**Installation of Apache OpenMeetings 3.0.x on Debian 8**

This tutorial is made based on fresh installations of

**debian-8.0.0-amd64-CD-1.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.0.6 stable, that is to say will suppress his compilation. It is done step by step.

14-5-2015 updated 25-5-2015

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 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

**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

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

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

...and copy-paste these two lines:

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

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-xfixes0-dev pkg-config texi2html zlib1g-dev nasm

Make a folder where download the neccesary files to compile.

mkdir ~/ffmpeg_sources

cd ~/ffmpeg_sources

...and download:

wget http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz

wget http://download.videolan.org/pub/x264/snapshots/last_x264.tar.bz2

wget -O fdk-aac.zip https://github.com/mstorsjo/fdk-aac/zipball/master

wget http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz

wget http://downloads.xiph.org/releases/opus/opus-1.1.tar.gz

wget http://webm.googlecode.com/files/libvpx-v1.3.0.tar.bz2

wget http://ffmpeg.org/releases/ffmpeg-snapshot.tar.bz2

Once unloaded, start the compilation:

**1)** **--- Yasm ---**

cd ~/ffmpeg_sources

tar xzvf yasm-1.3.0.tar.gz

cd yasm-1.3.0

./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"

make

make install

make distclean

**2)** **--- libx264 ---**

cd ~/ffmpeg_sources

tar xjvf last_x264.tar.bz2

cd x264-snapshot*

(In only one line with space)

PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --enable-static

PATH="$HOME/bin:$PATH" make

```
make install
make distclean
```

**3) --- libfdk-aac ---**

```
cd ~/ffmpeg_sources
unzip fdk-aac.zip
cd mstorsjo-fdk-aac*
autoreconf -fiv
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
make
make install
make distclean
```

**4) --- libmp3lame ---**

```
cd ~/ffmpeg_sources
tar xzvf lame-3.99.5.tar.gz
cd lame-3.99.5
./configure --prefix="$HOME/ffmpeg_build" --enable-nasm --disable-shared
make
make install
make distclean
```

**5) --- libopus ---**

```
cd ~/ffmpeg_sources
tar xzvf opus-1.1.tar.gz
```

```
cd opus-1.1
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
make
make install
make distclean
```

**6) --- libvpx ---**

```
cd ~/ffmpeg_sources
tar xjvf libvpx-v1.3.0.tar.bz2
cd libvpx-v1.3.0
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --disable-examples
PATH="$HOME/bin:$PATH" make
make install
make clean
```

**7) --- ffmpeg ---**

```
cd ~/ffmpeg_sources
tar xjvf ffmpeg-snapshot.tar.bz2
cd ffmpeg
```

(In only one line with space between each one)

```
PATH="$HOME/bin:$PATH" 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="$HOME/bin" --enable-gpl --enable-libass
--enable-libfdk-aac --enable-libfreetype --enable-libmp3lame --enable-libopus --enable-libtheora
--enable-libvorbis --enable-libvpx --enable-libx264 --enable-nonfree
PATH="$HOME/bin:$PATH" make
make install
```

make distclean

hash -r

---

The compilation is finished.

---

Now we have the compiled files in: ~/bin

and: ~/ffmpeg_build/bin

Should copy all them to /usr/local/bin to be enabled:

cd ~/bin

cp ffmpeg ffplay ffprobe ffserver vsyasm x264 yasm ytasm /usr/local/bin

cd ~/ffmpeg_build/bin

cp lame /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

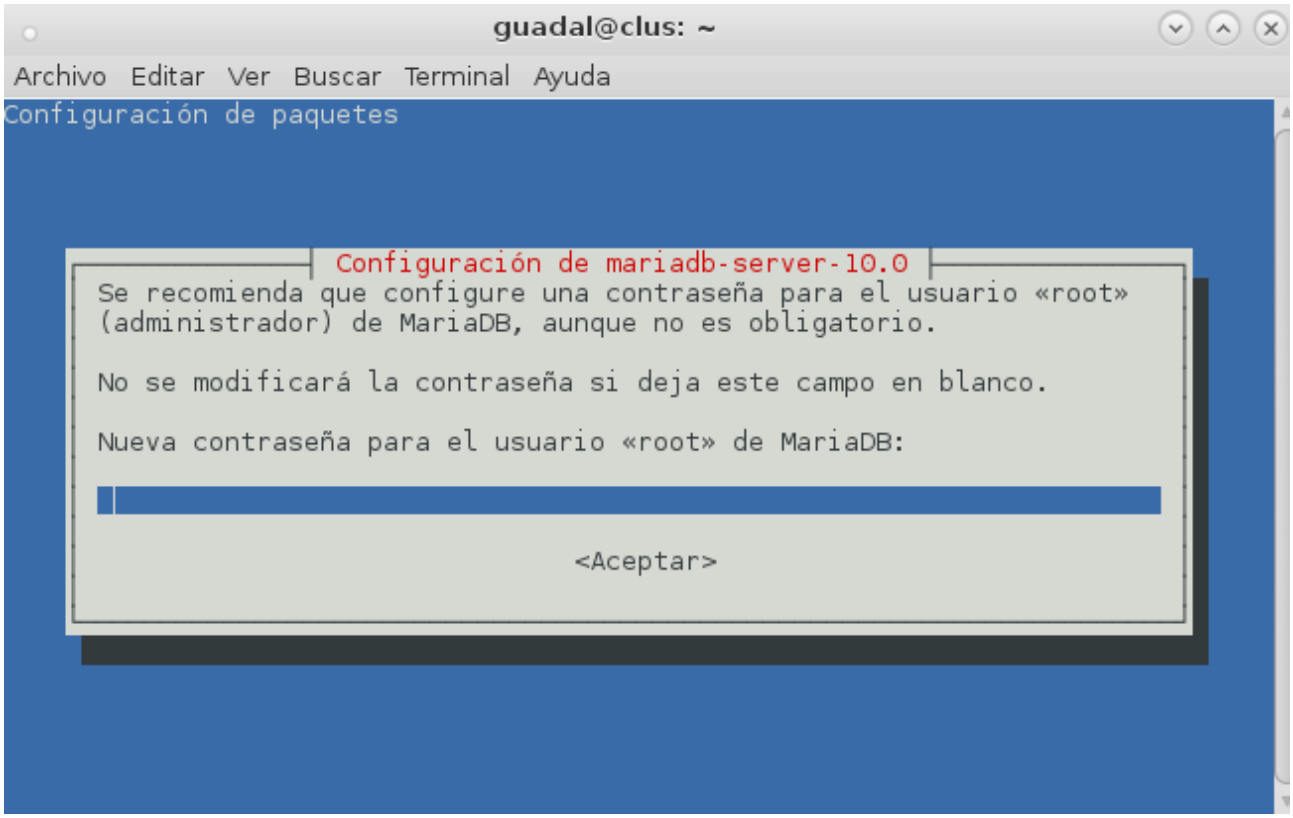
sudo apt-get install software-properties-common

...and now MariaDB:

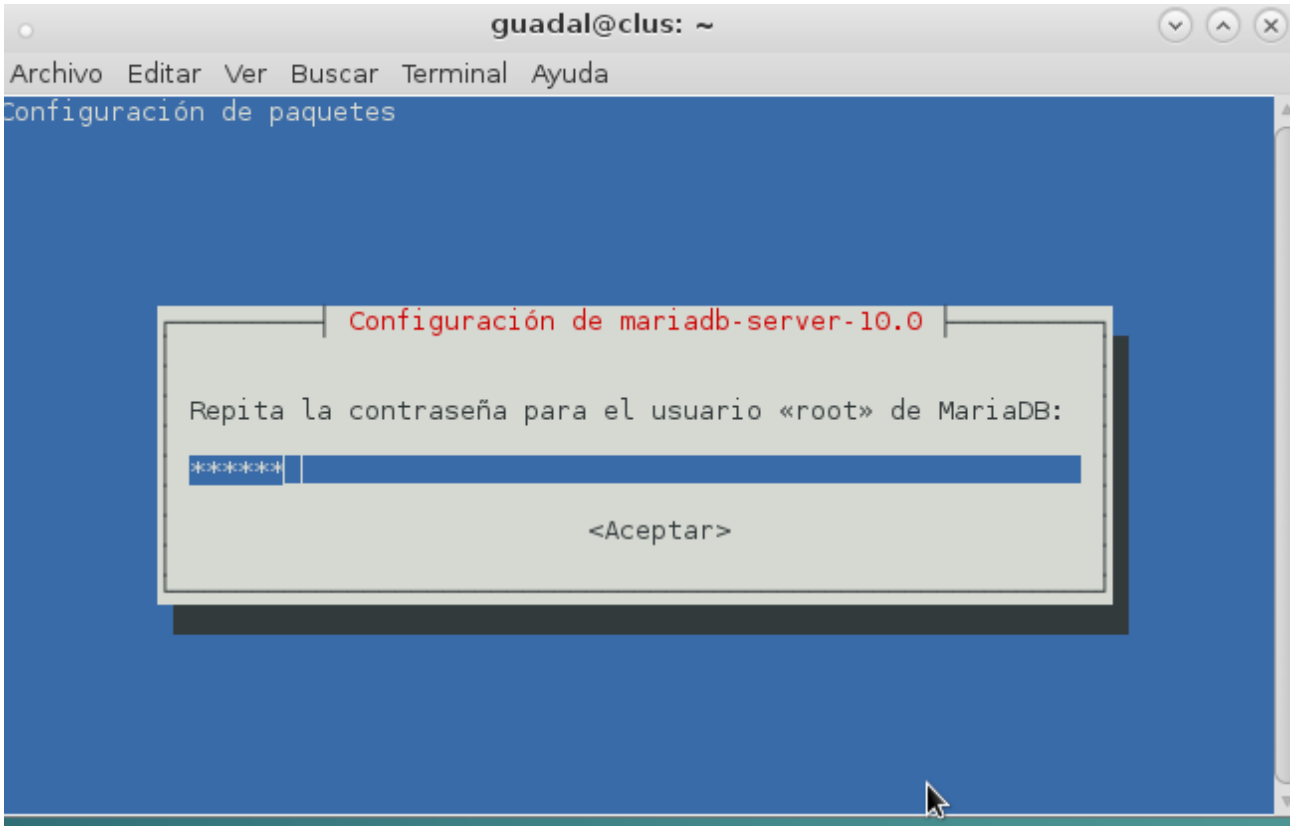
apt-get install mariadb-server

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 open306 DEFAULT CHARACTER SET 'utf8';

With this command we has created a called database open306 though you can choose another name to your whish.

Now we create a user with all the permission on this open306 database.

(In only one line with space)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open306.* TO 'openmeetings'@'localhost' IDENTIFIED BY '123456' WITH GRANT OPTION;

* open306 .....is the database name.
* openmeetings ...is the user name for the database.
* 123456 ….....is the password of the user called openmeetings.

You can change the data...but remember it!

MariaDB [(none)]> quit

**9)**

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

We´ll install OpenMeetings in /opt/red5306. All the following information will be based on this directory.

Call to our folder of installation **red5306**

Make the folder:

mkdir /opt/red5306

cd /opt/red5306

wget http://apache.rediris.es/openmeetings/3.0.6/bin/apache-openmeetings-3.0.6.zip

unzip apache-openmeetings-3.0.6.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.0.6.zip /opt

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

chown -R nobody /opt/red5306

Download and install the connector between OpenMeetings and MariaDB:

cd /opt

wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.35/mysql-connector-java-5.1.35.jar

...and copy it to where must be:

cp /opt/mysql-connector-java-5.1.35.jar /opt/red5306/webapps/openmeetings/WEB-INF/lib

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

cd /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF

mv persistence.xml persistence.xml-ori

mv mysql_persistence.xml persistence.xml

gedit /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml

...to change on **line 81**

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

...to

, Url=jdbc:mysql://localhost:3306/open306

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

... to change on **line 86**

, Username=root

...to

, Username=openmeetings

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

...to change on **line 87**

, Password=" />

...to

, Password=123456" />

...it is the password that we did initially for the user "openmeetings" in the database.
Logically if initially you chose another name and password for the database, you will to change them here.

