



## Installation of Apache OpenMeetings 3.1.3

on

**Fedora 24 final – 64bit**

This tutorial it is based on a fresh installation of

**Fedora-MATE\_Compiz-Live-x86\_64-24-1.2.iso**

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

28-9-2016

Starting...

**1)**

At first place, modify Selinux level security, for the installation, and install nano editor:

```
dnf install nano
```

```
sudo nano /etc/selinux/config
```

...modify:

```
SELINUX=enforcing
```

...to

```
SELINUX=permissive
```

Press **Ctrl+x** and will ask to save, press **Y**, and **Enter**.

When finish the installation you can leave the level.

2)

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

Update operative system:

```
dnf update -y
```

...and reboot, for kernel changes if it is and the new **Selinux** configuration:

```
reboot
```

3)

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

```
## RPM Fusion repo ##
```

(Only one line without space between them)

```
su -c 'dnf install --nogpgcheck http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-24.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-24.noarch.rpm'
```

```
### 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
```

Update again:

```
dnf update -y
```

4)

## ----- Installation of packages and libraries -----

We install packages and libraries necessary:

(Only one line with a space between them)

```
dnf install -y libjpeg-turbo libjpeg-turbo-devel libjpeg-turbo-utils giflib-devel freetype-devel gcc-
c++ zlib-devel libtool bison bison-devel file-roller ghostscript freetype unzip gcc ncurses make
bzip2 wget ghostscript ncurses zlib git make automake nasm pavucontrol alsa-plugins-pulseaudio
nmap tomcat-native
```

5)

## ----- Installation of Java 1.8 -----

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

```
cd /opt
```

Download the file:

(All in one line only. 1<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
```

Maybe you have installed differents 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
```

6)

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

LibreOffice it is installed already in the distro, but if you use a server iso then install it:

```
dnf -y install libreoffice
```

Is need it to convert uploaded office files to pdf.

7)

----- **Installation of ImageMagick, Sox and Swftools** -----

**ImageMagick**, work with the images files jpg, png, gif, etc. Install it:

```
dnf -y install ImageMagick
```

**Sox**, work with the audio. Install it:

```
dnf -y install sox
```

**Swftools**. LibreOffice convert the uploaded office files to pdf, and Swftools convert these pdf to swf (flash file), that later will show in the white board. Don't use a newer version, surely have not pdf2swf. We compile it:

```
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. We install it:

```
dnf install -y flash-plugin
```

9)

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

Jodconverter participate in the process to convert the 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
```

10)

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

FFmpeg will work with video. Will install a paquets and libraries.

(Only one line with space between both)

```
dnf install -y glibc alsa-lib-devel gsm gsm-devel imlib2 imlib2-devel libogg libvorbis vorbis-tools theora-tools libvpx-devel mercurial cmake curl git
```

This ffmpeg compilation is based on this url, and updated to 28-9-2016.

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

I made a script to download, compile and install ffmpeg on Fedora 24. It is tested and is ok. The result of any recording we do in OpenMeetings, will be in avi, flv, mp4 and ogg formats.

We download this script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-fedora24.sh
```

...concede execution permission:

```
chmod +x ffmpeg-fedora24.sh
```

...and run it:

```
./ffmpeg-fedora24.sh
```

The compilation will spend about 30 minutes.

At the end, a text will appear: **FFMPEG Compilation is Finished!**

Then, please go to **step 11**).

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

```
sudo nano /opt/ffmpeg-fedora.sh
```

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

```
# FFmpeg compilation for Fedora 24.
# Alvaro Bustos, thanks to Hunter.

# Updated 12-8-2016

# Install libraries
dnf install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial nasm
pkgconfig zlib-devel

# Install yasm from repos
dnf 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/opencv-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 is Finished!"
```

...to here.

Concede permission of execution:

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

```
cd /opt
```

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

```
./ffmpeg-fedora.sh
```

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

11)

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

MariaDB is the data server fork of MySQL.

We install it:

```
dnf install -y mariadb mariadb-server
```

...and run MariaDB (be connected to Internet, to run it quickly):

```
systemctl start mariadb.service
```

Give a password to root in MariaDB. Please, replace **new-password** by your own which:

```
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 open313 DEFAULT CHARACTER SET 'utf8';
```



Now we create a user with all permission on this open313 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 ..... 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.

Now we leave MariaDB:

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

12)

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

Make a folder called **red5313** where download the Apache OpenMeetings file, and where we'll do the installation:

```
mkdir /opt/red5313
```

```
cd /opt/red5313
```

...and download the 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 original file to /opt:

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

13)

#### ----- Connector Java MariaDB -----

This file is need it to connect OpenMeetings with 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
```

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

14)

----- **Configuration of OpenMeetings for MariaDB** -----

Will configure OpenMeetings to connect with our database in MariaDB:

(Only one line without space between both)

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

**Modify line 71:**

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

to

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

...open313 is the database name we gives when install MariaDB and build it.

**Modify lines 76 and 77** respectively:

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

...to

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

...hola is the user name we gives when install MariaDB for open313 database.

.

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

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

Press **Ctrl+x**, will ask to save, pres **Y** and **Enter**.

Protect the access to this file:

(Only one line without space between both )

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

15)

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

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

```
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/red5313, please edit the script and modify the line:

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

...to

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

16)

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

Run MariaDB (be connected to Internet, to run it quickly):

```
systemctl start mariadb.service
```

...and red5-OpenMeetings (be connected to Internet, to run it quickly):

