



## Installation of Apache OpenMeetings 3.1.x

on

### Fedora 23 – 64bit

This tutorial it is based on a fresh installation of

### Fedora-Live-MATE\_Compiz-x86\_64-23-10.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.

25-3-2016

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**

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 ##**

(In only one line)

`su -c 'dnf install --nogpgcheck http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-23.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-23.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)

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

Should install packages and libraries necessary:

(In only one line with a space)

```
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
icedtea-web nmap tomcat-native
```

5)

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

Java it is necessary to run red5-OpenMeetings. We'll install it, if not, OpenJava 1.8.

```
dnf -y install java
```

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 libraries

: (In only one line)

```
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: (5-3-2016)

<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 Fedora 23. It is tested and is ok. The files versions updated 22-3-2016.

During the x265 compilation, will look like stop for about 8 minutes in a text that say: **41%** Don't worry, everything is goeing right. Be patience. Some times don't do it.

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\\_Fedora-23.zip?version=2&modificationDate=1458905206943&api=v2](https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_script_compile_Fedora-23.zip?version=2&modificationDate=1458905206943&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 nano /opt/ffmpeg-fedora23.sh](#)

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

```
# Script ffmpeg Fedora23
# Alvaro Bustos. Thanks to Hunter
# 22-3-2016
# 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$HOME/ffmeg_build/lib" CPPFLAGS="-I$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-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-fedora23.sh
```

```
cd /opt
```

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

```
./ffmpeg-fedora23.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 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 admin:

```
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 new 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 make the installation. Will install the 3.1.1 OpenMeetings stable version:



```
mkdir /opt/red5311
```

This url that you can visit, is the Apache OpenMeetings 3.1.1 stable version:

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

```
cd /opt/red5311
```

Here leave two valids examples links to chose download:

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

...or

```
wget http://ftp.cixug.es/apache/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
```

(In only one line)

```
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)

```
sudo nano /opt/red5311/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml persistence.xml
```

...and 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 also **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 change.

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

```
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
```

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

...rename the script:

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

...and move 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 path different to /opt/red5311, please edit the script and modify the line:

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

...to

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

Stop Mariadb:

```
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**

- 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):

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

Specify the name of the database

Specify DB user

Specify DB password

...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** open310

**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:

**OpenMeetings**

**Userdata**

Username

Userpass

EMail

User Time Zone Europe/Madrid

**Group(Domains)**

Name

< > >> 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

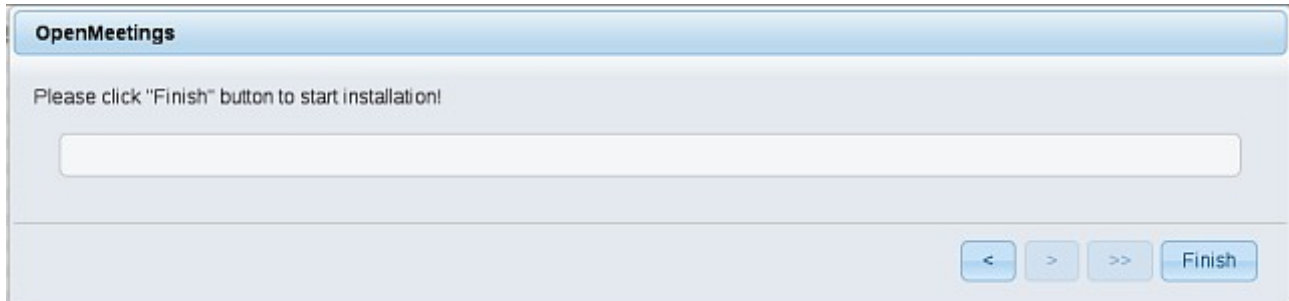
**EMail** = email-address ...of the previous user.

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

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

When the installation be finished, shouldd configure the rest.

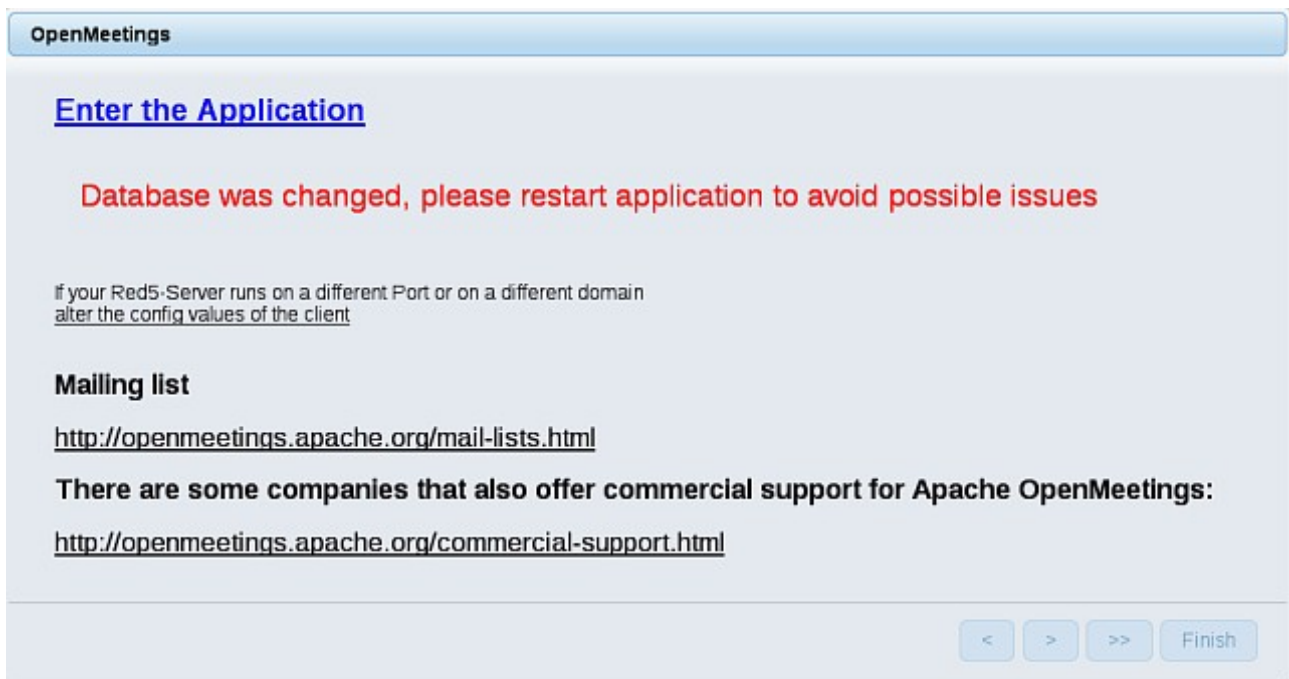
