



## Installation of Apache OpenMeetings 3.3.2 on Debian 8

This tutorial is made based on fresh installations of

**debian-8.6.0-amd64-CD-1.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.3.2 stable, that is to say will suppress his compilation. It is done step by step.

22-9-2017

Starting...

1)

First update and upgrade the OS:

```
apt-get update
```

```
apt-get upgrade
```

2)

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

OpenMeetings **3.3.2** need Java **1.8** to work. Add repository to install Oracle Java 1.8.

(Only one line with space between both)

```
echo "deb http://ppa.launchpad.net/webupd8team/java/ubuntu trusty main" | tee  
/etc/apt/sources.list.d/webupd8team-java.list
```

```
echo "deb-src http://ppa.launchpad.net/webupd8team/java/ubuntu trusty main" | tee -a  
/etc/apt/sources.list.d/webupd8team-java.list
```

```
apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys EEA14886
```

```
apt-get update
```

To accept the license automatically when install it:

(Only one line without space between both)

```
echo oracle-java8-installer shared/accepted-oracle-license-v1-1 select true | sudo /usr/bin/debconf-set-selections
```

...now install Oracle Java:

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

Maybe you have installed various versions of Java. We select the just installed Oracle Java:

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

To know the active java version:

```
java -version
```

3)

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

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

```
apt-get install libreoffice
```

4)

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

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

```
apt-get install imagemagick libgif4 libgif-dev zlib1g-dev liboil0.3 unzip make
```

```
apt-get install build-essential libfreetype6-dev wget
```

**Sox**, work the audio. 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 http://old-releases.ubuntu.com/ubuntu/pool/universe/s/swftools/swftools_0.9.0-0ubuntu1_amd64.deb
```

```
dpkg -i swftools_0.9.0-0ubuntu1_amd64.deb
```

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

**For 32 bit:**

```
cd /opt
```

(Only one line without space between both)

```
wget http://old-releases.ubuntu.com/ubuntu/pool/universe/s/swftools/swftools_0.9.0-0ubuntu1_i386.deb
```

```
dpkg -i swftools_0.9.0-0ubuntu1_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.

Add repository to can install it:

```
gedit /etc/apt/sources.list
```

...copy-paste these two lines and comment: # deb cdrom:[Debian GNU/Linux 8 \_Jessie\_ ...

```
deb http://ftp.us.debian.org/debian jessie contrib non-free
```

```
deb http://ftp.us.debian.org/debian jessie contrib
```

...save, update:

```
apt-get update
```

...and install:

```
apt-get install flashplugin-nonfree
```

6)

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

**FFmpeg** will work the video.

This compilation is based on:

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

Updated to 22-9-2017. Install libraries.

(Only one line with space between each one)

```
apt-get -y --force-yes install autoconf automake 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
```

I made a script that will download, compile and install ffmpeg. It is tested and works rightly.  
The result of any recording we do in OpenMeetings, will be in mp4 format.  
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 appear:

**FFmpeg Compilation is Finished!**

Then, please, go to **step 7**).

