

#### **Installing Redis without Docker**

(Install Redis on EC2 Instance)

```
Length: 2240490 (2.1M) [application/octet-stream]
Saving to: 'redis-6.0.7.tar.gz'
=======>] 2,240,490 --.-K/s in 0.07s
2020-09-07 19:06:02 (31.6 MB/s) - 'redis-6.0.7.tar.gz' saved [2240490/2240490]
[ec2-user@ip-172-31-32-43 ~]$ tar xzf redis-6.0.7.tar.gz
[ec2-user@ip-172-31-32-43 ~]$ cd redis-6.0.7
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ make
cd src && make all
make[1]: Entering directory `/home/ec2-user/redis-6.0.7/src'
   CC Makefile.dep
make[1]: Leaving directory `/home/ec2-user/redis-6.0.7/src'
make[1]: Entering directory `/home/ec2-user/redis-6.0.7/src'
rm -rf redis-server redis-sentinel redis-cli redis-benchmark redis-check-rdb
redis-check-aof *.o *.gcda *.gcno *.gcov redis.info lcov-html Makefile.dep
dict-benchmark
rm -f adlist.d quicklist.d ae.d anet.d dict.d server.d sds.d zmalloc.d lzf c.d
lzf d.d pqsort.d zipmap.d sha1.d ziplist.d release.d networking.d util.d object.d
db.d replication.d rdb.d t_string.d t_list.d t_set.d t_zset.d t_hash.d config.d
aof.d pubsub.d multi.d debug.d sort.d intset.d syncio.d cluster.d crc16.d
endianconv.d slowlog.d scripting.d bio.d rio.d rand.d memtest.d crcspeed.d crc64.d
bitops.d sentinel.d notify.d setproctitle.d blocked.d hyperloglog.d latency.d
sparkline.d redis-check-rdb.d redis-check-aof.d geo.d lazyfree.d module.d evict.d
expire.d geohash.d geohash_helper.d childinfo.d defrag.d siphash.d rax.d t_stream.d
listpack.d localtime.d lolwut.d lolwut5.d lolwut6.d acl.d gopher.d tracking.d
connection.d tls.d sha256.d timeout.d setcpuaffinity.d anet.d adlist.d dict.d
redis-cli.d zmalloc.d release.d ae.d crcspeed.d crc64.d siphash.d crc16.d ae.d
anet.d redis-benchmark.d adlist.d dict.d zmalloc.d siphash.d
(cd ../deps && make distclean)
make[2]: Entering directory `/home/ec2-user/redis-6.0.7/deps'
(cd hiredis && make clean) > /dev/null || true
(cd linenoise && make clean) > /dev/null || true
(cd lua && make clean) > /dev/null || true
(cd jemalloc && [ -f Makefile ] && make distclean) > /dev/null || true
(rm -f .make-*)
make[2]: Leaving directory `/home/ec2-user/redis-6.0.7/deps'
(rm -f .make-*)
echo STD=-std=c11 -pedantic -DREDIS_STATIC='' >> .make-settings
echo WARN=-Wall -W -Wno-missing-field-initializers >> .make-settings
echo OPT=-02 >> .make-settings
echo MALLOC=jemalloc >> .make-settings
echo CFLAGS= >> .make-settings
echo LDFLAGS= >> .make-settings
echo REDIS_CFLAGS= >> .make-settings
```

```
echo REDIS LDFLAGS= >> .make-settings
echo PREV FINAL CFLAGS=-std=c11 -pedantic -DREDIS STATIC='' -Wall -W
-Wno-missing-field-initializers -O2 -g -ggdb -I../deps/hiredis
-I../deps/linenoise -I../deps/lua/src -DUSE_JEMALLOC -I../deps/jemalloc/include >>
.make-settings
echo PREV_FINAL_LDFLAGS= -g -ggdb -rdynamic >> .make-settings
(cd ../deps && make hiredis linenoise lua jemalloc)
make[2]: Entering directory `/home/ec2-user/redis-6.0.7/deps'
(cd hiredis && make clean) > /dev/null || true
(cd linenoise && make clean) > /dev/null || true
(cd lua && make clean) > /dev/null || true
(cd jemalloc && [ -f Makefile ] && make distclean) > /dev/null || true
(rm -f .make-*)
(echo "" > .make-cflags)
(echo "" > .make-ldflags)
MAKE hiredis
cd hiredis && make static
make[3]: Entering directory `/home/ec2-user/redis-6.0.7/deps/hiredis'
cc -std=c99 -pedantic -c -O3 -fPIC -Wall -W -Wstrict-prototypes -Wwrite-strings
-Wno-missing-field-initializers -g -ggdb net.c
make[3]: cc: Command not found
make[3]: *** [net.o] Error 127
make[3]: Leaving directory `/home/ec2-user/redis-6.0.7/deps/hiredis'
make[2]: *** [hiredis] Error 2
make[2]: Leaving directory `/home/ec2-user/redis-6.0.7/deps'
make[1]: [persist-settings] Error 2 (ignored)
   CC adlist.o
/bin/sh: cc: command not found
make[1]: *** [adlist.o] Error 127
make[1]: Leaving directory `/home/ec2-user/redis-6.0.7/src'
make: *** [all] Error 2
```

