

Redis And Spring

A DETAILED TOUR OF EXPLOITING REDIS
CAPABILITIES IN JAVA

By Saber Mortezaei

The Redis logo is a white hexagon with a star, a circle, and a triangle inside, stacked on top of three horizontal lines. The word "redis" is written in a white, lowercase, sans-serif font below the logo.

redis

WHAT IS CACHE?

A cache is a high-speed data storage layer that stores a subset of data so that future requests for that data are served up faster than is possible by accessing the data's primary storage location.





THE ROLE OF CACHE IN VARIOUS ARCHITECTURES

Processor Architecture (CPU)

Memory Architecture

Storage Systems Architecture

Network Architecture

Database Architecture



CACHING TOOLS

- ▶ Redis
- ▶ MemCached
- ▶ Apache Ignite
- ▶ HazelCast IMDG

WHAT IS REDIS ?

Redis (Remote Dictionary Server) is an open-source, in-memory data structure store that is widely used as a database, cache, and message broker and also as a data streamer. It is known for its high performance and versatility.

The Redis logo is a white hexagon with a black star and a black circle inside, set against a dark blue background with a red triangle in the top right corner. The hexagon is stacked with three other hexagons below it.

redis



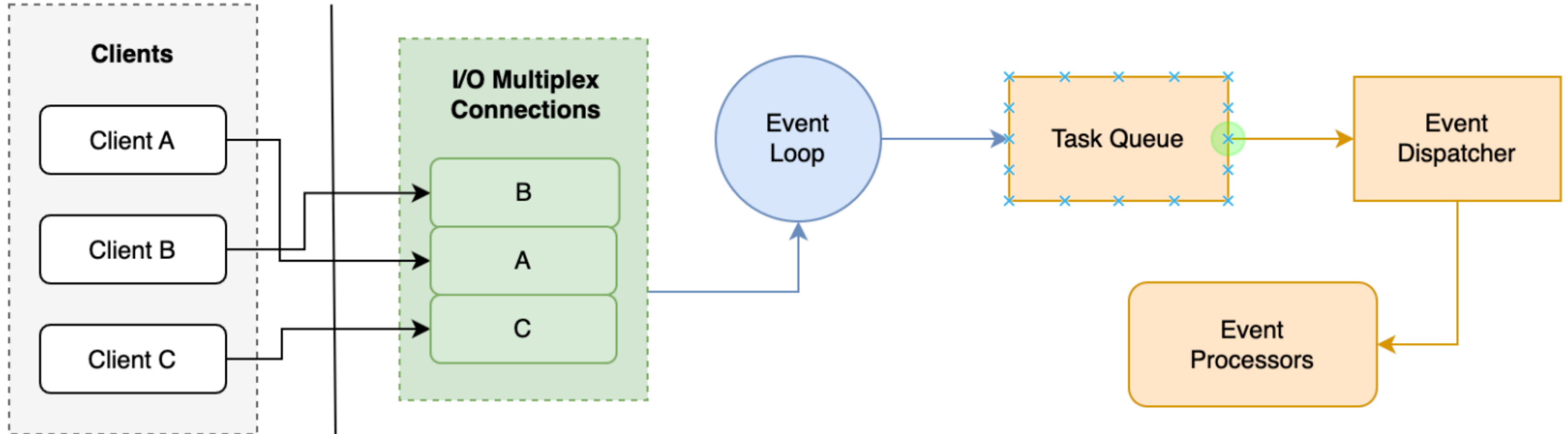
UNDERSTAND REDIS DATA TYPES

- Strings
- Lists
- Sets
- Hashes
- Sorted sets

- Streams
- Geospatial indexes
- Bitmaps
- Bitfields
- HyperLogLog

HOW REDIS WORK?