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

...wait until the text “**clearSessionTable: 0**”, it is the last in the shell. Be patience. Then, go with the browser to:

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

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

**OpenMeetings**


1. **Enabling Image Upload and import to whiteboard**
  - o Install **ImageMagick** on the server, you can get more information on <http://www.imagemagick.org> regarding installation. The instructions for installation can be found there <http://www.imagemagick.org/script/binary-releases.php>, however on most linux systems you can get it via your favorite package managers (apt-get it)
2. **Enabling import of PDFs into whiteboard**
  - o Install **GhostScript** on the server, you can get more information on <http://pages.cs.wisc.edu/~ghost/> regarding installation. The instructions for installation can be found there, however on most linux systems you can get it via your favorite package managers (apt-get it).
  - o Install **SWFTools** on the server, you can get more information on <http://www.swftools.org/> regarding installation. Some of the Linux distributions already have it in there package manager see <http://packages.debian.org/unstable/utils/swftools>), the recommended version of **SWFTools** is 0.9 as prior version have a bug that does lead to wrong object dimensions in the Whiteboard
3. **Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whiteboard**
  - o **OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details
4. **Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard**
  - o Install **FFMpeg**. You should get FFMPEG in an up to date copy! For Windows you can download a Build for example from <http://ffmpeg.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!

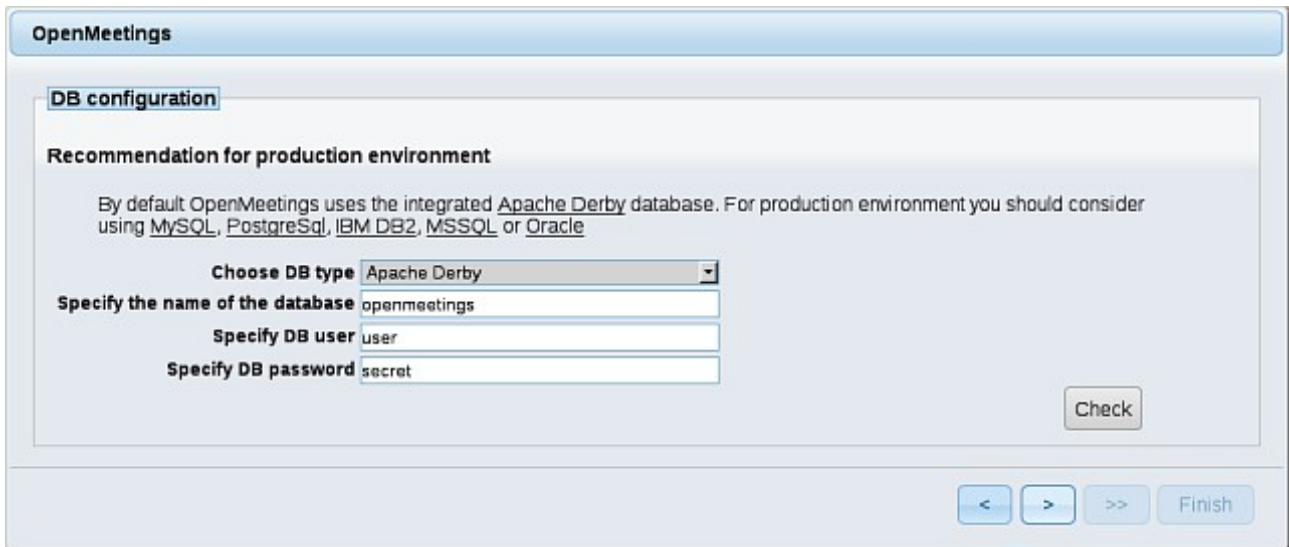
**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

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



**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSql, IBM DB2, MSSQL or Oracle

**Choose DB type** Apache Derby

**Specify the name of the database** openmeetings

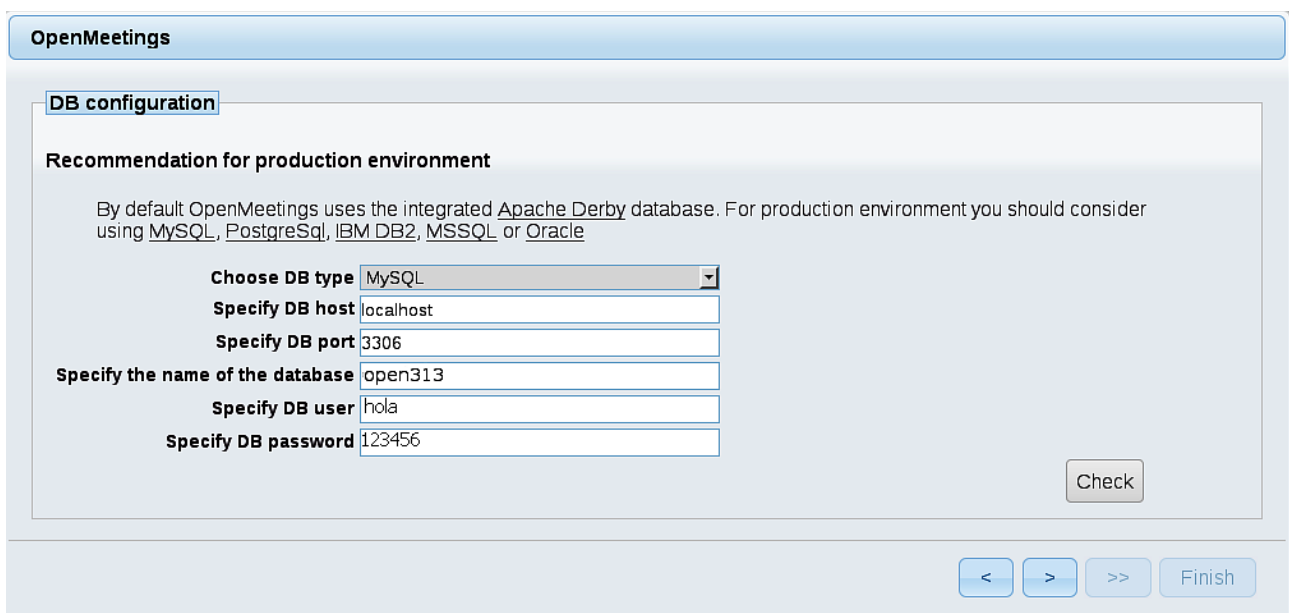
**Specify DB user** user

**Specify DB password** secret

Check

< > >> Finish

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



**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSql, IBM DB2, MSSQL or Oracle

**Choose DB type** MySQL

**Specify DB host** localhost

**Specify DB port** 3306

**Specify the name of the database** open313

**Specify DB user** hola

**Specify DB password** 123456

Check

