



Installation of Apache OpenMeetings 3.1.3 on openSUSE 13.2

This tutorial is made based on fresh installations of

openSUSE-13.2-GNOME-Live-i686.iso

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.3 stable, that is to say will suppress his compilation. It is done step by step.

28-9-2016

Starting...

1)

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

Update operative system:

`zypper refresh`

`zypper update`

2)

----- Installation of Oracle Java 1.8 -----

Java **1.8** it is necessary to work OpenMeetings **3.1.3**. We install Oracle Java 1.8. Open Java gives an error in some OpenMeetings function. It is tested.

```
cd /opt
```

Download the file:

(All in one line only. 1^a and 2^a without space between them. A space to the 3^a)

```
wget --no-cookies --no-check-certificate --header "Cookie: gpw_e24=http%3A%2F%2Fwww.oracle.com%2F; oraclelicense=accept-securebackup-cookie" "http://download.oracle.com/otn-pub/java/jdk/8u101-b13/jdk-8u101-linux-i586.rpm"
```

...and install it:

```
rpm -ivh jdk-8u101-linux-i586.rpm
```

```
zypper install update-alternatives
```

We do to Oracle, the default java system:

```
update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_101/bin/java 1551
```

```
update-alternatives --install /usr/bin/javadoc javadoc /usr/java/jdk1.8.0_101/bin/javadoc 1551
```

```
update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_101/bin/jar 1551
```

```
update-alternatives --install /usr/bin/javap javap /usr/java/jdk1.8.0_101/bin/javap 1551
```

```
update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.8.0_101/bin/javac 1551
```

```
update-alternatives --install /usr/bin/javah javah /usr/java/jdk1.8.0_101/bin/javah 1551
```

```
update-alternatives --install /usr/bin/jarsigner jarsigner /usr/java/jdk1.8.0_101/bin/jarsigner 1551
```

Maybe you have installed different versions of Java. We select the just installed Oracle Java:

```
update-alternatives --config java
```

And to see if the selected version is active:

```
java -version
```

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 -----

We install packages and libraries that 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 nano
```

5)

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

ImageMagick, will work with images files jpg, gif, png, etc. We install it and some librarie:

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

Sox, work the sound. Will compile it, 'cause it is newer version than 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 file), that later will show in the whiteboard. Also convert jpg2swf, png2swf, gif2swf, etc. Don't use a newer version, surely have not pdf2swf.

Add media repo:

(Only one line with space between both)

```
zypper ar
```

```
http://download.opensuse.org/repositories/multimedia:/apps/openSUSE\_13.2/multimedia:apps.repo
```

```
zypper refresh
```

...accept repository clave for ever, and we procede to install swftools:

```
zypper install -y swftools
```

...and block the version, because this repo version, have pdf2swf

```
zypper al swftools
```

6)

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

OpenMeetings even need Adobe Flash Player for rooms. It find in the repos.
We install it:

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

7)

----- Installation of Jodconverter -----

Jodconverter participate in the process to convert uploaded files.

```
cd /opt
```

(Only one line without space between both)

```
wget https://storage.googleapis.com/google-code-archive-downloads/v2/code.google.com/jodconverter/jodconverter-core-3.0-beta-4-dist.zip
```

```
unzip jodconverter-core-3.0-beta-4-dist.zip
```

8)

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

FFmpeg work video. We'll compile it. Now install paquets and libraries.

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

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

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

This ffmpeg compilation is based on this url, updated file versions 28-9-2016:

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

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

The result of any recording we do in OpenMeetings, will be in avi, flv, mp4 and ogg formats.

Download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-opensuse132-32bit.sh
```

...concede execution permission:

```
chmod +x ffmpeg-opensuse132-32bit.sh
```

...and run it (be connected to Internet):

```
./ffmpeg-opensuse132-32bit.sh
```

Will spend about 30 minutes. When is finished, will announce it:

FFMPEG Compilation is Finished!

Then, please go to **step 9**).