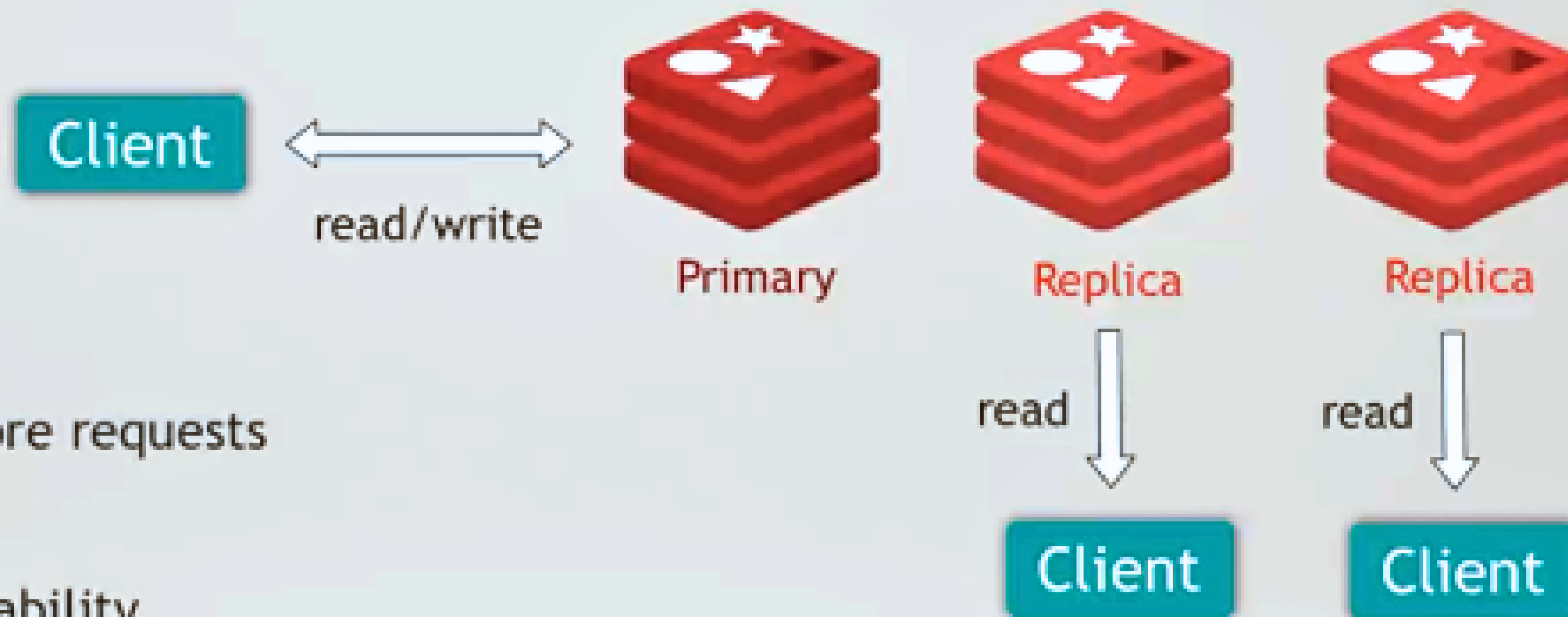
Redis Server



| Feature | Redis | Memcached | Apache Ignite |
|-------------------|--------------------------------|------------------------|----------------------|
| Concurrency Model | Single-threaded | Multi-threaded | Multi-threaded |
| Data Structures | Rich data structures | Simple key-value pairs | Rich data structures |
| Persistence | Yes (RDB snapshots, AOF) | No | yes(native) |
| Replication | Yes (master-slave replication) | No | Yes |
| Pub/Sub Messaging | Yes | No | No |
| SQL Support | No | No | Yes |

