# KOHA 3.4 INSTALLATION ON UBUNTU LINUX

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## 1 Click Alt+F2 and type 'terminal' without quotes to launch terminal.

**Note:** We will be using the terminal during the installation of Koha. You will see the '**$** ' character in bold format in this installation guide, which means you have to work on the terminal to execute the Linux commands. You don't have to type the '**$** ' character while typing the Linux command to execute. If you are viewing the digital copy of this Koha installation guide, you can simply copy the command by selecting the command and just paste the Linux commands in the terminal by pressing **Shift+insert key** or by right clicking on the terminal and by clicking **Paste** menu. Hit the **Enter key** to execute the command.

Few of the times, you can find the '**mysql>**'  prompts in this installation guide. You don't have to copy the '**mysql>**' text while copying the **MySQL** commands. Similarly, you can also find the '**cpan[1]>**' or any number inside the bracket. In this case too, you don't have to copy the '**cpan[any number]**' text while copying the **CPAN** commands.

So, just copy the command after these texts: '**$**', '**mysql>**' and '**cpan[number]>**' and paste in the terminal.

## 2 Create a "koha" user in your system

| | |
|---|---|
| 2.1 | **$** adduser koha |

**Note:** If you already have "**koha**" user in your system, you can skip this step. During the installation, please log on to the system with koha user for simplicity. Make sure, this user can do "**sudo**". Otherwise, you will have to run the following command to set user privilege to administer the system using "**sudo**" command. When you do "**sudo**" while you are logged on to the system as "koha" user, then you have to provide the password of the "**koha**" user to execute the commands that precede with "**sudo**" command.

| | |
|---|---|
| 2.2 | **$** sudo users-admin |

**Note:** Select the "koha" user and click the "**Advanced Settings**"button. Click the "**User Privileges**" tab and check the "**Administer the system**" check box and click "**Ok**" button to apply the setting. Log on to the system using "**koha**" user to proceed the installation of Koha ILS.

**3  Update the Ubuntu package list**

| 3.1 | **$** sudo apt-get update |
|---|---|

**Note:** This process might take several minutes to complete, depending upon the speed of Internet. So, please be patient. If you get any errors during this process, refer to "**Updating the package list of Ubuntu**" tutorial.

**4  Extract the "Koha" package in your home folder (/home/koha) for simplicity.**

| 4.1 | **$** cd /home/koha |
|---|---|
| 4.2 | $ wget http://download.koha-community.org/koha-3.04.03.tar.gz |
| 4.3 | **$** tar -zxvf koha-3.04.03.tar.gz |

## 5  Install Ubuntu packages

5.1    **$** cd ~/koha-3.4.03

5.2    **$** sudo dpkg --set-selections < install_misc/ubuntu.packages

5.3    **$** sudo apt-get install dselect

5.4    **$** sudo dselect

**Note:** Choose **Install** and accept packages to be installed when the installer prompts. Type '**Y**' to install the packages. This might take a several minutes to complete. So, please be patient.

In this tutorial, to make the tutorial simple and understandable, I have set the password for the database administrator (root user) as "administrator". When it prompts for "**New password for the MySQL "root" user:**", provide "administrator" in the input box and confirm the password again with "administrator". You may use different password during the installation.

And, during the installation of **nullmailer**, it prompts few times for the user's input. Just press the Enter keys to continue the installation. When the installation of packages gets completed, choose **Configure**, then choose **Remove** and finally choose **Quit** to complete the installation of dependencies.

## 6  Install Perl dependencies

6.1    **$** sudo cpan HTTP::OAI Locale::Currency::Format Memoize::Memcached \
PDF::API2::Simple Storable Text::CSV::Encoded MARC::Crosswalk::DublinCore \
GD::Barcode::UPCE HTML::Scrubber Email::Date YAML PDF::Reuse \
PDF::Reuse::Barcode Test::More Test::Simple Business::ISBN \
CGI::Session::Driver::memcached

**Note:** It might ask "**Shall I follow them and prepend them to the queue  of modules we are processing right now? [yes]**" many times. Press Enter key to each of the prompts with default **Yes** option.

