



## **Installation of Apache OpenMeetings 3.0.x on CentOS 7**

This tutorial it is based on a fresh installation of

**CentOS-7.0-1406-x86\_64-GnomeLive.iso**

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

OpenMeetings 3.0.4 stable

that is to say should suppress his compilation.

It is done step by step.

17-9-2014 updated 17-2-2015

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 (both are already installed in the distro but...):

`sudo yum -y install gedit wget`

4)

### ----- ADD Repos -----

**## EPEL & Remi: ##**

`wget http://epel.mirror.nucleus.be/7/x86\_64/e/epel-release-7-5.noarch.rpm`

`wget http://rpms.famillecollet.com/enterprise/remi-release-7.rpm`

`sudo rpm -Uvh remi-release-7*.rpm epel-release-7*.rpm`

Enable Remi:

gedit /etc/yum.repos.d/remi.repo

...and modify to:

enabled=1

**## ElRepo ##**

rpm --import <https://www.elrepo.org/RPM-GPG-KEY-elrepo.org>

rpm -Uvh <http://www.elrepo.org/elrepo-release-7.0-2.el7.elrepo.noarch.rpm>

**## Nux ##** (In only one line)

rpm -Uvh [http://li.nux.ro/download/nux/dextop/el7/x86\\_64/nux-dextop-release-0-1.el7.nux.noarch.rpm](http://li.nux.ro/download/nux/dextop/el7/x86_64/nux-dextop-release-0-1.el7.nux.noarch.rpm)

**## RpmForge ###**

rpm -Uvh [http://pkgs.repoforge.org/rpmforge-release/rpmforge-release-0.5.3-1.el7.rf.x86\\_64.rpm](http://pkgs.repoforge.org/rpmforge-release/rpmforge-release-0.5.3-1.el7.rf.x86_64.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](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

5)

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

Should install packages and libraries necessary:

(In only one line)

yum install -y libjpeg libjpeg-devel giflib giflib-devel giflib-utils ghostscript freetype freetype-devel  
unzip gcc gcc-c++ ncurses ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-  
devel bzip2 bzip2-devel ImageMagick file-roller git flash-plugin autoconf automake nasm  
pkgconfig nmap tomcat-native

6)

## ----- LibreOffice or OpenOffice -----

LibreOffice it is installed already in the distro. But if you use a different iso installation:

`yum -y install libreoffice`      Is need it to convert upload files.

7)

## ----- Oracle Java 1.8 -----

Oracle Java 1.8 it is necessary to OpenMeetings works.

OpenJava 1.8 it is installed already, but is not ok for installing OpenMeeting.

**Icedtea-web**, that is a browser java plugin, is already installed and can help for room recordings and share desktop from Conference Room in OpenMeetings. Actually don't need this plugin.

Well, should install Oracle Java 1.8.

Please visit:

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

...clíc on:

**Agree and procced**

...clíc on:

**Accept License Agreement**

...and download the file called:

**jdk-8u31-linux-x64.rpm**

Place where the file was downloaded, for example:

`cd /home/you_user`

...and install it:

`rpm -Uvh jdk-8u31-linux-x64.rpm`

`update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_31/jre/bin/java 20000`

`update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_31/bin/jar 20000`

```
update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.8.0_31/bin/javac 20000
```

```
update-alternatives --install /usr/bin/javaws javaws /usr/java/jdk1.8.0_31/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 Oracle 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.

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 open304 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 open304 database:

```
GRANT ALL PRIVILEGES ON open304.* TO 'hola'@'localhost' WITH GRANT OPTION;
```

```
FLUSH PRIVILEGES;
```

```
quit
```

open304 ..... 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.

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>

Ffmpeg will work with the video.

Starting...

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

```
mkdir ~/ffmpeg_sources
```

```
cd ~/ffmpeg_sources
```

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 lame-devel libogg libvorbis vorbis-tools zlibtheora theora-tools libvpx-devel
```

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/opencore-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) ---- Install 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) ---- Install 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) ---- Install 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) ---- Install 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) ---- Install 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) ---- Install Libvpx ----

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

### 10) ---- Install 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 ffserver lame vsyasm x264 yasm yasm /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 -----

We'll install the 3.0.4 stable version.

