# *Title:* Cloud Computing Fundamentals

## *Subtitle:* Curriculum Planning

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# *Introduction*

***Purpose:*** *To outline a curriculum designed to provide a thorough understanding of cloud computing fundamentals.*

## *Agenda:*

1. *Curriculum Goal*
2. *Target Audience*
3. *Prerequisite Knowledge*
4. *Skill Level*
5. *Curriculum Objectives*
6. *Curriculum Outcomes*
7. *High-Level Course Structure*
8. *Learning Modality*
9. *Individual Course Outcomes*
10. *Suggested Practice and Assessment*

# *Curriculum Goal*

***Goal:*** *To provide learners with a comprehensive understanding of cloud computing fundamentals, enabling strategic decision-making and leveraging cloud technology for business transformation.*

***Rationale****: Emphasizing the role of cloud technology in driving innovation, cost savings, and agility.*

# Target Audience

## Learner Person:

*Aspiring Cloud Professionals, IT Students, Entry-level IT Employees, Students with out cloud knowledge.*

## Profile Characteristics:

- *Strategic decision-makers*
- *Focus on leveraging technology for business growth*
- *Limited technical background but keen on understanding strategic implications*

## Influence on Curriculum Design:

*Tailored to address business opportunities, challenges, and strategic use cases of cloud technology.*

# Prerequisite Knowledge

## Prerequisites:

- *Basic understanding of IT infrastructure*
- *Awareness of current business challenges and technology trends*

***Justification**: Provides a foundation for grasping the cloud's value proposition and strategic impact.*

# *Skill Level*

***Skill Level:***

*Beginner to Intermediate*

***Explanation:*** *Balancing technical insight with strategic application to facilitate informed decision-making on cloud strategies and investments.*

## *Curriculum Objectives:*

- *Understand core cloud concepts and models (IaaS, PaaS, SaaS)*
- *Learn about different deployment models (public, private, hybrid, multi-cloud)*
- *Identify key cloud services and their business applications*
- *Evaluate the strategic benefits and challenges of cloud adoption*

***Relevance**: Ensures executives can make informed decisions and lead cloud-driven initiatives.*

# Curriculum Outcomes

## Outcomes:

- *Enhanced ability to evaluate cloud solutions*
- *Improved capability to drive cloud initiatives*
- *Better understanding of cloud risks and benefits*

***Significance:*** *Prepares executives to lead business transformation through cloud adoption.*

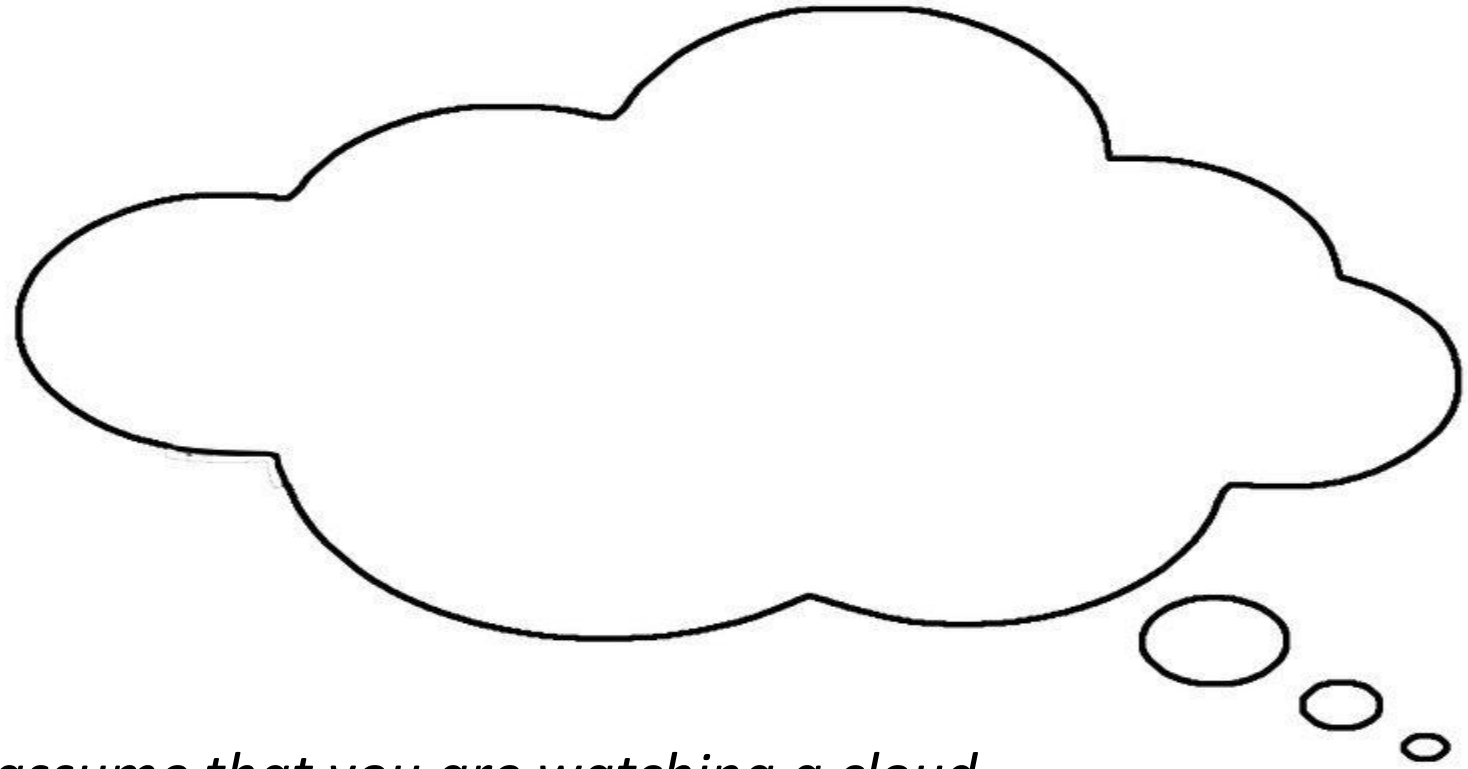
# High-Level Course Structure

## Course Outline:

- *Introduction to Cloud Computing*
- *Cloud Service Models (IaaS, PaaS, SaaS)*
- *Deployment Models (public, private, hybrid, multi-cloud)*
- *Basic Cloud Services and Use Cases*
- *Strategic Implications of Cloud Adoption*
- *Cloud Economics and Cost Management*
- *Security and Compliance in the Cloud*
- *Governance and Innovation Potential*

