



## Installation of Apache OpenMeetings 3.1.1 on openSUSE Leap 42.1

This tutorial is made based on fresh installations of

**openSUSE-Leap-42.1-DVD-x86\_64.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.

22-5-2016

Starting...

1)

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

Update operative system:

[zypper refresh](#)

[zypper update](#)

2)

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

Java is necessary to work OpenMeetings. Should install OpenJava and the plugin icedtea-web for record conference room and share desktop:

```
zypper install -y java icedtea-web
```

3)

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

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

Maybe it is installed but for iso server:

```
zypper install -y libreoffice
```

4)

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

Should install packages and libraries we'll need later:

(Only one line with space between both)

```
zypper install -y gcc ghostscript unzip freetype freetype-devel ncurses ncurses-devel make libz1  
zlib-devel libtool bzip2 file-roller git autoconf automake pkg-config nmap wget
```

5)

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

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

```
zypper install -y ImageMagick giflib-devel
```

**Sox** work the sound:

```
zypper install -y sox
```

**Swftools** work converting to swf, flash file, the uploaded files. Don't use a newer version, maybe have not pdf2swf.

```
zypper install -y swftools
```

Block the version, to prevent changes:

```
zypper al swftools
```

6)

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

OpenMeetings even need Adobe Flash Player for rooms.

Add Adobe repo:

```
sudo zypper ar --check --refresh http://linuxdownload.adobe.com/linux/x86\_64/ adobe
```

```
sudo zypper se -s -r adobe
```

...and install flash player:

```
zypper install -y flash-player
```

7)

----- 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
```

8)

----- Compilation of Ffmpeg -----

FFmpeg work video. Will install paquets and libraries.

```
zypper install -y glibc imlib2 imlib2-devel mercurial cmake nano
```

```
zypper install -y freetype2-devel libfreetype6
```

```
zypper install -y libogg-devel libtheora-devel libvorbis-devel libvpx-devel
```

This ffmpeg compilation is based on this url, but updated file versions 22-5-2016:

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

As it is, the compilation in this url gives errors when compiling.  
Then i supress one step in the url, add some one. Now works properly without error. Audio-video recording is synchronized. Mp4 and Ogg are right.  
So, i made a script to download, compile and install ffmpeg on openSUSE Leap 42.1. 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 going right. Be patience.

Download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-opensuse421.sh?version=1&modificationDate=1463900090209&api=v2
```

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

Rename the script:

```
mv ffmpeg-opensuse421.sh?version=1 ffmpeg-opensuse421.sh
```

...concede execution permission:

```
chmod +x ffmpeg-opensuse421.sh
```

...and run it. Will spend about 30 minutes in the compilation ...remember, be patience:

```
./ffmpeg-opensuse421.sh
```

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

Then, you can go to **step 9)**

But if you prefer copy and paste, i **don't advise**, here is the text script:

```
nano /opt/ffmpeg-opensuse421.sh
```

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

```
# Script ffmpeg compilation for Centos, Fedora and openSUSE Leap 42.1 with Apache OpenMeetings tutorial.
```

```
# Alvaro Bustos, thanks to Hunter.
# 22-5-2016 updated
```

```
# Install libraries
zypper install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel
```

```
# Install yasm from repos
zypper 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
wget http://download.videolan.org/pub/x264/snapshots/x264-snapshot-20160518-2245-
stable.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
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
wget http://ffmpeg.org/releases/ffmpeg-3.0.2.tar.gz
```

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

```
cd x264-snapshot*
./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$HOME/ffmpeg_build/lib64" CPPFLAGS="-I$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/ffmpeg-opensuse421.sh
```

```
cd /opt
```

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

```
./ffmpeg-opensuse421.sh
```

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

9)

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

MariaDB is the database server.

We install it:

```
zypper install -y mariadb mariadb-tools
```

...and run mariadb:

```
systemctl start mysql.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 mysql.service
```

```
systemctl restart mysql.service
```

```
systemctl stop mysql.service
```

10)

### ----- 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 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
```

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/5.1.38/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 configure OpenMeetings for our database in MariaDB:

```
nano /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.

Push **Ctrl+x**, **Y** and **Enter** in the keyboard, to leave nano.

