Follows shared responsibility model, offers end-to-end encryption, compliance certifications, and advanced security tools.
- **Continuous Innovation:** Frequently launches new features and services, staying ahead of competitors in technology and performance.
- **Extensive Ecosystem:** Includes tools for developers, DevOps, machine learning, and hybrid cloud environments.

- 👉 **Excellent Support & Documentation:** Offers 24/7 support plans and a rich knowledge base, documentation, forums, and training resources (like AWS Academy, Skill Builder).
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## 👉 Let's Connect and Grow Together!

- **LinkedIn:** <https://www.linkedin.com/in/sandeep-akula-tech/>
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