



## Installation of Apache OpenMeetings 3.3.2 on Debian 9

This tutorial is made based on a fresh installations of

**debian-9.1.0-amd64-DVD-1.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.3.2 stable, that is to say will suppress his compilation. It is done step by step.

22-9-2017

Starting...

1)

First, we update and upgrade the OS:

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

2)

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

OpenMeetings **3.3.2** 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.

We do it also for server iso:

```
sudo apt-get install libreoffice
```

4)

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

**ImageMagic**, 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 is in the repos:

```
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.** LibreOffice convert to pdf the uploaded office files, and Swftools convert these pdf to swf, flash files, that later will show it in the whiteboard. Also convert jpg2swf, png2swf, gif2swf.

Don't use a newer swftools version. Surely, will have not pdf2swf.

```
sudo apt-get install libstreamer-plugins-base1.0-0 libstreamer1.0-0 libgif7 libzip-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
```

**ATTENTION!.** Will fail, although we'll do, later, a trick to enable the files already installed.

**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
```

(Only one line without space between both)

```
wget https://launchpad.net/ella-renaissance/ella-renaissance-beta/beta1/+download/swftools_0.9.1-1_i386.deb
```

```
dpkg -i swftools_0.9.1-1_i386.deb
```

**ATTENTION!.** Will fail, although we'll do, later, a trick to enable the files already installed.

**For 64 bit and 32 bit:** Now we'll do the trick. Even if the installation of Swftools has failed, in reality yes properly installs all related SWF files, plus the swftools package is recognized by the operating system as broken.

So, we'll uninstall it. But before, we'll backup those SWF files, and later we will restore to his corresponding place to be active:

```
mkdir /usr/local/bin/swftools
```

```
cd /usr/local/bin
```

(Only one line with space between both)

```
cp as3compile font2swf jpeg2swf pdf2swf png2swf swfbbox swfc swfcombine swfdump swfextract  
swfrender swfstrings wav2swf /usr/local/bin/swftools
```

...once the backup was done, we went to uninstall swftools:

```
sudo apt remove swftools
```

...and now we restore backup:

```
cd /usr/local/bin/swftools
```

(Only one line with space between both)

```
cp as3compile font2swf jpeg2swf pdf2swf png2swf swfbbox swfc swfcombine swfdump swfextract  
swfrender swfstrings wav2swf /usr/local/bin
```

5)

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

OpenMeetings even need Adobe Flash Player for rooms. On Debian 9 is not easy install it from repos. We'll do almost manually:

```
cd /opt
```

```
mkdir flashplayer
```

```
cd flashplayer
```

(Only one line without space between both)

```
wget https://fpdownload.adobe.com/get/flashplayer/pdc/27.0.0.130/flash_player_npapi_linux.x86_  
64.tar.gz
```

```
tar zxvf flash_player_npapi_linux.x86_64.tar.gz
```

...please, modify **you-user**, by your real user name:

```
mkdir /home/you-user/.mozilla/plugins
```

```
cp libflashplayer.so /home/you-user/.mozilla/plugins
```

6)

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

**FFmpeg** will work with video. This compilation is based on:

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

Updated files to 22-9-2017. 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_ubuntu1704.sh
```

...concede permission of execution:

```
chmod +x ffmpeg_ubuntu1704.sh
```

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

```
./ffmpeg_ubuntu1704.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 17.04 and Debian 9 only.
# Alvaro Bustos. Thanks to Hunter.
# Updated 22-9-2017
```

```

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 libx264-dev libfdk-aac-
dev libmp3lame-dev libvpx-dev

# Create a directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
wget http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz
hg clone https://bitbucket.org/multicoreware/x265
wget -O fdk-aac.tar.gz https://github.com/mstorsjo/fdk-aac/tarball/master
wget http://ffmpeg.org/releases/ffmpeg-snapshot.tar.bz2

# 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 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 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 ffserver vsyasm yasm yasm yasm /usr/local/bin

cd ~/ffmpeg_build/bin
cp 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
```

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 chosen, type it...

```
MariaDB [(none)]> CREATE DATABASE open332 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open332.

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 open332.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

\* **open332** .....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/red5332. All the following information will be based on this directory.

