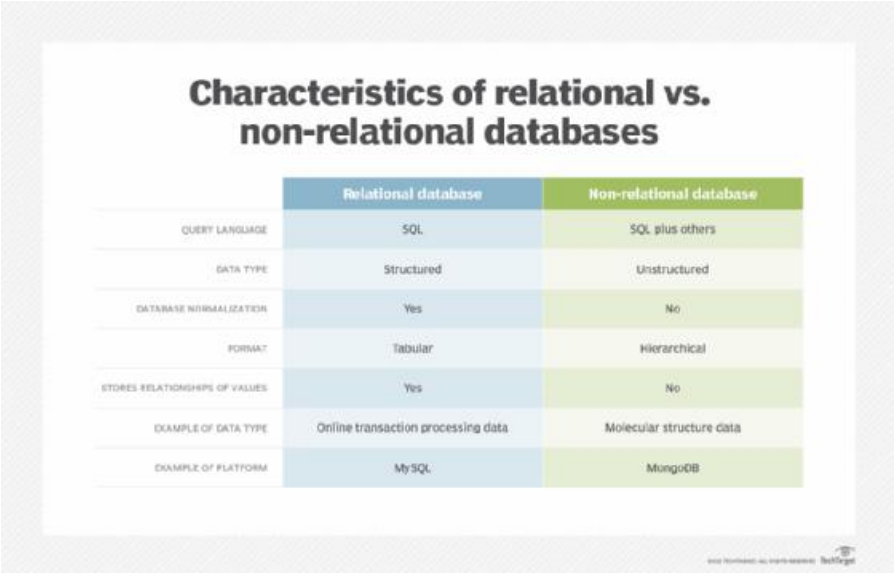
Gerard Anthony Resaba
3/BSCS/A
APPLICATION DEVELOPMENT

TYPES OF DATABASE

1. RELATIONAL DATABASE

- A relational database is a digital database based on E. O. Wilson's relational data model. F. Codd was born in the year 1970. A relational database management system is a system for maintaining relational databases. Many relational database systems include the option of querying and managing the database using SQL.

Relational databases are an example of this.



Users can manage preset data relationships across various databases using standard relational databases. Microsoft SQL Server, Oracle Database, MySQL, and IBM DB2 are all examples of standard relational databases.

2. ANALYTICAL DATABASE (OLAP)

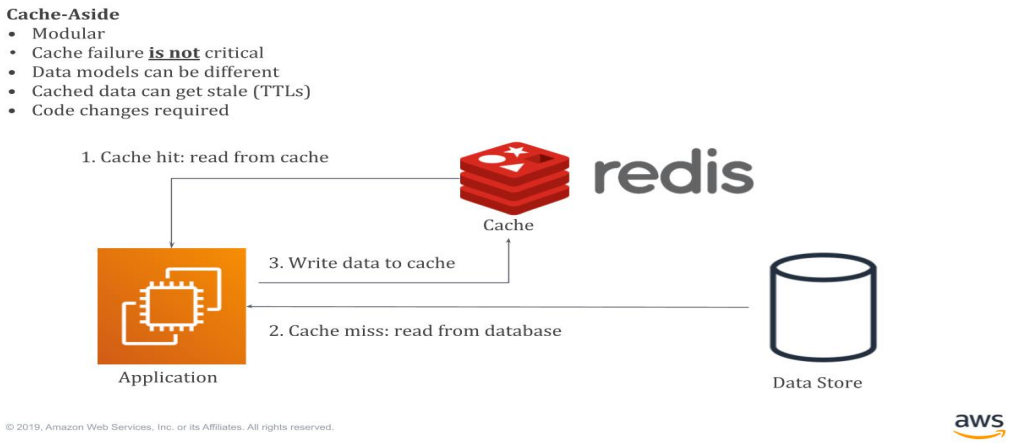
- For business intelligence (BI) analysis, an analytical database stores and handles massive data, such as business, market, and customer data. Analytical databases are designed with speed and scalability in mind.

Market Data is an example of this.

It's historical financial market price and volume data that may be utilized to back test trading techniques.

3. KEY-VALUE DATABASE

- A key–value database, sometimes known as a dictionary or hash table, is a data storage paradigm for storing, retrieving, and maintaining associative arrays, and a data structure more often known as a dictionary or hash table today.
Redis is an example of this.

