Installation of Apache OpenMeetings 3.1.1 on Ubuntu 16.04 LTS

This tutorial is made based on fresh installations of

ubuntu-mate-16.04-beta2-desktop-amd64.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.

1-4-2016

Starting...

1)

First update and upgrade the OS:

sudo apt-get update

sudo apt-get upgrade

2)

---- Installation of OpenJava 1.8 ----

Red5-OM need Java to work. We´ll install OpenJava 1.8.

sudo apt-get install openjdk-8-jre-headless

Also we´ll install a web plugin, to run screen-share from Conference Room:

sudo apt-get install icedtea-8-plugin

If you have more than one java version installed, you can choose one:

sudo update-alternatives --config java

To see the active java version:

java -version

3)

---- Installation of LibreOffice ----

LibreOffice is need it to convert to pdf the uploaded files.

The ubuntu desktop iso have already LibreOffice installed, but we do also:

sudo add-apt-repository ppa:libreoffice/ppa

sudo apt-get update

sudo apt-get install libreoffice

Now some kind of information only:

LibreOffice installation folder is **/usr/lib/libreoffice**.

4)

--- Installation ImageMagic, Sox and Swftools ---

ImageMagic will work the image files. Will install it and some more libraries.

sudo apt-get install -y imagemagick gdebi libjpeg62 synaptic zlib1g-dev unzip make build-essential wget nmap

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. Don´t have pdf2swf.

sudo apt-get install libgstreamer-plugins-base0.10-0 libgstreamer0.10-0 libgif7 libzzip-0-13

For 64 bit:

cd /opt

(Only one line without space between both)

wget http://mirrors.kernel.org/ubuntu/pool/universe/libo/liboil/liboil0.3_0.3.17-2ubuntu4_amd64.deb

dpkg -i liboil0.3_0.3.17-2ubuntu4_amd64.deb

(Only one line without space between both)

wget https://launchpad.net/ella-renaissance/ella-renaissance-beta/beta1/+download/swftools_0.9.1-1_amd64.deb

dpkg -i swftools_0.9.1-1_amd64.deb

echo "swftools hold" | sudo dpkg --set-selections (To block version).

For 32 bit:

cd /opt

wget http://mirrors.kernel.org/ubuntu/pool/universe/libo/liboil/liboil0.3_0.3.17-2ubuntu4_i386.deb

dpkg -i liboil0.3_0.3.17-2ubuntu4_i386.deb

wget http://www.tataranovich.com/debian/pool/squeeze/main/s/swftools/swftools_0.9.1-1_i386.deb

dpkg -i swftools_0.9.1-1_i386.deb

echo "swftools hold" | sudo dpkg --set-selections (To block version)

5)

---- Installation of Adobe flash player ----

OpenMeetings even need Adobe Flash Player for rooms.

sudo apt-get install flashplugin-installer

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.

(Only one line with space between each one)

sudo apt-get -y --force-yes install autoconf automake build-essential 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 libx264-dev cmake mercurial libopus-dev

We´ll use a script that it should download, compile and install ffmpeg.
It is updated to the last versions files 3-4-2106.
It is tested and works rightly with synchronized audio and video. Mp4 and Ogg ok.

Please, download the script. Inside the zip are the instructions to run it:

https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Ubuntu_Debian.zip?version=7&modificationDate=1459700906471&api=v2

...and after running it, you can go to step **8)**

But if you prefer copy and paste, i **don´t advise**:

sudo gedit /opt/ffpmeg.sh

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

```
# Ffmpeg for Ubuntu, Debian 8 and Debian 7
# Alvaro Bustos. Thanks to Hunter.
# Create a directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
wget ftp://ftp.gnome.org/mirror/xbmc.org/build-deps/sources/lame-3.99.5.tar.gz
wget http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz
wget http://download.videolan.org/pub/x264/snapshots/x264-snapshot-20160402-2245-
stable.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
wget -O fdk-aac.tar.gz https://github.com/mstorsjo/fdk-aac/tarball/master
wget http://downloads.xiph.org/releases/opus/opus-1.1.2.tar.gz
wget http://storage.googleapis.com/downloads.webmproject.org/releases/webm/libvpx-1.5.0.tar.bz2
wget http://ffmpeg.org/releases/ffmpeg-3.0.1.tar.gz

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

cd yasm-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" && make && sudo make
install && make distclean; cd ..

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

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

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

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

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

cd libvpx-*/
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" –disable-examples
--disable-unit-tests && PATH="$HOME/bin:$PATH" make && sudo make install && make clean;
cd ..

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

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

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

echo "¡Compilation finished!"
```

...to here.

