



## **Installation of Apache OpenMeetings 3.1.x on**

**PCLinuxOS 2014 Mate 64bit  
and  
PCLinuxOS 2014 Kde 64bit**

This tutorial is made based on fresh installations of PCLinuxOS 2014 Mate and Kde minimum.

It is tested in both versions 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.

22-3-2016

Starting...

**1)**

Update and upgrade the operative system. Please go to:

`apt-get update`

`apt-get upgrade`

**2)**

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

Copy line to line and then put one after other one in the shell:

```
apt-get install -y libjpeg-progs giflib-progs freetype-devel gcc-c++ zlib1-devel libtool bison bison-  
static-devel file-roller ghostscript freetype unzip gcc ncurses make zlib1 bzip2 wget ImageMagick  
ghostscript ncurses zlib1 zlib1-devel x264-devel git make automake nasm pavucontrol rpm-installer
```

3)

#### ---- Installation of LibreOffice and Java sun 1.8.x ----

When we install LibreOffice also will install automatically Java sun 1.8.x

For **KDE only**: `apt-get install -y lomanager`

To install or update LibreOffice on MATE and KDE we type in shell:

`lomanager`

...if show a message like this: *Please Update your system. (more details...)...*

then please go to:

**Synaptic --> Mark All Upgrades --> Apply --> Apply**

...and we type in shell newly:

`lomanager`

...will show a window where select your locale language for LibreOffice, and after this answer yes or ok to any question.

Will start downloading Java sun 1.8.x and continue with LibreOffice.

Once the installation it is finished you can change the LibreOffice language interface in:

**Tools --> Options --> Language settings --> Languages --> User interface (select your language) --> OK**

LibreOffice (installed or updated 20-9-2015) is in:

`/opt/libreoffice5.0`

4)

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

Flash player it is installed in Mate already, but not in KDE minimum. So will install it and firefox also if you like it. Flash player even is need it for rooms:

```
apt-get install -y firefox flash-player-plugin
```

5)

#### ---- Installation of MySQL and building database----

We'll employ MySQL as data base server.

```
apt-get install -y mysql
```

...run mysql:

```
service mysqld start
```

...we do a mysql upgrade:

```
mysql_upgrade
```

...and now give a root mysql password replacing new-password for your preference:

```
/usr/bin/mysqladmin -u root password 'new-password'
```

Now we'll build a database and an user in MySQL for OpenMeetings:

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

...will ask for password (just we've made right now) type it and after this make:

```
CREATE DATABASE open311 DEFAULT CHARACTER SET 'utf8';
```

```
GRANT ALL PRIVILEGES ON open311.* TO 'hola'@'localhost' IDENTIFIED BY '123456'
WITH GRANT OPTION;
```

(these last lines must be only one with a space)...and leave mysql:

```
quit
```

```
open311 ..... is the data base name
hola      ..... is the user name for this data base
123456 .... is the password for this user and data base
```

You are free to change these names, but remember them well.

Now we'll open mysql port 3306, so OpenMeetings can connect with it:

For **KDE**:

```
kwrite /etc/my.cnf
```

For **MATE**:

```
pluma /etc/my.cnf
```

...and the line number 51: **skip-networking**

...modify so:

```
# skip-networking
```

...and restart mysql:

```
service mysqld restart
```

6)

---- Remove, rename some packages ----

Should remove ffmpeg that automatically was installed in Mate. In KDE minimum was not but to do it is not bad. Later we'll build our own ffmpeg.

```
apt-get remove ffmpeg
```

...will remove automatically vokoscreen also.

And rename x264:

```
mv /usr/bin/x264 /usr/bin/x264-synaptic
```

...because if we remove x264 will lose automatically too many packages.

