



## Installation of Apache OpenMeetings 3.1.2 on Ubuntu 14.04 LTS

This tutorial is made based on fresh installations of

**ubuntu-14.04.2-desktop-amd64.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.2 stable, that is to say will suppress his compilation. It is done step by step.

Updated 12-8-2016

Starting...

1)

First update and upgrade the OS:

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

2)

----- Installation of Oracle Java 1.8 -----

Red5-OpenMeetings need Java to work. Add repository and install it:

```
sudo add-apt-repository ppa:webupd8team/java
```

```
sudo apt-get update
```

```
sudo apt-get install oracle-java8-installer
```

Will open a window. Press **Enter**.



```
root@tub: /home/guadal
File Edit View Search Terminal Help
Package configuration

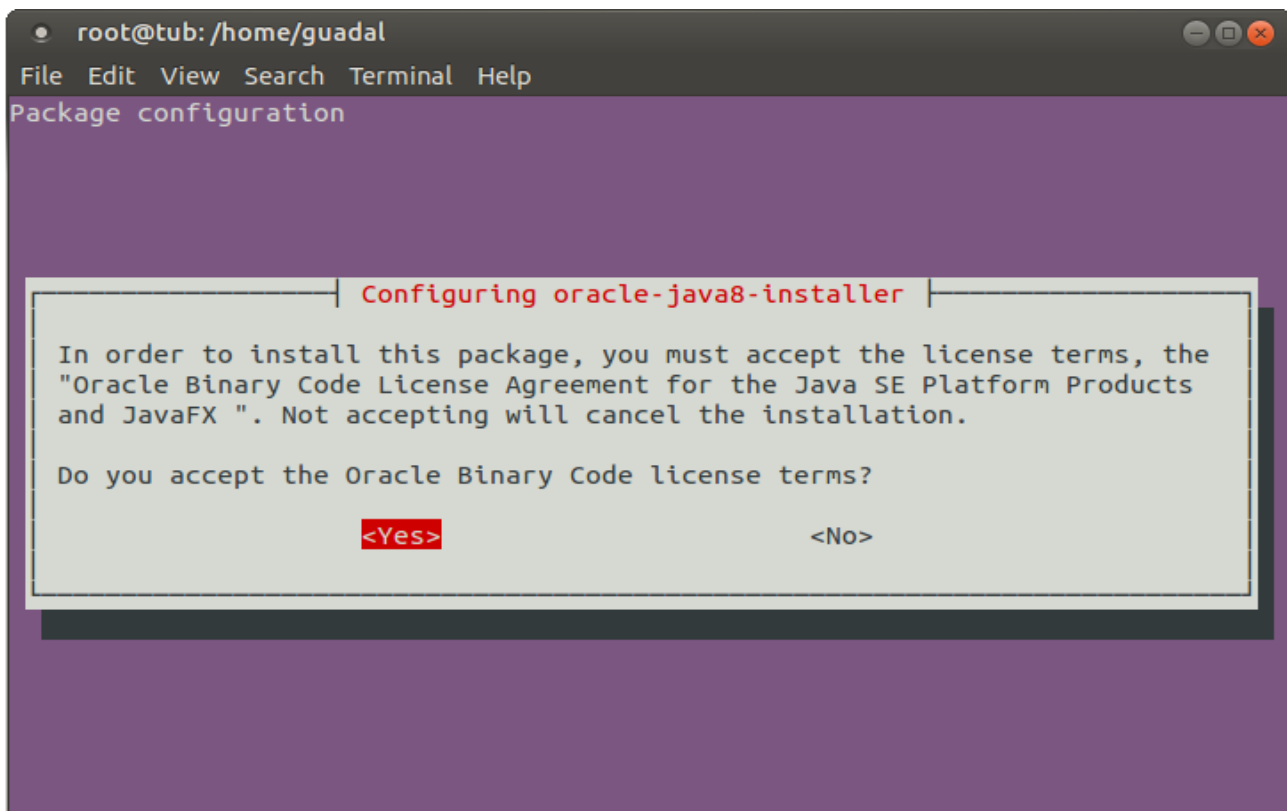
Configuring oracle-java8-installer

Oracle Binary Code License Agreement for the Java SE Platform Products
and JavaFX

You MUST agree to the license available in http://java.com/license if
you want to use Oracle JDK.

<Ok>
```

Will ask newly. Answer: **Yes** → **Enter**



```
root@tub: /home/guadal
File Edit View Search Terminal Help
Package configuration

Configuring oracle-java8-installer

In order to install this package, you must accept the license terms, the
"Oracle Binary Code License Agreement for the Java SE Platform Products
and JavaFX ". Not accepting will cancel the installation.

Do you accept the Oracle Binary Code license terms?

<Yes> <No>
```

If you have more than one java version installed, please choose Oracle Java 1.8:

```
sudo update-alternatives --config java
```

You can see the active java version:

```
java -version
```

To configure automatically the Java 8 Environment:

```
sudo apt-get install oracle-java8-set-default
```

3)

### ----- Installation of LibreOffice -----

LibreOffice is need it to convert to pdf the uploaded files.

