



## **Installation of Apache OpenMeetings 3.1.3 on openSUSE 13.2**

This tutorial is made based on fresh installations of

**openSUSE-13.2-KDE-Live-x86\_64.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 is need it to work OpenMeetings 3.1.3. So we install Oracle Java 1.8. Open Java gives an error in some OpenMeetings function. I've tested it.

```
cd /opt
```

Download the file:

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

```
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-x64.rpm"
```

...and install it:

```
rpm -ivh jdk-8u101-linux-x64.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 diferents 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, png, gif, 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 the uploaded office files to pdf, and Swftools convert these pdf to swf (flash files), 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 one have pdf2swf

```
zypper al swftools
```

6)

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

OpenMeetings even need Adobe Flash Player for rooms. 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. Will 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>

The result of any recording we do in OpenMeetings, will be in avi, flv, mp4 and ogg formats. I made a script that it will download, compile and install ffmpeg.

Download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-opensuse132-64bit.sh
```

...concede execution permission:

```
chmod +x ffmpeg-opensuse132-64bit.sh
```

...and run it. Will spend about 25 minutes in the compilation:

```
./ffmpeg-opensuse132-64bit.sh
```

When finished, will announce it:

:

**FFMPEG Compilation is Finished!**

Then, you can 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 64bit 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

# 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-*/
LDLFLAGS="-L$HOME/ffmeg_build/lib64" CPPFLAGS="-I$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 ..
```

```
cp /root/ffmpeg_build/lib/pkgconfig/x264.pc /root/ffmpeg_build/lib64/pkgconfig
```

```
cp /root/ffmpeg_build/lib/pkgconfig/x265.pc /root/ffmpeg_build/lib64/pkgconfig
```

```
cd ffmpeg
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib64/pkgconfig" ./configure
--prefix="$HOME/ffmpeg_build" --extra-cflags="-I$HOME/ffmpeg_build/include" --extra-
ldflags="-L$HOME/ffmpeg_build/lib64" --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 on: **/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 for OpenMeetings:

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

...will ask for the 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 this 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, or database name, you will type 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 different path to /opt/red5313, 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 start red5-OpenMeetings, from a new window terminal, and connected to Internet:

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

...wait till in the terminal, at the last, show this text: **clearSessionTable:0** Then, 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/utis/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.arozcru.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](#)