Now will block this x264 version in Synaptic and then can't update installing a new version:

**Synaptic** → click on **x264** line → **Package** (Up left) --> **Lock Version**

7)

---- Installation of Sox for audio ---

Sox is required to work with audio. It is already installed on Mate and Kde. If need install it:

```
apt-get -y install sox
```

8)

#### ---- Installation of Swftool ----

Swftool it is needed convert to flash uploaded documents: LibreOffice to pdf and a part of swftools (pdf2swf) to flash. So we need install it:

```
cd /home/your_username
```

...change **your\_username** to your really user name. And now in **only one line**:

```
wget http://pkgs.repoforge.org/swftools/swftools-0.9.1-1.el6.rf.x86\_64.rpm
```

Please go to /home/your\_username and:

For MATE:

**Right clic on** the swftools-0.9.1-1.el6.rf.x86\_64.rpm file --> **Open with RPM-installer** ---> will ask for root password → push **Enter**

For KDE:

**Right clic on** the swftools-0.9.1-1.el6.rf.x86\_64.rpm file --> **Open with --> RPM-installer** → will ask for root password → push **Enter**

Now will block this swftools version in Synaptic and then can't update installing a new version:

**Synaptic** → click on **swftools** line → **Package** (Up left) --> **Lock Version**

9)

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

This is need it to help convert the 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
```

10)

**---- Compiling and installing ffmpeg, lame, yasm and x264 ----**

To compile and install ffmpeg, lame, yasm and x264, i've followed a guide with some little modifications. Files updated 5-3-2106:

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

Starting...

Please copy and paste as it is, do not change.

```
mkdir ~/ffmpeg_sources
```

```
cd ~/ffmpeg_sources
```

First will download all the packages we need to compile. In shell as root:

```
curl -O http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz
```

```
git clone --depth 1 git://git.videolan.org/x264
```

```
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
```

```
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.1.tar.gz
```

```
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
```

```
curl -O http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
```

```
curl -O http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.5.tar.gz
```

```
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
```

```
git clone --depth 1 git://source.ffmpeg.org/ffmpeg
```

...once all these packages-files are downloaded start the compilation.

**1) ---- Yasm ----**

```
cd ~/ffmpeg_sources
```

```
tar xzvf yasm-1.3.0.tar.gz
cd yasm-1.3.0
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"
make
make install
make distclean
export "PATH=$PATH:$HOME/bin"
```

## 2) ---- libx264 ----

```
cd ~/ffmpeg_sources
cd x264
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --enable-static
make
make install
make distclean
```

## 3) ---- libfdk\_aac ----

```
cd ~/ffmpeg_sources
cd fdk-aac
autoreconf -fiv
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
make
make install
make distclean
```

4) ---- libmp3lame ----

```
cd ~/ffmpeg_sources
```

```
tar xzvf lame-3.99.5.tar.gz
```

```
cd lame-3.99.5
```

(Copy line to line and then put one after other one with space in the shell)

```
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --disable-shared  
--enable-nasm
```

```
make
```

```
make install
```

```
make distclean
```

5) ---- libopus ----

```
cd ~/ffmpeg_sources
```

```
tar xzvf opus-1.1.tar.gz
```

```
cd opus-1.1
```

```
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
```

```
make
```

```
make install
```

```
make distclean
```

6) ---- libogg ----

```
cd ~/ffmpeg_sources
```

```
tar xzvf libogg-1.3.2.tar.gz
```

```
cd libogg-1.3.2
```

```
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
```

```
make
```

make install

make distclean

7) ---- **libvorbis** ----

cd ~/ffmpeg\_sources

tar xzvf libvorbis-1.3.5.tar.gz

cd libvorbis-1.3.5

(In only one line with a space)

./configure --prefix="\$HOME/ffmpeg\_build" --with-ogg="\$HOME/ffmpeg\_build"  
--disable-shared

make

make install

make distclean

8) ---- **libvpx** ----

cd ~/ffmpeg\_sources

cd libvpx

./configure --prefix="\$HOME/ffmpeg\_build" --disable-examples

make

make install

make clean

9) ---- **libtheora** ----

cd ~/ffmpeg\_sources

tar xzvf libtheora-1.1.1.tar.gz

cd libtheora-1.1.1

(In only one line with a space)

```
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build"
--disable-examples --disable-shared --disable-sdltest --disable-vorbistest
```