Concede permission of execution:

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

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

```
cd /opt

./ffmpeg.sh
```

All the compiled files are installed on: /usr/local/bin

8)

---- Installation and configuration of MariaDB database server ----

MariaDB is the database server. Will install it. (Version 10.x):

sudo apt-get install mariadb-server

Run MariaDB:

/etc/init.d/mysql start

Now we give a root password to MariaDB. Please, replace new-password with your own:

mysqladmin -u root password new-password

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 open311 DEFAULT CHARACTER SET 'utf8';

With this command we has created a called database open311 though you can choose another name to your whish.

Now we create a user with all the permission on this open311 database.

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open311.* TO 'hola'@'localhost' IDENTIFIED BY '123456' WITH GRANT OPTION;

* open311 .....is the database name.
* hola ……is the user name for the database.
* 123456 …....is the password of the user called hola.

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

And go out from MariaDB:

MariaDB [(none)]> quit

9)

---- Installation of OpenMeetings ----

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

Make the folder:

mkdir /opt/red5311

cd /opt/red5311

...and download the 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

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

chown -R nobody /opt/red5311

Unload 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/5.1.38/mysql-connector-java-5.1.38.jar

...and copy it to where must be:

cp /opt/mysql-connector-java-5.1.38.jar /opt/red5311/webapps/openmeetings/WEB-INF/lib

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

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

Modify 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 line 77:

, Username=root

...to

, Username=hola

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

Modify 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

10)

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

Please, unload the red5 run script:

cd /opt

(Only one line without space between both)

wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5?version=4&modificationDate=1458903758300&api=v2

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

Rename the file unloaded to red5:

mv red5?version=4 red5

...and copy it to:

cp red5 /etc/init.d/

Concede permission of execution:

chmod +x /etc/init.d/red5

11)

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

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 20 seconds ***at least*** 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),

OpenMeetings

DB configuration

Recommendation for production environment

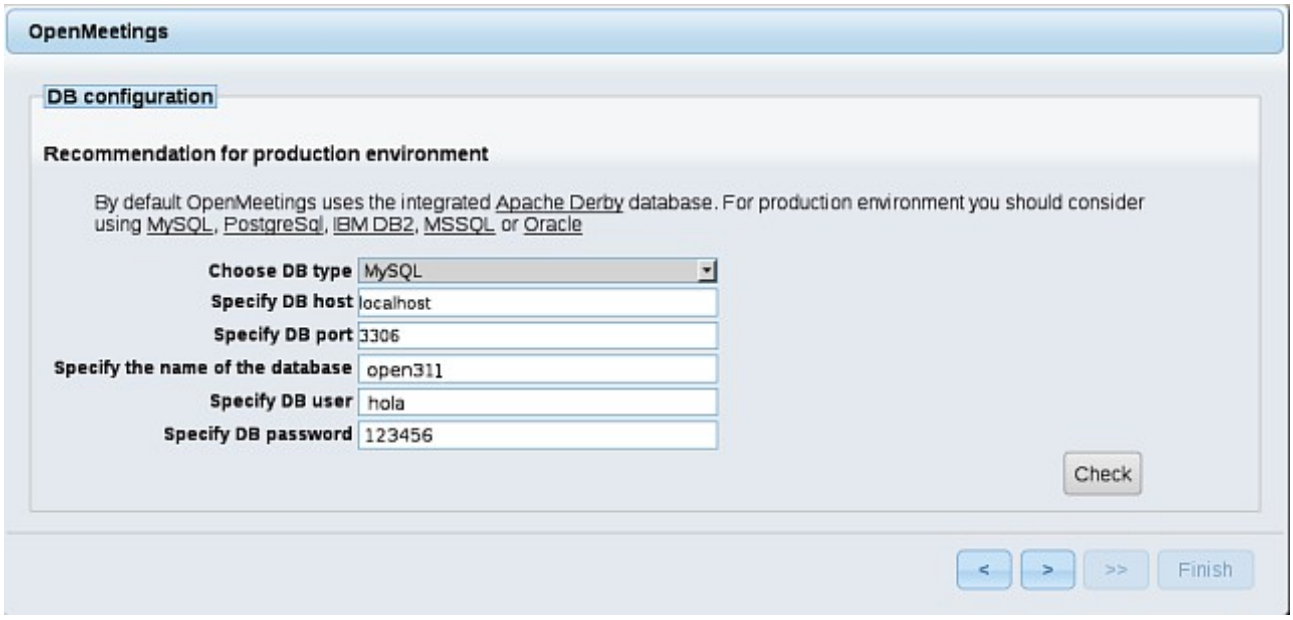
By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSql, IBM DB2, MSSQL or Oracle