Make the folder:

```
mkdir /opt/red5332
```

```
cd /opt/red5332
```

...and download the red5-OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/3.3.2/bin/apache-openmeetings-3.3.2.zip
```

```
unzip apache-openmeetings-3.3.2.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.3.2.zip /opt
```

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

```
chown -R nobody /opt/red5332
```

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/red5332/webapps/openmeetings/WEB-INF/lib
```



Now we form OpenMeetings for our database in MariaDB:

[gedit /opt/red5332/webapps/openmeetings/WEB-INF/classes/META-INF/mysql\\_persistence.xml](#)

**Modify line 72:**

, Url=jdbc:mysql://localhost:3326/openmeetings\_3\_3?

...to

, Url=jdbc:mysql://localhost:3326/open332?

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

If initially you choose another name for the database, replace it here. And save the changes.

We protect the access to the file:

(Only one line without space between both)

[chmod 640 /opt/red5332/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).
- 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/utls/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

**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** Apache Derby

**Specify the name of the database** openmeetings

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** open331

**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.

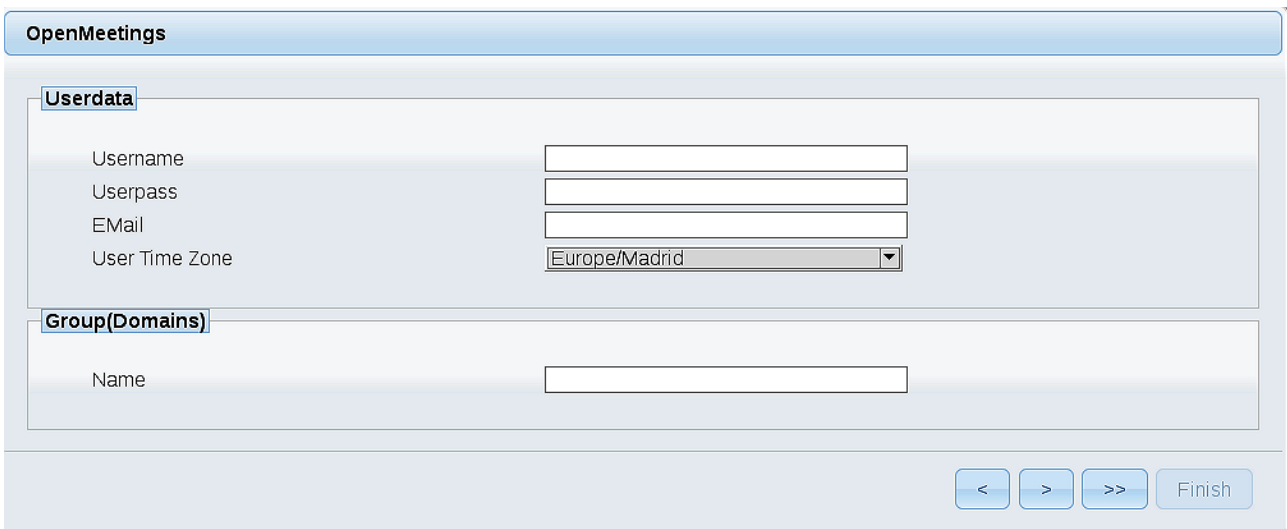
Now we must introduce the user name we did for our data base, at the step 7, and his password:

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

If you choosed a different name or password, introduce them here.

Please, press  button, and will go to:



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 (allow_frontend_register)	Yes
Send Email to new registered Users (sendEmailAtRegister)	No
New Users need to verify their EMail (sendEmailWithVerificationCode)	No
Default Rooms of all types will be created	Yes
Mail-Referer (system_email_addr)	noreply@openmeetings.apache.org
SMTP-Server (smtp_server)	localhost
SMTP-Server Port(default SmtP-Server Port is 25) (smtp_port)	25
SMTP-Username (email_username)	
SMTP-Userpass (email_userpass)	
Enable TLS in Mail Server Auth	No
Set inviter's email address as ReplyTo in email invitations (inviter.email.as.replyto)	Yes
Default Language	inglés
Default Font for Export [default_export_font]	TimesNewRoman

<
>
>>
Finish

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 (system_email_addr)</b>	==	<a href="#">john@gmail.com</a>
<b>SMTP-Server (smtp_server)</b>	==	<a href="#">smtp.gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25) (smtp_port)</b>	==	<a href="#">587</a>
<b>SMTP-Username (email_username)</b>	==	<a href="#">john@gmail.com</a>
<b>SMTP-Userpass (email_userpass)</b>	==	<a href="#">password of john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	<a href="#">Yes</a>

To select the language of your server OpenMeetings, please scroll on the line:

<b>Default Language</b>	==	<a href="#">english</a>
-------------------------	----	-------------------------

...the rest can leave as is.

