Installation of Apache OpenMeetings 3.2.1 on Ubuntu 16.04 LTS

This tutorial is made based on a fresh installations of

ubuntu-mate-16.04-desktop-amd64.iso

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.2.1 stable, that is to say will suppress his compilation. It is done step by step.

26-4-2017

Starting...

1)

First, we update and upgrade the OS:

sudo apt-get update

sudo apt-get upgrade

2)

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

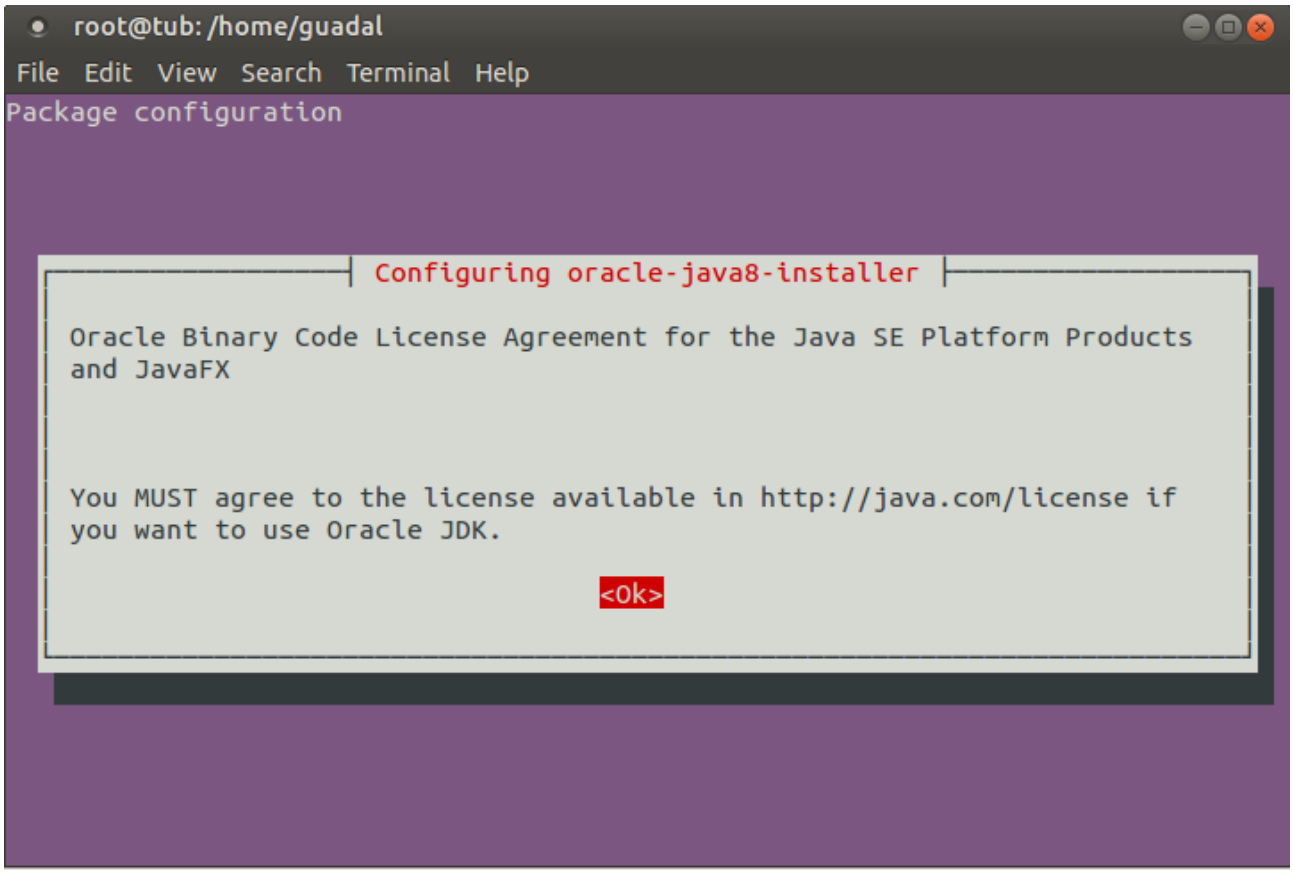
OpenMeetings **3.2.1** need Java **1.8** to work. So, we install Oracle Java 1.8:

