# Redis

The open source, in-memory data store used by millions of developers as a database, cache, streaming engine, and message broker.

## **Use cases**

### **Real-time data store**

Redis' versatile in-memory data structures enable building data infrastructure for real-time applications that require low latency and high-throughput.

**Caching & session storage**Redis' speed makes it ideal for caching database queries, complex computations, API calls, and session state.

**Streaming & messaging**The stream data type enables high-rate data ingestion, messaging, event sourcing, and notifications.

## **What is Redis?**

Redis, which stands for Remote Dictionary Server, is a fast, open source, in-memory, key-value data store.developed Redis, which is now used as a database, cache, message broker, and queue.

Redis delivers sub-millisecond response times, enabling millions of requests per second for real-time applications in industries like gaming, ad-tech, financial services, healthcare, and IoT.

Because of its fast performance, Redis is a popular choice for [caching](https://aws.amazon.com/caching/), session management, gaming, leaderboards, real-time analytics, geospatial, ride-hailing, chat/messaging, media streaming, and pub/sub apps.

## **Benefits of Redis**

### Performance

### Flexible data structures

### Simplicity and ease-of-use

### Replication and persistence

### High availability and scalability

## **Popular Redis Use Cases**

### Caching

### Chat, messaging, and queues

### Gaming leaderboards

### Session store

### Rich media streaming

### Geospatial

### Machine Learning

### Real-time analytics

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# **Install Redis from Source**

## **Downloading the source files**

The Redis source files are available on [this site's Download page]. You can verify the integrity of these downloads by checking them against the digests in the [redis-hashes git repository](https://github.com/redis/redis-hashes).

To obtain the source files for the latest stable version of Redis from the Redis downloads site, run:

wget https://download.redis.io/redis-stable.tar.gz

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## **Compiling Redis**

To compile Redis, first the tarball, change to the root directory, and then run make:

tar -xzvf redis-stable.tar.gz

cd redis-stable

make

If the compile succeeds, you'll find several Redis binaries in the src directory, including:

* redis-server: the Redis Server itself
* redis-cli is the command line interface utility to talk with Redis.

To install these binaries in /usr/local/bin, run:

make install

### **Starting and stopping Redis in the foreground**

Once installed, you can start Redis by running

redis-server

If successful, you'll see the startup logs for Redis, and Redis will be running in the foreground.

To stop Redis, enter Ctrl-C.

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# **Install Redis on macOS**

## **Prerequisites**

First, make sure you have Homebrew installed. From the terminal, run:

$ brew --version

If this command fails, you'll need to [follow the Homebrew installation instructions](https://brew.sh/).

## **Installation**

From the terminal, run:

brew install redis

This will install Redis on your system.

## **Starting and stopping Redis in the foreground**

To test your Redis installation, you can run the redis-server executable from the command line:

redis-server

If successful, you'll see the startup logs for Redis, and Redis will be running in the foreground.

To stop Redis, enter Ctrl-C.

### **Starting and stopping Redis using launchd**

As an alternative to running Redis in the foreground, you can also use launchd to start the process in the background:

brew services start redis

This launches Redis and restarts it at login. You can check the status of a launchd managed Redis by running the following:

brew services info redis

If the service is running, you'll see output like the following:

redis (homebrew.mxcl.redis)

Running: ✔

Loaded: ✔

User: miranda

PID: 67975

To stop the service, run:

brew services stop redis

## **Connect to Redis**

Once Redis is running, you can test it by running redis-cli:

redis-cli

This will open the Redis REPL. Try running some commands:

127.0.0.1:6379> lpush demos redis-macOS-demo

OK

127.0.0.1:6379> rpop demos

"redis-macOS-demo"

## **Next steps**

Once you have a running Redis instance, you may want to:

* Try the Redis CLI tutorial
* Connect using one of the Redis clients