

# What is Redis?

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- Redis, which stands for **Remote Dictionary Server**, is an open-source, in-memory data structure store used as a database, cache, and message broker.
- Created by Salvatore Sanfilippo, commonly known as Antirez, and first released in 2009. Redis is **written in C language** and **supports various data structures** such as **strings, hashes, lists, sets, sorted sets, bitmaps, hyperloglogs, and geospatial indexes**

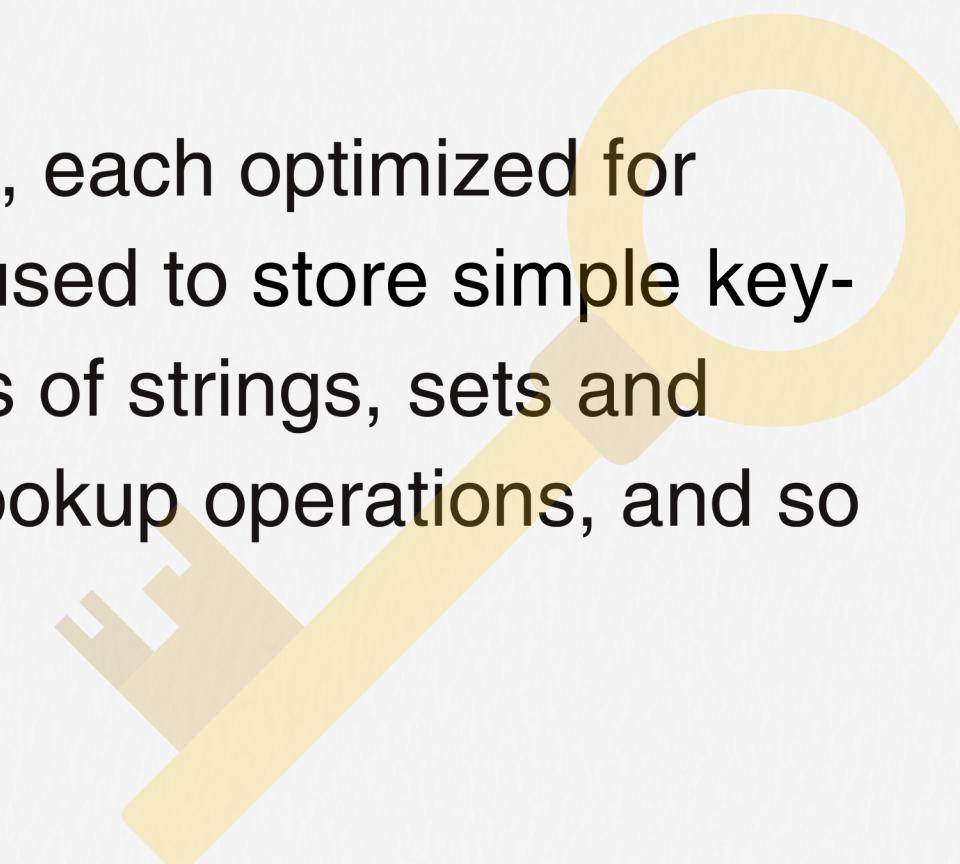


redis

# Key features

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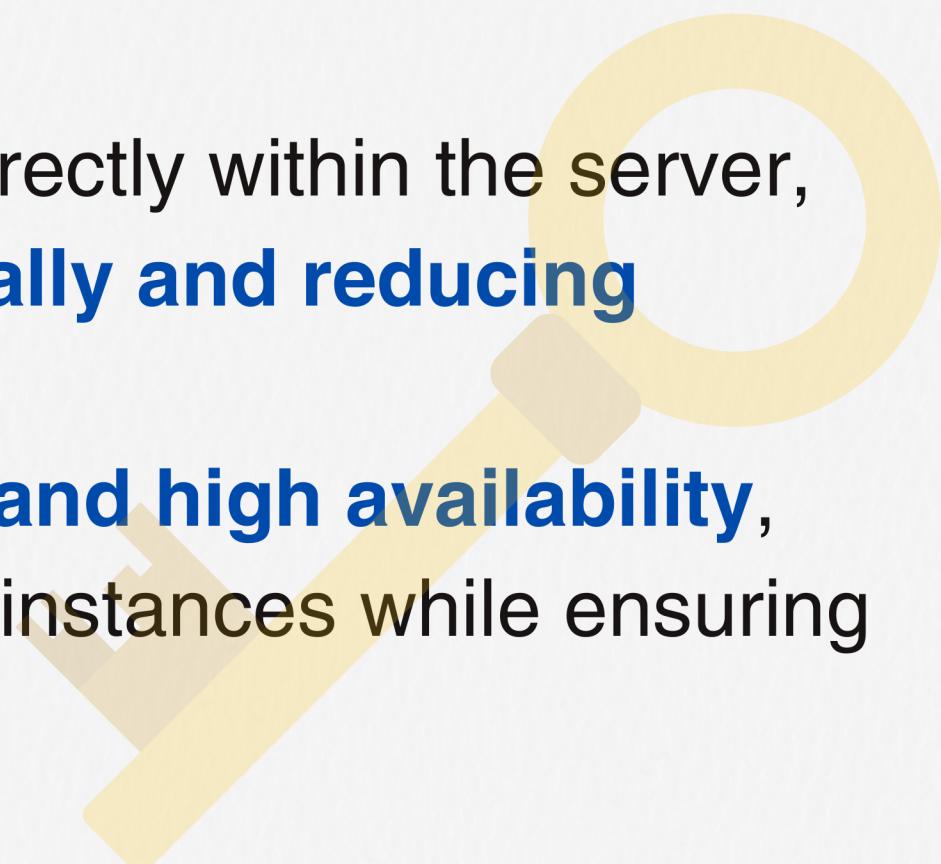
- **High performance:** Redis stores data primarily in **memory**, which allows for extremely fast read and write operations. This makes it ideal for use cases that require low-latency access to data, such as **caching** and **real-time analytics**.
- **Persistence options:** Despite being an in-memory database, Redis provides different persistence options to ensure data durability. It offers options like **snapshots (RDB)** and **journaling (AOF)**, **allowing you to save data to disk at regular intervals or continuously**.
- **Data structures:** Redis supports various data structures, each optimized for specific use cases. For example, strings are commonly used to store simple key-value pairs, lists are useful for storing ordered collections of strings, sets and sorted sets are used for unique value storage with fast lookup operations, and so on.