sudo add-apt-repository ppa:webupd8team/java

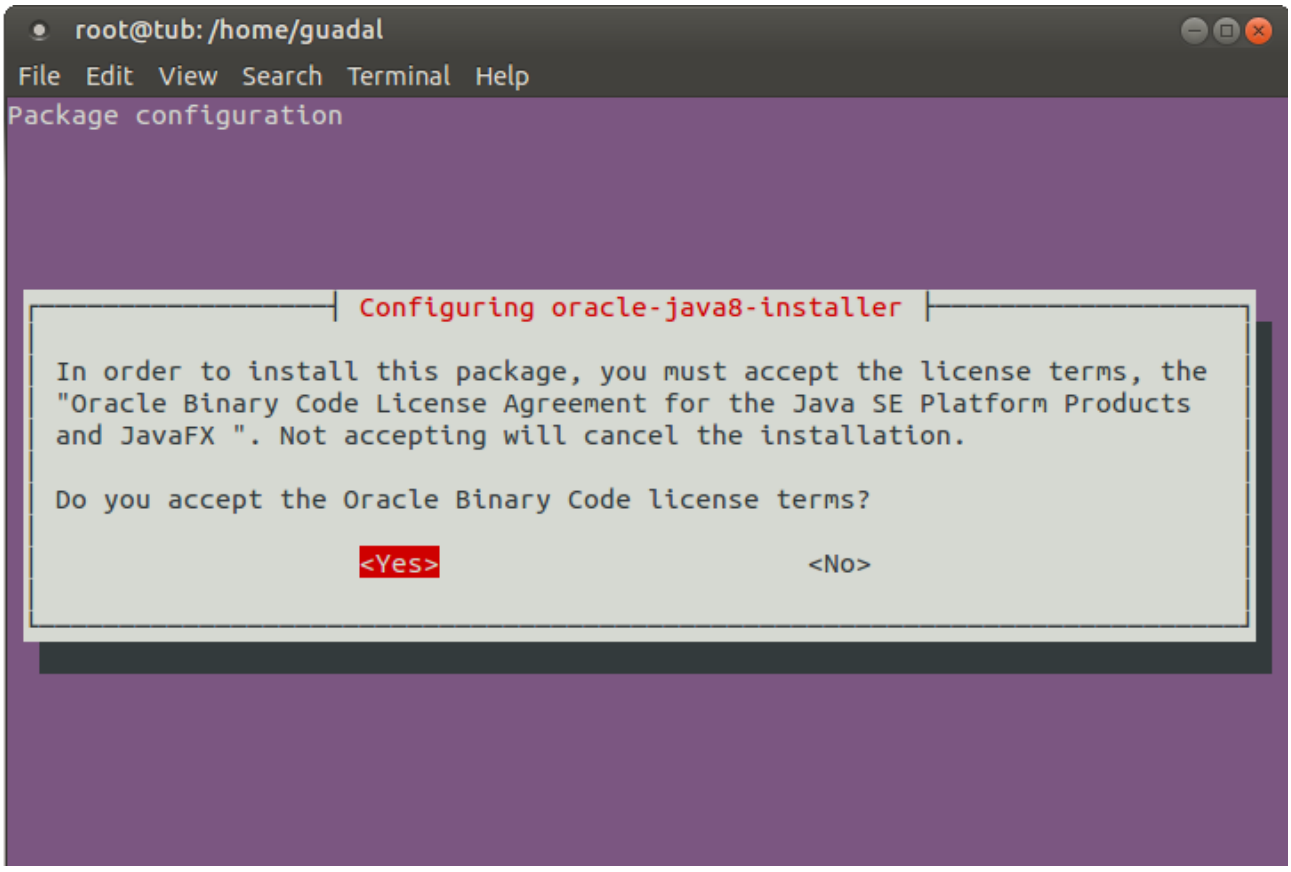
sudo apt-get update

sudo apt-get install oracle-java8-installer

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



Will ask newly. Select **Yes → Enter**



Now, please, select Oracle Java, if you have more than one java versions installed. OpenJava give an error in some function of OpenMeetings. I´ve tested it:

sudo update-alternatives --config java

To see the active java version:

java -version

3)

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

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

The ubuntu desktop iso have already LibreOffice installed, but we do also for server 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, png, jpg, gif, etc. Will install it and some more libraries and paquets:

(Only one line with space between both)

sudo apt-get install -y imagemagick gdebi libjpeg62 synaptic zlib1g-dev unzip make build-essential wget nmap

Sox, work the sound. We´ll compile, because this version is newer than the repo:

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 to pdf the uploaded office files, and Swftools convert these pdf to swf, flash files, that later will show it in the whiteboard. Also convert jpg2swf, png2swf, gif2swf.

Don´t use a newer swftools version. Surely, will have not pdf2swf.

sudo apt-get install libgstreamer-plugins-base0.10-0 libgstreamer0.10-0 libgif7 libzzip-0-13

For 64 bit:

cd /opt

(Only one line without space between both)

wget http://mirrors.kernel.org/ubuntu/pool/universe/libo/liboil/liboil0.3_0.3.17-2ubuntu4_amd64.deb

dpkg -i liboil0.3_0.3.17-2ubuntu4_amd64.deb

(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://mirrors.kernel.org/ubuntu/pool/universe/libo/liboil/liboil0.3_0.3.17-2ubuntu4_i386.deb

dpkg -i liboil0.3_0.3.17-2ubuntu4_i386.deb

(Only one line without space between both)

wget https://launchpad.net/ella-renaissance/ella-renaissance-beta/beta1/+download/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. We install it

sudo apt-get install flashplugin-installer

6)

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

FFmpeg will work with video.

This compilation is based on:

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

Updated files to 26-4-2017. Install some 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

I made a script that will download, compile and install ffmpeg.
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 announce it:

FFmpeg Compilation is Finished!

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

But if you prefer copy and paste (**i don´t advise**), here are the commands script:

sudo gedit /opt/ffpmeg.sh

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

```
# FFmpeg compilation for Ubuntu and Debian.
# Alvaro Bustos. Thanks to Hunter.
# Updated 26-4-2017

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 ffserver 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/ffpmeg.sh
```

Now be connected to Internet, run the script and wait about 30 minutes while the compilation:

```
cd /opt

./ffmpeg.sh
```

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

7)

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

MariaDB is the data server. Will install it. (Version 10.x):

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

Run MariaDB:

/etc/init.d/mysql start

Now we give a root password to MariaDB. Please, replace new-password with your own:

mysqladmin -u root password new-password

Make a database with his own user for OpenMeetings:

mysql -u root -p

...will ask for the root password that you have just choosen, type it...

