



Installation of Apache OpenMeetings 3.1.1 on Centos 7

This tutorial is made based on fresh installations of

CentOS-7-x86_64-LiveGNOME-1503.iso

It is tested 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.

25-3-2016

Starting...

1)

At first place we must modify Selinux level security for the installation:

```
yum install -y gedit
```

```
sudo gedit /etc/selinux/config
```

...modify:

SELINUX=enforcing

...to

SELINUX=**permissive**

2)

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

Update operative system:

`yum update -y`

...and reboot for kernel changes and the new Selinux configuration take effect.:

`reboot`

3)

----- ADD Repos -----

`yum install -y wget`

EPEL & Remi:

`wget http://epel.mirror.nucleus.be/7/x86_64/e/epel-release-7-5.noarch.rpm`

`wget http://rpms.famillecollet.com/enterprise/remi-release-7.rpm`

`sudo rpm -Uvh remi-release-7*.rpm epel-release-7*.rpm`

Enable Remi:

`gedit /etc/yum.repos.d/remi.repo`

...and modify:

`enabled=0`

...to

`enabled=1`

ElRepo

`rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org`

`rpm -Uvh http://www.elrepo.org/elrepo-release-7.0-2.el7.elrepo.noarch.rpm`

Nux

(Only one line without space)

`rpm -Uvh http://li.nux.ro/download/nux/dextop/el7/x86_64/nux-dextop-release-0-5.el7.nux.noarch.rpm`

RpmForge

`rpm -Uvh http://pkgs.repoforge.org/rpmforge-release/rpmforge-release-0.5.3-1.el7.rf.x86_64.rpm`

Adobe repo 64-bit x86_64 ## For Flash player.

`rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-x86_64-1.0-1.noarch.rpm`

`rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux`

`yum update -y`

4)

----- Installation of Java -----

Java is necessary to work OpenMeetings. Should install Open Java and the plugin icedtea-web:

`sudo yum install java-1.8.0-openjdk icedtea-web`

5)

----- Installation of LibreOffice -----

OpenMeetings will need LibreOffice to convert to pdf the uploaded office files. Install it.

Maybe it is installed but for iso server:

`yum -y install libreoffice`

6)

----- Installation of necessary packages and libraries -----

Should install packages and libraries we'll need later:

(In only one line with a space)

`yum install -y libjpeg libjpeg-devel ghostscript freetype freetype-devel unzip gcc gcc-c++ ncurses ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-devel bzip2 bzip2-devel file-roller git autoconf automake pkgconfig tomcat-native nmap`

7)

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

ImageMagick will work with images files. Should install it and some more libraries:

```
yum install -y ImageMagick giflib giflib-devel giflib-utils
```

Sox work the sound. Will compile it:

```
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_work converting to swf (flash file) the uploaded files. Don't use a newer version swftools file, don't have pdf2swf.

```
cd /opt
```

```
wget http://www.swftools.org/swftools-2013-04-09-1007.tar.gz
```

```
tar xzvf swftools-2013-04-09-1007.tar.gz
```

```
cd /opt/swftools-2013-04-09-1007
```

```
./configure --libdir=/usr/lib --bindir=/usr/bin
```

```
make
```

```
make install
```

```
cd /opt
```

8)

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

OpenMeetings even need Adobe Flash Player for rooms.

```
yum install -y flash-plugin
```

9)

---- Installation of Jodconverter ----

Jodconverter work to convert 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)

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

FFmpeg will work with video. Will install a libraries and vlc to play the recordings.

```
yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-  
devel lame-devel vorbis-tools theora-tools libvpx-devel vlc autoconf automake cmake freetype-  
devel gcc gcc-c++ git libtool make mercurial nasm pkgconfig zlib-devel cmake mercurial nasm
```

This ffmpeg compilation is based on this url, but updated files versions 22-3-2016:

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

As it is, the compilation in this url gives an error when compiling x264 (second step).

After resolve that error and finish the compilation, gives an error about ogg when recording on OpenMeetings.

Then i supress one step in the url and add some ones more. And now works properly without error, and audio-video is synchronized. Ogg right.

Also i made a script to download, compile and install ffmpeg on Centos 7. It is tested and is ok. During the x265 compilation, will look like stop for a minutes in a text that say: **41%**, but not always. Don't worry, everything is going right. Be patience.

When is finished will appear a text: FFMPEG Compilation and Installation Finished!

Please download the script and read inside the zip for running it. To download:

https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Centos.zip?version=5&modificationDate=1458905206882&api=v2

After the compilation is finished you can go to **step 11)**

But if you prefer copy and paste, i **don't advise**, leave the text script:

