



## Installation of Apache OpenMeetings 3.1.1 on Debian 8

This tutorial is made based on fresh installations of

**debian-8.3.0-amd64-CD-1.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.1 stable, that is to say will suppress his compilation. It is done step by step.

25-3-2016

Starting...

1)

First update and upgrade the OS:

`apt-get update`

`apt-get upgrade`

2)

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

Red5-OM need Java. Add repository to install Oracle Java 1.8.

(In only one line with space)

```
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:

(In only one line without space)

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

...now install Oracle Java 8:

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

For JAVA\_HOME Environment:

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

To know the active java version:

```
java -version
```

3)

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

LibreOffice is need it to convert to pdf the uploaded files. Jessie desktop iso have already LibreOffice installed. But if you are on iso server: [apt-get install libreoffice](#)

4)

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

**ImageMagic** will work the image files. Will install it and some more libraries.

```
apt-get install imagemagick gdebi libgif4 libgif-dev synaptic 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** work converting to swf the uploaded files.

Don't use a newer version swftools file. Don't have pdf2swf.

For **64** bit:

```
cd /opt (in only one line)
```

```
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
```

To block the version: `echo "swftools hold" | sudo dpkg --set-selections`

For **32** bit:

```
cd /opt (in only one line)
```

```
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
```

To block the version: `echo "swftools hold" | sudo dpkg --set-selections`

**5)**

#### **---- Installation of Adobe flash player ----**

OpenMeetings even need Adobe Flash Player for rooms.

Add repository 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)

#### ---- 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 22-3-2016. Install libraries.

(In 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-xf86-dev pkg-config texi2html zlib1g-dev nasm libx264-dev cmake  
mercurial libopus-dev`

We'll employ a script that it should download, compile and install ffmpeg.

It is updated to the last versions files 5-3-2016.

It is tested and works rightly with synchronized audio and video. Mp4 and Ogg ok.

Please, download the script. Inside the zip are the instructions to running it:

[https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg\\_script\\_compile\\_Ubuntu\\_Debian.zip?version=5&modificationDate=1458905207008&api=v2](https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Ubuntu_Debian.zip?version=5&modificationDate=1458905207008&api=v2)

...and after running the script can go to step 8). But if prefer copy and paste (i **don't advise**):

`sudo gedit /opt/ffmpeg.sh`

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

```
# Ffmpeg for Ubuntu, Debian 8 and Debian 7
# Alvaro Bustos. Thanks to Hunter.
# 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
wget http://download.videolan.org/pub/x264/snapshots/x264-snapshot-20160227-2245-
stable.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
wget http://ffmpeg.org/releases/ffmpeg-3.0.tar.gz

# 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-snapshot*
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 ffserver vsyasm x264 yasm yasm /usr/local/bin
```

