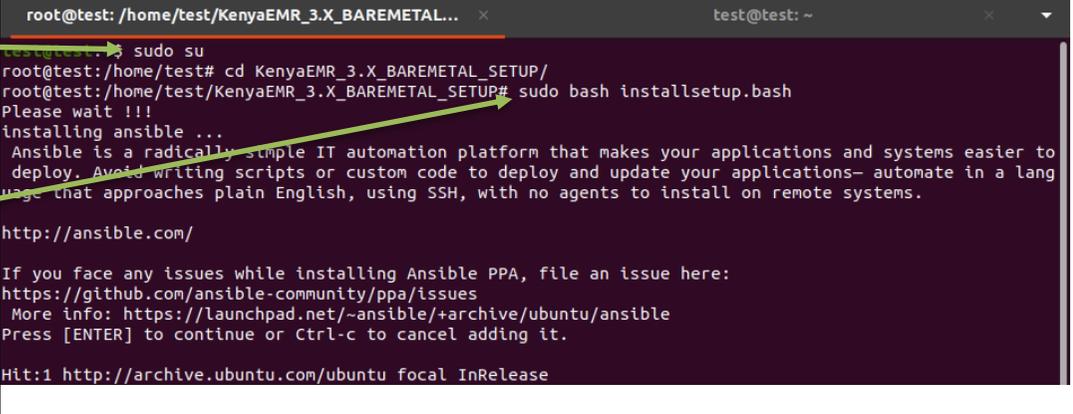
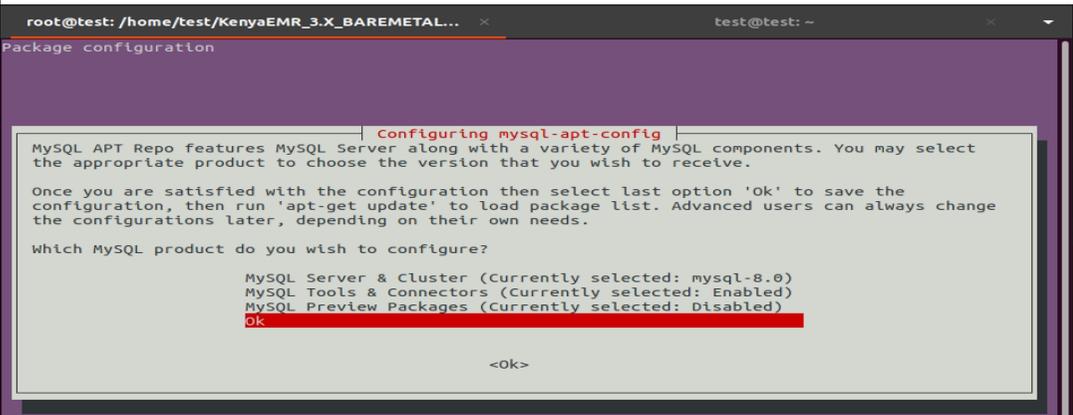


## SOP: KenyaEMR 3.x Bare Metal Setup

(Last updated: Mar 2024)

<b>Background:</b>	This is a technical user guide on the automated process of KenyaEMR 3.x installation and configuration using an automated installation script. The document outlines the process for installation on Ubuntu Desktop and Ubuntu Server (both version 20.04)
<b>Objective:</b>	To provide simplified guidance to users on how to perform KenyaEMR 3.x installation on Ubuntu 20.04 environment.
<b>Who:</b>	SI, Dev, M&E, HIS
<b>Required Materials:</b>	<ol style="list-style-type: none"><li>1. Ubuntu 20.04</li><li>2. KenyaEMR3.x Bare Metal Setup Package (Download from Palladium GitHub repository)</li><li>3. Stable internet</li></ol>
<b>Dependencies:</b>	The following dependencies are required for successful KenyaEMR 3.x installation and will be automatically installed by the script; <ol style="list-style-type: none"><li>i.) Java 8</li><li>ii.) Tomcat9</li><li>iii.) MySQL 8.0</li></ol>

