



Installation of Apache OpenMeetings 3.0.x on Fedora 21 – 64bit

This tutorial it is bassed on a fresh installation of

Fedora-Live-Workstation-x86_64-21-5.iso

It is tested with positive result.
We will use the Apache's binary version:

OpenMeetings 3.0.6 stable

that is to say should suppress his compilation.

It is done step by step.

11-12-2014 updated 17-2-2015 updated 25-5-2015

Starting...

1)

At first place modify Selinux level security for the installation.

`sudo gedit /etc/selinux/config`

...modify:

SELINUX=**enforcing**

...to

SELINUX=**permissive**

When finish the installation you can back to enforcing level.

2)

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

Update operative system:

`yum update -y`

...and reboot for kernel changes:

`reboot`

3)

Install gedit and wget:

`sudo yum -y install gedit wget`

4)

----- **ADD Repos** -----

RPM Fusion repo

(In only one line)

`su -c 'yum localinstall --nogpgcheck http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-21.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-21.noarch.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
```

Fast searches repos:

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

```
sudo yum -y install yum-presto
```

```
yum update -y
```

5)

----- **Installation of packages and libraries** -----

Should install packages and libraries necessary:

(In only one line)

```
yum 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 ImageMagick ghostscript ncurses zlib git make automake nasm pavucontrol alsa-plugins-pulseaudio flash-plugin icedtea-web nmap tomcat-native
```

6)

----- **LibreOffice or OpenOffice** -----

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

```
yum -y install libreoffice
```

Is need it to convert uploaded files.

7)

----- **Oracle Java 1.8** -----

Oracle Java 1.8 it is necessary to OpenMeetings works.

icedtea-web, that is a java plugin browser, can help for room recordings and share desktop from Conference Room in OpenMeetings.

Well, should install Oracle Java 1.8.

Please visit:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

...click on:

Agree and proceed

...click on:

Accept License Agreement

...and download the file called:

jdk-8u45-linux-x64.rpm

Place where the file was downloaded, for example:

```
cd /home/you_user
```

...and install it:

```
rpm -Uvh jdk-8u45-linux-x64.rpm
```

```
update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_45/jre/bin/java 20000
```

```
update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_45/bin/jar 20000
```

```
update-alternatives --install /usr/bin/javac javac /usr/jdk1.8.0_45/bin/javac 20000
```

```
update-alternatives --install /usr/bin/javaws javaws /usr/jdk1.8.0_45/jre/bin/javaws 20000
```

...now you must choose between OpenJava and Oracle Java to work with. Type the number **2** after run this command:

```
update-alternatives --config java
```

...so we select Java and not Open Java.

The next commands will give only one option each. Then is not what to choose:

```
update-alternatives --config javaws
```

```
update-alternatives --config javac
```

8)

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

MariaDB is the new database server folk of MySQL.

We install it:

```
yum 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 open306 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 open306 database:

```
GRANT ALL PRIVILEGES ON open306.* TO 'hola'@'localhost' WITH GRANT OPTION;
```

```
FLUSH PRIVILEGES;
```

```
quit
```

```
open306 ..... 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
```

9)

----- **ImageMagick** -----

We had installed ImageMagick in the beginning.
Will work with png, jpg, gif, etc

10)

----- **Sox** -----

Sox is already installed in the distro. Will work sound about. If need install it:

```
yum -y install sox
```

11)

----- **Swftools** -----

Swftools participate in convert uploaded files to swf and show them in the blackboard.

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
```

12)

----- Compile and installation of ffmpeg, lame, yasm and x264-----

To compile and install ffmpeg, lame, yasm and x264, i made my own mixture between these two web pages:

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

<http://wiki.razuna.com/display/ecp/FFMpeg+Installation+on+CentOS+and+RedHat>

Should install some package and libraries: (In only one line)

```
yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-devel libogg libvorbis vorbis-tools theora-tools libvpx-devel
```

Ffmpeg will work with the video. Starting...

Please copy and past as it is, do not any change.

