Installation of Apache OpenMeetings 3.1.1 on Centos 6.8

This tutorial is made based on fresh installations of

CentOS-6.8-x86_64-LiveCD.iso

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.1 stable, that is to say will suppress his compilation. It is done step by step.

28-6-2016

Starting…

1)

yum install -y gedit wget

At first place we must modify Selinux level security for the installation:

sudo gedit /etc/selinux/config

…modify:

SELINUX=enforcing

...to

SELINUX=**permissive**

2)

------ Update the System ------

Update operative system:

yum update -y

...and reboot for the kernel changes and the new **Selinux** configuration take effect.:

reboot

3)

------ ADD Repos ------

Add the **Epel** repository

For Centos 6.x 32 bit

cd /opt

wget http://dl.fedoraproject.org/pub/epel/6/i386/epel-release-6-8.noarch.rpm

rpm -Uvh epel-release-6-8.noarch.rpm

For CentOS 6.x 64 bits:

cd /opt

wget http://dl.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-8.noarch.rpm

rpm -Uvh epel-release-6-8.noarch.rpm

Añadimos el repositorio **linuxtech** (32 y 64 bits)

...para la instalación de vlc, reproductor de video para las futuras grabaciones que hagamos en OpenMeetings.:

cd /opt

wget http://pkgrepo.linuxtech.net/el6/release/linuxtech.repo

cp linuxtech.repo /etc/yum.repos.d

Adobe repo **32 bit** ## For Flash Player.

rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-i386-1.0-1.noarch.rpm

rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux

Adobe repo **64-bit** ### For Flash Player.

rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-x86_64-1.0-1.noarch.rpm

rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux

yum update

4)

------ Installation of Java ------

Java is necessary to work Red5-OpenMeetings. Should install Open Java 1.8 and the plugin icedtea-web:

sudo yum install java-1.8.0-openjdk icedtea-web

Maybe are installed various versions of Java. Please select the 1.8 version:

update-alternatives --config java

And to see if the selected version is active: java -version

5)

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

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

Should install it:

yum -y install libreoffice libreoffice-headless

6)

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

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

(Only one line with space between 1ª and 2ª)

yum install -y libjpeg libjpeg-devel ghostscript freetype freetype-devel unzip gcc gcc-c++ ncurses ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-devel bzip2 bzip2-devel file-roller git autoconf automake pkgconfig tomcat-native nmap

7)

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

ImageMagick will work with images files. Should install it and some more libraries:

yum install -y ImageMagick giflib giflib-devel giflib-utils

Sox work the sound. Will compile and install it:

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 (flash file) the uploaded files. Don´t use a newer version; swftools file. Don´t have pdf2swf.

cd /opt

wget http://www.swftools.org/swftools-2013-04-09-1007.tar.gz

tar xzvf swftools-2013-04-09-1007.tar.gz

cd /opt/swftools-2013-04-09-1007

./configure --libdir=/usr/lib --bindir=/usr/bin

make

make install

cd /opt

8)

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

OpenMeetings even need Adobe Flash Player for rooms.

yum install -y flash-plugin

9)

------ 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

10)

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

FFmpeg will work with video. Will install a libraries and vlc to play the recordings.

yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-devel lame-devel vorbis-tools theora-tools libvpx-devel vlc cmake mercurial nasm

This ffmpeg compilation is based on this url, and the file versions are updated 29-6-2016:

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

As it is, the compilation in this url gives an error when compiling x264 (second step).
After resolve that error and finish the compilation, gives an error about ogg when recording on OpenMeetings.
Then i supress one step in the url and add some ones more. And now works properly without error, and audio-video is syncronized. Ogg and MP4, right.

Also i made a script to download, compile and install ffmpeg on Centos.
It is tested and is Ok.
During the x265 compilation, will look like stop for a minutes in a text that say: **41%**
Don´t worry, everything is goeing right. Be patience. Will spend about 30 minutes the complete compilation. When it is finished, will appear a text:

FFMPEG Compilation and Installation Finished!