The ubuntu desktop iso have already LibreOffice installed, so don't need install it.

This is only for server ubuntu iso.

```
sudo add-apt-repository ppa:libreoffice/ppa
```

```
sudo apt-get update
```

```
sudo apt-get install libreoffice
```

Now some kind of information only:

LibreOffice installation folder is /usr/lib/libreoffice.

4)

### ----- Installation ImageMagic, Sox and Swftools -----

**ImageMagic**, will work the image files, jpg, png, gif, etc. Will install it and some more libraries.

```
sudo apt-get install -y imagemagick gdebi libgif4 libjpeg62 synaptic zlib1g-dev liboil0.3 unzip  
make build-essential wget
```

**Sox**, work the sound. Will compile.

```
cd /opt
```

```
wget http://sourceforge.net/projects/sox/files/sox/14.4.2/sox-14.4.2.tar.gz
```

```
tar xzvf sox-14.4.2.tar.gz
```

```
cd /opt/sox-14.4.2
```

```
./configure
```

```
make && make install
```

**Swftools.** LibreOffice convert the uploaded office files to pdf, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. Don't use a newer version, surely have not pdf2swf.

**For 64 bit:**

```
cd /opt
```

(Only one line without space between both)

```
wget https://launchpad.net/ella-renaissance/ella-renaissance-beta/beta1/+download/swftools_0.9.1-1_amd64.deb
```

```
dpkg -i swftools_0.9.1-1_amd64.deb
```

```
echo "swftools hold" | sudo dpkg --set-selections (To block version).
```

**For 32 bit:**

```
cd /opt
```

```
wget http://www.tataranovich.com/debian/pool/squeeze/main/s/swftools/swftools_0.9.1-1_i386.deb
```

```
dpkg -i swftools_0.9.1-1_i386.deb
```

```
echo "swftools hold" | sudo dpkg --set-selections (To block version)
```

5)

----- **Installation of Adobe Flash Player** -----

OpenMeetings even need Adobe Flash Player for rooms. Install it:

```
sudo apt-get install flashplugin-installer
```

6)

----- Installation of Jodconverter -----

**Jodconverter** work to convert uploaded files.

```
cd /opt
```

```
wget http://jodconverter.googlecode.com/files/jodconverter-core-3.0-beta-4-dist.zip
```

```
unzip jodconverter-core-3.0-beta-4-dist.zip
```

7)

----- Compilation of FFmpeg -----

**FFmpeg** will work with video.

This compilation is based on:

<https://trac.ffmpeg.org/wiki/CompilationGuide/Ubuntu>

Updated to 12-8-2016. Install libraries.

(Only one line with space between each one)

```
sudo apt-get -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-dev  
libgpac-dev libsdl1.2-dev libtheora-dev libtool libva-dev libvdpau-dev libvorbis-dev libxcb1-dev  
libxcb-shm0-dev libxcb-xfixes0-dev pkg-config texi2html zlib1g-dev nasm libx264-dev cmake  
mercurial libopus-dev curl git nmap
```

We'll employ a script that it will download, compile and install ffmpeg. It is tested and works rightly. Audio and video synchronized. MP4 and Ogg ok.

Please, download the script.

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-ubuntu-  
debian.sh
```

...concede permission of execution:

```
chmod +x ffmpeg-ubuntu-debian.sh
```

...and run it (be connected to Internet). The compilation will spend about 30 minutes:

```
./ffmpeg-ubuntu-debian.sh
```

When finish the compilation, a text will announce it:

**FFmpeg Compilation is Finished!**

Then, please, go to **step 8**).

But if you prefer copy and paste (i **don't advise**), here leave the commands script:

```
sudo gedit /opt/ffmpeg.sh
```

...copy and paste **from here**:

```
# FFmpeg compilation for Ubuntu and Debian.
# Alvaro Bustos. Thanks to Hunter.
# Updated 12-8-2016
```

```
sudo apt-get update
sudo apt-get -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-dev
libsdl1.2-dev libtheora-dev libtool libva-dev libvdpau-dev libvorbis-dev libxcb1-dev libxcb-shm0-
dev libxcb-xfixes0-dev pkg-config texi2html zlib1g-dev mercurial cmake
```

```
# Create a directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources
```

```
# Download the necessary sources.
wget ftp://ftp.gnome.org/mirror/xbmc.org/build-deps/sources/lame-3.99.5.tar.gz
wget http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
wget -O fdk-aac.tar.gz https://github.com/mstorsjo/fdk-aac/tarball/master
wget http://downloads.xiph.org/releases/opus/opus-1.1.2.tar.gz
wget http://storage.googleapis.com/downloads.webmproject.org/releases/webm/libvpx-1.5.0.tar.bz2
git clone --depth 1 git://source.ffmpeg.org/ffmpeg
```

