Installation of Apache OpenMeetings 3.3.0 on Arch Linux

This tutorial is based on a fresh installations of

arch-anywhere-2.2.7-1-dual

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 3.3.0stable, that is to say
will suppress his compilation. It is done step by step.

14-7-2017

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 for OpenMeetings **3.2.2**. 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

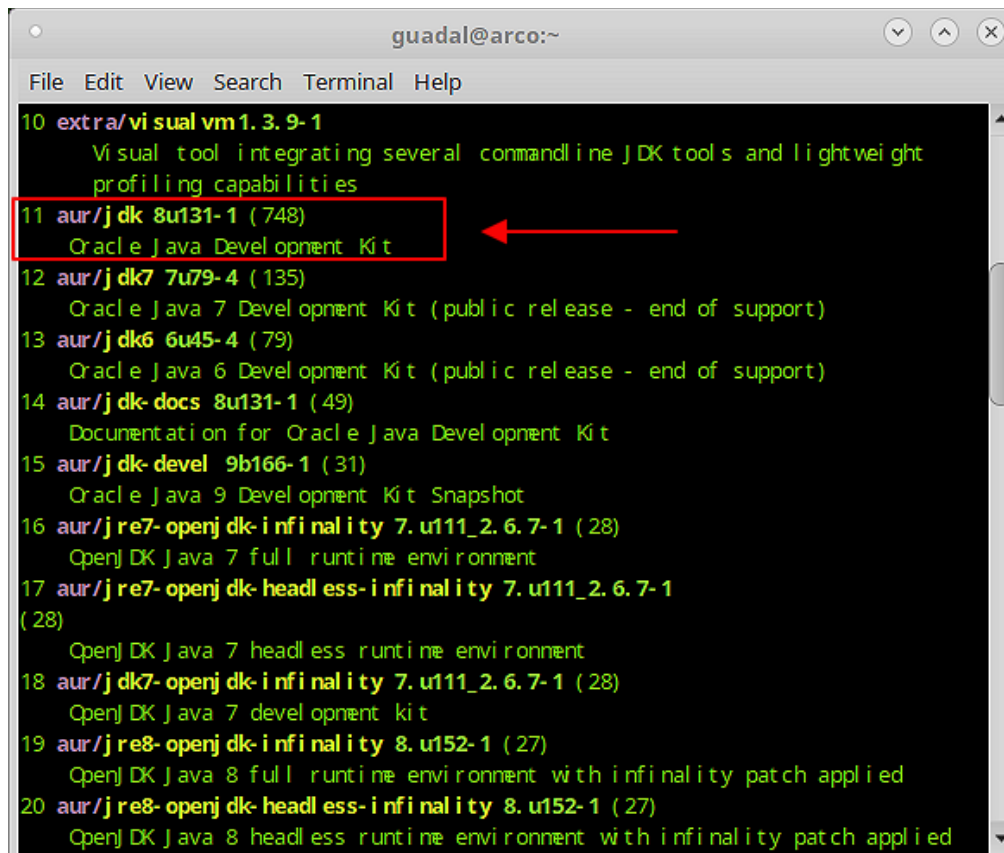...and now install Packer:

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

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

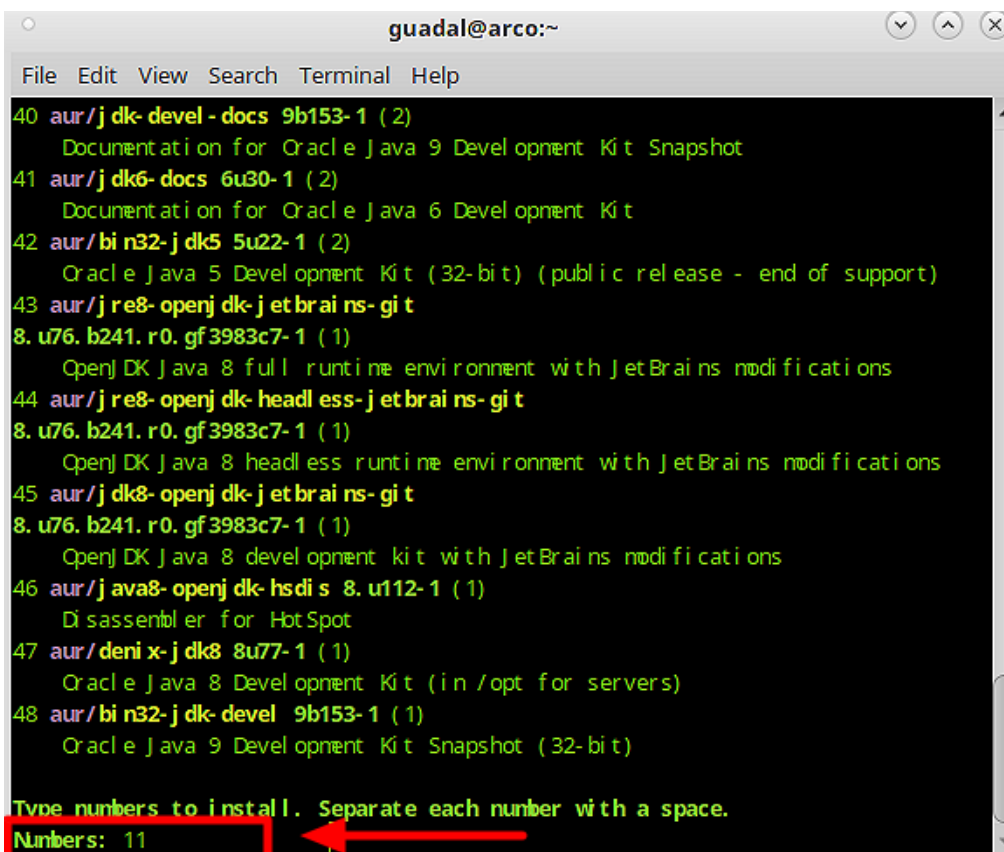Now, being at home, and in the terminal as user, not as root, install Oracle Java:

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 shell, the number 11.

Once you´ve typed your selected 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**

...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:

packer swftools

Will ask to type a number:

Type numbers to install. Separate each number with a space.
Numbers: ...type number **0**

Once you´ve typed the zero, push **Enter**. And when ask:

Proceed with installation? [Y/n]   ...press **Enter**

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

[sudo] password for "your-user":   ...type your user password and press **Enter**

¿Continue with the installation? [Y/n]   ...press **Enter**

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)

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

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

su   ...will ask for root password

(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 qt4

The ffmpeg compilation it is based on this url, updated file versions 14-7-2017:

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 mp4 format.

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 8).**

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
# Alvaro Bustos, thanks to Hunter.
# Updated 14-7-2017

# 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
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.3.tar.gz
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 in: /usr/local/bin

8)

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

MariaDB is the data server. We install it: (continue as root in shell)

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.

Make a database called open330, for OpenMeetings. User password must be of 8 digits minimum:

MariaDB [(none)]> CREATE DATABASE open330 DEFAULT CHARACTER SET 'utf8';

Now we create a user with all permission on this open330 database:

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open330.* TO 'hola'@'localhost' IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;

* open330   ....…..... name of the database
* hola   ....….... user for that database
* 1a2B3c4D   ....password of this user

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

MariaDB [(none)]> quit

9)

<div align="center">

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

</div>

We´ll install OpenMeetings in /opt/red5330. All the following information will be based on this directory.

Call to our folder of installation red5330

Make that folder:

mkdir /opt/red5330

cd /opt/red5330

...and download the OpenMeetings file:

wget http://apache.miloslavbrada.cz/openmeetings/3.2.2/bin/apache-openmeetings-3.2.2.zip

unzip apache-openmeetings-3.2.2.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.2.2.zip /opt

Download and install the connector between OpenMeetings and MariaDB:

cd /opt

<div align="center">

(Only one line without space between both)

</div>

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/red5330/webapps/openmeetings/WEB-INF/lib

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

nano /opt/red5330/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify in line 72:

, Url=jdbc:mysql://localhost:3306/openmeetings_3_3?

