IDFC FIRST Bank

MongoDB Installation

Introduction

The Objective of this document is to describe the procedure for MongoDB installation.

Document Version History

Ver. #	Ver. Date	Description	Author	Reviewed By	Approved By
1.0	6th Jan 2023	MongoDB Installation	Rahul Kanaujia	Romesh Gupta	Romesh Gupta

Document Reviewers & Approvers

Document Approvers		
Name	**Role**	**Date of sign off**
Romesh Gupta	Project Manager	6th Jan 2023

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This tutorial describes MongoDB 4.4 Community Edition installation on Red hat Linux.

1. **Configure the package management system:** (yum).

Create the file as follow:

Vi /etc/yum.repos.d/mongodb-org-4.4.repo:

Download the RPM packages from below link or else copy and paste the rpm url in the above created file as follow.

Vi /etc/yum.repos.d/mongodb-org-4.4.repo

[mongodb-org-4.4]

name=MongoDB Repository

baseurl=https://repo.mongodb.org/yum/redhat/$releasever/mongodb-org/4.4/x86_64/

gpgcheck=1

enabled=1

gpgkey=https://www.mongodb.org/static/pgp/server-4.4.asc

2. **Install the MongoDB packages:**

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

sudo yum install -y mongodb-org

```
[dnyce@linuxshelltips ~]$ sudo dnf install mongodb-org -y
Updating Subscription Management repositories.
Last metadata expiration check: 0:08:12 ago on Wed 19 Jan 2022 04:43:55 PM EAT.
Dependencies resolved.
================================================================================
 Package                          Arch    Version       Repository        Size
================================================================================
Installing:
 mongodb-org                      x86_64  5.0.4-1.el8   mongodb-org-5.0   11 k
Installing dependencies:
 mongodb-database-tools           x86_64  100.5.1-1     mongodb-org-5.0   47 M
 mongodb-mongosh                  x86_64  1.1.9-1.el7   mongodb-org-5.0   44 M
 mongodb-org-database             x86_64  5.0.4-1.el8   mongodb-org-5.0   11 k
 mongodb-org-database-tools-extra x86_64  5.0.4-1.el8   mongodb-org-5.0   16 k
 mongodb-org-mongos               x86_64  5.0.5-1.el8   mongodb-org-5.0   19 M
 mongodb-org-server               x86_64  5.0.5-1.el8   mongodb-org-5.0   28 M
 mongodb-org-shell                x86_64  5.0.4-1.el8   mongodb-org-5.0   15 M
 mongodb-org-tools                x86_64  5.0.4-1.el8   mongodb-org-5.0   11 k

Transaction Summary
================================================================================
Install  9 Packages

Total download size: 153 M
```