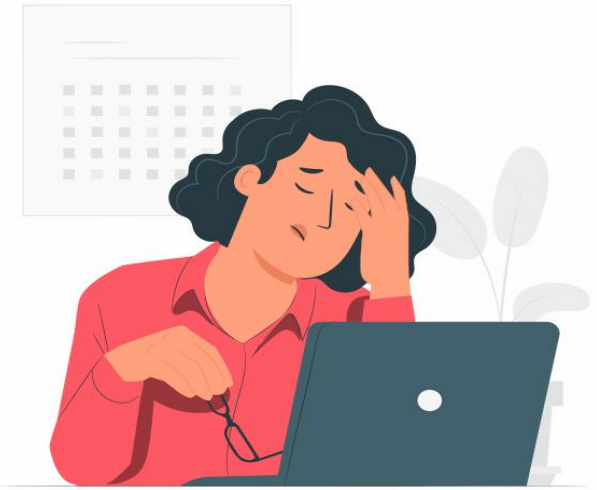
**Rationale**: *Structured to cover essential concepts and strategic insights, aligned with industry trends and evolving cloud landscape.*

# What is cloud?



*Let's assume that you are watching a cloud in the sky. But have you ever thought that you can watch the same cloud anywhere in your location. This is how it works , you can access the data/application via the internet at any time in anyway.*

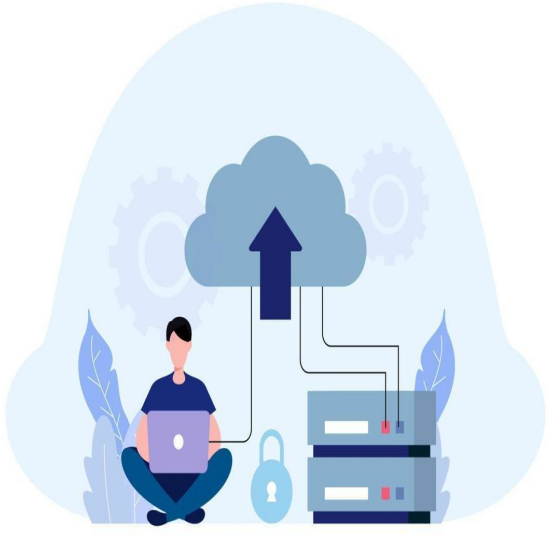
# *Why Cloud?*



*If you are working on Project for 30 days and you saved all your data and your local PC. But unexpectly your pc got broken. You lost all your Project data.*

***NOTE:*** *Whenever you saved your data in a physical device like memory cards, CDs, and pen drives. If you lost these devices or if the devices gets crashed then the data should not be retrieved.*

*But what if you saved all your files into cloud*



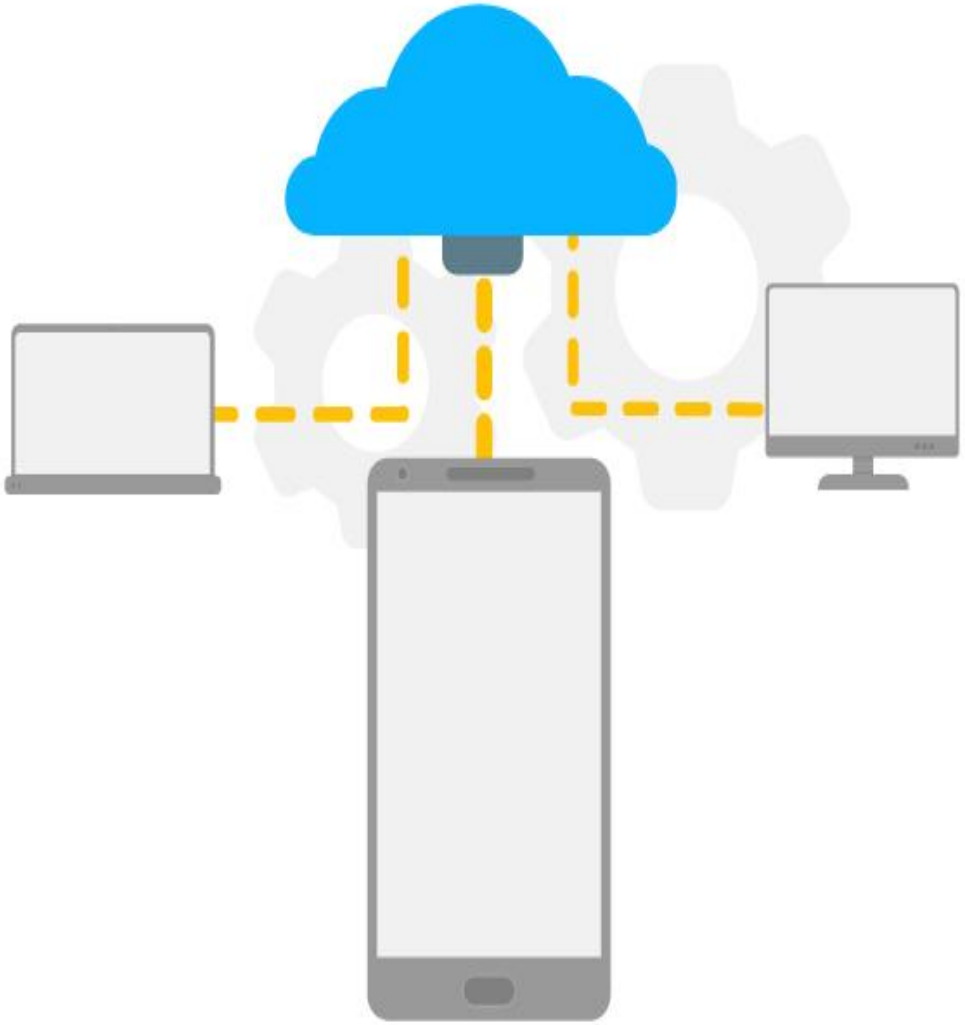
*Now even if you lose your files now, no need to worry about data. Because all your files and folders are securely stored in the cloud .*