We protect the access to the file:

chmod 640 /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF/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=2&modificationDate=1432719272000&api=v2

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

Rename the file unloaded to red5:

mv red5?version=2 red5

...and copy it to:

cp red5 /etc/init.d/

Give permission of execution:

chmod +x /etc/init.d/red5

**11)**

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 seconds 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**

## OpenMeetings - Installation

1. **Recommendation for production environment**

   By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, Postgres or for example IBM DB2 or Oracle

2. **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)

3. **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

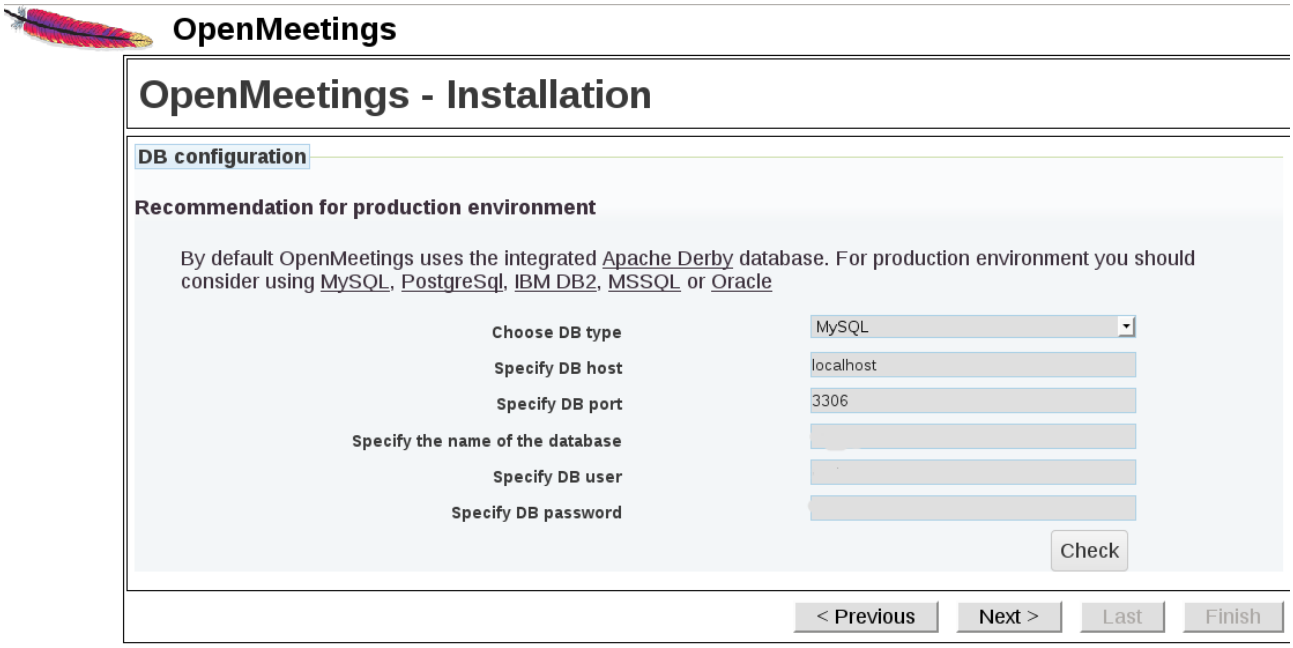
4. **Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whitebaord**

   - **OpenOffice-Service** started and listening on port 8100, see OpenOfficeConverter for details

