SOP: Installing and configuring Metabase on Ubuntu 20.04

This technical guide provides stepwise process of installing Metabase Application on Ubuntu 20.04 desktop environment. Metabase is a simple and powerful analytics tool which helps you to query data from KenyaEMR and make decisions out of it without need for deeper technical knowledge. These installation procedures are partly adopted from **computingforgeeks.com**

Task	**To guide users on how to install and configure Metabase f**
Objective	**Effectivly access data for analysis & manipulation from for data demand and information use at the facility level**
Target Group	**Facility HCW's**
Requirements	**Functional KenyaEMR**

Objective:
- To install Metabase application on Ubuntu Desktop using very simplified procedures.

Pre-requisites:
- Ubuntu 20.04 Installed
- Mysql instance
- Java 8 or above

---

1. **Login to MySQL shell as root user**

```
sudo mysql -u root -p
```
(Enter mysql password)

2. **Create a database and user with access privileges**

```
CREATE DATABASE metabase;
GRANT ALL PRIVILEGES ON metabase.* TO 'metabase'@'localhost'
IDENTIFIED BY "EnterYourStrongPassword";
FLUSH PRIVILEGES;
QUIT
```

3. **Download Metabase** and save it on the path where you want the application to run from.

- Download from https://www.metabase.com/start/oss/jar.html on your web browser and save the file in Home folder.

- Run the following commands

```
export VER=0.41.2
wget http://downloads.metabase.com/v${VER}/metabase.jar
```

The most basic way of running Metabase to use the java command to launch the application. Try executing the following. Exit once you confirm it runs.

$java -jar metabase.jar (ensure you point to the correct metabase.jar file path)

```
sudo mkdir -p /apps/java
sudo cp metabase.jar /apps/java
```

4. Configure Metabase Systemd Service

Create a system group for the user, a system user appmgr with the default group. Give this user ownership permission to the application directory.

```
sudo groupadd -r appmgr
sudo useradd -r -s /bin/false -g appmgr appmgr
sudo chown -R appmgr:appmgr /apps/java
```

Create a systemd service unit file:

```
sudo apt-get install vim
sudo vim /etc/systemd/system/metabase.service
```

Add the contents below to the file.

```
[Unit]
Description=Metabase applicaion service
Documentation=https://www.metabase.com/docs/latest

[Service]
WorkingDirectory=/apps/java
ExecStart=/usr/bin/java -Xms256m -Xmx1024m -jar metabase.jar
User=appmgr
Type=simple
Restart=on-failure
RestartSec=10

[Install]
WantedBy=multi-user.target
```

> ***Saving and exiting from vim editor***
> *- Switch to **command mode** by pressing the **ESC** key.*
> *- Press : (**colon**) to open the prompt bar in the bottom left corner of the window.*
> *- Type **x** after the colon and hit **Enter**. This will save the changes and exit.*

NB:

Set your values for maximum and minimum memory allowed for the Java application (-Xms256m and -Xmx1024m) in my case

5. Start Metabase Services
The next thing to do is start the application service, but first, reload systemd so that it loads the new application added.
```
sudo systemctl daemon-reload
sudo systemctl start metabase.service
sudo systemctl enable metabase.service
```

To check status, use:
```
sudo systemctl status metabase
```

If everything works correctly, you should see your terminal looking like below:

```
botienoh@botienoh:~$ sudo systemctl status metabase
[sudo] password for botienoh:
● metabase.service – Metabase applicaion service
     Loaded: loaded (/etc/systemd/system/metabase.service; enabled; vendor preset: enabled)
     Active: active (running) since Tue 2022-02-15 14:51:55 UTC; 53min ago
       Docs: https://www.metabase.com/docs/latest
   Main PID: 3023 (java)
      Tasks: 59 (limit: 6880)
     Memory: 732.5M
     CGroup: /system.slice/metabase.service
             └─3023 /usr/bin/java –Xms256m –Xmx1024m –jar metabase.jar

Feb 15 15:42:02 botienoh java[3023]: 2022-02-15 15:42:02,807 INFO sync.util :: STARTING: Cach
Feb 15 15:42:02 botienoh java[3023]: 2022-02-15 15:42:02,809 INFO sync.util :: STARTING: step
Feb 15 15:42:26 botienoh java[3023]: 2022-02-15 15:42:26,956 INFO models.field-values :: Fiel
Feb 15 15:42:29 botienoh java[3023]: 2022-02-15 15:42:29,796 INFO models.field-values :: Fiel
Feb 15 15:42:30 botienoh java[3023]: 2022-02-15 15:42:30,018 INFO models.field-values :: Fiel
Feb 15 15:42:30 botienoh java[3023]: 2022-02-15 15:42:30,793 INFO models.field-values :: Fiel
```

6. Access Metabase Web User Interface
- Check to verify if Metabase is running on the default port :3000 by running this command

```
$ sudo ss -tunelp | grep 3000
```

If the result is blank, the service is NOT running – you may want to check and ensure all the steps are well executed. Otherwise, the result will show the TCP port and the process ID. Otherwise the output should like below:

```
botienoh@botienoh:~$ sudo ss -tunelp | grep 3000
tcp    LISTEN 0      50                                        *:3000            *:*
            users:(("java",pid=3023,fd=32)) uid:996 ino:32168 sk:9 v6only:0 <->
botienoh@botienoh:~$ []
```

7. Log in to Metabase using http://localhost:3000 and perform last stage configurations and startup of Metabase.

You should see the page looking like this if
everything works well. Click on "Let's Get Started
button to proceed to setup.
Select English on the next page

Complete the registration process by supplying
information in all the required fields as shown and
click Next.

Add your data: These are set of information that
Metabase will use to connect to your OpenMRS
database.
Database Type: Select MySQL.

Name: Is the name of the dataset to be
displayed on the Metabase homepage.

Host: The IP address to the host. Use localhost if
installed on the same server as KenyaEMR

Port: Specify MySQL port (usually 3306)

Database Name: Name of the database you are
connecting to i.e. **etl_datatools**

Username: A user with privileges on the
openmrs database

Password: Specify the password for the user
above.
Click **Next** when done.

Congratulations you have setup Metabase, Explore and enjoy!!
The END