

What is Redis?



What is Redis?

- Open source in-memory data structure store used as
 - A database
 - A cache
 - A message broker



What is Redis?

- It supports data structures such as:
 - Strings
 - Hashes
 - Lists
 - Sets
 - Sorted set with ranged queries
 - Bitmaps
 - Hyperlogs
 - Geospatial indexes with radius queries
 - Streams

Where can Redis be used?

Where can Redis be used?



Session Cache



Full Page Cache



Queues

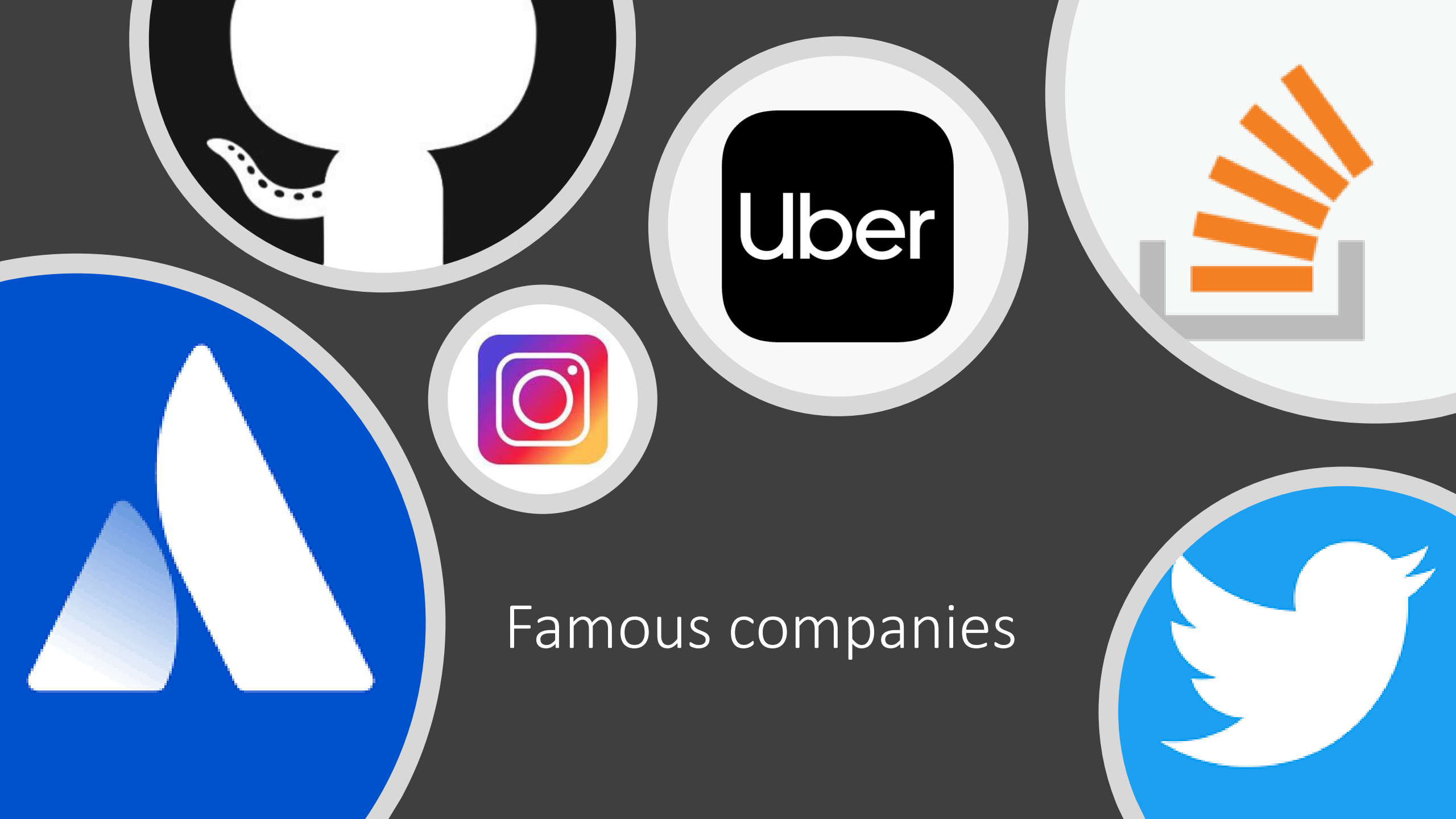


Leaderboards/Counting



Pub/Sub

Who uses Redis?