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

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

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

```
# FFmpeg compilation for openSUSE 13.2, 32 bit only.  
# Alvaro Bustos, thanks to Hunter.  
# 12-8-2016  
# 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
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.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
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 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$HOME/ffmpeg_build/lib64" CPPFLAGS="-I$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 is Finished!"

```

...to here.

Concede permission of execution:

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

```
cd /opt
```

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

```
./ffmpeg-opensuse.sh
```

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

9)

----- Installation of MariaDB data server -----

MariaDB is the data 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 with his own user for OpenMeetings:

```
mysql -u root -p
```

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

```
MariaDB [(none)]> CREATE DATABASE open313 DEFAULT CHARACTER SET 'utf8';
```

With this command we has created a database called open313.

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

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open313.* TO 'hola'@'localhost'  
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

- * **open313**is the database name.
- * **hola**is the user name for the database.
- * **123456**is the password of this user.

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

Now, we leave MariaDB:

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


10)

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

We'll install OpenMeetings in /opt/red5313. All the following information will be based on this directory.

Make the folder:

```
mkdir /opt/red5313
```

```
cd /opt/red5313
```

...and download the OpenMeetings file:

```
wget http://ftp.cixug.es/apache/openmeetings/3.1.3/bin/apache-openmeetings-3.1.3.zip
```

```
unzip apache-openmeetings-3.1.3.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.3.zip /opt
```

Download and install the file connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.39/mysql-connector-java-5.1.39.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.39.jar /opt/red5313/webapps/openmeetings/WEB-INF/lib
```

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

```
nano /opt/red5313/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

Modify in line 71:

```
, Url=jdbc:mysql://localhost:3306/openmeetings_3_1?
```

...to

```
, Url=jdbc:mysql://localhost:3306/open313?
```

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

Modify in line 76:

```
, Username=root
```

```
...to
```

```
, Username=hola
```

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

Modify in line 77:

```
, 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 save and leave nano.

We protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red5313/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

11)**----- Script to launch red5-OpenMeetings -----**

Please, download the red5 run script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-3
```

...copy it to:

```
cp red5-3 /etc/init.d/
```

...concede permission of execution:

```
chmod +x /etc/init.d/red5-3
```

If you made the installation in any other path, please, edit the script and modify the line:

```
RED5_HOME=/opt/red5313
```

...to

```
RED5_HOME=/your-path-installation
```

12)

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

Restart mariadb (be connected to Internet):

```
systemctl restart mysql.service
```

...and run red5-OpenMeetings. Please, in a new terminal and connected to Internet:

```
/etc/init.d/red5-3 start
```

...wait till, at the last, show this text: “**clearSessionTable:0**”. After this, please, 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/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 whiteboard**
 - 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!

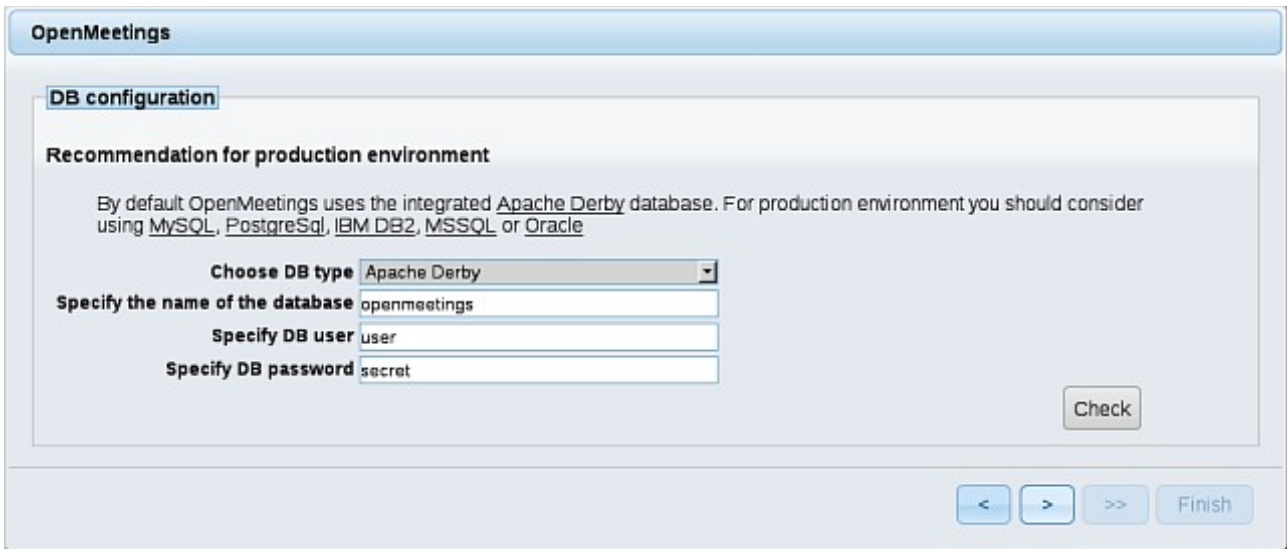
If you have further questions or need support in installation or hosting:

Community-Support:

[Mailing lists](#)

Commercial-Support:

...push on  (bottom), and will show the default 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

Choose DB type: Apache Derby

Specify the name of the database: openmeetings

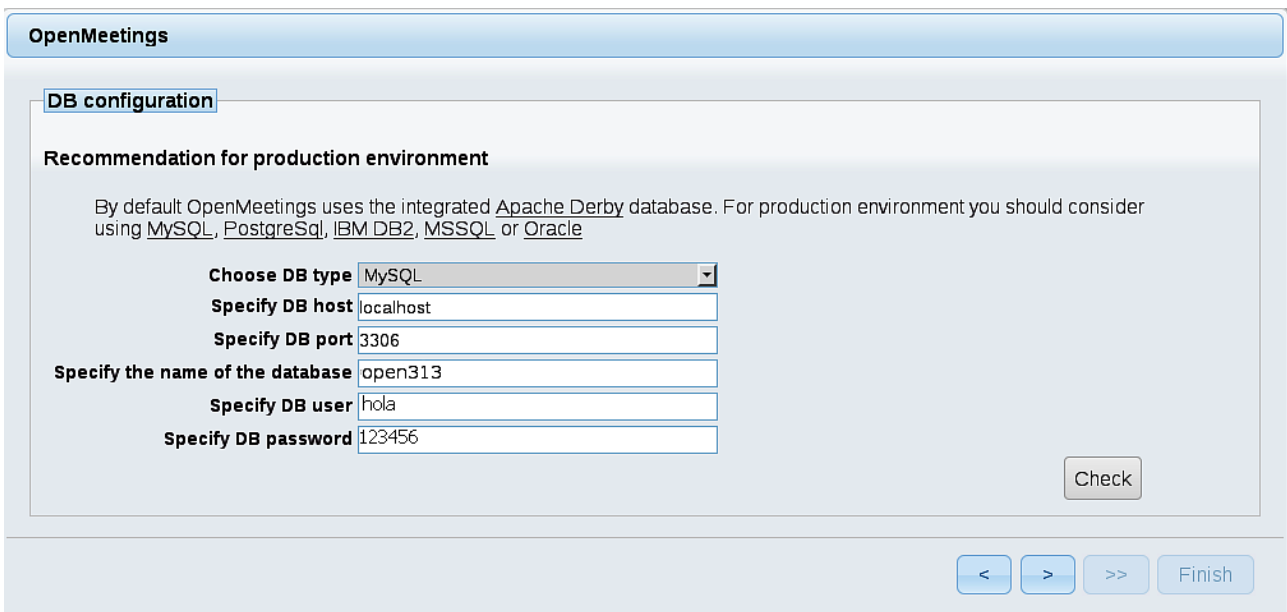
Specify DB user: user

Specify DB password: secret

Check

< > >> Finish

...so, 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

Choose DB type: MySQL

Specify DB host: localhost

Specify DB port: 3306

Specify the name of the database: open313


Specify DB user: hola

Specify DB password: 123456

Check

< > >> Finish

...will show the database 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.

