Installation of Apache OpenMeetings 3.1.1 on Centos 7

This tutorial is made based on fresh installations of

CentOS-7-x86_64-LiveGNOME-1503.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.

25-3-2016

Starting...

1)
At first place we must modify Selinux level security for the installation:

yum install -y gedit

sudo gedit /etc/selinux/config

…modify:

SELINUX=enforcing

...to

SELINUX=**permissive**

2)

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

Update operative system:

yum update -y

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

reboot

3)

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

yum install -y wget

EPEL & Remi:

wget http://epel.mirror.nucleus.be/7/x86_64/e/epel-release-7-5.noarch.rpm

wget http://rpms.famillecollet.com/enterprise/remi-release-7.rpm

sudo rpm -Uvh remi-release-7*.rpm epel-release-7*.rpm

 Enable Remi:

gedit /etc/yum.repos.d/remi.repo

...and modify:

enabled=0
...to
enabled=1

ElRepo

rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org

rpm -Uvh http://www.elrepo.org/elrepo-release-7.0-2.el7.elrepo.noarch.rpm

Nux

(Only one line without space)

rpm -Uvh http://li.nux.ro/download/nux/dextop/el7/x86_64/nux-dextop-release-0-5.el7.nux.noarch.rpm

Adobe repo 64-bit x86_64 ## 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 -y

4)

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

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

sudo yum install java-1.8.0-openjdk icedtea-web

5)

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

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

Maybe it is installed but for iso server:

yum -y install libreoffice libreoffice-headless

6)

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

Should install packages and libraries we´ll need later:

(Only one line with space)

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 vlc

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 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 autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial nasm pkgconfig zlib-devel cmake mercurial nasm

This ffmpeg compilation is based on this url, but updated file versions 22-3-2016:

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 right.

Also i made a script to download, compile and install ffmpeg on Centos 7. It is tested and is ok.
During the x265 compilation, will look like stop for a minutes in a text that say: **41%,**
but not always. Don´t worry, everything is goeing right. Be patience.

When is finished will appear a text: FFMPEG Compilation and Installation Finished!

Please download the script and read inside the zip for running it. To download:

https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Centos.zip?version=5&modificationDate=1458905206882&api=v2

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

But if you prefer copy and paste, i **don´t advise,** leave the text script:

sudo gedit /opt/ffmpeg-centos.sh

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

```
# Script ffmpeg Centos
# 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-centos.sh

cd /opt

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

./ffmpeg-centos.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 --------

MariaDB is the database server.

We install it:

yum install -y mariadb mariadb-server

...and run mariadb:

systemctl start mariadb.service

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

mysqladmin -u root password new-password

Make a database for OpenMeetings:

mysql -u root -p

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

CREATE DATABASE open311 DEFAULT CHARACTER SET 'utf8';

...now do a new user with his own 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://apache.rediris.es/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

Unload and install the connector between OpenMeetings and MariaDB:

cd /opt

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 choose 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)

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 past 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**.

If you made the installation in any other path, can 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:

systemctl restart mariadb.service

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

/etc/init.d/red5 start

...wait 40 seconds about, 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

1. **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)

2. **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

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

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

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

   ○ Install **FFMpeg**. You should get FFMPEG in an up to date copy! For Windows you can download a Build for example from http://ffmpeg.arrozcru.org/builds/ Linux or OSx Users should be able to use one of the various Installation Instructions on the Web. You need to enable libmp3lame!
   ○ Install **SoX** http://sox.sourceforge.net/. You should install SoX in a up to date copy! SoX 12.xx will NOT work!
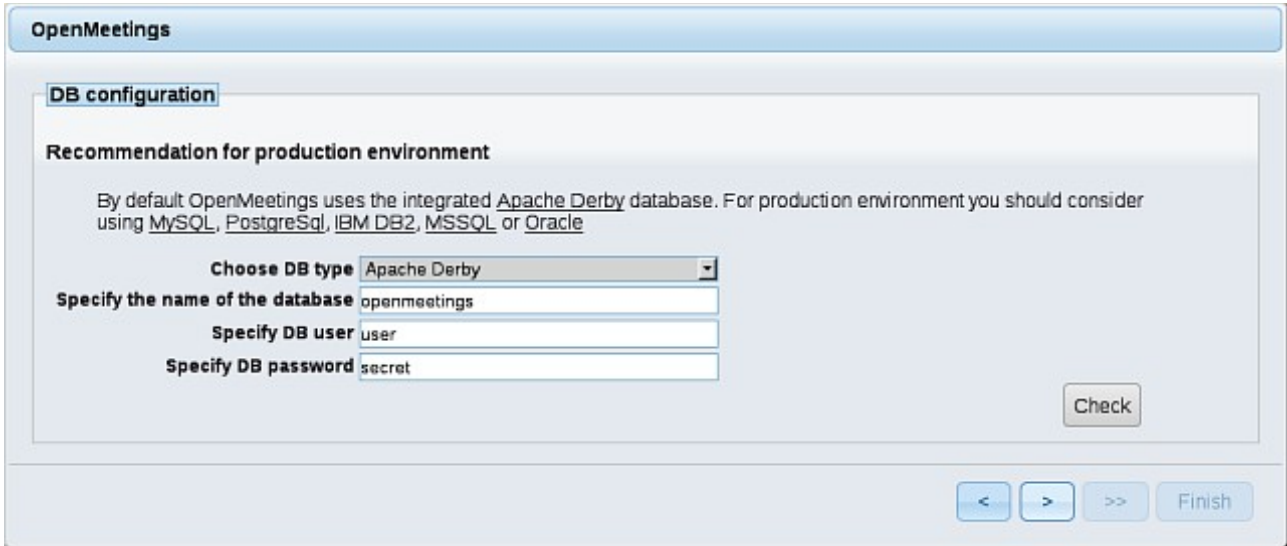
If you have further questions or need support in installation or hosting:

Community-Support:

Mailing lists

Commercial-Support:

...push on   `>`   (bottom), and will show the default database configuration with Derby, but we

should use MySQL, (MariaDB):