...to

, Url=jdbc:mysql://localhost:3306/open330?

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

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

Logically, if initially you choose another database name, you will type it here.

Protect the access to the file:

<div align="center">(Only one line without space between both)</div>

chmod 640 /opt/red5330/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

10)
<div align="center">**------ Script to launch red5-OpenMeetings ------**</div>

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/red5-2

...copy it to where must be:

cp red5-2 /etc/init.d/

...concede execution permission:

chmod +x /etc/init.d/red5-2

If you would made the installation in any other different path to /opt/red5330, please edit the script

and modify the line:

RED5_HOME=/opt/red5330

...to

RED5_HOME=/your-path-installation

11)

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

Restart MariaDB:

systemctl restart mysqld

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

/etc/init.d/red5-2 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):
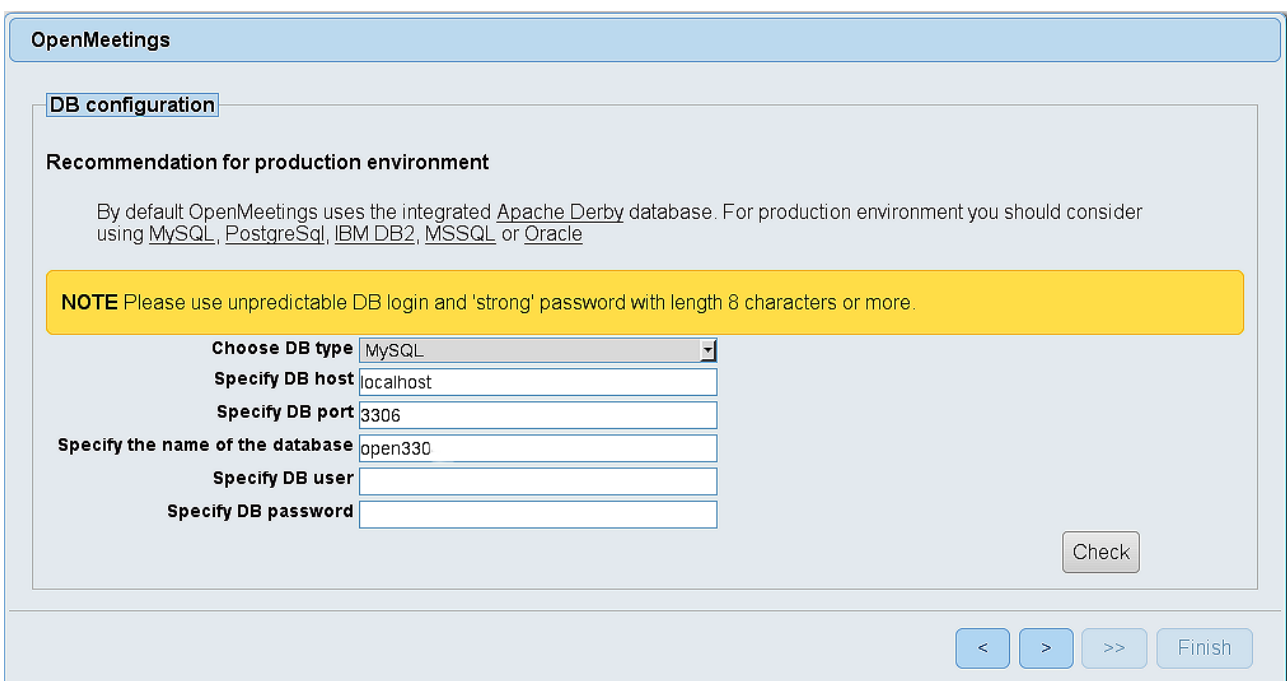
...so, scroll and **Choose DB type** to MySQL:
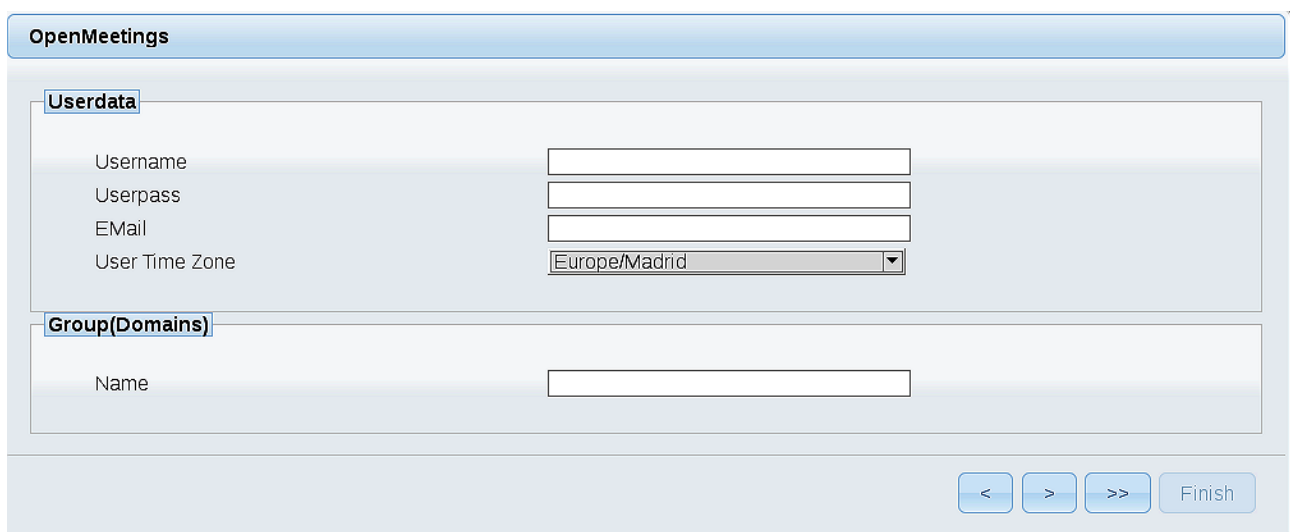
...and will show the database name, we made in the step 9.
If you`ve choose any other different name for this, will show equally.