Step	Action	Screen shots
<b>Obtain the installation resources</b>	Extract the Installation package on the Home Directory	
<b>Execute the upgrade file. (.bash file)</b>	<p>Use <b>Ctrl+Alt+T</b> to open the Terminal window</p> <ol style="list-style-type: none"> <li>1. Type the following command: <code>sudo su</code> [ENTER]</li> <li>2. Navigate into the folder: <code>cd folder_name</code> [ENTER]</li> <li>3. Type the following command to initiate the upgrade process:</li> <li>4. <code>sudo bash installsetup.bash</code> [ENTER]</li> </ol> <p>Monitor the process and respond to all the prompts as displayed on the screen during the process.</p> <p>The setup will perform the following actions:</p> <ul style="list-style-type: none"> <li>✓ Install Java 8</li> <li>✓ Install tomcat9 and configure</li> <li>✓ Install MySQL 8.0 and configure</li> <li>✓ Restore blank database (already available in the package)</li> <li>✓ Create cron-job for auto-backup</li> <li>✓ Install and setup KenyaEMR Datatools</li> </ul> <p>Run <code>setup_script_2.4.sh</code></p>	 <p>When below window appears, select 'Ok' using down-arrow key then press [Enter] to continue.</p>  <p>When prompted, select 'Y' and press [Enter] to continue.</p>

Suggested packages:

```
libipc-sharedcache-perl mailx tinyca
```

The following NEW packages will be installed:

```
libaio1 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7 libevent-threads-2.1-7 libfcgi-perl
```

```
libhtml-template-perl libmecab2 mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0
```

```
mysql-client-core-8.0 mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0
```

0 upgraded, 17 newly installed, 0 to remove and 14 not upgraded.

Need to get 36.4 MB of archives.

After this operation, 317 MB of additional disk space will be used.

Do you want to continue? [Y/n]

When prompted for a password as shown below, enter MySQL password 'test' (4 times as prompted, pressing [Enter] after each prompt) to continue.

```
Setting up mysql-server-8.0 (8.0.36-0ubuntu0.20.04.1) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Renaming removed key_buffer and myisam-recover options (if present)
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 17799
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /lib/systemd/system/mysql.service.
Setting up mysql-server (8.0.36-0ubuntu0.20.04.1) ...
Processing triggers for systemd (245.4-4ubuntu3.23) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.14) ...
end of installation
Enter password:
Enter password:
Enter password:
Enter password:
End of installation
```

Enter MySQL password when prompted as shown below then press [Enter] to continue.

```
Setting up KenyaEMR DataTools
script_directory: /home/test/KenyaEMR_3.X_BAREMETAL_SETUP
Coping openmrs-backup-tools ...

mkdir: cannot create directory '/usr/share/openmrs-backup-tools': File exists
mkdir: cannot create directory '/var/backups/KenyaEMR': File exists
Completed Setting Auto Backups Backup happend at 10AM and 4PM ...
Setting Up Datatools. Please Wait
script_directory: /home/test/KenyaEMR_3.X_BAREMETAL_SETUP/datatools
Creating new directory
cp: cannot stat '/home/test/KenyaEMR_3.X_BAREMETAL_SETUP/lib/': No such file or directory
cp: cannot stat '/home/test/KenyaEMR_3.X_BAREMETAL_SETUP/kenyaEMRQueryTools.jar': No such file or directory
cp: cannot stat '/home/test/KenyaEMR_3.X_BAREMETAL_SETUP/kenyaEMRDataToolsIcon.png': No such file or directory
rm: cannot remove '/root/Desktop/KenyaEMRDataTools.desktop': No such file or directory
cp: cannot stat '/home/test/KenyaEMR_3.X_BAREMETAL_SETUP/KenyaEMRDataTools.desktop': No such file or directory
chmod: cannot access '/root/Desktop/KenyaEMRDataTools.desktop': No such file or directory
Restoring OpenMRS Database backup
Enter MySQL password:
```