# *WHAT IS CLOUD COMPUTING?*

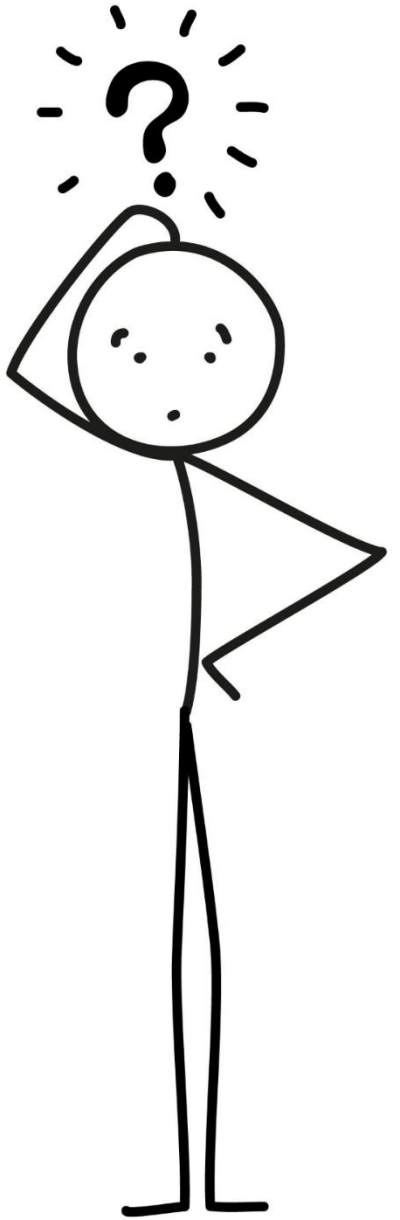
*Cloud Computing is the delivery of computing services like servers, storage, Database, Networking and software.*