So, we download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-centos2.sh?version=1&modificationDate=1467205427986&api=v2
```

...rename the script:

```
mv ffmpeg-centos2.sh?version=1  ffmpeg-centos2.sh
```

...concede execution perrmission to it:

```
chmod +x ffmpeg-centos2.sh
```

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

```
./ffmpeg-centos2.sh
```

When the compilation is finished, you can go to **step 11)**

But if you prefer copy and paste, i **advise not to do it**, i leave the commands script:

```
sudo gedit /opt/ffmpeg-centos2.sh
```

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

```
# Script ffmpeg Centos 6x and 7
# Alvaro Bustos. Thanks to Hunter
# Updated 18-3-2016
# Install libraries
yum install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial nasm pkgconfig zlib-devel

# Install yasm from repos
yum install -y yasm

# 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
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

# 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 and Installation Finished!"
```

...**to here.**

Concede permission of execution:

```
chmod +x /opt/ffpmeg-centos2.sh

cd /opt
```

Now be connected to Internet, run the script and wait some long minutes while the compilation:

```
./ffmpeg-centos2.sh
```

Remember the warning about 8 minutes in a false stop...

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

11)

------ Installation MariaDB database server ------

We build a file-repository to download MariaDB data server.

For Centos 6.x 32 bits:

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```

...and copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-x86
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

For Centos 6.x 64 bits:

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```

...and copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

We install it:

```
yum -y install MariaDB-server MariaDB-client
```

...do a backup of the configuration file; and make a newone:

```
mv /etc/my.cnf /etc/my.bak
```

```
cp /usr/share/mysql/my-medium.cnf /etc/my.cnf
```

...and run the server:

```
service mysql start
```

Give a password to mariadb root . Please, replace new-password by your own whish.

```
mysqladmin -u root password new-password
```

Make a database for OpenMeetings:

```
mysql -u root -p
```

...will ask for the root password we does just now:

```
CREATE DATABASE open311 DEFAULT CHARACTER SET 'utf8';
```

...now we do a new user with a password:

CREATE USER 'hola'@'localhost' IDENTIFIED BY '123456';

...and give privileges to this user on the open311 database:

GRANT ALL PRIVILEGES ON open311.* TO 'hola'@'localhost' WITH GRANT OPTION;

FLUSH PRIVILEGES;

quit

open311 ..... name of the database
hola ..... user for that database
123456 ..... password of that user

To start, restart or stop mariadb:

systemctl start mariadb.service

systemctl restart mariadb.service

systemctl stop mariadb.service

12)

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

We´ll install OpenMeetings in /opt/red5311. All the following information will be based on this directory.

Call to our folder of installation red5311.

Make the folder:

mkdir /opt/red5311

cd /opt/red5311

...and download the OpenMeetings file:

wget http://ftp.cixug.es/apache/openmeetings/3.1.1/bin/apache-openmeetings-3.1.1.zip

unzip apache-openmeetings-3.1.1.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.1.1.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/red5311/webapps/openmeetings/WEB-INF/lib

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

gedit /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify on line 72:

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

...to

, Url=jdbc:mysql://localhost:3306/open311

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

Modify on line 77:

, Username=root

...to

, Username=hola

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

Modify on 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 chose another name and password for the database, you will to change them here.

We protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

13)

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

Build a script to start and stop red5-OpenMeetings, that we´ll call red5:

```
cd /opt

sudo gedit /etc/init.d/red5
```

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