HOW TO SCALING REDIS

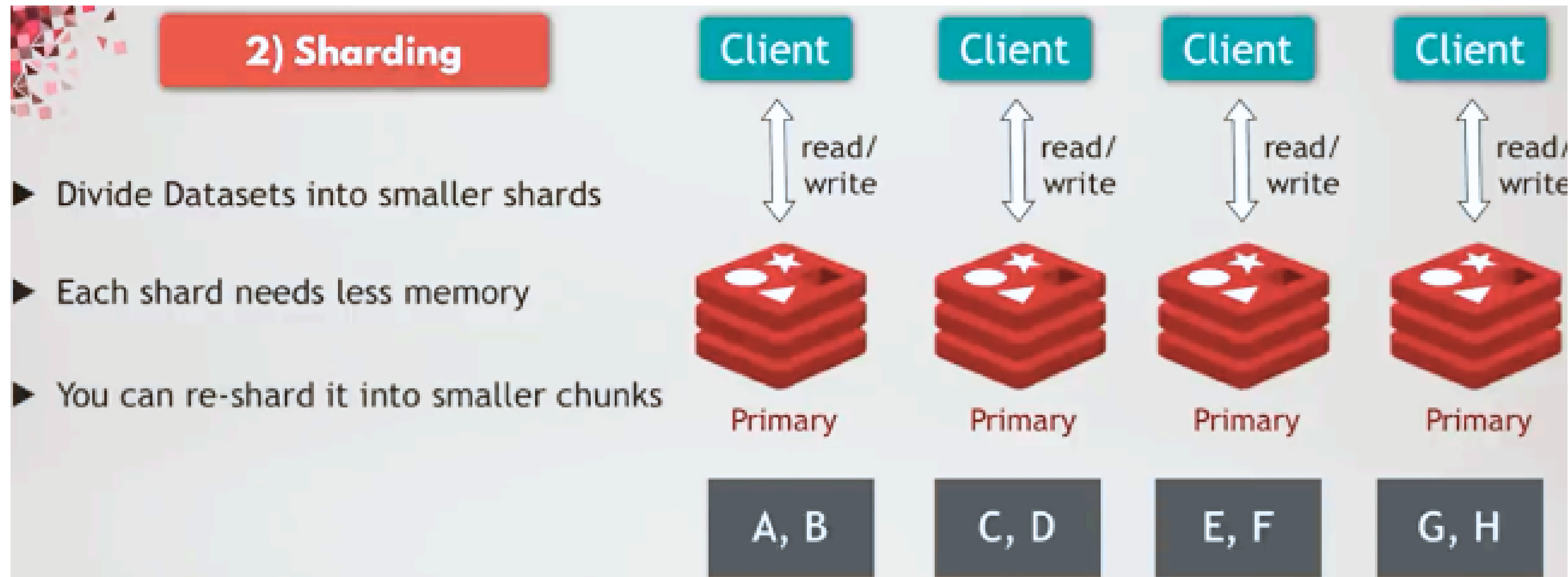
1) Clustering



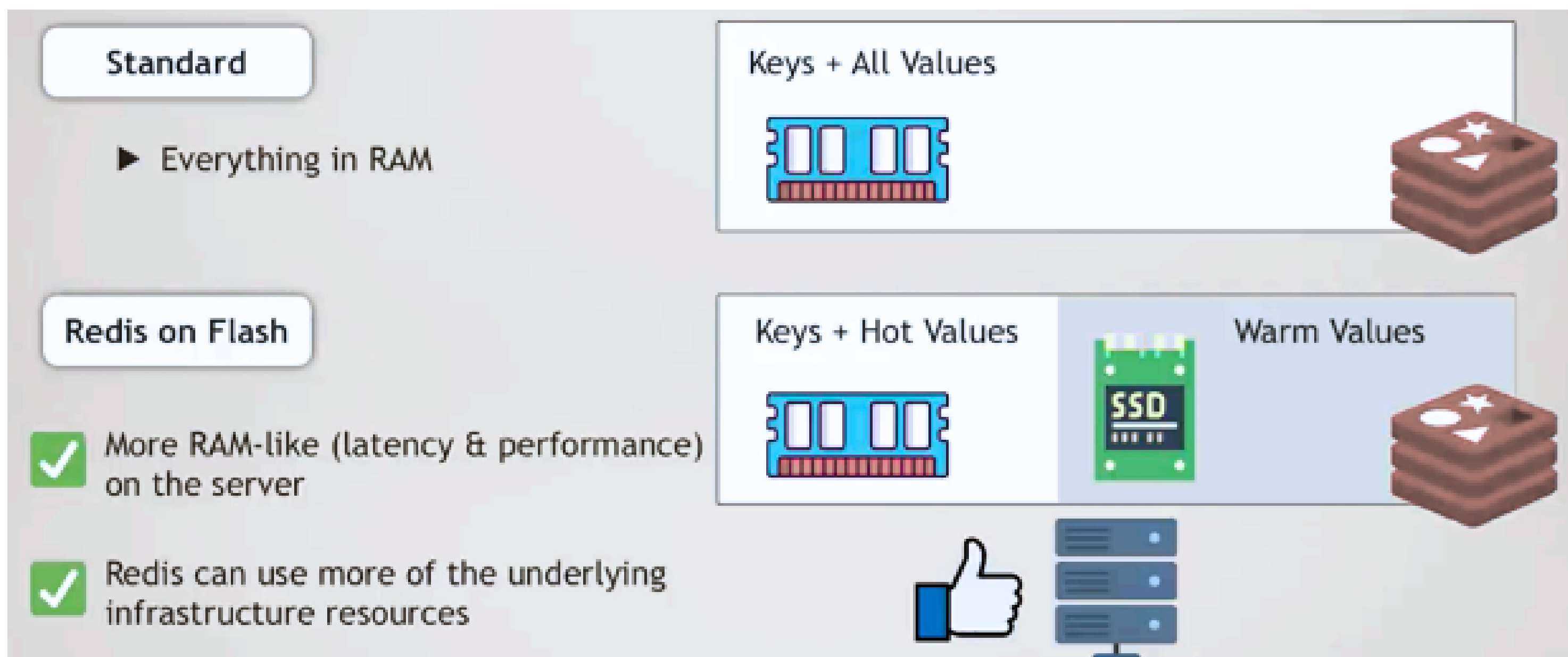
✓ Handle more requests

