Installation of Apache OpenMeetings 3.1.3 on Arch Linux

This tutorial is based on a fresh installations of

arch-anywhere-2.2.2-dual.iso

Arch Anywhere, it is a pure Arch Linux, with the only difference that the installation it is graphical. That´s all.

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.3 stable, that is to say will suppress his compilation. It is done step by step.

28-9-2016

Please, be connected to Internet during all the process tu run any server.

Starting...

1)

------ Update Operative System ------

Open a terminal as root:

su

...will ask for root password, and we update the operative system:

pacman -Syu

2)

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

Java **1.8** it is necessary from OpenMeetings **3.1.3**. The 1.7 java, is for previous OM versions. We´ll install Oracle Java. Open Java gave an error in some OpenMeetings function. It is tested.

We´ll install Packer. Packer is a wrapper for both Pacman and AUR. Packer reduce the complexity of manually compiling and installing the packages.

First, install the required dependencies:

```
pacman -S base-devel fakeroot jshon expac git wget
```

...when ask: Enter a selection (default=all): ...press **Enter**.

...will ask also: Continue with the installation? [Y/n] …press **Enter**.

...and when finish, exit as root:

```
exit
```

Download the PKGBUILD script from AUR:

```
wget https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=packer
```

...rename the unloaded file:

```
mv PKGBUILD\?h\=packer PKGBUILD
```

...we compile it:

```
makepkg
```

...and now install Packer:

```
sudo pacman -U packer-*.pkg.tar.xz
```

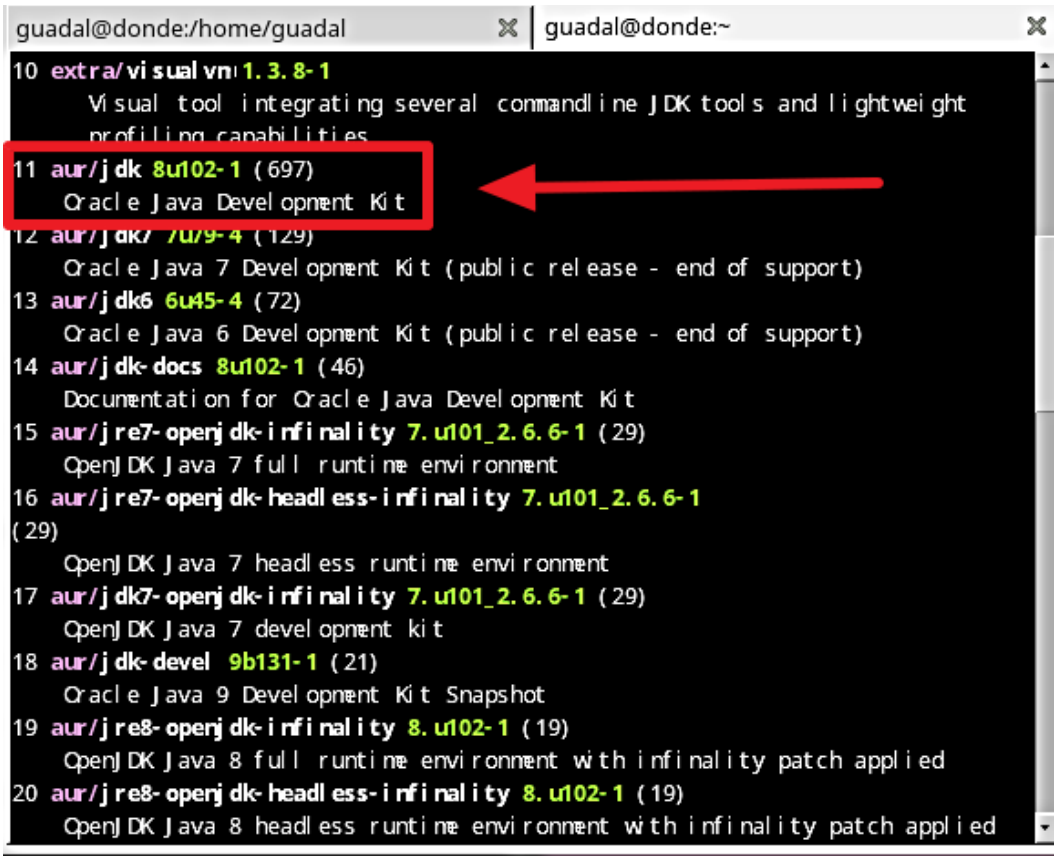
...will ask for user password, and also: Continue with the installation [Y/n] ...press **Enter**.

