



## Installation of Apache OpenMeetings 4.0.0 on Ubuntu 16.04 LTS

This tutorial is made based on a fresh installations of

**ubuntu-mate-16.04-desktop-amd64.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 4.0.0 stable, that is to say will suppress his compilation. It is done step by step.

5-11-2017

Starting...

1)

First, we update and upgrade the OS:

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

2)

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

OpenMeetings **4.0.0** need Java **1.8** to work. So, we install OpenJava 1.8:

```
sudo apt install openjdk-8-jdk openjdk-8-jdk-headless
```

...and his plugin for web:

```
sudo apt install icedtea-8-plugin
```

Now, please, select OpenJava, if you have more than one java versions installed:

```
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 office files.

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

```
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 ImageMagick and Sox -----

**ImageMagick**, will work the image files, png, jpg, gif, etc. Will install it and some more libraries and paquets:

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

**Sox**, work the sound. We'll compile, because this version is newer than the repo:

```
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
```

5)

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

OpenMeetings even need Adobe Flash Player for cam. We install it

```
sudo apt-get install flashplugin-installer
```

6)

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

**FFmpeg** will work with video.

This compilation is based on:

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

Updated files to 5-11-2017. Install some 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 curl git
```

I made a script that will download, compile and install ffmpeg.

The result of any recording we do in OpenMeetings, will be in mp4 format.

Please, download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-ubuntu-  
debian.sh
```

...concede permission of execution:

```
chmod +x ffmpeg-ubuntu-debian.sh
```

...and run it (be connected to Internet). The compilation will spend about 20-30 minutes:

[./ffmpeg-ubuntu-debian.sh](#)

When finish the compilation, a text will announce it:

**FFmpeg Compilation is Finished!**

Then, please, go to **step 7**).

But if you prefer copy and paste (**i don't advise**), here are the commands script:

[sudo gedit /opt/ffpmeg.sh](#)

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

```
# FFmpeg compilation for Ubuntu and Debian.
# Alvaro Bustos. Thanks to Hunter.
# Updated 5-11-2017

sudo apt-get update
sudo apt-get -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-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 mercurial cmake

# 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
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
wget -O fdk-aac.tar.gz https://github.com/mstorsjo/fdk-aac/tarball/master
wget https://sources.voidlinux.eu/opus-1.2.1/opus-1.2.1.tar.gz
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
# git clone --depth 1 git://source.ffmpeg.org/ffmpeg
wget http://ffmpeg.org/releases/ffmpeg-3.1.1.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-*/
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 ffmpegserver vsyasm x264 yasm ytasm /usr/local/bin

cd ~/ffmpeg_build/bin
cp lame x265 /usr/local/bin
echo "FFmpeg Compilation is Finished!"

```

**...to here.**

Concede permission of execution:

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

Now be connected to Internet, run the script and wait about 30 minutes while the compilation:

```
cd /opt
```

```
./ffmpeg.sh
```

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

7)

## ----- Installation and configuration of MariaDB data server -----

**MariaDB** is the data 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 you have just choosen, type it...

```
MariaDB [(none)]> CREATE DATABASE open40 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open40.

Now we create an user on this database. User password must be of 8 digits minimum:

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open40.* TO 'hola'@'localhost' IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

- \* **open40** .....is the database name.
- \* **hola** .....is the user name for this database.
- \* **1a2B3c4D** ..is the password for this user.

You can change the data...but remember it! Later we'll need it.

Now, we leave MariaDB:

```
MariaDB [(none)]> quit
```

8)

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

We'll install OpenMeetings in /opt/red540. All the following information will be based on this directory.

Make the folder:

```
mkdir /opt/red540
```

```
cd /opt/red540
```

...and download the red5-OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/4.0.0/bin/apache-openmeetings-4.0.0.zip
```

```
unzip apache-openmeetings-4.0.0.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-4.0.0.zip /opt
```

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

```
chown -R nobody /opt/red540
```

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/5.1.42/mysql-connector-java-5.1.42.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.42.jar /opt/red540/webapps/openmeetings/WEB-INF/lib
```

Now we form OpenMeetings for our database in MariaDB:

```
gedit /opt/red540/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/open40?
```

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

If initially you choose another name for the database, please type it here. Save changes.

We protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red540/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

9)

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

Please, download the red5 run script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-ubdeb2
```

...and copy it to:

```
cp red5-ubdeb2 /etc/init.d/
```

...and concede permission of execution:

```
chmod +x /etc/init.d/red5-ubdeb2
```

10)

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

Start MariaDB, if still it is not:

```
/etc/init.d/mysql start
```

...and now start red5-OpenMeetings. Please, be connected to Internet:

```
/etc/init.d/red5-ubdeb2 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 40 seconds at least, in order that red5 it is runing completely. And after this, can go to:

<http://localhost:5080/openmeetings/install>

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

**OpenMeetings**

**1. 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).

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

**Community-Support:**  
[Mailing lists](#)

**Commercial-Support:**  
[Commercial-Support](#)

< > >> Finish

...press on  button (bottom), and will show the default database configuration

with Derby, but we employ 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](#)

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

**Choose DB type**

**Specify the name of the database**

Check

< > >> Finish

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

**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

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

Choose DB type: MySQL

Specify DB host: localhost

Specify DB port: 3306

Specify the name of the database: open40

Specify DB user:

Specify DB password:

Check

< > >> Finish

...will show the database configuration we made in step 8. If you've choose any other different name for this, will show equally.