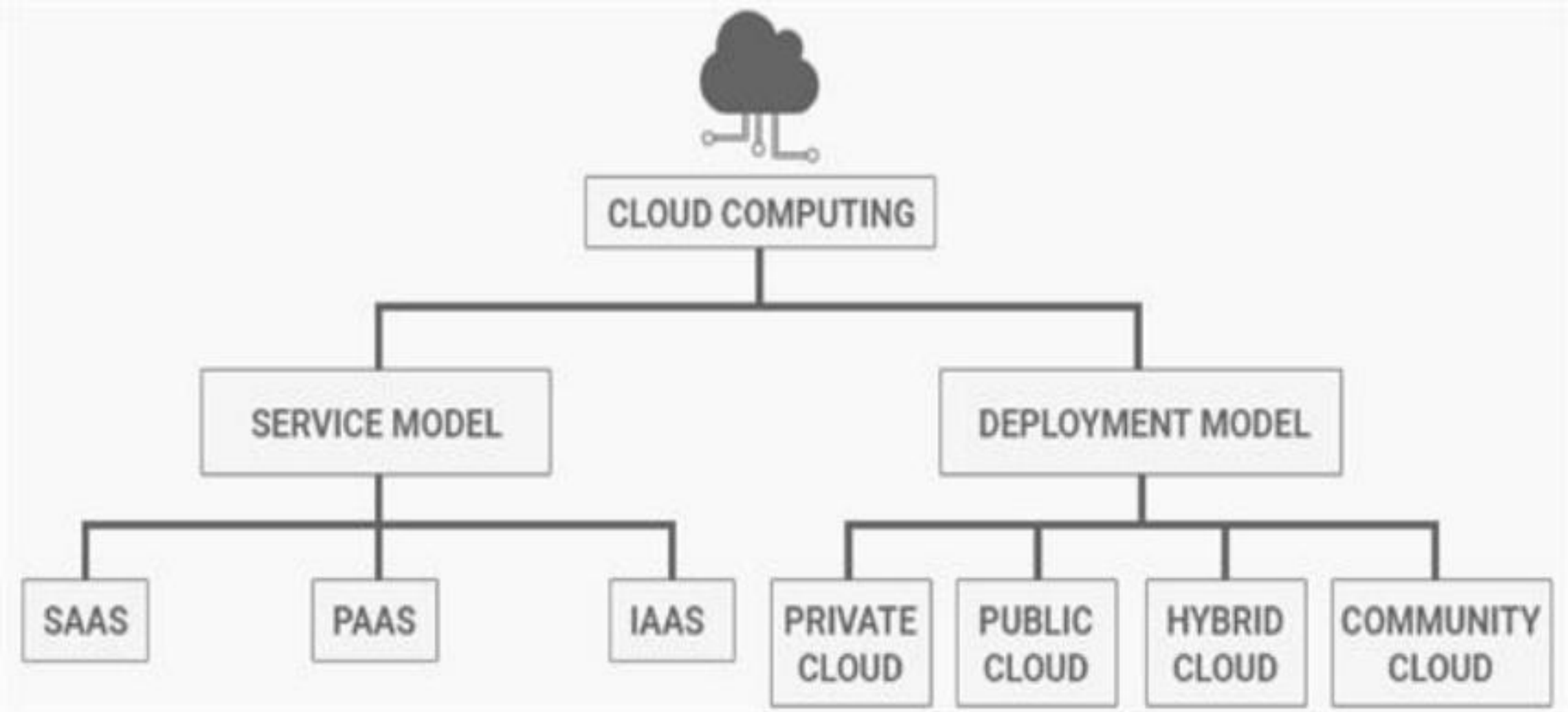
***or***

*It is the processing of accessing the data or application via the internet.*

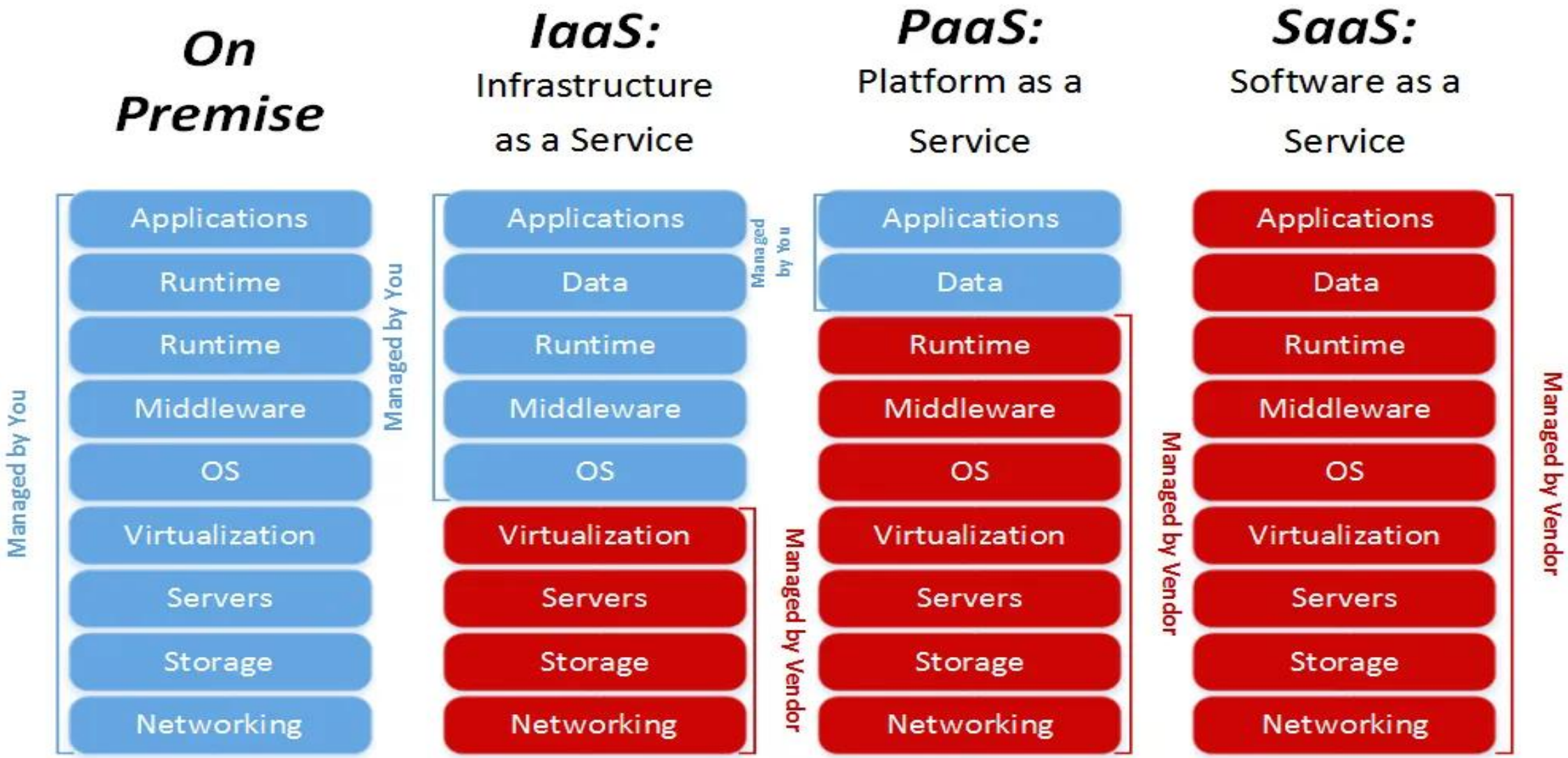


# TYPES OF CLOUD COMPUTING?


CLOUD COMPUTING
SERVICE MODEL
DEPLOYMENT MODEL
SAAS
PAAS
IAAS
PRIVATE CLOUD
PUBLIC CLOUD
HYBRID CLOUD
COMMUNITY CLOUD

# SERVICE MODEL:



***Infrastructure as a Service(IaaS):*** *In this model, the cloud provider offers virtualized computing resources. Such as virtual machines , storage and networking to customers.*
*Ex: AWS, AZURE, GCP used for Infrastructure provisioned and managed over internet.*

***Platform as a Service(PaaS):*** *This model provides a platform for developers to develop run, and manage their own applications without having to worry about the underlying infrastructure.*