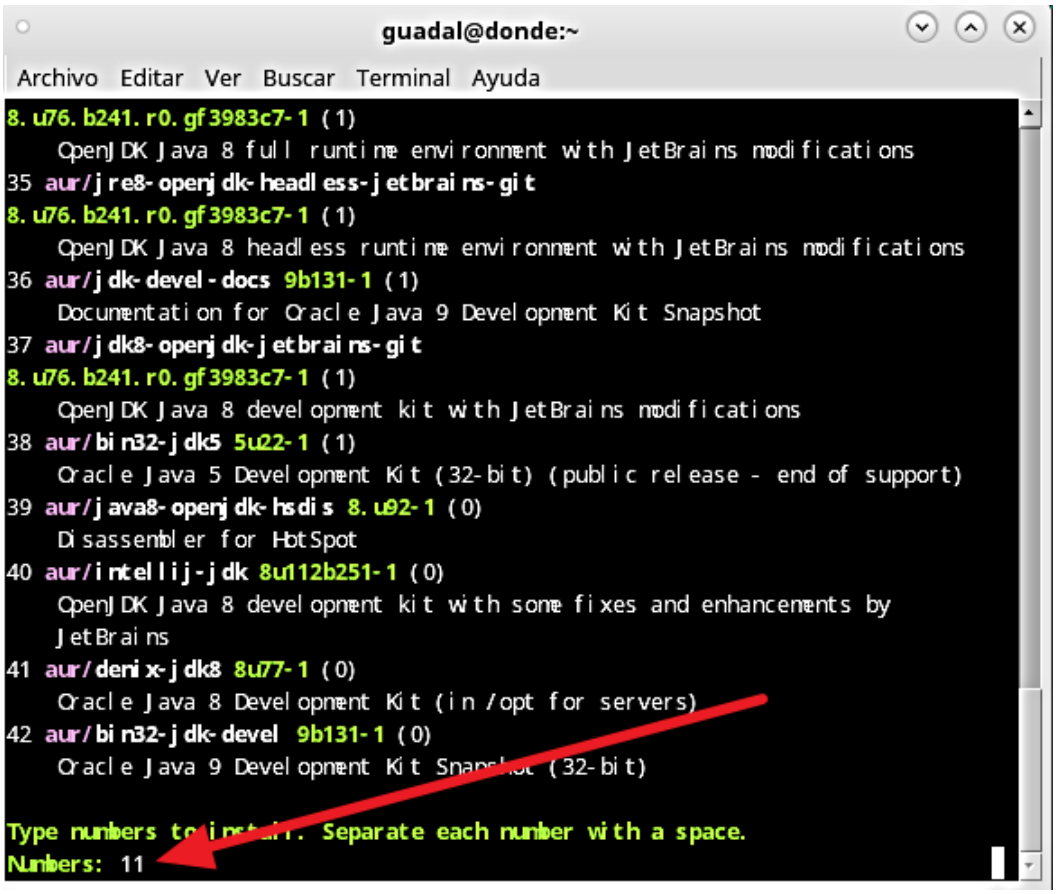
Now, being at home, and in the terminal as user, not as root, install Oracle Java:

```
packer jdk
```

...will show all the available java versions. Type the number of Oracle Java Development, according to your Arch Linux installation, 32 or 64bit.

In my case i type, at the end of the terminal, the number 11.





Once you´ve typed your selection number, push **Enter**. And when ask:

Proceed with installation? [Y/n] **y**

Edit jdk PKGBUILD with $EDITOR? [Y/n] **n**

Edit jdk.install with $EDITOR? [Y/n] **n**

...will ask for user password. Type it, and press **Enter** to the question that will do later.

3)

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

OpenMeetings will need LibreOffice to convert to pdf the uploaded office files.

We install LibreOffice and Firefox (my Arch Linux installation have Mate desktop):

sudo pacman -S libreoffice firefox

...press **Enter** to any question.

4)

------ Installation of necessary packages and libraries ------

Will install packages and libraries that we´ll need later:

(Only one line with space between both)

sudo pacman -S libjpeg ghostscript unzip gcc ncurses make zlib libtool bison bzip2 file-roller autoconf automake pkgconfig tomcat-native nmap curl freetype2 nano

5)

------ Installation ImageMagick, Sox and Swftools ------

ImageMagick, will work with images files jpg, png, gif, etc. We install it:

sudo pacman -S imagemagick

Sox, work the sound. Install it:

sudo pacman -S sox

Swftools. LibreOffice convert to pdf the uploaded office files, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. Also convert jpg2swf, png2swf, gif2swf, etc. Don´t install a newer version, surely have not pdf2swf as this repo version. So, we install it:

sudo pacman -S swftools

Now, we´ll block the installed version, actually swftools-0.9.2-5, since contain pdf2swf.

For this, edit the pacman.conf file:

sudo nano /etc/pacman.conf

...search the line: #IgnorePkg =

...uncomment it: IgnorePkg =

...and add swftools: IgnorePkg = swftools

Press on keyboard, **Ctrl**+**x**, **Y** and **Enter,** to save changes and leave nano editor.