```
make
```

```
make install
```

```
make distclean
```

#### 10) ---- FFmpeg ----

```
cd ~/ffmpeg_sources
```

```
cd ffmpeg
```

```
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig"
```

```
export PKG_CONFIG_PATH
```

(Copy line to line and then put one after other one with a space)

```
./configure --prefix="$HOME/ffmpeg_build" --extra-cflags="-
I$HOME/ffmpeg_build/include" --extra-ldflags="-L$HOME/ffmpeg_build/lib"
--bindir="$HOME/bin" --extra-libs=-ldl --enable-gpl --enable-nonfree --enable-libfdk_aac
--enable-libmp3lame --enable-libopus --enable-libvorbis --enable-libvpx --enable-libx264
--enable-libtheora
```

```
make
```

```
make install
```

```
make distclean
```

```
hash -r
```

```
. ~/.bash_profile
```

-----

Now we have the compiled files in: ~/bin

Should copy all them to /usr/local/bin to be enabled:

```
cd ~/bin
```

```
cp ffmpeg ffprobe ffserver lame vsyasm x264 yasm yasm /usr/local/bin
```

...and block in Synaptic: **ffmpeg**, **lame** and **yasm** ... *one by one*:

**Synaptic** → click on **ffmpeg** line → **Package** (up to left) --> **Lock Version**

...don't worry if look the packages are not installed.

***This is very important:*** When you update or upgrade the operative system, please do it from Synaptic, so will respect the locked versions, thing that will do not if update or upgrade from the shell.

The compilation it is finished.

11)

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

We'll install the 3.1.1 stable version.

Should make the OpenMeetings installation in **/opt/red5311**

Make a folder called **red5311** where download the Apache OpenMeetings file and where make the installation:.

```
mkdir /opt/red5311
```

```
cd /opt/red5311
```

This is the url official OpenMeetings download:

<http://openmeetings.apache.org/downloads.html>

We 'll download from:

```
wget http://apache.rediris.es/openmeetings/3.1.1/bin/apache-openmeetings-3.1.1.zip
```

```
unzip apache-openmeetings-3.1.1.zip
```

...and remove it:

```
rm apache-openmeetings-3.1.1.zip
```

```
y
```

12)

## ---- Connector Java MySQL ----

This file is need it to connect OpenMeetings with MySQL:

```
cd /opt/red5311/webapps/openmeetings/WEB-INF/lib
```

(one line only)

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.38/mysql-connector-java-5.1.38.jar
```

```
cd /opt
```

and do to **nobody** owner of OpenMeetings folder installation:

```
chown -R nobody /opt/red5311
```

13)

## ---- Configuring OpenMeetings for MySQL ----

Will introduce our data base name, user and password we made when MySQL configuration.

For MATE:

```
pluma /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

For KDE:

```
kwrite /opt/red5311/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/open311?....
```

...**open311** is the database name we gives when install MySQL and build it.

Modify also **lines 77** and **78** respectively:

```
, Username=root
, Password=" />
```

to

```
, Username=hola
, Password=123456" />
```

...**hola** is the user name we gives when install MySQL for **open311** database.

...**123456** is the password for **hola** user.

If you choose any other database name, user name or password, here is where to change.

`cd /opt`

Protect the access to this file: (only one line)

`chmod 640 /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml`

**14)**

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

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

For MATE: `pluma /etc/init.d/red5`

For KDE: `kwrite /etc/init.d/red5`

...copy and past the text from here:

```
#!/bin/bash
# For RedHat and cousins:
# chkconfig: 2345 85 85
# description: Red5 flash streaming server
# processname: red5
# Created By: Sohail Riaz (sohaileo@gmail.com)
```

```
PROG=red5
RED5_HOME=/opt/red5311
DAEMON=$RED5_HOME/$PROG.sh
PIDFILE=/var/run/$PROG.pid
```

