



Installation of Apache OpenMeetings 3.1.4 on Centos 6.8

This tutorial is made based on fresh installations of

CentOS-6.8-x86_64-LiveCD.iso

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.1.4 stable, that is to say will suppress his compilation. It is done step by step.

12-1-2017

Starting...

1)

```
yum install -y gedit wget
```

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

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

...modify:

```
SELINUX=enforcing
```

...to

SELINUX=**permissive**

2)

----- Update the System -----

Update operative system:

[yum update -y](#)

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

[reboot](#)

3)

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

Add the **Epel** repository

For Centos 6.x 32 bit

[cd /opt](#)

[wget http://dl.fedoraproject.org/pub/epel/6/i386/epel-release-6-8.noarch.rpm](#)

[rpm -Uvh epel-release-6-8.noarch.rpm](#)

For CentOS 6.x 64 bit:

[cd /opt](#)

[wget http://dl.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-8.noarch.rpm](#)

[rpm -Uvh epel-release-6-8.noarch.rpm](#)

Añadimos el repositorio **linuxtech** (32 y 64 bits)

...para la instalación de vlc, reproductor de video para las futuras grabaciones que hagamos en OpenMeetings.:

[cd /opt](#)

[wget http://pkgrepo.linuxtech.net/el6/release/linuxtech.repo](#)

```
cp linuxtech.repo /etc/yum.repos.d
```

```
### Adobe repo 32 bit ## For Flash Player.
```

```
rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-i386-1.0-1.noarch.rpm
```

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

```
### Adobe repo 64-bit ### 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
```

4)

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

Java **1.8** it is necessary to work OpenMeetings **3.1.4**. The 1.7 java version is for previous OM. We install Oracle Java. Open Java gives an error in some OpenMeetings function. I has tested.

For **Centos 6.x 32 bit**:

```
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/8u111-b14/jdk-8u111-linux-i586.rpm"
```

...and install it:

```
rpm -ivh jdk-8u111-linux-i586.rpm
```

For **Centos 6.x 64 bit**:

```
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/8u111-b14/jdk-8u111-linux-x64.rpm"
```

...and install it:

```
rpm -ivh jdk-8u111-linux-x64.rpm
```

Now, for Centos 6.x **32** and **64** bit.

Maybe you have installed various 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
```

5)

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

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

We install it:

```
yum -y install libreoffice libreoffice-headless
```

6)

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

We install packages and libraries that we'll need later:

(Only one line with space between 1^a and 2^a)

```
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, work the images files jpg, png, gif, etc. We install it and some libraries:

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

Sox, work the sound. Will compile and install 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. LibreOffice convert to pdf the uploaded office files, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. Don't use a newer version, surely have not 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)

----- **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 cmake mercurial nasm curl git
```

This ffmpeg compilation is based on this url, and the file versions are updated 12-1-2017:

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

Download the script i made, to compile and install ffmpeg on Centos 6.8. It is tested and is ok.
During the x265 compilation, will look like stop for a minutes in a text that say: **41%**,
Don't worry, everything is goeing right. Be patience.
The result of any recording we do in OpenMeetings, will be in mp4 format.

Will spend about 30 minutes the complete compilation.
When is finished, a text will announce it:

FFMPEG Compilation isFinished!

So, we download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-centos2.sh
```

...concede execution perrmission to it:

```
chmod +x ffmpeg-centos2.sh
```

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

```
./ffmpeg-centos2.sh
```

When be finished, please, go to **step 10**).

But if you prefer copy and paste, i **advise not to do it**, i leave the commands script:

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

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

```
# Script ffmpeg compile for Centos 6.x and Centos 7.x
# Alvaro Bustos. Thanks to Hunter
# Updated 12-1-2017
# 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.
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
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.3.tar.gz
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$HOME/ffmeg_build/lib" CPPFLAGS="-I$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 is Finished!"
```

...to here.

Concede permission of execution:

```
chmod +x /opt/ffpmeg-centos2.sh
```



```
cd /opt
```

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

```
./ffmpeg-centos2.sh
```

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

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

10)

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

We build a file-repository to download MariaDB data server.