Ex: *Heroku, Google App Engine, Godaddy and Microsoft Azure App Service*

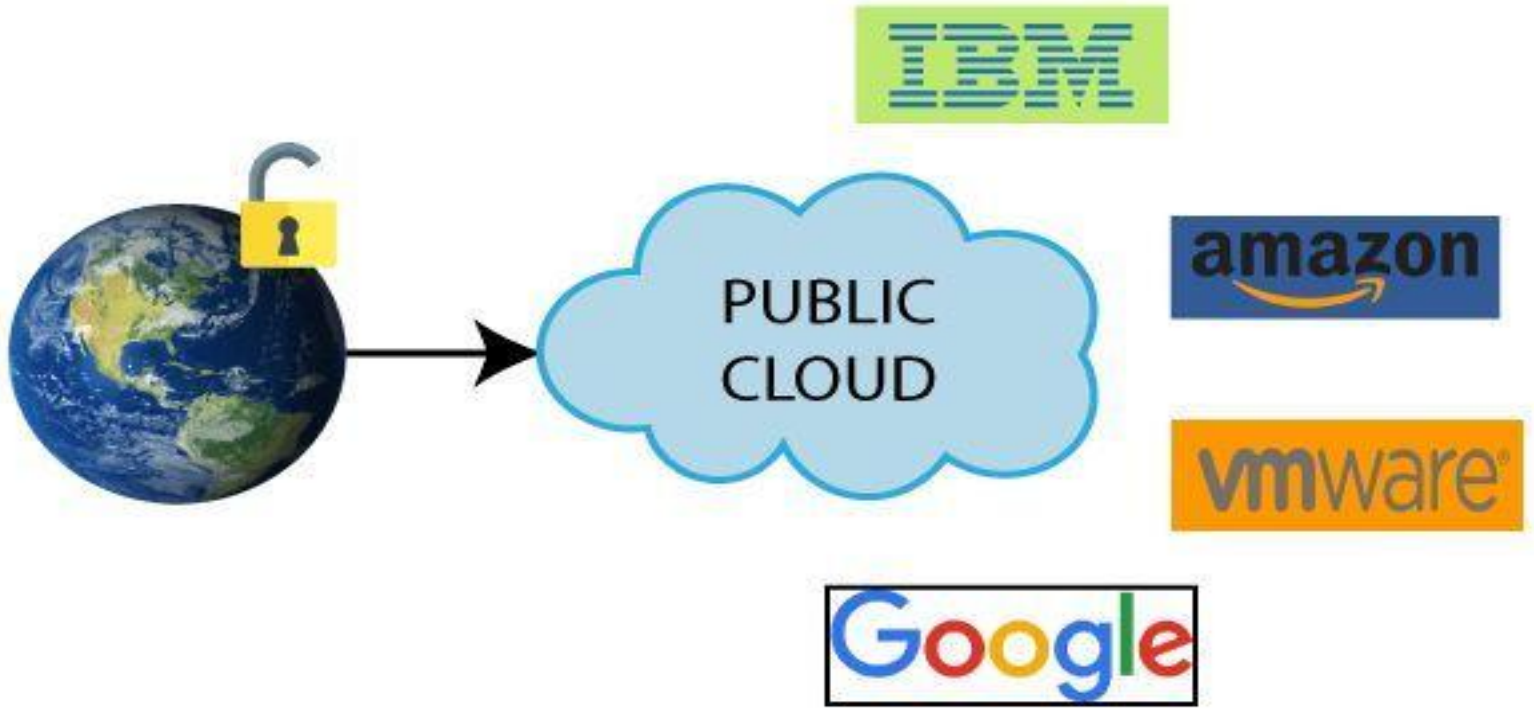
***Software as a Service(SaaS*)**: *SaaS is the most abstracted cloud computing type, delivering fully functional software applications via the internet. Users access the applications through a web browser. The provider hosts, maintains, and updates the software behalf of the user.*

***Ex:*** *Gmail- you can manage inbox only, Google take care of data centers, servers, network, storage maintenance etc.. All you need worry about software and how you use it.*

# *DEPLOYMENT MODEL*:

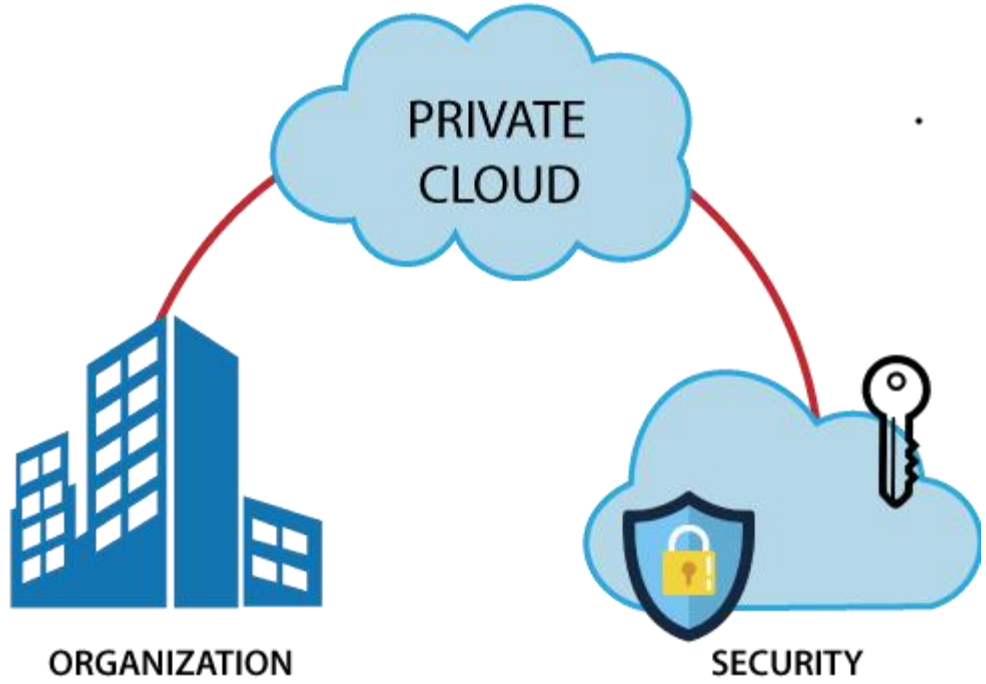
## *PUBLIC CLOUD:*

*Public cloud is open to all to store and access information via the internet. Public clouds are managed by third parties. In public cloud, Security will be less when we compared to private and hybrid.*