Now we must introduce the user name we did for our data base, at the step 7, and his password:

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

...if you choose a different data, type it here.

Please, press  button, and will go to:

**OpenMeetings**

**Userdata**

Username:

Userpass:

EMail:

User Time Zone: Europe/Madrid

**Group(Domains)**

Name:

< > >> Finish

Here, we must introduce a user name for OpenMeetings, and his password. This must have 8 digits minimum, and at least 1 special symbol like: + ( % # ! ...etc.


**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.

Press the button  and will lead us to a new page (below) where you can select the language for your OpenMeetings server, as well as other options such as the configuration of the mail server being used to send invitations or meetings from OpenMeetings:

**OpenMeetings**

**Configuration**

Allow self-registering	<input checked="" type="checkbox"/>
Send Email to new registered Users	<input type="checkbox"/>
New Users need to verify their EMail	<input type="checkbox"/>
Default DB objects of all types will be created (including Rooms, OAuth2 servers etc.)	<input checked="" type="checkbox"/>
Mail-Referer	<input type="text" value="noreply@openmeetings.apache.org"/>
SMTP-Server	<input type="text" value="localhost"/>
SMTP-Server Port(default SmtP-Server Port is 25)	<input type="text" value="25"/>
SMTP-Username	<input type="text"/>
SMTP-Userpass	<input type="text"/>
Enable TLS in Mail Server Auth	<input type="checkbox"/>
Set inviter's email address as ReplyTo in email invitations	<input checked="" type="checkbox"/>
Default Language	<input type="text" value="inglés"/>

A valid example to configure the mail server with Gmail, is as follows:  
(replace **john@gmail.com** with your real Gmail account)

<b>Mail-Refer</b>	==	john@gmail.com
<b>SMTP-Server</b>	==	smtp.gmail.com
<b>SMTP-Server Port (default Smtplib-Server Port is 25)</b>	==	587
<b>SMTP-Username</b>	==	john@gmail.com
<b>SMTP-Userpass</b>	==	password of john@gmail.com
<b>Enable TLS in Mail Server Auth</b>	==	...turn green the button to activate
<b>Default Language</b>	==	...select your language

...the rest you can change it as you like.

