

Installing MongoDB Community Version in Amazon EC2 Instance

Prerequisite:

- Make sure you have set up MyIP in your instance's inbound security group.
- Connect to your EC2 instance.
- Run the following command to apply any available updates.

```
sudo yum update
```

```
ec2-user@ip-172-31-16-53:~  
[ec2-user@ip-172-31-16-53 ~]$ sudo yum update  
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd  
amzn2-core | 3.7 kB 00:00:00  
Resolving Dependencies  
--> Running transaction check  
--> Package chrony.x86_64 0:3.2-1.amzn2.0.5 will be updated  
--> Package chrony.x86_64 0:3.5.1-1.amzn2.0.1 will be an update  
--> Processing Dependency: libnettle.so.4()(64bit) for package: chrony-3.5.1-1.amzn2.0.1.x86_64  
--> Package cloud-init.noarch 0:19.3-3.amzn2 will be updated  
--> Package cloud-init.noarch 0:19.3-4.amzn2 will be an update  
--> Package pll-kit.x86_64 0:0.23.21-2.amzn2.0.1 will be updated  
--> Package pll-kit.x86_64 0:0.23.22-1.amzn2.0.1 will be an update  
--> Package pll-kit-trust.x86_64 0:0.23.21-2.amzn2.0.1 will be updated  
--> Package pll-kit-trust.x86_64 0:0.23.22-1.amzn2.0.1 will be an update  
--> Package tzdata.noarch 0:2020a-1.amzn2 will be updated  
--> Package tzdata.noarch 0:2020d-2.amzn2 will be an update  
--> Running transaction check  
--> Package nettle.x86_64 0:2.7.1-8.amzn2.0.2 will be installed  
--> Finished Dependency Resolution  
  
Dependencies Resolved  
  
=====
```

Package	Arch	Version	Repository	Size
Updating:				
chrony	x86_64	3.5.1-1.amzn2.0.1	amzn2-core	258 k
cloud-init	noarch	19.3-4.amzn2	amzn2-core	924 k
pll-kit	x86_64	0.23.22-1.amzn2.0.1	amzn2-core	321 k
pll-kit-trust	x86_64	0.23.22-1.amzn2.0.1	amzn2-core	130 k

Once you hit enter; after some time, the terminal will ask - "Is this ok [y/d/N]" You need to type **y**



- In the next step, create a **/etc/yum.repos.d/mongodb-org-5.0.repo** file . This will ensure that you can install MongoDB directly using yum:

Command :- **sudo vi /etc/yum.repos.d/mongodb-org-5.0.repo**

```
ec2-user@ip-10-0-0-23:~
Using username "ec2-user".
Authenticating with public key "imported-openssh-key"

  ____|  _||   _|
  |  _/ (  _/  /
  |___| \___|_|   Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-0-23 ~]$ sudo yum update
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
No packages marked for update
[ec2-user@ip-10-0-0-23 ~]$ sudo vi /etc/yum.repos.d/mongodb-org-5.0.repo
~
~
~
~
~
~
~
~
~
~
```

- Hit “Enter” and to enter the editing mode, press **i** on the keyboard.
- As soon as you do that, you will be able to see ‘~~INSERT’ at the bottom of the terminal.

- Copy-paste the below command in the terminal.

A terminal window titled "ec2-user@ip-10-0-0-23:~". The prompt is "[mongodb-org-5.0]". The user has entered several commands to configure the MongoDB repository:

```
[mongodb-org-5.0]  
name=MongoDB Repository  
baseurl=https://repo.mongodb.org/yum/amazon/2/mongodb-org/5.0/x86_64/  
gpgcheck=1  
enabled=1  
gpgkey=https://www.mongodb.org/static/pgp/server-5.0.asc
```

The terminal shows a series of tilde (~) characters as output or cursor movement indicators. The window has standard Linux window controls (minimize, maximize, close) in the top right corner.