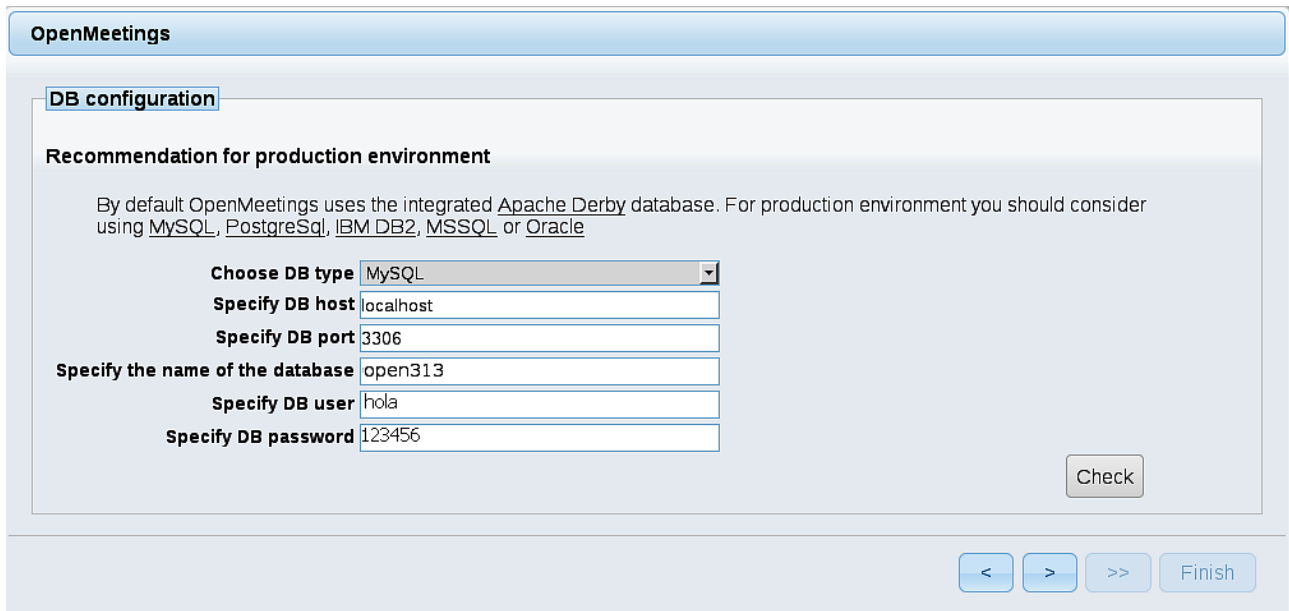
Choose DB type

Specify the name of the database

Specify DB user

Specify DB password

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

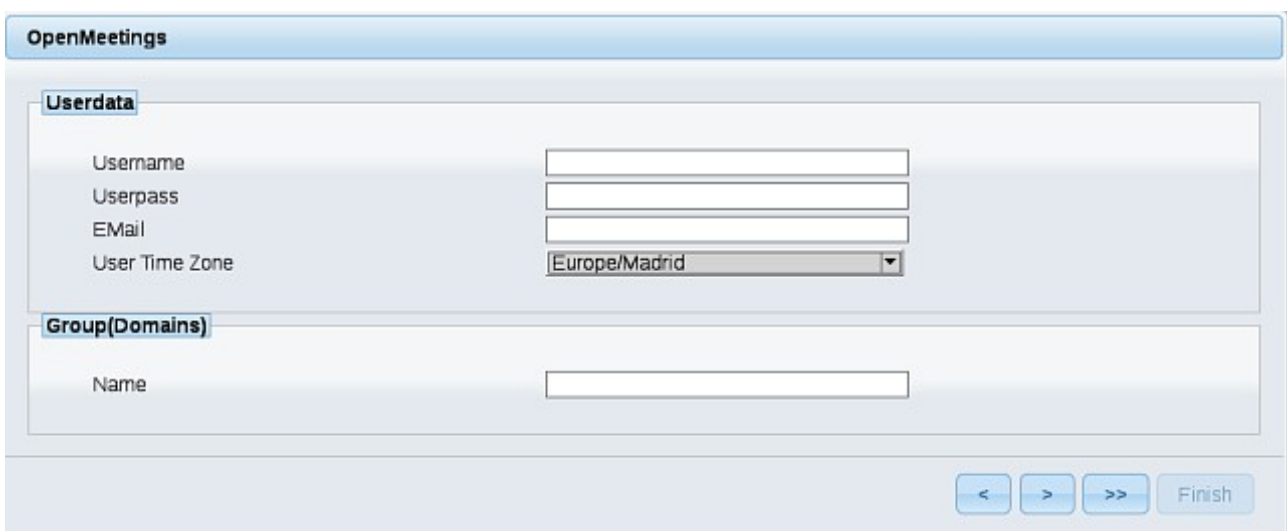


The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section active. It includes a recommendation for production environments and several input fields for database settings. A 'Check' button is located at the bottom right of the configuration area. At the bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

Field	Value
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

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

Please, push  button and will go to this window:



The screenshot shows the 'OpenMeetings' application window with the 'Userdata' and 'Group(Domains)' sections. The 'Userdata' section has four input fields: Username, Userpass, EMail, and User Time Zone (set to Europe/Madrid). The 'Group(Domains)' section has one input field for Name. At the bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

Field	Value
Username	
Userpass	
EMail	
User Time Zone	Europe/Madrid
Group(Domains) Name	

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.

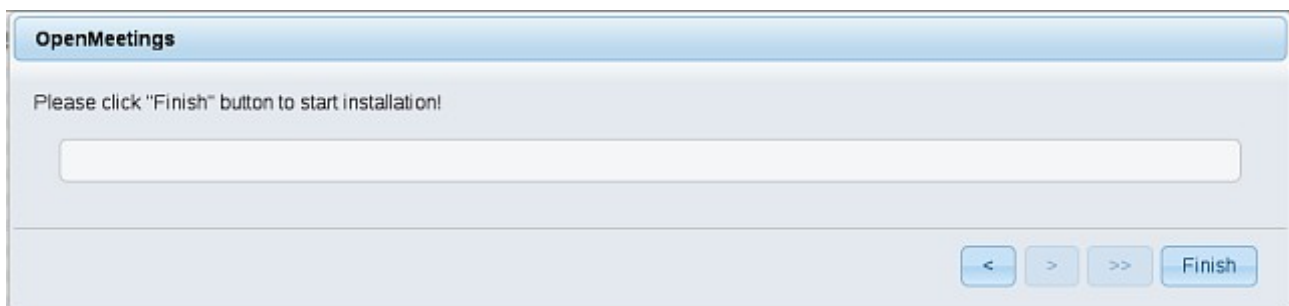
**Email** = email-adress ...of the previous user.