```
# Source function library
. /etc/rc.d/init.d/functions

[ -r /etc/sysconfig/red5 ] && . /etc/sysconfig/red5

RETVAL=0

case "$1" in
    start)
        echo -n "Starting $PROG: "
        cd $RED5_HOME
        $DAEMON >/dev/null 2>/dev/null &
        RETVAL=$?
        if [ $RETVAL -eq 0 ]; then
            echo $! > $PIDFILE
            touch /var/lock/subsys/$PROG
        fi
        [ $RETVAL -eq 0 ] && success "$PROG startup" || failure "$PROG startup"
        echo
        ;;
    stop)
        echo -n "Shutting down $PROG: "
        killproc -p $PIDFILE
        RETVAL=$?
        echo
        [ $RETVAL -eq 0 ] && rm -f /var/lock/subsys/$PROG
        ;;
    restart)
        $0 stop
        $0 start
        ;;
    status)
        status $PROG -p $PIDFILE
        RETVAL=$?
        ;;
    *)
        echo "Usage: $0 {start|stop|restart|status}"
        RETVAL=1
esac

exit $RETVAL
```

**...to here.**

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

```
RED5_HOME=/opt/red5311
```

to

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

Give permission of execution to the script:

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

15)

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

Start MySQL if not:

```
service mysqld restart