```
#
#!/bin/sh -e
#
# Startup script for Red5

export RED5_HOME=/opt/red5311

start_red5="$RED5_HOME/red5.sh start"
stop_red5="$RED5_HOME/red5-shutdown.sh stop"

 start() {
        echo -n "Starting Red5: "
        ${start_red5} &
        echo "done."
}
stop() {

echo -n "Shutting down Red5: "
        ${stop_red5}
        echo "done."
}
```

```
case "$1" in
  start)
        start
        ;;
  stop)
        stop
        ;;
  restart)
        stop
        sleep 10
        start
        ;;
   *)
        echo "Usage: $0 {start|stop|restart}"
esac

exit 0
```

...**to here**. When paste, every line will be together to next lower. So it is right.

If you made the installation in any other path, must modify the line:

RED5_HOME=/opt/red5311

...to

RED5_HOME=/your-path-installation

Concede permission of execution to the script:

chmod +x /etc/init.d/red5

14)

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

Restart mariadb:

service mysql restart

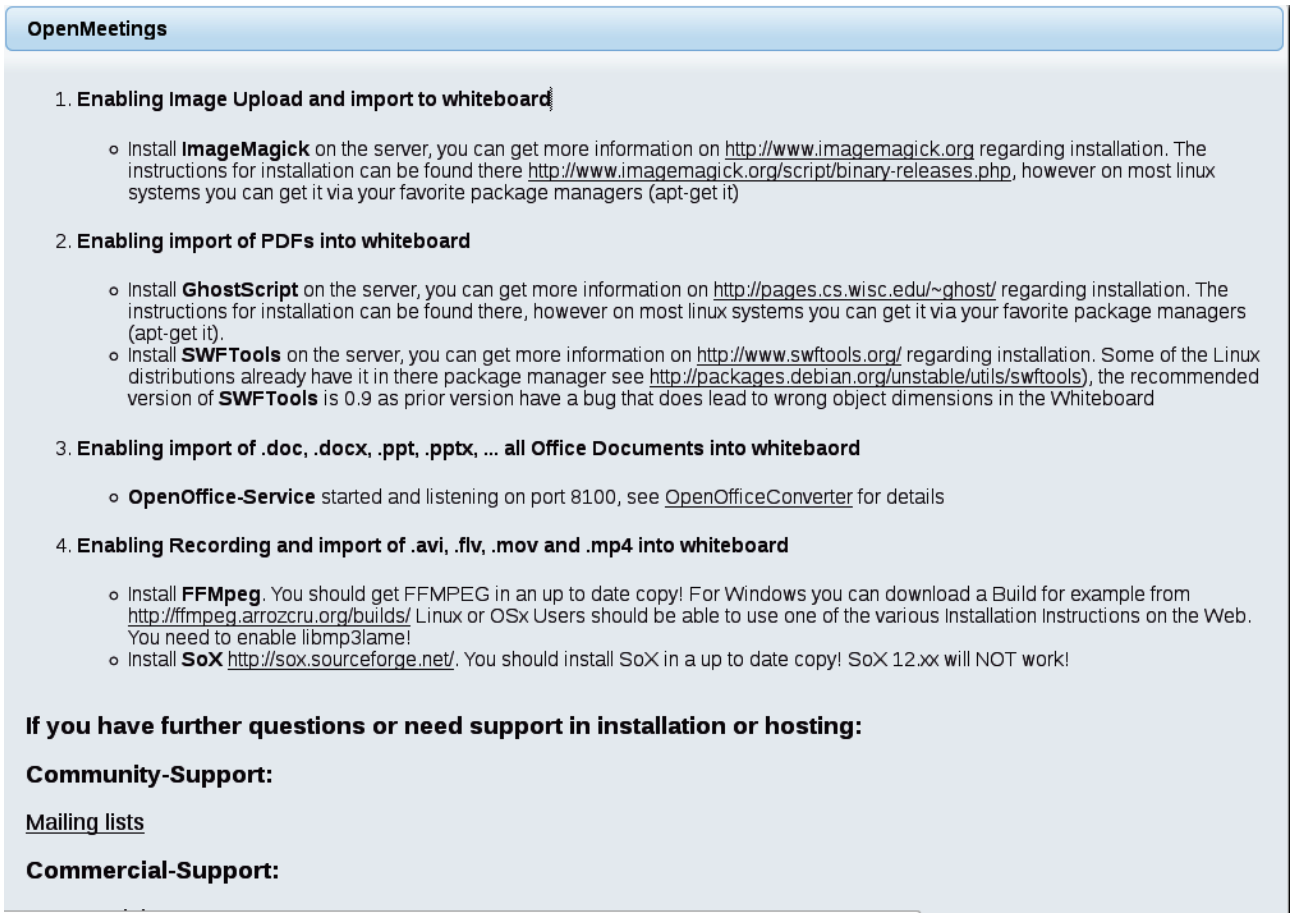
...and start red5-OpenMeetings, maybe in other window shell:

/etc/init.d/red5 start