- To exit the vi editor-
 - a. Press **Escape** on your keyboard.
 - b. Type the **write-quit** command - **:wq!**
 - c. If you don't wish to save the changes, type **quit** command - **:q!**
 - d. Hit Enter



- To install the latest stable version of MongoDB, issue the following command:

```
sudo yum install -y mongodb-org
```

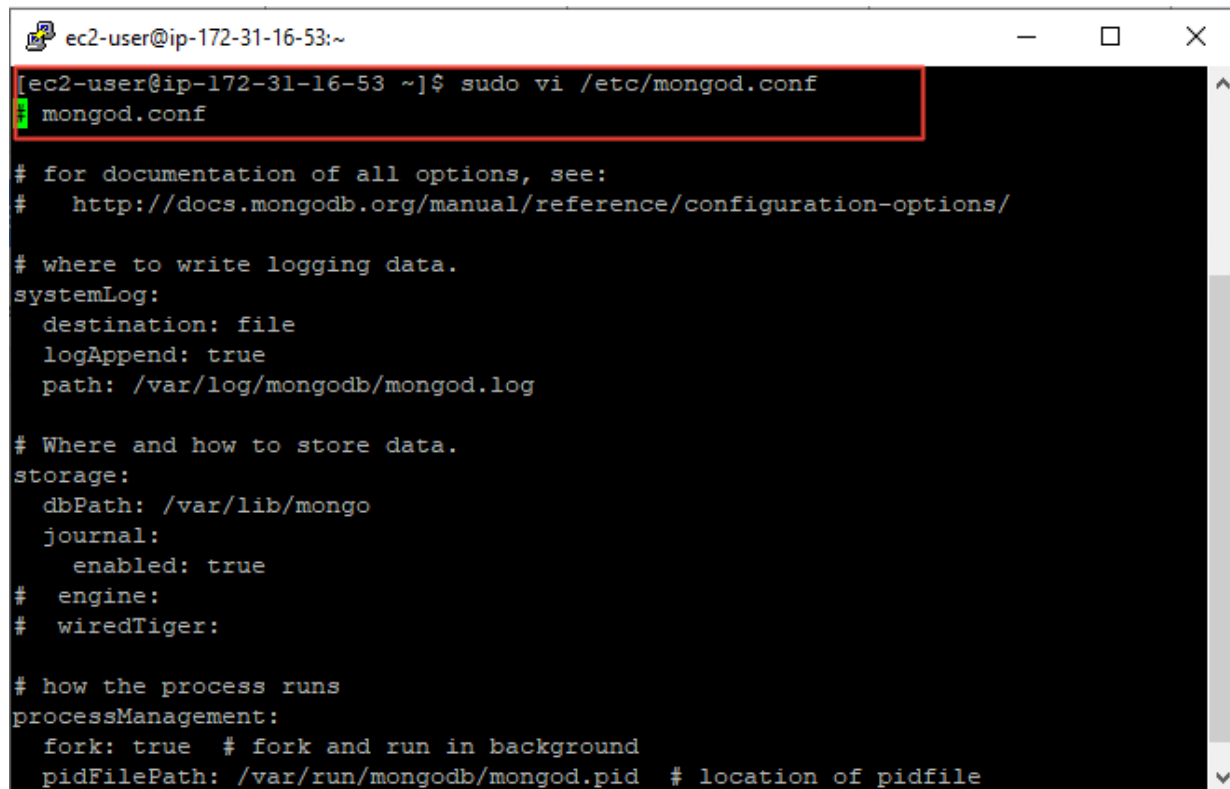
```
[ec2-user@ip-172-31-16-53 ~]$ sudo yum install -y mongodb-org
```

