



## Installation of Apache OpenMeetings 3.1.5 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 3.1.5 stable, that is to say will suppress his compilation. It is done step by step.

30-1-2017

Starting...

1)

First update and upgrade the OS:

```
apt-get update
```

```
apt-get upgrade
```

2)

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

OpenMeetings **3.1.5** 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 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.** 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 30-1-2017. 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 30-1-2017

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-1.1.3.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 yasm /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.

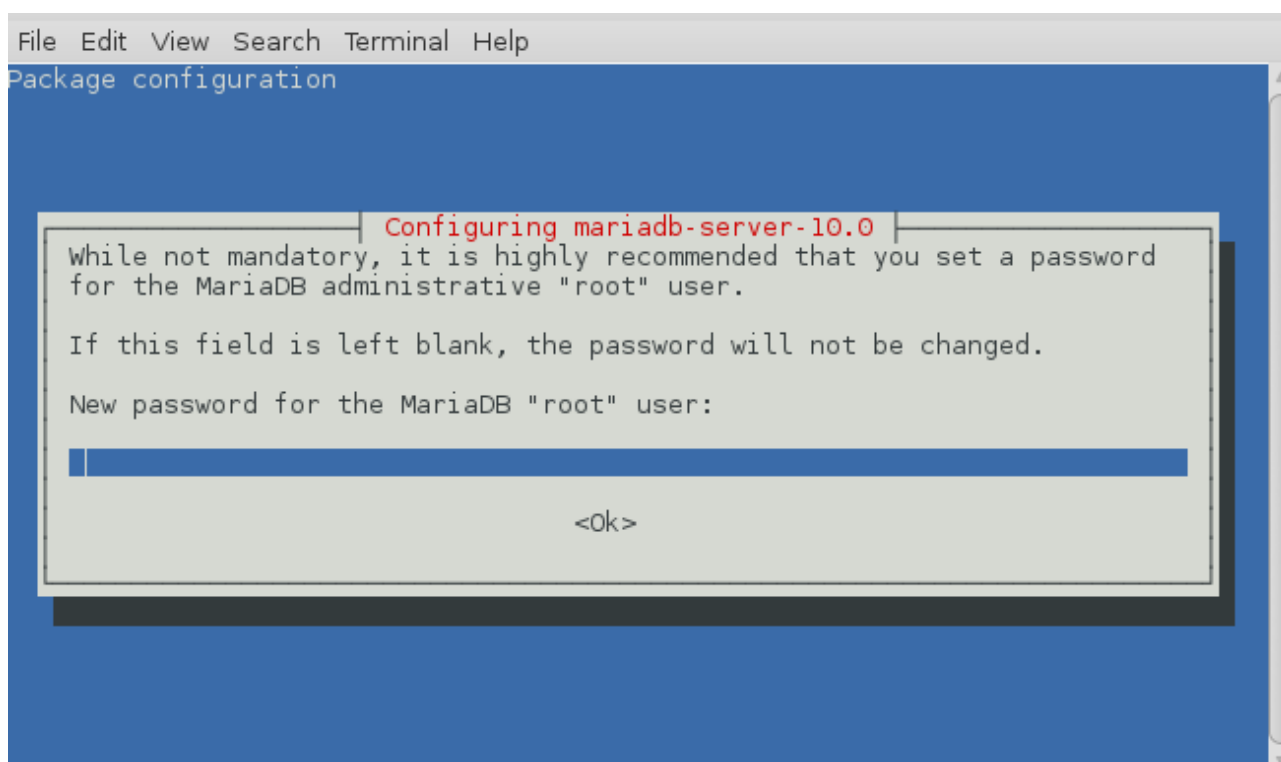
It is in Jessie repository. Install these packages:

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

...and now MariaDB:

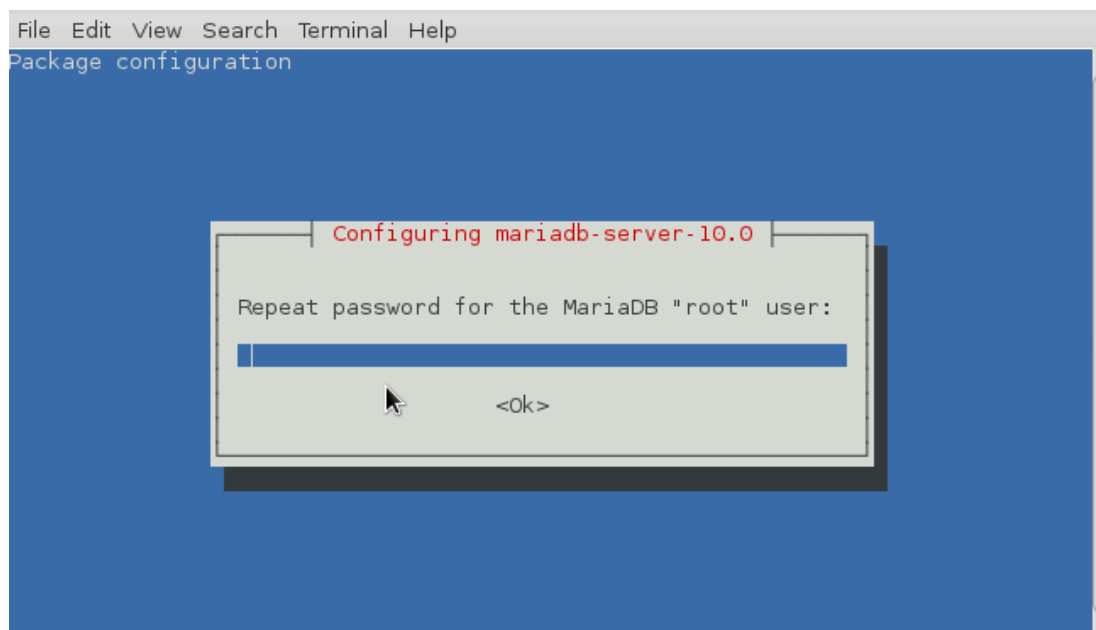
```
apt-get install mariadb-server
```

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 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 open315 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open315.

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

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open315.* TO 'hola'@'localhost'
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

- \* **open315** .....is the database name.
- \* **hola** .....is the user name for this database.
- \* **123456** .....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/red5315. All the following information will be based on this directory.

Call to our folder of installation red5315

Make the folder:

```
mkdir /opt/red5315
```

```
cd /opt/red5315
```

```
wget http://apache.miloslavbrada.cz/openmeetings/3.1.5/bin/apache-openmeetings-3.1.5.zip
```

```
unzip apache-openmeetings-3.1.5.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.5.zip /opt
```

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

```
chown -R nobody /opt/red5315
```

Download and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
wget 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/red5315/webapps/openmeetings/WEB-INF/lib
```

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

[gedit /opt/red5315/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/open315
```

...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 "hola" in the database.

If 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 without space between both)