✓ High Availability

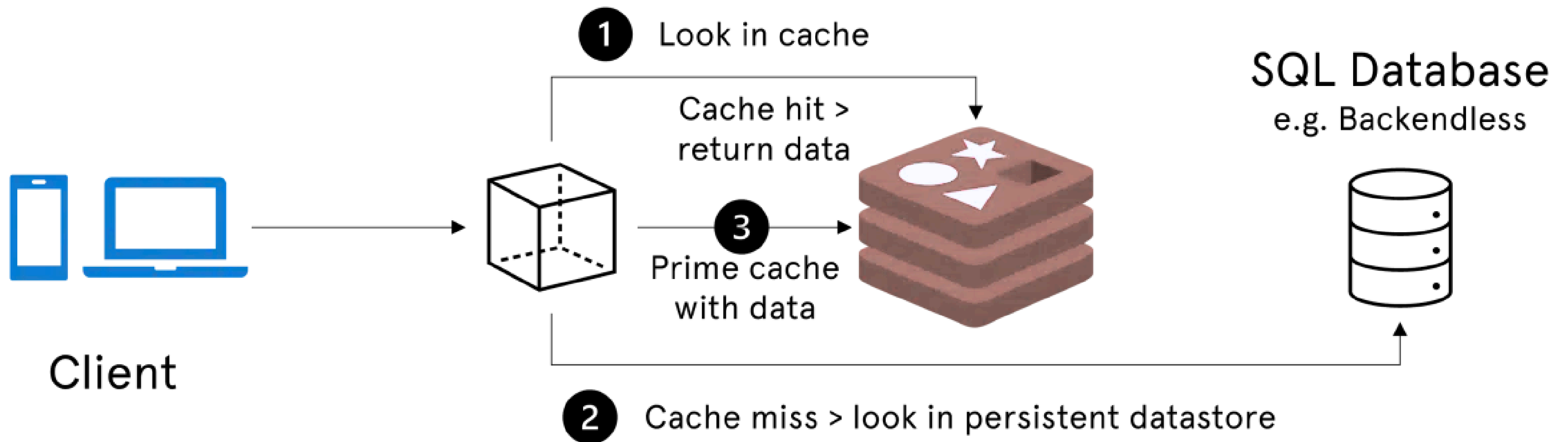
HOW TO SCALING REDIS



REDIS ON FLASH



HOW REDIS IS TYPICALLY USED



redis

Thank you!