6.2    **$** sudo cpan

6.2.1    **cpan[1]>** force install HTTP:OAI IPC::Cmd JSON XML::Writer \
XML::SAX::Writer

> 6.2.2 **cpan[2]>** exit

# 7 Encoding and Character Sets

## 7.1 Make UTF-8 as the default character-set and encoding in MySQL database

7.1.1 **$** sudo xhost +

7.1.2 **$** sudo gedit /etc/mysql/my.cnf

### 7.1.3 Add the following lines in [mysqld] section in /etc/mysql/my.cnf

```
init-connect = 'SET NAMES utf8'
character-set-server=utf8
collation-server=utf8_general_ci
character_set_client=utf8
```

### 7.1.4 Restat the MySQL Server

7.1.4.1 **$** sudo /etc/init.d/mysql restart

## 7.2 Change the default character-set and encoding to UTF-8 in Apache Web Server

7.2.1 **$** sudo gedit /etc/apache2/conf.d/charset

### 7.2.2 Add the following lines in /etc/apache2/conf.d/charset

```
AddCharset UTF-8 .utf8
AddDefaultCharset UTF-8
```

### 7.2.3 Restart the Apache Web Server

7.2.3.1 **$** sudo /etc/init.d/apache2 restart

## 7.3 Set locale to "en_IN.UTF-8"

7.3.1 **$** sudo update-locale LANG=en_IN.UTF-8

**Note:** Log out and log on to the system again as **koha** user to see the changes made in locale.

## 8  Create database, user and assign privileges to the user on the created database

8.1   Provide the username as root and the password that has been set during the installation of MySQL database

> 8.1.1     **$** mysqladmin **-u root** -p**administrator** create **kohadb**

8.2   Create a '**kohaadmin**' user and assign that user to the **'kohadb'** database.

**Note:** Here again, to make the installation tutorial simple and understandable, I have created the database as  "kohadb" and set the password for the user (kohaadmin) as "kohaadmin". You may use different database name, user and password during the installation.

> 8.2.1     **$** mysql **-u root** -p**administrator -h localhost**
>
> 8.2.2     **mysql>** grant all on **kohadb**.* to '**kohaadmin**'@'**localhost**' identified by '**kohaadmin**';
>
> 8.2.3     **mysql>** flush privileges;
>
> 8.2.4     **mysql>** quit;

## 9  Test your SAX parser

9.1.1      **$** cd ~/koha-3.4.03

9.1.2      **$** ./misc/sax_parser_print.pl

**Note:** If it reports "**Looks bad, check INSTALL.\* documentation.**", then you have to edit the /etc/perl/XML/SAX/ParserDetails.ini

9.1.3      **$** sudo gedit /etc/perl/XML/SAX/ParserDetails.ini &

9.1.4      **Move the following two lines to end of the file**

[XML::LibXML::SAX::Parser]
http://xml.org/sax/features/namespaces = 1

9.1.5      **Click** File>**Save and Exit.**

9.1.6      **Test your SAX parser again**

9.1.6.1         **$** ./misc/sax_parser_print.pl

**Note:** If the screen prints the following output, then your SAX parser will work well with Koha:

Koha wants something like:

XML::LibXML::SAX::Parser=HASH(0x81fe220)
You have:
XML::LibXML::SAX::Parser=HASH(0x85dbd68)
Looks good.

**Note:** If you still see the same "Looks bad" message instead of message as shown in 13.1.7, the you have to perform steps as shown in 13.1.8. Otherwise, you can jump to step 14.

### 9.1.7 Reinstall SAX and libxml

9.1.7.1      **$** sudo cpan CPANPLUS

9.1.7.2      **$** sudo cpanp -u XML::SAX
9.1.7.3      **$** LC_ALL=C sudo apt-get install --reinstall libxml-sax-perl

9.1.7.4      **$** sudo apt-get install libxml-libxml-perl

Note: After performing the steps as shown in 13.1.8, test your SAX parser again as shown in 13.1.7.

# 10　Install DBD::mysql Perl module

## 10.1　Create "test" database in order to install DBD::mysql

10.1.1　**$** mysqladmin **-u root** -p**administrator** create test

10.1.2　**$** mysql **-u root** -p**administrator** **-h localhost**

10.1.3　**mysql>** grant all on **test**.* to 'test'@'localhost' identified by '**test**';

10.1.4　**mysql>** flush privileges;

10.1.5　**mysql>** quit

## 10.2　Now, install DBD::mysql perl module

**Note:** You don't have to copy the "**cpan[number]>**" text to execute the commands.

10.2.1　**$** sudo cpan

10.2.2　**cpan[1]>** o conf makepl_arg

10.2.3　**cpan[2]>** o conf makepl_arg "--testdb=test --testuser=test \
　　　　　--testpass=test"