For Centos 6.x 32 bit:

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```

...copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-x86
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

For Centos 6.x 64 bit:

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```

...copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

We install it:

```
yum -y install MariaDB-server MariaDB-client
```

...do a backup of the configuration file; and make a new one:

```
mv /etc/my.cnf /etc/my.bak
```

```
cp /usr/share/mysql/my-medium.cnf /etc/my.cnf
```

...and run MariaDB server:

```
service mysql start
```

Give a password to mariadb root . Please, replace **new-password** by your own wish.

```
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:

```
MariaDB [(none)]> CREATE DATABASE open314 DEFAULT CHARACTER SET 'utf8';
```

With this command, we has created a database called open314, though you can choose another name to your wish.

Now we create a user with all the permission on this open314 database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open314.* TO 'hola'@'localhost'
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

```
* open314 ..... name of the database
* hola ..... user for that database
* 123456 ..... password of that user
```

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

Leave MariaDB:

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

11)

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

We'll install OpenMeetings in /opt/red5314. All the following information will be based on this directory.

Call to our folder of installation red5314.

Make the folder:

```
mkdir /opt/red5314
```

```
cd /opt/red5314
```

...and download the OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/3.1.4/bin/apache-openmeetings-3.1.4.zip
```

```
unzip apache-openmeetings-3.1.4.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.1.4.zip /opt
```

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/5.1.39/mysql-connector-java-5.1.39.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.39.jar /opt/red5314/webapps/openmeetings/WEB-INF/lib
```

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

```
gedit /opt/red5314/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

Modify on line 71:

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

...to

```
, Url=jdbc:mysql://localhost:3306/open314?
```

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

Modify on line 76:

```
, Username=root
```

...to

, Username=**hola**

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

Modify on 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 chose another name and password for the database, you will to change them here.

We protect the access to the file:

(Only one line without space between both)

`chmod 640 /opt/red5314/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml`

12)

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

We'll download the script to run Red5-OpenMeetings:

`cd /opt`

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

...copy it to where must be:

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

...concede execution permission:

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

If you made the installation in any other different path to /opt/red5314, please edit the script and modify the line:

`RED5_HOME=/opt/red5314`

...to

RED5_HOME=/your-path-installation

13)

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

Restart mariadb:

`service mysql restart`

...and run red5-OpenMeetings. Please, be connected to Internet, so the run will be quick:

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

...wait untill the text “**clearSessionTable: 0**”, it is the last in the shell. Then, go with the browser 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/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

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


Community-Support:

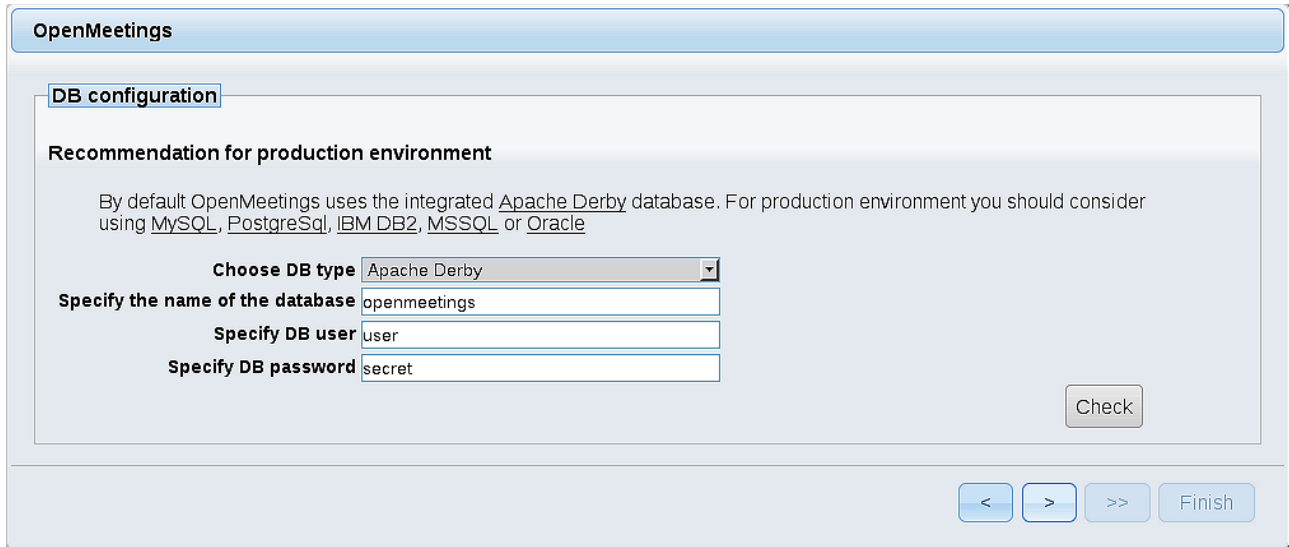
[Mailing lists](#)