		<p>When the bash script is complete, the cursor will go back to prompt as shown below;</p> <pre>Restoring OpenMRS Database backup Enter MySQL password: MySQL password correct.  Restoring openmrs database .. mysql: [Warning] Using a password on the command line interface can be insecure. mysql: [Warning] Using a password on the command line interface can be insecure. mysql: [Warning] Using a password on the command line interface can be insecure. mysql: [Warning] Using a password on the command line interface can be insecure. mysql: [Warning] Using a password on the command line interface can be insecure. mysql: [Warning] Using a password on the command line interface can be insecure. Completed restoring database Restarting tomcat9 Setup Completed root@test:/home/test/KenyaEMR_3.X_BAREMETAL_SETUP#</pre>
	<p>Open the browser and enter the following address on the URL: <a href="http://server_address:8080/openmrs">http://server_address:8080/openmrs</a> [ENTER]</p> <p>Below page will load for a successful installation of OpenMRS 2.x, click on the arrow to continue with first time setup.</p>	
	<p>Select Advanced option as show below and click on next (Right Arrow) to continue.</p>	

Leave default options and click next as shown.

**OpenMRS Core 2.4.1 Installation Wizard**

**Step 1 of 5**

Please specify how to connect to your currently installed database server:

Database connection:  (Advanced use only. @DBNAME@ will automatically be replaced by this wizard with your chosen database name)

Database Driver:  (Optional\* Specify your database driver name)

Do you currently have an OpenMRS database installed that you would like to connect to?

**Yes**  If yes, what is the name of this database?

Database name:

**No**  If no, what would you like to name this database? (alphanumeric characters only)

Database name:

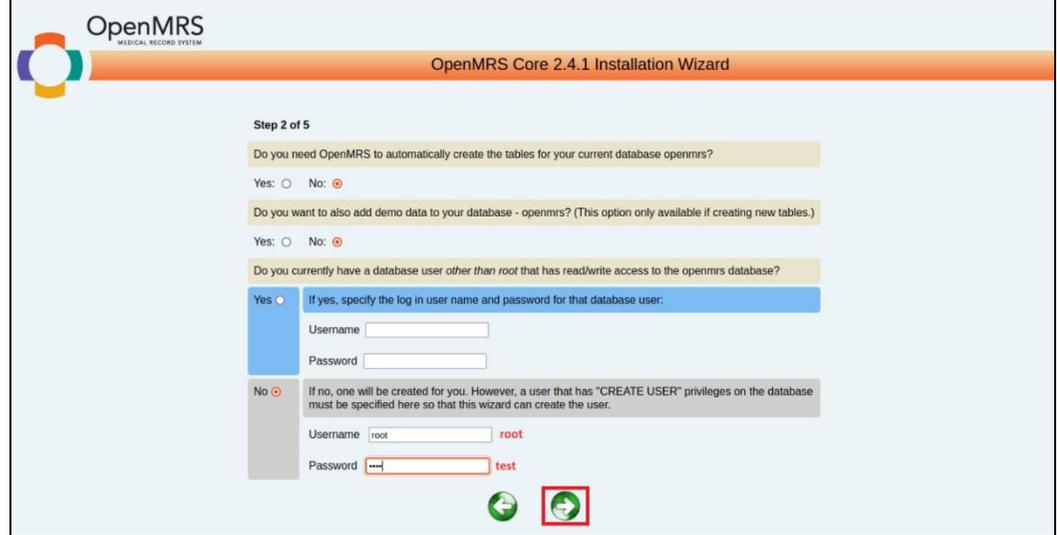
A user that has "CREATE DATABASE" privileges must be specified here so that this wizard can create the new database. (Empty MySQL passwords are not allowed here. If you don't have a MySQL password set for the given user, please set one.)

Username

Password

NB: Don't change anything, click Next

Select 'No' and enter the MySQL username and password (root and test respectively) then click next to continue.



**OpenMRS**  
MEDICAL RECORD SYSTEM

OpenMRS Core 2.4.1 Installation Wizard

**Step 2 of 5**

Do you need OpenMRS to automatically create the tables for your current database openmrs?  
Yes:  No:

Do you want to also add demo data to your database - openmrs? (This option only available if creating new tables.)  
Yes:  No:

Do you currently have a database user *other than root* that has read/write access to the openmrs database?  
Yes  If yes, specify the log in user name and password for that database user:  
Username   
Password

No  If no, one will be created for you. However, a user that has "CREATE USER" privileges on the database must be specified here so that this wizard can create the user.  
Username  root  
Password  test

Leave default options and click next as shown below to continue.