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
```

11)

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

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

```
cd /opt
```

```
nano /etc/init.d/red5
```

...please, 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.. If you made the installation in any other path, can modify the line:

RED5\_HOME=/opt/red5311

...to

RED5\_HOME=/your-path-installation

Push **Ctrl+x**, **Y** and **Enter** in the keyboard, to save and leave nano.

Concede execution permission:

`chmod +x /etc/init.d/red5`

12)

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

Restart mariadb:

`systemctl restart mysql.service`

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

`/etc/init.d/red5 start`

...wait 40 seconds at least, in order that red5 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**
  - o 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**
  - o 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).
  - o 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/util/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**
  - o **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**
  - o 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!
  - o Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

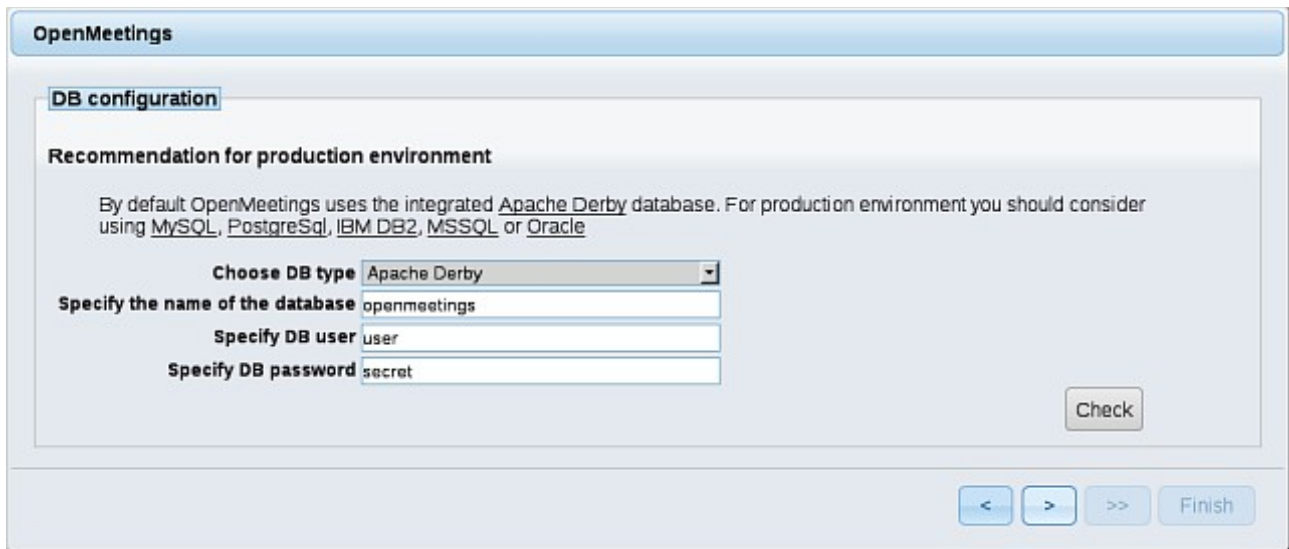
**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

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