Should make the OpenMeetings installation in **/opt/red5304**

Make a folder called **red5304** where download the Apache OpenMeetings file and where make the installation:.

```
mkdir /opt/red5304
```

This url that you can visit, is the Apache OpenMeetings 3.0.4 stable version:

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

```
cd /opt/red5304
```

Here i put two valids examples links to choose download:

```
wget http://archive.apache.org/dist/openmeetings/3.0.4/bin/apache-openmeetings-3.0.4.zip
```

...or

```
wget http://archive.apache.org/dist/openmeetings/3.0.4/bin/apache-openmeetings-3.0.4.zip
```

```
unzip apache-openmeetings-3.0.4.zip
```

...save the original file to /opt:

```
mv apache-openmeetings-3.0.4.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/5.1.32/mysql-connector-java-5.1.32.jar
```

```
cp mysql-connector-java-5.1.32.jar /opt/red5304/webapps/openmeetings/WEB-INF/lib
```

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

```
chown -R nobody /opt/red5304
```

16)

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

Will configure OpenMeetings to connect with MariaDB:

```
cd /opt/red5304/webapps/openmeetings/WEB-INF/classes/META-INF
```

```
mv persistence.xml persistence.xml-ori
```

```
mv mysql_persistence.xml persistence.xml
```

```
cd /opt
```

```
sudo gedit /opt/red5304/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml
```

...and modify line 81:

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

to

```
Url=jdbc:mysql://localhost:3306/open304?....
```

...**open304** is the database name we gives when install MariaDB and build it.

Modify also **lines 86** and **87** respectively:

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

...to

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

...**hola** is the user name we gives when install MariaDB for **open304** 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/red5304/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/red5304

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/red5304
```

...to

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

Give permission of execution to the script:

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

**18)**

Restart mariadb:

```
systemctl restart mariadb.service
```

...and start red5-OpenMeetings:

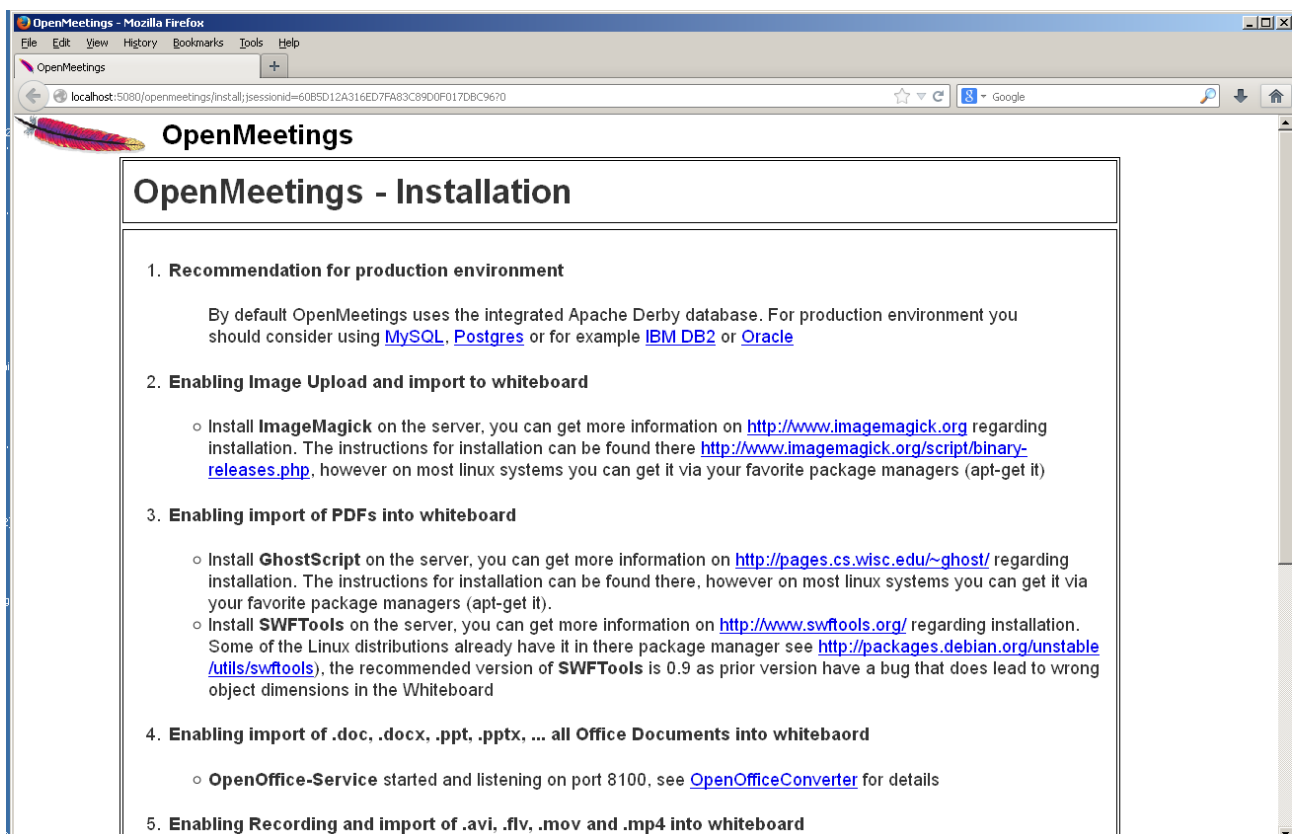


`/etc/init.d/red5 start`

...wait some long seconds and later go with browser to:

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

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