**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.

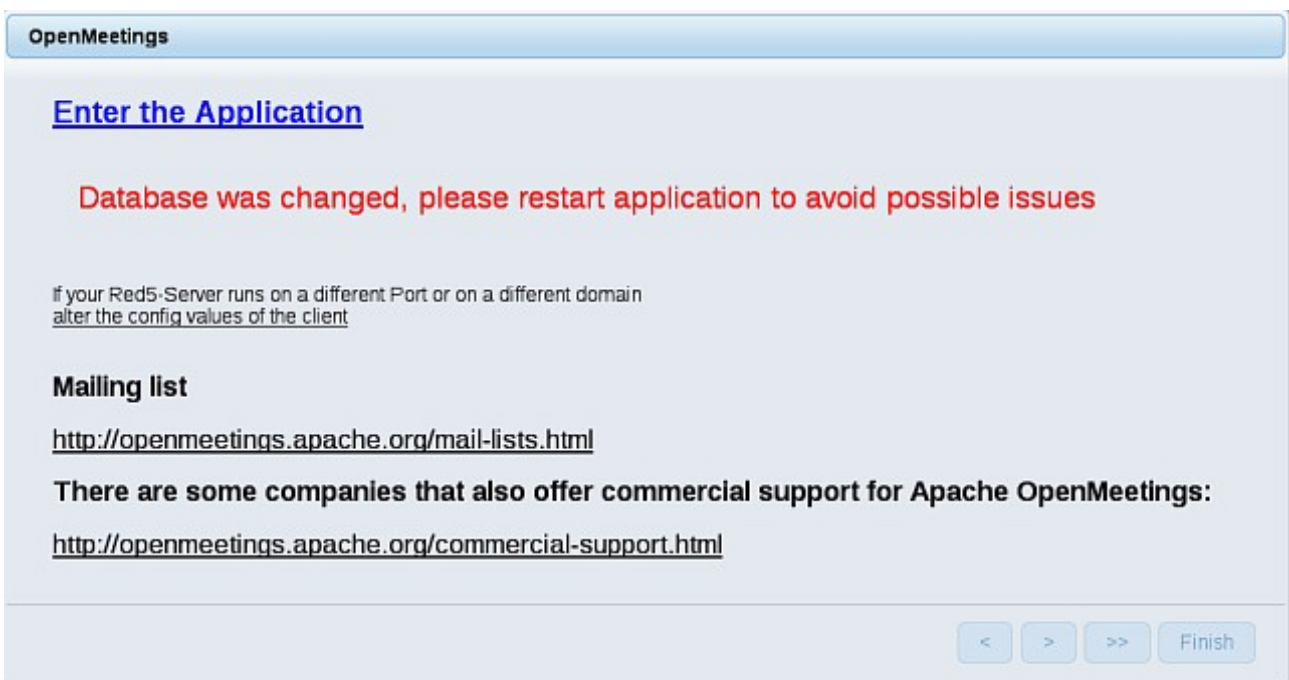
Now go to bottom, and touch the button  (double arrow). Will show this window:



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, open a new terminal and restart red5 (maybe twice):