Keep this version and not update it, unless you have the security that the most recent version contains the pdf2swf file.

6)

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

OpenMeetings even need Adobe Flash Player for rooms. We install it:

sudo pacman -S flashplugin

7)

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

Jodconverter participate in the process to convert uploaded files.

Accede as root in the terminal:

su ...will ask for root password.

cd /opt (Only one line without space between both)

wget https://storage.googleapis.com/google-code-archive-downloads/v2/code.google.com/jodconverter/jodconverter-core-3.0-beta-4-dist.zip

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

8)

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

FFmpeg work with video. Will install a libraries, paquets, and vlc to play the recordings that we´ll make in OpenMeetings.

(Only one line with space between both)

pacman -S glibc faac faad2 gsm imlib2 vorbis-tools autoconf automake cmake gcc git libtool make mercurial nasm pkgconfig yasm vlc

The ffmpeg compilation it is based on this url, updated file versions 28-9-2016:

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

I made a script that will download, compile and install ffmpeg. It is tested and works ok.
The result of any recordings we do in OpenMeetings, will be in format avi, flv, mp4 and ogg files.

When the compilation be finished, will appear a text announces it:

FFMPEG Compilation is Finished!

So, download the script:

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-archlinux.sh

...concede execution permission to it:

chmod +x ffmpeg-archlinux.sh

...and run it (be connected to Internet).

./ffmpeg-archlinux.sh

The compilation will spend about 30 minutes.

When finished, please go to **step 9).**

But if you prefer, can copy and paste, though i **don´t advise.**
Leave here the commands script:

nano /opt/ffmpeg-arch.sh

...copy the green text **from here**:

```
# Script ffmpeg compile for Arch Linux 2016
# Alvaro Bustos, thanks to Hunter.
# Updated 17-8-2016

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


# Download the necessary sources.
# git clone --depth 1 git://git.videolan.org/x264
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
git clone --depth 1 git://git.code.sf.net/p/opencore-amr/fdk-aac
curl -L -O http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz
git clone http://git.opus-codec.org/opus.git
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
curl -O http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.5.tar.gz
wget http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
git clone --depth 1 git://source.ffmpeg.org/ffmpeg
# wget http://ffmpeg.org/releases/ffmpeg-3.1.1.tar.gz


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

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

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

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

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

```
cd opus
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make &&
make install && make distclean; cd ..

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

cd libvorbis-*/
LDFLAGS="-L$HOME/ffmeg_build/lib" CPPFLAGS="-I$HOME/ffmpeg_build/include"
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-shared
&& make && make install && make distclean; cd ..

cd libtheora-*/
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-
examples --disable-shared --disable-sdltest --disable-vorbistest && make && make install; cd ..

cd libvpx
./configure --prefix="$HOME/ffmpeg_build" --disable-examples && make && make install &&
make clean; cd ..

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


cd ~/bin
cp ffmpeg ffprobe ffserver lame x264 /usr/local/bin

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

echo "FFmpeg Compilation is Finished!"
```

...**to here.**

Concede permission of execution:

```
chmod +x /opt/ffpmeg-arch.sh

cd /opt
```

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

./ffmpeg-arch.sh

All the compiled files will be installed on: /usr/local/bin

9)

------ Installation of MariaDB data server ------

MariaDB is the data server. We install it:

pacman -S mariadb

Initialize data directories (be connected to Internet):

mysql_install_db --user=mysql --basedir=/usr --datadir=/var/lib/mysql

...and run MariaDB:

systemctl start mysqld

Give a password to MariaDB root . Please, modify new-password by your own and remember it:

mysqladmin -u root password new-password

Access to MariaDB:

mysql -u root -p

...will ask for the password you does just now.

We make a database called open313, for OpenMeetings:

MariaDB [(none)]> CREATE DATABASE open313 DEFAULT CHARACTER SET 'utf8';

Now we create a user with all permission on this open313 database:

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open313.* TO 'hola'@'localhost' IDENTIFIED BY '123456' WITH GRANT OPTION;

* open313 ..... name of the database
* hola ..... user for that database
* 123456 .....password of this user

You can change the data, but...remember it! Later we´ll need it.
We leave MariaDB:

MariaDB [(none)]> quit

10)

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

We´ll install OpenMeetings in /opt/red5313. All the following information will be based on this directory.

Call to our folder of installation red5313

Make that folder:

mkdir /opt/red5313

cd /opt/red5313

...and download the OpenMeetings file:

wget http://ftp.cixug.es/apache/openmeetings/3.1.3/bin/apache-openmeetings-3.1.3.zip

unzip apache-openmeetings-3.1.3.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.1.3.zip /opt

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/red5313/webapps/openmeetings/WEB-INF/lib

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

nano /opt/red5313/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify in line 71:

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

...to

, Url=jdbc:mysql://localhost:3306/open313?

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

Modify in line 76:

, Username=root

...to

, Username=hola

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