- Once finished, the “completed” message should be displayed.

```
ec2-user@ip-172-31-16-53:~  
Installing : mongodb-org-shell-4.4.3-1.amzn2.x86_64 3/9  
Installing : cyrus-sasl-2.1.26-23.amzn2.x86_64 4/9  
Installing : mongodb-database-tools-100.2.1-1.x86_64 5/9  
Installing : mongodb-org-database-tools-extra-4.4.3-1.amzn2.x86_64 6/9  
Installing : mongodb-org-tools-4.4.3-1.amzn2.x86_64 7/9  
Installing : mongodb-org-server-4.4.3-1.amzn2.x86_64 8/9  
Created symlink from /etc/systemd/system/multi-user.target.wants/mongod.service  
to /usr/lib/systemd/system/mongod.service.  
Installing : mongodb-org-4.4.3-1.amzn2.x86_64 9/9  
Verifying : mongodb-org-4.4.3-1.amzn2.x86_64 1/9  
Verifying : mongodb-org-server-4.4.3-1.amzn2.x86_64 2/9  
Verifying : mongodb-org-database-tools-extra-4.4.3-1.amzn2.x86_64 3/9  
Verifying : cyrus-sasl-2.1.26-23.amzn2.x86_64 4/9  
Verifying : mongodb-org-shell-4.4.3-1.amzn2.x86_64 5/9  
Verifying : mongodb-org-tools-4.4.3-1.amzn2.x86_64 6/9  
Verifying : cyrus-sasl-gssapi-2.1.26-23.amzn2.x86_64 7/9  
Verifying : mongodb-database-tools-100.2.1-1.x86_64 8/9  
Verifying : mongodb-org-mongos-4.4.3-1.amzn2.x86_64 9/9  
Installed:  
mongodb-org.x86_64 0:4.4.3-1.amzn2  
Dependency Installed:  
cyrus-sasl.x86_64 0:2.1.26-23.amzn2  
cyrus-sasl-gssapi.x86_64 0:2.1.26-23.amzn2  
mongodb-database-tools.x86_64 0:100.2.1-1  
mongodb-org-database-tools-extra.x86_64 0:4.4.3-1.amzn2  
mongodb-org-mongos.x86_64 0:4.4.3-1.amzn2  
mongodb-org-server.x86_64 0:4.4.3-1.amzn2  
mongodb-org-shell.x86_64 0:4.4.3-1.amzn2  
mongodb-org-tools.x86_64 0:4.4.3-1.amzn2  
Complete!  
[ec2-user@ip-172-31-16-53 ~]$
```

- To connect to this MongoDB instance from anywhere, you need to modify the config file. This will open MongoDB port [27017] for all IPs

Command for modifying config files- **sudo vi /etc/mongod.conf**



```
ec2-user@ip-172-31-16-53:~  
[ec2-user@ip-172-31-16-53 ~]$ sudo vi /etc/mongod.conf  
mongod.conf  
  
# for documentation of all options, see:  
#   http://docs.mongodb.org/manual/reference/configuration-options/  
  
# where to write logging data.  
systemLog:  
  destination: file  
  logAppend: true  
  path: /var/log/mongodb/mongod.log  
  
# Where and how to store data.  
storage:  
  dbPath: /var/lib/mongo  
  journal:  
    enabled: true  
# engine:  
# wiredTiger:  
  
# how the process runs  
processManagement:  
  fork: true # fork and run in background  
  pidFilePath: /var/run/mongodb/mongod.pid # location of pidfile
```