```
mkdir ~/ffmpeg_sources
```

```
cd ~/ffmpeg_sources
```

First will download all the packages we need to compile. In shell as root:

```
curl -L -O http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz
```

```
git clone --depth 1 git://git.code.sf.net/p/opuscore-amr/fdk-aac
```

```
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.tar.gz
```

```
wget http://downloads.xvid.org/downloads/xvidcore-1.3.2.tar.gz
```

```
wget http://downloads.xiph.org/releases/ogg/libogg-1.3.1.tar.gz
```

```
wget http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.4.tar.gz
```

```
wget http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
```

```
wget http://www.tortall.net/projects/yasm/releases/yasm-1.2.0.tar.gz
```

```
git clone http://git.chromium.org/webm/libvpx.git
```

```
git clone git://git.videolan.org/x264.git
```

```
git clone git://source.ffmpeg.org/ffmpeg.git
```

...once all these packages-files are downloaded start the compilation...please be connected Internet.

1) ---- libmp3lame ----

```
cd ~/ffmpeg_sources  
tar xzvf lame-3.99.5.tar.gz  
cd lame-3.99.5
```

(In only one line)

```
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --disable-shared --enable-nasm
```

```
make  
make install  
make distclean
```

2) ---- libfdk_aac ----

```
cd ~/ffmpeg_sources  
cd fdk-aac  
autoreconf -fiv  
./configure --prefix="$HOME/ffmpeg_build" --disable-shared  
make  
make install  
make distclean
```

3) ---- libopus ----

```
cd ~/ffmpeg_sources  
tar xzvf opus-1.1.tar.gz  
cd opus-1.1  
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
```


make

make install

make distclean

4) ---- Xvid ----

cd ~/ffmpeg_sources

tar xzvf xvidcore-1.3.2.tar.gz

cd xvidcore/build/generic

./configure --prefix="\$HOME/ffmpeg_build"

make

make install

5) ---- LibOgg ----

cd ~/ffmpeg_sources

tar xzvf libogg-1.3.1.tar.gz

cd libogg-1.3.1

./configure --prefix="\$HOME/ffmpeg_build" --disable-shared

make

make install

6) ---- Libvorbis ----

cd ~/ffmpeg_sources

tar xzvf libvorbis-1.3.4.tar.gz

cd libvorbis-1.3.4

./configure --prefix="\$HOME/ffmpeg_build" --with-ogg="\$HOME/ffmpeg_build" --disable-shared

make

make install

7) ---- Libtheora ----

```
cd ~/ffmpeg_sources  
tar xzvf libtheora-1.1.1.tar.gz  
cd libtheora-1.1.1
```

(In only one line)

```
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-  
examples --disable-shared --disable-sdltest --disable-vorbistest
```

```
make  
make install
```

8) ---- Yasm ----

```
yum remove yasm  
cd ~/ffmpeg_sources  
tar xzfv yasm-1.2.0.tar.gz  
cd yasm-1.2.0  
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"  
make  
make install  
export "PATH=$PATH:$HOME/bin"
```

9) ---- Libvpx ----

```
cd ~/ffmpeg_sources  
cd libvpx  
./configure --prefix="$HOME/ffmpeg_build" --disable-examples  
make  
make install
```

10) ---- X264 ----

```
cd ~/ffmpeg_sources
```

```
cd x264
```

```
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --enable-static
```

```
make
```

```
make install
```

Config Libraries

```
export LD_LIBRARY_PATH=/usr/local/lib/
```

```
echo /usr/local/lib >> /etc/ld.so.conf.d/custom-libs.conf
```

```
ldconfig
```

11) ---- FFmpeg ----

```
cd ~/ffmpeg_sources
```

```
cd ffmpeg
```

```
git checkout release/2.2
```

```
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig"
```

```
export PKG_CONFIG_PATH
```

(In only one line)

```
./configure --prefix="$HOME/ffmpeg_build" --extra-cflags="-I$HOME/ffmpeg_build/include"
--extra-ldflags="-L$HOME/ffmpeg_build/lib" --bindir="$HOME/bin" --extra-libs=-ldl --enable-gpl
--enable-nonfree --enable-libfdk_aac --enable-libmp3lame --enable-libopus --enable-libvorbis
--enable-libvpx --enable-libx264 --enable-libtheora --enable-libxvid
```

```
make
```

```
make install
```

.....
The compilation is finished.
.....

Now we have the compiled files in: ~/bin

Should copy all them to /usr/local/bin to be enabled:

```
cd ~/bin
```

```
cp ffmpeg ffprobe ffmpeg lame vsyasm x264 yasm ytasm /usr/local/bin
```

13)

----- Jodconverter -----

We need Jodconverter 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
```

14)

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

Make a folder called **red5306** where download the Apache OpenMeetings file and where make the installation:.

```
mkdir /opt/red5306
```