```
# Unpack files
for file in `ls ~/ffmpeg_sources/*.tar.*`; do
tar -xvf $file
done
```

```

cd yasm-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" && make && sudo make
install && make distclean; cd ..

cd x264-*/
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"
--enable-static && PATH="$HOME/bin:$PATH" make && sudo make install && make distclean;
cd ..

cd x265/build/linux
PATH="$HOME/bin:$PATH" cmake -G "Unix Makefiles"
-DCMAKE_INSTALL_PREFIX="$HOME/ffmpeg_build" -DENABLE_SHARED:bool=off
../../source && make && sudo make install && make distclean; cd ~/ffmpeg_sources

cd mstorsjo-fdk-aac*
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make &&
sudo make install && make distclean; cd ..

cd lame-*/
./configure --prefix="$HOME/ffmpeg_build" --enable-nasm --disable-shared && make && sudo
make install && make distclean; cd ..

cd opus-*/
./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && sudo make install &&
make distclean; cd ..

cd libvpx-*/
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --disable-examples
--disable-unit-tests && PATH="$HOME/bin:$PATH" make && sudo make install && make clean;
cd ..

cd ffmpeg
PATH="$HOME/bin:$PATH" PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig"
./configure --prefix="$HOME/ffmpeg_build" --pkg-config-flags="--static" --extra-cflags="-
I$HOME/ffmpeg_build/include" --extra-ldflags="-L$HOME/ffmpeg_build/lib"
--bindir="$HOME/bin" --enable-gpl --enable-libass --enable-libfdk-aac --enable-libfreetype
--enable-libmp3lame --enable-libopus --enable-libtheora --enable-libvorbis --enable-libvpx
--enable-libx264 --enable-libx265 --enable-nonfree && PATH="$HOME/bin:$PATH" make &&
sudo make install && make distclean && hash -r; cd ..

cd ~/bin
cp ffmpeg ffprobe ffplay ffmpegserver vsyasm x264 yasm ytasm /usr/local/bin

cd ~/ffmpeg_build/bin
cp lame x265 /usr/local/bin

echo "FFmpeg Compilation is Finished!"

```

**...to here.**

Concede permission of execution:

```
chmod +x /opt/ffmpeg.sh
```

Now be connected to Internet, run the script and wait some long minutes while the compilation:

```
cd /opt
```

```
./ffmpeg.sh
```

All the compiled files are installed on: /usr/local/bin

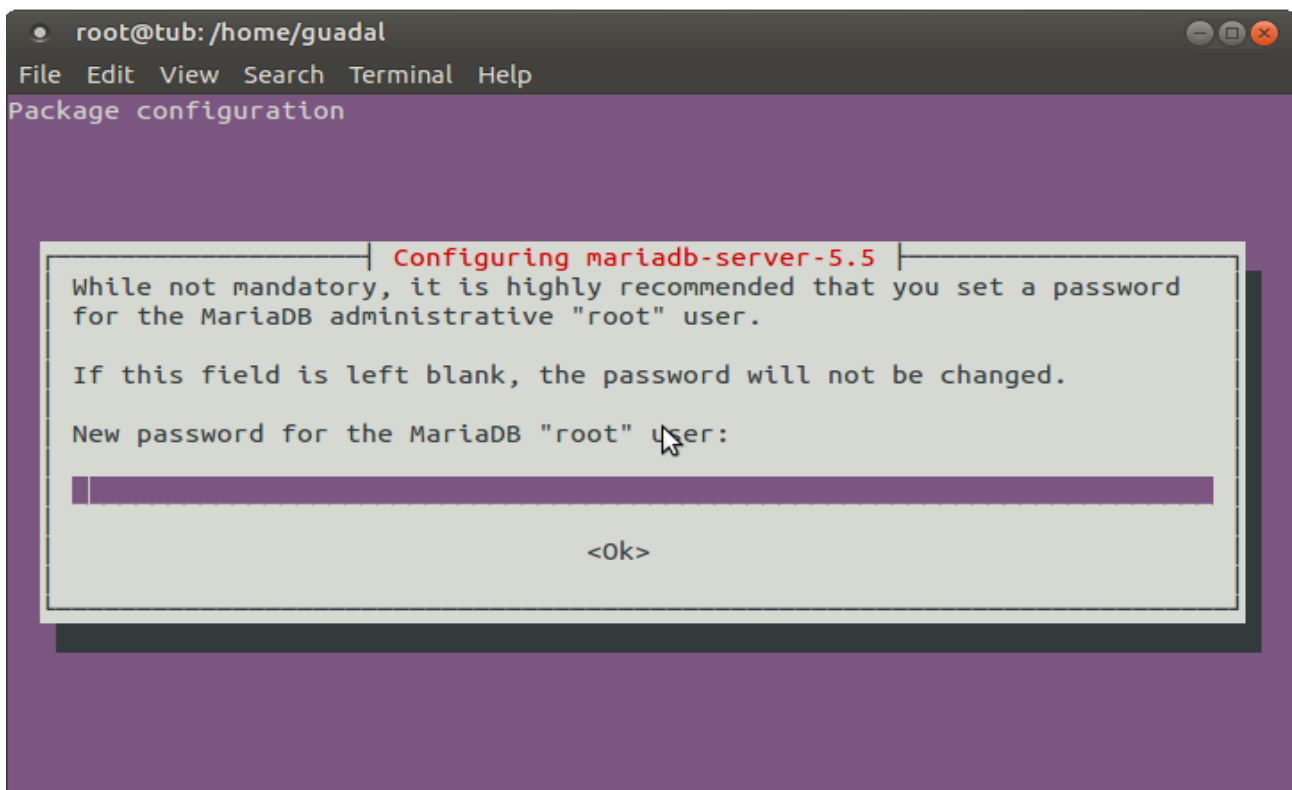
8)

----- Installation and configuration of MariaDB data server -----

**MariaDB** is the data server. Will install it. (Versions 5.5 or 10.x):