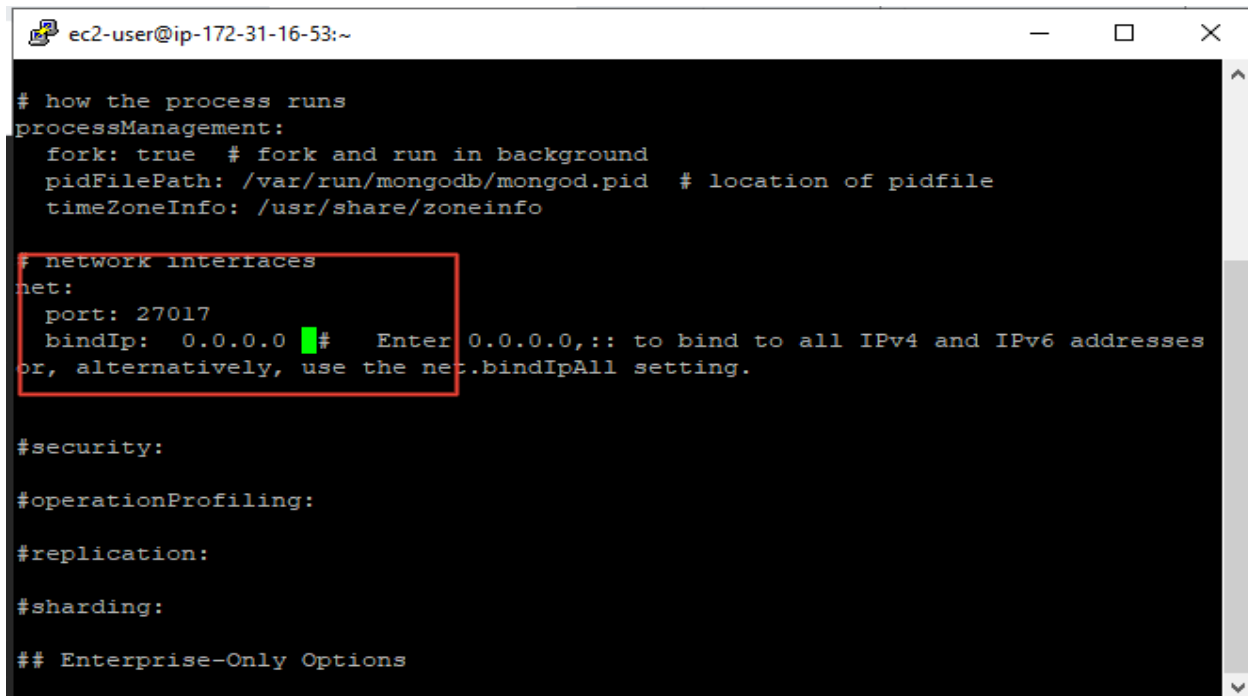
- Hit “Enter” and to enter the editing mode, press i on the keyboard. As soon as you do that, you will be able to see ‘~~INSERT’ at the bottom of the terminal.



- Scroll down and come to **bindIp** in **network interfaces**

```
ec2-user@ip-172-31-16-53:~  
# how the process runs  
processManagement:  
  fork: true # fork and run in background  
  pidFilePath: /var/run/mongodb/mongod.pid # location of pidfile  
  timeZoneInfo: /usr/share/zoneinfo  
# network interfaces  
net:  
  port: 27017  
  bindIp: 127.0.0.1 # Enter 0.0.0.0,:: to bind to all IPv4 and IPv6 addresses o  
c, alternatively, use the net.bindIpAll setting.  
  
#security:  
  
#operationProfiling:  
  
#replication:  
  
#sharding:  
  
## Enterprise-Only Options
```


- Change the **bindIp** address from **127.0.0.1** to **0.0.0.0** .To exit the vi editor-
 - Press **Escape** on your keyboard.
 - Type the **write-quit** command -**:wq!**
 - If you don't wish to save the changes, type **quit** command -**:q!**
 - Hit Enter



