



## Installation of Apache OpenMeetings 3.1.1

on

**Fedora 24 beta 1.6 – 64bit**

This tutorial it is based on a fresh installation of

**Fedora-MATE\_Compiz-Live-x86\_64-24\_Beta-1.6.iso**

It is tested with positive result.  
We will use the Apache's binary version  
OpenMeetings 3.1.1 stable,  
that is to say should suppress his compilation.  
It is done step by step.

2-6-2016

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
```

Fast searches repos:

```
sudo dnf -y install yum-plugin-fastestmirror
```

```
dnf update -y
```

4)

----- nstallation of packages and libraries -----

Should 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 -----

Java it is necessary to run red5-OpenMeetings. We'll install it, if not, OpenJava 1.8, and a plugin to share desktop and recording, in the conference room:

```
dnf -y install java icedtea-web
```

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 files to pdf.

7)

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

**ImageMagick** work with the images files like jpg, png, etc. Will install it:

```
dnf -y install ImageMagick
```

**Sox** work with the audio. Will install it:

```
dnf -y install sox
```

**Swftools** convert to swf (flash file) the uploaded files and show them in the whiteboard. *Don't use a newer version*, have not pdf2swf. Will 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.

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

9)

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

We need Jodconverter in the process to 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)

----- **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
```

This ffmpeg compilation is based on this url, but updated (2-6-2016).

<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 Fedora 24 beta. It is tested and is  
ok. The files versions updated 2-6-2016.  
During the x265 compilation, will look like stop for about 8 minutes in a text that say: **41%**  
Some times don't do it. Don't worry, everything is going right. Be patience.

Now, we download the script to compile ffmpeg.

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-centos.sh?  
version=1&modificationDate=1464858852193&api=v2
```

Push Ctrl+c on keyboard after download.

Rename the script:

```
mv ffmpeg-centos.sh?version=1 ffmpeg-centos.sh
```

...concede execution permission:

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

...and run it to start compilation:

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

The compilation will employ about 30 minutes.

At the end of compilation, a text will appear: **FFMPEG Compilation and Installation Finished!**

After it is finished, you can go to **step 11)**

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

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

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

```
# Script ffmpeg compilation for Centos, Fedora on Apache OpenMeetings installation tutorial.
# Alvaro Bustos, thanks to Hunter.

# Updated 2-6-2016

# 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.
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-fedorabeta.sh
```

```
cd /opt
```

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

```
./ffmpeg-fedorabeta.sh
```

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

11)

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

MariaDB is the new database server fork of MySQL.

We install it:

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

...and starting mariadb:

```
systemctl start mariadb.service
```

Give a password to MariaDB root. 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:

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

...now do a new user with his own 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 and stop mariadb:

```
systemctl start mariadb.service  
systemctl restart mariadb.service  
systemctl stop mariadb.service
```

12)

**----- Installation of Apache OpenMeetings -----**

Make a folder called **red5311** where download the Apache OpenMeetings file, and where we'll do the installation:

```
mkdir /opt/red5311
```

```
cd /opt/red5311
```

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

```
mv apache-openmeetings-3.1.1.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/5.1.38/mysql-connector-java-5.1.38.jar
```

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

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

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

14)

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

Will configure OpenMeetings to connect with MariaDB:

(Only one line without space between both)

```
sudo nano /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 MariaDB and build it.

**Modify lines 77 and 78** respectively:

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

...to

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

...**hola** is the user name we gives when install MariaDB 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 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/red5311/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
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5fedora?version=3&modificationDate=1458905250412&api=v2
```

...press Ctrl+c after the download finish.

Rename the script:

```
mv red5fedora?version=3 red5fedora
```

...and copy it to where must be:

```
cp red5fedora /etc/init.d/
```

...concede execution permission:

```
chmod +x /etc/init.d/red5fedora
```

If you made the installation in any other different path to /opt/red5311, please edit the script and modify the line:

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

...to

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

Stop Mariadb sever:

```
systemctl stop mariadb.service
```

...reboot machine in order the system recognize the script:

reboot

16)

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

After reboot, we continue. Run mariadb:

systemctl start mariadb.service

...and red5-OpenMeetings:

/etc/init.d/red5fedora start

...wait **40 seconds minimum** in order red5-OpenMeetings run, and later can go with 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.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!
  - o Install **SoX** <http://sox.sourceforge.net/>. You should install SoX in a up to date copy! SoX 12.xx will NOT work!

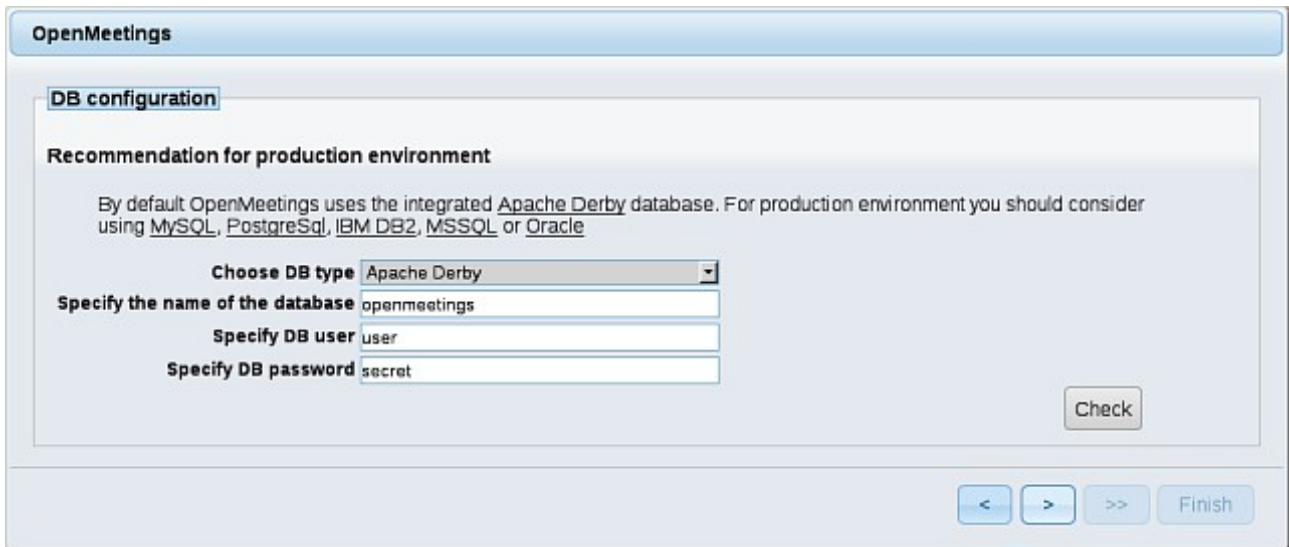
**If you have further questions or need support in installation or hosting:**

**Community-Support:**

[Mailing lists](#)

**Commercial-Support:**

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

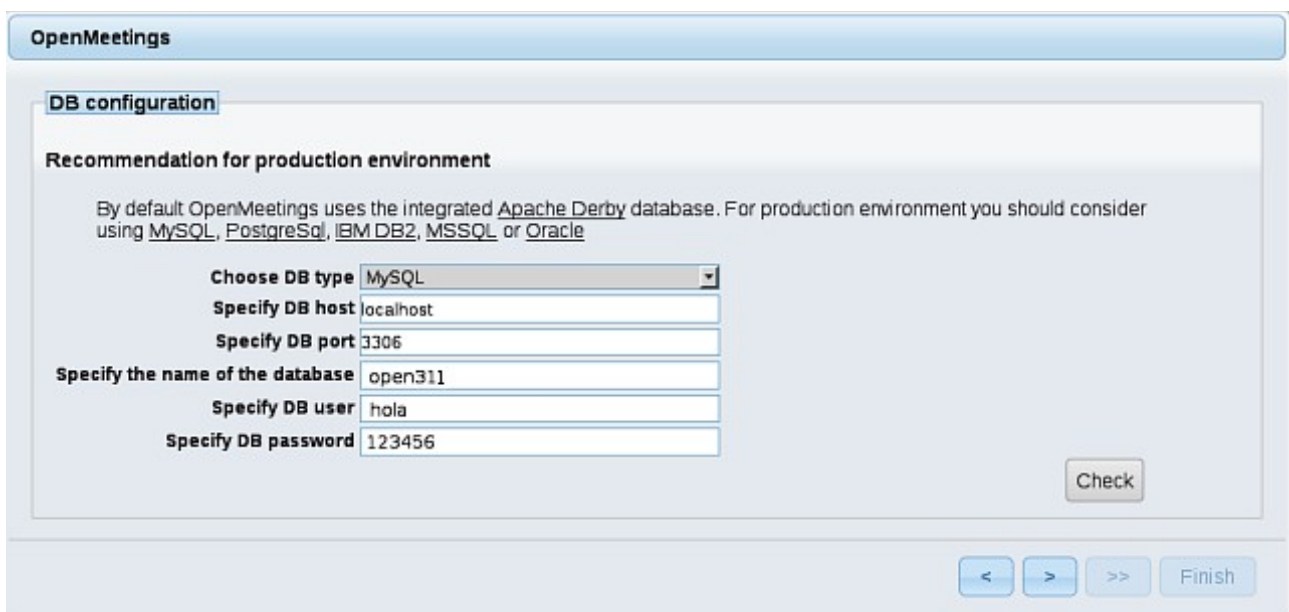
Specify DB user: user

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: open311

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** = Select your geographyc situation

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