3. Create the MongoDB data and Log directories:

sudo mkdir -p /var/lib/mongo

sudo mkdir -p /var/log/mongodb

4. Change the owner to Mongod:

sudo chown -R mongod:mongod /var/lib/mongo

sudo chown -R mongod:mongod /var/log/mongodb

5. Configure mongod.conf file accordingly with minimum options. E.g.

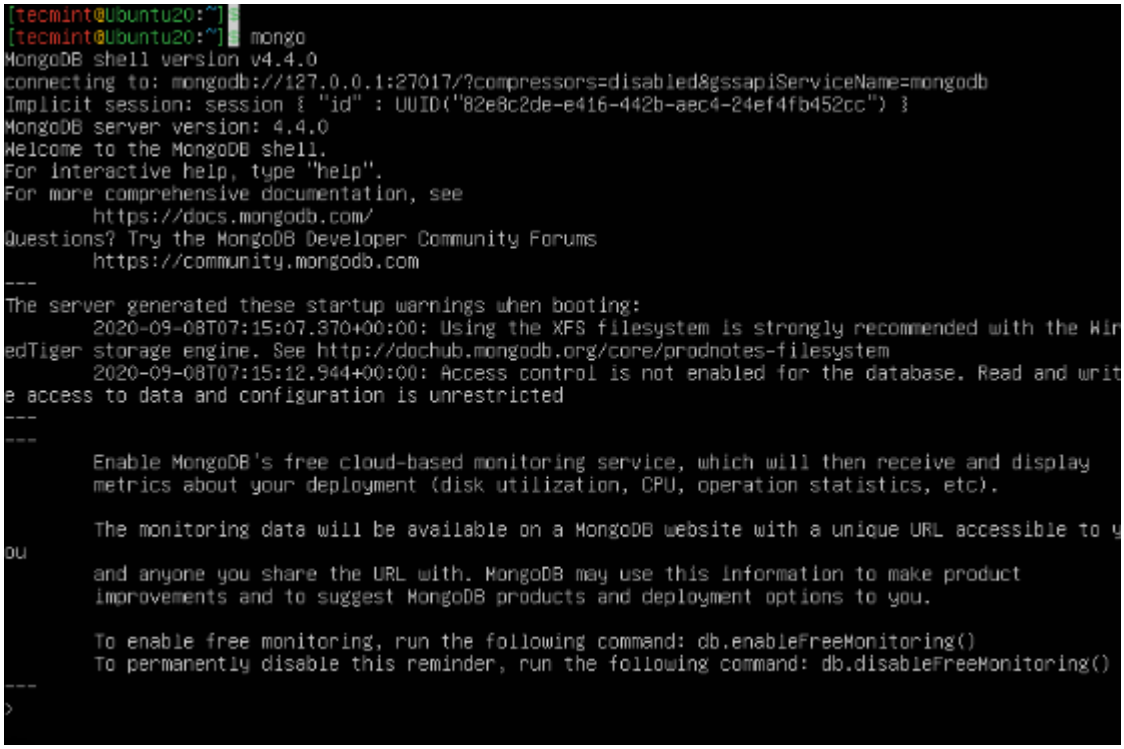
```
#Process Options
processManagement:
   fork: true
net:
   bindIp: 10.180.19.65
   port: 37017

security:
  enableEncryption: true
  encryptionKeyFile: /MongoData/keyfile/mongodb-keyfile

##The Federal Information Processing Standard (FIPS) is a com
ly. You can configure MongoDB to run with a FIPS 140-2 certif
net:
   tls:
      FIPSMode: true

#Enables MongoDB Enterprise Featues
security:
   authorization: "enabled"
   keyFile: /MongoData/keyfile/key
   transitionToAuth: true

#Specifies storage engine
storage:
   journal:
       enabled: true
   dbPath: /MongoData/db_test
   engine: wiredTiger

#Speicifies systemLog output
systemLog:
   destination: file
   path: /MongoLog/test.log
   logAppend: true
   logRotate: reopen
~
```

6. **To start the Mongod service use command:**

   systemctl start mongod

7. **To login to the MongoDB shell use following command:**

   mongo/ mongosh

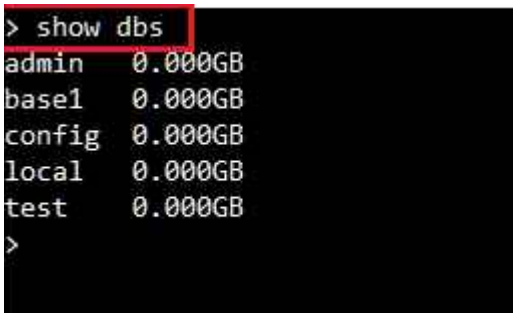


8. **To see the default databases, fire a command “show dbs” which results as:**

   >Admin

   >Local

   >config



MongoDB basic Hardening after installation:

Change below parameter values/path.

1. Default port number i.e. 27017
2. Default data directory i.e. /var/lib/mongo
3. Ulimit for mongod service
4. Setup secure authentication for client login
5. Change log directory : `/var/log/mongodb (default)`
6. Implement basic hardening pointson mongodb server using CIS Document.

Please find below URL for installation of MongoDB server from official website.

Install MongoDB Community Edition on Red Hat or CentOS — MongoDB Manual

Post installation of database we will configure monitoring.

Please find below doc for the same.