< > >> Finish

...will show the data base configuration we made in step 14, or with your own modifications.

Please, push  button, and will go to:

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** = country where is this server

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

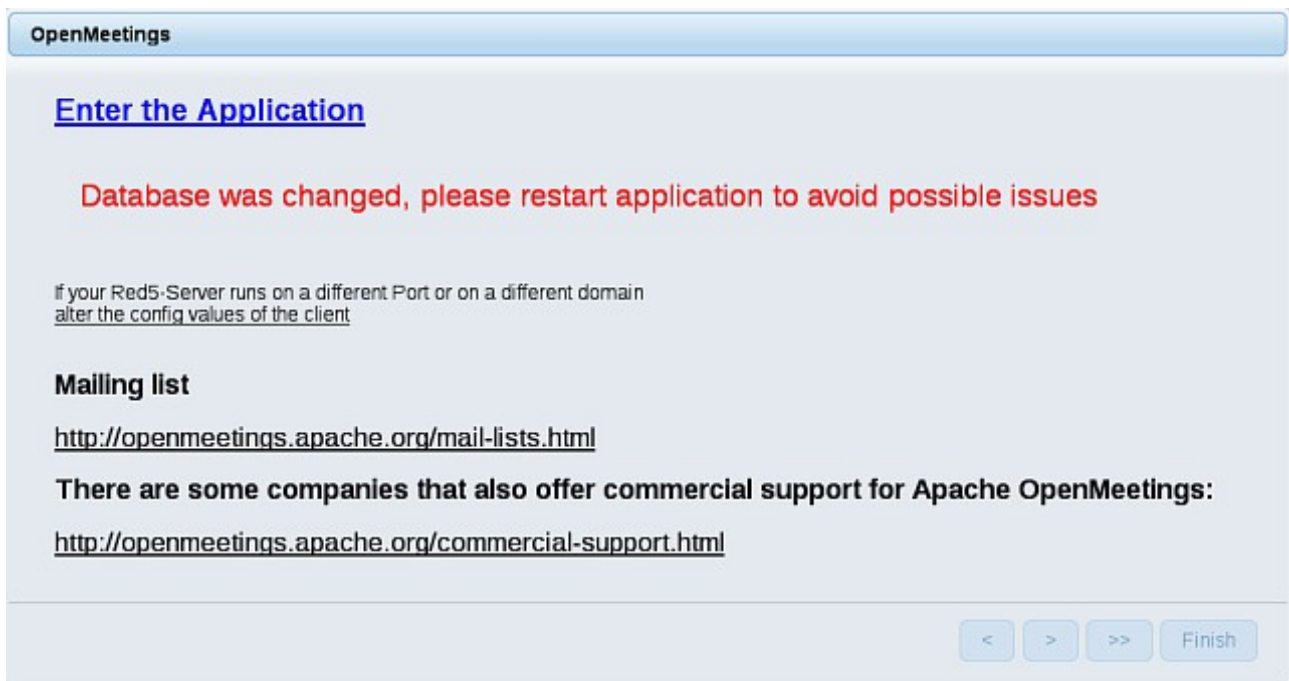
When the installation be finished, we'll configure the rest.

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

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 (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:

The screenshot shows a login form titled "Login". It contains the following elements: a text input field for "Username or mail address", a text input field for "Password", a checkbox labeled "Remember login", a link for "Forgotten your password?", and a link for "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, push **Sign in** button and...

...**Congratulations!**

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

<http://localhost:5080/openmeetings>

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

**1935 5080**

17)


### ----- Configuration of OpenMeetings -----

Once you acceded to OpenMeetings, we go to:

#### Administration → Configuration

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

Welcome

 **Hello firstname lastname**

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

Upload new image

#### Help and support

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

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 | Search

ID	Key	Value
4	...	...
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_pegquality	85
18	swftools_path	
19	imagemagick_path	
20	sox_path	
21	ffmpeg_path	
22	office.path	
23	jod.path	

Configuration

Key: swftools\_path

Value:

Last update: 26.02.2016 08:48:28

Updated by: idro

Comment: Path To SWF-Tools

1 2 3



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 32 bits** type: [/usr/lib/libreoffice](#)

Click on: **office.path** ...and to up right in **Value 64 bits** type: [/usr/lib64/libreoffice](#)

Click on: **jod.path** ...and to up 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/swftools-2013-04-09-1007.tar.gz
```

```
rm -f /opt/swftools-2013-04-09-1007
```

```
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 expose it in Apache OpenMeetings forums:

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

Thank you.

Alvaro Bustos