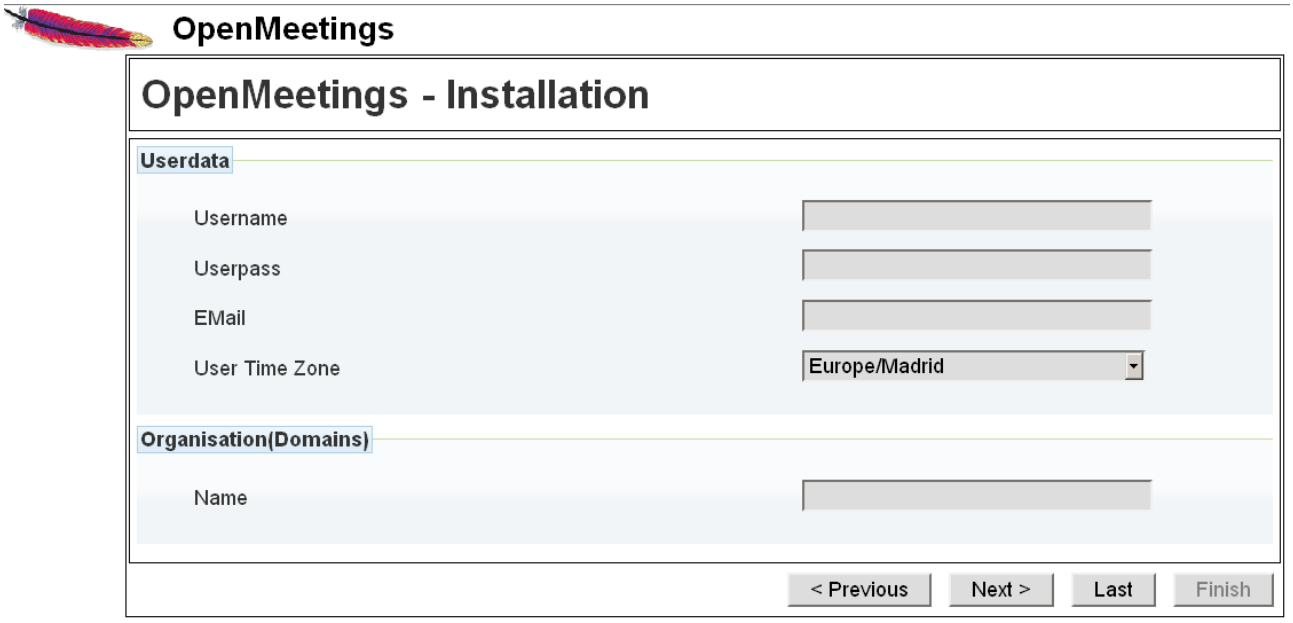
5. **Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard**

...clic on **Next** (bottom page)

...and this another page will appear showing the database configuration we made:




...clic **Next** and this another page will appear:




...here we have to introduce necessarily, to be able to continue, the following:

**Username** = **a-name** ...this user will be administrator.

**Userpass** = **password** ...for the previous user.

**Email** = **email-adress** ...of the previous user.

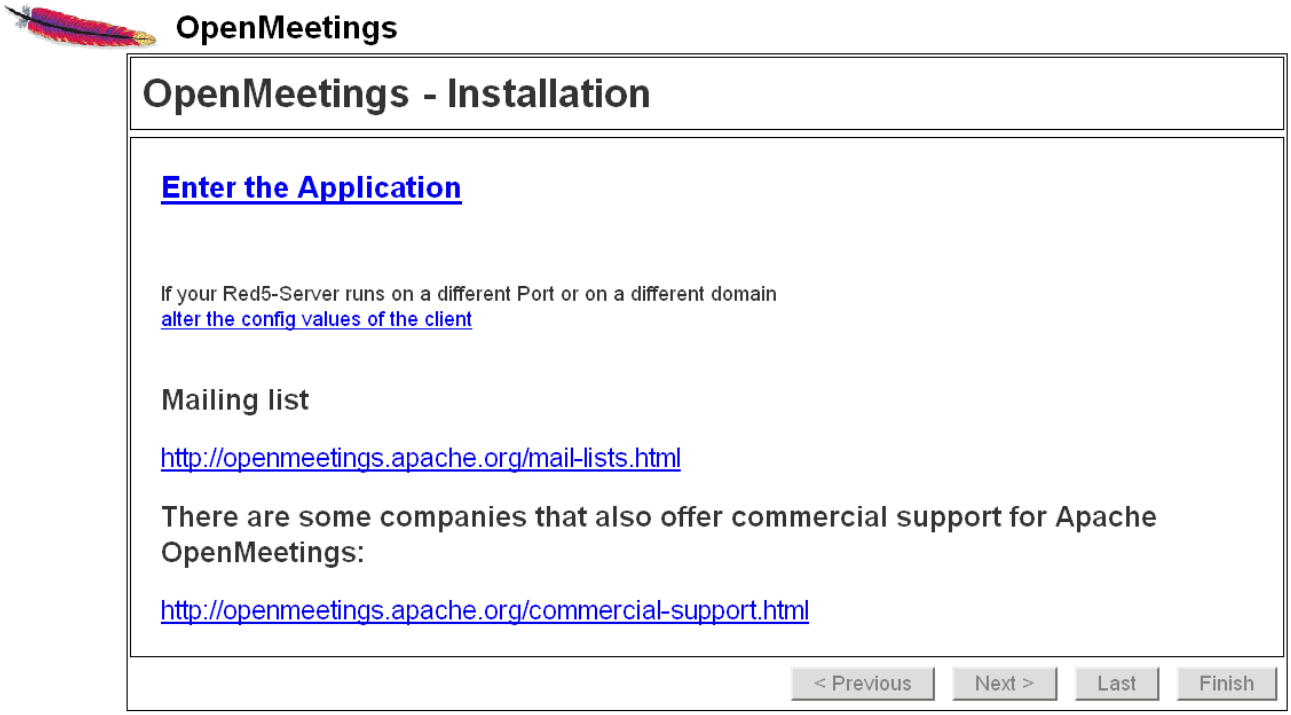
**User Time Zone** = Country where is this server