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

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

...copy and past **from here**:

```
# FFmpeg compilation for Ubuntu and Debian.
# Alvaro Bustos. Thanks to Hunter.
# Updated 22-9-2017

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-1.1.5.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 will be installed in: /usr/local/bin

7)

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

MariaDB is the data server.

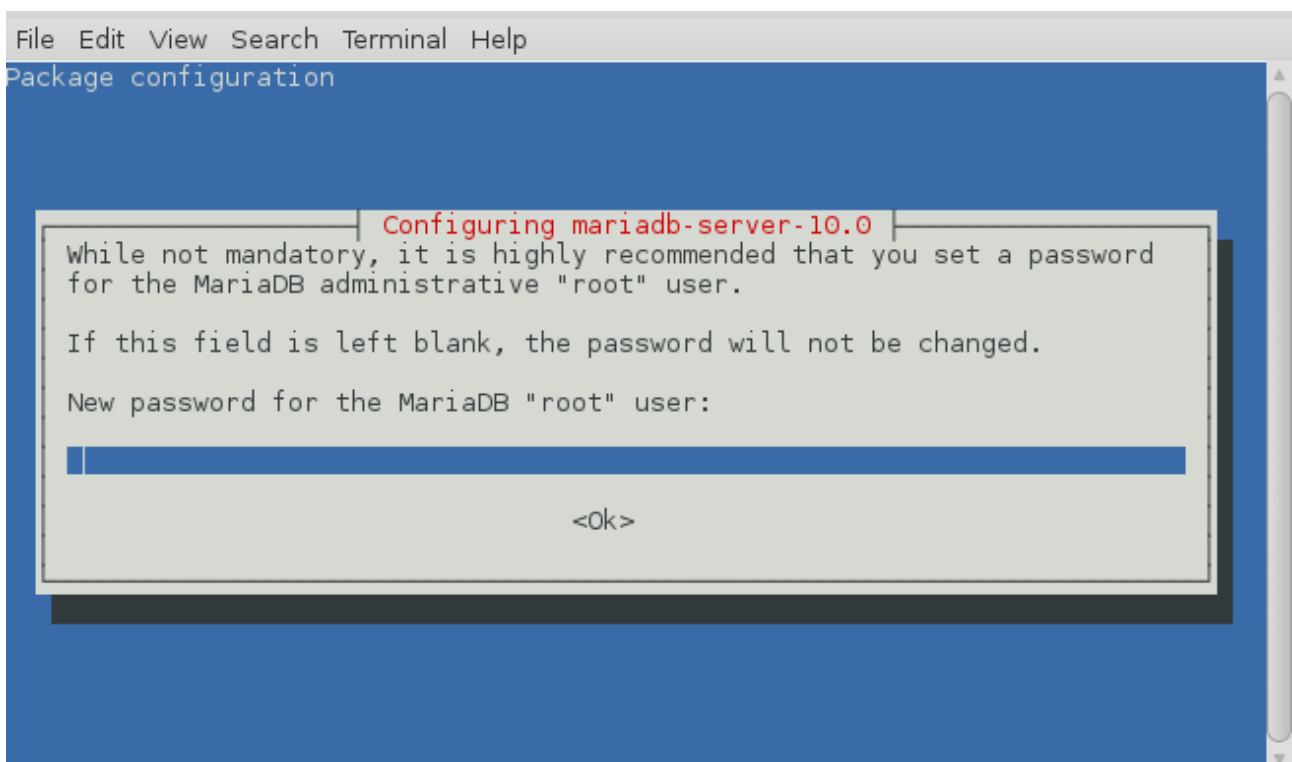
It is in Jessie repository. Install these packages:

```
sudo apt-get install python-software-properties software-properties-common
```

...and now MariaDB:

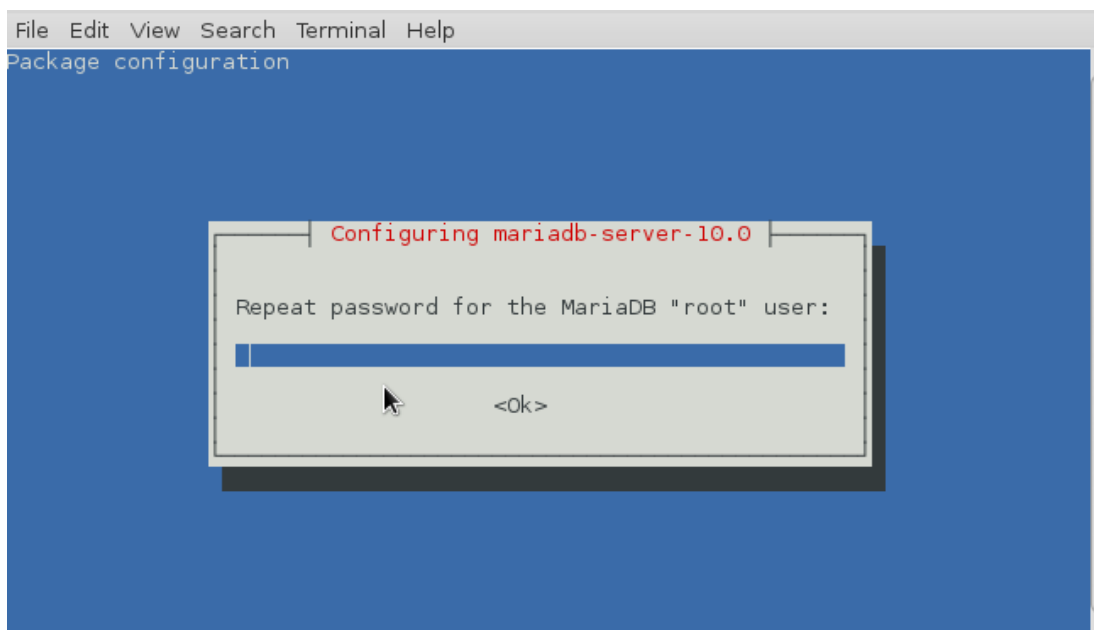
```
apt-get install mariadb-server
```

Will open a window asking for a root MariaDB password:



Type the password you like it → **Ok** → **Enter**

...will ask repeat the password:



Run MariaDB:

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

Make a database for OpenMeetings. User password must be of 8 digits minimum:

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

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

