MongoDB Installation guide

Eduardo Gallego Chillón
2º DAW | IES FRANCISCO AYALA (GRANADA)

1. Add MongoDB to repository.

- Adding official repository key.

```
eduardo@ubuntuserver:~$ curl -sL "http://keyserver.ubuntu.com/pks/lookup?op=get&search=0xA6A19B38D3D
831EF" | sudo apt-key add
OK
eduardo@ubuntuserver:~$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 2930ADAE8C
AF5059EE73BB4B58712A2291FA4AD5
Executing: /tmp/apt-key-gpghome.29AAVLRUzo/gpg.1.sh --keyserver hkp://keyserver.ubuntu.com:80 --recv
 2930ADAE8CAF5059EE73BB4B58712A2291FA4AD5
gpg: key 58712A2291FA4AD5: public key "MongoDB 3.6 Release Signing Key <packaging@mongodb.com>" impo
rted
gpg: Total number processed: 1
gpg:               imported: 1
eduardo@ubuntuserver:~$
```

- Adding Mongo DB to repository.

```
eduardo@ubuntuserver:~$ echo "deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu xenial/mo
ngodb-org/3.6 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-3.6.list
deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6 multiverse
eduardo@ubuntuserver:~$ _
```

2. Install MongoDB on Ubuntu.

```
eduardo@ubuntuserver:~$ sudo apt-get update
Obj:1 http://es.archive.ubuntu.com/ubuntu bionic InRelease
Ign:2 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6 InRelease
Des:3 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6 Release [3.457 B]
Des:4 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6 Release.gpg [801 B]
Obj:5 http://es.archive.ubuntu.com/ubuntu bionic-updates InRelease
Des:6 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6/multiverse amd64 Packages [10,7 kB]
Obj:7 http://es.archive.ubuntu.com/ubuntu bionic-backports InRelease
Des:8 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6/multiverse arm64 Packages [10,7 kB]
Obj:9 http://es.archive.ubuntu.com/ubuntu bionic-security InRelease
Descargados 25,6 kB en 2s (15,1 kB/s)
Leyendo lista de paquetes... Hecho
eduardo@ubuntuserver:~$ sudo apt install -y mongodb-org
Leyendo lista de paquetes... Hecho
Creando árbol de dependencias
Leyendo la información de estado... Hecho
Se instalarán los siguientes paquetes adicionales:
  mongodb-org-mongos mongodb-org-server mongodb-org-shell mongodb-org-tools
Se instalarán los siguientes paquetes NUEVOS:
  mongodb-org mongodb-org-mongos mongodb-org-server mongodb-org-shell mongodb-org-tools
0 actualizados, 5 nuevos se instalarán, 0 para eliminar y 0 no actualizados.
Se necesita descargar 85,6 MB de archivos.
Se utilizarán 300 MB de espacio de disco adicional después de esta operación.
Des:1 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6/multiverse amd64 mongodb-org-shell
amd64 3.6.14 [8.576 kB]
Des:2 https://repo.mongodb.org/apt/ubuntu xenial/mongodb-org/3.6/multiverse amd64 mongodb-org-server
 amd64 3.6.14 [15,2 MB]
24% [2 mongodb-org-server 12,9 MB/15,2 MB 85%]                                   2.127 kB/s 30s_
```

3. Stop, start and activate MongoDB for automatic start.

```
eduardo@ubuntuserver:~$ sudo systemctl stop mongod.service
eduardo@ubuntuserver:~$ sudo systemctl start mongod.service
eduardo@ubuntuserver:~$ sudo systemctl enable mongod.service
Created symlink /etc/systemd/system/multi-user.target.wants/mongod.service → /lib/systemd/system/mon
god.service.
eduardo@ubuntuserver:~$ _
```

- Test if MongoDB is running.

```
eduardo@ubuntuserver:~$ sudo systemctl status mongod
● mongod.service - MongoDB Database Server
   Loaded: loaded (/lib/systemd/system/mongod.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2019-10-05 11:11:04 UTC; 35s ago
     Docs: https://docs.mongodb.org/manual
 Main PID: 6486 (mongod)
   CGroup: /system.slice/mongod.service
           └─6486 /usr/bin/mongod --config /etc/mongod.conf

oct 05 11:11:04 ubuntuserver systemd[1]: Started MongoDB Database Server.
eduardo@ubuntuserver:~$ _
```