```
sudo apt-get install mariadb-server
```

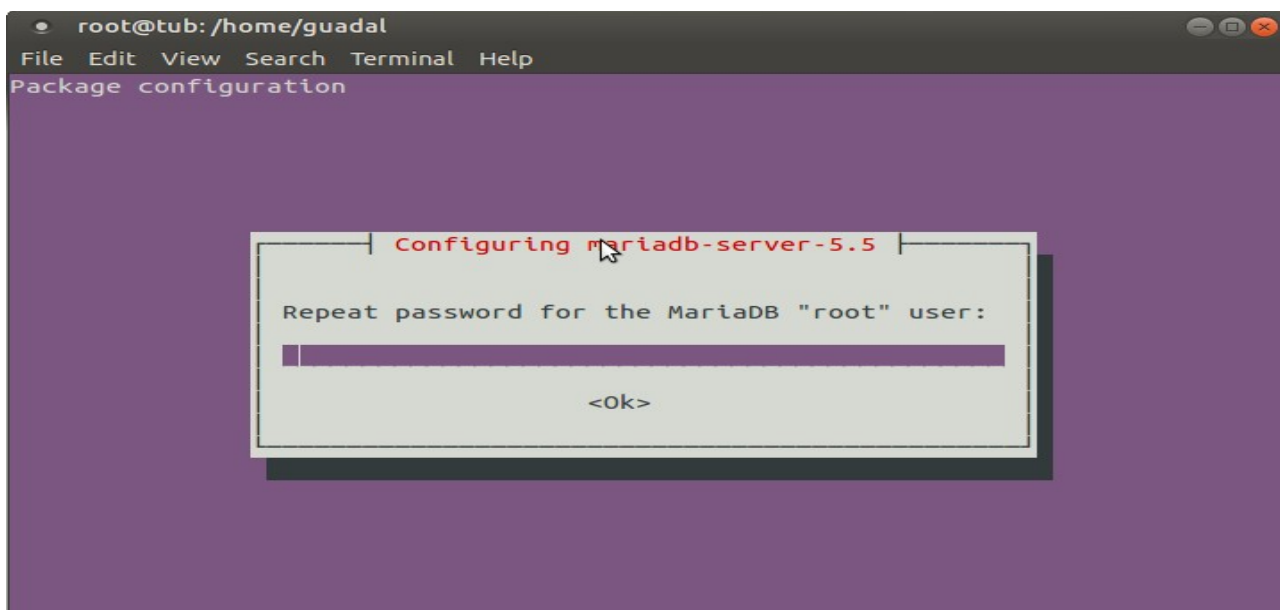
Will open a window asking for a root MariaDB password.





Type one password → OK → **Enter**

Will ask repeat the password:



Run MariaDB:

```
/etc/init.d/mysql start
```

Make a database with his own user for OpenMeetings:

```
mysql -u root -p
```

...will ask for the root password that we have just chosen, type it...

```
MariaDB [(none)]> CREATE DATABASE open312 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open312.

Now we create a user with all permission on this database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open312.* TO 'hola'@'localhost'
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

- \* open312 .....is the database name.
- \* hola .....is the user name for the database.
- \* 123456 .....is the password of that user

You can change the data...but remember it! Later well need it.

Now, we leave MariaDB:

MariaDB [(none)]> quit

9)

----- Installation of OpenMeetings -----

We'll install OpenMeetings in /opt/red5312. All the following information will be based on this directory.