```
MariaDB [(none)]> CREATE DATABASE open332 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open332.

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

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open332.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

- \* open332 .....is the database name.
- \* hola .....is the user name for this database.
- \* 1a2B3c4D ...is the password of this user.

You can change the data...but remember it! Later we'll need it.



Now we leave MariaDB:

```
MariaDB [(none)]> quit
```

8)

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

We'll install OpenMeetings in /opt/red5332. All the following information will be based on this directory.

Call to our folder of installation red5332

Make the folder:

```
mkdir /opt/red5332
```

```
cd /opt/red5332
```

```
wget http://apache.miloslavbrada.cz/openmeetings/3.3.2/bin/apache-openmeetings-3.3.2.zip
```

```
unzip apache-openmeetings-3.3.2.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.3.2.zip /opt
```

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

```
chown -R nobody /opt/red5332
```

Download 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/5.1.42/mysql-connector-java-5.1.42.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.42.jar /opt/red5332/webapps/openmeetings/WEB-INF/lib
```

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

[gedit /opt/red5332/webapps/openmeetings/WEB-INF/classes/META-INF/mysql\\_persistence.xml](#)

**Modify on line 72:**

, Url=jdbc:mysql://localhost:3326/openmeetings\_3\_3?

...to

, Url=jdbc:mysql://localhost:3326/open332?

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

If you choose another name for the database, please type it here. Save the changes.

We protect the access to the file:

(Only one line without space between both)

[chmod 640 /opt/red5332/webapps/openmeetings/WEB-INF/classes/META-INF/mysql\\_persistence.xml](#)