Now go to bottom page and push the button  (double arrow). Will show this:



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:

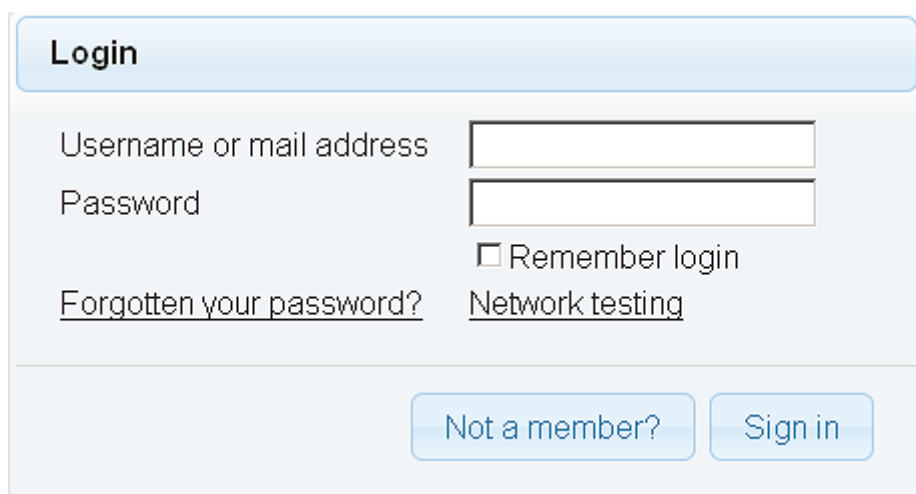
[/etc/init.d/red5 restart](#)



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:



**Login**

Username or mail address

Password

☐ Remember login

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

[Not a member?](#) [Sign in](#)

Introduce the user's name and the password that you have chosen during the installation and  
**...Congratulations!**

The next time that you wants to accede to OpenMeetings would be:

<http://localhost:5080/openmeetings>

Remember to open in the server the two following ports:

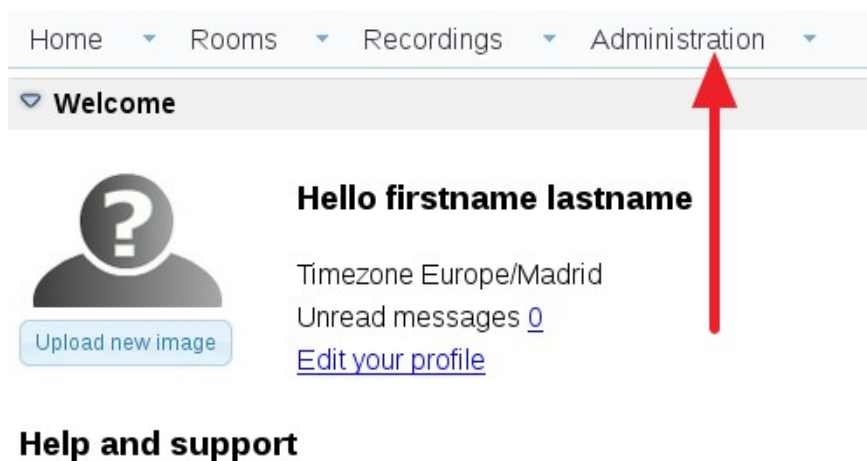
**5080    1935**

17)

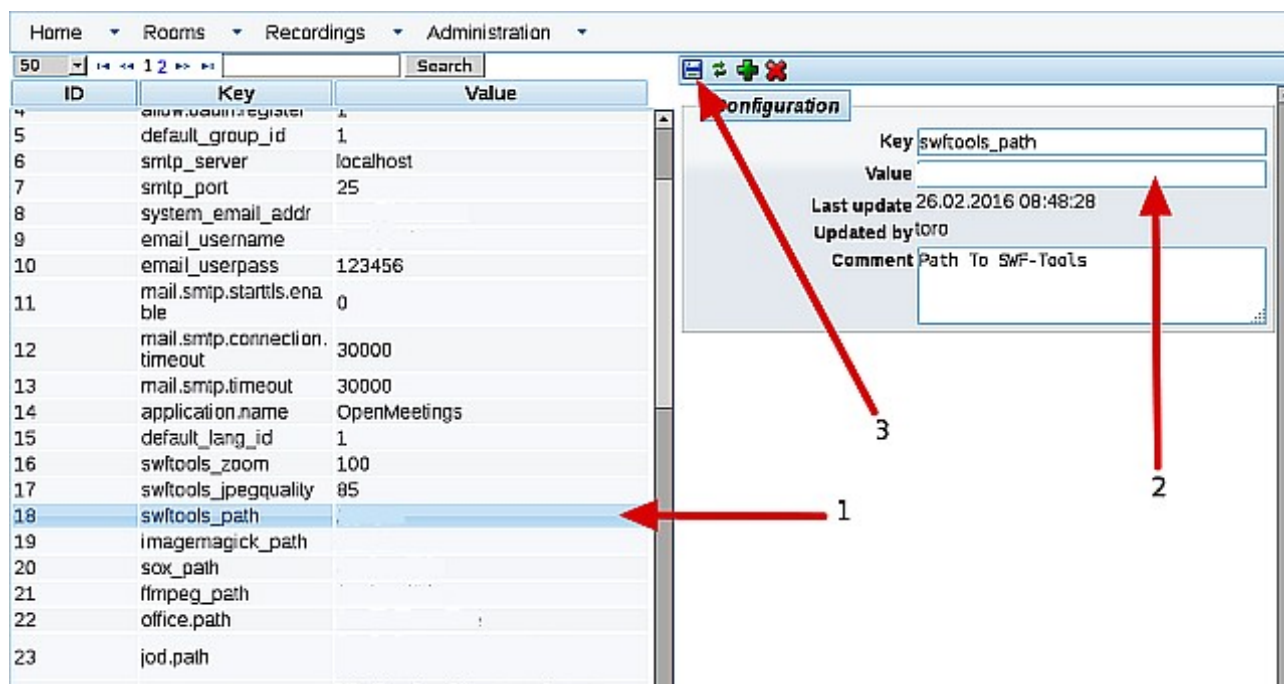
### ---- Configuration of OpenMeetings ----

Once you 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 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.

Cuando quiera detener 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