Call to our folder of installation red5312

Make the folder:

```
mkdir /opt/red5312
```

```
cd /opt/red5312
```

```
wget http://ftp.cixug.es/apache/openmeetings/3.1.2/bin/apache-openmeetings-3.1.2.zip
```

```
unzip apache-openmeetings-3.1.2.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.2.zip /opt
```

Do to **nobody** owner of the whole OpenMeetings folder installation:

```
chown -R nobody /opt/red5312
```

Unload and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.39/mysql-connector-java-5.1.39.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.39.jar /opt/red5312/webapps/openmeetings/WEB-INF/lib
```

Now we are going to form OpenMeetings for our database in MariaDB:

```
gedit /opt/red5312/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**Modify on line 71:**

```
, Url=jdbc:mysql://localhost:3306/openmeetings_3_1?
```

...to

```
, Url=jdbc:mysql://localhost:3306/open312?
```

...it is the name of the database that we did initially.

**Modify on line 76:**

```
, Username=root
```

...to

```
, Username=hola
```

...is the user that we did initially for the database.

**Modify on line 77:**

```
, Password=" />
```

...to

```
, Password=123456" />
```

...it is the password that we did initially for the user "openmeetings" in the database.

Logically, if initially you chose another name and password for the database, you must change them here.

We protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red5312/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**10)**

----- Script to launch red5-OpenMeetings -----

Please, unload the red5 run script:

```
cd /opt
```

`wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-ubdeb`

...and copy it to:

```
cp red5-ubdeb /etc/init.d/
```

Concede permission of execution:

```
chmod +x /etc/init.d/red5-ubdeb
```

11)

----- **Run red5-OpenMeetings** -----

Start MariaDB if still it is not:

```
/etc/init.d/mysql start
```

...and now start red5-OpenMeetings:

```
/etc/init.d/red5-ubdeb start
```

...will appear two text lines in the shell:

```
start-stop-daemon: --start needs --exec or --startas  
Try 'start-stop-daemon --help' for more information.
```

...you do nothing. Don't worry, everything work right.

Wait 40 seconds at least, in order that red5 it is runing completely, and after can go to:

<http://localhost:5080/openmeetings/install>

...there will appear a page similar to this one:

## OpenMeetings

## 1. Enabling Image Upload and import to whiteboard

- o Install **ImageMagick** on the server, you can get more information on <http://www.imagemagick.org> regarding installation. The instructions for installation can be found there <http://www.imagemagick.org/script/binary-releases.php>, however on most linux systems you can get it via your favorite package managers (apt-get it)

## 2. Enabling import of PDFs into whiteboard

- o Install **GhostScript** on the server, you can get more information on <http://pages.cs.wisc.edu/~ghost/> regarding installation. The instructions for installation can be found there, however on most linux systems you can get it via your favorite package managers (apt-get it).
- o Install **SWFTools** on the server, you can get more information on <http://www.swftools.org/> regarding installation. Some of the Linux distributions already have it in there package manager see <http://packages.debian.org/unstable/utls/swftools>, the recommended version of **SWFTools** is 0.9 as prior version have a bug that does lead to wrong object dimensions in the Whiteboard

## 3. Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whiteboard

- o **OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details

## 4. Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard


- o Install **FFmpeg**. You should get FFMPEG in an up to date copy! For Windows you can download a Build for example from <http://ffmpeg.arrozcru.org/builds/> Linux or OSX Users should be able to use one of the various installation instructions on the Web. You need to enable libmp3lame!
- o Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

Push on  button, (bottom), and will show the default configuration with Derby, but we employ MySQL (MariaDB):

OpenMeetings

DB configuration

**Recommendation for production environment**

By default OpenMeetings uses the integrated [Apache Derby](#) database. For production environment you should consider using [MySQL](#), [PostgreSQL](#), [IBM DB2](#), [MSSQL](#) or [Oracle](#)