..click **Next** button in the foot page and this other page will appear:

OpenMeetings - Mozilla Firefox

localhost:5080/openmeetings/install?2

## OpenMeetings - Installation

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

### Userdata

Username

Userpass

EMail

User Time Zone

### Organisation(Domains)

Name

< Previous   Next >   Last   Finish

...here we have 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

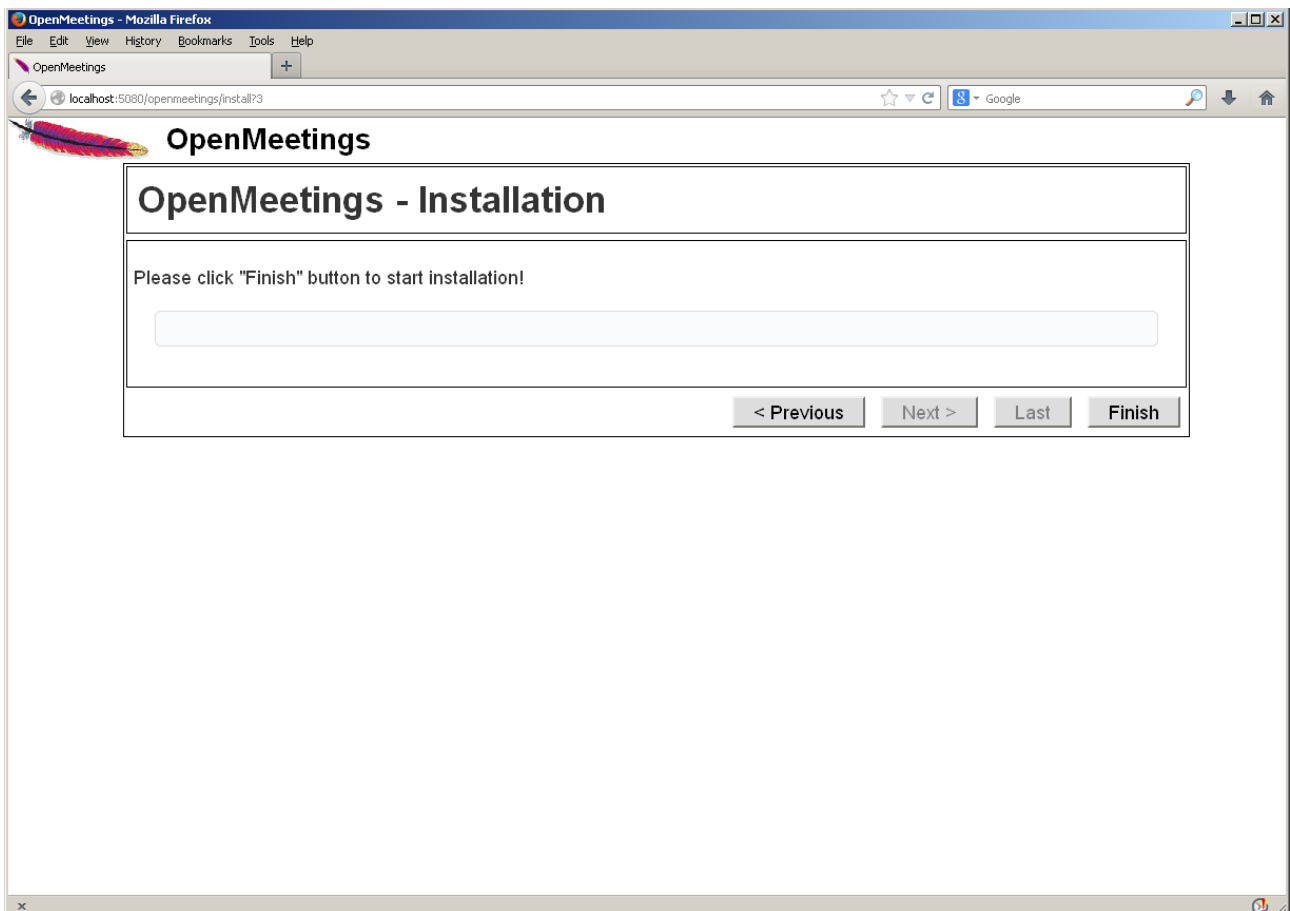
EMail = **email-adress** ...of the previous user.

User Time Zone = Select your geographyc situation