Organisation(Domains)

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

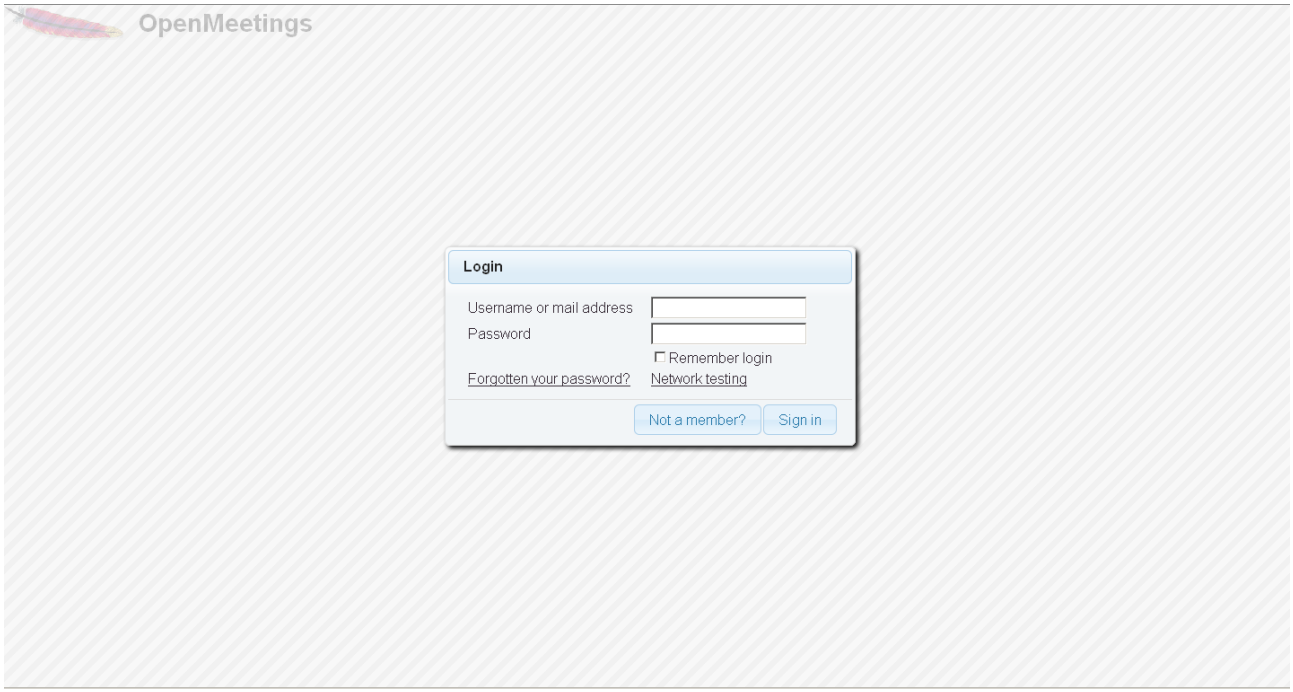
Go below completely of the page and touch the button **Finish**

...and wait a *moment* till the tables are fill in the database.
When has concluded, this another page will appear:




...clic on **Enter the Application**

..and we should see OpenMeetings's entry:




Introduce the user's name and the password that you have chosen during the installation and...