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

```
echo "¡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 database server ----**

MariaDB is the database server..

It is in Jessie repository. Install these packages:

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

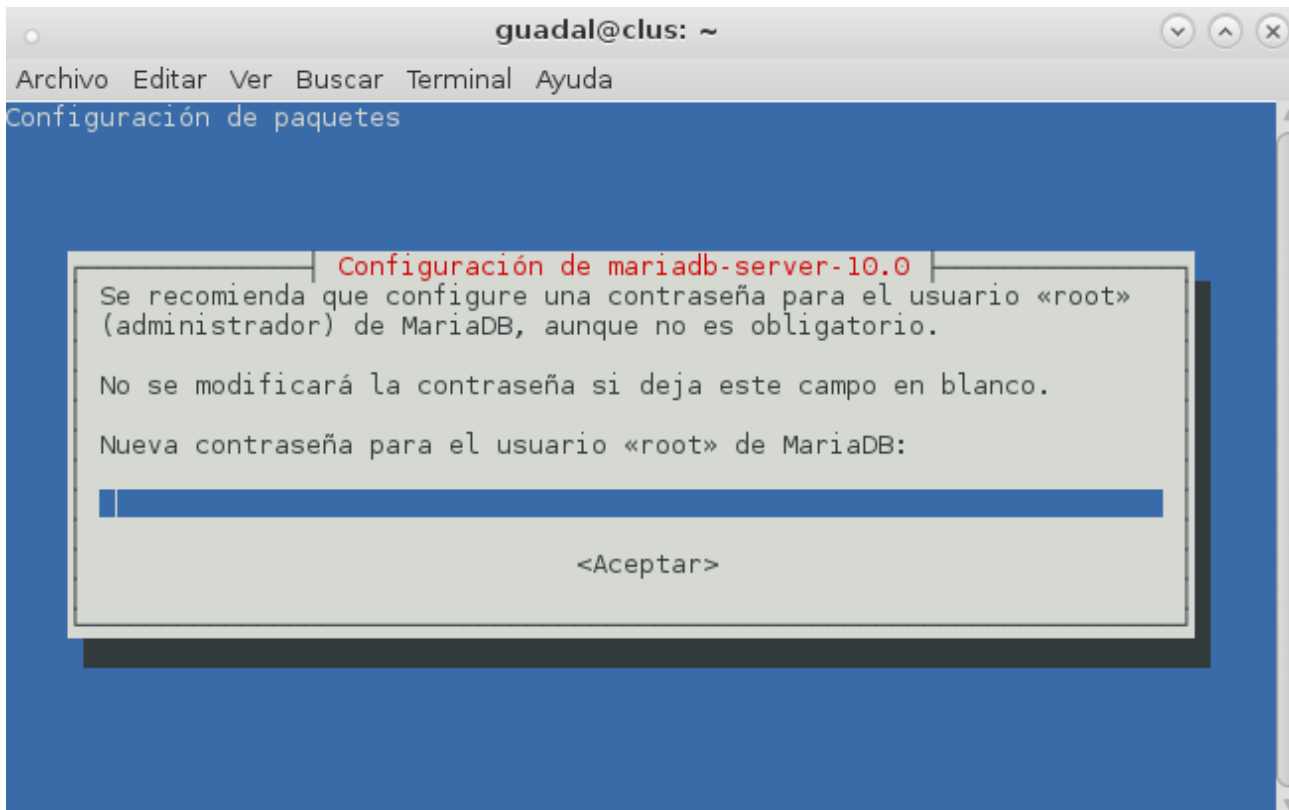
```
sudo apt-get install software-properties-common
```

...and now MariaDB:

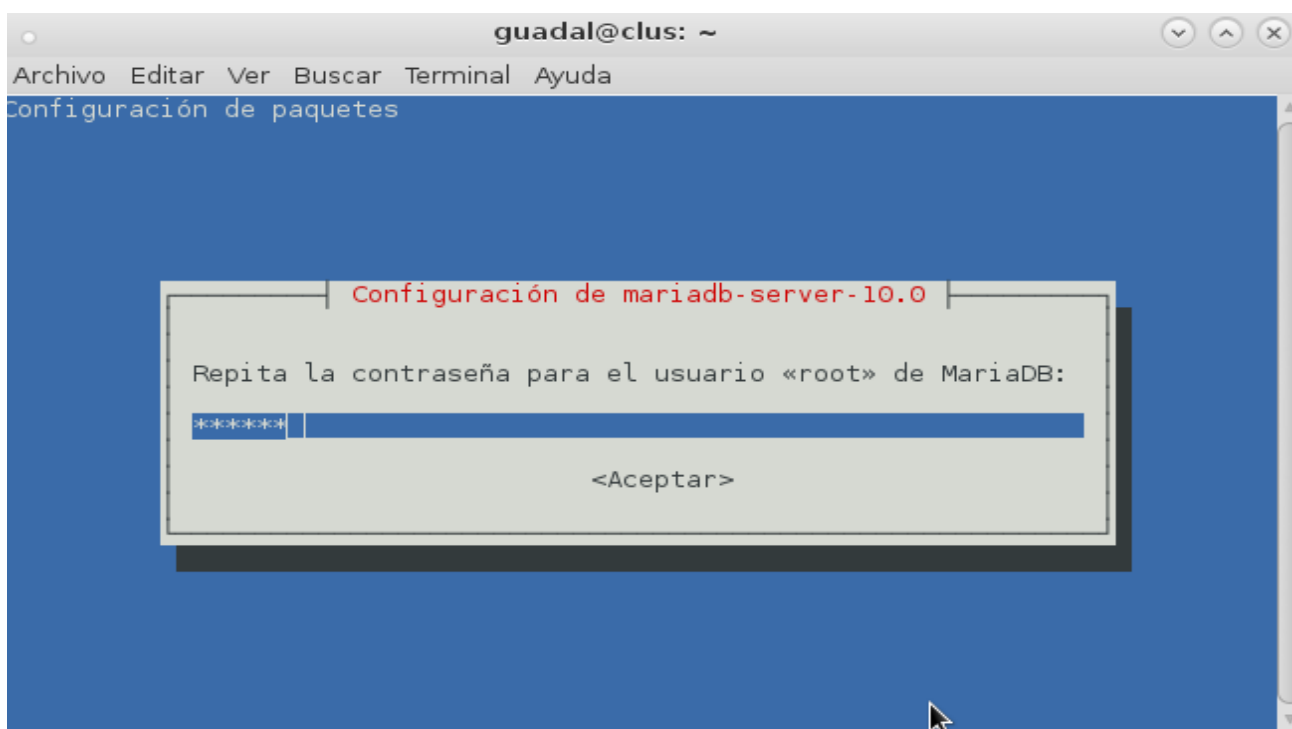
`apt-get install mariadb-server`

Will open a window asking for a root MariaDB password:

Type the password you like it → Accept → **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 open311 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a called database open311 though you can choose another name to your wish.

Now we create a user with all the permission on this open311 database.

(In only one line with space)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open311.* TO 'hola'@'localhost'  
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

- \* open311 .....is the database name.
- \* hola .....is the user name for the database.
- \* 123456 .....is the password of the user called hola.

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

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

9)

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

We'll install OpenMeetings in /opt/red5311. All the following information will be based on this directory.

Call to our folder of installation **red5311**

Make the folder:

```
mkdir /opt/red5311
```

```
cd /opt/red5311
```

```
wget http://apache.rediris.es/openmeetings/3.1.1/bin/apache-openmeetings-3.1.1.zip
```



```
unzip apache-openmeetings-3.1.1.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.1.zip /opt
```

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

```
chown -R nobody /opt/red5311
```

Download and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(only one line)

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.38/mysql-connector-java-5.1.38.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.38.jar /opt/red5311/webapps/openmeetings/WEB-INF/lib
```

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

```
gedit /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

...modify on **line 72**

```
, Url=jdbc:mysql://localhost:3306/openmeetings
```

...to

```
, Url=jdbc:mysql://localhost:3306/open311
```

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

...modify on **line 77**

```
, Username=root
```

...to

```
, Username=hola
```

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

...modify on **line 78**

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

...to

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

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

Logically if initially you choose another name and password for the database, you will to change it here.

We protect the access to the file: (only one line)

```
chmod 640 /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**10)**

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

Please, download the red5 run script:

```
cd /opt
```

**(In one line only without space)**

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5?version=4&modificationDate=1458903758300&api=v2
```

...when the download is finished press **Ctrl+c** keyboard.

Rename the file unloaded to red5:

```
mv red5?version=4 red5
```

...and copy it to:

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

Give permission of execution:

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

## 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 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 a bout 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


- Enabling Image Upload and import to whiteboard**
  - 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)
- 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
- Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whitebaord**
  - OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details
- Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard**
  - 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!
  - Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

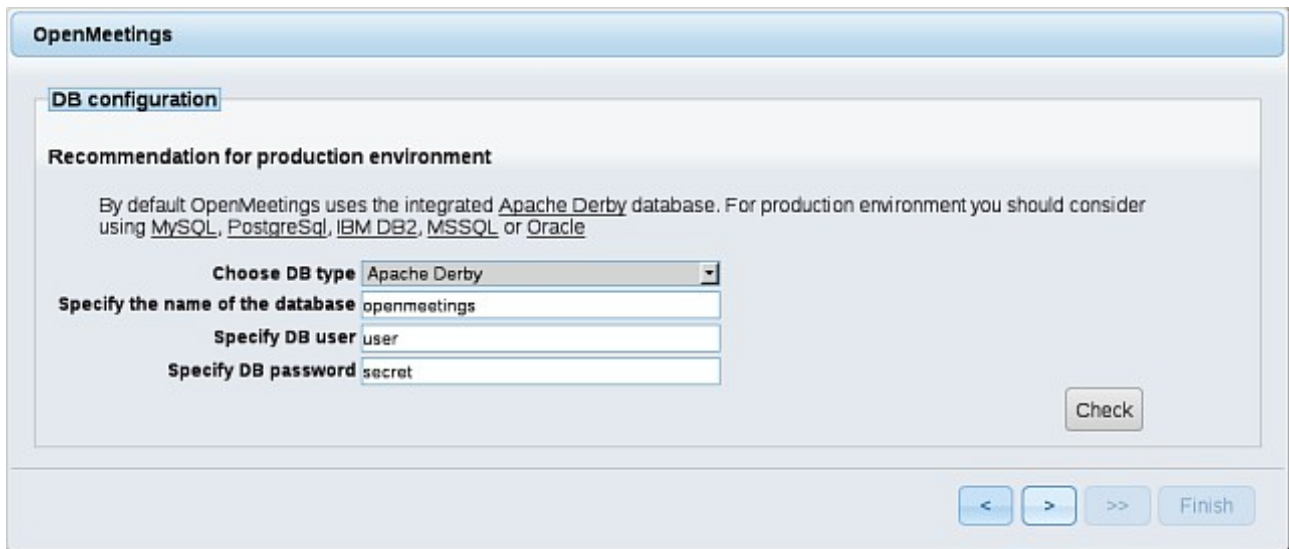
**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

...push on  (bottom), and will show the default database configuration with Derby, but we should use MySQL (MariaDB):

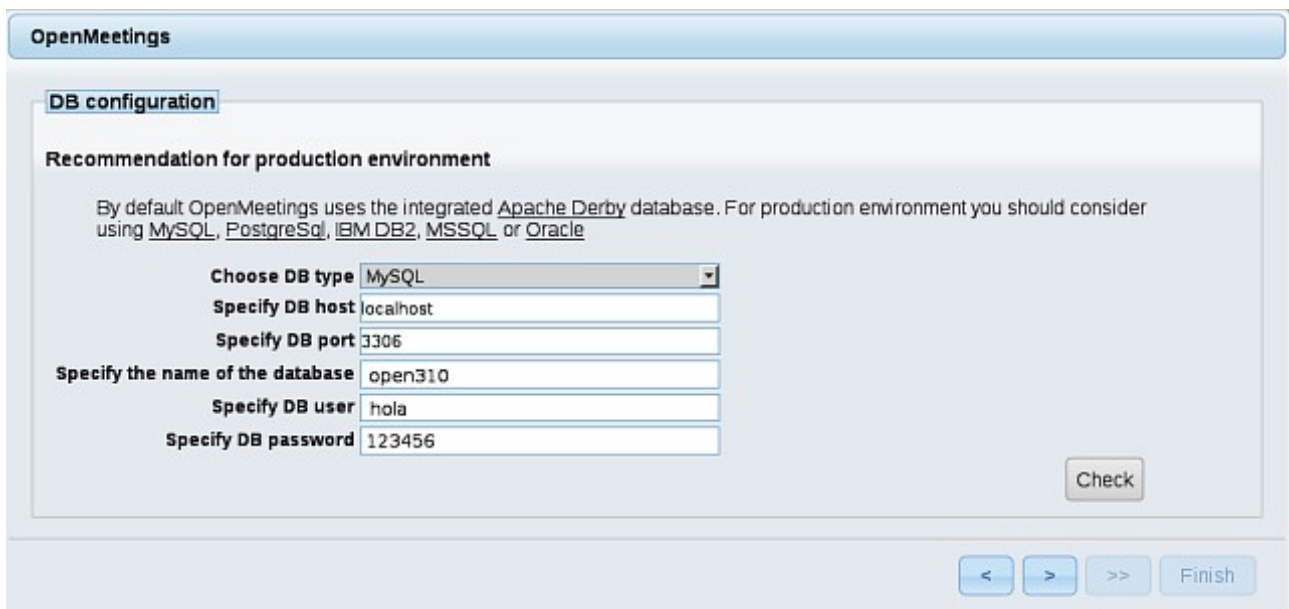


The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' tab selected. Under the heading 'Recommendation for production environment', a message states: 'By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle'. Below this, the configuration fields are as follows:

Field	Value
Choose DB type	Apache Derby
Specify the name of the database	openmeetings
Specify DB user	user
Specify DB password	secret

At the bottom right of the configuration area is a 'Check' button. At the very bottom of the window are navigation buttons: '<', '>', '>>', and 'Finish'.


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



The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' tab selected. The configuration fields are now set for MySQL:

Field	Value
Choose DB type	MySQL
Specify DB host	localhost
Specify DB port	3306
Specify the name of the database	open310
Specify DB user	hola
Specify DB password	123456

The 'Check' button remains at the bottom right of the configuration area. The navigation buttons '<', '>', '>>', and 'Finish' are still at the bottom of the window.

...will show the data base configuration we made in step 9, or with your own modifications. Please, push  button, and will go to:

The image shows the 'OpenMeetings' installation window. It has a title bar 'OpenMeetings' and a light blue background. There are two main sections: 'Userdata' and 'Group(Domains)'. The 'Userdata' section contains four fields: 'Username' (text input), 'Userpass' (text input), 'EMail' (text input), and 'User Time Zone' (dropdown menu with 'Europe/Madrid' selected). The 'Group(Domains)' section contains one field: 'Name' (text input). At the bottom right, there are four buttons: '<', '>', '>>', and 'Finish'.

Now we must introduce the followings data:

**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 server

Organisation(Domains)

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

When the installation be finished, shouldd configure the rest.

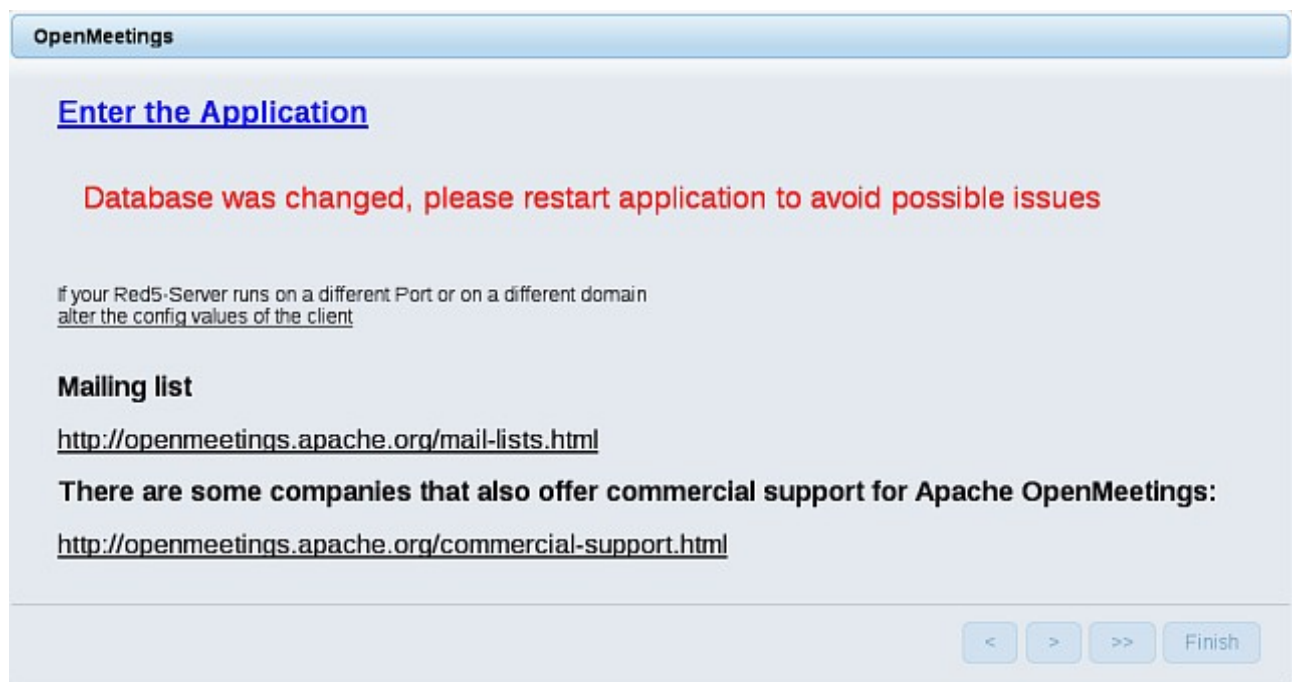
Now go to bottom page and push the button  (double arrow). Will show this:

The image shows the 'OpenMeetings' installation window after clicking the double arrow button. The title bar is 'OpenMeetings'. The main area has a message: 'Please click "Finish" button to start installation!'. Below the message is a large empty text input field. At the bottom right, there are four buttons: '<', '>', '>>', and 'Finish'.

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 restart](#)

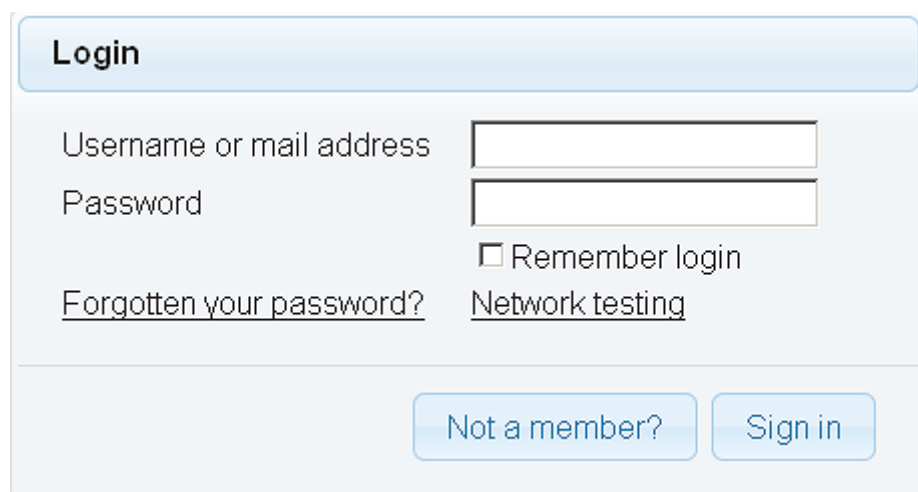