MariaDB [(none)]> CREATE DATABASE open321 DEFAULT CHARACTER SET 'utf8';

With this command we has created a database called open321.
Now we create a user with all permission on this database.

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open321.* TO 'hola'@'localhost'
IDENTIFIED BY '123456' WITH GRANT OPTION;

* open321 .....is the database name.
* hola ……is the user name for this database.
* 123456 …....is the password for 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/red5321. All the following information will be based on this directory.

Make the folder:

mkdir /opt/red5321

cd /opt/red5321

...and download the red5-OpenMeetings file:

wget http://apache.miloslavbrada.cz/openmeetings/3.2.1/bin/apache-openmeetings-3.2.1.zip

unzip apache-openmeetings-3.2.1.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.2.1.zip /opt

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

chown -R nobody /opt/red5321

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/5.1.39/mysql-connector-java-5.1.39.jar

...and copy it to where must be:

cp /opt/mysql-connector-java-5.1.39.jar /opt/red5321/webapps/openmeetings/WEB-INF/lib

Now we form OpenMeetings for our database in MariaDB:

gedit /opt/red5321/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify line 72:

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

...to

, Url=jdbc:mysql://localhost:3306/open321?

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

Modify line 77:

, Username=root

...to

, Username=hola

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

Modify 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, replace it here.

We protect the access to the file:

(Only one line without space between both)

chmod 640 /opt/red5321/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/

...and concede permission of execution:

chmod +x /etc/init.d/red5-ubdeb2

10)

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

Start MariaDB, if still it is not:

/etc/init.d/mysql start

...and now start red5-OpenMeetings. Please, be connected to Internet:

/etc/init.d/red5-ubdeb2 start

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

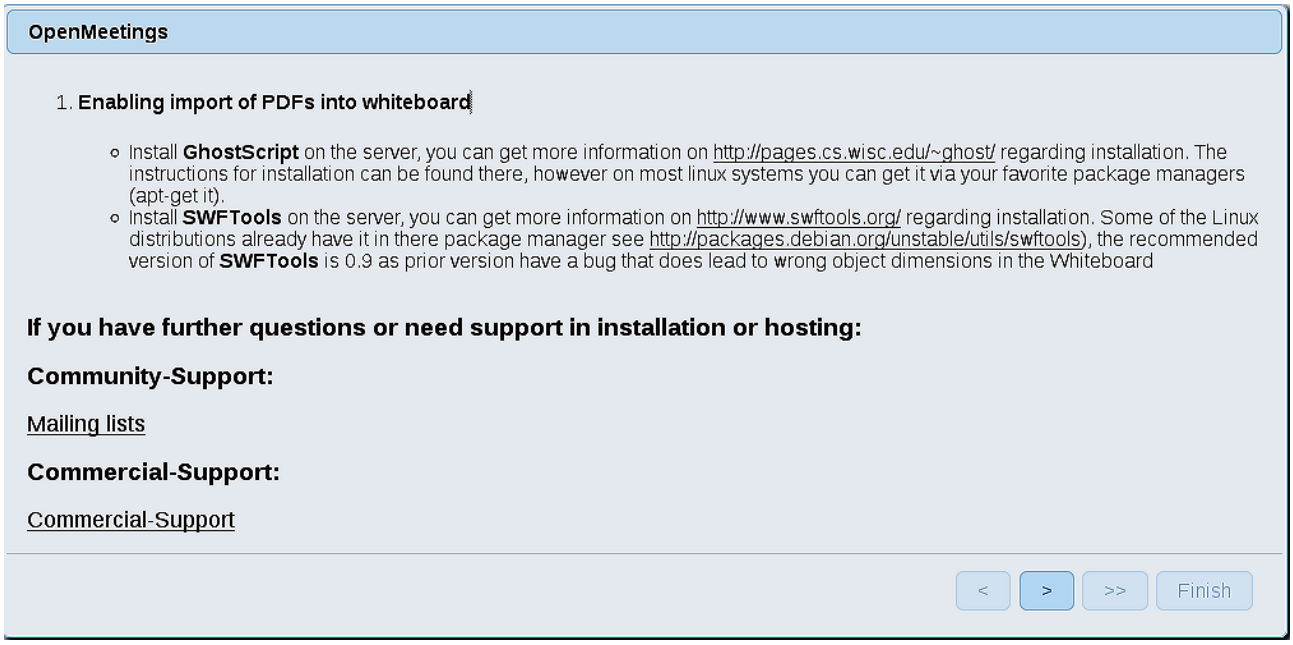
start-stop-daemon: --start needs --exec or --startas
Try 'start-stop-daemon --help' for more information.

...you do nothing. Don´t worry, everything work right,

...wait 40 seconds at least, in order that red5 it is runing completely. And after this, can go to:

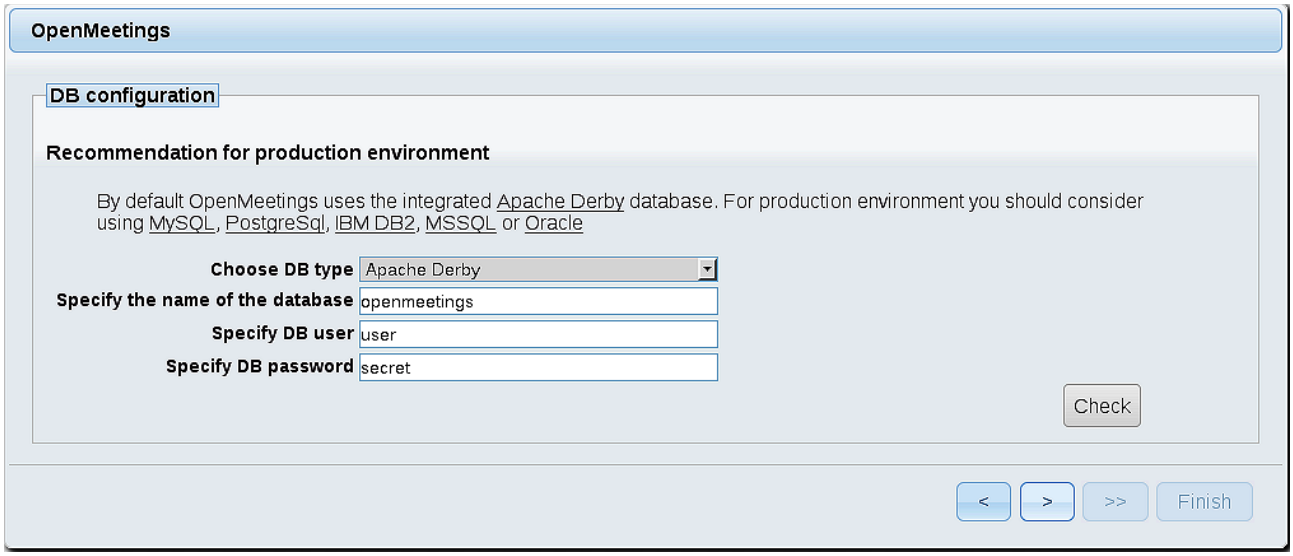
http://localhost:5080/openmeetings/install