**OpenMRS**  
MEDICAL RECORD SYSTEM

OpenMRS Core 2.4.1 Installation Wizard

**Step 5 of 5**

Optional. Leave ID field blank to skip.

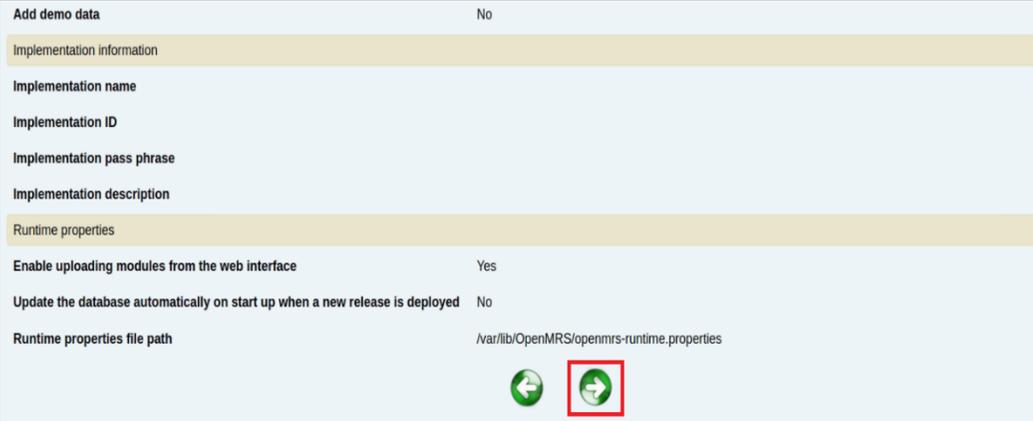
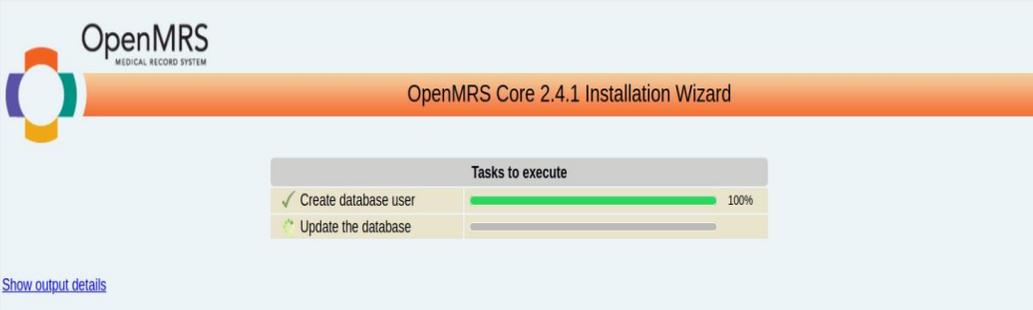
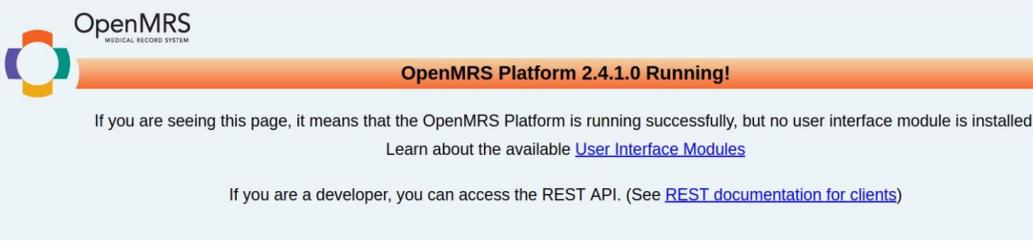
Implementation name  A descriptive name for this implementation (e.g. AMRS installation in Eldoret, Kenya)