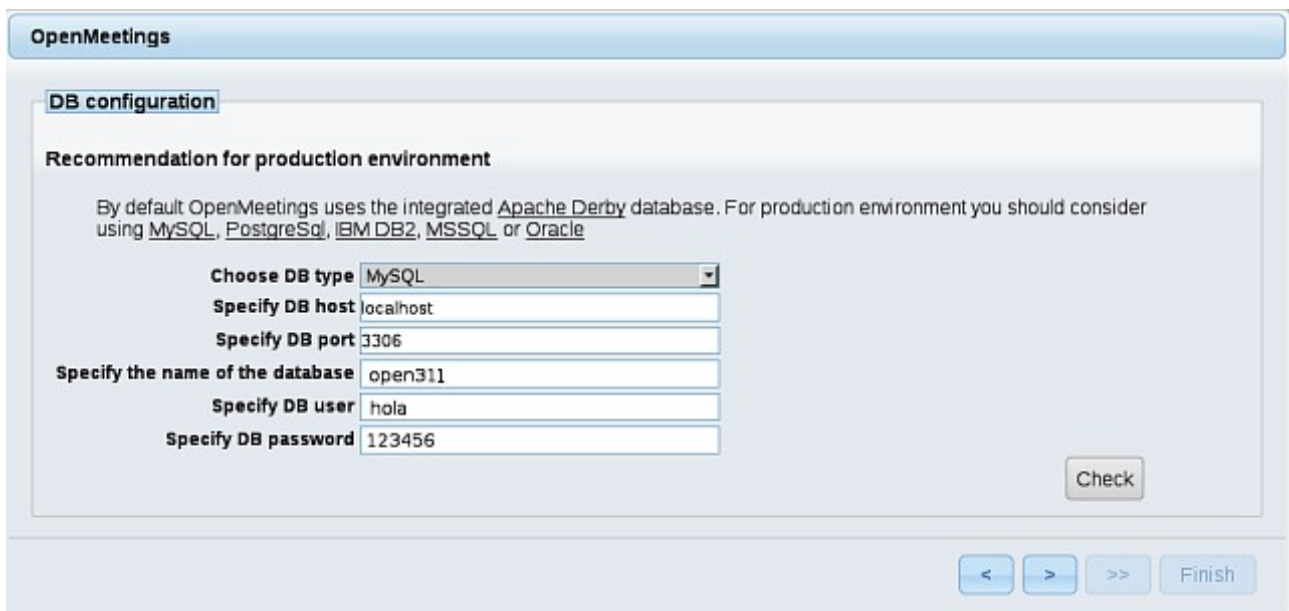


The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section. It includes a 'Recommendation for production environment' text and a form with the following fields:

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

At the bottom right of the form is a 'Check' button. Below the form are navigation buttons: '<', '>', '>>', and 'Finish'.

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




The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section. It includes a 'Recommendation for production environment' text and a form with the following fields:

Choose DB type	MySQL
Specify DB host	localhost
Specify DB port	3306
Specify the name of the database	open311
Specify DB user	hola
Specify DB password	123456

At the bottom right of the form is a 'Check' button. Below the form are navigation buttons: '<', '>', '>>', and 'Finish'.

...will show the data base configuration we made in step 10, or with your own modifications.

Please, push  button and will go to:

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

**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.

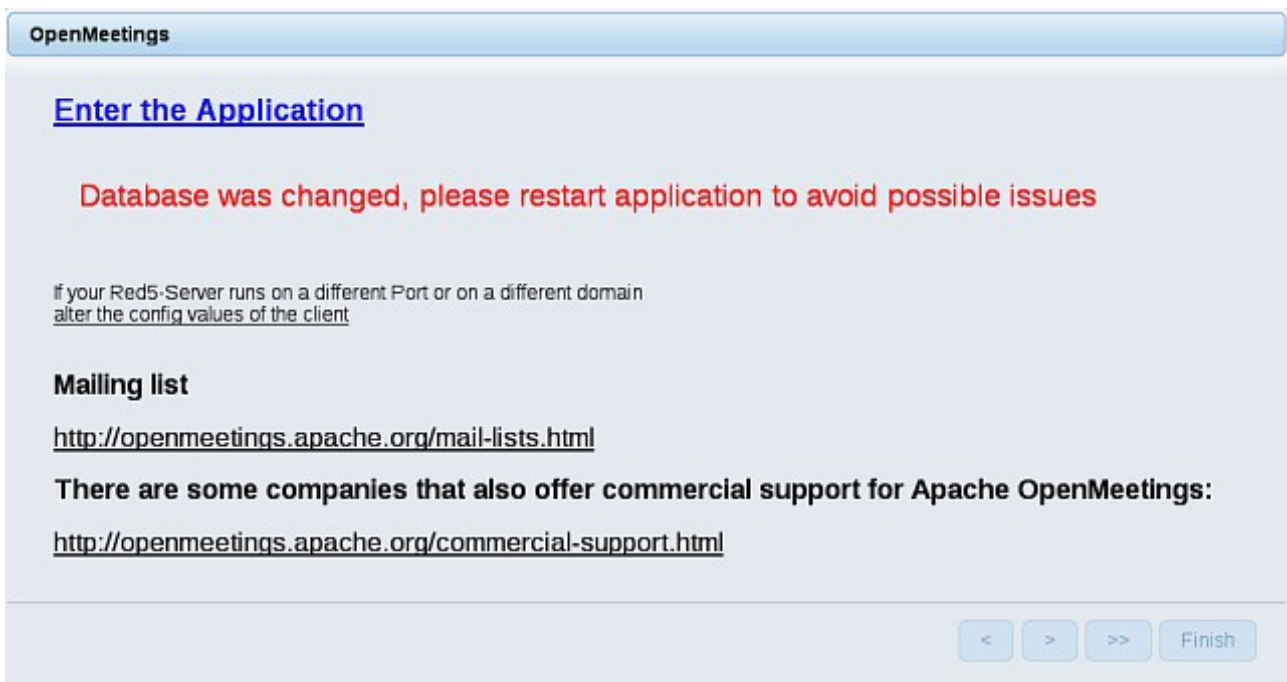
When the installation be finished, should configure the rest.

Now go to bottom, and push 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:

**Login**

Username or mail address