#### **Setup Redis with Docker**

(Install Docker)

```
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ sudo yum install docker-ce docker-ce-cli
containerd.io

Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
docker-ce-stable
| 3.5 kB 00:00:00
(1/2): docker-ce-stable/x86_64/primary_db
| 45 kB 00:00:00
```

```
(2/2): docker-ce-stable/x86 64/updateinfo
| 55 B 00:00:00
Resolving Dependencies
--> Running transaction check
---> Package containerd.x86_64 0:1.3.2-1.amzn2 will be obsoleted
---> Package containerd.io.x86_64 0:1.2.13-3.2.el7 will be obsoleting
--> Processing Dependency: container-selinux >= 2:2.74 for package:
containerd.io-1.2.13-3.2.el7.x86 64
---> Package docker-ce.x86_64 3:19.03.12-3.el7 will be installed
--> Processing Dependency: container-selinux >= 2:2.74 for package:
3:docker-ce-19.03.12-3.el7.x86 64
---> Package docker-ce-cli.x86 64 1:19.03.12-3.el7 will be installed
---> Package runc.x86_64 0:1.0.0-0.1.20200204.gitdc9208a.amzn2 will be obsoleted
--> Finished Dependency Resolution
Error: Package: containerd.io-1.2.13-3.2.el7.x86_64 (docker-ce-stable)
         Requires: container-selinux >= 2:2.74
Error: Package: 3:docker-ce-19.03.12-3.el7.x86 64 (docker-ce-stable)
         Requires: container-selinux >= 2:2.74
You could try using --skip-broken to work around the problem
You could try running: rpm -Va --nofiles --nodigest
[ec2-user@ip-172-31-32-43 redis-6.0.7]$
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ sudo yum install docker -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package docker.x86_64 0:19.03.6ce-4.amzn2 will be installed
--> Finished Dependency Resolution
Dependencies Resolved
______
Package
                                           Version
                     Arch
Repository
                               Size
______
Installing:
docker
                      x86_64
                                          19.03.6ce-4.amzn2
amzn2extra-docker
                              37 M
Transaction Summary
Install 1 Package
Total download size: 37 M
Installed size: 161 M
```

```
Downloading packages:
docker-19.03.6ce-4.amzn2.x86 64.rpm
37 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
 Installing : docker-19.03.6ce-4.amzn2.x86_64
1/1
  Verifying : docker-19.03.6ce-4.amzn2.x86 64
1/1
Installed:
  docker.x86_64 0:19.03.6ce-4.amzn2
Complete!
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ sudo systemctl start docker
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ sudo systemctl enable docker
```