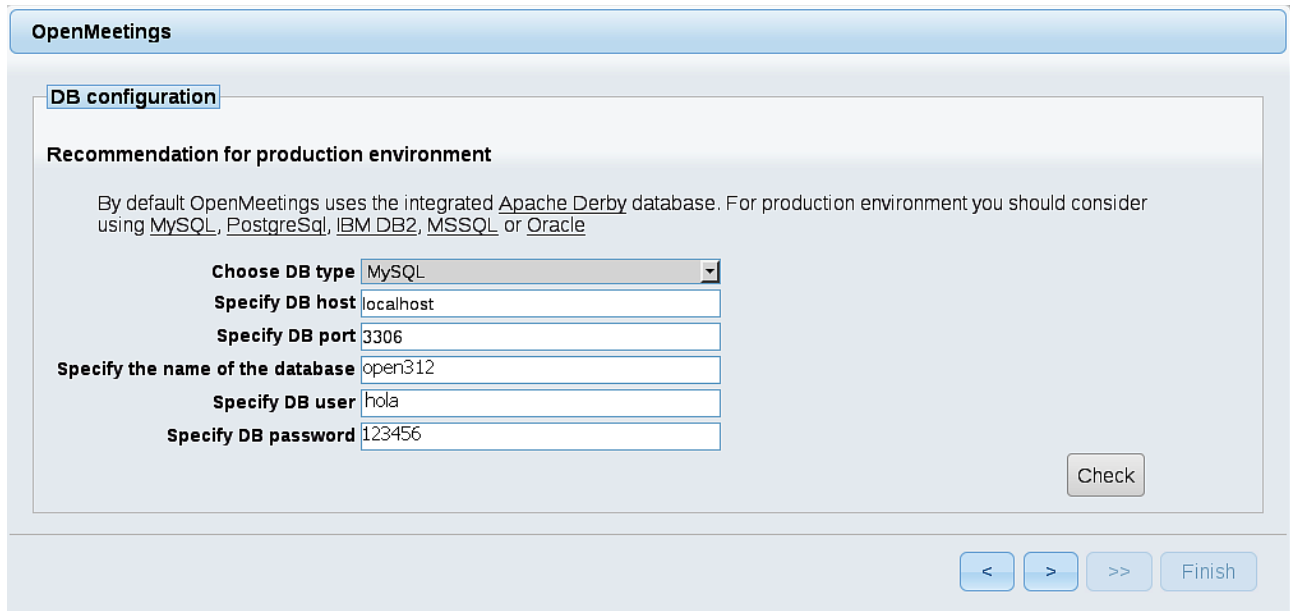
Choose DB type

Specify the name of the database

Specify DB user

Specify DB password

...then, scroll and **Choose DB type** to MySQL:



The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section active. It includes a recommendation for a production environment and several input fields for database settings. The 'Choose DB type' dropdown is set to 'MySQL'. Other fields include 'Specify DB host' (localhost), 'Specify DB port' (3306), 'Specify the name of the database' (open312), 'Specify DB user' (hola), and 'Specify DB password' (123456). A 'Check' button is located at the bottom right of the configuration area. At the very bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle

**Choose DB type** MySQL

**Specify DB host** localhost

**Specify DB port** 3306

**Specify the name of the database** open312


**Specify DB user** hola

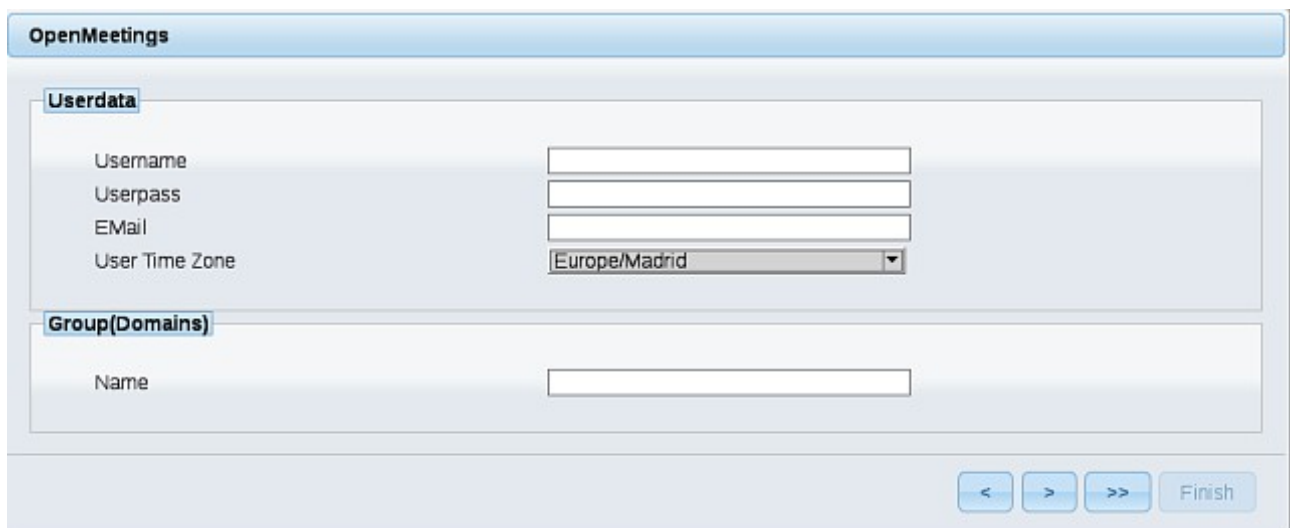
**Specify DB password** 123456

Check

< > >> Finish

...will show the data base configuration we made in step 9, or with your own modifications.

