Glossary: Basics of NoSQL

Welcome! This alphabetized glossary contains many of the terms you'll find within this course. This comprehensive glossary also includes additional industry-recognized terms not used in course videos. These terms are important for you to recognize when working in the industry, participating in user groups, and participating in other certificate programs.

Term	Definition
ACID	This term is an acronym for Atomicity, Consistency, Isolation, and Durability, which is a set of properties that guarantee reliable processing of database transactions in traditional relational databases.
Atomic	In the context of database transactions, atomic means that an operation is indivisible and either completes fully or is completely rolled back. It ensures that the database remains in a consistent state.
BASE	An alternative to ACID. Stands for basically available, soft state, eventually consistent. BASE allows for greater system availability and scalability, sacrificing strict consistency in favor of performance.
Bigtable	A NoSQL database system developed by Google, designed for handling large amounts of data and providing high performance, scalability, and fault tolerance.
Caching	The temporary storage of frequently accessed data in high-speed memory reduces the need to fetch the data from the primary storage, which can significantly improve response times.
Cluster	A group of interconnected servers or nodes that work together to store and manage data in a NoSQL database, providing high availability and fault tolerance.
Column database	A NoSQL database model that stores data in column families rather than tables, making it suitable for storing and querying vast amounts of data with high scalability. Examples include Apache Cassandra and HBase.
CRUD	CRUD is an acronym for create, read, update, and delete, which are the basic operations for the basic operations for interacting with and manipulating data in a database.
DBaaS	This acronym stands for database as a service, a cloud-based service that provides managed database hosting, maintenance, and scalability, allowing users to focus on application development without managing the database infrastructure.
Document	A NoSQL database model that stores data in semi-structured documents, often in formats like JSON or BSON. These documents can vary in structure and are typically grouped within collections.
Graph database	A NoSQL database model optimized for storing and querying data with complex relationships, represented as nodes and edges. Examples include Neo4j and OrientDB.
Horizontal scaling	The process of adding more machines or nodes to a NoSQL database to improve its performance and capacity. This is typically achieved through techniques like sharding.
Indexing	The creation of data structures that improve query performance by allowing the database to quickly locate specific records based on certain fields or columns.
JSON	JSON is an acronym for JavaScript Object Notation, a lightweight data-interchange format used in NoSQL databases and other data systems. JSON is human-readable and easy for machines to parse.
Key-value	A NoSQL database model that stores data as key-value pairs. It's a simple and efficient way to store and retrieve data where each key is associated with a value.
Normalized	A database design practice where data is organized to minimize redundancy and maintain data integrity by breaking it into separate tables and forming relationships between them.
NoSQL	NoSQL stands for "not only SQL." A type of database that provides storage and retrieval of data that is modeled in ways other than the traditional relational tabular databases.
Sharding	Refers to the practice of partitioning a database into smaller, more manageable pieces called shards to distribute data across multiple servers. Sharding helps with horizontal scaling.
TTL	Stands for "Time to Live," which is a setting in NoSQL databases that determines how long a piece of data should be retained before it's automatically removed from the database.
XML	Stands for Extensible Markup Language, another data interchange format used in some NoSQL databases. It's also human-readable and can represent structured data.

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