```
sudo gedit /opt/ffmpeg-centos.sh
```

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

```

# Script ffmpeg Centos Fedora
# Alvaro Bustos. Thanks to Hunter
# Updated 18-3-2016
# Install libraries
yum install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel

# Install yasm from repos
yum 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
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-*/
LDFLAGS="-L$HOME/ffmpeg_build/lib" CPPFLAGS="-I$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 and Installation Finished!"

```

...to here.

Concede permission of execution:

```
chmod +x /opt/ffpmeg-centos.sh
```

```
cd /opt
```

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

```
./ffmpeg-centos.sh
```

Remember the warning about 8 minutes in a false stop...

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

11)

----- Installation MariaDB database server -----

MariaDB is the database server.

We install it:

```
yum install -y mariadb mariadb-server
```

...and run mariadb:

```
systemctl start mariadb.service
```

Give a password to mariadb root :

```
mysqladmin -u root password new-password
```

Make a database for OpenMeetings:

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

...will ask for the root password we does just now:

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

...now do a new user with a password:

```
CREATE USER 'hola'@'localhost' IDENTIFIED BY '123456';
```

...and give privileges to this user on the open311 database:

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

```
FLUSH PRIVILEGES;
```

```
quit
```

```
open311 ..... name of the database
hola      ..... user for that database
123456    ..... password of that user
```

To start, restart or stop mariadb:

```
systemctl start mariadb.service
```

```
systemctl restart mariadb.service
```

```
systemctl stop mariadb.service
```


12)

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

We'll install OpenMeetings in /opt/red5311. All the following information will be based on this directory.

Call to our folder of installation red5311

Make the folder:

```
mkdir /opt/red5311
```

```
cd /opt/red5311
```

...and download the OpenMeetings file:

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

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

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.1.zip /opt
```

Unload and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

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

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.38.jar /opt/red5311/webapps/openmeetings/WEB-INF/lib
```

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

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

Modify on **line 72**

```
, Url=jdbc:mysql://localhost:3306/openmeetings
```

...to

```
, Url=jdbc:mysql://localhost:3306/open311
```

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

Modify on **line 77**

```
, Username=root
```

...to

```
, Username=hola
```

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

Modify on **line 78**

```
, 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.

We protect the access to the file: (only one line)

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

13)

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

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

```
cd /opt
```

```
sudo gedit /etc/init.d/red5
```

...copy and past the text **from here**:

```

#
#!/bin/sh -e
#
# Startup script for Red5

export RED5_HOME=/opt/red5311

start_red5="$RED5_HOME/red5.sh start"
stop_red5="$RED5_HOME/red5-shutdown.sh stop"

start() {
    echo -n "Starting Red5: "
    ${start_red5} &
    echo "done."
}
stop() {

echo -n "Shutting down Red5: "
    ${stop_red5}
    echo "done."
}

case "$1" in
    start)
        start
        ;;
    stop)
        stop
        ;;
    restart)
        stop
        sleep 10
        start
        ;;
    *)
        echo "Usage: $0 {start|stop|restart}"
esac

exit 0

```

...to here.

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

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

...to

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

Concede permission of execution to the script:

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

14)

----- Lanzar red5-OpenMeetings -----

Restart mariadb:

```
systemctl restart mariadb.service
```

...and start red5-OpenMeetings, maybe in other window shell:

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

...wait 40 seconds about, in order that red5 it is running completely, and later can 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**
 - 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 **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**
 - **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.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!
 - Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