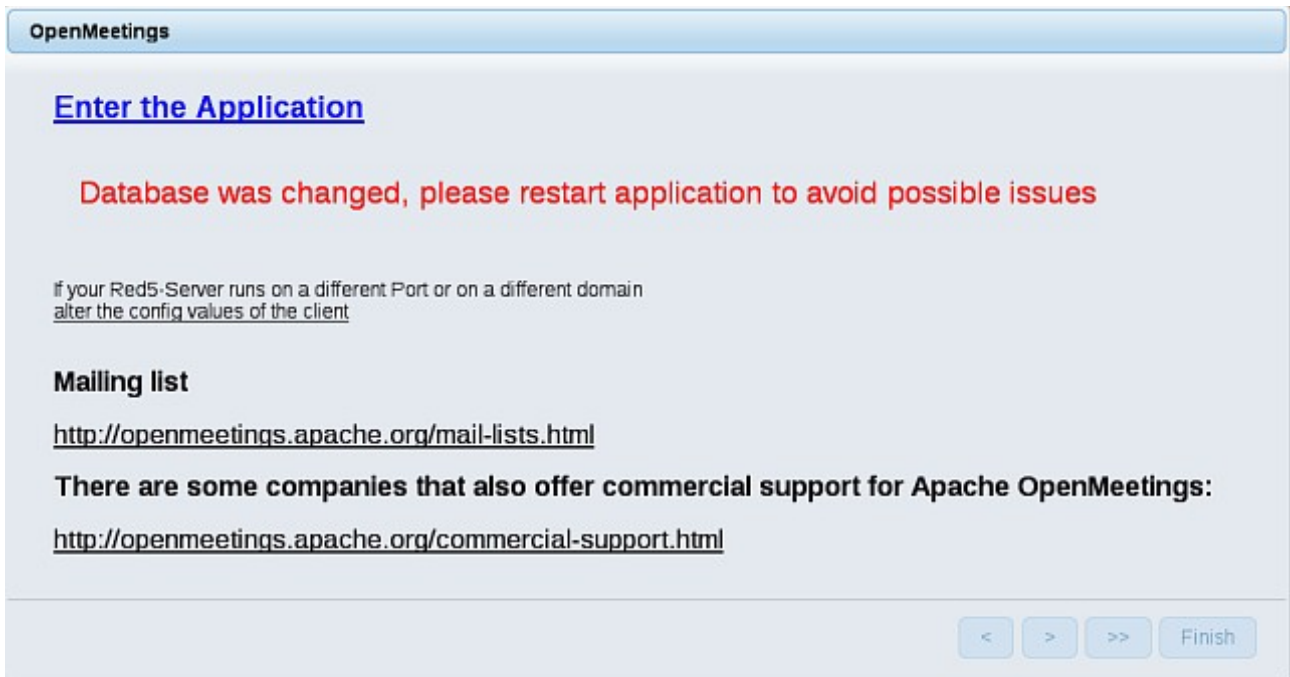
When the installation be finished, we'll configure the rest.

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

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 restart the server. Please, open a new terminal and restart red5, connected to Internet:

[/etc/init.d/red5-3 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. It has a title "Login" in a blue header. Below the header, there are two input fields: "Username or mail address" and "Password". To the right of the "Password" field is a checkbox labeled "Remember login". Below the input fields, there are two links: "Forgotten your password?" and "Network testing". At the bottom of the form, 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 to accede OpenMeetings, would be:

<http://localhost:5080/openmeetings>

Remember to open in the server, the two following ports:

1935 5080

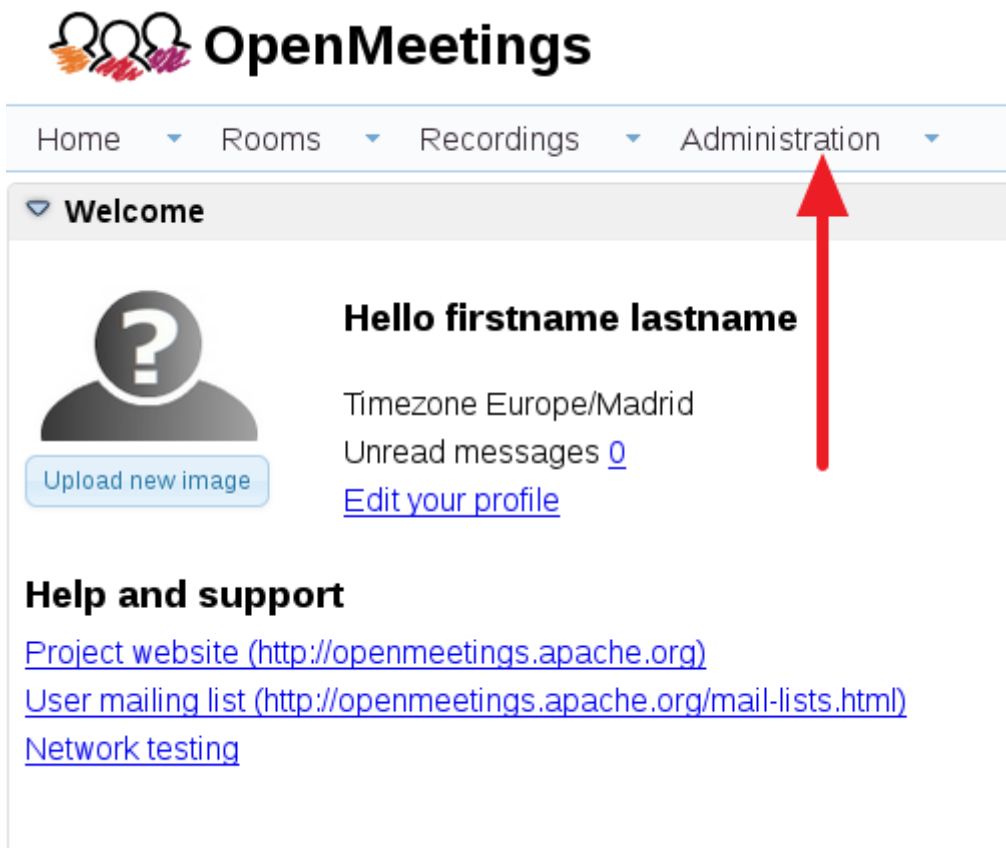
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

13)

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

Once you acced to OpenMeetings, go to:

Administration → Configuration



The screenshot displays the OpenMeetings web application interface. At the top left is the logo, which consists of three stylized human figures in orange, red, and pink, followed by the text "OpenMeetings". Below the logo is a horizontal navigation bar with four items: "Home", "Rooms", "Recordings", and "Administration". Each item has a small downward-pointing triangle to its right, indicating a dropdown menu. A red arrow points upwards to the "Administration" menu item. Below the navigation bar is a "Welcome" section with a grey background. It features a profile picture placeholder with a question mark, the text "Hello firstname lastname", and a button labeled "Upload new image". To the right of the profile picture, there is text indicating the user's timezone ("Timezone Europe/Madrid"), the number of unread messages ("Unread messages 0"), and a link to "Edit your profile". Below the "Welcome" section is a "Help and support" section with three links: "Project website (http://openmeetings.apache.org)", "User mailing list (http://openmeetings.apache.org/mail-lists.html)", and "Network testing".

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

The screenshot shows a configuration management interface. On the left is a table with columns 'ID', 'Key', and 'Value'. The table contains 23 rows of configuration items. Row 18 is highlighted. On the right is a configuration editor for the selected key 'swftools_path'. The editor shows the key name, a value input field, the last update date (26.02.2016 08:48:28), the updated by user (root), and a comment (Path To SWF-Tools). Three red arrows point to specific elements: arrow 1 points to the 'swftools_path' row in the table, arrow 2 points to the 'Value' input field in the editor, and arrow 3 points to the save icon in the editor's toolbar.

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	

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/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 that already do not serve us, if you don't like save them:

```
rm -f /opt/jodconverter-core-3.0-beta-4-dist.zip
```

```
rm -f /opt/mysql-connector-java-5.1.39.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