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

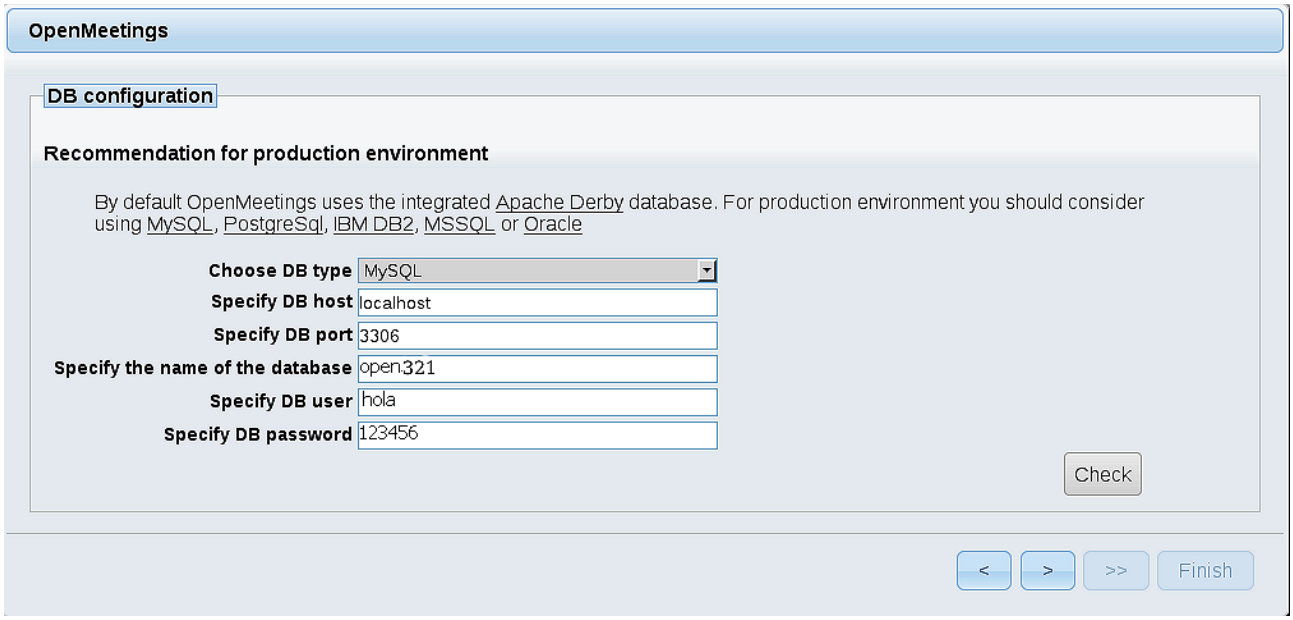


...press on > button (bottom), and will show the default database configuration

with Derby, but we employ MySQL (MariaDB),

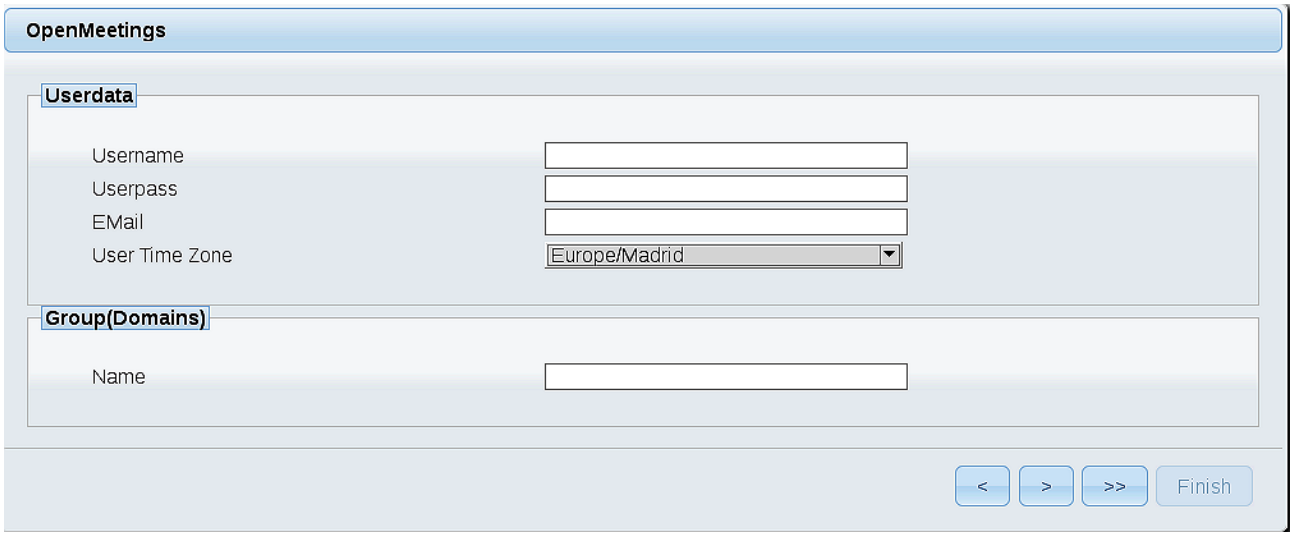


...then, scroll and **Choose DB type** to MySQL:



...will show the database configuration we made in step 8, or with your own modifications.

Please, press > button, and will go to:



Here 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.

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)

Mail-Refer (system_email_addr) == john@gmail.com

SMTP-Server (smtp_server) == smtp.gmail.com

SMTP-Server Port (default Smtp-Server Port is 25) (smtp_port) == 587

SMTP-Username (email_username) == john@gmail.com

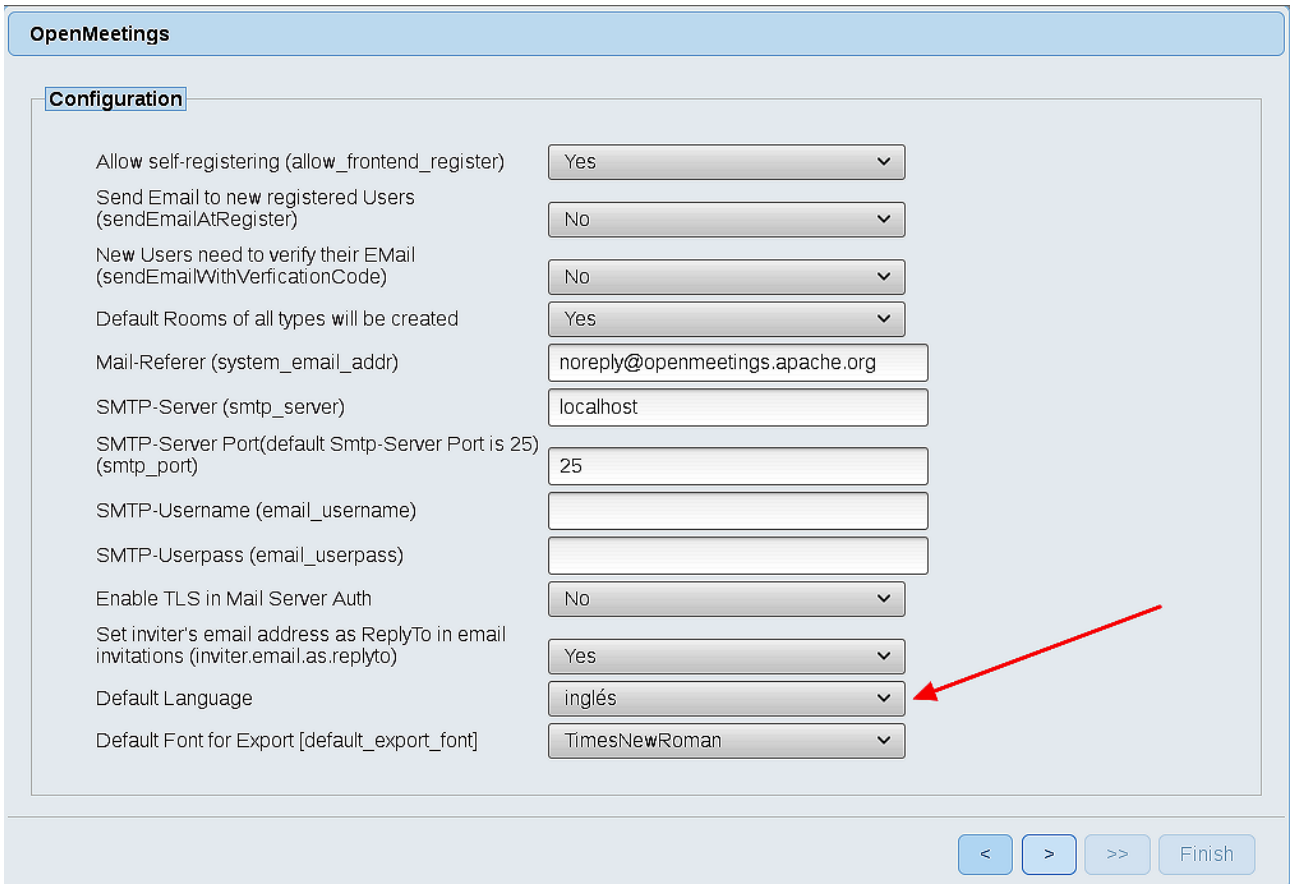
SMTP-Userpass (email_userpass) == password of john@gmail.com