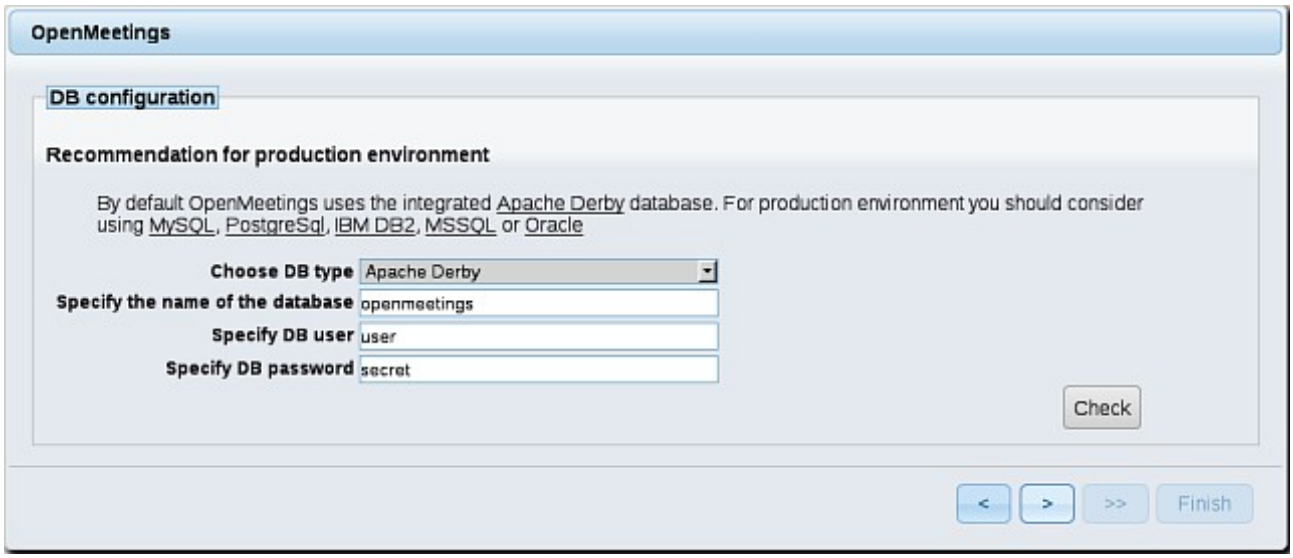
...wait till the text "**ClearSessionTable: 0**" it is the last in the shell. Then, go with the browser to:

http://localhost:5080/openmeetings/install

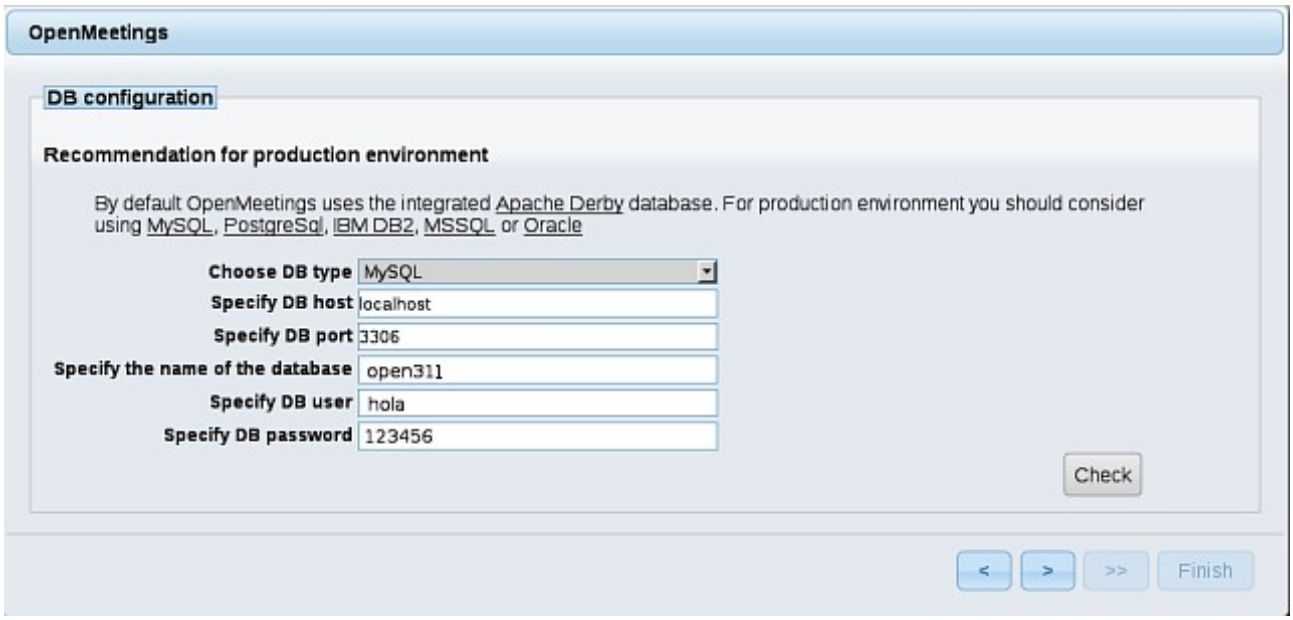
...there will appear a page similar to this one:



...push on button (bottom), and will show the default database configuration with Derby, but we should use MySQL:

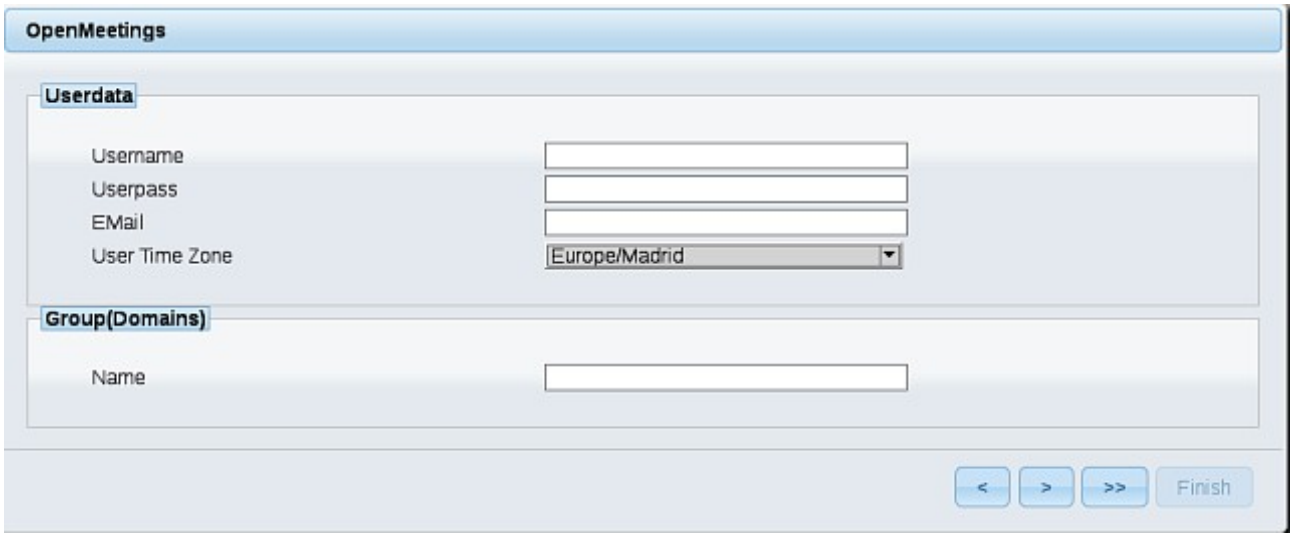


...then, scroll and **Choose DB type** to MySQL:



...will show the data base configuration we made in step 12, or with your own modifications.

Please, push > button, and will go to:



Now we must introduce the followings data, i order can continue the installation:

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

Userpass = a-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.

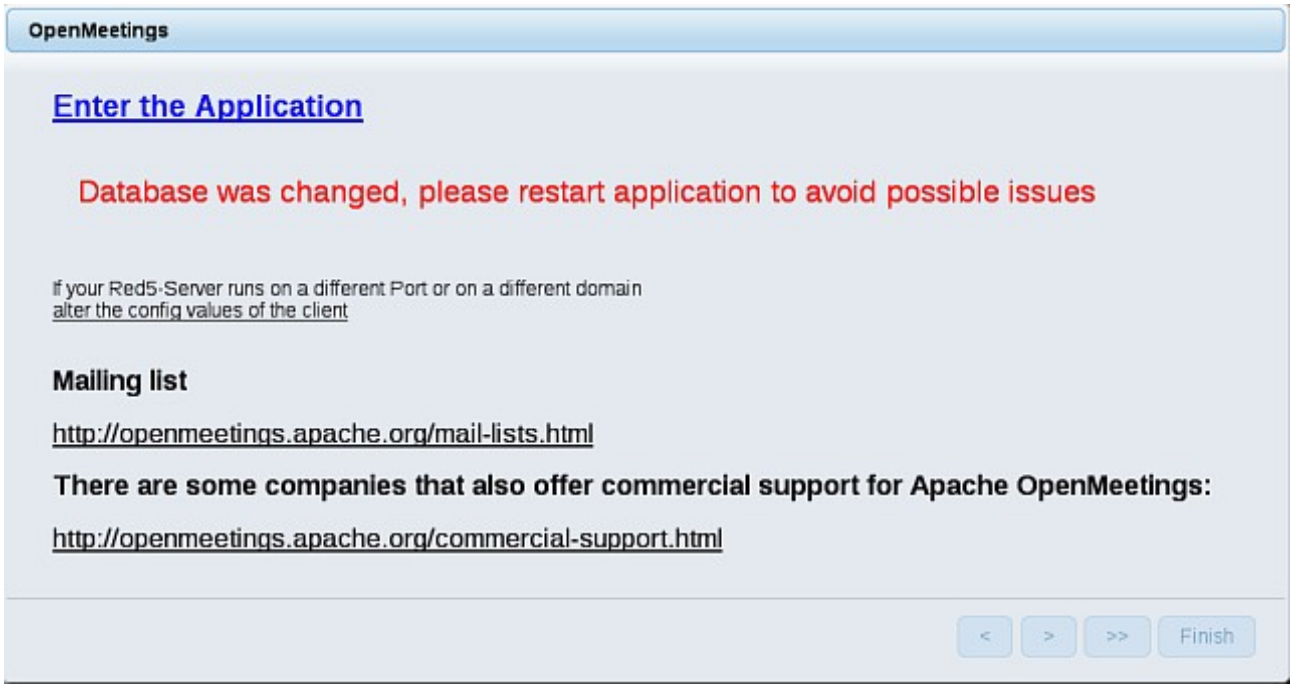
When the installation be finished, should configure the rest.

Now push the button >> (double arrow). Will show this:

Clic **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, open a new shell window and restart red5:

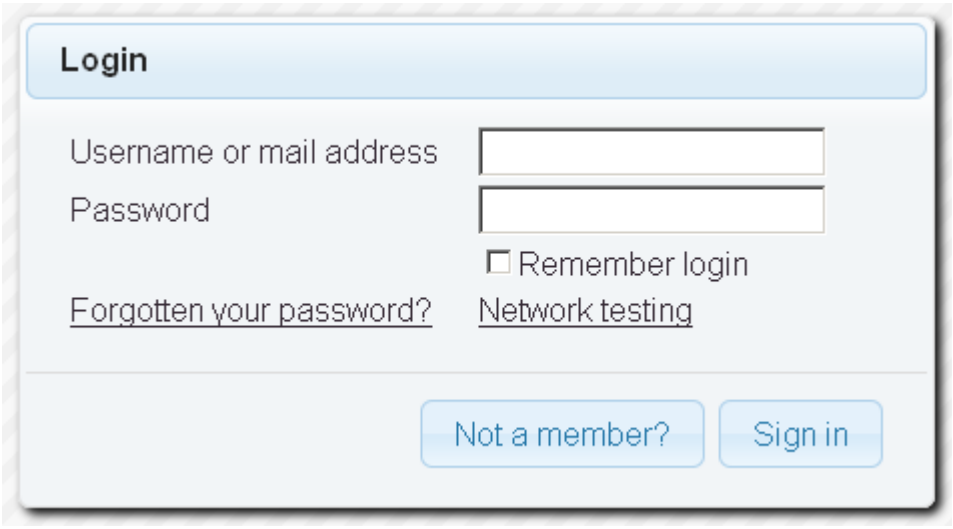
/etc/init.d/red5 restart



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 chosen during the installation, push **Sign in** button, and...

...**Congratulations!**

The next time that you like to accede OpenMeetings, will be:

http://localhost:5080/openmeetings

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

1935 5080

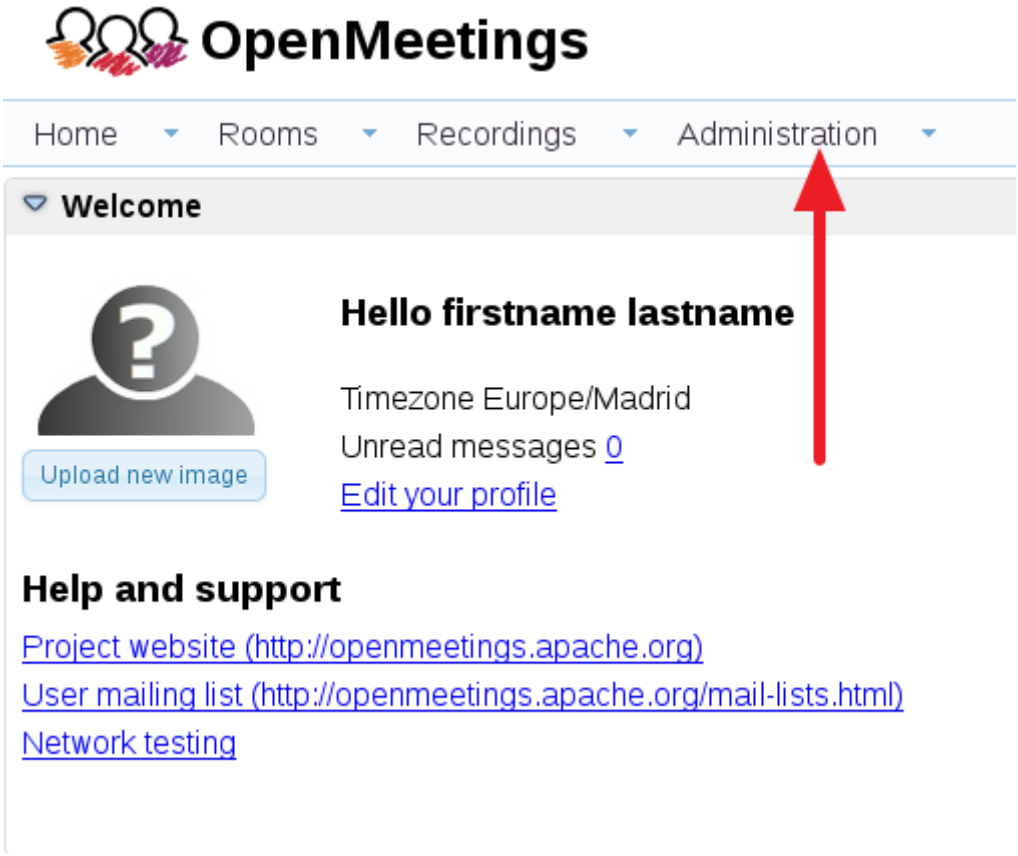
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

15)

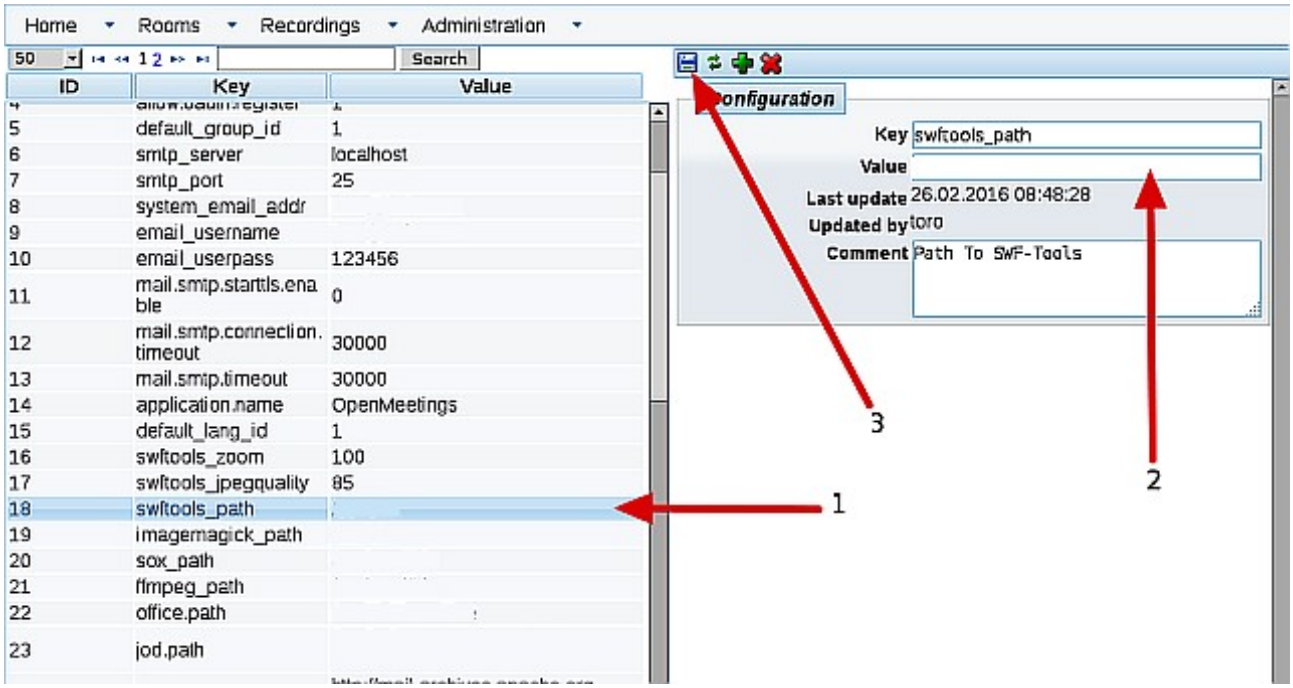
------ OpenMeetings's configuration ------

Once you acced to OpenMeetings, please 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/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 bits): /usr/lib/libreoffice
Clic on: **office.path**...and to the right in **Value** type (64bits): /usr/lib64/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´ll remove files and folders that already do not serve us, if you don´t want to save them:

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

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