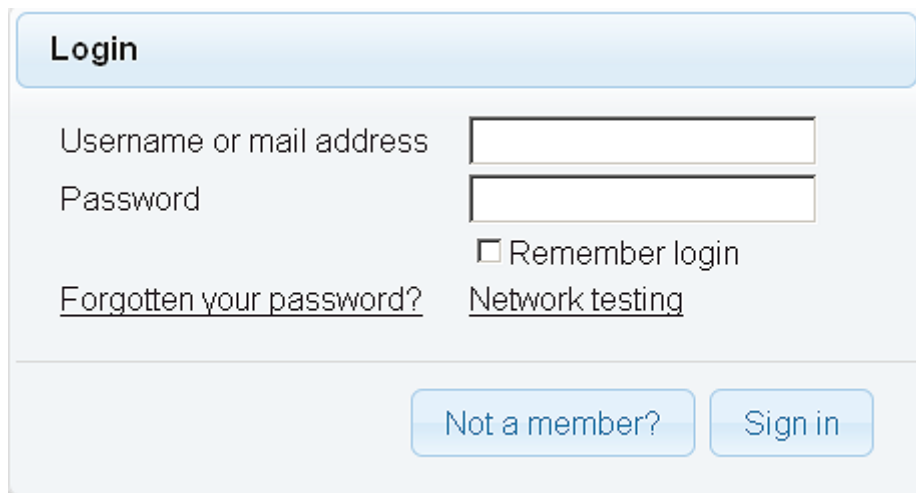
[/etc/init.d/red5-3 restart](#)



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:



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



# OpenMeetings

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

Welcome



## Hello firstname lastname

Timezone Europe/Madrid

Unread messages [0](#)

[Edit your profile](#)

[Upload new image](#)

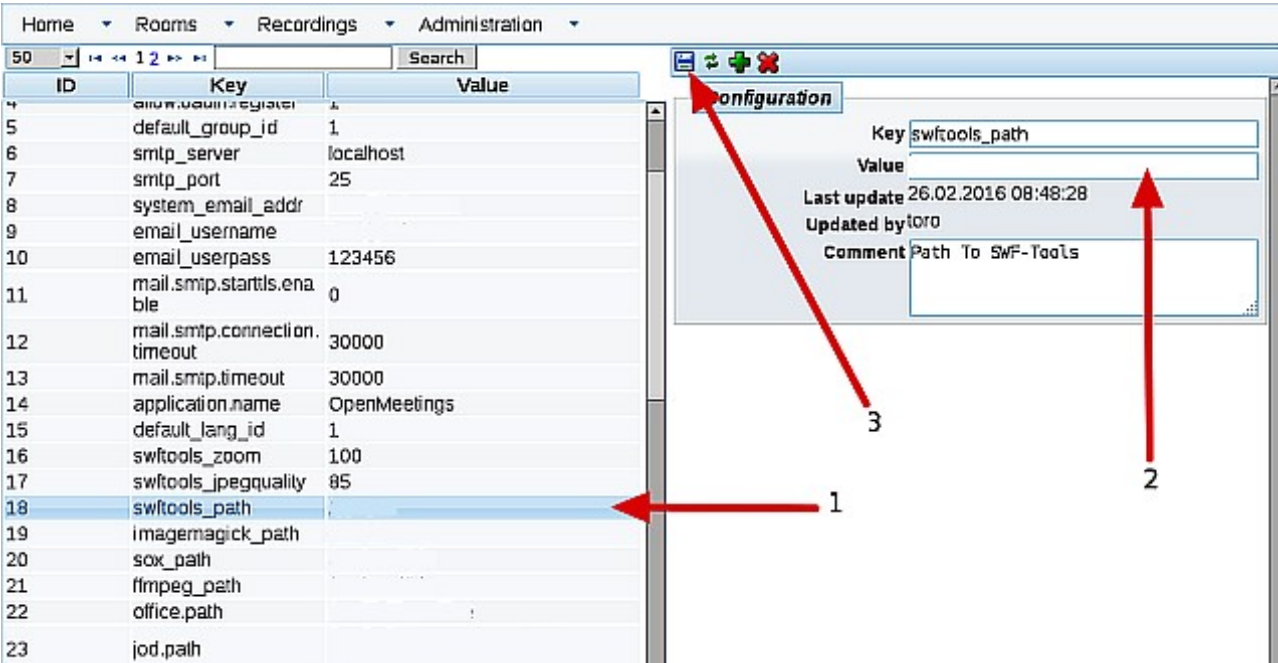
### Help and support

[Project website \(http://openmeetings.apache.org\)](http://openmeetings.apache.org)

[User mailing list \(http://openmeetings.apache.org/mail-lists.html\)](http://openmeetings.apache.org/mail-lists.html)

[Network testing](#)

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



Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 Search

ID	Key	Value
4	allow_guest_registration	1
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**

Key

Value

Last update 26.02.2016 08:48:28

Updated by toro

Comment

1 2 3



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/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-5.1.39.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