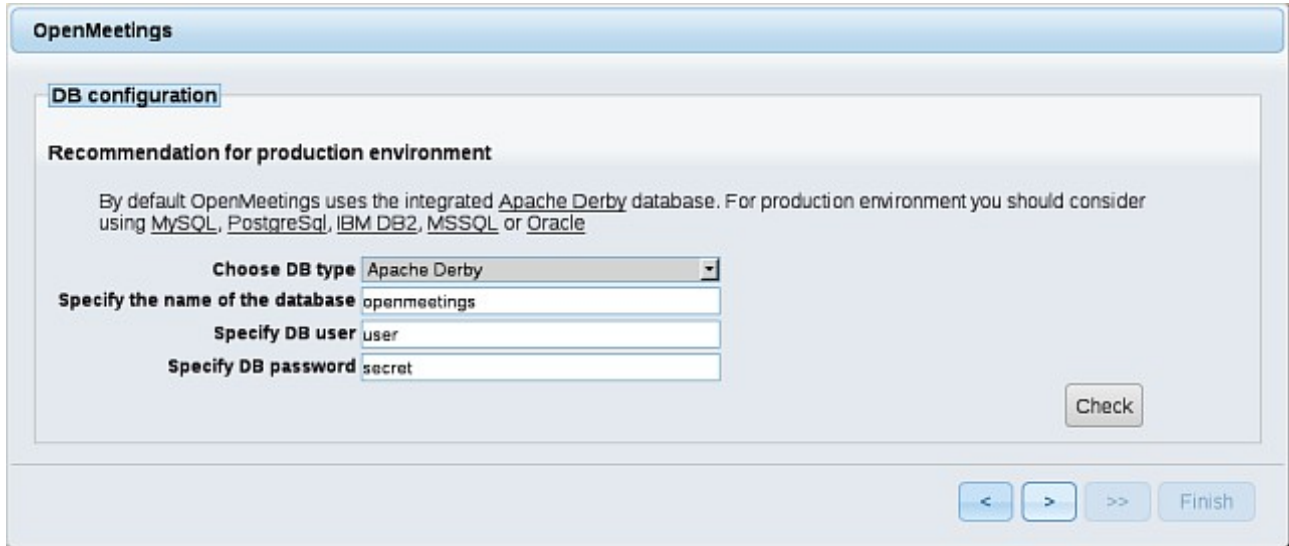
If you have further questions or need support in installation or hosting:

Community-Support:

[Mailing lists](#)

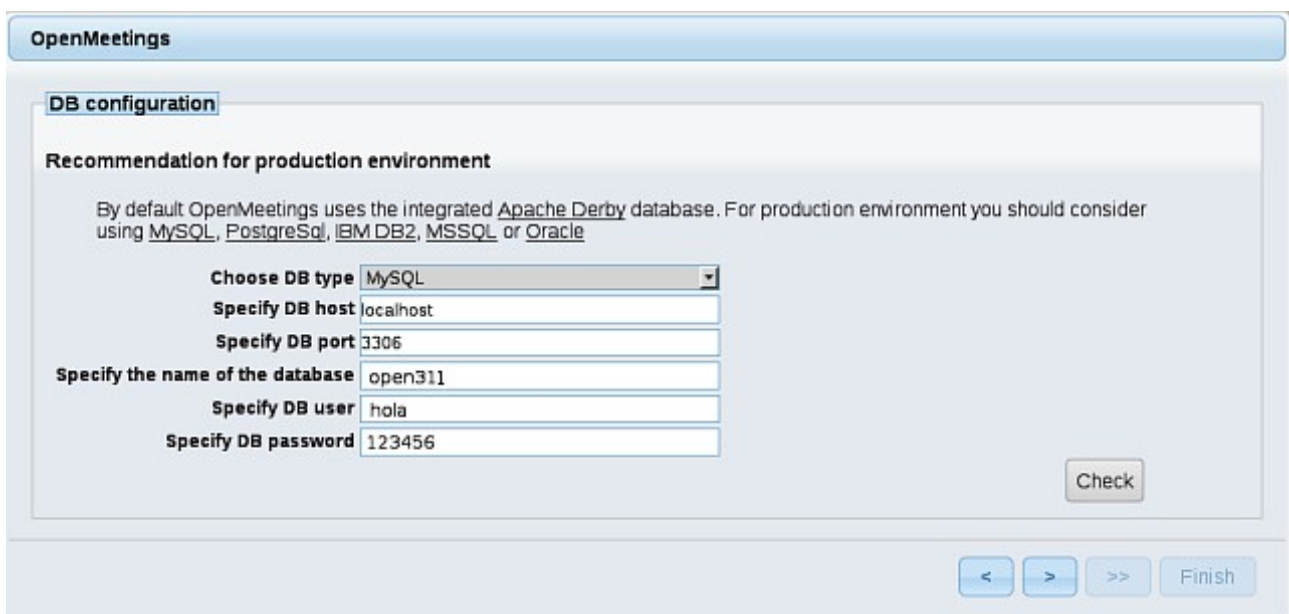
Commercial-Support:

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




The screenshot shows the 'OpenMeetings' window with the 'DB configuration' tab selected. It contains a 'Recommendation for production environment' section with text about using MySQL, PostgreSQL, IBM DB2, MSSQL, or Oracle instead of the default Apache Derby. Below this, there are four input fields: 'Choose DB type' (a dropdown menu set to 'Apache Derby'), 'Specify the name of the database' (text box with 'openmeetings'), 'Specify DB user' (text box with 'user'), and 'Specify DB password' (text box with 'secret'). A 'Check' button is located to the right of these fields. At the bottom right, there are four navigation buttons: '<', '>', '>>', and 'Finish'.