Choose DB type	Apache Derby
Specify the name of the database	openmeetings
Specify DB user	user
Specify DB password	secret

Check

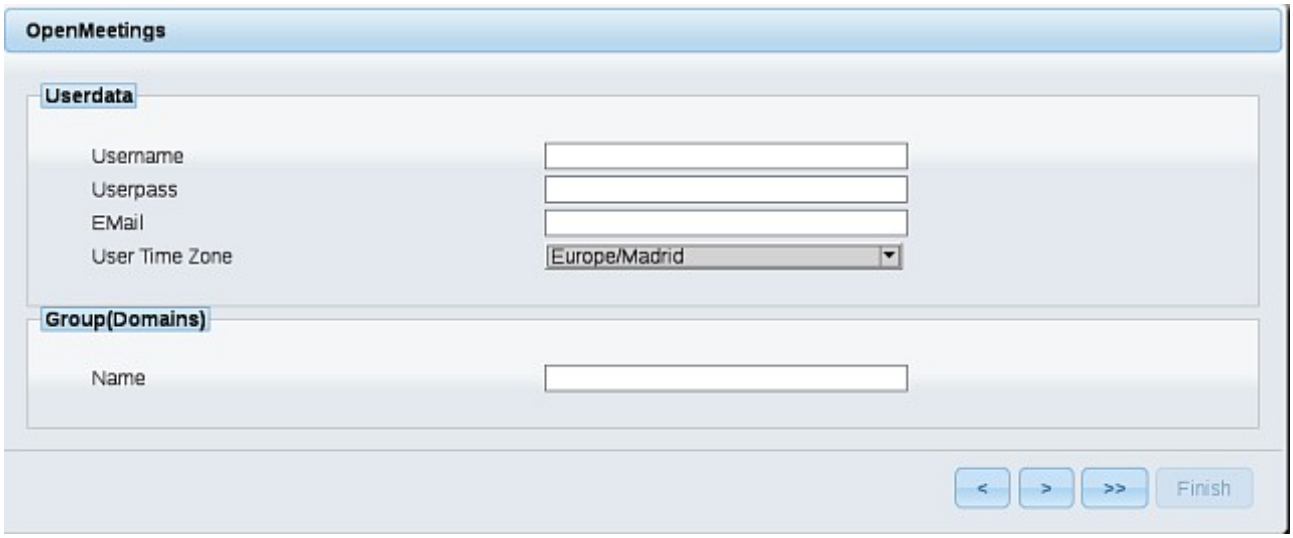
< > >> Finish

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



...will show the data base configuration we made in step 9, or with your own modifications.

Please, push > button, and will go to:



Here we must introduce the followings data:

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.

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

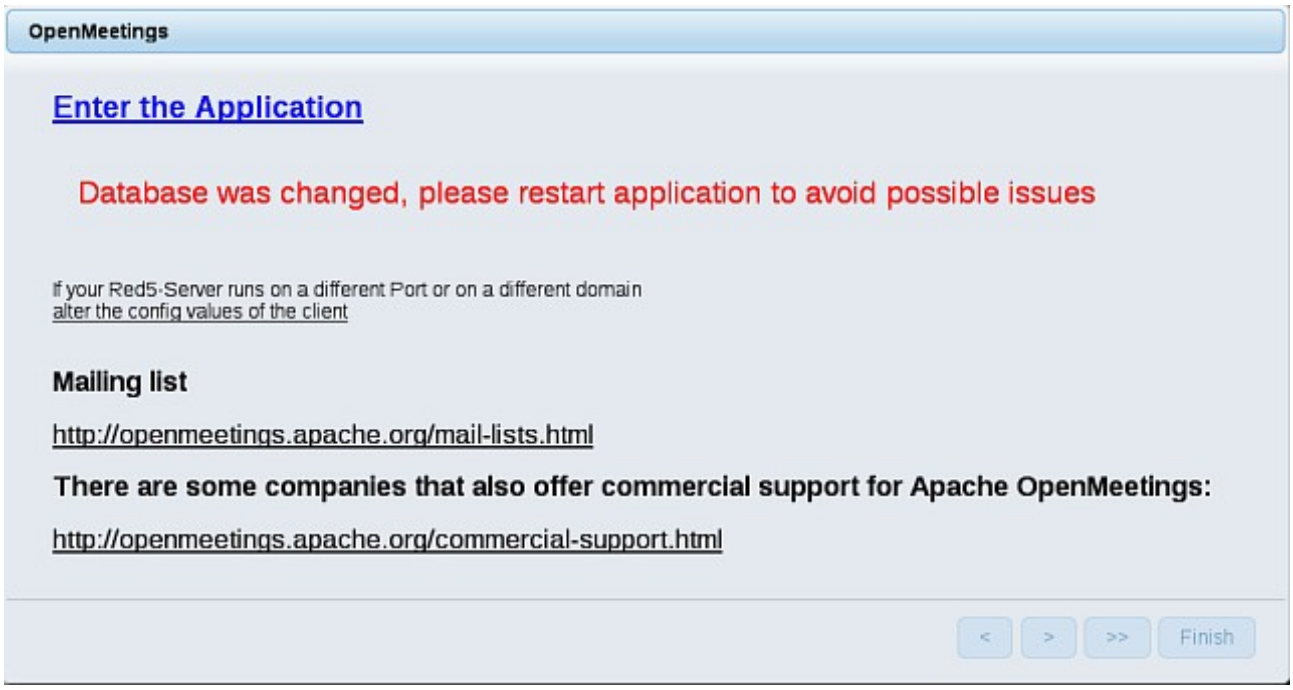
When the installation be finished, should configure the rest.