9)

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

Please, download the red5 run script:

[cd /opt](#)

[wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-ubdeb2](#)

...and copy it to:

[cp red5-ubdeb2 /etc/init.d/](#)

Concede permission of execution:

[chmod +x /etc/init.d/red5-ubdeb2](#)

If you made the installation in any other different path to /opt/red5332, please edit the script and modify the line:

RED5\_HOME=[/opt/red5332](#)

...to

RED5\_HOME=/your-path-installation

## 10) ----- Run red5-OpenMeetings -----

Start MariaDB if still it is not:

`/etc/init.d/mysql start`

...and now start red5-OpenMeetings:

`/etc/init.d/red5-ubdeb2 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 about 40 seconds minimum, in order that red5 it is runing completely, and later can go to:

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

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

**OpenMeetings**

**1. Enabling import of PDFs into whiteboard**

- 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).
- 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/utils/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

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


**Community-Support:**

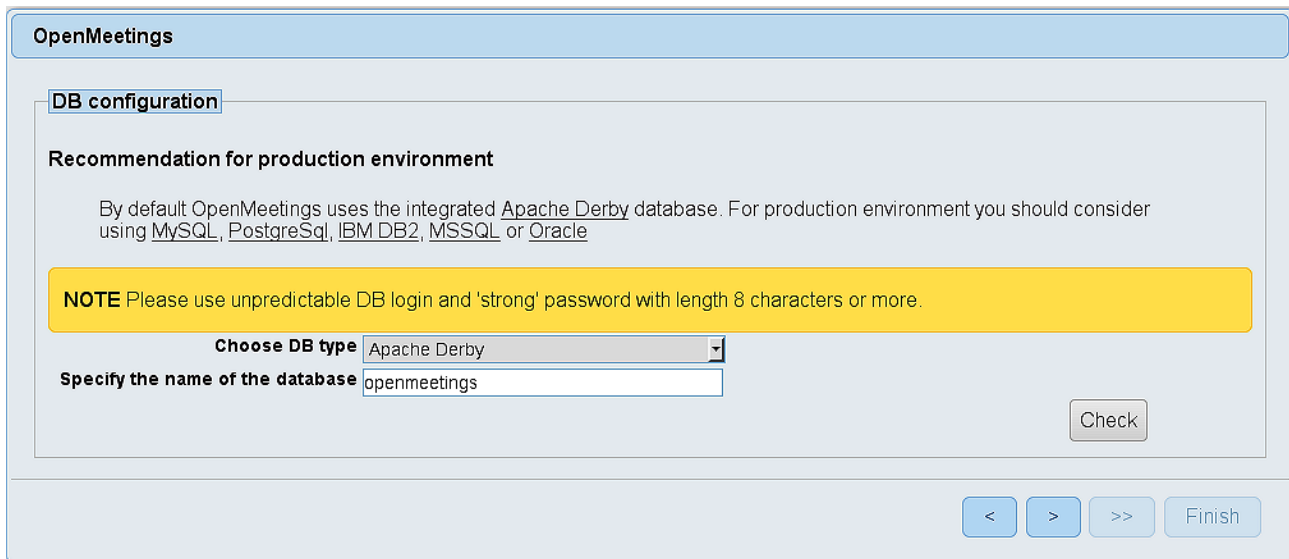
[Mailing lists](#)

**Commercial-Support:**

[Commercial-Support](#)

<
>
>>
Finish

Push  button (bottom), and will show the default database 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

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

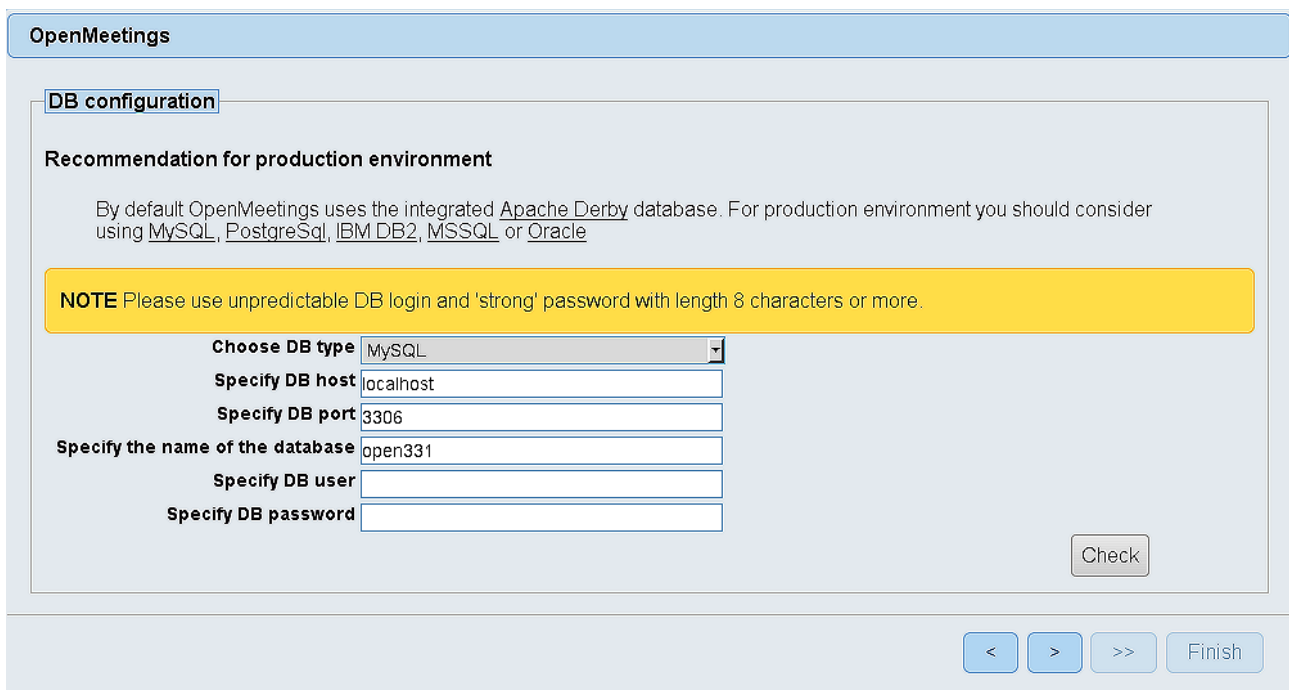
**Choose DB type** Apache Derby

**Specify the name of the database** openmeetings

Check

< > >> Finish

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



**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

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