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



The screenshot shows the 'OpenMeetings' window with the 'DB configuration' tab selected. The 'Choose DB type' dropdown menu is now set to 'MySQL'. The other input fields have been updated: 'Specify DB host' (text box with 'localhost'), 'Specify DB port' (text box with '3306'), 'Specify the name of the database' (text box with 'open311'), 'Specify DB user' (text box with 'hola'), and 'Specify DB password' (text box with '123456'). The 'Check' button remains to the right. The navigation buttons at the bottom right are the same as in the previous screenshot.

...will show the data base configuration we made in step 12, or with your own modifications. Please, push  button and will go to:

The image shows the 'OpenMeetings' installation window. It has a title bar 'OpenMeetings' and two main sections: 'Userdata' and 'Group(Domains)'. The 'Userdata' section contains four input fields: 'Username', 'Userpass', 'EMail', and 'User Time Zone'. The 'User Time Zone' field is a dropdown menu currently showing 'Europe/Madrid'. The 'Group(Domains)' section contains a single input field labeled 'Name'. At the bottom right, there are four buttons: '<', '>', '>>', and 'Finish'.

Now we must introduce the followings data:

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, shouldd configure the rest.

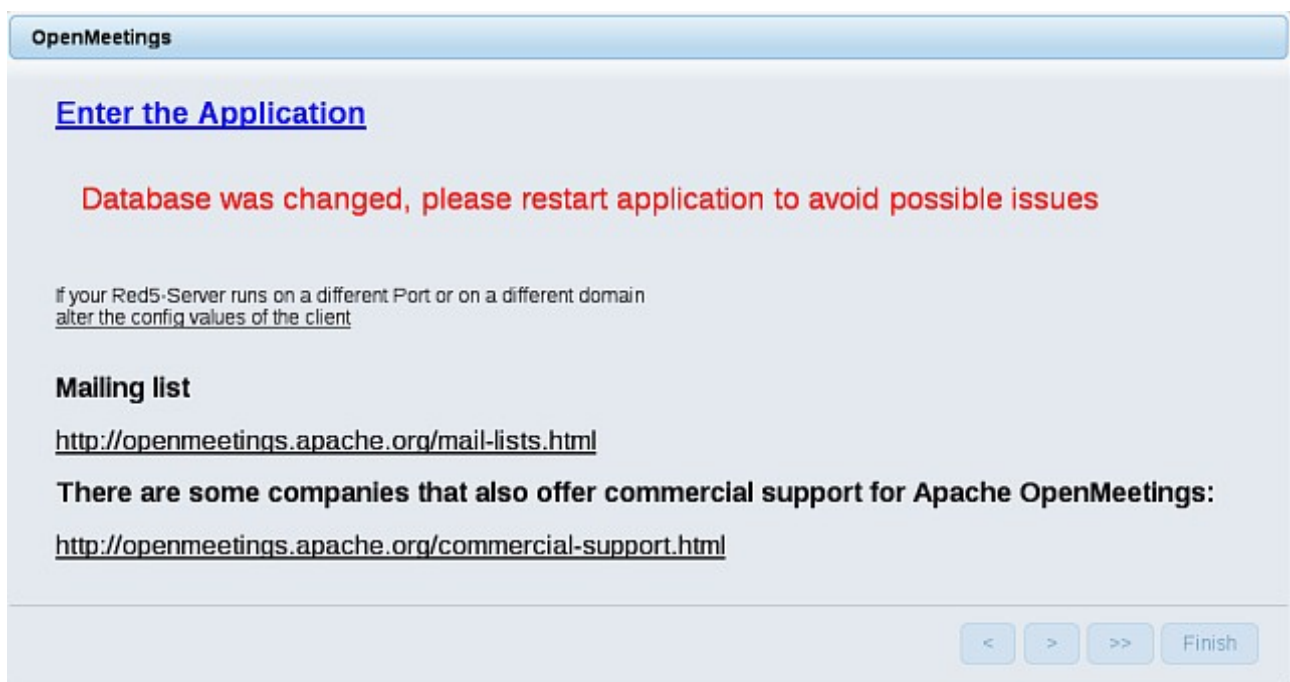
Now go to bottom page and touch the button  (double arrow). Will show this window:

The image shows the 'OpenMeetings' installation window after clicking the double arrow button. It has a title bar 'OpenMeetings' and a message: 'Please click "Finish" button to start installation!'. Below the message is a progress bar. At the bottom right, there are four buttons: '<', '>', '>>', and 'Finish'.

