Case Study: To Study Cloud Computing, its Needs and Application in various Domains.

What Is Cloud Computing?

Cloud computing is the delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale. You typically pay only for cloud services you use, helping lower your operating costs, run your infrastructure more efficiently and scale as your business needs change.

Need of Cloud Computing Because Some Benefits:

Cost:

Cloud computing eliminates the capital expense of buying hardware and software and setting up and running on-site datacenters—the racks of servers, the round-the-clock electricity for power and cooling, the IT experts for managing the infrastructure. It adds up fast.

Speed:

Most cloud computing services are provided self service and on demand, so even vast amounts of computing resources can be provisioned in minutes, typically with just a few mouse clicks, giving businesses a lot of flexibility and taking the pressure off capacity planning.

Global scale:

The benefits of cloud computing services include the ability to scale elastically. In cloud speak, that means delivering the right amount of IT resources—for example, more or less computing power, storage, bandwidth—right when it is needed and from the right geographic location.

Productivity:

On-site datacenters typically require a lot of "racking and stacking"—hardware setup, software patching and other time-consuming IT management chores. Cloud computing removes the need for many of these tasks, so IT teams can spend time on achieving more important business goals.

Performance:

The biggest cloud computing services run on a worldwide network of secure datacenters, which are regularly upgraded to the latest generation of fast and efficient computing hardware. This offers several benefits over a single corporate datacenter, including reduced network latency for applications and greater economies of scale.

Reliability:

Cloud computing makes data backup, disaster recovery and business continuity easier and less expensive because data can be mirrored at multiple redundant sites on the cloud provider's network.

Security:

Many cloud providers offer a broad set of policies, technologies and controls that strengthen your security posture overall, helping protect your data, apps and infrastructure from potential threats.

Applications of Cloud Computing:

Create cloud-native applications:

Quickly build, deploy and scale applications—web, mobile and API. Take advantage of cloud-native technologies and approaches, such as containers, Kubernetes, microservices architecture, API-driven communication and DevOps.

Test and build applications:

Reduce application development cost and time by using cloud infrastructures that can easily be scaled up or down.

Store, back up and recover data:

Protect your data more cost-efficiently—and at massive scale—by transferring your data over the Internet to an offsite cloud storage system that is accessible from any location and any device.

Analyze data:

Unify your data across teams, divisions and locations in the cloud. Then use cloud services, such as machine learning and artificial intelligence, to uncover insights for more informed decisions.

Stream audio and video:

Connect with your audience anywhere, anytime, on any device with high-definition video and audio with global distribution.

Embed intelligence:

Use intelligent models to help engage customers and provide valuable insights from the data captured.

Deliver software on demand:

Also known as software as a service (SaaS), on-demand software lets you offer the latest software versions and updates around to customers—anytime they need, anywhere they are.