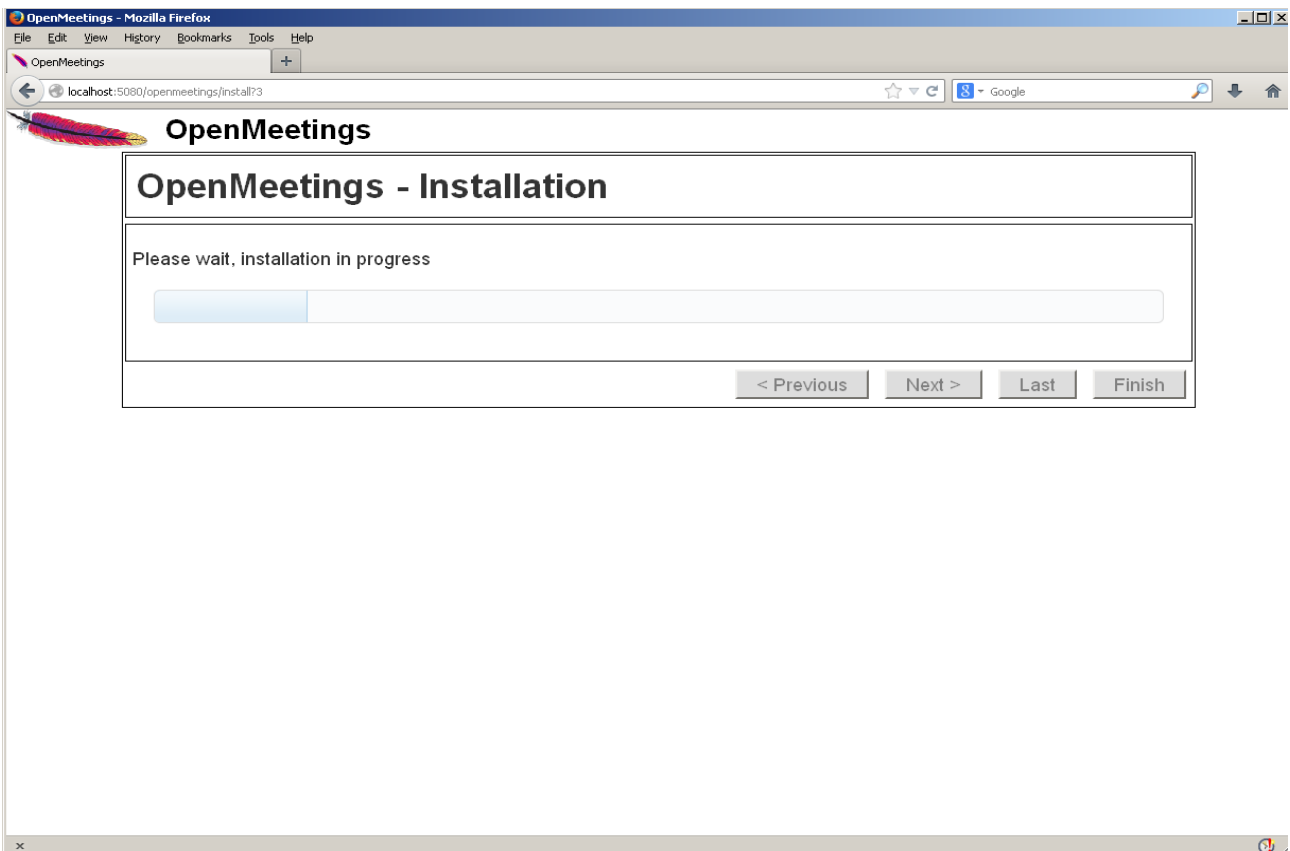
Name = **example-openmeetings** ...group name to choose

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

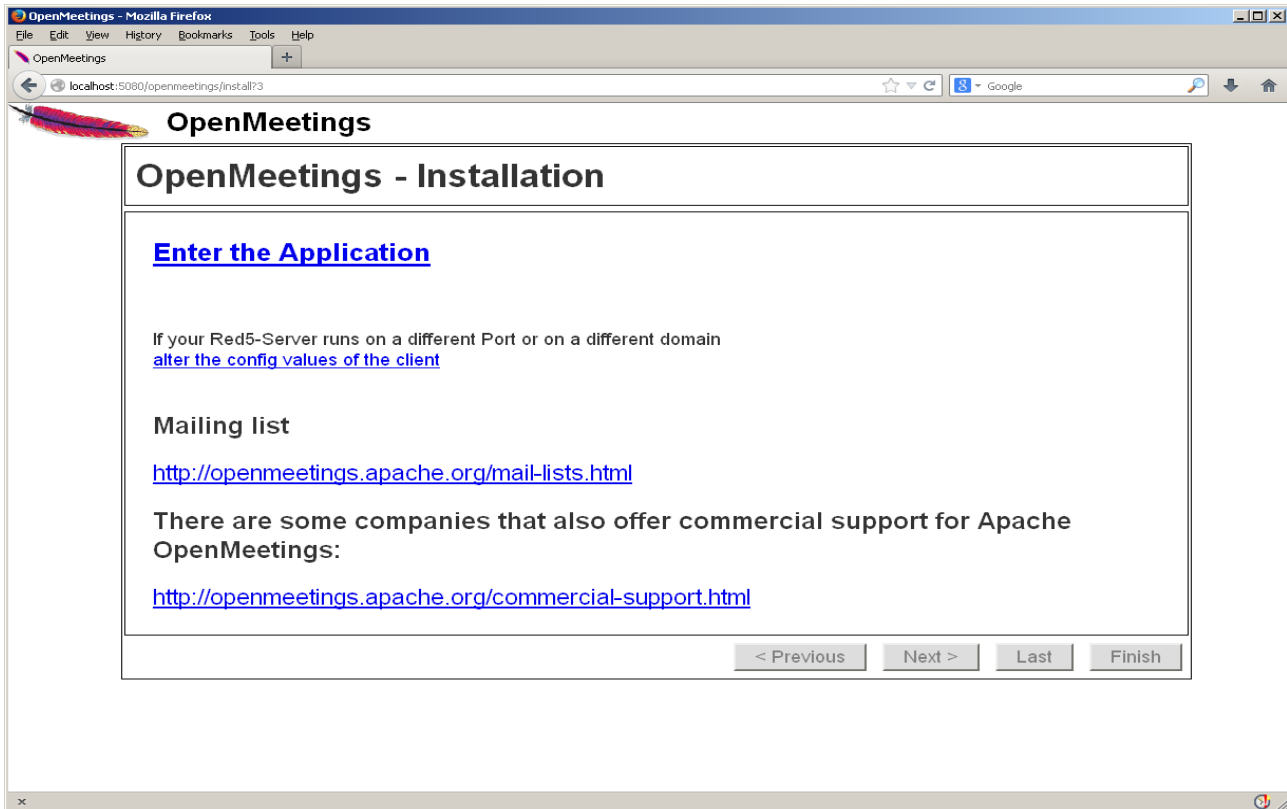
...click **Last** and this other page will appear:



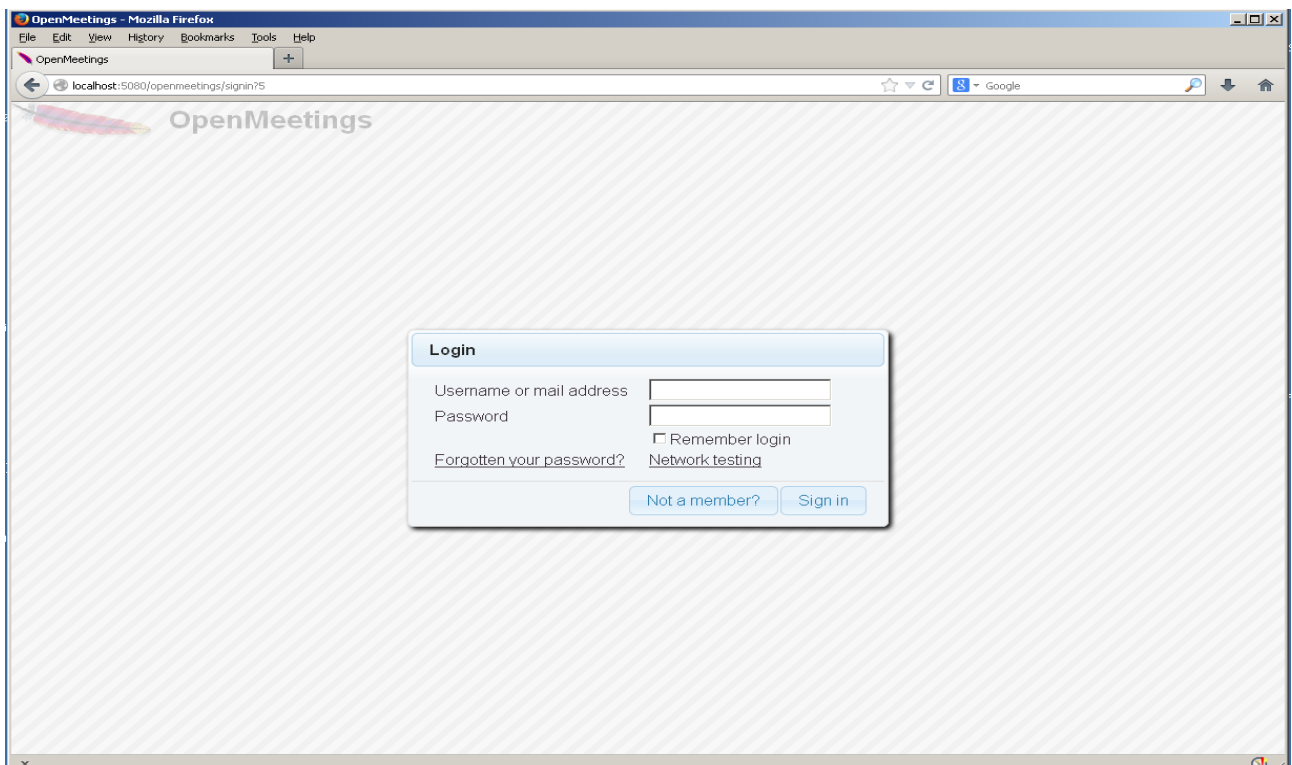