Enable TLS in Mail Server Auth == Yes

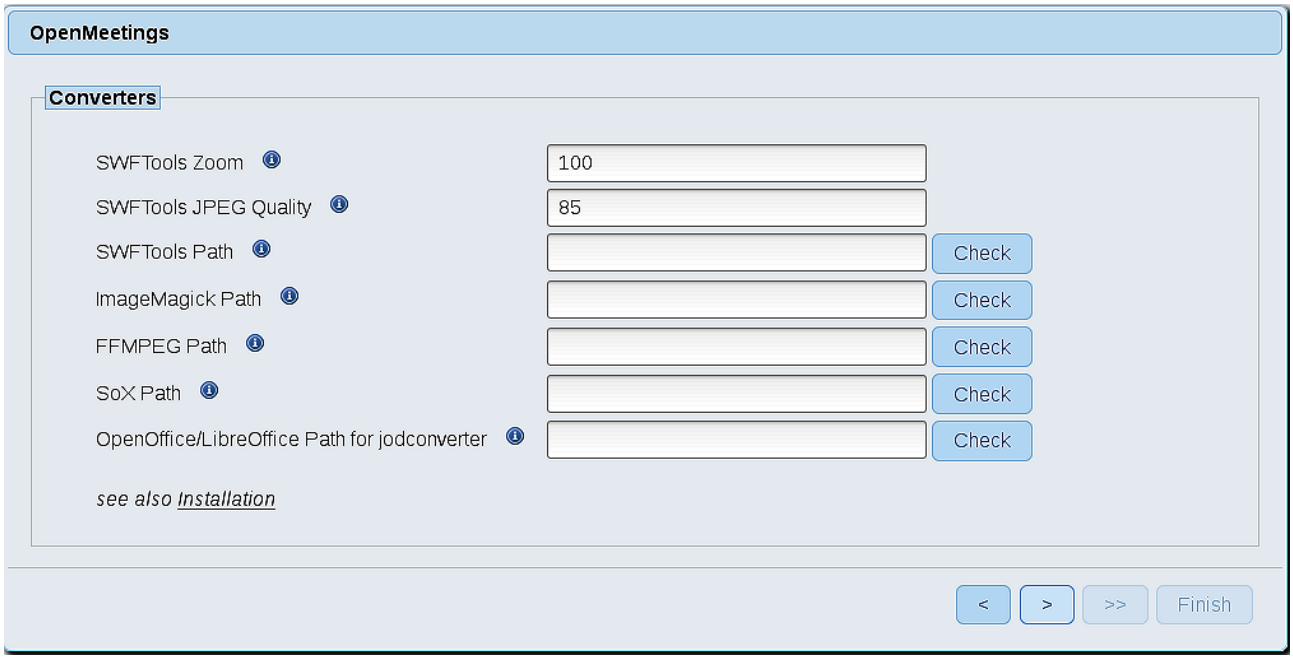
To select the language of your server OpenMeetings, please scroll on the line:

Default Language = english

...the rest can leave as is, or modify it as you like it:



Now press the button > and a new page will appear:



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

SWFTools Path == /usr/bin

ImageMagick Path == /usr/bin

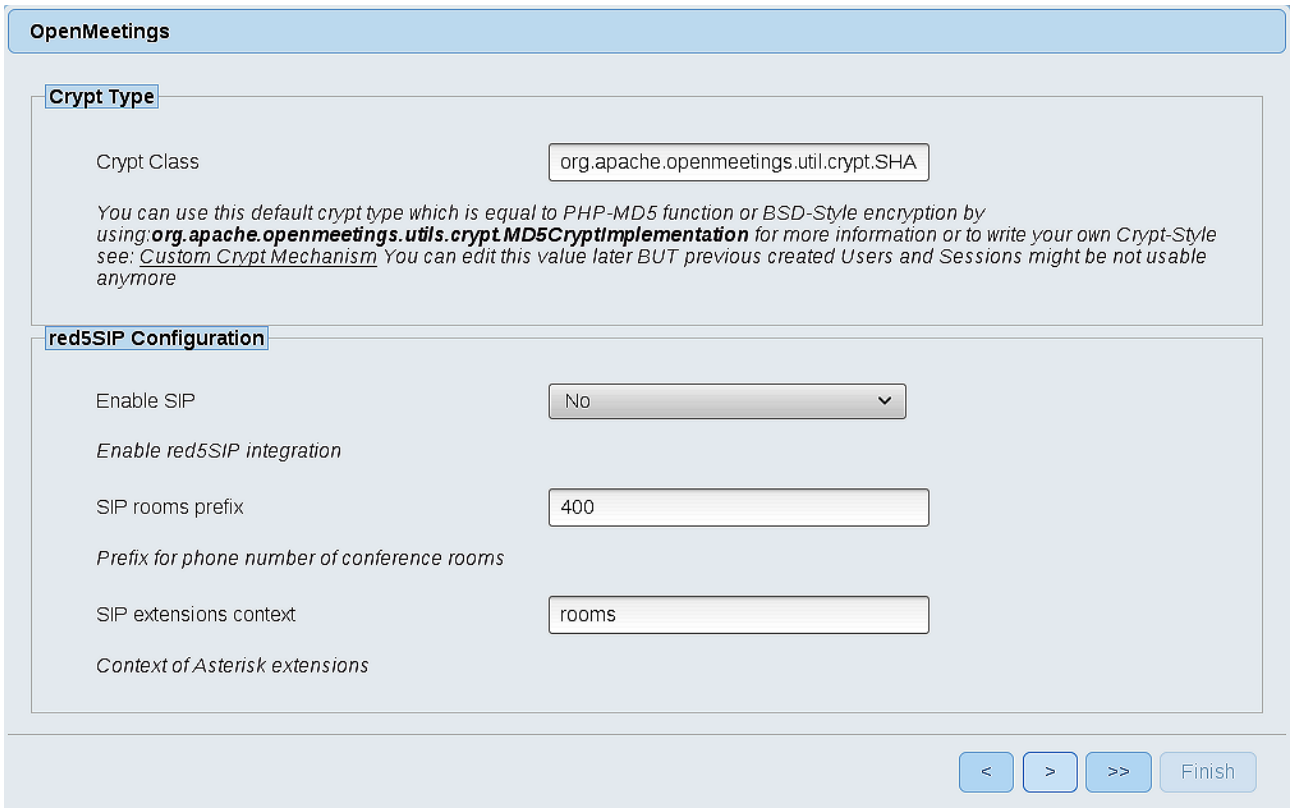
FFMPEG Path == /usr/local/bin

SOX Path == /usr/local/bin

OpenOffice/LibreOffice Path for jodconverter == /usr/lib/libreoffice **(32 bits - 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:



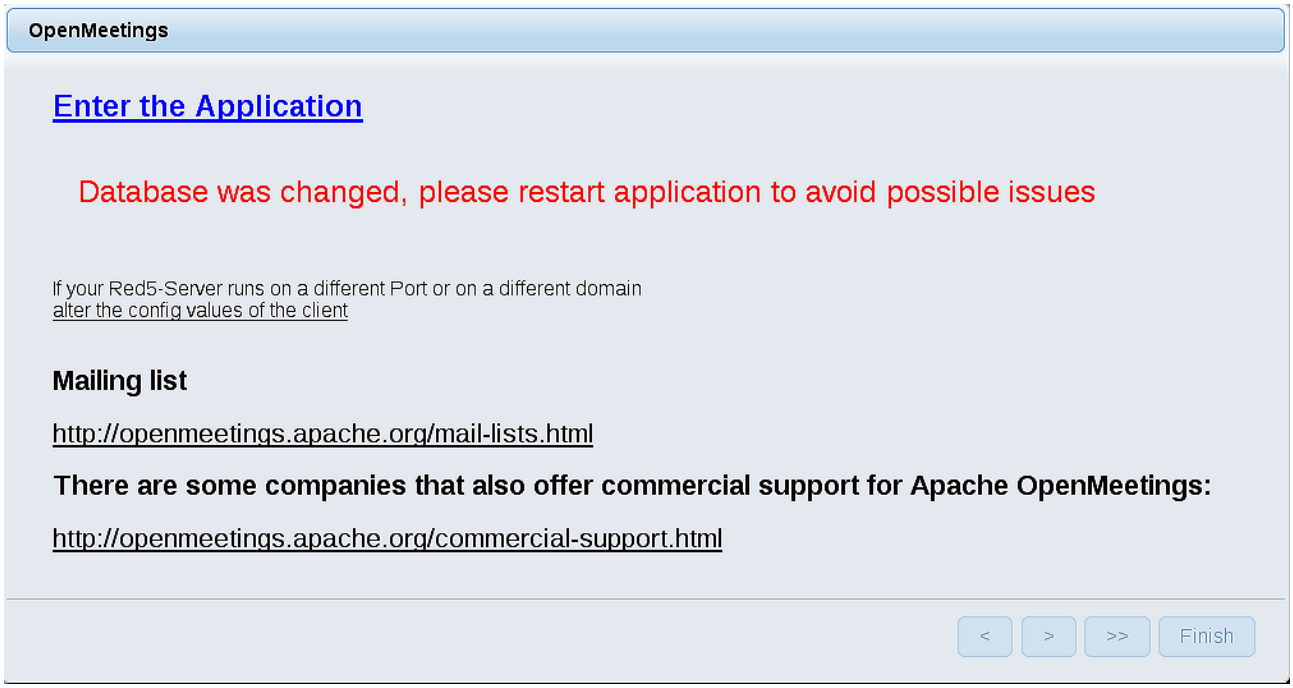
Now push the button > Will show this window:

Press **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. Please, be connected to Internet:

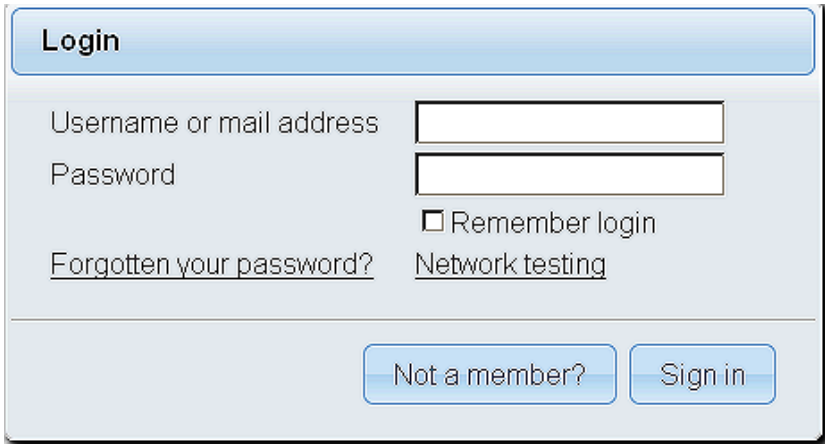
/etc/init.d/red5-ubdeb2 restart



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:



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

...**Congratulations!**

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

http://localhost:5080/openmeetings

Remember to open in the server the two following ports:

1935 5080

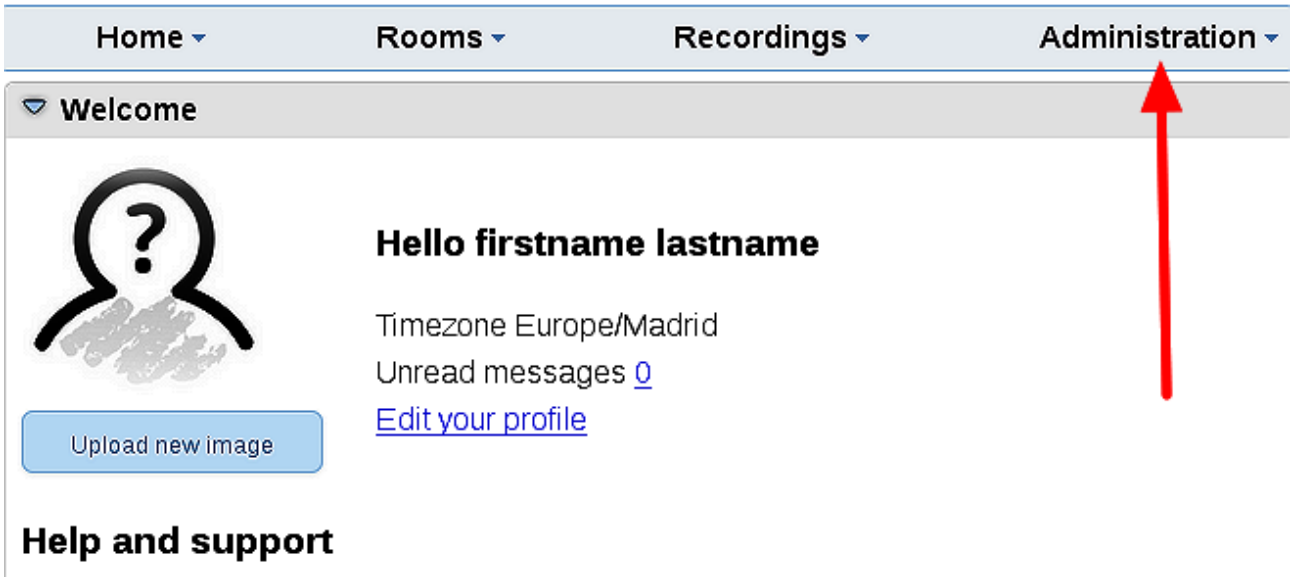
...in order that it could accede to OpenMeetings from other machines in LAN or Internet.

11)

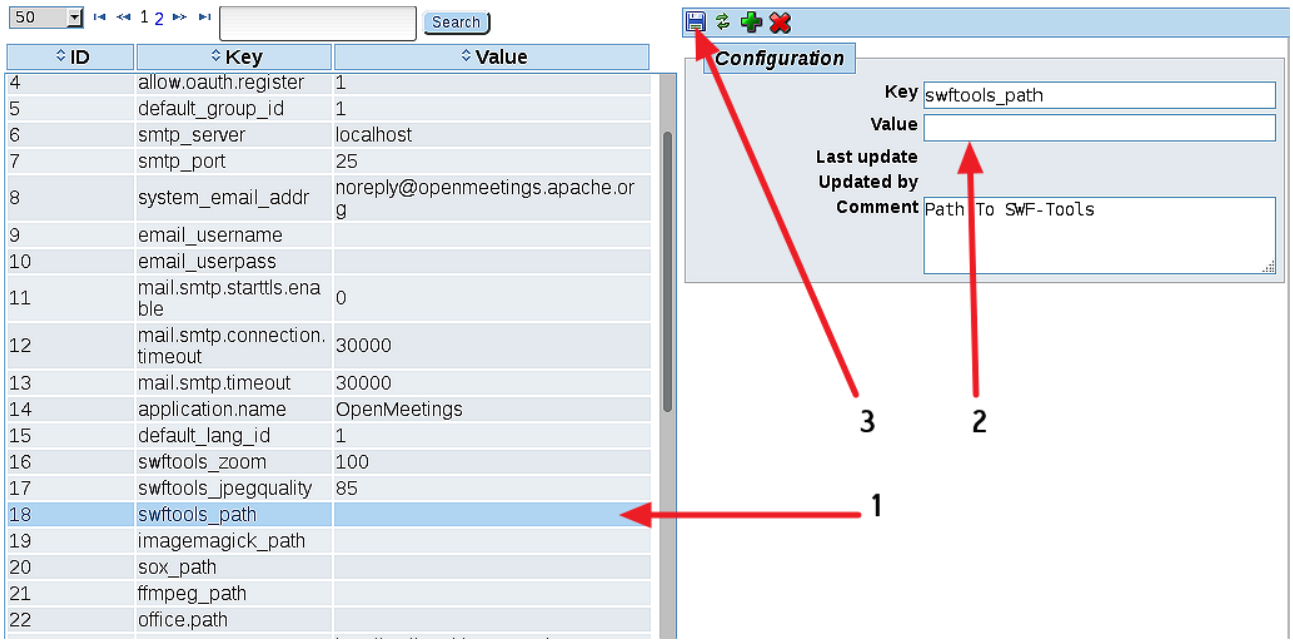
------ OpenMeetings's Configuration ------

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:



Now 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