Modify in line 77:

, Password=" />

...to

, Password=123456" />

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

Press on keyboard, **Ctrl**+**x**, **Y** and **Enter,** to save changes and exit nano editor.

Logically, if initially you choose another user name, password or database name, you will change them here.

Protect the access to the file:

(Only one line without space between both)

chmod 640 /opt/red5313/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

11)

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

We make the folder /etc/init.d, where put the red5 run script:

mkdir /etc/init.d

Download the script to run red5-OpenMeetings:

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-3

...copy it to where must be:

cp red5-3 /etc/init.d/

...concede execution permission:

chmod +x /etc/init.d/red5-3

If you would made the installation in any other different path to /opt/red5313, please edit the script and modify the line:

RED5_HOME=/opt/red5313

...to

RED5_HOME=/your-path-installation

12)

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

Restart mariadb:

systemctl restart mysqld

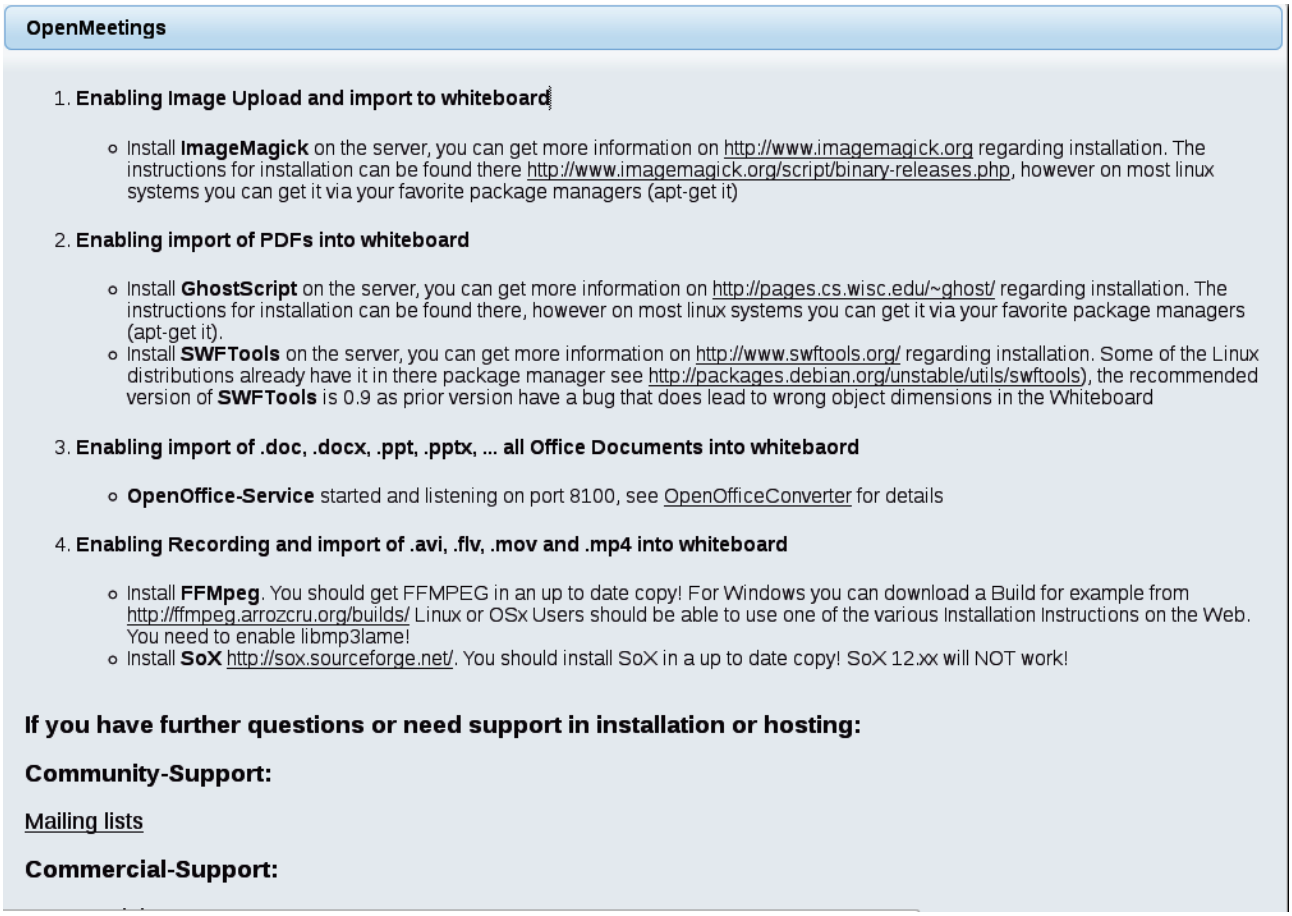
...and run red5-OpenMeetings. Please, from a new terminal as root, and be connected to Internet, so the running will be quick:

/etc/init.d/red5-3 start

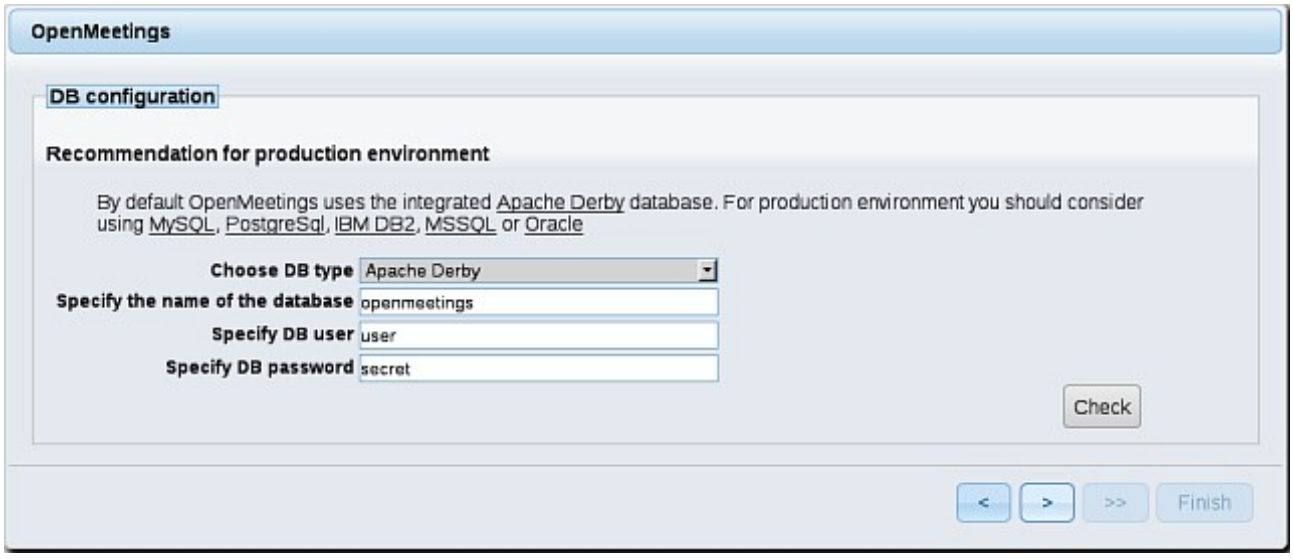
...wait untill the text "**clearSessionTable: 0**", it is the last in the shell. Then, go with the browser to:

http://localhost:5080/openmeetings/install

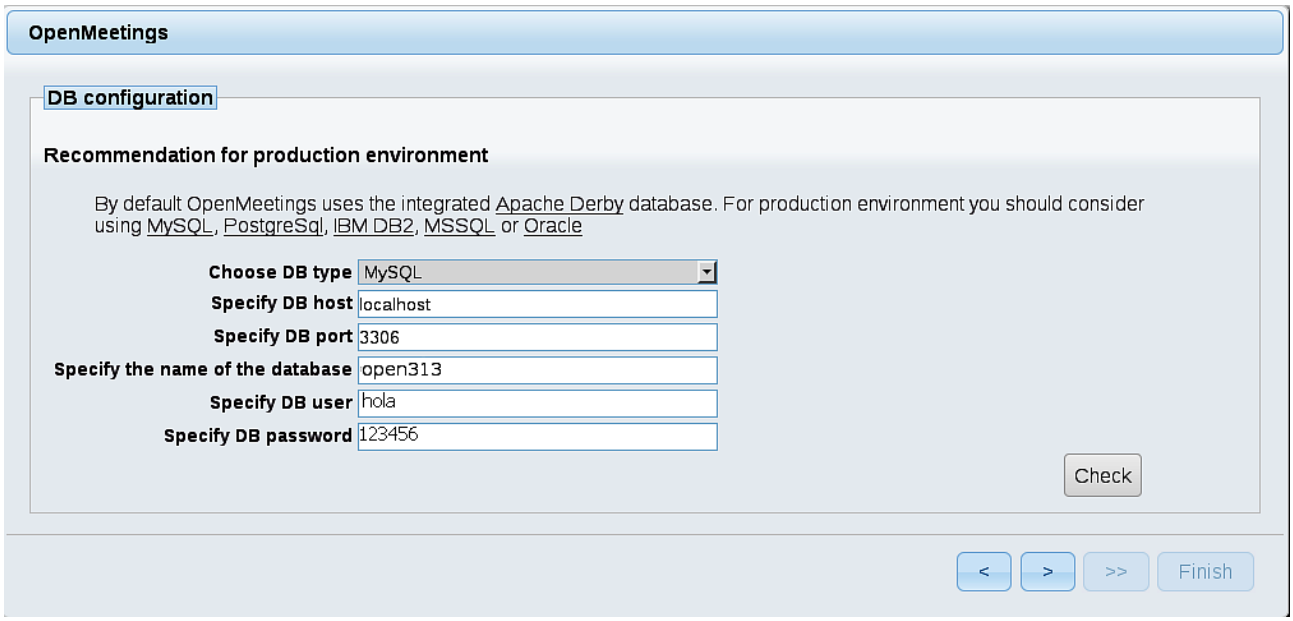
...there will appear a page similar to this one:



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



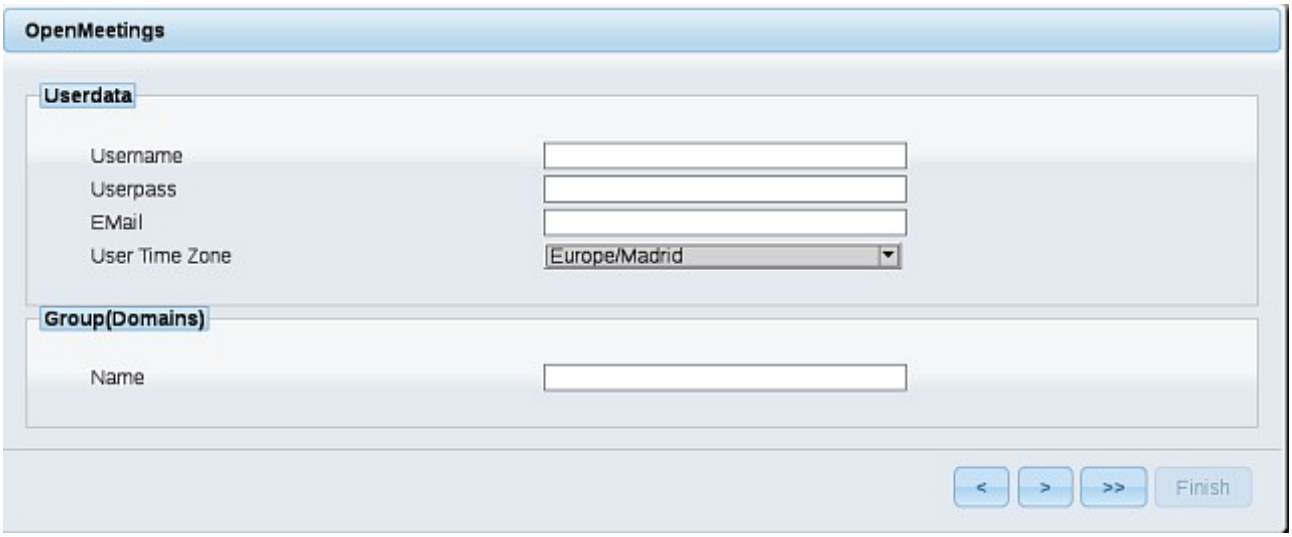
...so, scroll and **Choose DB type** to MySQL:



...will show the database configuration we made in the step 10.

If you`ve choose anyother different data, will show equally.

Please, push > button, and will go to:



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 this previous user.

User Time Zone = country where is this server.

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

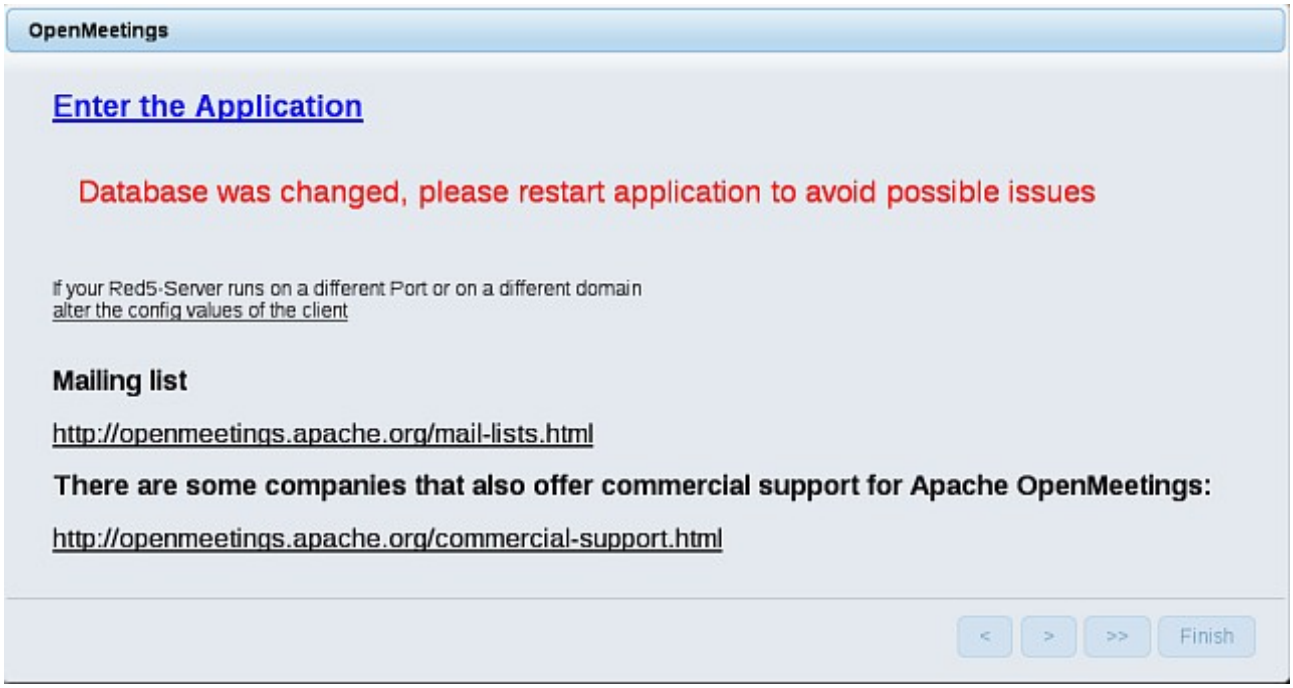
When the installation be finished, we´ll configure the rest.

Now, touch the button >> (double arrow). Will show this window:

Clic **Finish** button...wait a seconds untill the tables are fill in the database.

When is concluded, this another page will appear. Don´t clic on **Enter the Application**.
First is need it to restart red5 server. Please, be connectd to Internet. Open a new terminal as root:

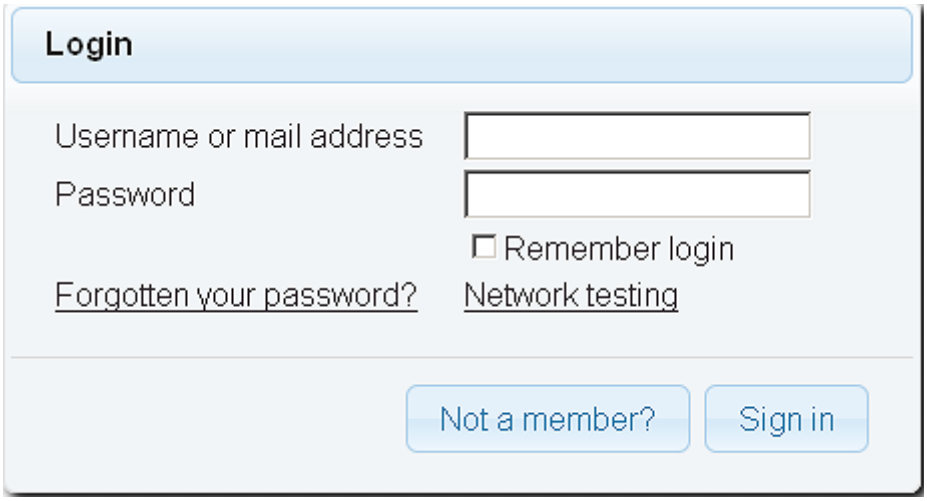
/etc/init.d/red5-3 restart



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 to accede OpenMeetings, would be:

http://localhost:5080/openmeetings

Remember to open in the server, the two following ports:

1935 5080

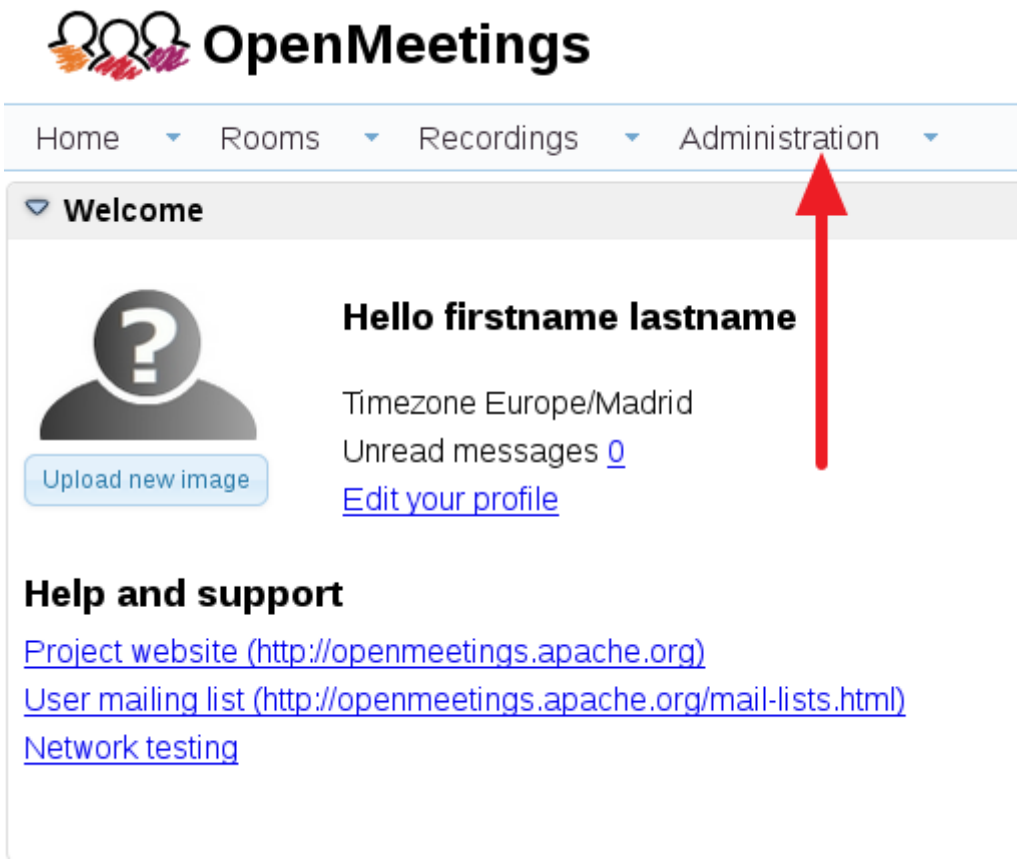
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

15)

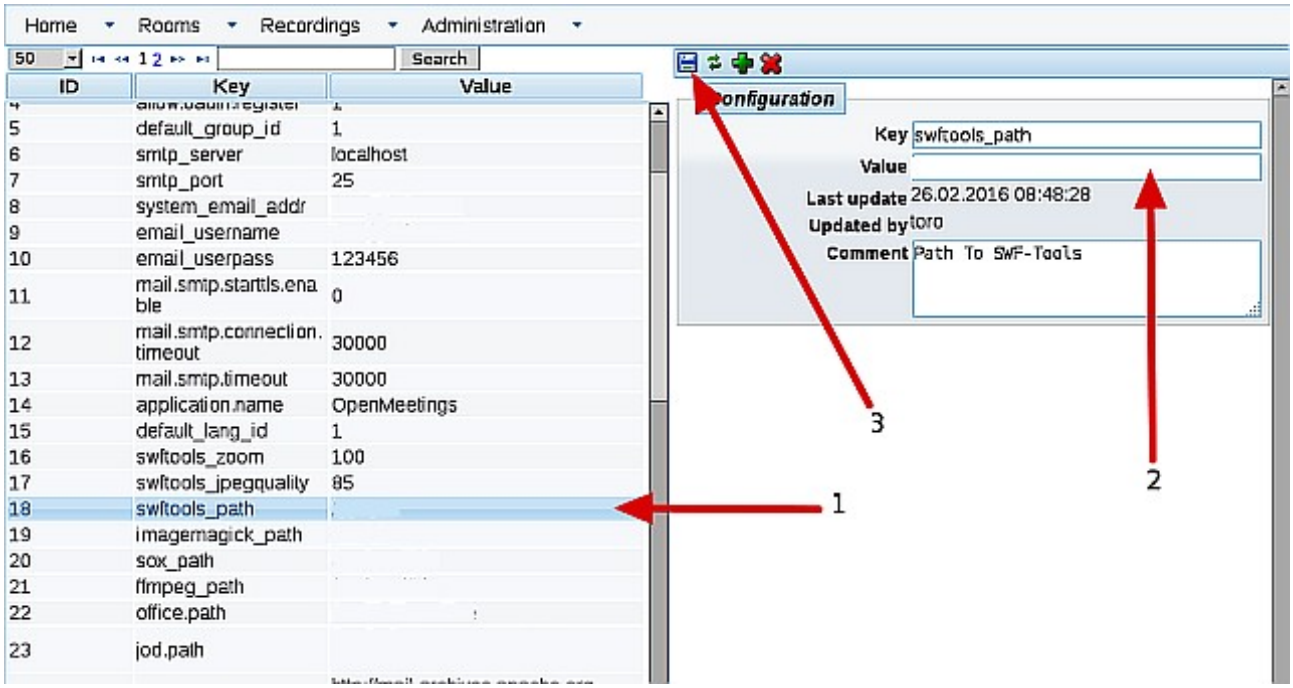
------ OpenMeetings's configuration ------

Once you acced to 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/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: /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 prefer to save them:

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

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

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