Famous companies

Characteristics of Redis

Characteristics of Redis



In-memory store



Optimized for performance



Support for arbitrary data



Key-based access



Multi-key operations



Atomicity of both operations and transactions



Data expiration

Characteristics of Redis



Eviction policies



Intelligent caching



Distributed network server



Request pipelining



Highly available



Data persistence



Scalable shared-nothing clustering



Local cache replicas

Quality attributes

Quality attributes



Compatibility



Performance
efficiency



Recoverability



Persistency

Contributors



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[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)



[antirez](#) / [redis](#)

Watch ▾

2.8k

Star

42k

Fork

16.4k

Code

Issues 1,756

Pull requests 836

Actions

Projects 0

Security

Insights

Redis is an in-memory database that persists on disk. The data model is key-value, but many different kind of values are supported: Strings, Lists, Sets, Sorted Sets, Hashes, Streams, HyperLogLogs, Bitmaps. <http://redis.io>

9,121 commits

65 branches

0 packages

229 releases

339 contributors

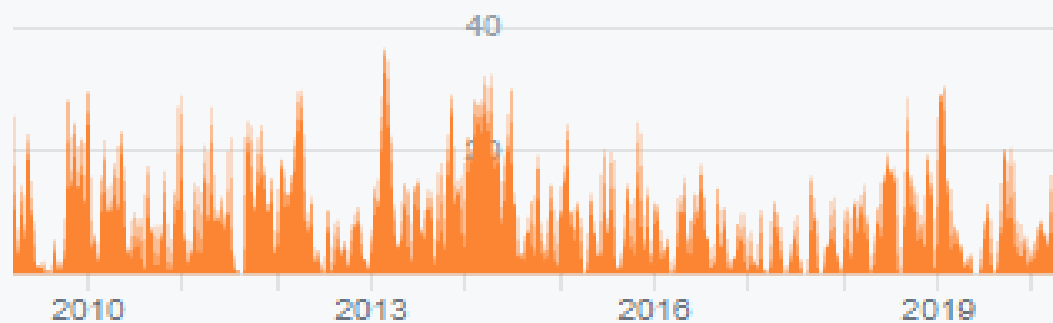
BSD-3-Clause



antirez

#1

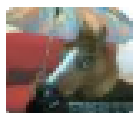
5,583 commits 484,420 ++ 266,870 --



pietern

#2

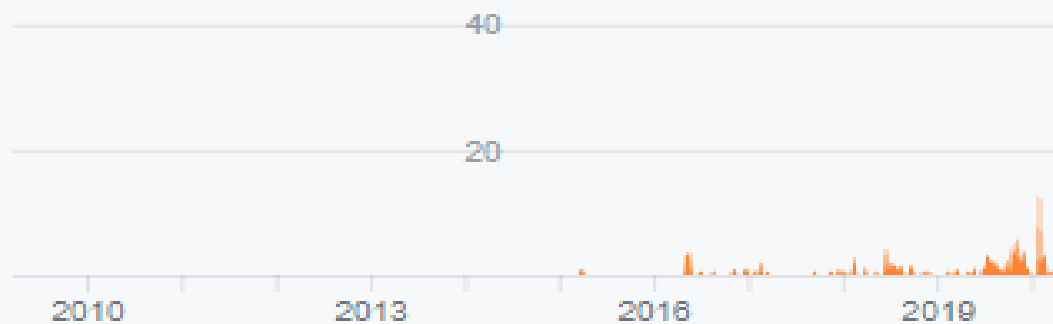
496 commits 30,857 ++ 13,769 --



oranagra

#3

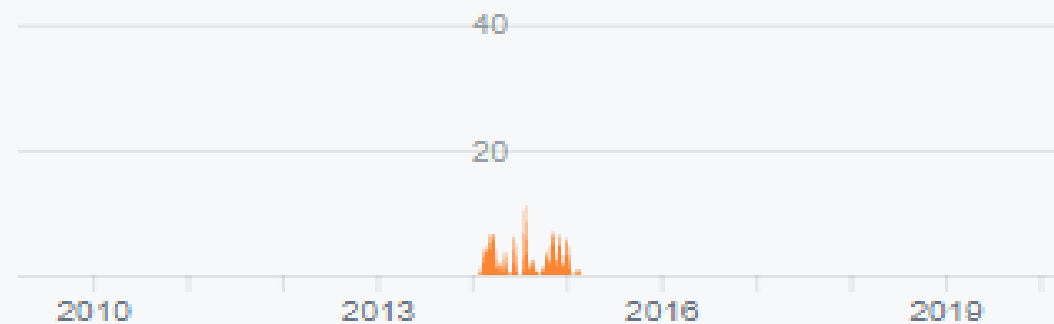
158 commits 10,506 ++ 3,505 --



mattsta

#4

151 commits 11,439 ++ 4,004 --



Compiling Redis

GitHub

<https://github.com/antirez/redis.git>

```
/ASW/Seminario$ git clone https://github.com/antirez/redis.git
Cloning into 'redis'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 64648 (delta 2), reused 6 (delta 2), pack-reused 64637
Receiving objects: 100% (64648/64648), 87.82 MiB | 3.48 MiB/s, done.
Resolving deltas: 100% (45794/45794), done.
Checking out files: 100% (803/803), done.
```

