Key-Value Database

In this lesson, you will get to know about the Key-Value database and when to choose it for your projects.

We'll cover the following

What is a Key-Value database?#

Key-value databases also are a part of the *NoSQL family*. These databases use a simple *Key-value* method to store and quickly fetch the data with minimum latency.

Features of a Key-Value database#

Due to the minimum latency they ensure, a primary use case for the *Key-*

value databases is to implement caching in applications.

The *Key* serves as a unique identifier and has a *value* associated with it. The value can be as simple as a block of text and can be as complex as an object graph.

The data in *Key-value* databases can be fetched in *constant time O(1)*, and there is no query language required to fetch the data. It's just a simple no-brainer fetch operation. This ensures minimum latency.

Popular Key-Value databases#

Some of the popular *key-value* data stores used in the industry are *Redis*, *Hazelcast*, *Riak*, *Voldemort*, and *Memcached*.

When do I pick a Key-Value database?#

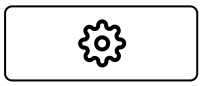
If you have a use case where you need to fetch data real fast with minimum fuss and backend processing, you should pick a *Key-value* data store.

Key-value stores are pretty efficient in pulling off scenarios that require super-fast data fetches.

Typical use cases of a *key-value* database are the following:

- Caching
- Persisting user state

- Persisting user sessions



- Managing real-time data
- Implementing queues
- Creating leaderboards in online games and web apps
- Implementing a pub-sub system

Real-life implementations#

Some of the real-life implementations of the tech are:

- Inovonics uses Redis to drive real-time analytics on millions of sensor data (https://redislabs.com/customers/inovonics/)
- Microsoft uses Redis to handle the traffic spike on its platforms (https://redislabs.com/docs/microsoft-relies-redis-labs/)
- Google Cloud uses Memcached to implement caching on their cloud platform (https://cloud.google.com/appengine/docs/standard/python/memcache/)

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