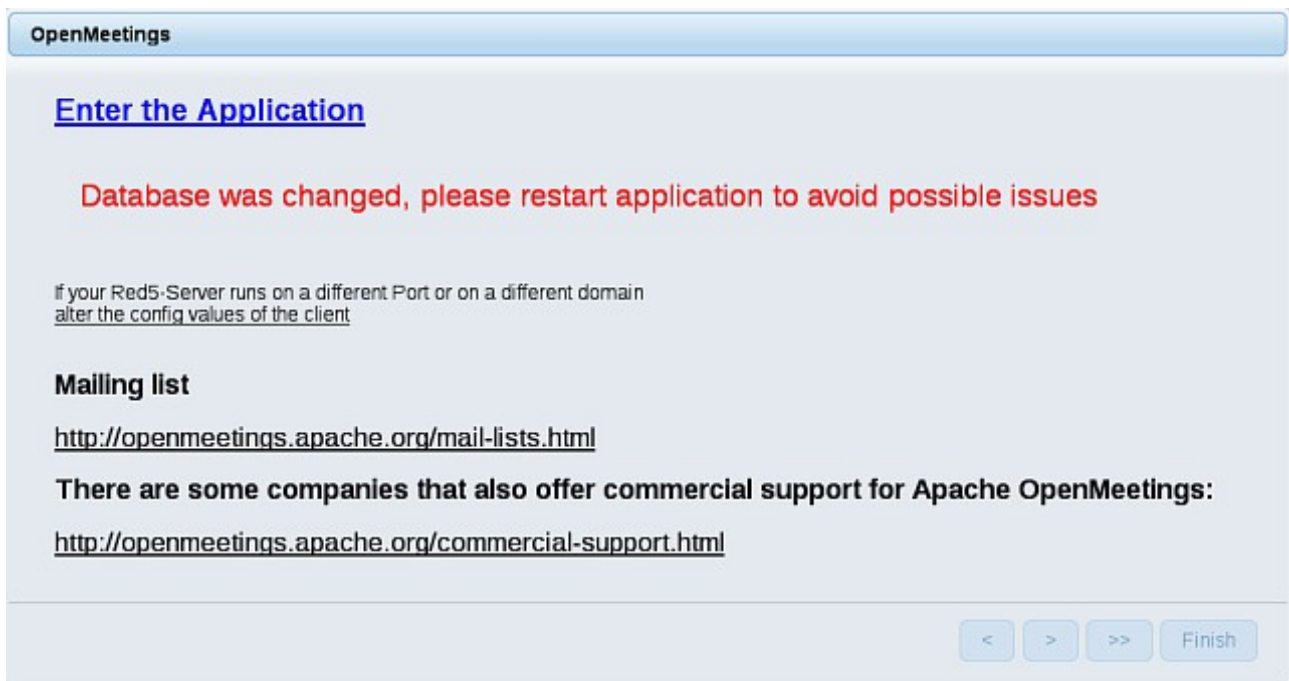
When the installation be finished, should configure the rest.

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:

[/etc/init.d/red5fedora 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 label "Username or mail address" next to a text input field; a label "Password" next to a password input field; a checkbox labeled "Remember login"; a link "Forgotten your password?" with a right-pointing arrow; and a link "Network testing" with a right-pointing arrow. 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 want to access 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 accessed to OpenMeetings, we go to:

#### Administration → Configuration

#### Help and support

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

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	...



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.

When you like stop red5-OpenMeetings: `/etc/init.d/red5fedora stop`

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-5.1.38.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