The screenshot shows a terminal window titled "ec2-user@ip-172-31-16-53:~". The terminal displays the contents of a MongoDB configuration file being edited in the vi editor. The configuration includes sections for process management, network interfaces, security, operation profiling, replication, sharding, and enterprise-only options. A red rectangular box highlights the "net" section, specifically the "bindIp" line which is currently set to "0.0.0.0". A green cursor is positioned at the end of the "bindIp" line. A comment to the right of the "bindIp" line explains that "0.0.0.0, ::" is used to bind to all IPv4 and IPv6 addresses, or alternatively, the "net.bindIpAll" setting can be used.

```
# how the process runs
processManagement:
  fork: true # fork and run in background
  pidFilePath: /var/run/mongodb/mongod.pid # location of pidfile
  timeZoneInfo: /usr/share/zoneinfo

# network interfaces
net:
  port: 27017
  bindIp: 0.0.0.0 # Enter 0.0.0.0, :: to bind to all IPv4 and IPv6 addresses
  # or, alternatively, use the net.bindIpAll setting.

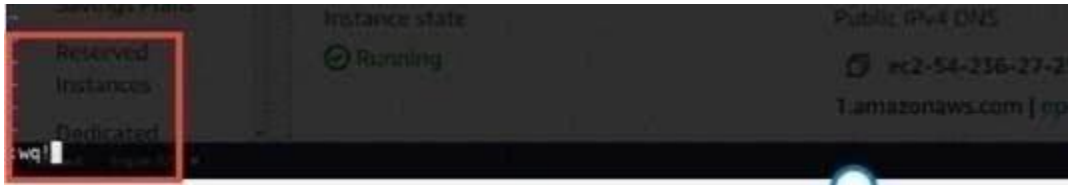
#security:

#operationProfiling:

#replication:

#sharding:

## Enterprise-Only Options
```



- Now go to your AWS instance and select your instance. Go to **Security Groups** and click on the **Security Group name**.

upGrad-Mon... i-099beba194aac7220 Running t2.micro 2/2 checks ... No alarms

Instance: i-099beba194aac7220 (upGrad-MongoDB)

Details Security Networking Storage Status checks Monitoring Tags

▼ Security details

IAM Role	Owner ID	Launch time
-	911268508883	Fri Feb 05 2021 12:03:11 GMT+05: Standard Time)

Security groups

sa-0c8923349f7cb2cba (mongo-db-security-

upGrad-Mon... i-099beba194aac7220 Running t2.micro 2/2 checks ... No

▼ Security details

IAM Role	Owner ID	Launch time
-	911268508883	Thu Feb 04 2021 18:39:0 Standard Time)

Security groups

sg-0c8923349f7cb2cba (mongo-db-security-group)

▼ Inbound rules

- Select **Inbound Rules** and click on **Edit inbound rules**.

sg-0c8923349f7cb2cba - mongo-db-security-group

Actions ▼

Details

Security group name mongo-db-security-group	Security group ID sg-0c8923349f7cb2cba	Description This is for the mongoDB server	VPC ID vpc-0746afceb9aaaa6ee
Owner 911268508883	Inbound rules count 2 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules Outbound rules Tags

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
All TCP	TCP	0 - 65535	132.154.85.133/32	-

- Click on Add Rules and input the below details-

Type- Custom TCP

Port Range- 27017

Source - My IP (Select it from the drop-down)

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Type	Protocol	Port range	Source	Description - optional	
All TCP	TCP	0 - 65535	My IP		Delete
Custom TCP	TCP	27017	My IP		Delete

Add rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Preview changes Save rules

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- Click on **Save rules**

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Type	Protocol	Port range	Source	Description - optional	
All TCP	TCP	0 - 65535	My IP		Delete
Custom TCP	TCP	27017	My IP		Delete