Please, push  button, and will go to:



The screenshot shows the 'OpenMeetings' application window with the 'Userdata' section active. It contains four input fields: 'Username', 'Userpass', 'EMail', and 'User Time Zone'. The 'User Time Zone' dropdown is set to 'Europe/Madrid'. Below this is the 'Group(Domains)' section with a 'Name' input field. At the bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

**OpenMeetings**

**Userdata**

Username

Userpass

EMail

User Time Zone Europe/Madrid

**Group(Domains)**

Name

< > >> Finish

Now we must introduce the followings data:

**Username** = a-name ...this user will be administrator.

**Userpass** = password ...for the previous user.

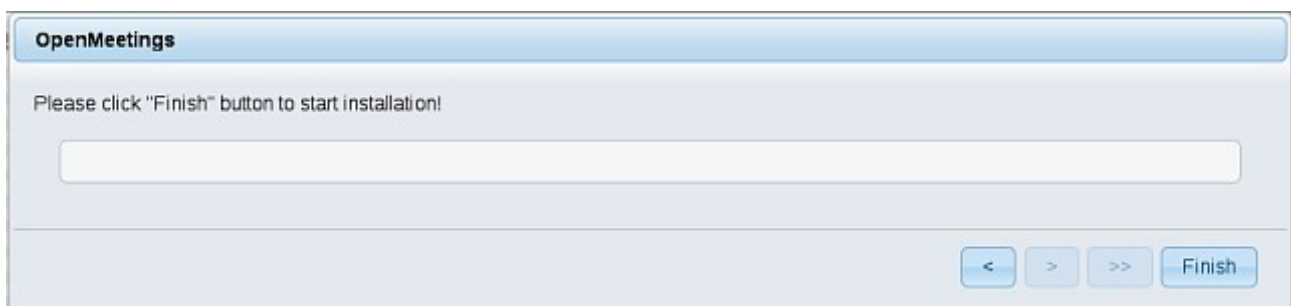
**Email** = email-adress ...of the previous user.

**User Time Zone** = country where is this server.

**Name** = example-openmeetings ...group name to choose.

When the installation be finished, we'll configure the rest.

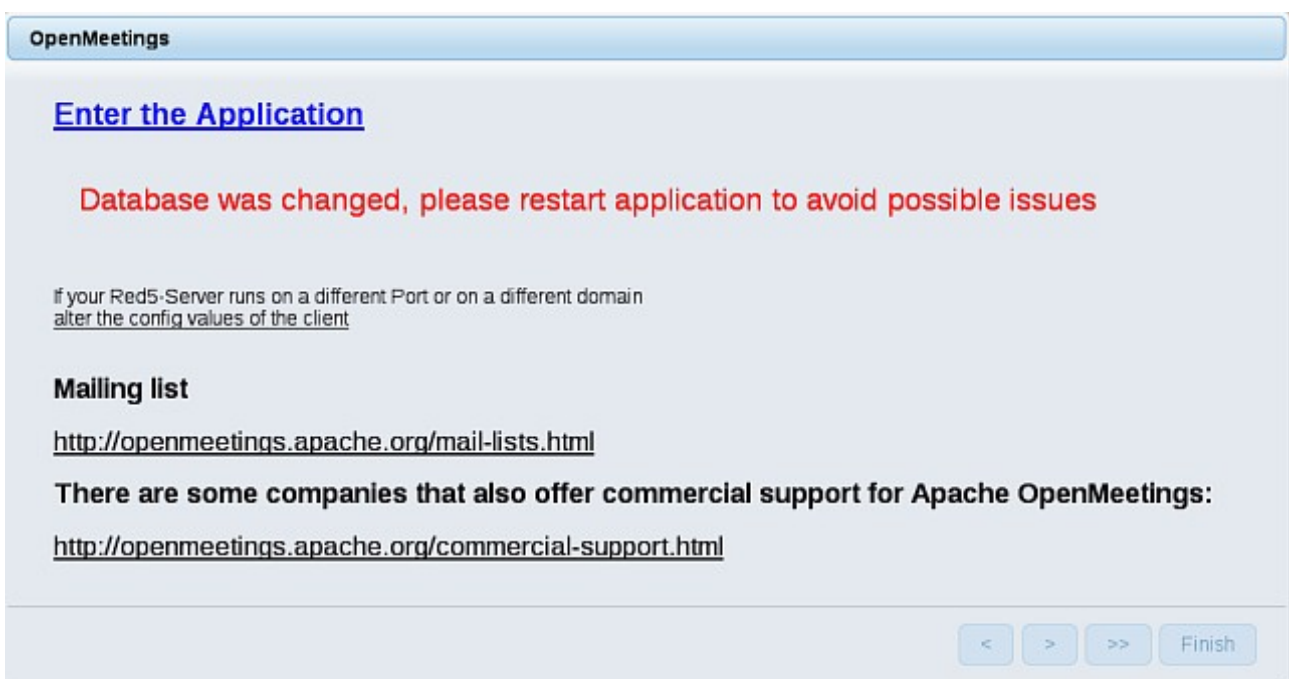
Now, we go to bottom page and push the button  (double arrow). Will show this:



Push **Finish** button ...wait a seconds until the tables are fill in the database.