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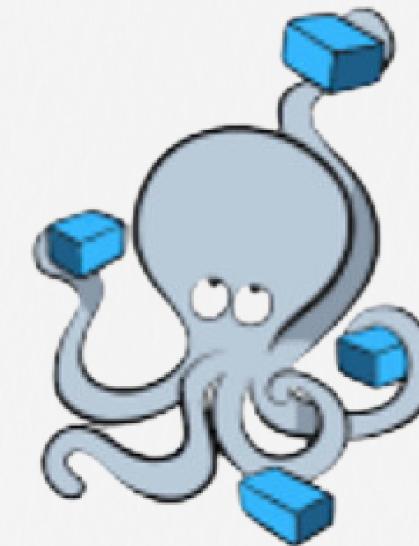
- **Atomic operations:** Redis supports atomic operations on these data structures, making it a good choice for building distributed systems or handling concurrent access scenarios.
- **Pub/Sub messaging:** Redis provides support for publish/subscribe messaging, **allowing clients to subscribe to channels and receive messages published to those channels in real-time.** This feature is useful for building real-time chat applications, broadcasting notifications, and more.
- **Lua scripting:** Redis allows you to execute Lua scripts directly within the server, **enabling complex operations to be performed atomically and reducing round-trips between the client and server.**
- **Clustering:** Redis Cluster provides **automatic sharding and high availability**, allowing you to distribute your data across multiple Redis instances while ensuring data redundancy and failover mechanisms.



# Installation

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- <https://redis.io/docs/install/install-redis/>
- [https://hub.docker.com/\\_/redis](https://hub.docker.com/_/redis)



**docker**  
Compose