Clic **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:

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

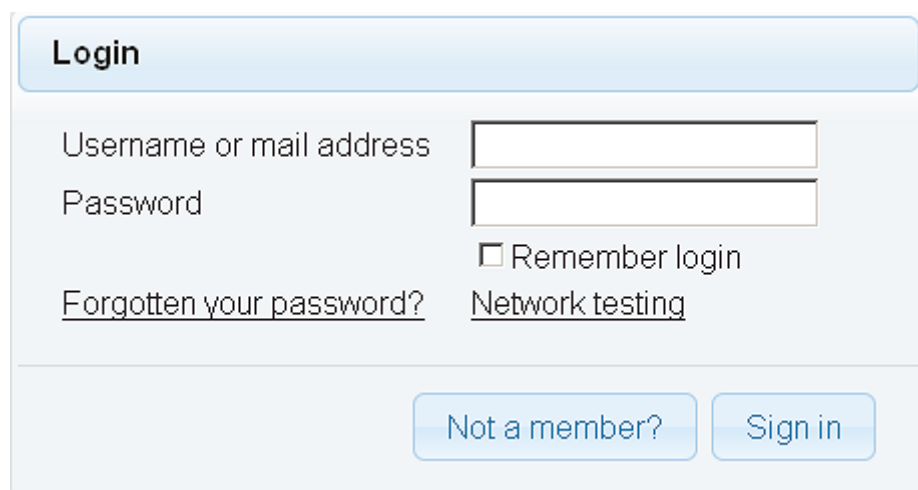


The image shows a window titled "OpenMeetings" with a light blue header. Below the header, the text "Enter the Application" is displayed in blue. A red message states: "Database was changed, please restart application to avoid possible issues". Below this, a note says: "If your Red5-Server runs on a different Port or on a different domain alter the config values of the client". A section titled "Mailing list" includes the URL <http://openmeetings.apache.org/mail-lists.html>. Another section states: "There are some companies that also offer commercial support for Apache OpenMeetings:" followed by the URL <http://openmeetings.apache.org/commercial-support.html>. At the bottom right, there are four buttons: "<", ">", ">>", and "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:



The image shows a "Login" form with a light blue header. It contains two input fields: "Username or mail address" and "Password". Below the "Password" field is a checkbox labeled "Remember login". There are two links: "Forgotten your password?" and "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 choosen during the installation, push **Sign in** and...

...Congratulations!

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

<http://localhost:5080/openmeetings>

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

5080 1935

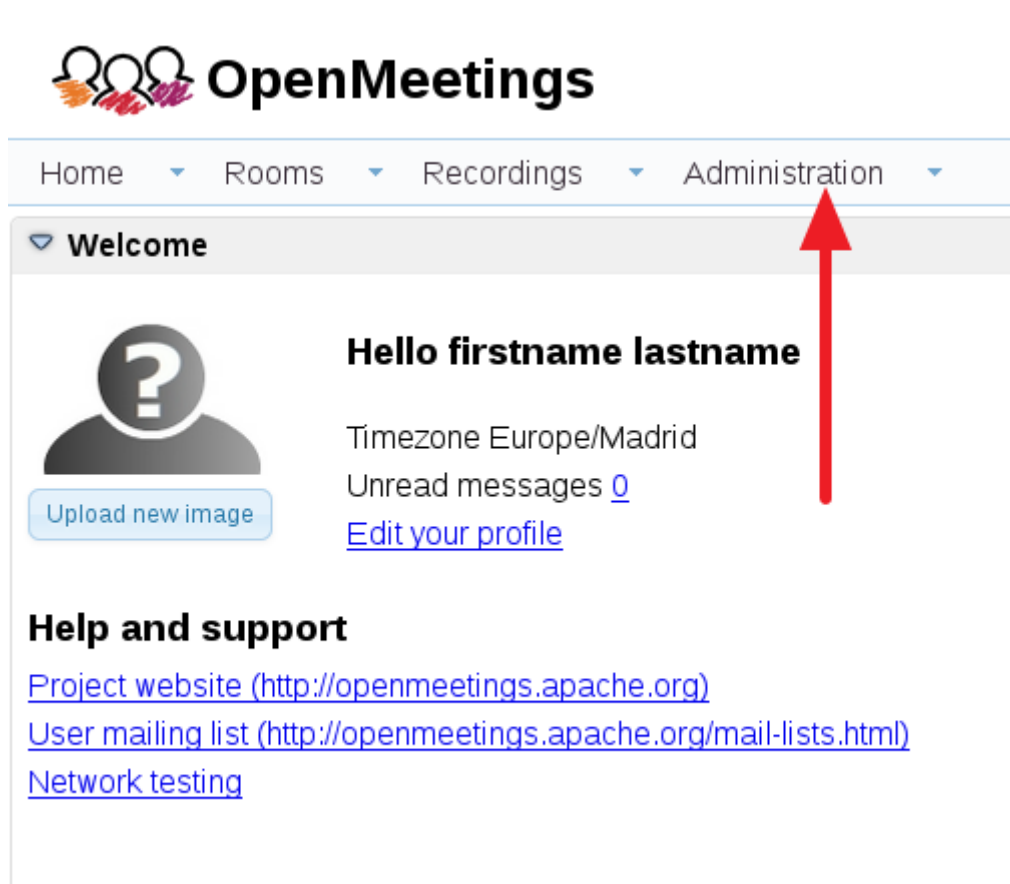
...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