```

...and start red5-OpenMeetings:

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

...wait some long seconds and later you can go with browser to:

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

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

**OpenMeetings**


1. **Enabling Image Upload and import to whiteboard**
  - 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**
  - 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 **SWFTTools** 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 **SWFTTools** 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**
  - **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**
  - 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!
  - Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

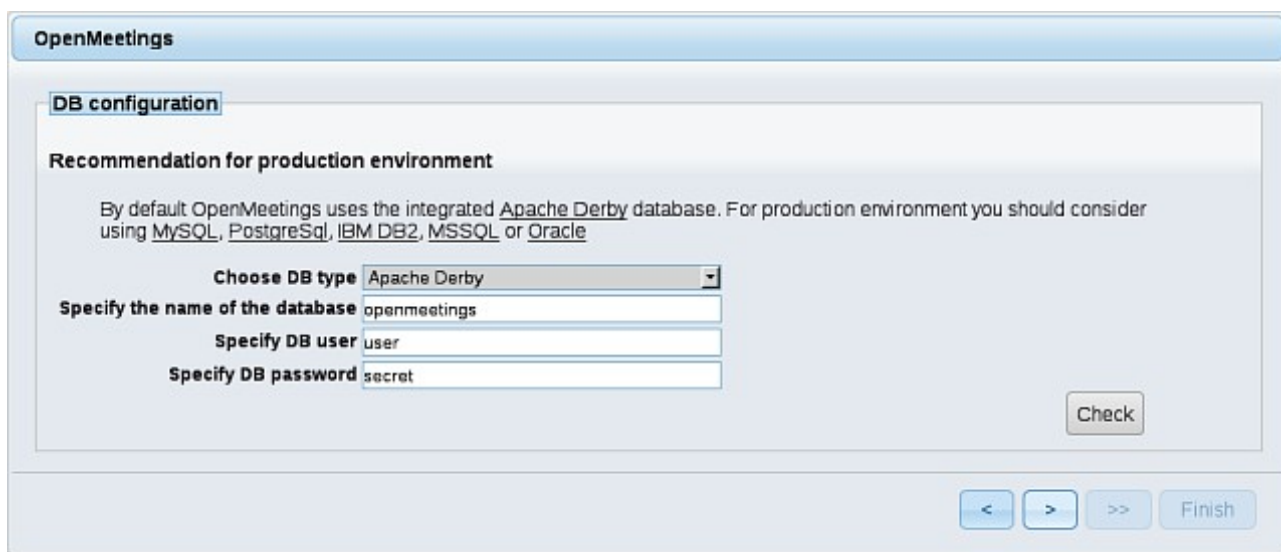
**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

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

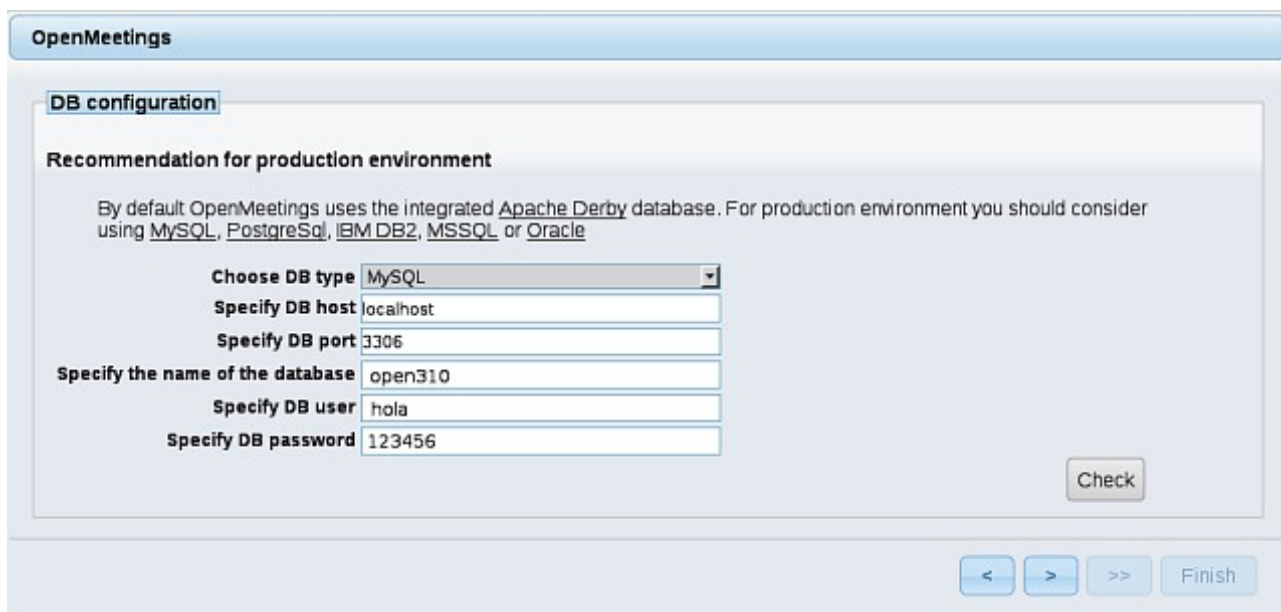


The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' tab selected. Under the heading 'Recommendation for production environment', a message states: 'By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle'. The configuration fields are as follows:

Field	Value