Now press the button  and a new page will appear:



**OpenMeetings**

**Converters**

SWFTools Zoom ⓘ

SWFTools JPEG Quality ⓘ

SWFTools Path ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

see also [Installation](#)

< > >> Finish

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

**SWFTools Path** == `/usr/local/bin`


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

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

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

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

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:

**OpenMeetings**

**Crypt Type**

Crypt Class

*You can use this default crypt type which is equal to PHP-MD5 function or BSD-Style encryption by using: **org.apache.openmeetings.util.crypt.MD5CryptImplementation** for more information or to write your own Crypt-Style see: [Custom Crypt Mechanism](#) You can edit this value later BUT previous created Users and Sessions might be not usable anymore*

**red5SIP Configuration**

Enable SIP

*Enable red5SIP integration*

SIP rooms prefix

*Prefix for phone number of conference rooms*

SIP extensions context

*Context of Asterisk extensions*

Now push the button  and will show this window:

**OpenMeetings**

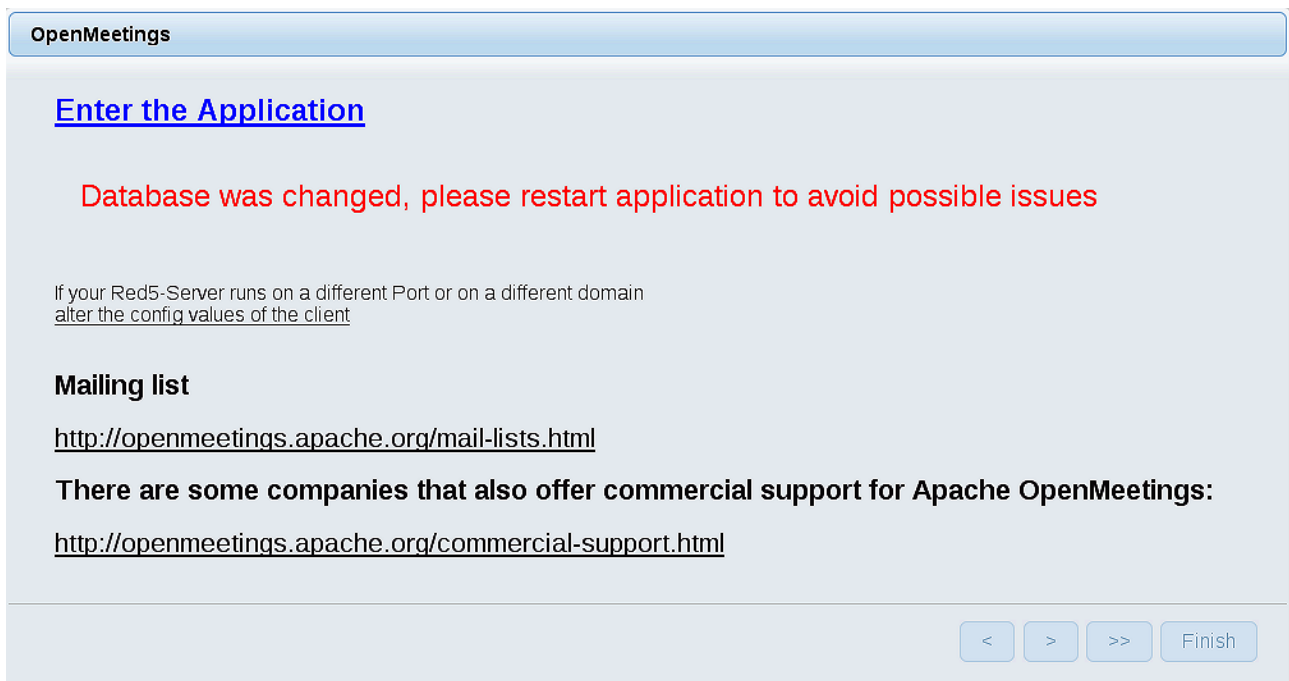
Please click "Finish" button to start installation!