Add rule

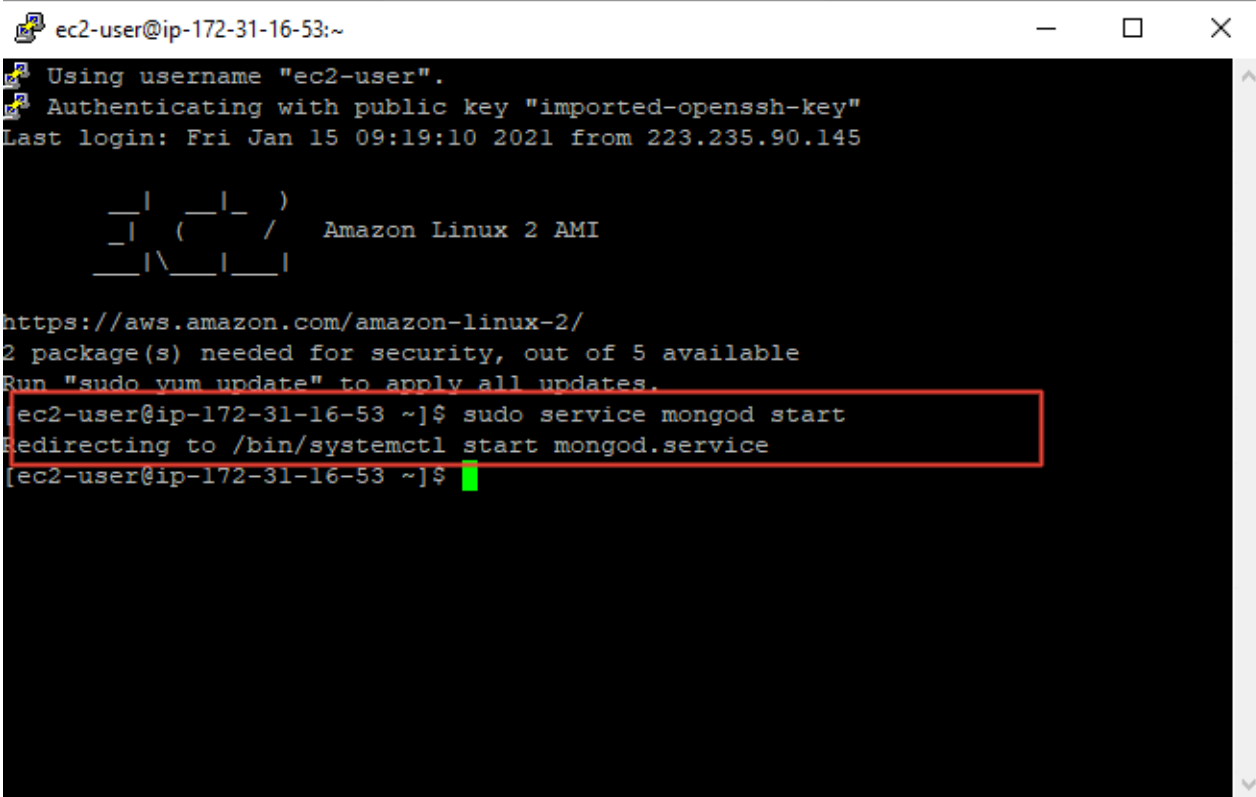
NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Preview changes Save rules

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- MongoDB is installed in your EC2 instance, Mongo ports have also been opened, now you can start your mongo server using the below command.

sudo service mongod start



```
ec2-user@ip-172-31-16-53:~  
Using username "ec2-user".  
Authenticating with public key "imported-openssh-key"  
Last login: Fri Jan 15 09:19:10 2021 from 223.235.90.145  
  
  _ | _ | _ )  
  _ | ( _ _ /   Amazon Linux 2 AMI  
  _ | \ _ | _ |  
  
https://aws.amazon.com/amazon-linux-2/  
2 package(s) needed for security, out of 5 available  
Run "sudo yum update" to apply all updates.  
[ec2-user@ip-172-31-16-53 ~]$ sudo service mongod start  
Redirecting to /bin/systemctl start mongod.service  
[ec2-user@ip-172-31-16-53 ~]$
```

- To access the mongo shell, enter the below command.

mongo

```
ec2-user@ip-172-31-16-53:~  
Redirecting to /bin/systemctl start mongod.service  
ec2-user@ip-172-31-16-53 ~]$ mongo  
MongoDB shell version v4.4.3  
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb  
Implicit session: session { "id" : UUID("8869a8f0-059f-4873-902b-6e447db0cc55")  
}  
MongoDB server version: 4.4.3  
---  
The server generated these startup warnings when booting:  
  2021-01-15T09:32:49.718+00:00: Access control is not enabled for the dat  
abase. Read and write access to data and configuration is unrestricted  
---  
---  
    Enable MongoDB's free cloud-based monitoring service, which will then re  
ceive and display  
    metrics about your deployment (disk utilization, CPU, operation statisti  
cs, etc).  
  
    The monitoring data will be available on a MongoDB website with a unique  
URL accessible to you  
    and anyone you share the URL with. MongoDB may use this information to m  
ake product  
    improvements and to suggest MongoDB products and deployment options to y  
ou.  
  
    To enable free monitoring, run the following command: db.enableFreeMonit  
oring()  
    To permanently disable this reminder, run the following command: db.disa  
bleFreeMonitoring()  
---  
>
```