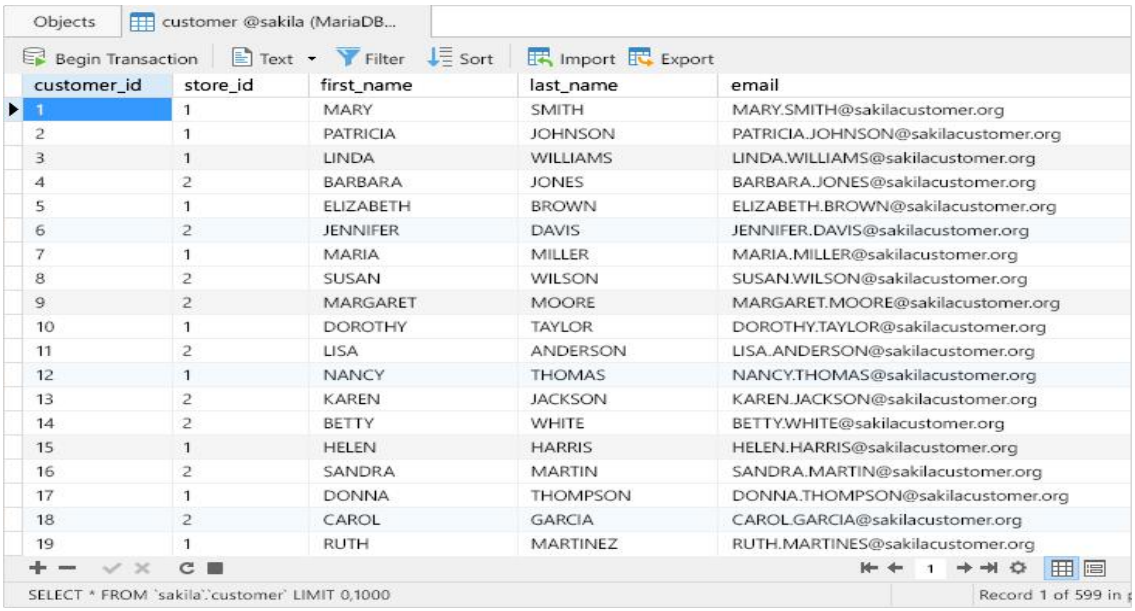


Redis is an in-memory data structure store that can be used as a distributed, in-memory key–value database, cache, and message broker.

4. COLUMN-FAMILY DATABASE

- A column family is a database entity that has linked data columns in its columns. It's a tuple (pair) made up of a key–value pair, with the key mapped to a collection of columns as the value. A column family acts as a "table," with each key-value pair acting as a "row," similar to relational databases. A tuple (triplet) consists of a column name, a value, and a timestamp for each column.

Maria DB is an example of this.



customer_id	store_id	first_name	last_name	email
1	1	MARY	SMITH	MARY.SMITH@sakilacustomer.org
2	1	PATRICIA	JOHNSON	PATRICIA.JOHNSON@sakilacustomer.org
3	1	LINDA	WILLIAMS	LINDA.WILLIAMS@sakilacustomer.org
4	2	BARBARA	JONES	BARBARA.JONES@sakilacustomer.org
5	1	ELIZABETH	BROWN	ELIZABETH.BROWN@sakilacustomer.org
6	2	JENNIFER	DAVIS	JENNIFER.DAVIS@sakilacustomer.org
7	1	MARIA	MILLER	MARIA.MILLER@sakilacustomer.org
8	2	SUSAN	WILSON	SUSAN.WILSON@sakilacustomer.org
9	2	MARGARET	MOORE	MARGARET.MOORE@sakilacustomer.org
10	1	DOROTHY	TAYLOR	DOROTHY.TAYLOR@sakilacustomer.org
11	2	LISA	ANDERSON	LISA.ANDERSON@sakilacustomer.org
12	1	NANCY	THOMAS	NANCY.THOMAS@sakilacustomer.org
13	2	KAREN	JACKSON	KAREN.JACKSON@sakilacustomer.org
14	2	BETTY	WHITE	BETTY.WHITE@sakilacustomer.org
15	1	HELEN	HARRIS	HELEN.HARRIS@sakilacustomer.org
16	2	SANDRA	MARTIN	SANDRA.MARTIN@sakilacustomer.org
17	1	DONNA	THOMPSON	DONNA.THOMPSON@sakilacustomer.org
18	2	CAROL	GARCIA	CAROL.GARCIA@sakilacustomer.org
19	1	RUTH	MARTINEZ	RUTH.MARTINES@sakilacustomer.org

MariaDB is a commercially funded fork of MySQL that is intended to remain free and open-source software under the GNU General Public License.

5. GRAPH DATABASE

- A graph database is a database that represents and stores data using graph structures for semantic queries, such as nodes, edges, and properties. The graph is an important notion in the system.

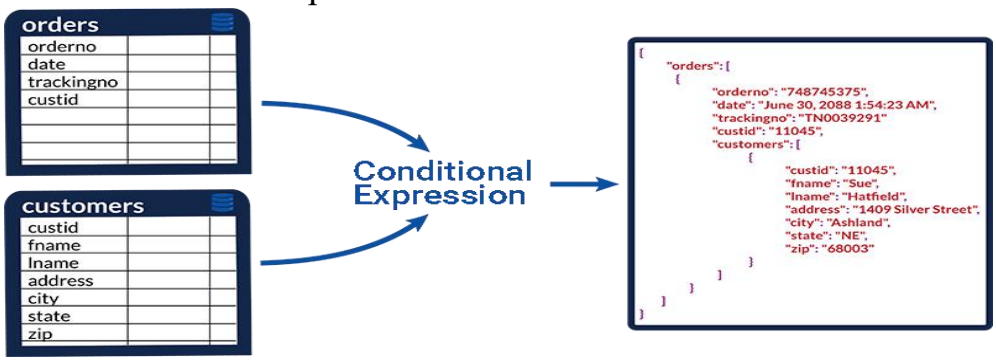
Neo4j is an example of this.

Neo4j, Inc. created a graph database management system called Neo4j. Neo4j is an open-source "community version" with online backup and high availability extensions published under a closed-source commercial license.

6. DOCUMENT DATABASE

- A document database is a nonrelational database that stores and queries data as JSON-like documents. By employing the same document-model format as their application code, document databases make it easier for developers to store and query data in a database.

JSON Database is an example of this.



A JSON document database is a nonrelational database that stores and queries data as JSON documents rather than standardizing data across several tables, each with its own unique and fixed structure, as in a relational database.