[chmod 640 /opt/red5315/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-ubdeb
```

...and copy it to:

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

Concede permission of execution:

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

## 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-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 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](#)

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](#)

**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. A 'Check' button is located at the bottom right of the configuration area. At the 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** open314

**Specify DB user** hola


**Specify DB password** 123456

Check

< > >> Finish

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

If you choose any other different data, will show equally.

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 (a dropdown menu). Below this is the 'Group(Domains)' section with a single 'Name' input field. At the bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

**OpenMeetings**

**Userdata**

Username

Userpass

EMail

User Time Zone


**Group(Domains)**

Name

< > >> Finish

Now we introduce the followings data:

**Username** = a-name ...this user will be administrator.  
**Userpass** = a-password ...for the previous user.  
**Email** = email-address ...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.

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

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

**Default Language** = [english](#)

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

**OpenMeetings**

**Configuration**

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

< > >> Finish

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

|  |     |       |
|--|-----|-------|
| SWFTools Zoom ⓘ                                | 100 |       |
| SWFTools JPEG Quality ⓘ                        | 85  |       |
| SWFTools Path ⓘ                                |     | Check |
| ImageMagick Path ⓘ                             |     | Check |
| FFMPEG Path ⓘ                                  |     | Check |
| SoX Path ⓘ                                     |     | Check |
| OpenOffice/LibreOffice Path for jodconverter ⓘ |     | Check |

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

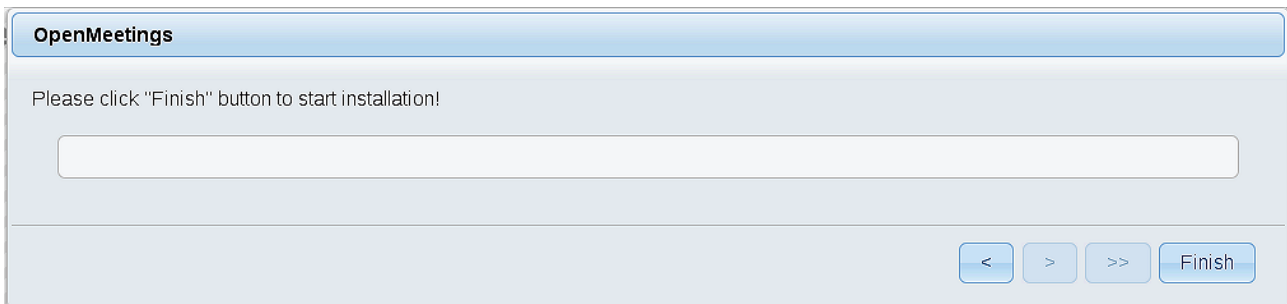
Prefix for phone number of conference rooms

SIP extensions context

Context of Asterisk extensions



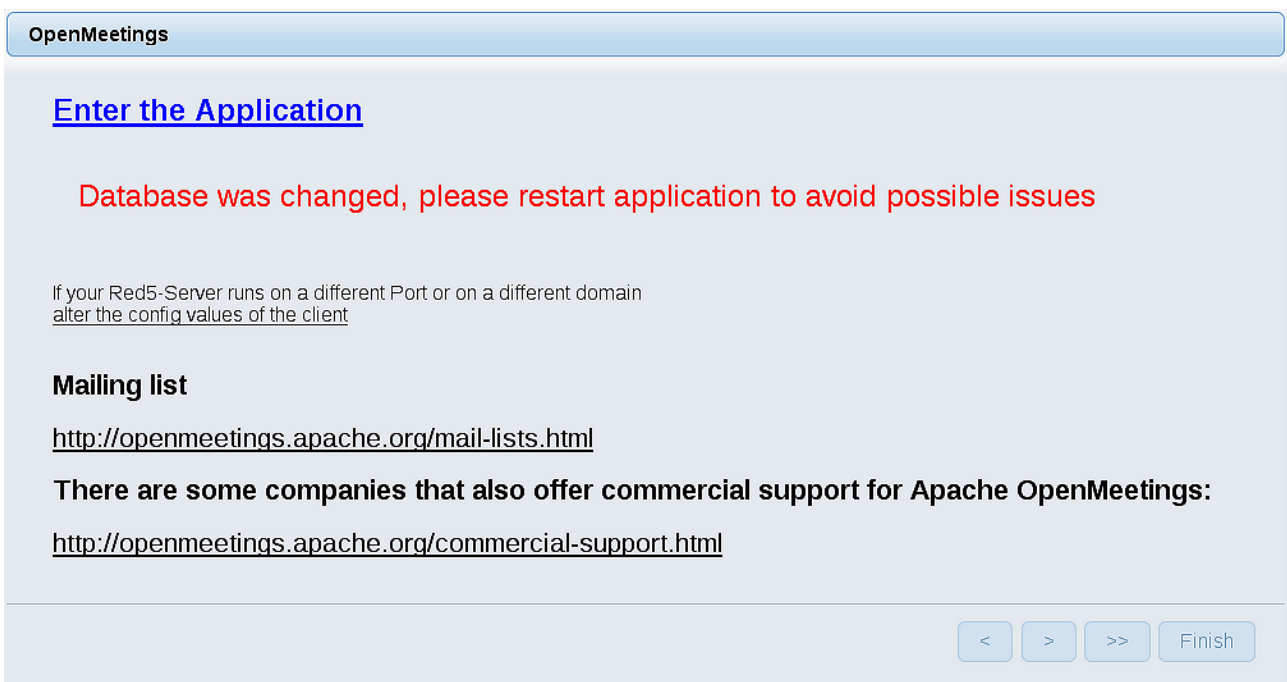
Now push the button  Will show this window:



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:

The image shows a login form with a light blue header containing the word "Login". Below the header, there are two input fields: "Username or mail address" and "Password". To the right of the "Password" field is a checkbox labeled "Remember login". Below these fields are two underlined links: "Forgotten your password?" and "Network testing". At the bottom of the form, 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**

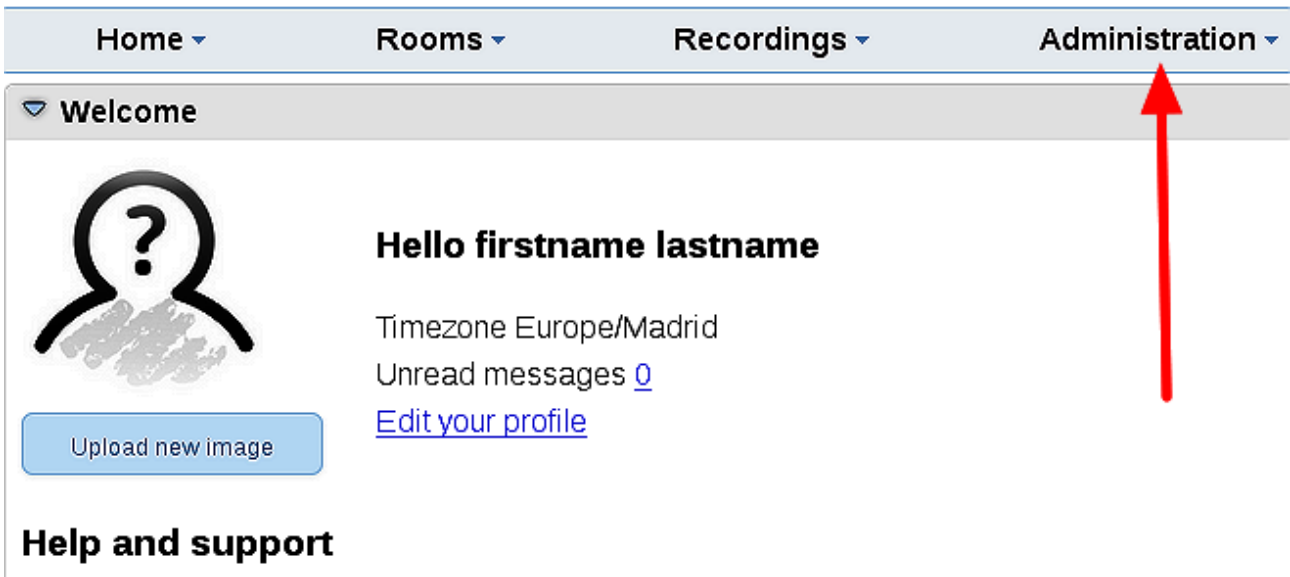
...in order that it could accede to OpenMeetings from other machines in Lan or from Internet.

**11)**

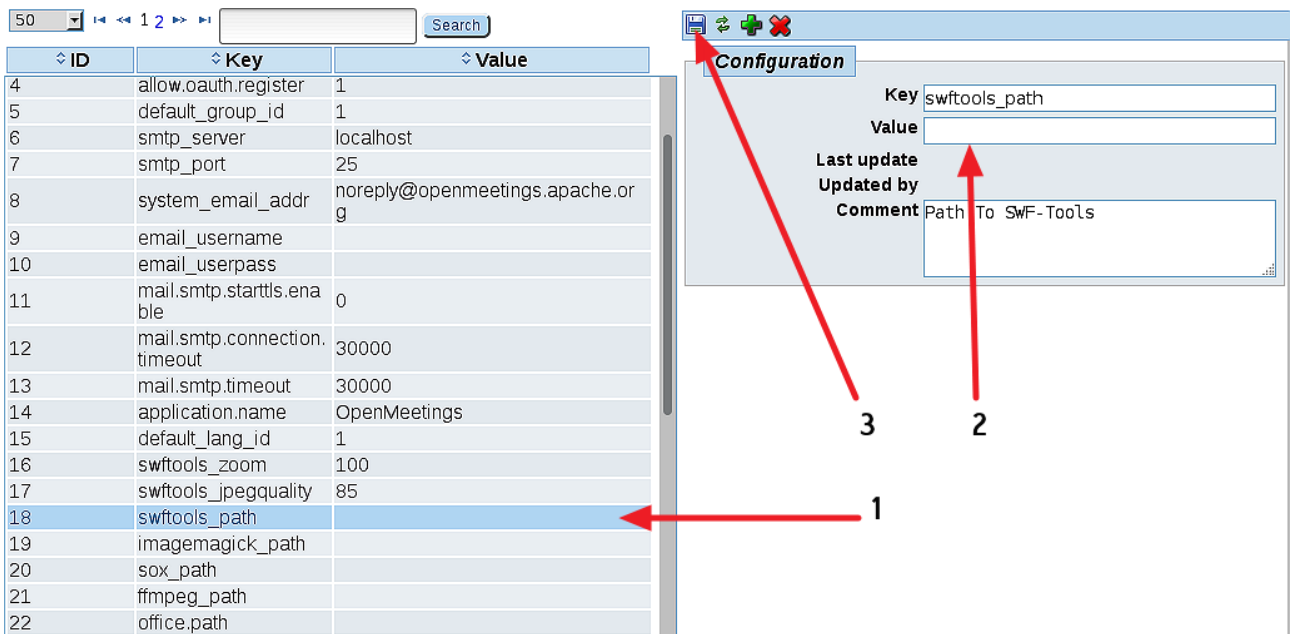
**----- OpenMeetings's configuration -----**

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

**Administration → Configuration**



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



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-5.1.39.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