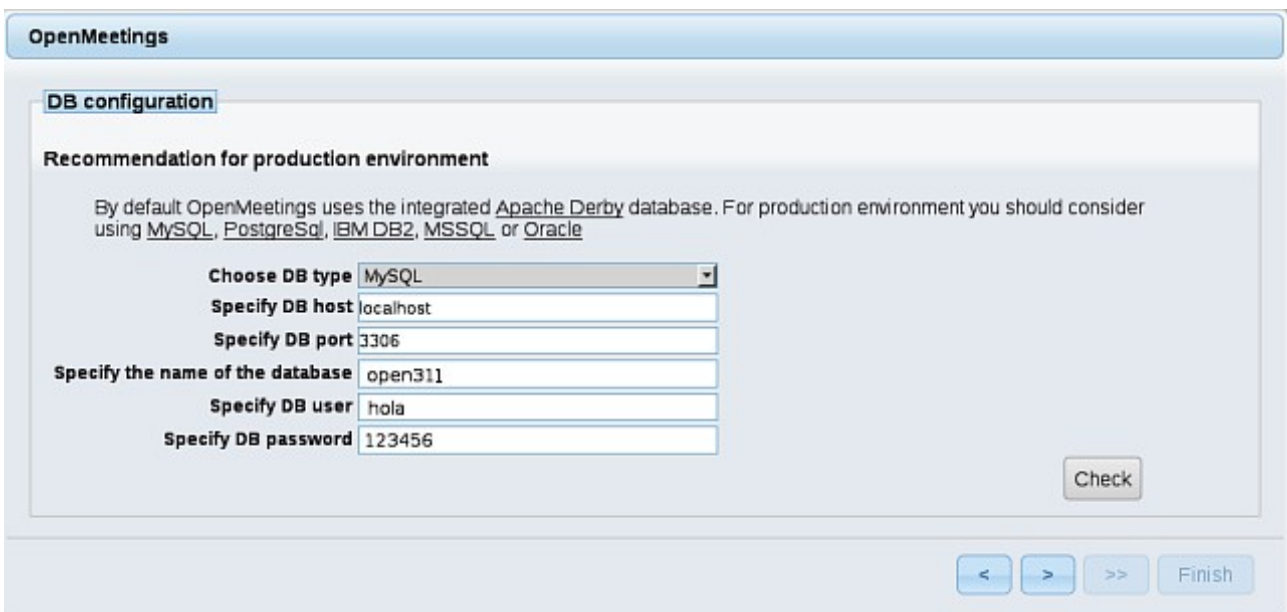
...then, scroll and **Choose DB type** to MySQL:

...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:

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, shouldd configure the rest.

Now go to bottom page and touch the button   >>   (double arrow). Will show this window:

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 terminal and restart red5:

/etc/init.d/red5 restart
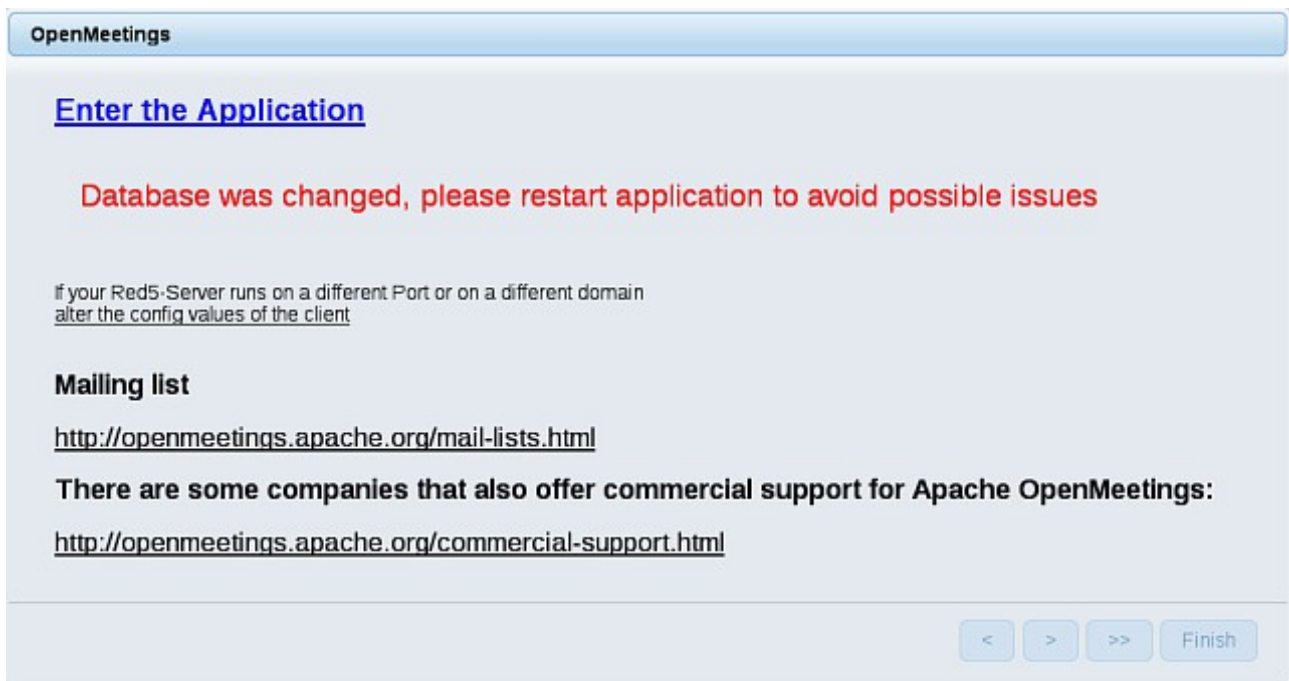
Now yes, you can clic on **Enter the Application**, or go with your browser to:

http://localhost:5080/openmeetings

...and will take us to the entry of OpenMeetings:

Introduce the user's name and the password that you have choosen during the installation, push **Sign in** 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
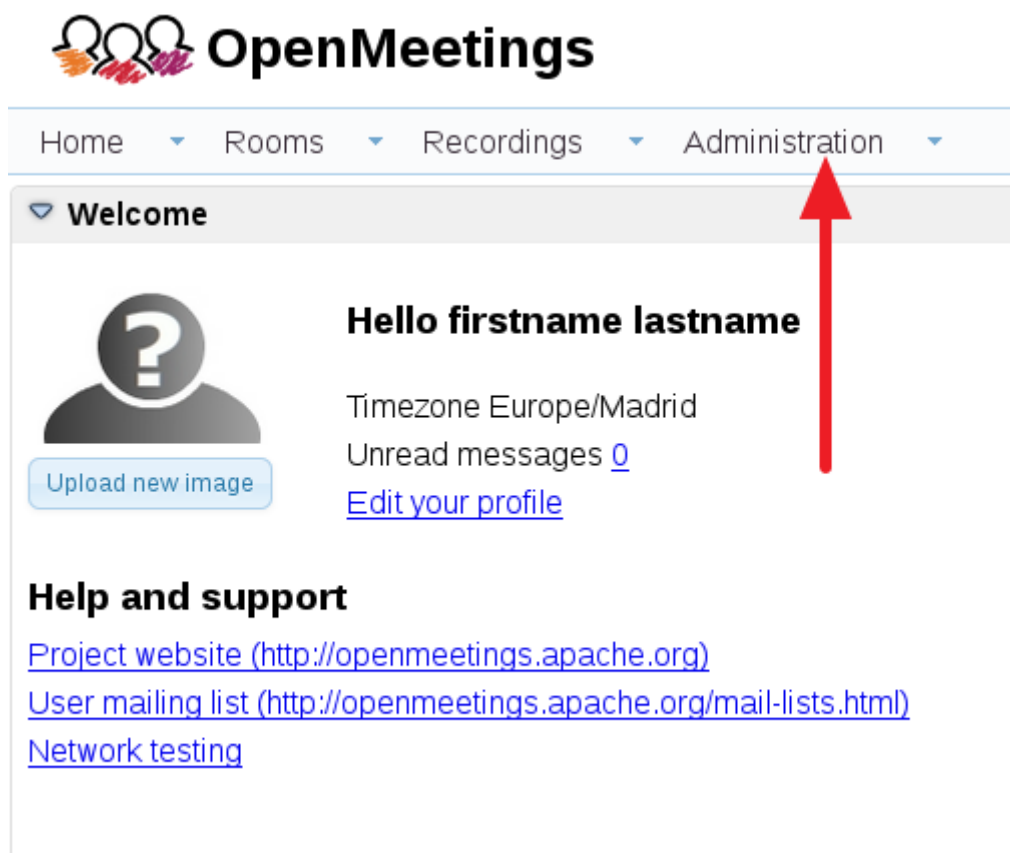
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

15)

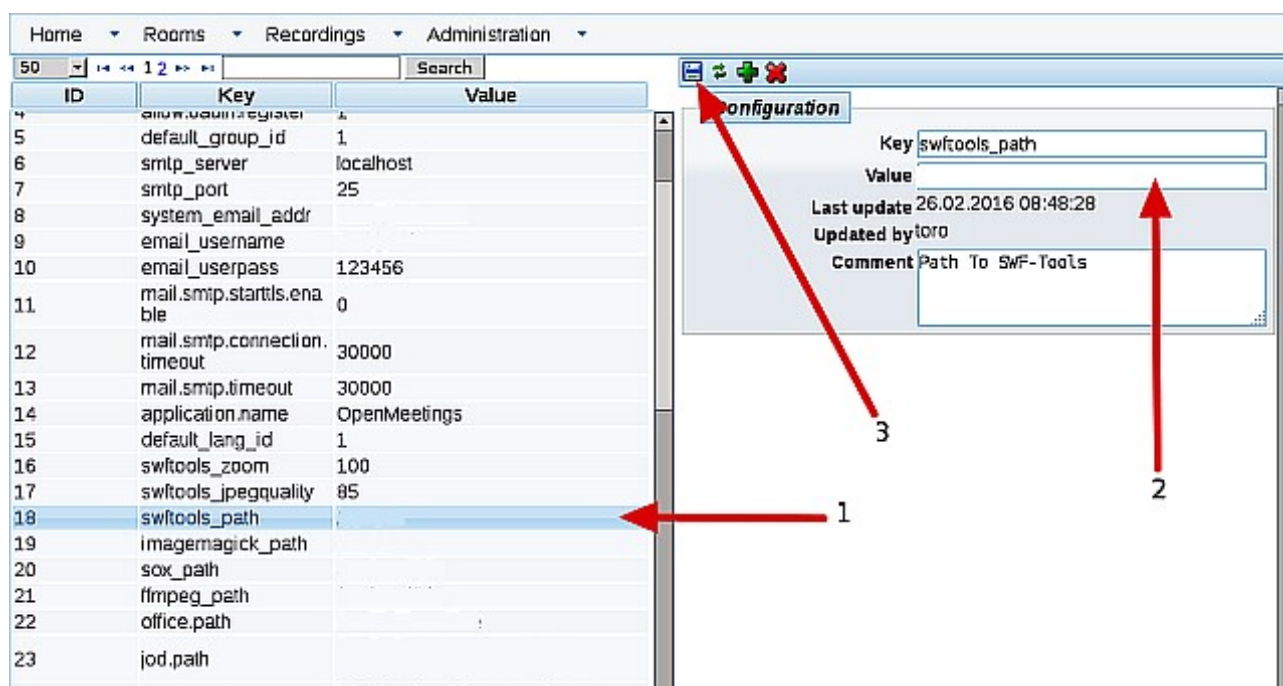**------- OpenMeetings's configuration -------**

Once you acced to OpenMeetings, 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: /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 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-5.1.39.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