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

<div align="center">

Specify DB user   =   hola

Specify DB password   =   1a2B3c4D

</div>

Press   > 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 this 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)

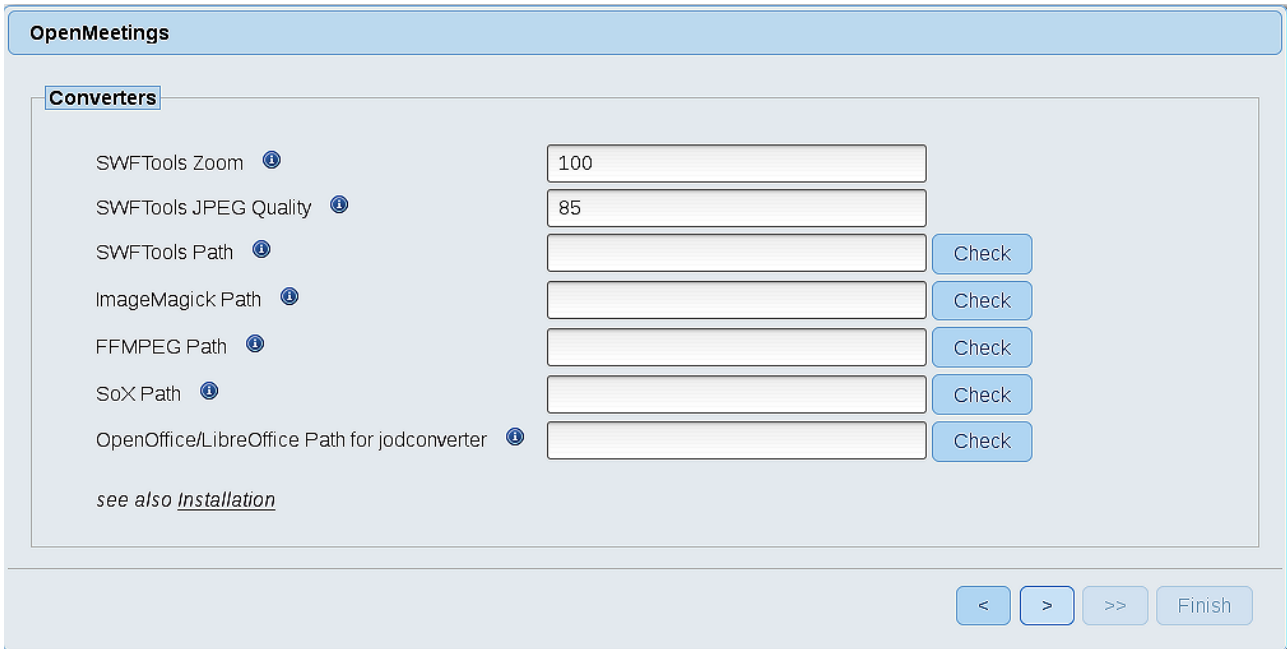**Mail-Refer (system_email_addr)**   ==   john@gmail.com