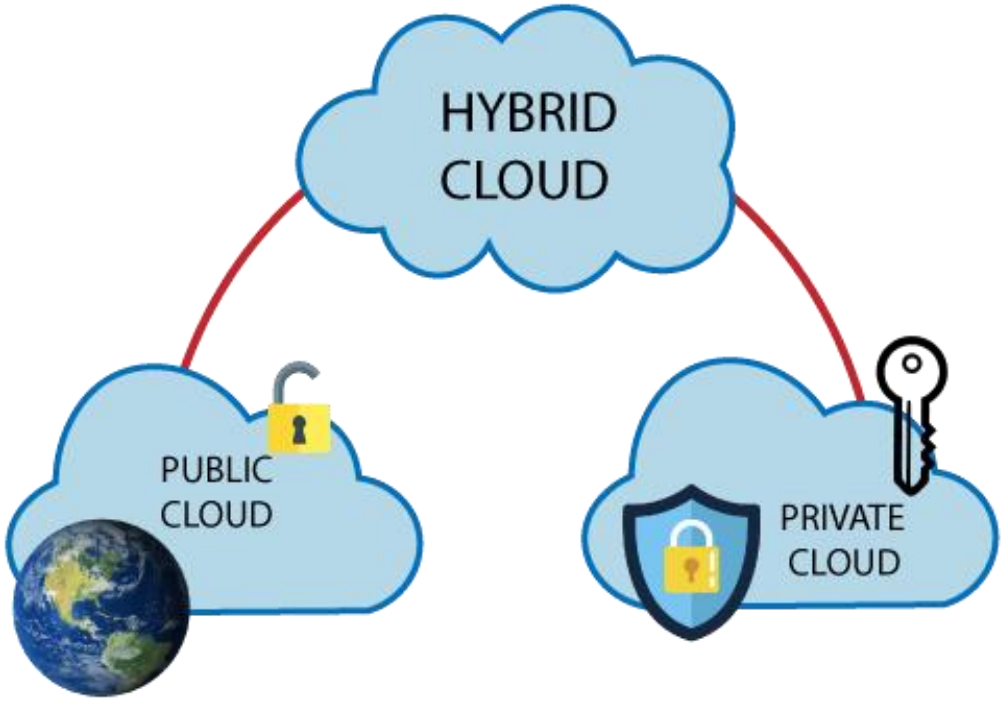
## *PRIVATE CLOUD:*

*A private cloud is also known as an internal cloud or corporate cloud. It is used by organizations to build and manage their data centres . In private cloud  security will be high.*



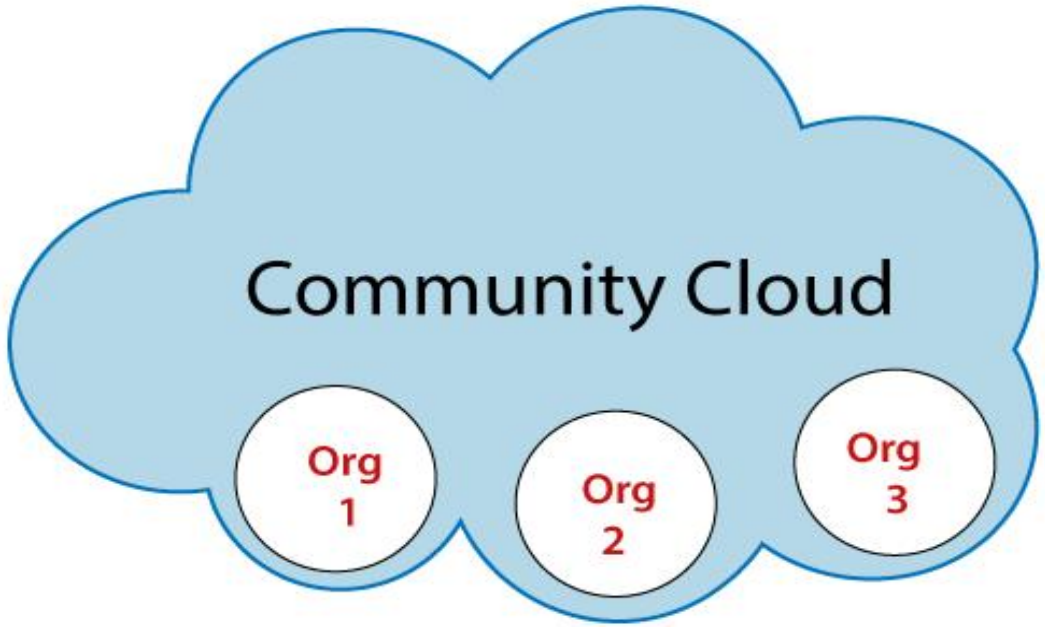
# *HYBRID CLOUD :*

*Hybrid cloud is the combination of both public and private cloud.*
*If the services are running on public then it will not have much security.*
*If the services are running on private then the cloud have high security.*