10.2.4　**cpan[3]>** install DBD::mysql

10.2.5　**cpan[4]>** o conf makepl_arg "

10.2.6　**cpan[5]>** exit

## 10.3　Remove the "test" database

**Note:** You don't have to copy the "**mysql>**" text to execute the commands.

10.3.1　**$** mysql **-u root** -p**administrator** **-h localhost**

10.3.2　**mysql>** drop database test;

10.3.3　**mysql>** quit

## 11 **Run the Koha Installer**

11.1 **$** cd ~/koha-3.4.03

11.2 **$** perl Makefile.PL

**Note:** Following prompts are shown when the above command (perl Makefile.PL) is executed. Usually, the prompts provide default values inside the bracket, as shown below in Bold format. If we have to change the default values, we can provide the different values for each of the prompts. Other than default values, changed values are provided as shown below in Bold and Italics format. You may provide the values as shown below:

➔ Installation mode (dev, single, standard) **[standard]**

➔ Base installation directory **[/usr/share/koha]**

➔ User account **[koha]**

➔ Group **[koha]**

➔ DBMS to use (Pg, mysql) **[mysql]**

➔ Database server **[localhost]**

➔ DMBS **[3306]**

➔ Please specify the name of the database to be used by Koha **[koha] kohadb**

➔ Please specify the user that owns the database to be used by Koha **[kohaadmin]**

➔ Please specify the password of the user that owns the  database to be used by Koha **[katikoan]** *kohaadmin*

➔ Install the Zebra configuration files? (no, yes) **[yes]**

➔ MARC format for Zebra indexing (marc21, normarc, unimarc) **[marc21]**

➔ Primary language for Zebra indexing (en, fr, nb) **[en]**

➔ Authorities indexing mode (dom, grs1) **[dom]**

➔ Please specify Zebra database user **[kohauser]**

➔ Please specify the Zebra database password **[zebrastripes]**

➔ Install the SRU configuration files? (no, yes) **[yes]**

➔ SRU Database host? **[localhost]**

➔ SRU port for bibliographic data? **[9998]**

➔ SRU port for authority data? **[9999]**

➔ Install the PazPar2 configuration files? **[no]**

➔ You will need a Memcached server running. (no, yes) **[no]**

➔ Would you like to run the database-dependent test suite? (no, yes) **[no]**

## 11.3 Build and install Koha

11.3.1 **$** make

**Note:** This process takes few minutes to complete. So, please be patient.

11.3.2 **$** make test

**Note:** If the test result shows pass at the end of the result, then you are ready to install Koha in your system by executing the following step.

11.3.3 **$** sudo make install

**Note:** This process takes some time to complete. So, please be patient.

## 12 Configure and start Apache

12.1 **$** sudo ln -s /etc/koha/koha-httpd.conf /etc/apache2/sites\
-available/koha

# 13     Configure Apache ports

## 13.1   Edit **/etc/apache2/ports.conf**

| |
|---|
| 13.1.1     **$** sudo gedit /etc/apache2/ports.conf |

## 13.2   Add the following lines to the file /etc/apache2/ports.conf and proceed to next step:

| |
|---|
| Listen 8080 |

## 13.3   Comment out the following line by putting a '#' character in front of the line as follows:

| |
|---|
| #NameVirtualHost *:80 |

**Note:** Your entries in the file should look like follows in **/etc/apache2/ports.conf**:

| |
|---|
| #NameVirtualHost *:80<br>Listen 80<br>Listen 8080 |

## 13.4   Click File>**Save** and Exit.

## 13.5   Configure Apache to enable Koha in Apache

| |
|---|
| 13.5.1     $ sudo a2enmod rewrite |
| 13.5.2     $ sudo a2ensite koha |
| 13.5.3     $ sudo apache2ctl restart |

**13.6 Configure and start Zebra**

13.7 **Add Zebra processes to startup processes and run them as daemons:**

    13.7.1      **Add Zebra Server to startup process and run it:**

        13.7.1.1    **$** sudo ln -s /usr/share/koha/bin/koha-zebra-ctl.sh \
            /etc/init.d/koha-zebra-daemon

        13.7.1.2    **$** sudo update-rc.d koha-zebra-daemon defaults

        13.7.1.3    **$** sudo /usr/share/koha/bin/koha-zebra-ctl.sh start

    13.7.2      **Add Zebraqueue Daemon to startup process and run it:**

        13.7.2.1    **$** sudo ln -s /usr/share/koha/bin/\
            koha-zebraqueue-ctl.sh   /etc/init.d/koha-zebraqueue-daemon

        13.7.2.2    **$** sudo update-rc.d koha-zebraqueue-daemon defaults

        13.7.2.3    **$** sudo /usr/share/koha/bin/\
            koha-zebraqueue-ctl.sh  start

**14        Add Koha variables to the profile of koha and root user**

**14.1       Edit the /home/koha/.bashrc file**

**Note:** Additional variable "**EDITOR=gedit**" is also added in this tutorial, just because it will be easier for new Linux users to edit the Cron jobs using easy text editor later.