- Connect MongoDB to the shell.

```
eduardo@ubuntuserver:~$ mongo --host 127.0.0.1:27017
MongoDB shell version v3.6.14
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("a98ead8d-98e3-44f4-abbb-451dac5dc7a0") }
MongoDB server version: 3.6.14
Welcome to the MongoDB shell.
For interactive help, type "help".
For more comprehensive documentation, see
        http://docs.mongodb.org/
Questions? Try the support group
        http://groups.google.com/group/mongodb-user
Server has startup warnings:
2019-10-05T11:11:04.703+0000 I STORAGE  [initandlisten]
2019-10-05T11:11:04.703+0000 I STORAGE  [initandlisten] ** WARNING: Using the XFS filesystem is stro
ngly recommended with the WiredTiger storage engine
2019-10-05T11:11:04.703+0000 I STORAGE  [initandlisten] **        See http://dochub.mongodb.org/co
re/prodnotes-filesystem
2019-10-05T11:11:05.337+0000 I CONTROL  [initandlisten]
2019-10-05T11:11:05.337+0000 I CONTROL  [initandlisten] ** WARNING: Access control is not enabled fo
r the database.
2019-10-05T11:11:05.337+0000 I CONTROL  [initandlisten] **        Read and write access to data an
d configuration is unrestricted.
2019-10-05T11:11:05.337+0000 I CONTROL  [initandlisten]
> _
```

4. Add an administrator user.

- Create a new administrator user.

```
> use admin
switched to db admin
> db.createUser({user:"admin", pwd:"admin", roles:[{role:"root", db:"admin"}]})
Successfully added user: {
        "user" : "admin",
        "roles" : [
                {
                        "role" : "root",
                        "db" : "admin"
                }
        ]
}
> exit
bye
eduardo@ubuntuserver:~$
```

- Activate authentication, modifying the configuration file.

```
sudo nano /lib/system/system/mongod.service
```

- Modify "ExecStart" and add marked text. Then, save changes and exit nano.

```
  GNU nano 2.9.3                      /lib/systemd/system/mongod.service

[Unit]
Description=MongoDB Database Server
Documentation=https://docs.mongodb.org/manual
After=network.target

[Service]
User=mongodb
Group=mongodb
ExecStart= /usr/bin/mongod --auth --config /etc/mongod.conf
PIDFile=/var/run/mongodb/mongod.pid
# file size
LimitFSIZE=infinity
# cpu time
LimitCPU=infinity
# virtual memory size
LimitAS=infinity
# open files
LimitNOFILE=64000
# processes/threads
LimitNPROC=64000
# locked memory
LimitMEMLOCK=infinity
# total threads (user+kernel)
TasksMax=infinity
TasksAccounting=false

# Recommended limits for for mongod as specified in
# http://docs.mongodb.org/manual/reference/ulimit/#recommended-settings

[Install]
WantedBy=multi-user.target

                              [ Wrote 31 lines ]
^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo
^X Exit        ^R Read File    ^\ Replace    ^U Uncut Text  ^T To Spell    ^_ Go To Line  M-E Redo
```

- Make restart to database for apply changes.

```
eduardo@ubuntuserver:~$ sudo systemctl daemon-reload
eduardo@ubuntuserver:~$ sudo service mongod restart
eduardo@ubuntuserver:~$ _
```

- Now, only authenticated users have access to the database.

```
eduardo@ubuntuserver:~$ mongo -u admin -p admin --authenticationDatabase admin
MongoDB shell version v3.6.14
connecting to: mongodb://127.0.0.1:27017/?authSource=admin&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("40043f64-92c3-4900-91ba-249074842722") }
MongoDB server version: 3.6.14
Server has startup warnings:
2019-10-05T11:23:46.355+0000 I STORAGE  [initandlisten]
2019-10-05T11:23:46.356+0000 I STORAGE  [initandlisten] ** WARNING: Using the XFS filesystem is stro
ngly recommended with the WiredTiger storage engine
2019-10-05T11:23:46.356+0000 I STORAGE  [initandlisten] **          See http://dochub.mongodb.org/co
re/prodnotes-filesystem
>
```