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

*see also [Installation](#)*

Here we'll introduce the respective paths for the image, video, audio and conversion of uploaded files:


**ImageMagick Path** == /usr/bin

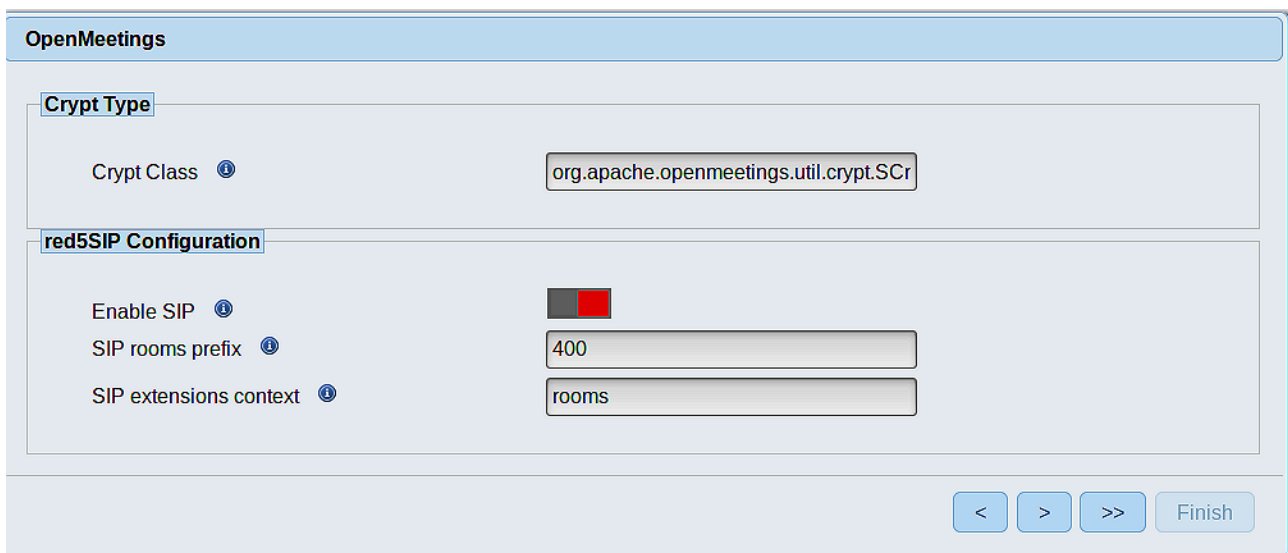
**FFMPEG Path** == /usr/local/bin

**SOX Path** == /usr/local/bin

**OpenOffice/LibreOffice Path for jodconverter** == /usr/lib/libreoffice (32 bits - 64bits)

As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**. If it does not display any error message, that is OK.

Once completed the paths, please click the button  and move on to another page that would be to activate the SIP. We will leave it as is, unless you want to activate it knowing what it does:



The screenshot shows the 'OpenMeetings' configuration window. The 'Crypt Type' section has 'Crypt Class' set to 'org.apache.openmeetings.util.crypt.SCr'. The 'red5SIP Configuration' section has 'Enable SIP' checked (indicated by a red square), 'SIP rooms prefix' set to '400', and 'SIP extensions context' set to 'rooms'. At the bottom right, there are navigation buttons: '<', '>', '>>', and 'Finish'.

Now push the button  and will show this window:



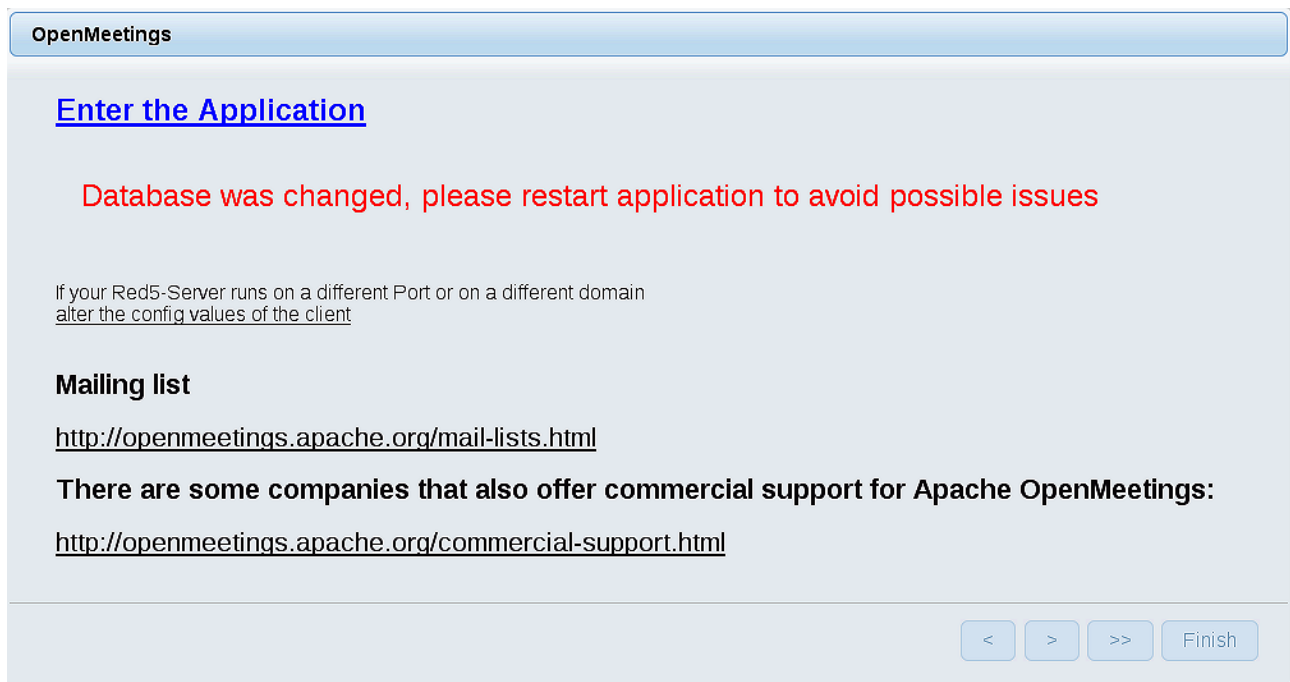
The screenshot shows the 'OpenMeetings' configuration window with the message 'Please click "Finish" button to start installation!'. There is a large empty text box below the message. At the bottom right, there are navigation buttons: '<', '>', '>>', and 'Finish'.

Press **Finish** button ...wait a seconds until 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, be connected to Internet:

`/etc/init.d/red5-ubdeb2 restart`



**OpenMeetings**

[Enter the Application](#)

**Database was changed, please restart application to avoid possible issues**

If your Red5-Server runs on a different Port or on a different domain  
alter the config values of the client

**Mailing list**  
<http://openmeetings.apache.org/mail-lists.html>

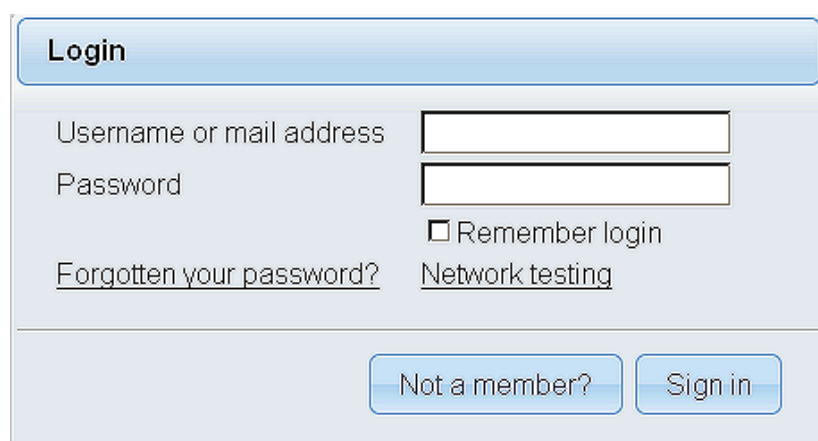
**There are some companies that also offer commercial support for Apache OpenMeetings:**  
<http://openmeetings.apache.org/commercial-support.html>

< > >> Finish