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

Push **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:

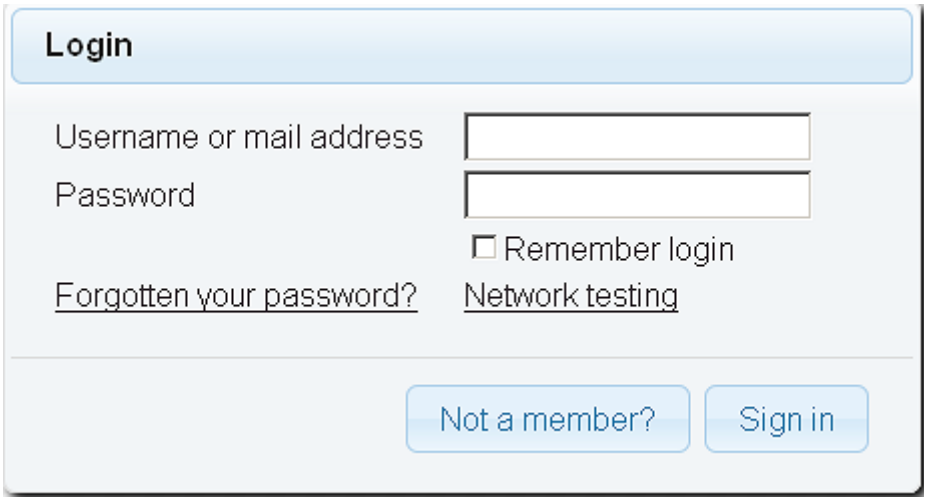
/etc/init.d/red5 restart



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 to OpenMeetings will be:

http://localhost:5080/openmeetings

Remember to open in the server the two following ports:

1935 5080

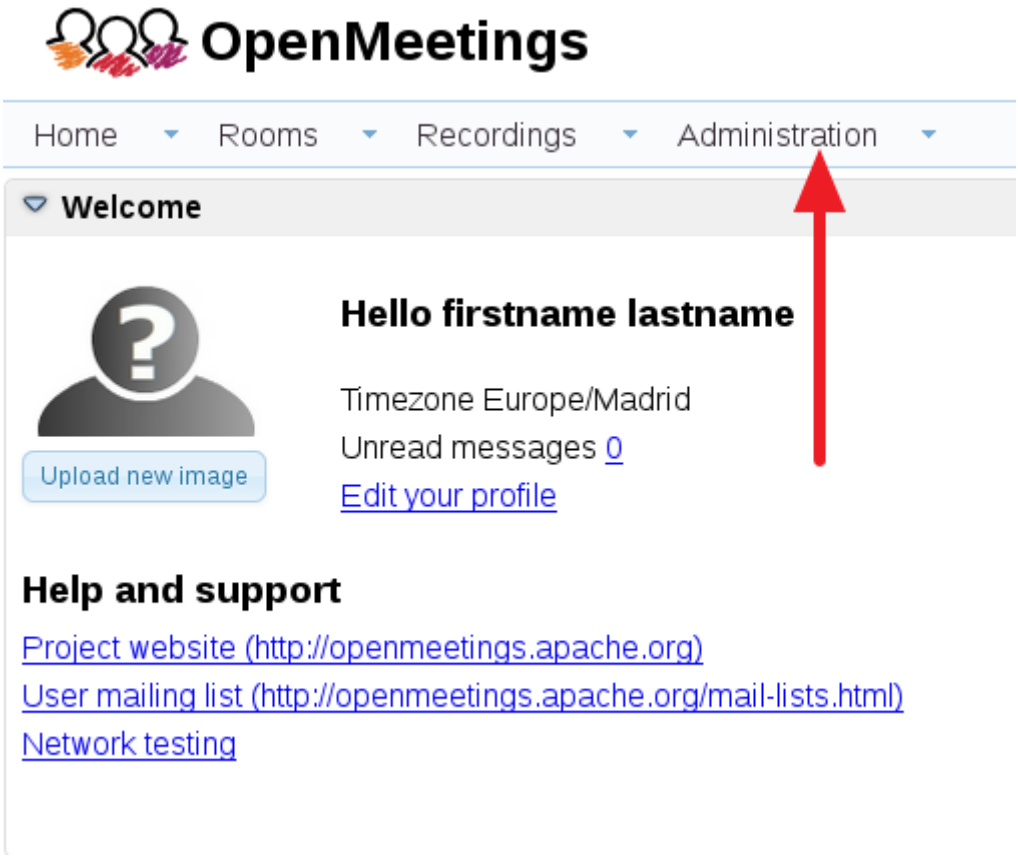
...in order that it could accede to OpenMeetings from other machines in LAN or Internet.

12)

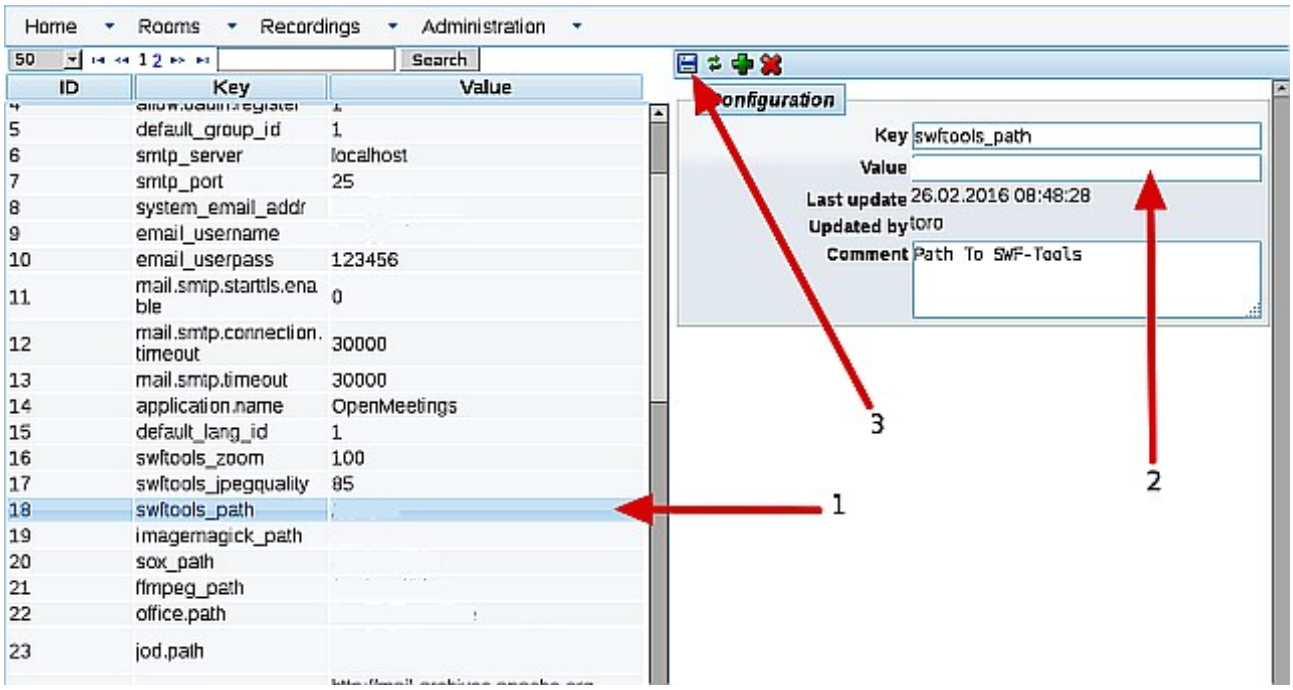
------- OpenMeetings's Configuration ------

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/local/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**

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-5.1.38.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