**...Congratulations!**

The next time that you wants to accede to OpenMeetings will be:

http://localhost:5080/openmeetings

Remember to open in the server the three following ports:

5080 1935 8088

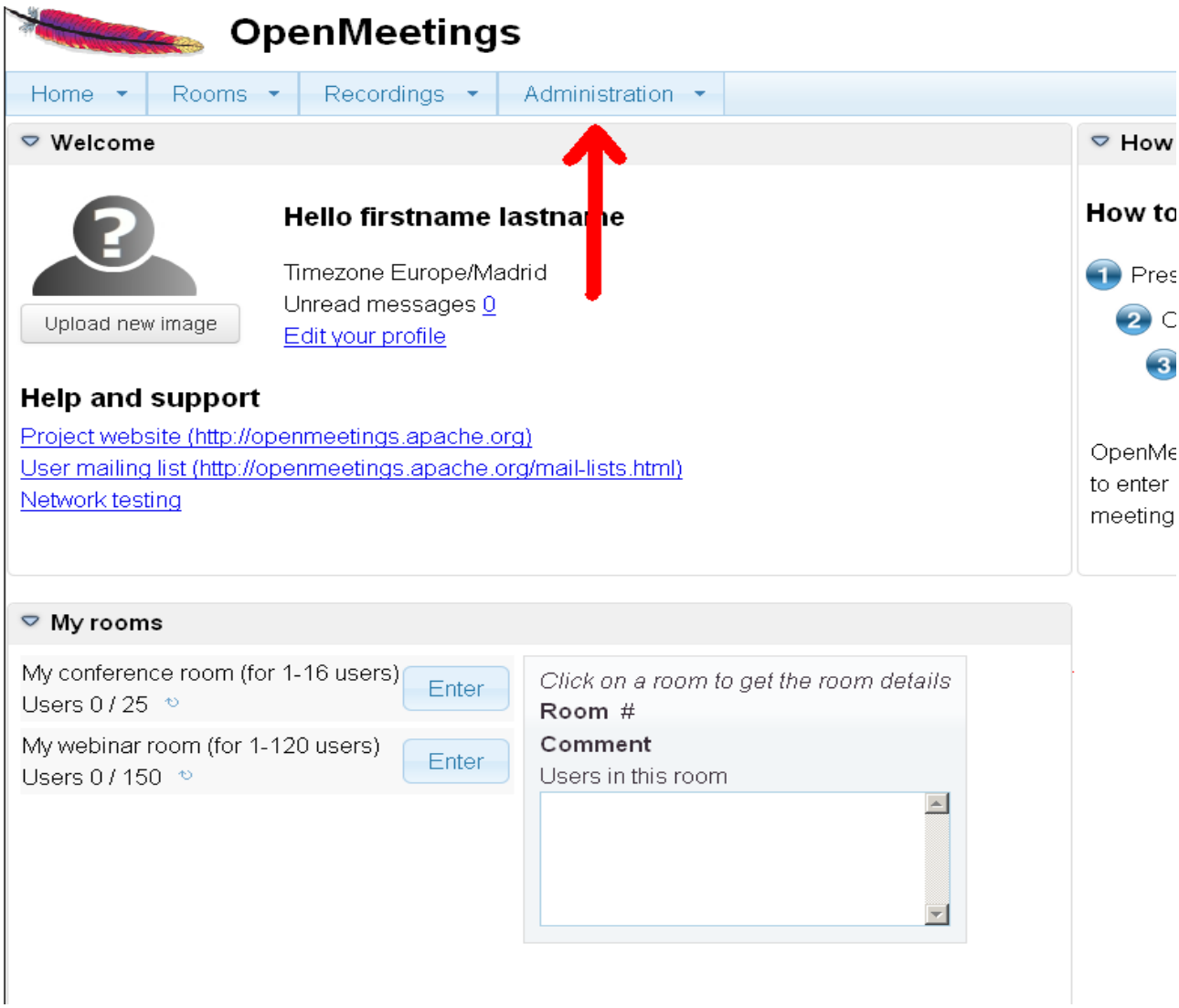
...in order that it could accede to OpenMeetings from other machines.