When has concluded, this another page will appear. **Don't** clic on [Enter the Application](#). First is need it to restart the server:

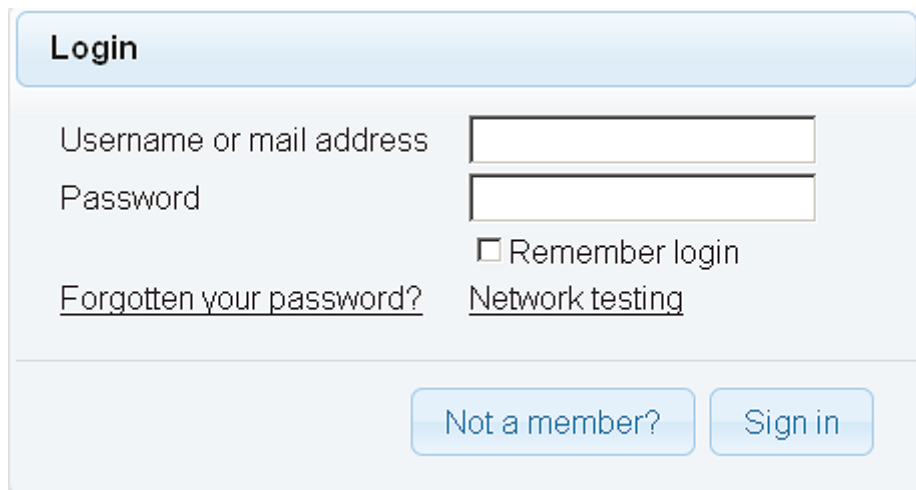
[/etc/init.d/red5-ubdeb restart](#)



Now yes, you can clic on [Enter the Application](#), or go with your browser to:

<http://localhost:5080/openmeetings>

...and will take us to the entry of OpenMeetings:



Introduce the user's name and the password that you have chosen during the installation, push **Sign in** button and...

**...Congratulations!**

The next time that you like to accede to OpenMeetings will be:

<http://localhost:5080/openmeetings>

Remember to open in the server the two following ports:

**1935 5080**

...in order that it could accede to OpenMeetings from other machines.

12)

----- **OpenMeetings's configuration** -----

Once you acced to OpenMeetings go to:


**Administration → Configuration**





Home ▾ Rooms ▾ Recordings ▾ Administration ▾

Welcome

 **Hello firstname lastname**

Timezone Europe/Madrid  
Unread messages [0](#)  
[Edit your profile](#)

[Upload new image](#)

**Help and support**

[Project website \(http://openmeetings.apache.org\)](http://openmeetings.apache.org)  
[User mailing list \(http://openmeetings.apache.org/mail-lists.html\)](http://openmeetings.apache.org/mail-lists.html)  
[Network testing](#)

...introduce the parameters for the conversion of files, the audio and the video:

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 | Search

ID	Key	Value
4	...	...
5	default_group_id	1
6	smtp_server	localhost
7	smtp_port	25
8	system_email_addr	
9	email_username	
10	email_userpass	123456
11	mail.smtp.starttls.enable	0
12	mail.smtp.connection.timeout	30000
13	mail.smtp.timeout	30000
14	application.name	OpenMeetings
15	default_lang_id	1
16	swftools_zoom	100
17	swftools_jpegquality	85
18	swftools_path	
19	imagemagick_path	
20	sox_path	
21	ffmpeg_path	
22	office.path	
23	jod.path	

**configuration**

Key

Value

Last update 26.02.2016 08:48:28

Updated by

Comment

1 2 3

Clic on: **swftools\_path**...and to the right in **Value** type: [/usr/local/bin](#)

Clic on: **imagemagick\_path**...and to the right in **Value** type: [/usr/bin](#)

Clic on: **sox\_path**...and to the right in **Value** type: [/usr/local/bin](#)

Clic on: **ffmpeg\_path**...and to the right in **Value** type: [/usr/local/bin](#)

Clic on: **office.path**...and to the right in **Value** type (32 bit): [/usr/lib/libreoffice](#)

Clic on: **office.path**...and to the right in **Value** type (64 bit): [/usr/lib/libreoffice](#)

Clic on: **jod.path**...and to the right in **Value** type: [/opt/jodconverter-core-3.0-beta-4/lib](#)

Remember save after each change (arrow number 3, in the up screenshot).

Now there is OpenMeetings ready to work rightly.

We are going to remove files and folders that already do not serve us, if you do not want to save them.

```
rm -f /opt/jodconverter-core-3.0-beta-4-dist.zip
```

```
rm -f /opt/mysql-connector-java-5.1.39.jar
```

```
rm -f /opt/sox-14.4.2.tar.gz
```

```
rm -f -R /opt/sox-14.4.2
```

And this is all.

-----

If you have some doubt or question, please, raise it in the Apache OpenMeetings forums:

<http://openmeetings.apache.org/mail-lists.html>

Thank you.

Alvaro Bustos