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 we can leave as is.

Now press the button ![> 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/bin

OpenOffice/LibreOffice Path for jodconverter   ==   /usr/lib/libreoffice

As you go introducing routes, 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] 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, touch the button [>] Will show this window:

Press **Finish** button...wait a seconds untill the tables are fill in our 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/red5-2 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

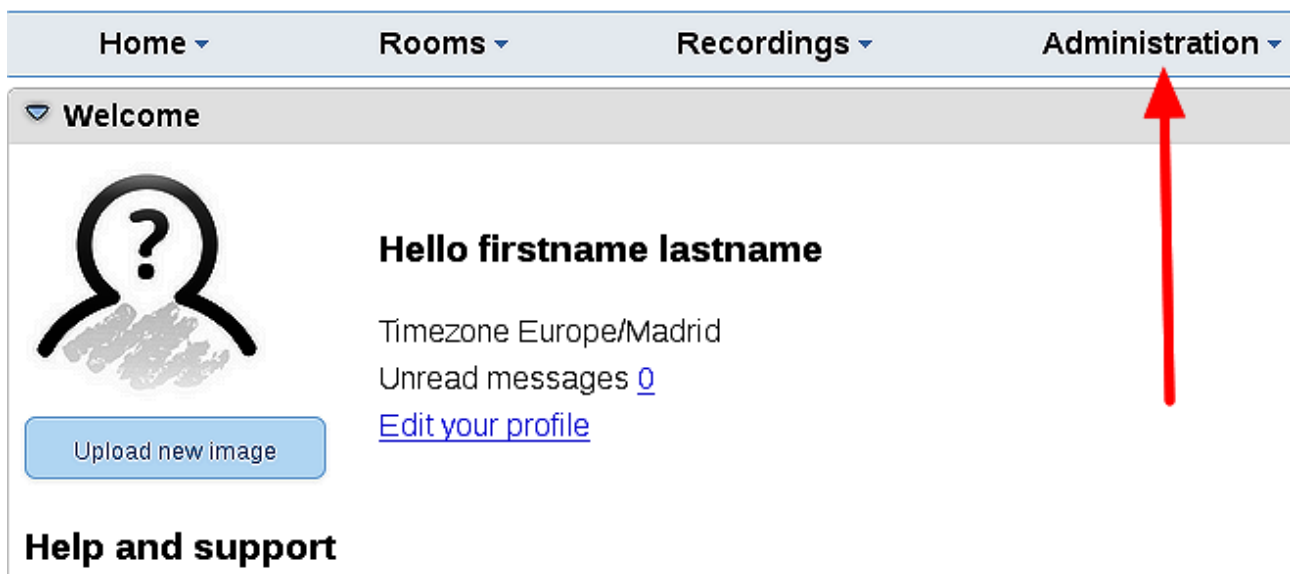Remember to open in the server, the two following ports:

1935   5080

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

12)

------ 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:

And this is all.

If you have some doubt or question, please raise it in the Apache OpenMeetings forums:

Thank you.

Alvaro Bustos