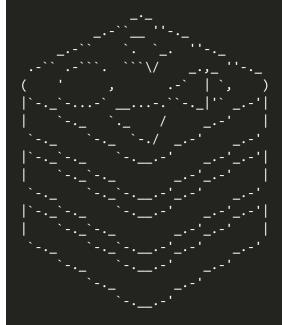
# (run Redis)

```
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ docker run -it redis
docker: Got permission denied while trying to connect to the Docker daemon socket
at unix:///var/run/docker.sock: Post
http://%2Fvar%2Frun%2Fdocker.sock/v1.40/containers/create: dial unix
/var/run/docker.sock: connect: permission denied.
See 'docker run --help'.
[ec2-user@ip-172-31-32-43 redis-6.0.7]$ sudo docker run -it redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
bf5952930446: Pull complete
911b8422b695: Pull complete
093b947e0ade: Pull complete
c7616728f575: Pull complete
61a55f107028: Pull complete
0ee3e0cb4e07: Pull complete
Digest: sha256:933c6c01829165885ea8468d87f71127b1cb76a711311e6c63708097e92ee3d1
Status: Downloaded newer image for redis:latest
1:C 07 Sep 2020 19:25:32.443 # 000000000000 Redis is starting 000000000000
1:C 07 Sep 2020 19:25:32.444 # Redis version=6.0.7, bits=64, commit=00000000,
modified=0, pid=1, just started
1:C 07 Sep 2020 19:25:32.444 # Warning: no config file specified, using the default
config. In order to specify a config file use redis-server /path/to/redis.conf
1:M 07 Sep 2020 19:25:32.445 # You requested maxclients of 10000 requiring at least
```

10032 max file descriptors.

1:M 07 Sep 2020 19:25:32.445 # Server can't set maximum open files to 10032 because of OS error: Operation not permitted.

1:M 07 Sep 2020 19:25:32.446 # Current maximum open files is 4096. maxclients has been reduced to 4064 to compensate for low ulimit. If you need higher maxclients increase 'ulimit -n'.



Redis 6.0.7 (00000000/0) 64 bit

Running in standalone mode

Port: 6379

PID: 1

http://redis.io

1:M 07 Sep 2020 19:25:32.447 # WARNING: The TCP backlog setting of 511 cannot be enforced because /proc/sys/net/core/somaxconn is set to the lower value of 128.

1:M 07 Sep 2020 19:25:32.447 # Server initialized

1:M 07 Sep 2020 19:25:32.447 # WARNING overcommit\_memory is set to 0! Background save may fail under low memory condition. To fix this issue add

'vm.overcommit\_memory = 1' to /etc/sysctl.conf and then reboot or run the command
'sysctl vm.overcommit\_memory=1' for this to take effect.

1:M 07 Sep 2020 19:25:32.448 # WARNING you have Transparent Huge Pages (THP)
support enabled in your kernel. This will create latency and memory usage issues with Redis. To fix this issue run the command 'echo never >
/sys/kernel/mm/transparent\_hugepage/enabled' as root, and add it to your
/etc/rc.local in order to retain the setting after a reboot. Redis must be restarted after THP is disabled.

1:M 07 Sep 2020 19:25:32.448 \* Ready to accept connections

^C1:signal-handler (1599506796) Received SIGINT scheduling shutdown...

1:M 07 Sep 2020 19:26:36.838 # Redis is now ready to exit, bye bye...