**14)**

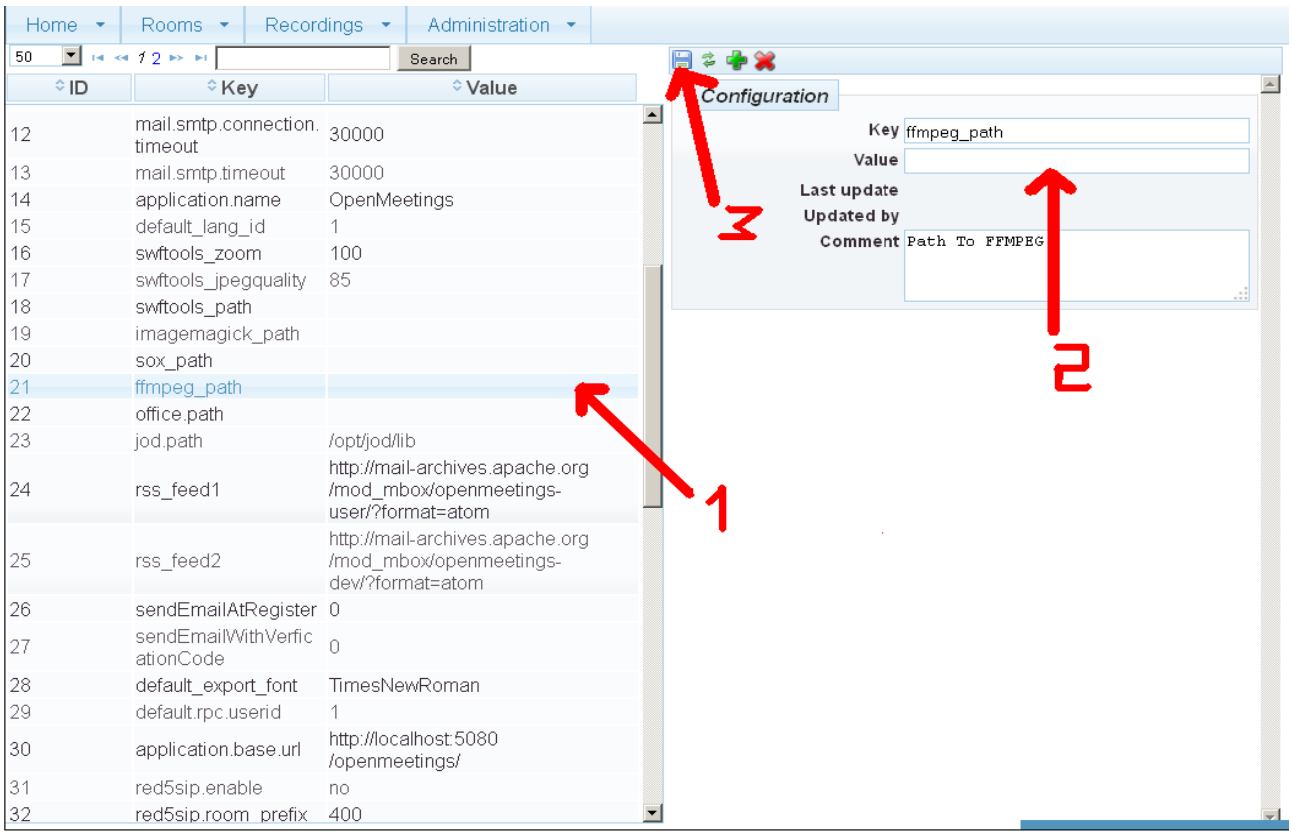
**---- OpenMeetings's configuration ----**

Once you acced to OpenMeetings go to:

**Administration → Configuration**




...this is the page of configurations...



...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**

Now there is OpenMeetings ready to work rightly.

**15)**

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-5.1.34.jar

rm -f /opt/sox-14.4.1.tar.gz

rm -f -R /opt/sox-14.4.1

And this is all.

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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