Make

C --> make

```
/ASW/Seminario$ cd redis/  
/ASW/Seminario/redis$ make
```

```
LINK redis-server  
INSTALL redis-sentinel  
CC redis-cli.o  
LINK redis-cli  
CC redis-benchmark.o  
LINK redis-benchmark  
INSTALL redis-check-rdb  
INSTALL redis-check-aof
```

Hint: It's a good idea to run 'make test' ;)

```
make[1]: Leaving directory '/ASW/Seminario/redis/src'
```

```
/ASW/Seminario/redis/src$ ./redis-server
4172:C 08 Apr 2020 16:06:53.291 # o000o000o000o Redis is starting o000o000o000o
4172:C 08 Apr 2020 16:06:53.292 # Redis version=999.999.999, bits=64, commit=96688aa6, modified=0, pid=4172, just started
4172:C 08 Apr 2020 16:06:53.292 # Warning: no config file specified, using the default config. In order to specify a config file use ./redis-server /path/to/redis.conf
4172:M 08 Apr 2020 16:06:53.293 * Increased maximum number of open files to 10032 (it was originally set to 1024).
```

Redis 999.999.999 (96688aa6/0) 64 bit

Running in standalone mode

Port: 6379

PID: 4172

<http://redis.io>

```
4172:M 08 Apr 2020 16:06:53.295 # WARNING: The TCP backlog setting of 511 cannot be enforced because /proc/sys/net/core/somaxconn is set to the lower value of 128.
4172:M 08 Apr 2020 16:06:53.295 # Server initialized
4172:M 08 Apr 2020 16:06:53.295 # WARNING overcommit_memory is set to 0! Background save may fail under low memory condition. To fix this issue add 'vm.overcommit_memory=1'
or run the command 'sysctl vm.overcommit_memory=1' for this to take effect.
4172:M 08 Apr 2020 16:06:53.296 * Ready to accept connections
```

It works!

Playing with Redis

```
/ASW/Seminario/redis/src$ mv ../../asciilogo.h asciilogo.h  
/ASW/Seminario/redis/src$ make
```

```
/bin/sh: 1: pkg-config: not found
```

```
CC server.o
```

```
LINK redis-server
```

```
INSTALL redis-sentinel
```

```
INSTALL redis-check-rdb
```

```
INSTALL redis-check-aof
```

Hint: It's a good idea to run 'make test' ;)

A small... but funny change

Who is he?

[illegible]

```
l/ASW/Seminario/redis$ cd src/
l/ASW/Seminario/redis/src$ ./redis-server

8632:C 08 Apr 2020 17:08:28.079 # o000o000o000o Redis is starting o000o000o000o
8632:C 08 Apr 2020 17:08:28.079 # Redis version=999.999.999, bits=64, commit=96688aa6, modified=0, pid=8632, just started
8632:C 08 Apr 2020 17:08:28.080 # Warning: no config file specified, using the default config. In order to specify a config f
8632:M 08 Apr 2020 17:08:28.089 * Increased maximum number of open files to 10032 (it was originally set to 1024).
```



```
ASW/Seminario/redis/src

l/ASW/Seminario/redis/src$ ./redis-cli

127.0.0.1:6379> ping
PONG
127.0.0.1:6379> set subject ASW
OK
127.0.0.1:6379> get subject
"ASW"
127.0.0.1:6379>
```

```
8632:M 08 Apr 2020 17:08:28.148 # WARN
8632:M 08 Apr 2020 17:08:28.149 # Serv
8632:M 08 Apr 2020 17:08:28.153 # WARN
or run the command 'sysctl vm.overcomm
8632:M 08 Apr 2020 17:08:28.161 * Reac
4350:signal-handler (1586358621) Recei
4350:M 08 Apr 2020 17:10:21.206 # User
4350:M 08 Apr 2020 17:10:21.207 * Sayi
```

Basic use

Questions?