- Now you are ready to write your MongoDB commands.

```
ec2-user@ip-172-31-16-53:~
MongoDB server version: 4.4.3
---
The server generated these startup warnings when booting:
    2021-01-15T09:32:49.718+00:00: Access control is not enabled for the dat
abase. Read and write access to data and configuration is unrestricted
---
    Enable MongoDB's free cloud-based monitoring service, which will then re
ceive and display
    metrics about your deployment (disk utilization, CPU, operation statisti
cs, etc).

    The monitoring data will be available on a MongoDB website with a unique
URL accessible to you
    and anyone you share the URL with. MongoDB may use this information to m
ake product
    improvements and to suggest MongoDB products and deployment options to y
ou.

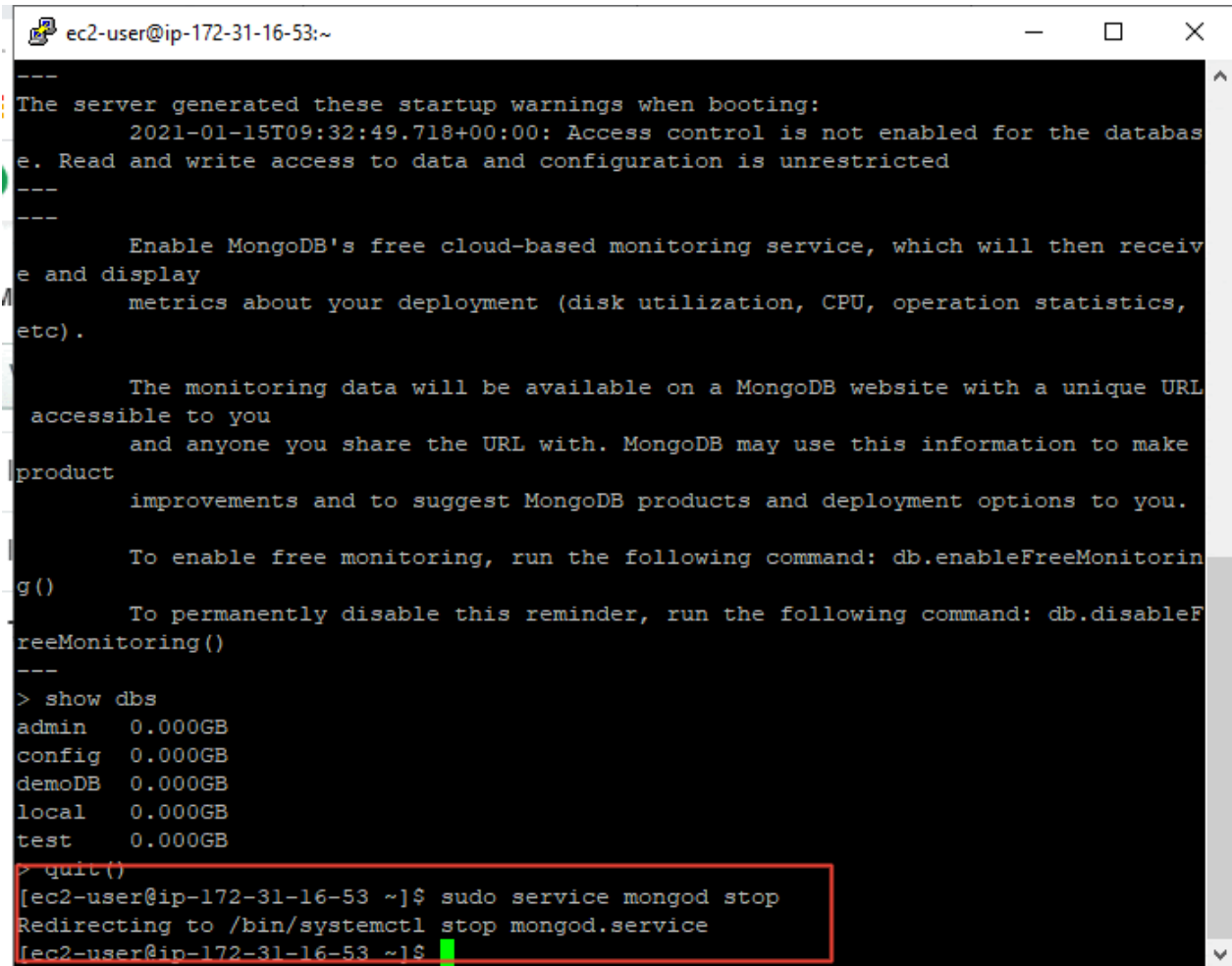
    To enable free monitoring, run the following command: db.enableFreeMonit
oring()
    To permanently disable this reminder, run the following command: db.disa
bleFreeMonitoring()
---
> use demoDB
switched to db demoDB
> db.createCollection("learners_profiles")
{ "ok" : 1 }
> show collections
learners_profile
learners_profiles
>
```