14.1.1      **$** gedit /home/koha/.bashrc

**14.1.2      Add the following lines to the end of /home/koha/.bashrc**

```
export KOHA_CONF=/etc/koha/koha-conf.xml
export PERL5LIB=/usr/share/koha/lib
export EDITOR=gedit
```

14.1.3      Click File>**Save** and Exit.

14.1.4      **$** sudo su

**Note:** Provide the password of the current user to switch to the root user

14.1.5      **$** gedit /root/.bashrc

**14.1.6      Add the following lines to the end of /root/.bashrc**

```
export KOHA_CONF=/etc/koha/koha-conf.xml
export PERL5LIB=/usr/share/koha/lib
export EDITOR=gedit
```

14.1.7      Click File>**Save** and Exit.

14.1.8      **#**exit

# 15       Scheduling Zebra Indexer

## 15.1   Edit koha user's crontab entry

**Note:** Close the terminal if it is open, and open it again to load the environment variable into the login session. Alternate way is to log out and log in to the system to load the environment variables.

> 15.1.1     **$** crontab -e

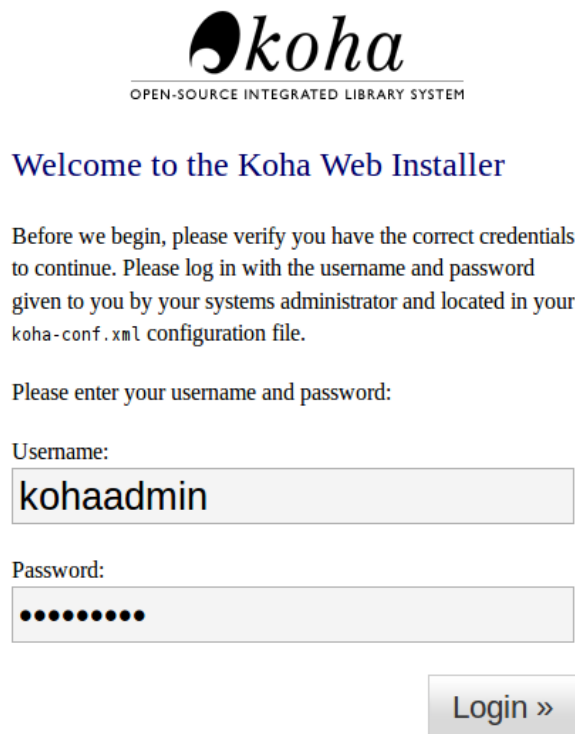## 15.2   Add following line to the end of the file to index the data in a certain interval of time:

**Note:** For example, the following line schedules Zebra indexer to execute every 10:30 AM. Format of crontab entry is "Minute Hour DOM MONTH DOW Command-to-execute"

```
30 10 * * *  /usr/share/koha/bin/migration_tools/rebuild_zebra.pl -z -b -a
```

**16      Run the Web Installer, populate the database, and initialize the Koha configuration**

16.1   Browse http://127.0.1.1:8080 to access Web installer to populate database and to intialize the Koha configuration

**Note:** Please look at the following screen-shots to run the Web installer of Koha.



Provide "**kohaadmin**" as username and password to log on to Koha Web installer. Click the **Login** button to continue the installation.

All dependencies installed.

Please click next to continue  Next >>

Click **Next** to proceed the installation.



## Database settings:

- *database type* : mysql
- *database name* : kohadb
- *database host* : localhost
- *database port* : 3306 (probably OK if blank)
- *database user* : kohaadmin

Please click Next to continue if this information is correct  Next >>

Click **Next** to proceed further with the installation, if the database settings are correct.

Click **Next** to continue the installation, if the database settings are correct.



Now we're ready to create the database tables and fill them with some default data.

Click Next to continue   Next >>

- *database name :* kohadb
- *database host :* localhost
- *database port :* 3306 (probably OK if blank)
- *database user :* kohaadmin

Connection established.