This url that you can visit, is the Apache OpenMeetings 3.0.6 stable version:

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

```
cd /opt/red5306
```

Here i leave two valids examples links to choose download:

```
wget http://apache.rediris.es/openmeetings/3.0.6/bin/apache-openmeetings-3.0.6.zip
```

...or

wget <http://ftp.cixug.es/apache/openmeetings/3.0.6/bin/apache-openmeetings-3.0.6.zip>

unzip apache-openmeetings-3.0.6.zip

...save the original file to /opt:

mv apache-openmeetings-3.0.6.zip /opt

15)

---- 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/5.1.35/mysql-connector-java-5.1.35.jar>

cp mysql-connector-java-5.1.35.jar /opt/red5306/webapps/openmeetings/WEB-INF/lib

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

chown -R nobody /opt/red5306

16)

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

Will configure OpenMeetings to connect with MariaDB:

cd /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF

mv persistence.xml persistence.xml-ori

mv mysql_persistence.xml persistence.xml

cd /opt

sudo gedit /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml

...and modify **line 78**:

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

to

```
Url=jdbc:mysql://localhost:3306/open306?....
```

...**open306** is the database name we gives when install MariaDB and build it.

Modify also **lines 83** and **84**:

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

...to

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

...**hola** is the user name we gives when install MariaDB for **open306** 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:

```
chmod 640 /opt/red5306/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml
```

17)

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

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

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

...copy and past the text from here:

```

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

export RED5_HOME=/opt/red5306

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/red5306
```

...to

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

Concede permission of execution to the script:

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

18)

Restart mariadb:

```
systemctl restart mariadb.service
```

...and start red5-OpenMeetings:

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

...wait some *longs* seconds and later go with browser to:

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

...there will have to appear a page similar to this one:



OpenMeetings

OpenMeetings - Installation

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.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!

○ Install **CaX** <http://www.cox.com/>. You should install CaX in a up to date copy! CaX 4.0 will NOT work!

...click **Next** button in the foot page, and will show the database configuration we made:



OpenMeetings

OpenMeetings - Installation

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	<input type="text" value="MySQL"/>
Specify DB host	<input type="text" value="localhost"/>
Specify DB port	<input type="text" value="3306"/>
Specify the name of the database	<input type="text"/>
Specify DB user	<input type="text"/>
Specify DB password	<input type="password"/>

...clic Next again:

OpenMeetings - Installation

- 'cfg.username' is required.
- 'cfg.password' is required.
- 'cfg.email' is required.
- 'cfg.group' is required.

Userdata

Username	<input type="text"/>
Userpass	<input type="password"/>
EMail	<input type="text"/>
User Time Zone	<input type="text" value="Europe/Madrid"/>

Organisation(Domains)