- To come out of the mongo shell the command is- **quit()** or use the **<Ctrl-C>** shortcut.

```
ec2-user@ip-172-31-16-53:~  
---  
The server generated these startup warnings when booting:  
  2021-01-15T09:32:49.718+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted  
---  
---  
  Enable MongoDB's free cloud-based monitoring service, which will then receive and display  
  metrics about your deployment (disk utilization, CPU, operation statistics, etc).  
  
  The monitoring data will be available on a MongoDB website with a unique URL accessible to you  
  and anyone you share the URL with. MongoDB may use this information to make product  
  improvements and to suggest MongoDB products and deployment options to you.  
  
  To enable free monitoring, run the following command: db.enableFreeMonitoring()  
  To permanently disable this reminder, run the following command: db.disableFreeMonitoring()  
---  
> show dbs  
admin    0.000GB  
config   0.000GB  
demoDB   0.000GB  
local    0.000GB  
test     0.000GB  
> quit()  
[ec2-user@ip-172-31-16-53 ~]$ sudo service mongod stop  
Redirecting to /bin/systemctl stop mongod.service  
[ec2-user@ip-172-31-16-53 ~]$
```

- To stop the mongod server, the command is-

sudo service mongod stop



```
ec2-user@ip-172-31-16-53:~  
---  
The server generated these startup warnings when booting:  
  2021-01-15T09:32:49.718+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted  
---  
---  
  Enable MongoDB's free cloud-based monitoring service, which will then receive and display  
  metrics about your deployment (disk utilization, CPU, operation statistics, etc).  
  
  The monitoring data will be available on a MongoDB website with a unique URL accessible to you  
  and anyone you share the URL with. MongoDB may use this information to make product  
  improvements and to suggest MongoDB products and deployment options to you.  
  
  To enable free monitoring, run the following command: db.enableFreeMonitoring()  
  
  To permanently disable this reminder, run the following command: db.disableFreeMonitoring()  
---  
> show dbs  
admin    0.000GB  
config   0.000GB  
demoDB   0.000GB  
local    0.000GB  
test     0.000GB  
  
quit()  
[ec2-user@ip-172-31-16-53 ~]$ sudo service mongod stop  
Redirecting to /bin/systemctl stop mongod.service  
[ec2-user@ip-172-31-16-53 ~]$
```

Refer to [standard documentation](#) of MongoDB Community, in case you are stuck somewhere