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** button, and...

...**Congratulations!**

The next time that you like accede to OpenMeetings would be:

<http://localhost:5080/openmeetings>

Remember to open in the server the two following ports:

**1935 5080**

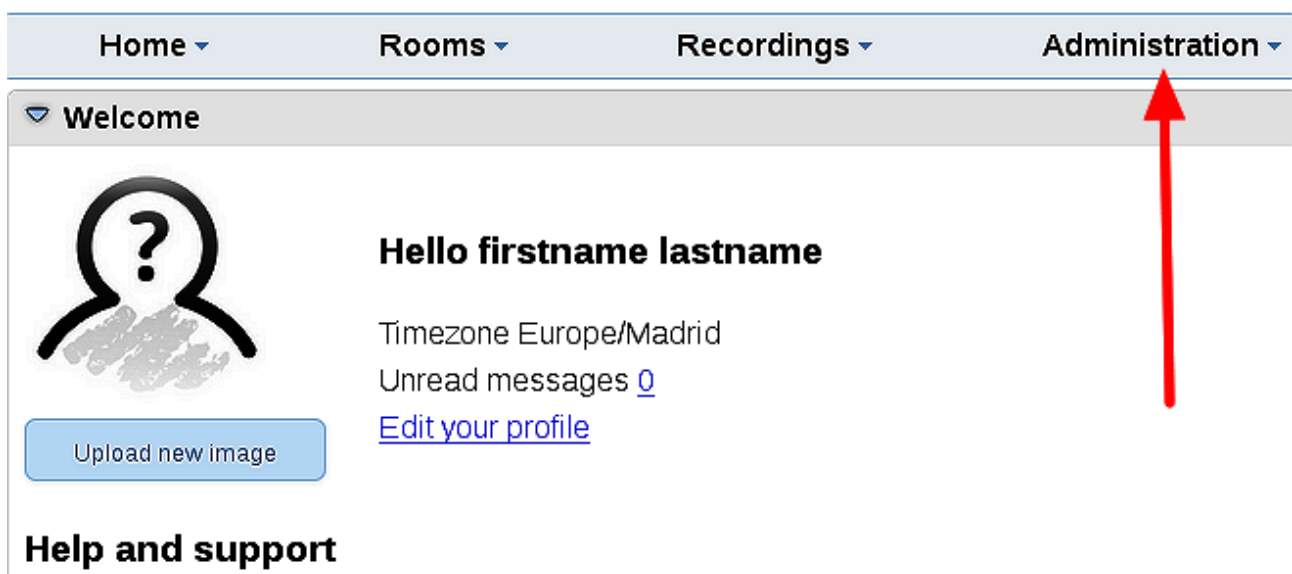
...in order that it could accede to OpenMeetings from other machines in LAN or Internet.

11)

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

Once you acced to OpenMeetings, if you would like to do any modification in the configuration, please go to:

**Administration → Configuration**



...and following the order of the red arrows:

The screenshot shows the Administration section of the Apache OpenMeetings interface. On the left is a table of configuration items, and on the right is a configuration form for the 'path.ffmpeg' key. Three red arrows indicate the sequence of actions: arrow 1 points from the 'path.ffmpeg' row in the table to the 'Key' field in the form; arrow 2 points from the 'Value' field in the form to the 'path.ffmpeg' row; and arrow 3 points from the 'path.ffmpeg' row to the 'Configuration' form header.

ID	Key	Value
1	crypt.class.name	org.apache.openmeetings.util.crypt.SCryptImplementation
2	allow.frontend.register	true
3	allow.soap.register	true
4	allow.oauth.register	true
5	default.group.id	1
6	mail.smtp.server	localhost
7	mail.smtp.port	25
8	mail.smtp.system.email	noreply@openmeetings.apache.org
9	mail.smtp.user	
10	mail.smtp.pass	
11	mail.smtp.starttls.enable	false
12	mail.smtp.connection.timeout	30000
13	mail.smtp.timeout	30000
14	application.name	OpenMeetings
15	default.lang.id	8
16	document.dpi	150
17	document.quality	90
18	path.imagemagick	
19	path.sox	
20	path.ffmpeg	
21	path.office	
22	dashboard.rss.feed1	http://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom
23	dashboard.rss.feed2	http://mail-archives.apache.org/mod_mbox/openmeetings-dev/?format=atom
24	send.email.at.register	false
25	send.email.with.verification	false

**Configuration**

Type: string  
Key: path.ffmpeg  
Value:   
Last update: Oct 17, 2017 5:54:57 PM  
Updated by: toro  
Comment: Path To FFMPEG

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