Name	<input type="text"/>
------	----------------------

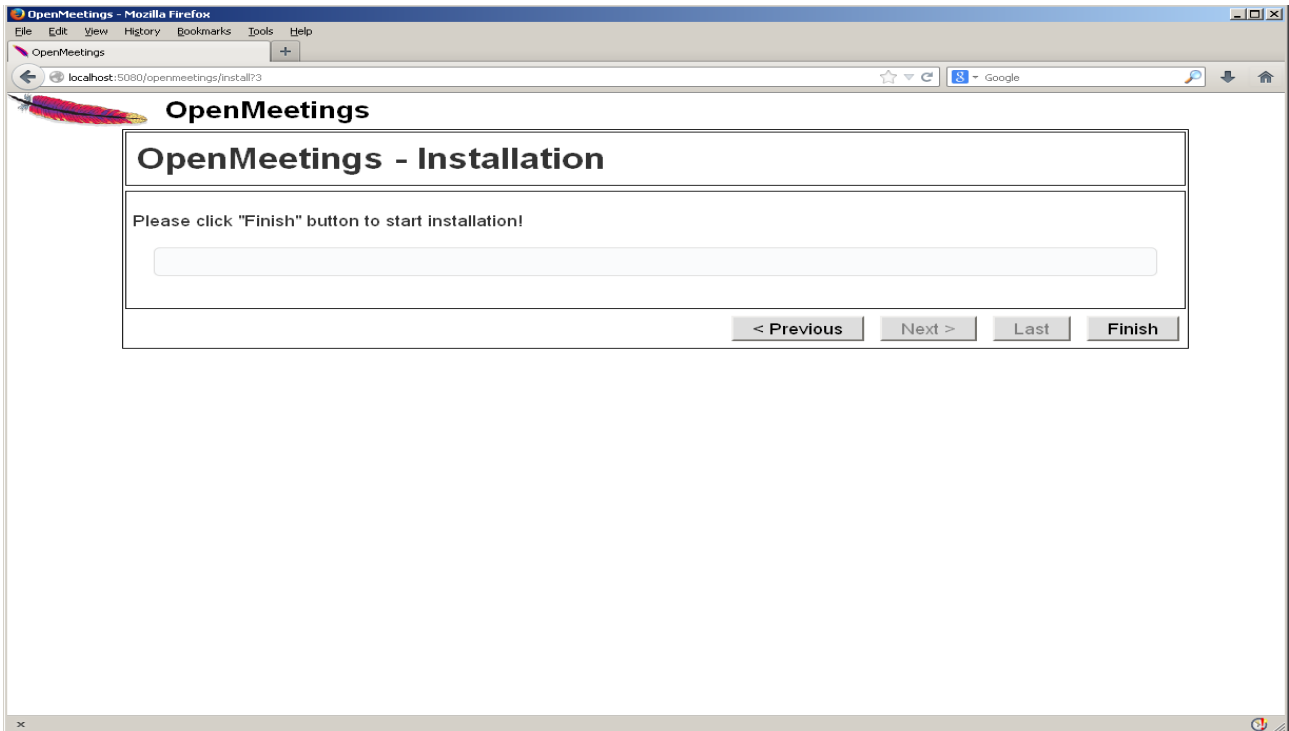
< Previous Next > Last Finish

...here we must to introduce necessarily, to be able to continue, the following:

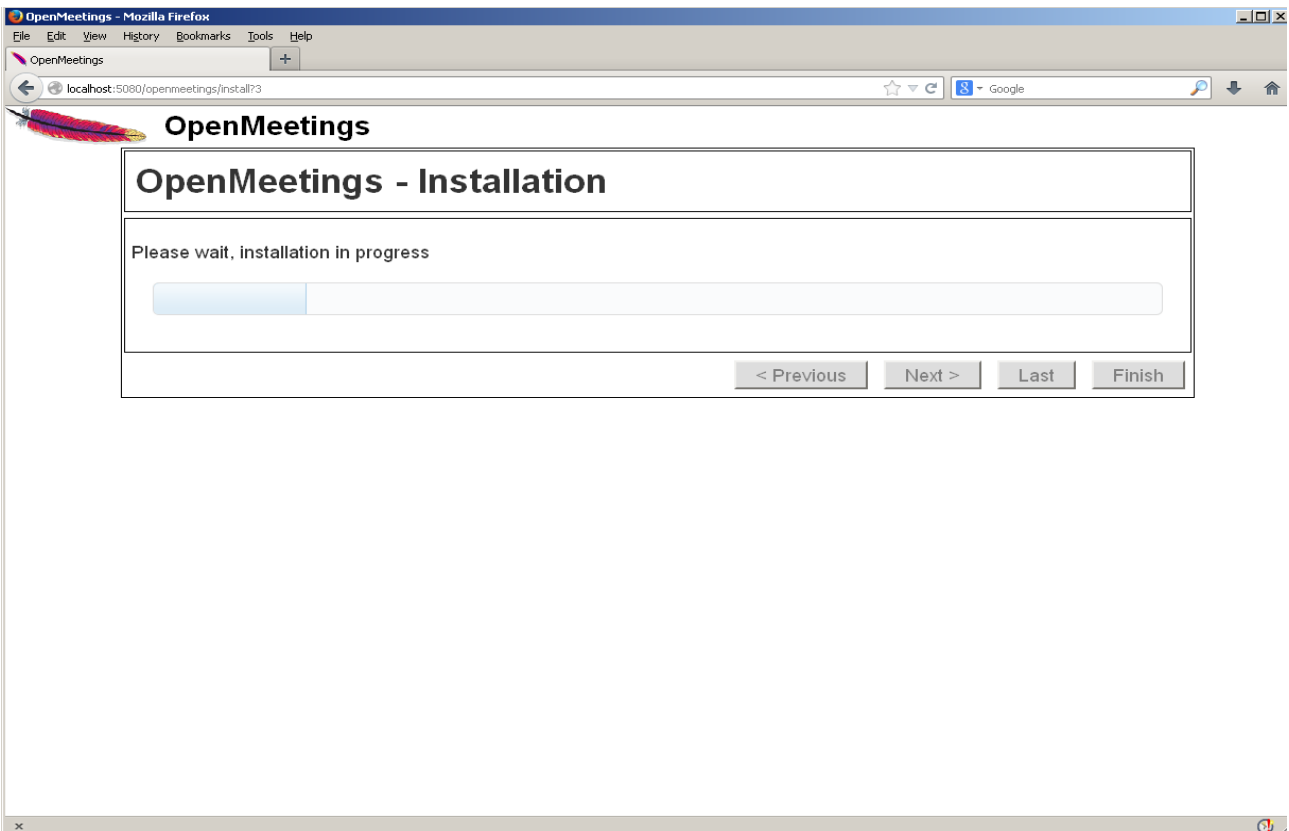
Username = **a-name** ...This user name will have administrator rights.
 Userpass = **a-password**for the previous user
 EMail = **email-address** ...of the previous user.
 User Time Zone = Select your geographyc situation
 Name = **example-openmeetings** ...group name to choose