STEPS TO CONFIGURE ANY SERVER UNDER MONITORING TOOL

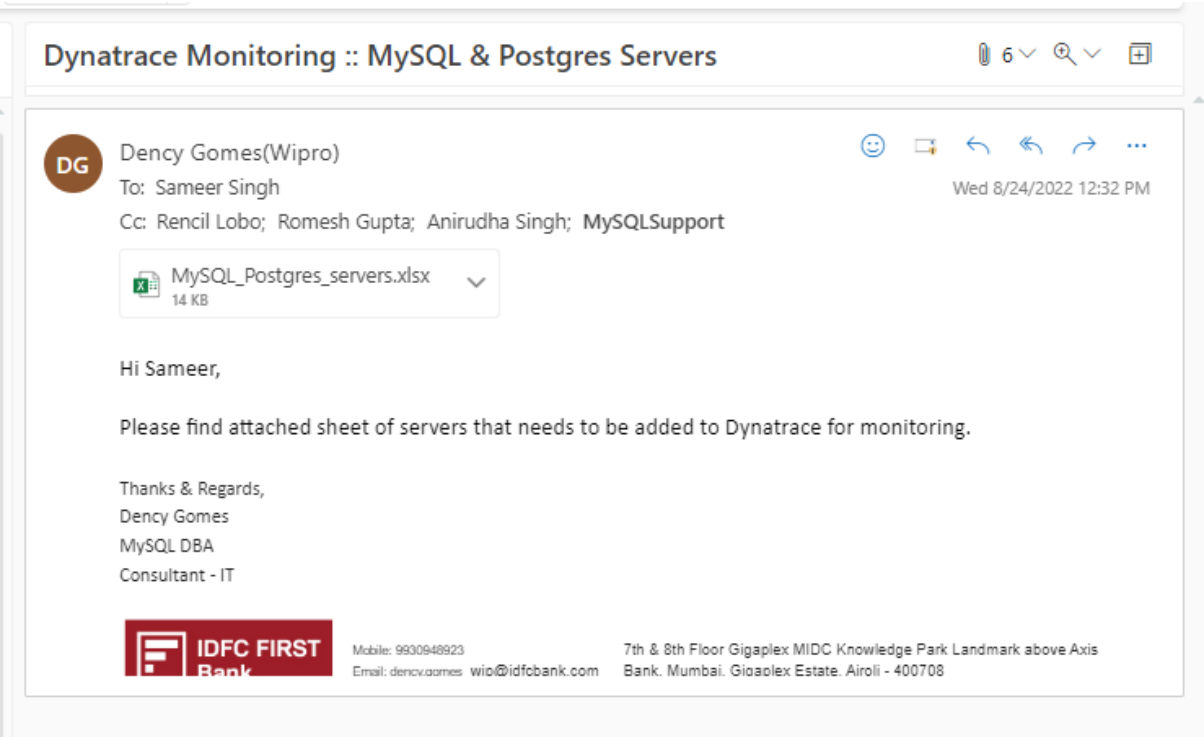
In order to integrate/configure any server under monitoring tools like Dynatrace, Prometheus

etc. we follow below mentioned steps.

1. First, we email the monitoring team to integrate/configure servers into monitoring tool. In this email we give them the list of servers which is to be integrated for monitoring. This email is sent to the email's ids mentioned below:

   - Dynatrace APM support- oneapmsupport@idfcfirstbank.com
   - Sameer Singh - sameer.singh@idfcfirstbank.com
   - Uday Luhar- uday.luhar@idfcfirstbank.com
   - Sandeep MV- sandeep.mv@idfcfirstbank.com

PFB Screenshot for reference



2. Post this, we create one user on all the servers from the list with read only (select) privileges.

For e.g.