**Choose DB type** MySQL

**Specify DB host** localhost

**Specify DB port** 3306

**Specify the name of the database** open331

**Specify DB user**

**Specify DB password**

Check

< > >> Finish


...and will show our data base configuration we made in step 8.

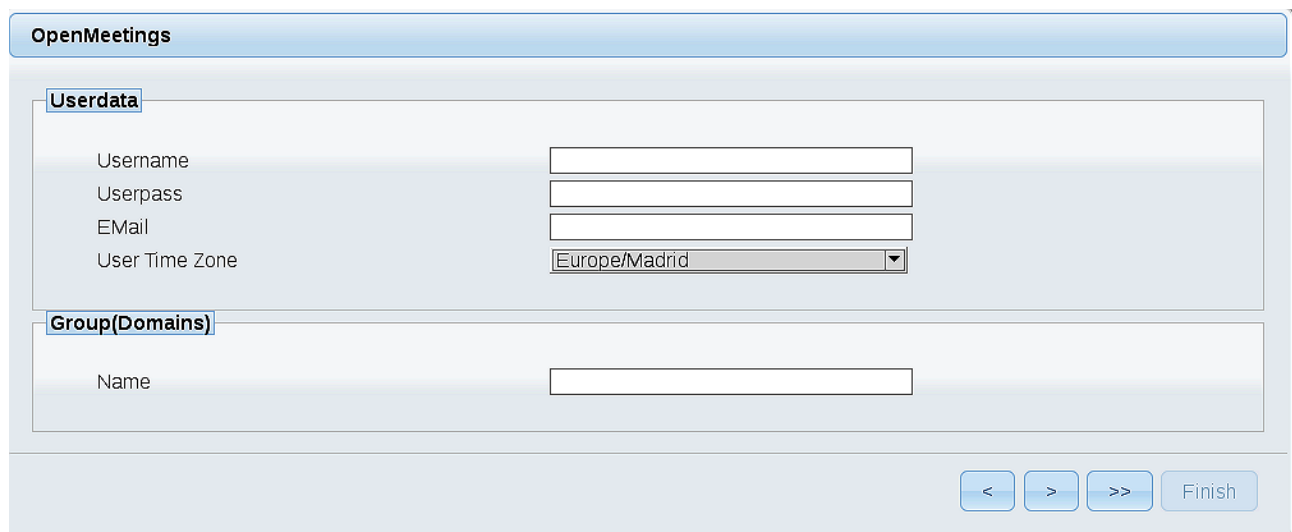
If you`ve choose any other different name for this, will show equally.

Now we must introduce the user name we did for our data base, at the step 8, and his password:

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

Please, push  button, and will go to:



Here, we must introduce a user name for OpenMeetings, and his password. This must have 8 digits minimum, and at least 1 special symbol like: +(%#!...etc.


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

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

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

**User Time Zone** = country where is this serve

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

Press the button  and will lead us to a new page (below) where you can select the language for your OpenMeetings server, as well as other options such as the configuration of the mail server being used to send invitations or meetings from OpenMeetings:

**OpenMeetings**

**Configuration**

Allow self-registering (allow_frontend_register)	<input type="text" value="Yes"/>
Send Email to new registered Users (sendEmailAtRegister)	<input type="text" value="No"/>
New Users need to verify their EMail (sendEmailWithVerificationCode)	<input type="text" value="No"/>
Default Rooms of all types will be created	<input type="text" value="Yes"/>
Mail-Referer (system_email_addr)	<input type="text" value="noreply@openmeetings.apache.org"/>
SMTP-Server (smtp_server)	<input type="text" value="localhost"/>
SMTP-Server Port(default SmtP-Server Port is 25) (smtp_port)	<input type="text" value="25"/>