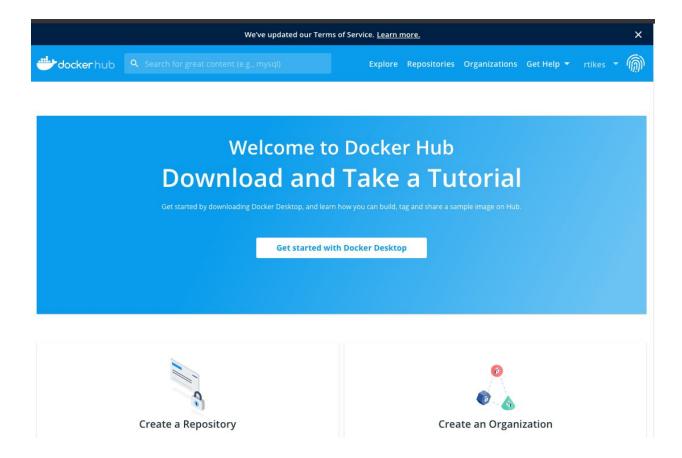
1:M 07 Sep 2020 19:26:36.837 \* Saving the final RDB snapshot before exiting.

1:M 07 Sep 2020 19:26:36.837 # User requested shutdown...

1:M 07 Sep 2020 19:26:36.838 \* DB saved on disk

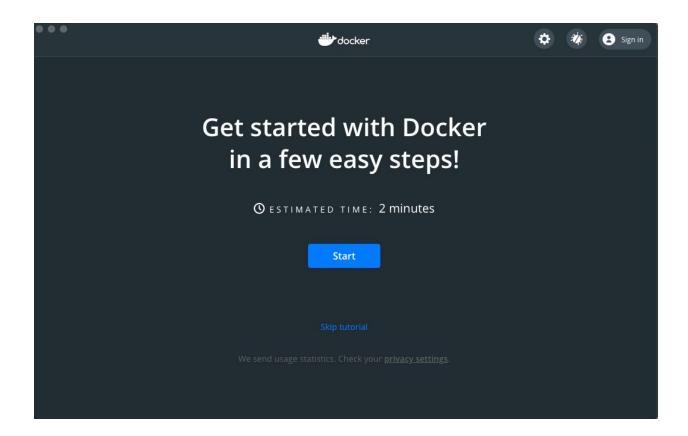
# **Setup Docker on Mac**

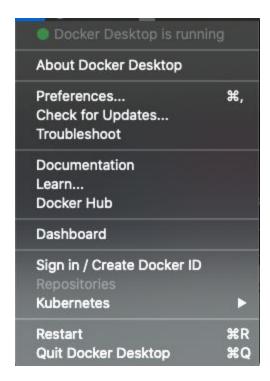
(Signed up for Docker Account)



# (Downloaded DMG)







### (verified Docker Installed)

(base)  $\lambda \sim /$  docker version Client: Docker Engine - Community 19.03.12 Version: API version: 1.40 Go version: go1.13.10 Git commit: 48a66213fe Built: Mon Jun 22 15:41:33 2020 OS/Arch: darwin/amd64 Experimental: false Server: Docker Engine - Community Engine: Version: 19.03.12 API version: 1.40 (minimum version 1.12) Go version: go1.13.10 Git commit: 48a66213fe Built: Mon Jun 22 15:49:27 2020 linux/amd64 OS/Arch: Experimental: false containerd: Version: v1.2.13 GitCommit: 7ad184331fa3e55e52b890ea95e65ba581ae3429 runc: Version: 1.0.0-rc10 GitCommit: dc9208a3303feef5b3839f4323d9beb36df0a9dd docker-init:

Version: 0.18.0 GitCommit: fec3683

(base)  $\lambda \sim /$ 

## (Verify Docker Installation)

(base)  $\lambda \sim /$  docker run hello-world

Unable to find image 'hello-world:latest' locally

latest: Pulling from library/hello-world

0e03bdcc26d7: Pull complete

Digest: sha256:7f0a9f93b4aa3022c3a4c147a449bf11e0941a1fd0bf4a8e6c9408b2600777c5

Status: Downloaded newer image for hello-world:latest

Hello from Docker!

This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

- 1. The Docker client contacted the Docker daemon.
- 2. The Docker daemon pulled the "hello-world" image from the Docker Hub. (amd64)
- 3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
- 4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

\$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:

https://hub.docker.com/

For more examples and ideas, visit:

https://docs.docker.com/get-started/