After finish the complet installation we'll configure the rest.

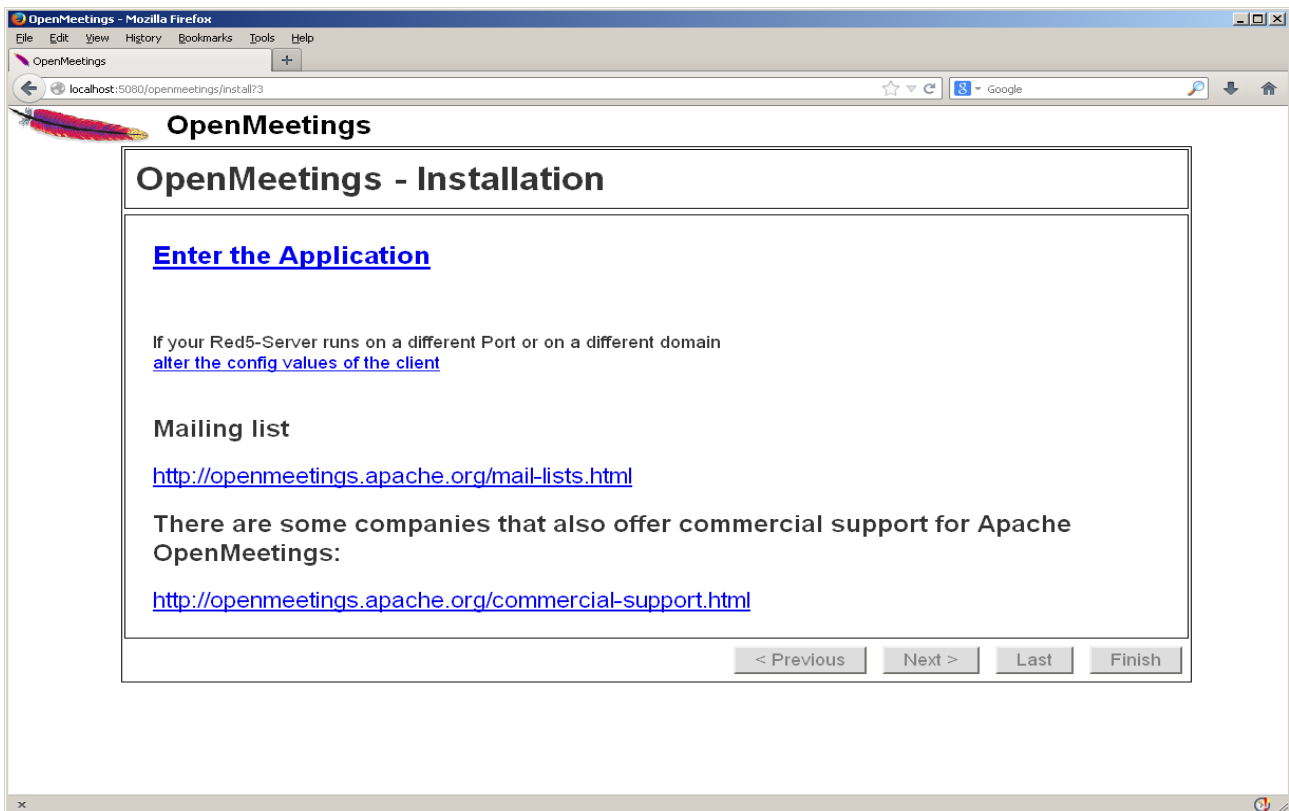
...click **Last** button and this other page will appear:



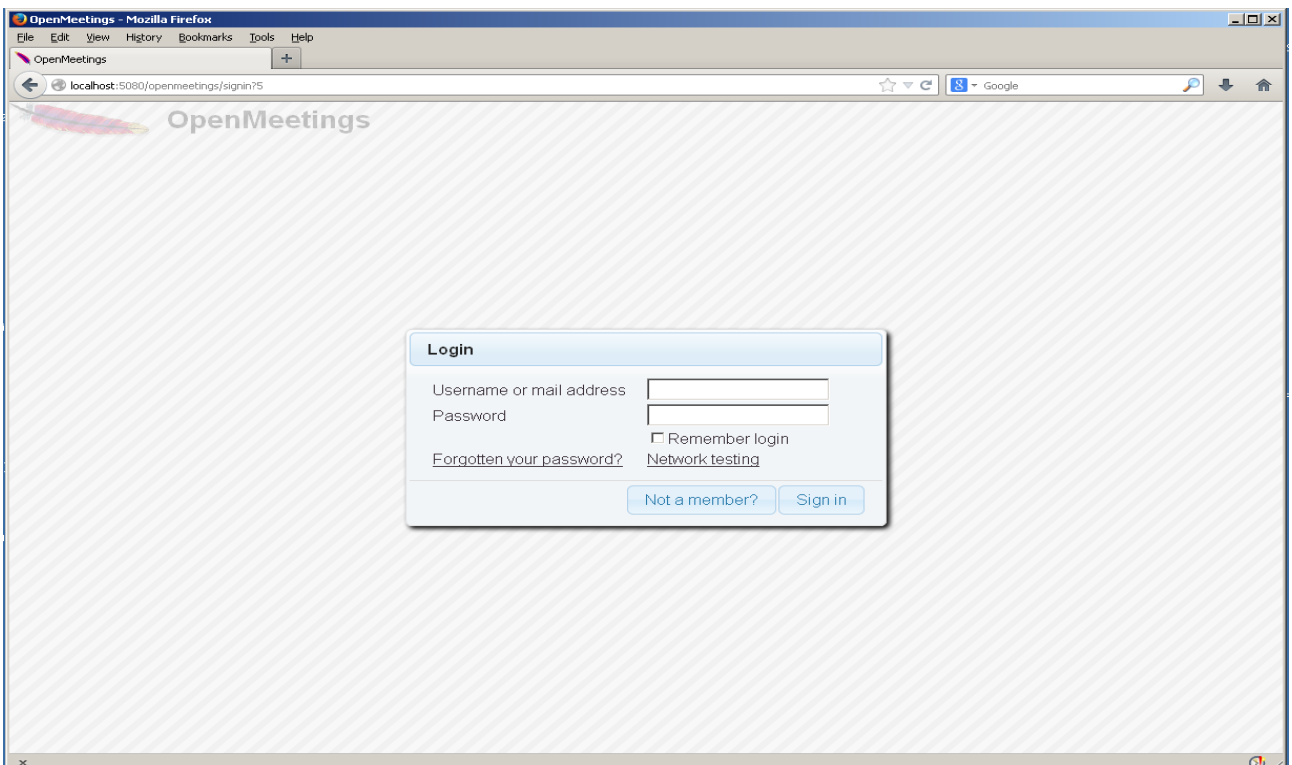
...click **Finish** and will start to fill the database tables:



When finish should show this page:



...click [Enter the Application](#) and you'll see OpenMeetings's login page...**Congratulations!**



Introduce the user's name and the password that you have chosen during the installation and clic **Sign in**.