Commercial-Support:

[Commercial-Support](#)

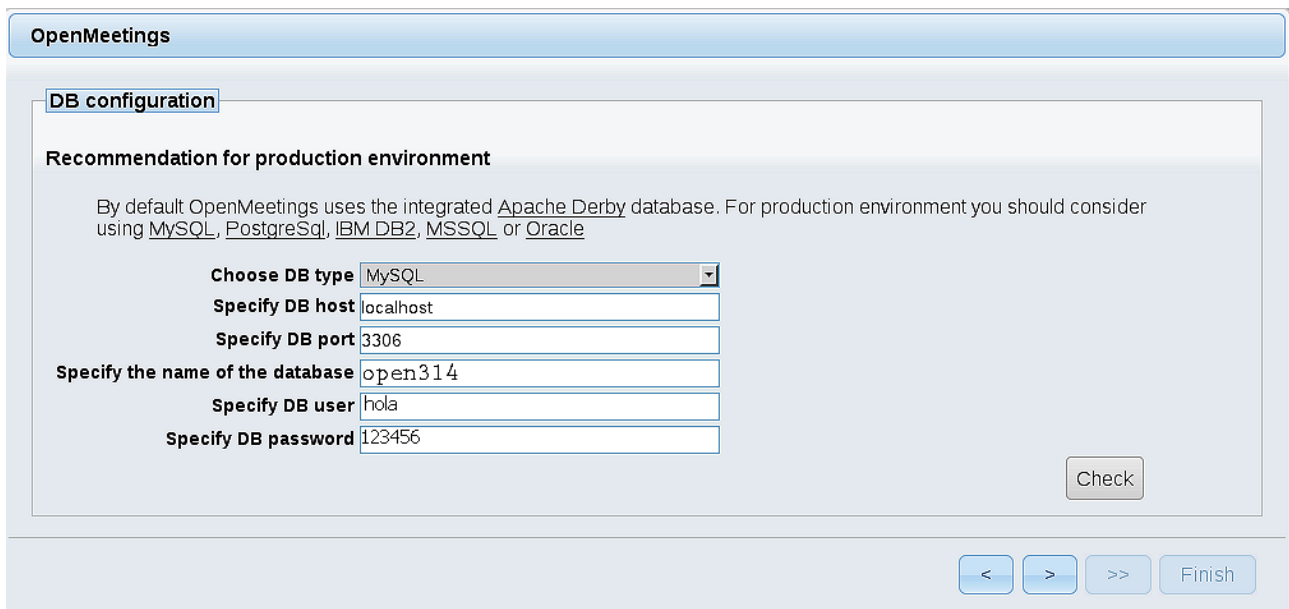
< > >> Finish

...press on  button (bottom), and will show the default database configuration with Derby, but we employ MySQL (MariaDB):




The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' tab selected. Under the heading 'Recommendation for production environment', there is a text block stating: 'By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle'. 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 of the window, there 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. Under the heading 'Recommendation for production environment', there is a text block stating: 'By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle'. Below this, there are five input fields: 'Choose DB type' (a dropdown menu set to 'MySQL'), 'Specify DB host' (text box with 'localhost'), 'Specify DB port' (text box with '3306'), 'Specify the name of the database' (text box with 'open314'), and 'Specify DB user' (text box with 'hola'). The 'Specify DB password' field is present but empty. A 'Check' button is located to the right of these fields. At the bottom of the window, there are navigation buttons: '<', '>', '>>', and 'Finish'.