The screenshot shows a window titled "OpenMeetings". Inside, there is a link [Enter the Application](#) in blue. Below it, a red message states: "Database was changed, please restart application to avoid possible issues". A note follows: "If your Red5-Server runs on a different Port or on a different domain alter the config values of the client". Under the heading "Mailing list", there is a link <http://openmeetings.apache.org/mail-lists.html>. Below that, it says "There are some companies that also offer commercial support for Apache OpenMeetings:" followed by the link <http://openmeetings.apache.org/commercial-support.html>. At the bottom right, there are navigation buttons: "<", ">", ">>", and "Finish".

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. It has two input fields: "Username or mail address" and "Password". Below the password field is a checkbox labeled "Remember login". At the bottom left, there is a link [Forgotten your password?](#). At the bottom right, there is a link [Network testing](#). At the very 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 and...

**...Congratulations!**

The next time that you want to access OpenMeetings will be:

<http://localhost:5080/openmeetings>

Remember to open in the server the two following ports:

**5080    1935**

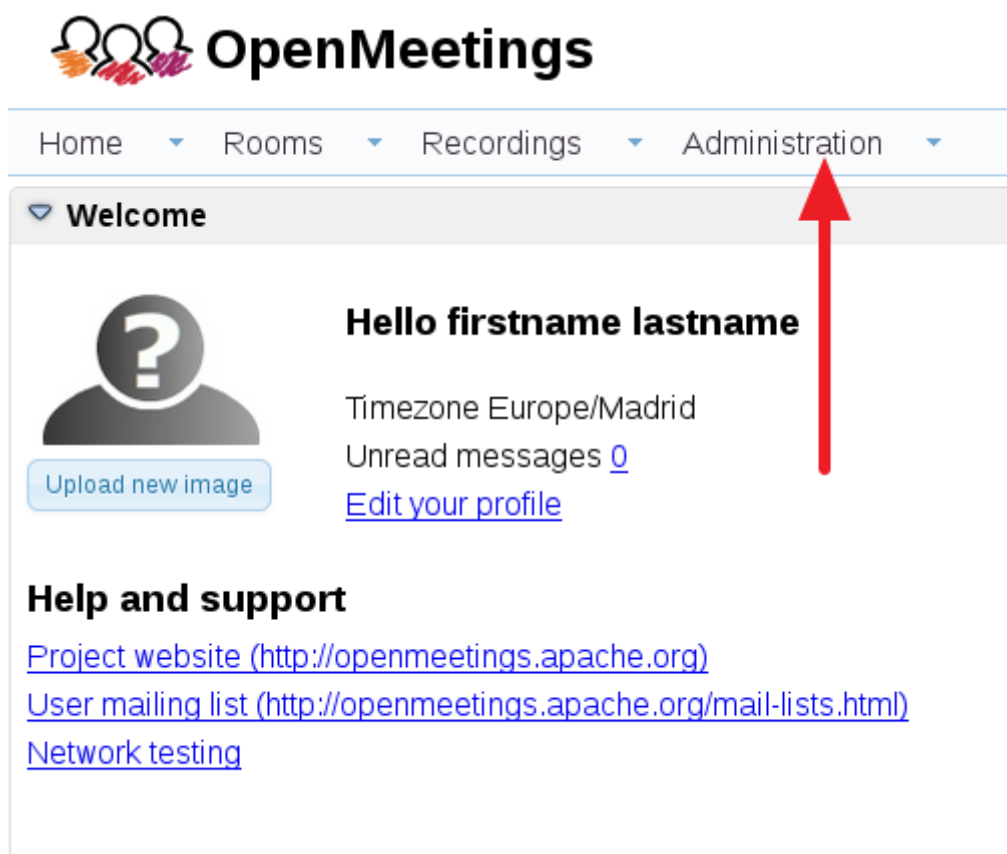
...in order that it could access OpenMeetings from other machines in Lan or from Internet.

12)

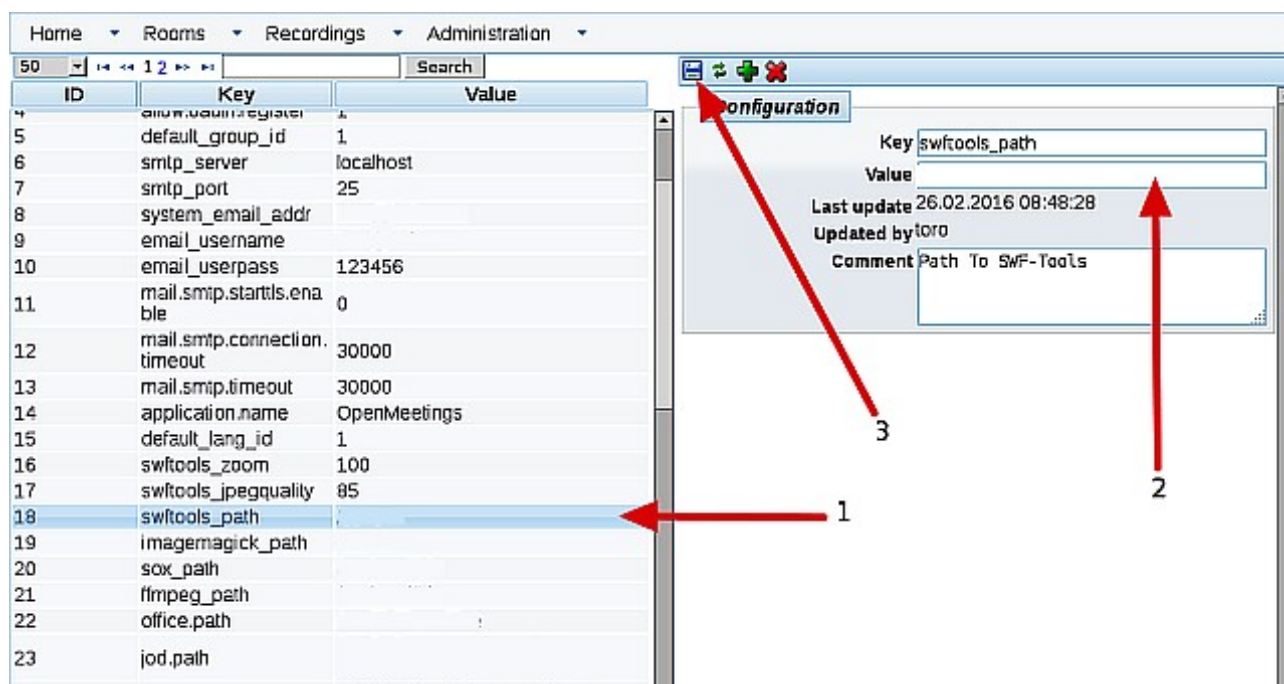
**---- OpenMeetings's configuration ----**

Once you access OpenMeetings go to:

**Administration → Configuration**



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



Clic on: **swftools\_path**...and to the right in **Value** type: **/usr/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-5.1.38.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