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 configuration area is a 'Check' button. At the very bottom of the window are navigation buttons: '<', '>', '>>', and 'Finish'.


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

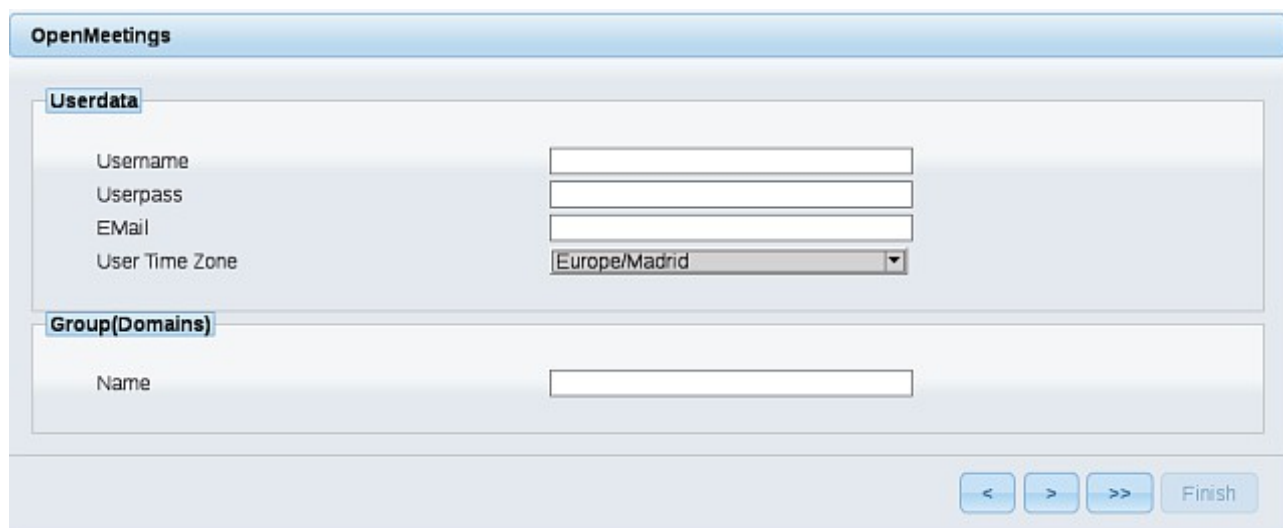


The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' tab selected. The 'Choose DB type' dropdown menu is now set to 'MySQL'. The configuration fields are as follows:

Field	Value
Choose DB type	MySQL
Specify DB host	localhost
Specify DB port	3306
Specify the name of the database	open310
Specify DB user	hola
Specify DB password	123456

At the bottom right of the configuration area is a 'Check' button. At the very bottom of the window are navigation buttons: '<', '>', '>>', and 'Finish'.

...will show the data base configuration we made in step 13, or with your own modifications. Please, push  button, and will go to:



The image shows a software window titled "OpenMeetings". It contains two main sections: "Userdata" and "Group(Domains)".

**Userdata section:**

- Username:
- Userpass:
- EMail:
- User Time Zone:

**Group(Domains) section:**

- Name:

At the bottom right, there are four buttons: "<", ">", ">>", and "Finish".

Now we must introduce the followings data:

**Username** = a-name ...This user name will have administrator rights.

**Userpass** = a-password ....for the previous user

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

**User Time Zone** = Select your geographyc situation

**Name** = example-openmeetings ...group name to choose

When the installation be finished, should configure the rest.

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

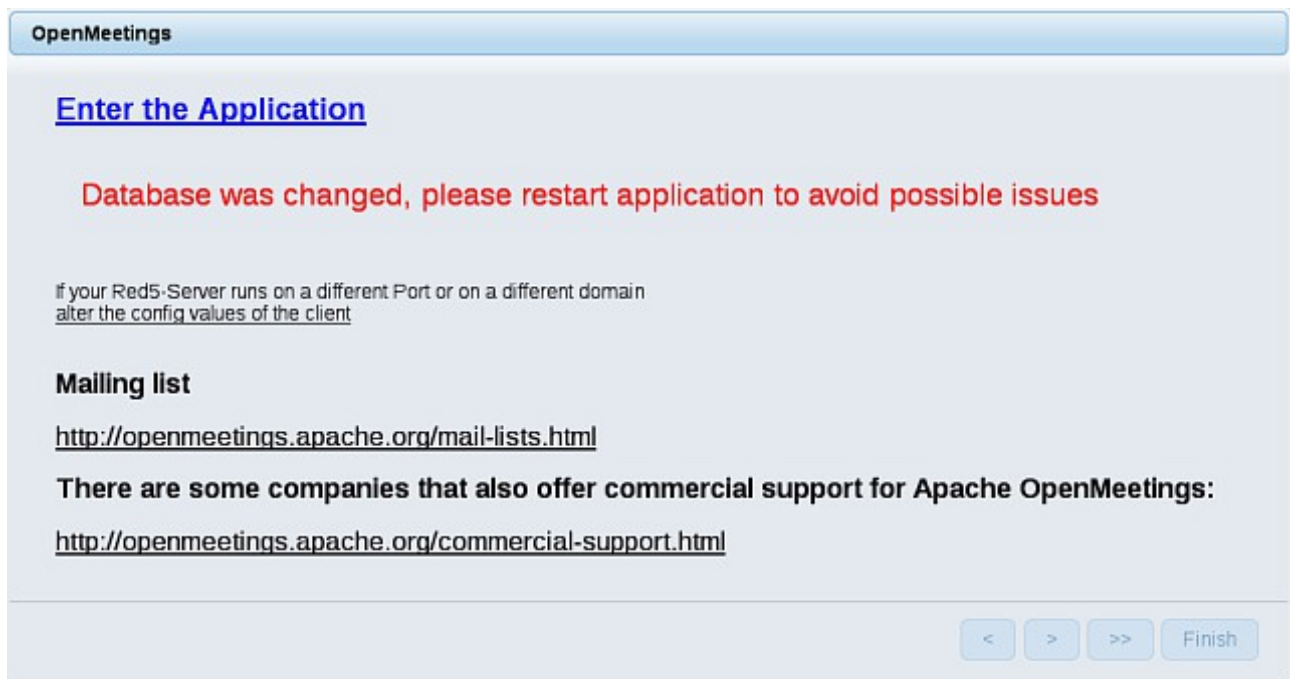


The image shows a software window titled "OpenMeetings". It contains a message: "Please click 'Finish' button to start installation!". Below the message is a large empty rectangular box. At the bottom right, there are four buttons: "<", ">", ">>", and "Finish".

Push **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 shell window, and run this command:

`/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:

The screenshot shows a "Login" form. It has a title bar "Login". Below it, 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 "Username or mail address" field is a link "Forgotten your password?". To the right of the "Remember login" checkbox is a link "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 and...

**...Congratulations!**

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

<http://localhost:5080/openmeetings>

