What exactly is cloud computing?

Cloud Computing means storing and accessing the data and programs on remote servers that are hosted on the internet instead of the computer's hard drive or local server. Cloud computing is also referred to as Internet-based computing, it is a technology where the resource is provided as a service through the Internet to the user. The data that is stored can be files, images, documents, or any other storable document.

The following are some of the Operations that can be performed with Cloud Computing

Storage, backup, and recovery of data
Delivery of software on demand
Development of new applications and services
Streaming videos and audio

Overview of AWS, Azure and GCP

Amazon Web Services: AWS is a cloud service platform offered by Amazon. The benefits of AWS has flexibility, cost-effectiveness, scalability, and security. AWS has currently 26 regions (Global availability). In AWS what services you used, you have to pay for it, AWS provides over 200 featured services globally. Examples – Amazon EC2 (Elastic Compute Cloud), Amazon S3, etc. It has a 33% global market share.

Microsoft Azure: Azure is the Microsoft cloud solution. It contains all different types of services whether you need a VM, a big or small website, to run a database or your container, or just some kind of Server support all those services are available in Azure. The beauty of it is like all other cloud solution providers you pay for what you use, so instantiate buy yours by yourself by going through the portal what you need and you will pay for it. Azure has more than 200 services.

Google Cloud Platform: Google Cloud Platform is a public cloud computing service offered by Google. It has multiple services example – computing, Storage, Networking, Big data, Developer Tools, IOT, Cloud AI, Data Transfer, Identity & Security. Google Cloud Platform is a world-leading company Google Cloud Platform has high-level security and GCP has the biggest networking and better pricing model.

How to choose a cloud service provider

Choosing a cloud service provider can be a significant decision for any organization. Here are some key factors to consider when making your choice:

Service Offerings: Evaluate the range of services offered by each provider and match them with your specific needs. Consider compute, storage, networking, databases, AI/ML, IoT, analytics, and other specialized services.
Scalability: Ensure that the provider can accommodate your current and future scalability requirements. The ability to scale resources up or down based on demand is crucial for many businesses.
Performance and Reliability: Look into the provider's track record for uptime and reliability. Check for redundancy and failover mechanisms to minimize downtime.
Security: Assess the provider's security measures, including data encryption, compliance certifications, access controls, and monitoring capabilities. Ensure they meet your organization's security and compliance requirements.
Cost: Compare pricing structures, including pay-as-you-go vs. reserved instances, discounts, and any hidden costs. Consider your budget and projected usage to determine the most cost-effective option.
Support and SLAs: Review the provider's support options, response times, and service level agreements (SLAs). Make sure they offer adequate support for your needs, especially if you're running critical workloads.
Geographic Presence: Consider the provider's global footprint and availability zones. Choose a provider with data centers in regions that align with your business requirements for latency, data sovereignty, and disaster recovery.
Integration and Compatibility: Assess how well the provider's services integrate with your existing systems, tools, and workflows. Compatibility with third-party software and open standards can be important for seamless integration.
Community and Ecosystem: Look into the provider's developer community, documentation, and ecosystem of partners and third-party tools. A strong ecosystem can provide additional resources, support, and innovation opportunities.
Vendor Lock-In: Consider the potential for vendor lock-in and evaluate each provider's flexibility and portability options. Look for open standards and APIs that facilitate interoperability and data migration.
Future Roadmap and Innovation: Research the provider's roadmap and commitment to innovation. Choose a provider that continually invests in new technologies and services to stay ahead of evolving business needs.
Advantages of AWS, Azure and GCP

Advantages of Amazon Web Services:

Users using AWS may pay for only the resources they truly use. Therefore, AWS is affordable.

AWS provides many different kinds of the services and has a size and dynamic developer and partner ecosystem.
Users can access or store the data with a low latency because of the AWS's multiple data centers around the globe.

Advantages of Microsoft Azure:

Azure's global network of data centers guarantees a very low latency for retrieve any type of the data.
Azure provides a strong safety features.
Easy communication with on-premises systems is made feasible by Azure, providing a seamless hybrid experience. where security and deployment are better.

Advantages of Google Cloud Platform:

The Google Cloud Platform enables resource scaling easy. As an example, we can swiftly construct virtual machines if our business needs additional servers.
Because of GCP's extensive global network of data centers, accessing any data has extremely little latency.
GCP offers solid safety.
Use cases for AWS, Azure and GCP

Amazon Web Services

AWS provides web app and web hosting and administrative services, include the Amazon Elastic Compute Cloud (EC2).
The backup data can be maintained on AWS. But for a free tier account, it is not free.
We may distribute the user's load between multiple instances utilizing an AWS service comparable to a load balancer.

Microsoft Azure

Hosting and managing web applications and websites. And you have to pay for what you used.
Building and deploying machine learning models using Azure Machine Learning.
Developing the blockchain application using Azure.
Google Cloud Platform
GCP is also used in games. GCP is running multiplayer games.
GCP provides the virtual desktop experience.
GCP is used to process the big query and analyze the big data.

Disadvantages of AWS, Azure and GCP

Disadvantages of AWS:

While users may find AWS to be cost-effective, using specific services comes at more expense.

Since AWS offers numerous services, consumers might discover it challenging to get around the platform.
Given the wide range of services provided by AWS, some users might discover that they are unable to tailor these services to suit their specific needs. Thus, AWS's customer service is inadequate.

Disadvantages of Azure:

Comparing with some other cloud providers, Azure might be more expensive.
Azure is also dependent on the Microsoft connection.
Workloads operating on Linux cannot be as well accepted by Azure as workloads operating on Windows.

Disadvantages of GCP:

Comparing with some other cloud providers, GCP is more expensive.
Because Google provides so many services, it can be difficult.
The Google Cloud Platform is more dependent on Google or is a part of their ecosystem.
Pricing
The cost of cloud services such AWS, Azure, Google Cloud Platform (GCP), and more varies according to multiple variables, such geographical location, usage specificity, volume of consumption, and any special agreements or discounts you may have with the provider. However, I may offer you with an additional broad summary of the cost structures:

Amazon Web Services (AWS):

Pay-as-you-go pricing is available from AWS, so you only have to pay for the resources you use.
With a variety of pricing calculators and tools, you may compute fees according to how much you use.
In addition, AWS offers savings plans for predictable workloads and discounts for reserved instances.

Google Cloud Platform (GCP):

Pay-as-you-go pricing is additionally utilized by Google Cloud Platform, with billing based on usage.
For many of its services, Google frequently emphasizes per-second billing, which is beneficial for workloads which are transitory.
GCP provides committed use discounts for committing to a specific instance type for a term, as well as sustained use discounts for instances that are active for a substantial amount of the month.

Microsoft Azure:

Azure offers a similar pay-as-you-go billing structure that depends on utilize.

Azure offers an array of tools and pricing calculators that help in estimating costs.
Similar to AWS, Azure provides discounts for reserved instances and offers Azure Hybrid Benefit to customers who currently possess a Windows Server or SQL Server license.