Press **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, be connected to Internet:

[/etc/init.d/red5-ubdeb2 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:

The screenshot shows a "Login" form with a blue header bar. It contains the following elements: a text input field for "Username or mail address", a text input field for "Password", a checkbox labeled "Remember login", a link for "Forgotten your password?", and a link for "Network testing". At the bottom, there are two buttons: "Not a member?" and "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**

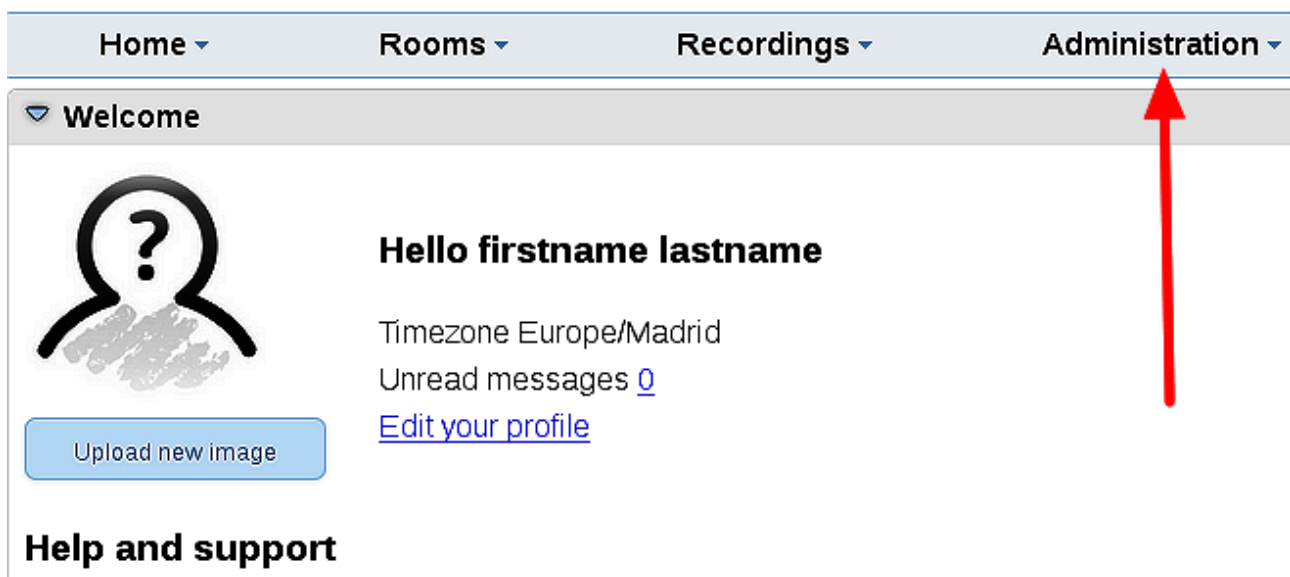
...in order that it could accede to OpenMeetings from other machines in LAN or Internet.

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 a configuration management interface. On the left is a table with columns 'ID', 'Key', and 'Value'. Row 18 is highlighted, showing 'swftools\_path'. On the right is a 'Configuration' window for 'swftools\_path'. Red arrows labeled 1, 2, and 3 point from the table to the configuration window: arrow 1 points to the row, arrow 2 points to the 'Value' field, and arrow 3 points to the 'Comment' field.

ID	Key	Value
4	allow.oauth.register	1
5	default_group_id	1
6	smtp_server	localhost
7	smtp_port	25
8	system_email_addr	noreply@openmeetings.apache.org
9	email_username	
10	email_userpass	
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	

**Configuration**

Key: swftools\_path

Value:

Last update:

Updated by:

Comment: Path To SWF-Tools

Now we are going to remove files and folders that already do not serve us, if you do not prefer to save them:

```
rm -f /opt/mysql-connector-java-5.1.42.jar
```

```
rm -f /opt/sox-14.4.2.tar.gz
```

```
rm -f -R /opt/sox-14.4.2
```

12)

----- Special step for swftools -----

This is a special step to add **gif2swf** file to the others swf already installed.  
At first place we'll download the mentioned file:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/gif2swf
```

...and copy it to where are the rest of swf files:

```
cp gif2swf /usr/local/bin
```

So, you can upload gif files, also, to OpenMeetings.

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