Database kohadb exists.

User kohaadmin has all required privileges on database kohadb.

Click Next to continue   Next >>

Click **Next** to create database tables and to populate some default data in the database.

Click **Next** to continue.



Click the "I**nstall basic configuration settings**" hyperlink to initialize the basic configuration of Koha.

**Select your MARC flavour**

○ Unimarc
◉ Marc21

Click Next to continue  Next >>

Choose "**Marc21**" as MARC flavour and click **Next** to continue the installation.

## Selecting Default Settings

# MARC Frameworks: MARC21

## Mandatory

☑ Default MARC21 Standard Authority types:

Personal Name
Corporate Name
Meeting Name
Uniform Title
Chronological Term
Topical Term
Geographic Name
Genre/Form Term

*(authorities_normal_marc21)*

☑ Default MARC 21 bibliographic framework.
*(marc21_framework_DEFAULT)*

Select the desired settings and click the **Import** button to import the selected settings in Koha. You will find the **import** button at the end of the page.

Web Installer › Step 3

## optional data added

- sample_z3950_servers.sql

## mandatory data added

- auth_values.sql
- authorities_normal_marc21.sql
- class_sources.sql
- marc21_framework_DEFAULT.sql
- message_transport_types.sql
- sample_notices.sql
- stopwords.sql
- subtag_registry.sql
- sysprefs.sql
- userflags.sql
- userpermissions.sql

## All done!

Installation complete.

Click on Finish to complete and load the Koha Staff Interface.

Finish

Click the **Finish** button to complete the installation.

# Congratulations, Installation complete

If this page does not redirect in 5 seconds, click here.

Now the installation is complete. When you click the hyperlink, it will take you to the login screen as shown below.



Provide "**kohaadmin**" as username and password and click the **Login** button to log on to Koha Staff Client.

## 17        Zebra configuration for regional language searching

**Note:** By default, koha returns irrelevant result while searching records in UTF-8 character-set with the default Koha and Zebra installation. Hence, the search result cannot be sorted with the parameters like author or title etc. in ascending or descending order.

17.1   Copy the files from **/usr/share/idzebra-2.0/tab/** to **/etc/koha/zebradb/etc/**

> 17.1.1     **$** cd /usr/share/idzebra-2.0/tab/
>
> 17.1.2     **$** cp icu.idx phrases-icu.xml string.chr words-icu.xml /etc/koha/zebradb/etc/
>
> 17.1.3     **$** sudo cp words-icu.xml /etc/koha/zebradb/etc/icu.xml

**17.2   Edit /etc/koha/zebradb/etc/icu.xml**

> 17.2.1     **$** sudo gedit /etc/koha/zebradb/etc/icu.xml

17.3   Change the line **&lt;icu_chain locale="en"&gt;** into **&lt;icu_chain locale="en_IN.UTF-8"&gt; in /etc/koha/zebradb/etc/icu.xml**.

17.4   **Click** File>**Save and Exit.**

**17.5   Save and change the ownership of /etc/koha/zebradb/etc directory to koha user**

> 17.5.1     **$** sudo chown -R koha:koha /etc/koha/zebradb/etc

**17.6   Edit /etc/koha/zebradb/zebra-biblios.cfg**

> 17.6.1     **$** gedit /etc/koha/zebradb/zebra-biblios.cfg

**17.7   Add the following line to end of the file**

> index: icu.idx

**17.8 Restart zebra server and Zebraqueue daemons to see the change in search result**

17.8.1    $ sudo /etc/init.d/koha-zebra-daemon restart

17.8.2    $ sudo /etc/init.d/koha-zebraqueue-daemon restart

**17.9 Rebuild the Zebra index**

17.9.1    **$** /usr/share/koha/bin/migration_tools/rebuild_zebra.pl -b -a -r -v

17.10  **Browse http://127.0.1.1:8080 and log on to the Koha staff client**

**Note:** Provide "**kohaadmin**" as username and password to log onto Koha staff client

17.10.1    Click the "**Koha administration**" hyperlink

17.10.2    Click the "**Global system preferences**" hyperlink

17.10.3    Click the "**Searching**" hyperlink

Note: The direct link to go to the search preference page is: http://127.0.1.1:8080/cgi-bin/koha/admin/preferences.pl?tab=searching

17.10.4    Under the "**Features"** section, **turn off** the QueryFuzzy selecting "Don't try" and **turn off** the QueryWeightFields features by selecting "disable".