

Hello! First of all, let me introduce myself. My name is Zaur Aliev. I'm a first-year student of the Computer Science and Information Technology Department at Saratov State University. Today, I'm going to talk about \*How Cloud Storage Works\*.

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## Introduction to Cloud Storage

Cloud storage allows users to save data online instead of on local devices like hard drives or USB sticks. A typical system consists of a master control server and multiple storage servers, enabling data access from anywhere via the internet. Comedian George Carlin humorously highlighted how people accumulate "stuff," and today, this applies to digital data. Many users struggle with limited storage space, leading them to solutions like larger hard drives, external devices, or deleting files. However, cloud storage has emerged as a popular alternative, offering convenience and flexibility.

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## How Cloud Storage Works

Cloud storage systems vary in size and purpose, from small setups to massive data centers occupying entire warehouses. At its core, the process involves:

1. Client Uploads Files: Data is sent over the internet to remote servers.
2. Data Storage: Files are saved on multiple servers for redundancy, ensuring availability even during maintenance or power failures.
3. Data Access: Clients retrieve or edit files via web interfaces.

Redundancy is critical—data is replicated across servers with independent power supplies to prevent loss. Many users rely on cloud storage for backups, adhering to the principle of not keeping "all eggs in one basket."

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## Benefits of Cloud Storage

- Convenience: Access files from any device with internet.
- Collaboration: Share data easily for teamwork.
- Data Safety: Encryption and backups protect against loss.
- Scalability: Expand storage as needs grow.

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## Security Practices and Risks

Providers implement robust measures to protect data:

- Encryption: Encodes data to prevent unauthorized access.
- Authentication: Requires usernames and passwords.
- Authorization: Grants tiered access (e.g., employees vs. managers).
- Physical Security: Data centers are heavily guarded.

Despite these, risks remain:

- Data Theft: Hackers may target encryption or physical servers.
- Insider Threats: Employees could misuse access.

Popular providers prioritize reliability, security, and 24/7 access to address these concerns.

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Thank you! Now I'm ready to answer all your questions.

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\*Note: Adjust the font size to 16 and ensure the text fits 1.5 pages.