Cloud Storage and Data Management

Cloud Computing

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https://github.com/adityaputra/praktisimengajar-cloudcomputing

Our plan

- Introduction to Cloud Storage

- Hands-on Cloud Storage

- Data Management in the Cloud
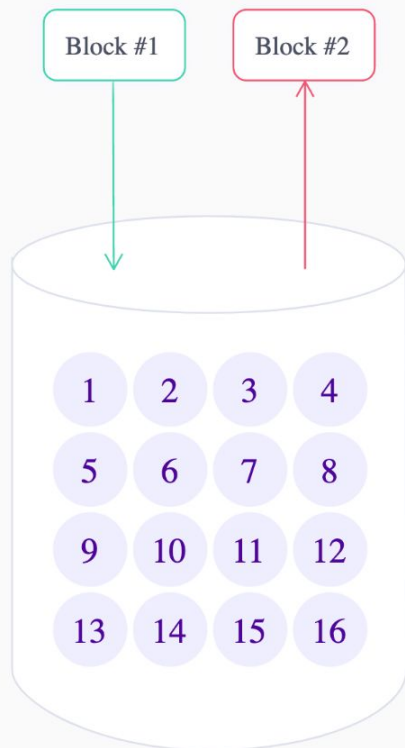
Cloud Storage
Introduction

Cloud Storage

Cloud storage is a service that allows you to store and access your data over the internet.

It's like having a virtual hard drive that you can access from anywhere, anytime. No more carrying around physical drives!
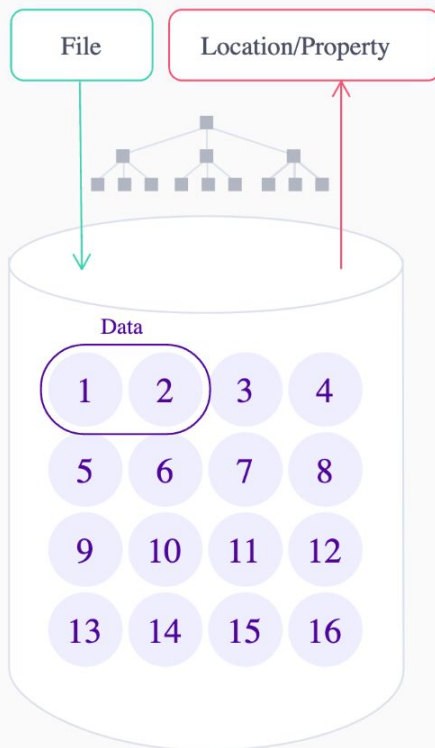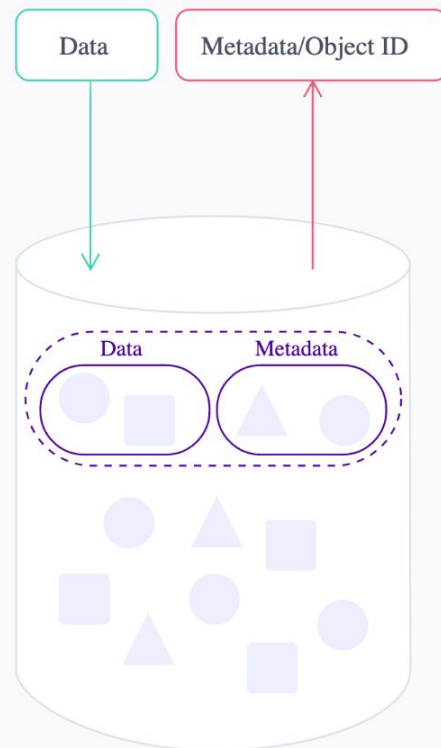
Block

Fixed size block in a
specific location

Block #1   Block #2

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

File

Specific folder
in a fixed logical order

File   Location/Property

Data

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Object

Highly scalable
and metadata driven

Data   Metadata/Object ID

Data   Metadata

Cloud Storage Types - service models

IaaS	PaaS	SaaS
Raw computing resources	Resources running as a platform	Complete software applications
Usually built for block and object storage	Pre-packaged into the service	Commonly used to store regular files
AWS S3, AWS EBS, Google Cloud Storage	Google App Engine Datastore, AWS RDS	Dropbox, Google Drive, Microsoft OneDrive

Characteristics of Cloud Storage

- Accessibility from Anywhere
- Data Backup and Redundancy
- Disaster Recovery
- Data Synchronization
- Scalability
- Security
- Collaboration
- Cost-Efficiency
- File Versioning
- Environmental Impact
- Compliance and Regulations

Hands on

Data Management
in the Cloud

Data Management

When transferring and storing data in / out from the cloud, you must consider these aspects:

- Data encryption
- Access control and authentication
- Backup and recovery
- Data lifecycle management
- Version control

Assignment

- Form groups of 3-4 students.
- Choose two cloud storage services (e.g., Google Drive, Dropbox, AWS S3, etc.) to compare.
- Research and list the key features of each service, like storage size, sharing options, and security.
- Discuss advantages and disadvantages of each service briefly.
- Create scenarios where one service would be best. Explain why you picked it for each situation.
- Submission: https://forms.gle/BeghuDQSzQADsodaA
- Due date: 2023/10/06

Thank you

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