...click **Finish** and will start to fill the database tables:



When finish should show this page:



...click [Enter the Application](#) and we'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:

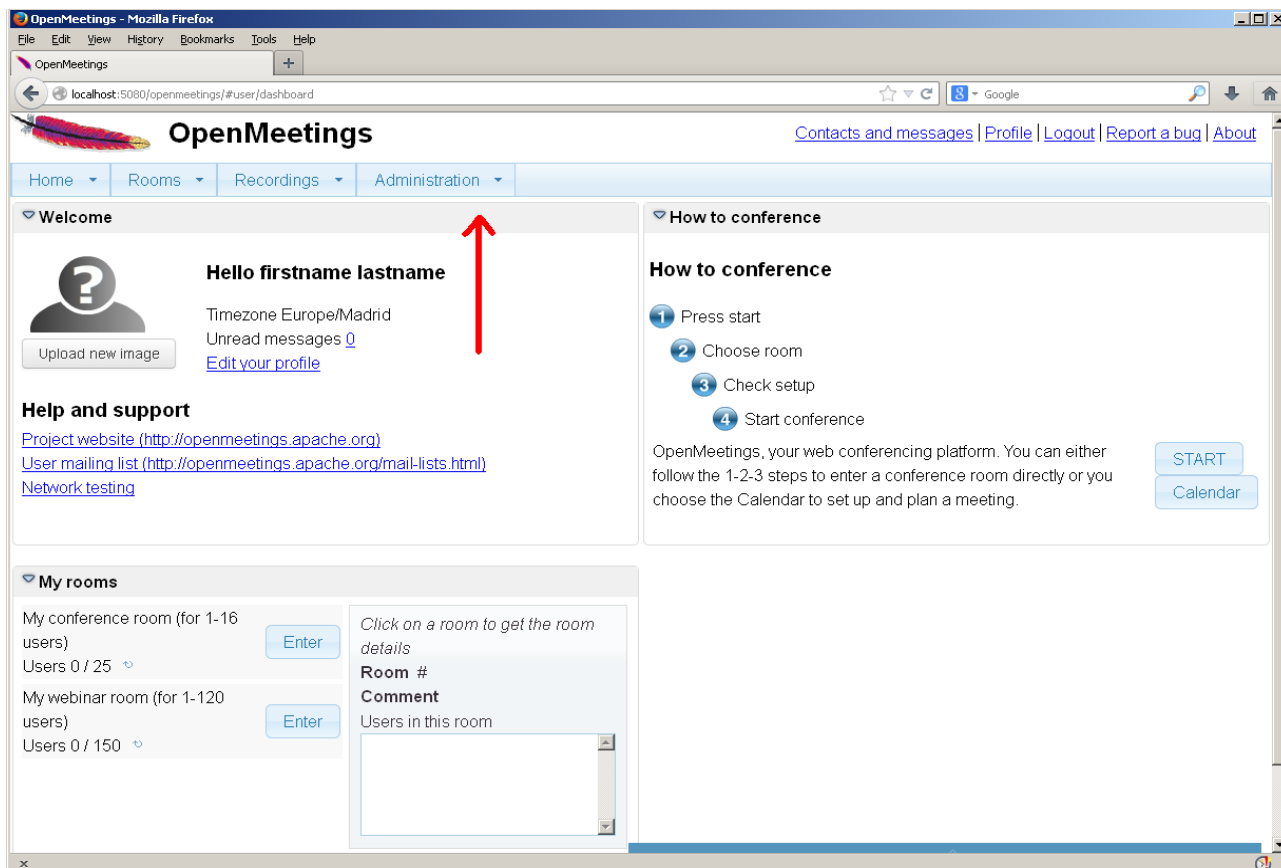
**1935   5080   8088**

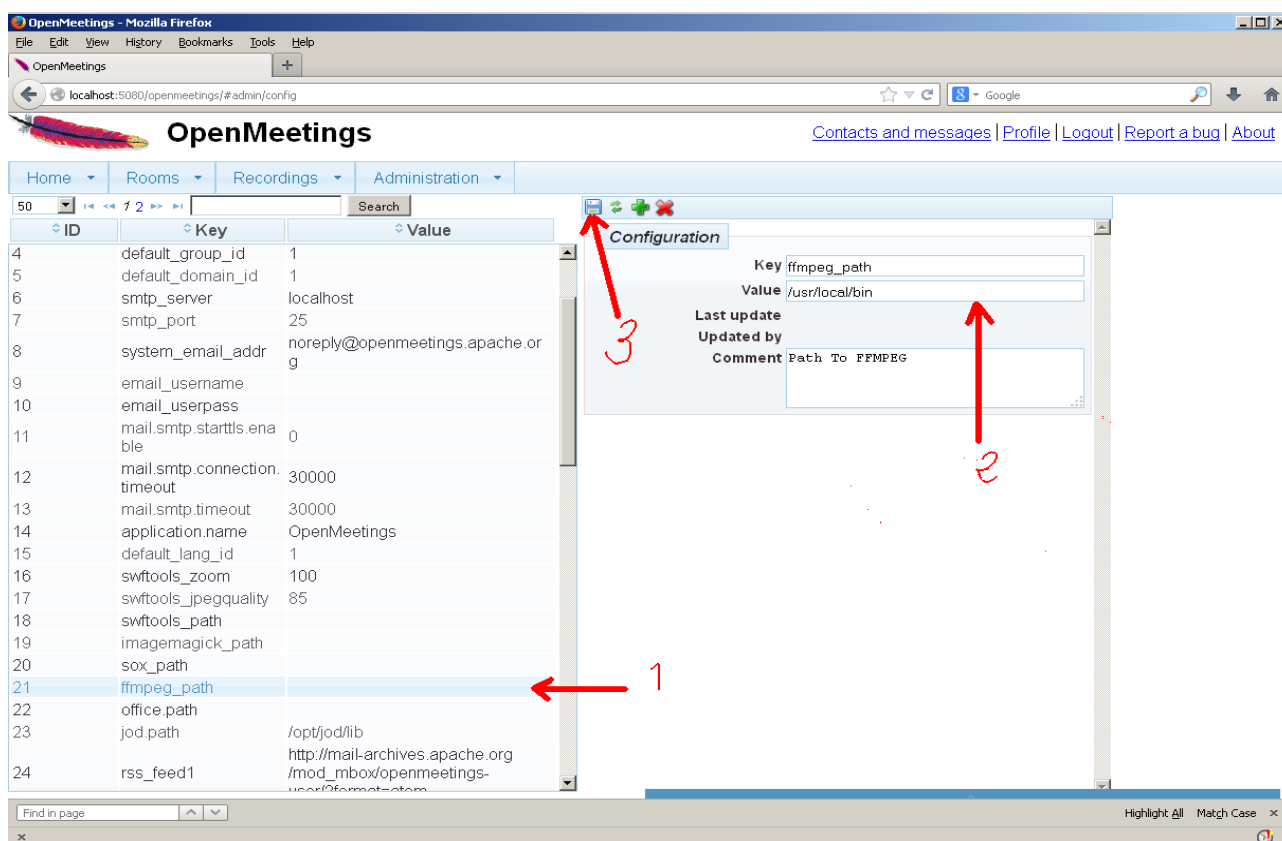
...in order can accede to OpenMeetings from other machines in Lan or Internet.

16)

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

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





...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 that 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