...will show the database configuration we made in step 11, or with your own modifications.

Please, press  button, and we'll go to:

Now we must introduce the followings data, in order can continue the installation:


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.

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.

A valid example to configure the mail server with Gmail, is as follows:
(replace **john@gmail.com** with your real Gmail account)

Mail-Refer (system_email_addr) == john@gmail.com

SMTP-Server (smtp_server) == smtp.gmail.com

**SMTP-Server Port (default SmtP-Server Port is 25)
(smtp_port)** == 587

SMTP-Username (email_username) == john@gmail.com

SMTP-Userpass (email_userpass) == password of john@gmail.com

Enable TLS in Mail Server Auth == Yes

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

Default Language = **english**

...the rest we can leave as is. If necessary, can modify it as you like it:

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

Now press the button  and a new page will appear:

OpenMeetings

Converters

SWFTools Zoom ⓘ	100	
SWFTools JPEG Quality ⓘ	85	
SWFTools Path ⓘ		Check
ImageMagick Path ⓘ		Check
FFMPEG Path ⓘ		Check
SoX Path ⓘ		Check
OpenOffice/LibreOffice Path for jodconverter ⓘ		Check


see also [Installation](#)

< > >> Finish

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

SWFTools Path	==	/usr/bin	
ImageMagick Path	==	/usr/bin	
FFMPEG Path	==	/usr/local/bin	
SOX Path	==	/usr/local/bin	
OpenOffice/LibreOffice Path for jodconverter	==	/usr/lib/libreoffice	(32bits)
	==	/usr/lib64/libreoffice	(64bits)

As you go introducing pathes, 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

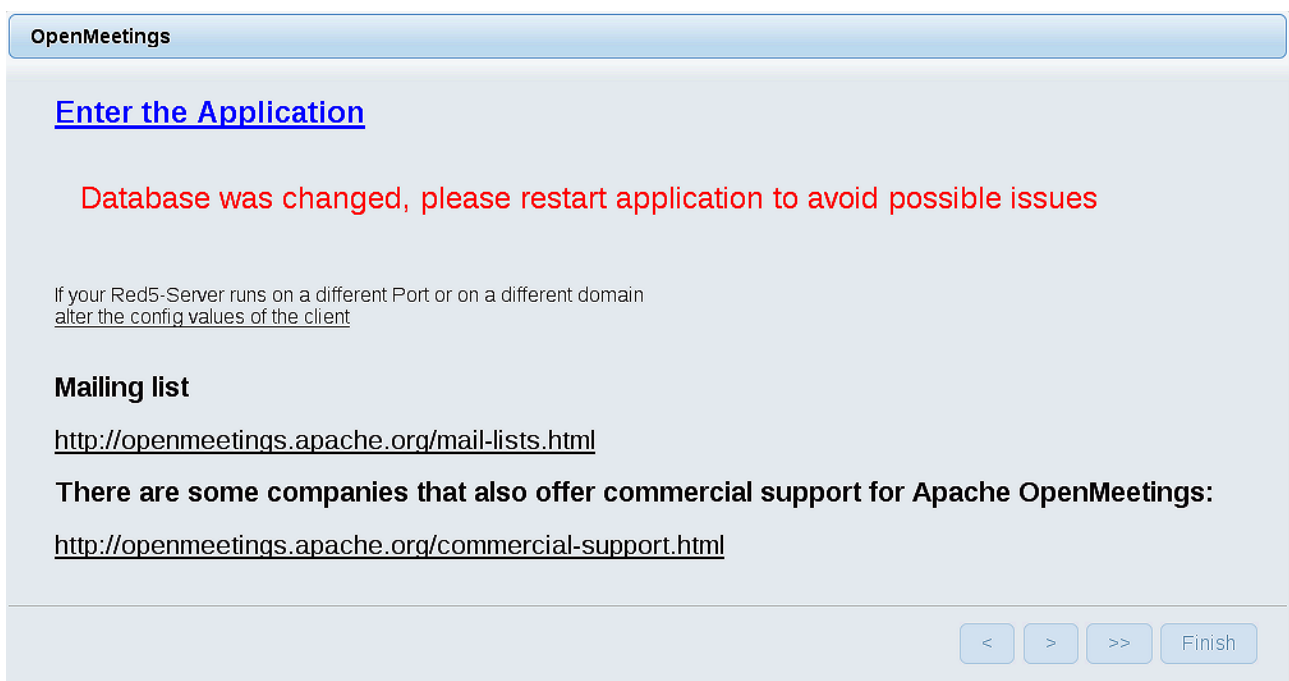
Now push the button  Will show this window:



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, be connected to Internet:

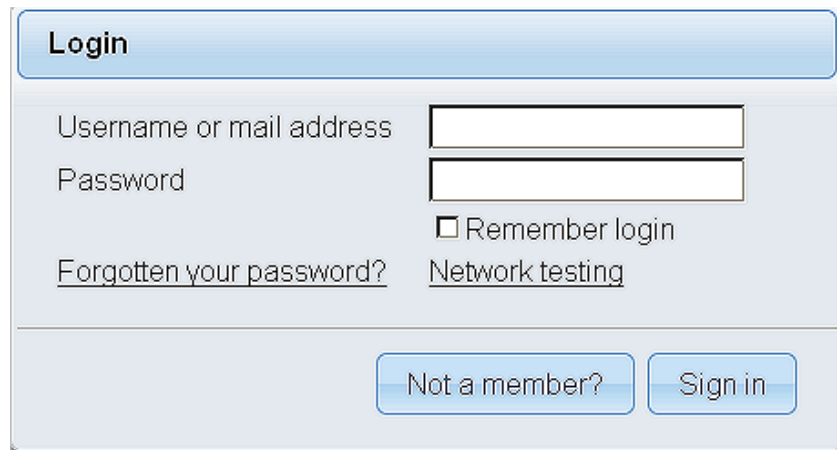
[/etc/init.d/red5-3 restart](#)



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:



Login

Username or mail address

Password

Remember login

[Forgotten your password?](#) [Network testing](#)

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, will be through:

<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.

14)


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

Once you acced to OpenMeetings, if you would like to do any modification in the configuration, please go to:

Administration → Configuration

Home ▾ Rooms ▾ Recordings ▾ Administration ▾


Welcome



Hello firstname lastname

Timezone Europe/Madrid
Unread messages 0
[Edit your profile](#)

Help and support



...and following the order of the red arrows:

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

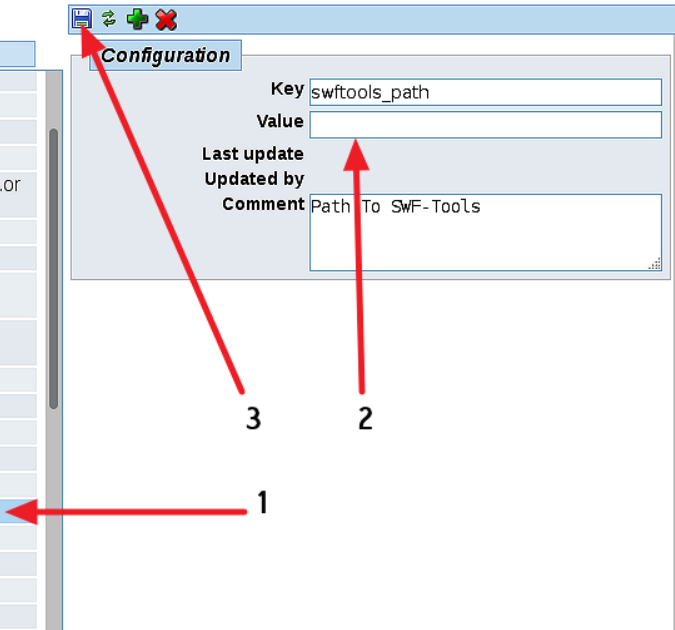
Key: swftools_path

Value:

Last update:

Updated by:

Comment: Path To SWF-Tools



We'll remove files and folders that already do not serve us, if you don't prefer to save them:

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