CREATE USER ‘promora’@’10.180.10.139’ IDENTIFIED BY ‘promo@123’;

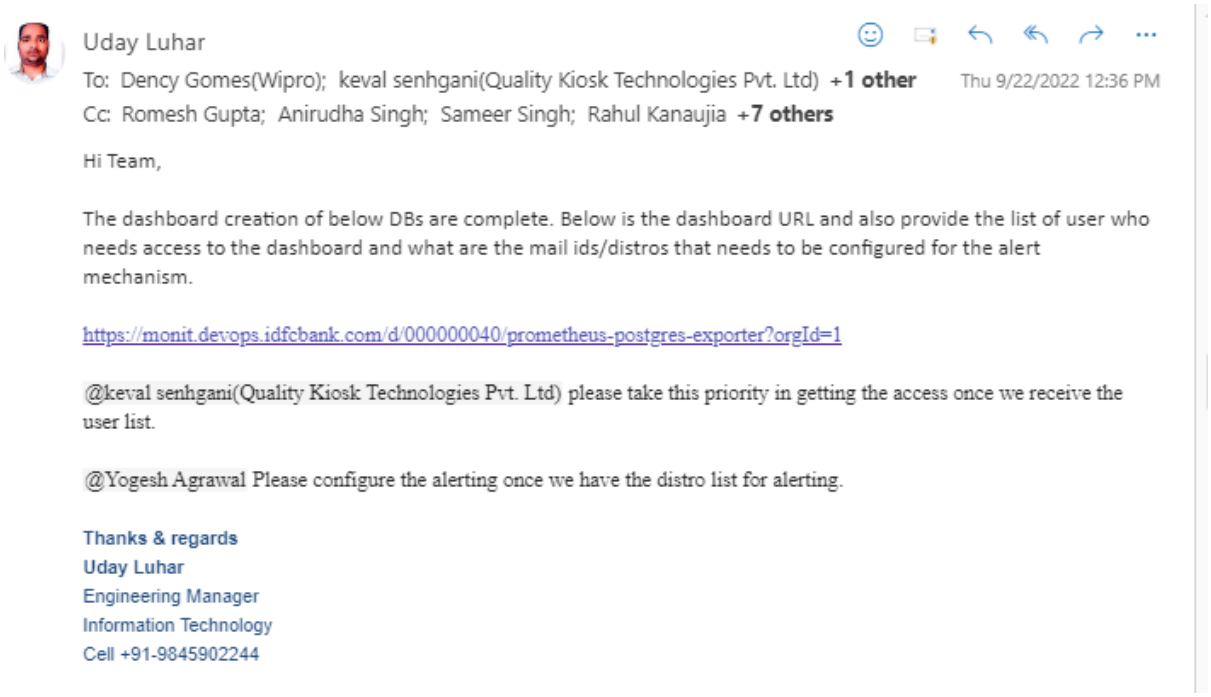
GRANT SELECT ON *. * TO ‘READ_ONLY_promora’@’10.180.10.139’;

FLUSH PRIVILEGES;

3. Then monitoring team works on Creating the DB user and Port opening. Post that they install the exporter and take it ahead with Dashboard creation from their end.

4. Once dashboard creation gets done, we provide list of users who needs access to the dashboard and what are the mail ids/distros that needs to be configured for the alert mechanism.

5. Once users get the access, they will provide the URL to dashboard to monitor the servers which we provided. PFB SS



Uday Luhar

To: Dency Gomes(Wipro); keval senhgani(Quality Kiosk Technologies Pvt. Ltd) **+1 other** Thu 9/22/2022 12:36 PM

Cc: Romesh Gupta; Anirudha Singh; Sameer Singh; Rahul Kanaujia **+7 others**

Hi Team,

The dashboard creation of below DBs are complete. Below is the dashboard URL and also provide the list of user who needs access to the dashboard and what are the mail ids/distros that needs to be configured for the alert mechanism.

https://monit.devops.idfcbank.com/d/000000040/prometheus-postgres-exporter?orgId=1

@keval senhgani(Quality Kiosk Technologies Pvt. Ltd) please take this priority in getting the access once we receive the user list.

@Yogesh Agrawal Please configure the alerting once we have the distro list for alerting.

Thanks & regards
Uday Luhar
Engineering Manager
Information Technology
Cell +91-9845902244

6. We can then monitor the server through the tool.

e.g., Prometheus Tool

IP: 10.180.10.139

APP: DSA Payouts Automation

IP: 10.180.22.134

APP: Optimus-Hydra