Remember to open in the server the two following ports:

**5080    1935**

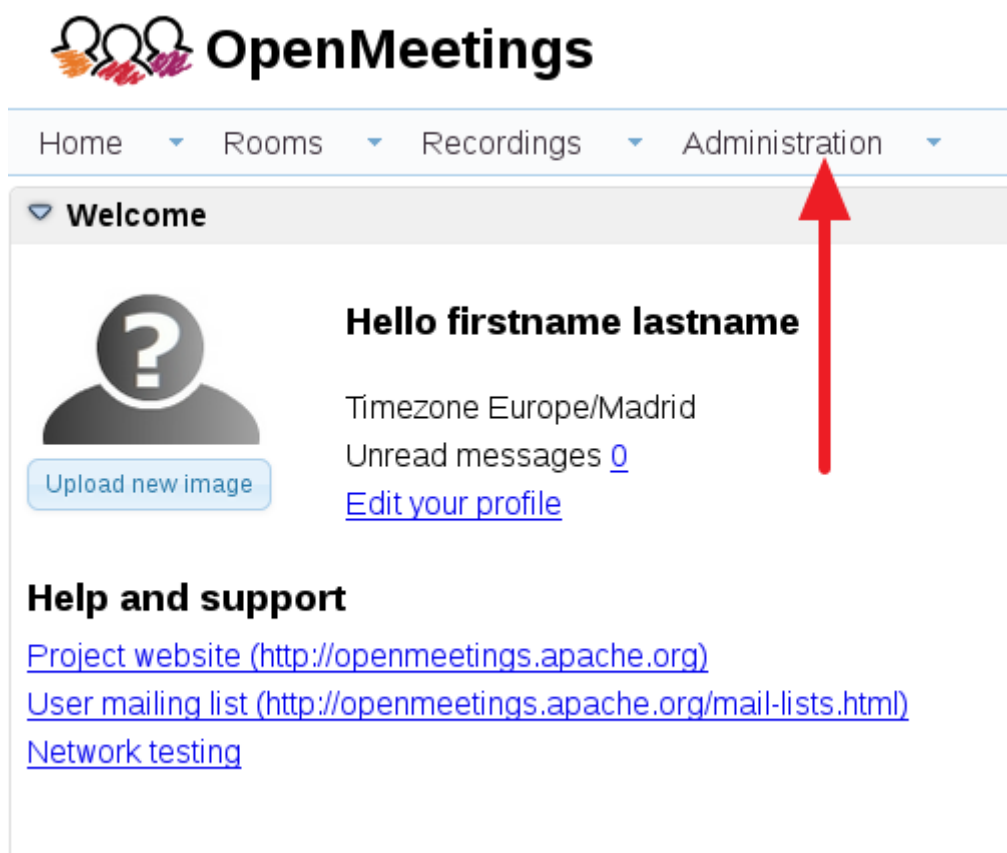
...in order that it could accede to OpenMeetings from other machines, in Lan or Internet.

16)

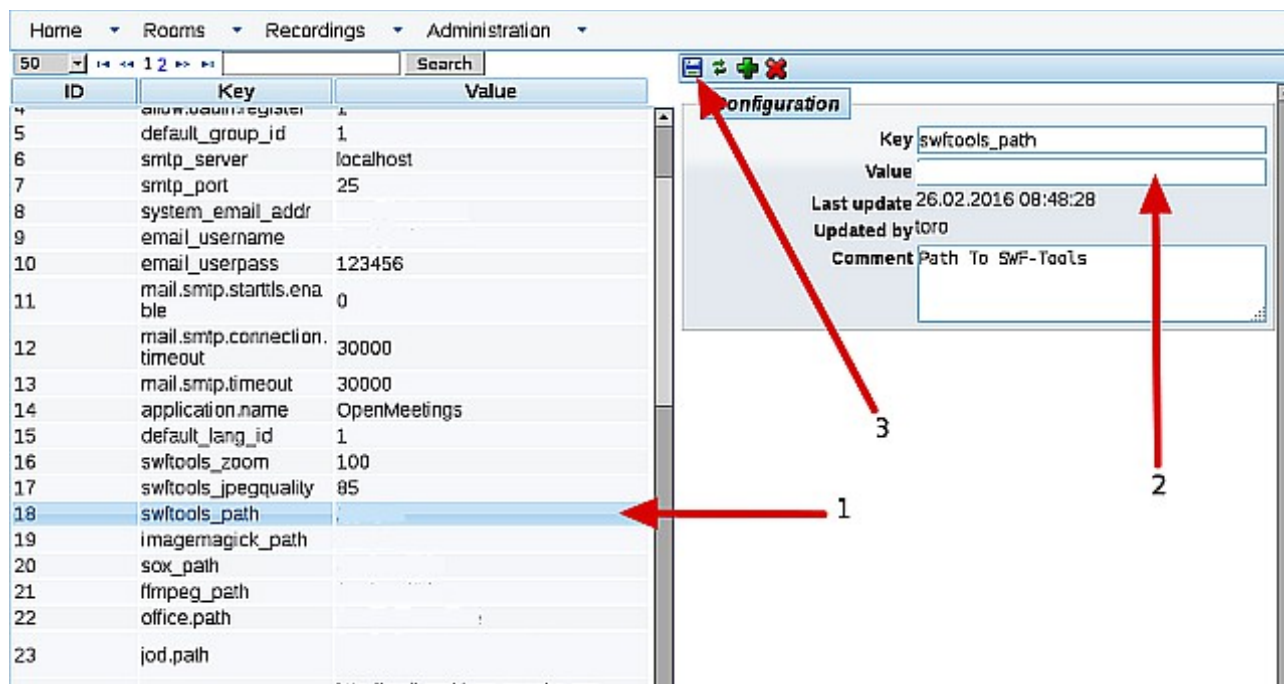
**---- Configuration of OpenMeetings ----**

Once have acceded to OpenMeetings we go to:

**Administration → Configuration**



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



Click on: **swftools\_path** ...and to up right in **Value** type: `/usr/bin`

Click on: **imagemagick\_path** ...and to up right in **Value** type: `/usr/bin`

Click on: **sox\_path** ...and to up right in **Value** type: `/usr/bin`

Click on: **ffmpeg\_path** ...and to up right in **Value** type: `/usr/local/bin`

Click on: **office.path** ...and to up right in **Value** type: `/opt/libreoffice5.0`

Click on: **jod.path** ...and to up right in **Value** type: `/opt/jodconverter-core-3.0-beta-4/lib`

Remember to save after each change (arrow number 3, up screenshot)

When you like stop red5-OpenMeetings: `/etc/init.d/red5 stop`

And this is all.

If you have some doubt or question, please raise it in Apache OpenMeetings forums:

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

Thank you.

Alvaro Bustos