Password

Remember login

[Forgotten your password?](#) [Network testing](#)

Not a member? Sign in

Introduce the user's name and the password that you have chosen during the installation, push **Sign in** 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**

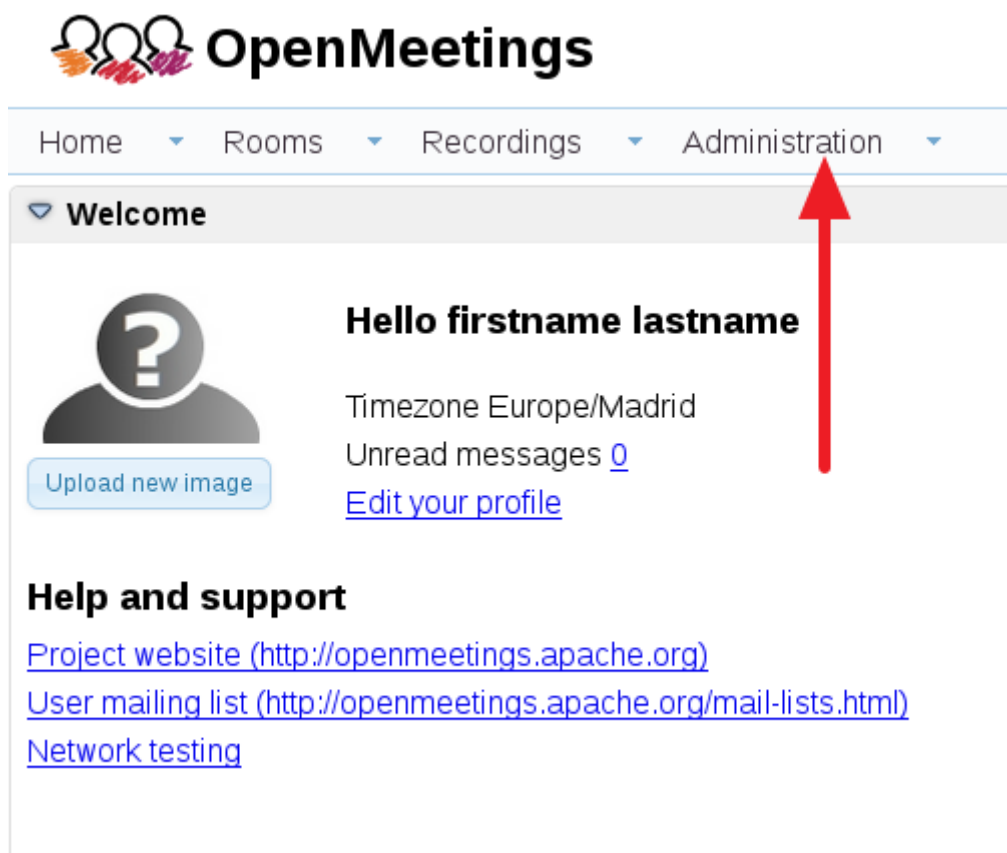
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

13)

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

Once you acced to OpenMeetings, we go to:

**Administration → Configuration**



...introduce the parameters for the conversion of files, the audio and the video:

ID	Key	Value
5	default_group_id	1
6	smtp_server	localhost
7	smtp_port	25
8	system_email_addr	
9	email_username	
10	email_userpass	123456
11	mail.smtp.starttls.enable	0
12	mail.smtp.connection.timeout	30000
13	mail.smtp.timeout	30000
14	application.name	OpenMeetings
15	default_lang_id	1
16	swftools_zoom	100
17	swftools_jpegquality	85
18	swftools_path	
19	imagemagick_path	
20	sox_path	
21	ffmpeg_path	
22	office.path	
23	jod.path	

Configuration form details:

- Key: swftools\_path
- Value: [input field]
- Last update: 26.02.2016 08:48:28
- Updated by: ioro
- Comment: Path To SWF-Tools

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/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 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
```

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