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Introduction to High Availability

Ensure your databases are always accessible with high availability strategies.

DEFINITION

> High Availability (HA) refers to systems designed to operate continuously without failure for a long time. It minimizes downtime and ensures that services remain available even during failures.

KEY CONCEPTS

Redundancy

Using multiple components to perform the same function, so if one fails, others can take over.

Failover

The process of switching to a standby system when the primary system fails.

Load Balancing

Distributing workloads across multiple servers to ensure no single server is overwhelmed.

Clustering

Connecting multiple servers to work together as a single system to improve availability.

Backup Solutions

Regularly saving copies of data to prevent loss in case of a failure.

EXAMPLES

→ Using a cluster of servers to host a website.

→ Implementing automatic failover for a database during maintenance.

→ Distributing user requests across multiple servers to enhance performance.

MEMORY TIPS

★ Remember 'RFLBC' for Redundancy, Failover, Load Balancing, Clustering.

★ Think of HA as a safety net for your data.

★ Visualize a backup server ready to jump in during a failure.

COMMON MISTAKES

✗ Neglecting regular testing of failover systems.

✗ Underestimating the importance of backups.

✗ Assuming load balancing is only for web traffic.

QUICK RECAP

High Availability ensures that systems remain operational despite failures. Key strategies include redundancy, failover, and load balancing. Understanding these concepts is crucial for maintaining reliable database systems.