SMTP-Username (email_username)	<input type="text"/>
SMTP-Userpass (email_userpass)	<input type="text"/>
Enable TLS in Mail Server Auth	<input type="text" value="No"/>
Set inviter's email address as ReplyTo in email invitations (inviter.email.as.replyto)	<input type="text" value="Yes"/>
Default Language	<input type="text" value="inglés"/>
Default Font for Export [default_export_font]	<input type="text" value="TimesNewRoman"/>

A valid example to configure the mail server with Gmail, is as follows:  
(replace **john@gmail.com** with your real Gmail account)

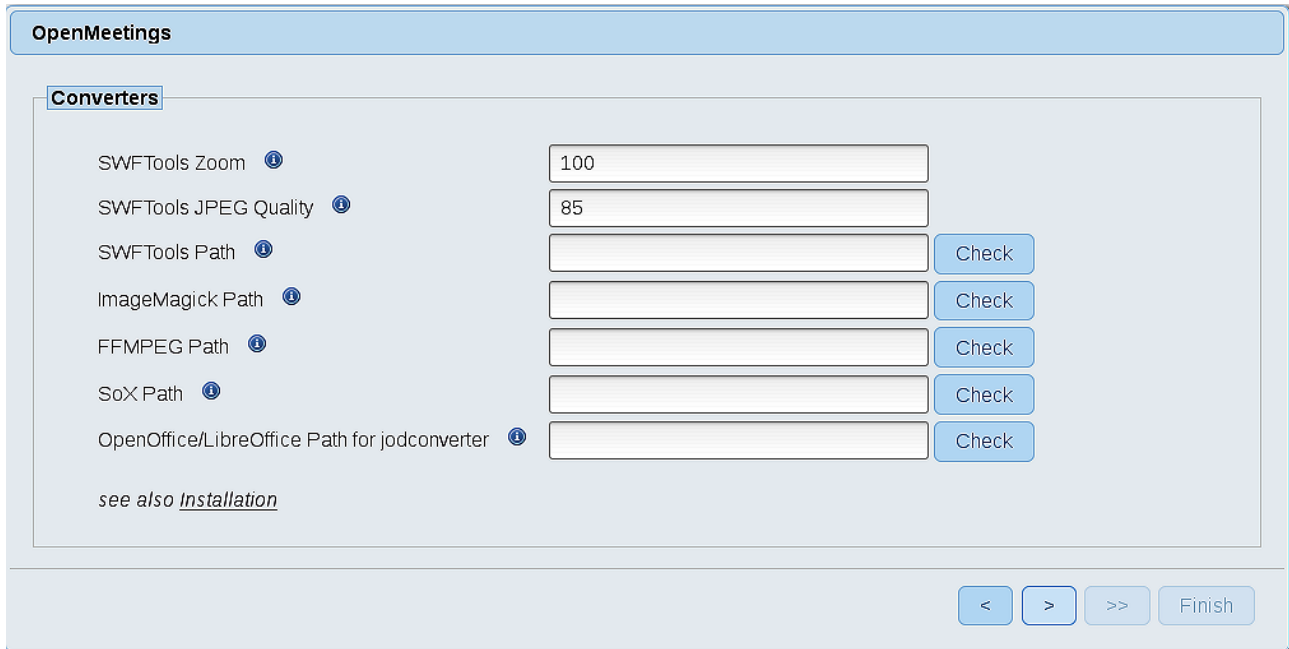
<b>Mail-Refer (system_email_addr)</b>	==	<a href="mailto:john@gmail.com" style="color: blue;">john@gmail.com</a>
<b>SMTP-Server (smtp_server)</b>	==	<a href="mailto:smtp@gmail.com" style="color: blue;">smtp@gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25) (smtp_port)</b>	==	<a href="mailto:587" style="color: blue;">587</a>
<b>SMTP-Username (email_username)</b>	==	<a href="mailto:john@gmail.com" style="color: blue;">john@gmail.com</a>
<b>SMTP-Userpass (email_userpass)</b>	==	<a href="mailto:password of john@gmail.com" style="color: blue;">password of john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	<a href="mailto:Yes" style="color: blue;">Yes</a>

To select the language of your server OpenMeetings, please scroll on the line:

<b>Default Language</b>	==	<a href="mailto:english" style="color: blue;">english</a>
-------------------------	----	---

...the rest we can leave as is. If necessary, can modify it as you like it.

Now press the button  and a new page will appear:



**OpenMeetings**

**Converters**

SWFTools Zoom ⓘ

SWFTools JPEG Quality ⓘ

SWFTools Path ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

see also [Installation](#)

< > >> Finish

Here we'll introduce the respective paths for the image, video, audio and conversion of uploaded files:

**SWFTools Path (Path)** == `/usr/bin`


**ImageMagick Path (Path)** == `/usr/bin`

**FFMPEG Path (Path)** == `/usr/local/bin`

**SOX Path (Path)** == `/usr/local/bin`

**OpenOffice/LibreOffice Path (Path) for jodconverter** == `/usr/lib/libreoffice (32 - 64bits)`

As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**. If it does not display any error message, that is OK.

Once completed the paths, please click the  button and move on to another page that would be to activate the SIP. We will leave it as is, unless you want to activate it knowing what it does:

**OpenMeetings**

**Crypt Type**

Crypt Class

*You can use this default crypt type which is equal to PHP-MD5 function or BSD-Style encryption by using: **org.apache.openmeetings.util.crypt.MD5CryptImplementation** for more information or to write your own Crypt-Style see: [Custom Crypt Mechanism](#) You can edit this value later BUT previous created Users and Sessions might be not usable anymore*

**red5SIP Configuration**

Enable SIP

*Enable red5SIP integration*

SIP rooms prefix

*Prefix for phone number of conference rooms*

SIP extensions context

*Context of Asterisk extensions*

Now push the button  Will show this window:

**OpenMeetings**

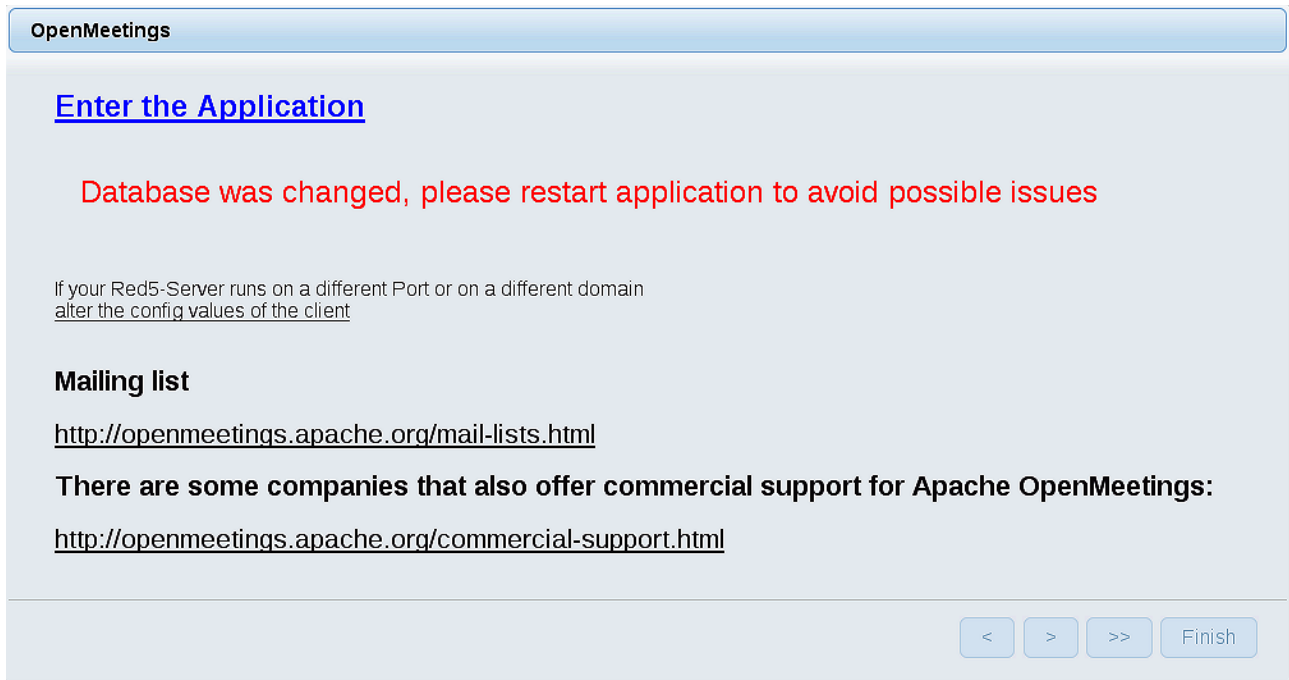
Please click "Finish" button to start installation!

Push **Finish** button ...wait a seconds untill 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-ubdeb2 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:

The screenshot shows a login form titled "Login". It contains the following elements: a text input field for "Username or mail address", a text input field for "Password", a checkbox labeled "Remember login", a link for "Forgotten your password?", and a link for "Network testing". At the bottom, there are two buttons: "Not a member?" and "Sign in".