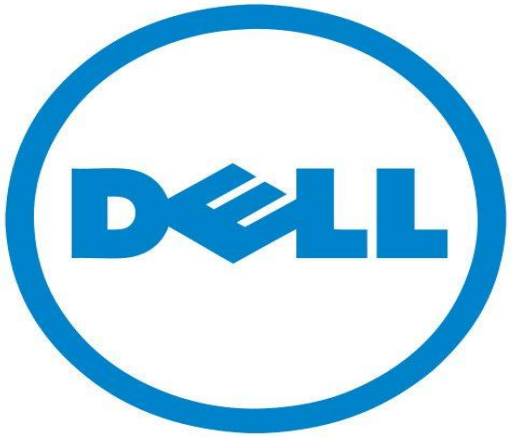
## *COMMUNITY CLOUD:*

*It allows multiple organizations to use same cloud to store their data.*



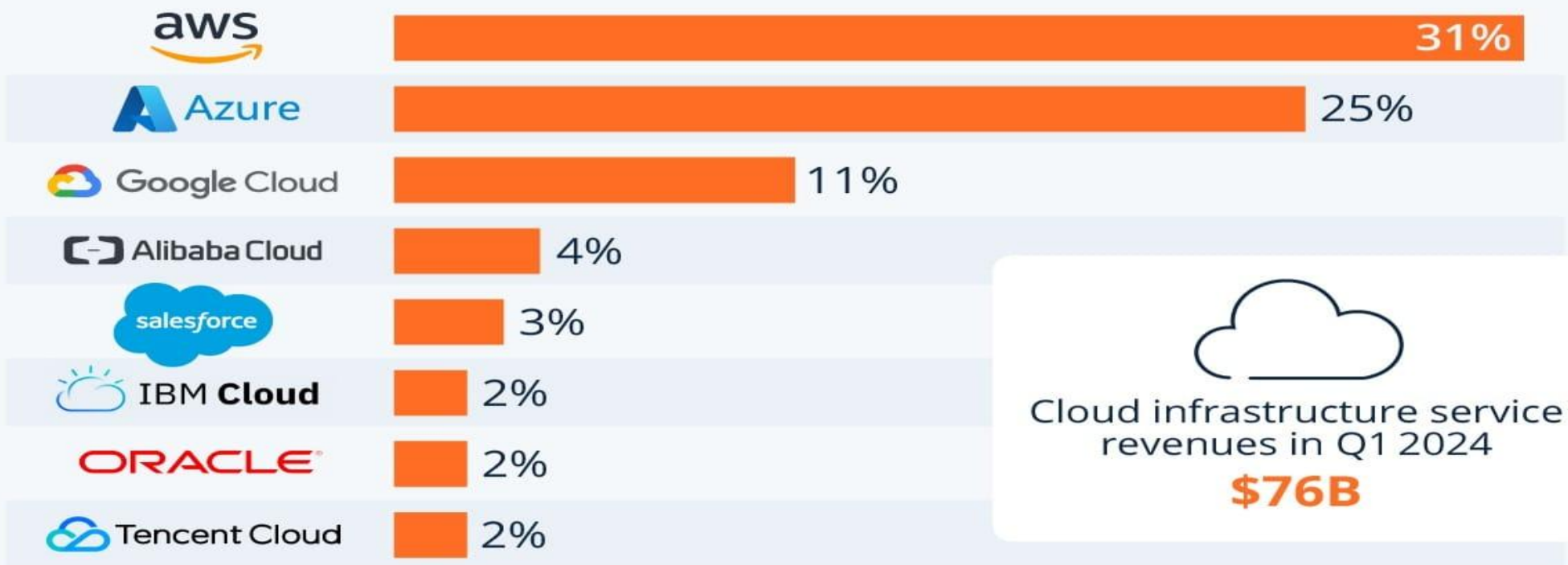
# TOP 10 CLOUD PROVIDERS



# Amazon Maintains Cloud Lead as Microsoft Edges Closer

Worldwide market share of leading cloud infrastructure service providers in Q1 2024*




Cloud infrastructure service revenues in Q1 2024

**$76B**

# *Cloud Economics*

*Cloud economics is the study of the costs, benefits, and economic principles of cloud computing for businesses.*

*Cloud economics analyzes the cost-benefit situation of building resources in the cloud, including:*

- *Total cost of ownership*
- *On-demand pricing*
- *Return on investment*

# *Cost Management*

- *Cloud cost management is also known as cloud cost optimization or cloud cost governance .*

- *Cloud cost management* is the process of managing and reducing a business's overall cloud spend.
- Here are some key aspects of cloud cost management:

- Resource Optimization
- Cost Visibility and Analysis
- Reserved Instances and Savings Plans
- Budgeting and Alerts
- Use of Serverless and Managed Services
- Data Transfer Costs

# *Cloud Adoption*

Cloud adoption brings about several strategic implications for businesses, affecting various aspects of their operations and competitive positioning.

Strategic implications of cloud adoption include:

- Scalability and Flexibility
- Cost Optimization
- Global Reach and Accessibility
- Innovation Acceleration
- Improved Collaboration and Agility
- Data Security and Compliance

# *Security and compliance*

*Security and compliance are critical considerations for businesses migrating to the cloud.*

*some key aspects of security and compliance in the cloud:*

- *Data Encryption*
- *Identity and Access Management (IAM)*
- *Network Security*
- *Security Monitoring and Incident Response*
- *Data Backup and Recovery*

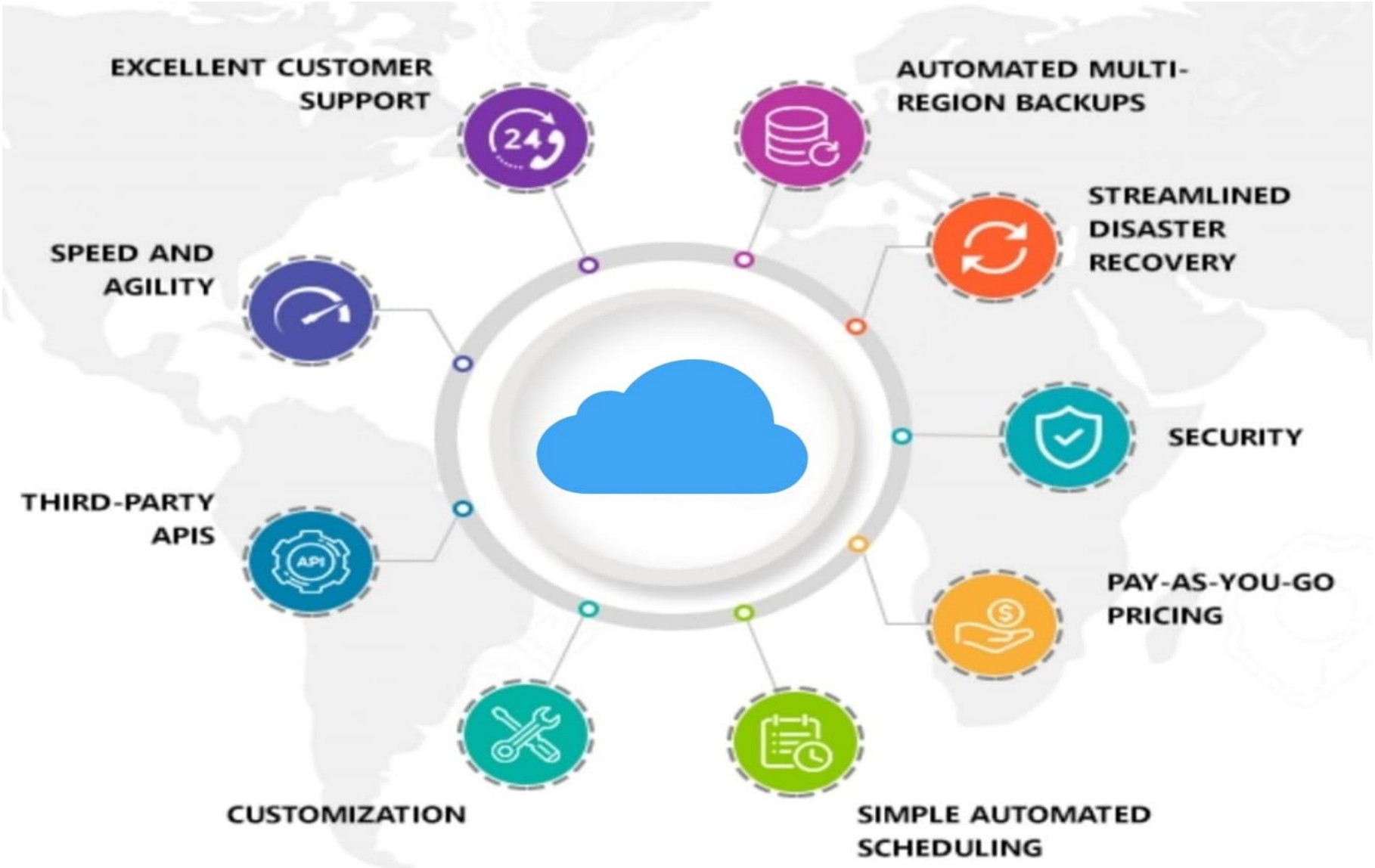
# *Governance & Innovation Potential*

*Governance and innovation potential in the cloud are essential considerations for organizations looking to leverage cloud computing effectively.*

