

# What is Redis? Its capabilities and features.

DEV

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Redis, short for Remote Dictionary Server, is an open-source, in-memory NoSQL key/value database. It is widely used to [save sessions in Magento 2](#) or application cache or for fast data retrieval.

By storing data in memory instead of on disk or SSD, Redis offers exceptional speed, reliability, and performance, making it ideal for real-time applications.

In real-world scenarios, when an application depends on external data sources, the latency of those sources can create performance bottlenecks, especially in high-traffic and large-scale applications.

Redis addresses this issue by storing data in memory, placing it physically closer to the application's processing unit, significantly reducing latency and improving performance.

## Redis cache sessions

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Unlike other NoSQL databases Redis stores data in the main memory which helps it to perform significantly in read/write operations with better response time.

It also ensures the application's high availability and scalability with features like replication and Redis Sentinel.

## Redis data types

Redis provides various data types and structures such as strings, hashes, lists, sets, sorted sets, bitmaps, hyperloglog, and geospatial indexes.

## Redis features

### Redis Sentinel

Redis Sentinel is a system that helps us calibrate Redis instances to be highly available for clients. It can handle monitoring, notification and can act as a configuration provider for clients.

## Redis Cluster

Redis Cluster is an implementation of Redis that can automatically split databases among various nodes. With this, you can scale Redis horizontally ensuring high availability and performance.

## Redis Persistence

It is designed to persist data on disk storage. Redis can persist datasets by taking regular snapshots or can create backups on demand.

In the event of server failure, this will ensure database durability and integrity.

# Installing Redis on Linux

You can install Redis from the official “packages.redis.io” APT repository.

Add the repository to the APT index, update it, and then install it.

```
curl -fsSL https://packages.redis.io/gpg | sudo gpg --dearmor -o
/usr/share/keyrings/redis-archive-keyring.gpg

echo "deb [signed-by=/usr/share/keyrings/redis-archive-keyring.gpg]
https://packages.redis.io/deb $(lsb_release -cs) main" | sudo tee
/etc/apt/sources.list.d/redis.list

sudo apt-get update

sudo apt-get install redis
```