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

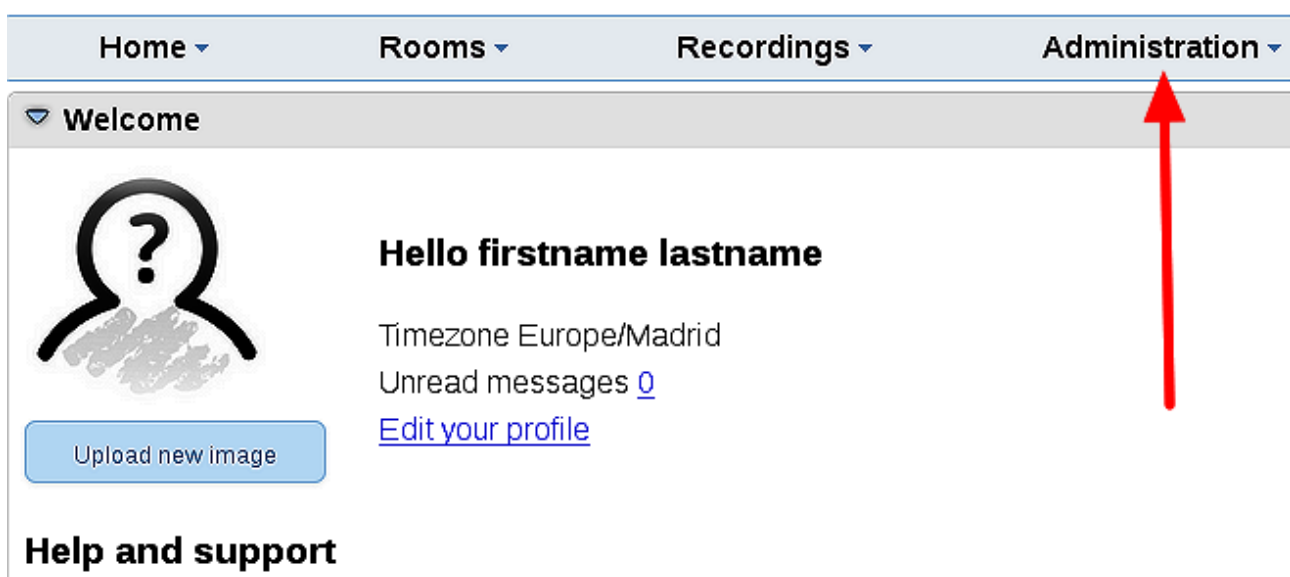
...in order that it could accede to OpenMeetings from other machines in Lan or from Internet.

11)

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

Once you acced to OpenMeetings, if you would like to do any modification in the configuration, please go to:

**Administration → Configuration**



The screenshot displays the OpenMeetings user interface. At the top, there is a navigation bar with four menu items: "Home", "Rooms", "Recordings", and "Administration". The "Administration" menu item is highlighted with a red arrow pointing upwards. Below the navigation bar, there is a "Welcome" section with a user profile icon (a question mark inside a circle) and the text "Hello firstname lastname". To the right of the profile icon, there is a button labeled "Upload new image". Below the profile icon, there is a section titled "Help and support". The "Administration" menu item is highlighted with a red arrow pointing upwards.

...and following the order of the red arrows:

ID	Key	Value
4	allow.oauth.register	1
5	default_group_id	1
6	smtp_server	localhost
7	smtp_port	25
8	system_email_addr	noreply@openmeetings.apache.org
9	email_username	
10	email_userpass	
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	

**Configuration**

Key: swftools\_path

Value:

Last update:

Updated by:

Comment: Path To SwF-Tools

1 → (points to row 18 in table)

2 → (points to Value field in configuration)

3 → (points to Configuration window title)

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

```
rm -f /opt/mysql-connector-java-5.1.42.jar
```

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

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

And this is all.

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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