*Here's how they intersect and contribute to organizational success:*

- *Governance Framework*
- *Risk Management*
- *Innovation Culture*
- *Governance for Innovation*
- *Continuous Improvement*

# ADVANTAGES OF CLOUD COMPUTING



# Disadvantages of Cloud Computing

*cloud computing offers numerous advantages, it also comes with several disadvantages:*

- *Security Concerns*
- *Data Privacy and Compliance*
- *Dependency on Internet Connectivity*
- *Downtime and Reliability*
- *Cost Management*

# *Learning Modality*

## *Delivery Methods:*

- *Case Studies*
- *Interactive Simulations*
- *Expert-led Discussions*

## *Rationale:*

*Effective for conveying both technical and strategic facets of cloud technology, ensuring comprehensive learning for executives.*

# *Individual Course Outcome*

## *Outcome:*

*Foundational understanding of cloud technology*

## *Rationale:*

*Establishes a strong base for understanding cloud-based business strategies and making informed decisions.*

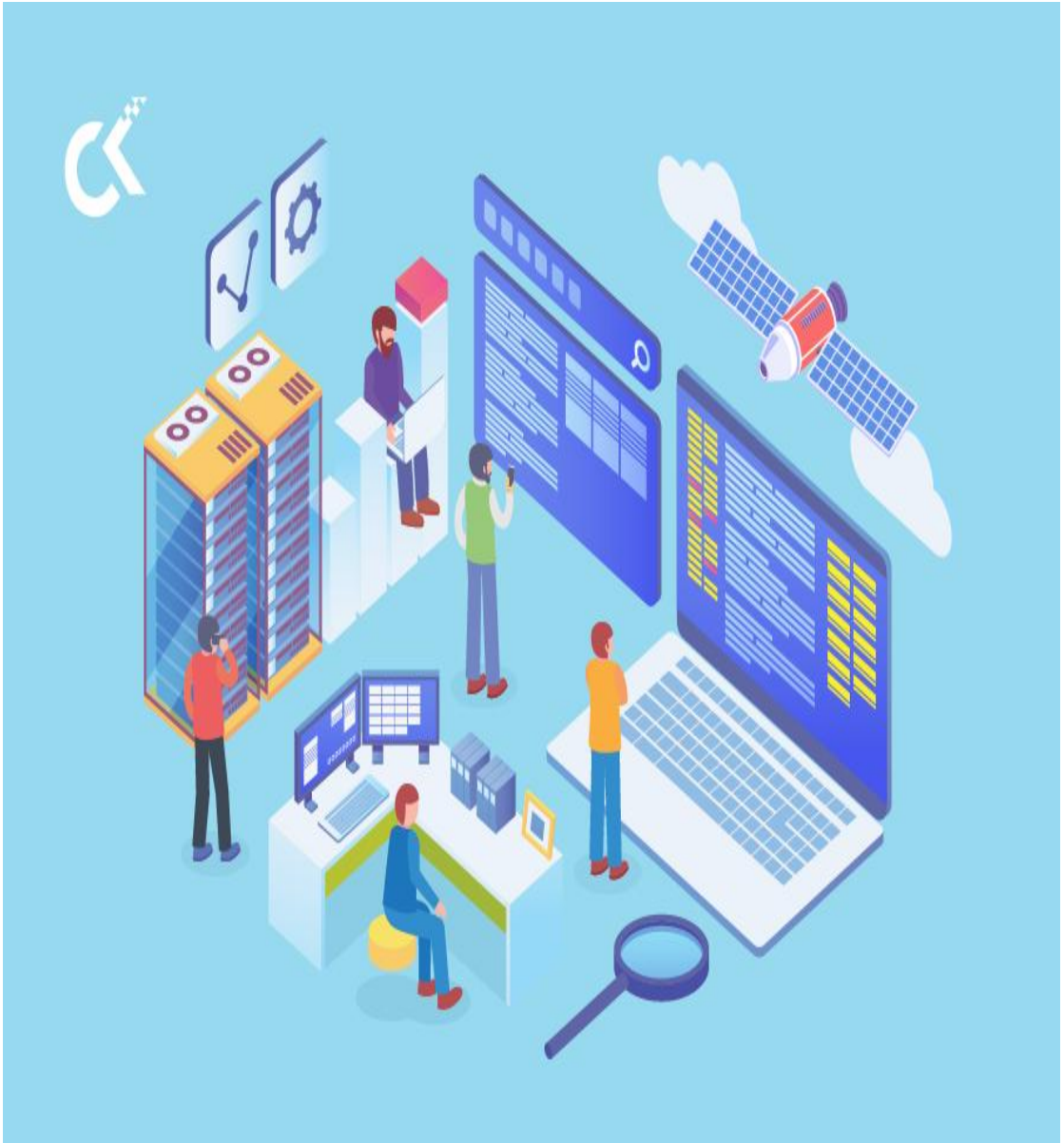
# Suggested Practice

## Practical Activities:

- *Analysis of real-world Scenarios to understand practical applications.*
- *Small Projects after each module to apply cloud concepts*
- *Lab practices for hands-on experience with cloud services*

## Justification:

*Relevant to real-world executive decision-making in the cloud domain.*



# *Suggested Assessment Method*

## *Assessment Methods:*

- *Analysis of case studies*
- *Strategic planning exercises*

## *Reasoning:*

*Effectively measures the executive's grasp of cloud implications for their organization and strategic decision-making capabilities.*

# *CONCLUSION*

*The rapid evolution of cloud computing has reshaped the way we store, access, and manage data and applications.*

# *Questions and Support*

*if you have any questions or need clarification on the exercise, please reach out to me.*


Thank You