15)

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

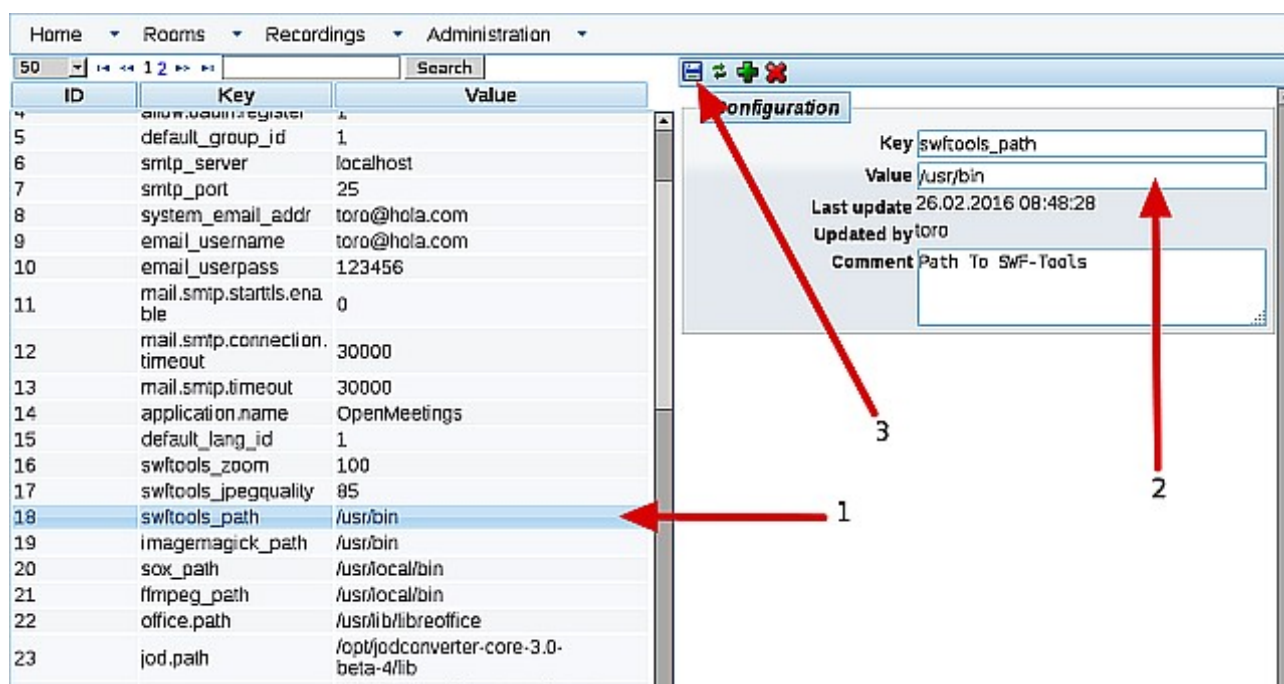
Once you acced to OpenMeetings, go to:

Administration → Configuration



...introd

uce the parameters for the conversion of files, the audio and the video:



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 and folders 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-5.1.38.jar
```

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

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

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