The next time to access OpenMeetings will be:

<http://localhost:5080/openmeetings>

Remember open in the server these three ports:

1935 5080 8088

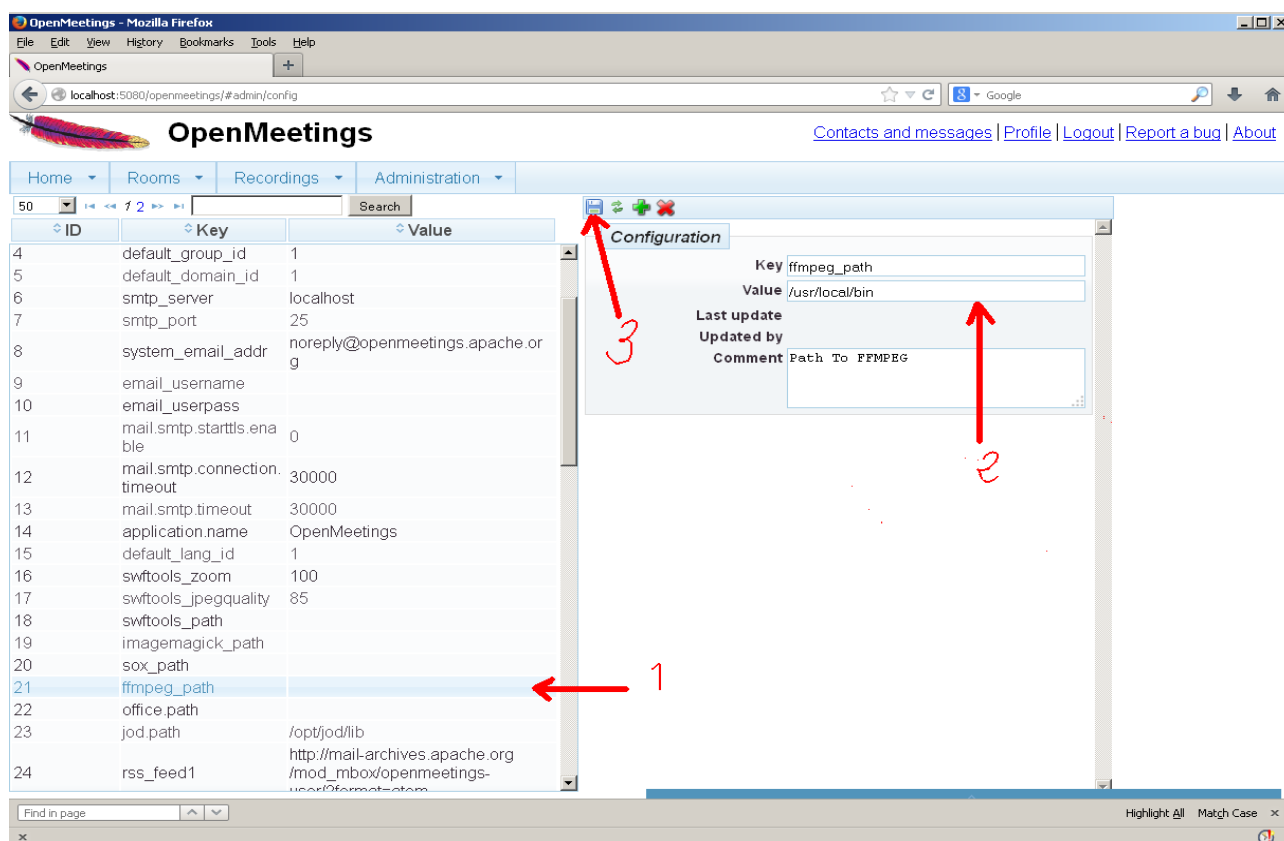
...in order can accede to OpenMeetings from other machines in Lan or Internet.

16)

---- Configuration of OpenMeetings ----

Once you acceded to OpenMeetings we go to: **Administration** → **Configuration**

The screenshot shows the OpenMeetings user interface. The browser window is titled 'OpenMeetings - Mozilla Firefox' and the address bar shows 'localhost:5080/openmeetings/#user/dashboard'. The page has a navigation bar with 'Home', 'Rooms', 'Recordings', and 'Administration' (highlighted with a red arrow). The main content area is divided into three sections: 'Welcome' (with a user profile placeholder and a red arrow pointing to the 'Administration' menu), 'How to conference' (with a 4-step guide and 'START' and 'Calendar' buttons), and 'My rooms' (with two room entries and a table for room details).



...introduce the path for files conversion, audio and 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** type: [/usr/lib64/libreoffice](#)

Click on: **jod.path** ...and to up right in **Value** type: [/opt/jodconverter-core-3.0-beta-4/lib](#)

Remember to do the number 3 on picture to save each change.

To stop red5-OpenMeetings: [/etc/init.d/red5 stop](#)

Flash Player it was installed in the beginning. OpenMeetings even need it for rooms.

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