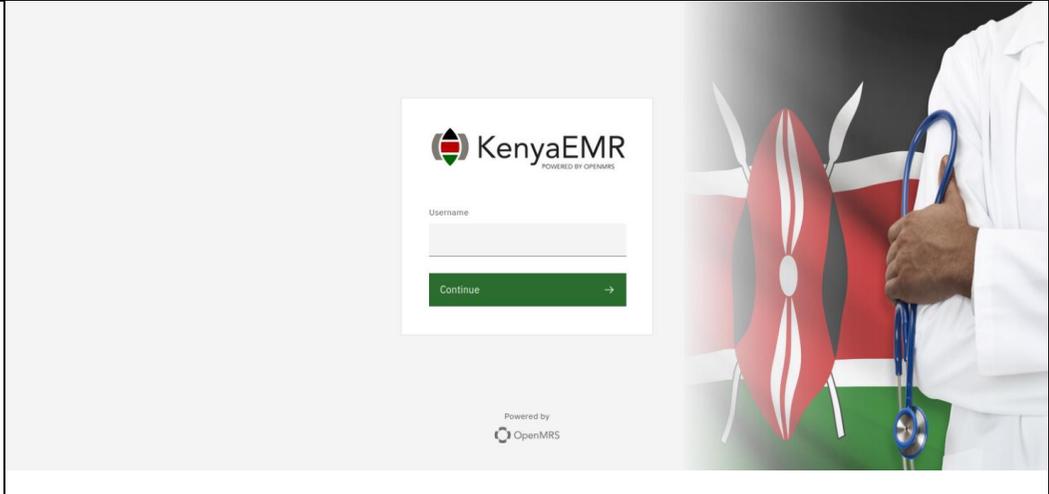
Implementation ID  This is the unique id for this implementation. Used as the HL7\_CODE. Must be limited to 20 characters and numbers. The characters "~" and "|" are not allowed.

Implementation pass phrase  This text is a long text string that is used to validate who uses your implementation id. Multiple installations of openmrs can use the same implementation id, but they must all know the passphrase. (Note that if an implementation id is shared, it is assumed that those installations are the same implementation).

Implementation description  Text describing this implementation. (e.g. Source for the AMPATH program in Kenya. Created by Paul Biondich)

	<p>Click next to continue</p> <p>Scroll down and click next as shown below to continue</p>	
	<p>Wait until the process is complete</p>	
	<p>When completed successfully, below page will be loaded.</p>	
<p><b>Step 1: Execute setup_script_2.6.sh</b></p>	<p>sudo sh setup_script_2.6.sh [ENTER]</p>	<pre>root@test:/home/test/KenyaEMR_3.X_BAREMETAL_SETUP# sudo sh setup_script_2.6.sh script_directory: /home/test/KenyaEMR_3.X_BAREMETAL_SETUP MySQL root password correct.  Stopping tomcat...  upgrading Concept Dictionary to the latest mysql: [Warning] Using a password on the command line interface can be insecure.</pre>

	<p>When the process is complete, refresh browser and provide login credentials (admin and Admin123) then click next to continue.</p>	 <p>The screenshot shows the OpenMRS 2.6.2 server in maintenance mode. It features a login form with fields for 'OpenMRS Username' and 'Password', and a green arrow button labeled 'Log in as a User that has the System Developer role to continue.' The OpenMRS logo is visible in the top left corner.</p>
	<p>Scroll down and click next to continue.</p>	 <p>The screenshot displays a terminal window showing a list of database migration commands and their execution status. The commands include adding foreign key constraints, renaming columns, adding columns, creating tables, and adding not null constraints. A green arrow button is highlighted with a red box at the bottom of the terminal output.</p>
	<p>When the process is completed, KenyaEMR 3.x login page will be displayed as shown below.</p> <p>Note: Run the <code>post_upgrade.sh</code> script after recreating ETL tables.</p> <p>Congratulations! You have successfully installed KenyaEMR 3.x.</p>	 <p>The screenshot shows the KenyaEMR login page. It features the KenyaEMR logo, a 'Username' input field, and a green 'Continue' button with a right-pointing arrow. The page is powered by OpenMRS. The background of the page shows a person in a white lab coat holding a stethoscope, with the Kenyan flag visible.</p>

END