



## **Installation of Apache OpenMeetings 3.x.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 3.0.3 stable

that is to say should suppress his compilation.

It is done step by step.

17-9-2014

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/beta/7/x86\_64/epel-release-7-1.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 1.7 -----

Oracle Java 1.7 it is necessary to OpenMeetings works.

OpenJava 1.7 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.

Well, should install Oracle Java 1.7.

Please visit:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>

...clic on:

**Agree and procced**

...clic on:

**Accept License Agreement**

...and download the file called:

**jdk-7u67-linux-x64.rpm**

Place where the file was downloaded, for example:

`cd /home/you_user`

...and install it:

`rpm -Uvh jdk-7u67-linux-x64.rpm`

`update-alternatives --install /usr/bin/java java /usr/java/jdk1.7.0_67/jre/bin/java 20000`

`update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.7.0_67/bin/jar 20000`

```
update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.7.0_67/bin/javac 20000
```

```
update-alternatives --install /usr/bin/javaws javaws /usr/java/jdk1.7.0_67/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 open303 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 open303 database:

```
GRANT ALL PRIVILEGES ON open303.* TO 'hola'@'localhost' WITH GRANT OPTION;
```

```
FLUSH PRIVILEGES;
```

```
quit
```

**open303** ..... 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/opensourcery-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 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** -----

We'll install the 3.0.3 stable version.

Should make the OpenMeetings installation in **/opt/red5303**

Make a folder called **red5303** where download the Apache OpenMeetings file and where make the installation:.

```
mkdir /opt/red5303
```

This url that you can visit, is the Apache OpenMeetings 3.0.3 stable version:

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

```
cd /opt/red5303
```

Here i put two valids examples links to choose download:

```
wget http://apache.rediris.es/openmeetings/3.0.3/bin/apache-openmeetings-3.0.3.zip
```

...or

```
wget http://ftp.cixug.es/apache/openmeetings/3.0.3/bin/apache-openmeetings-3.0.3.zip
```

```
unzip apache-openmeetings-3.0.3.zip
```

...save the original file to /opt:

```
mv apache-openmeetings-3.0.3.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/red5303/webapps/openmeetings/WEB-INF/lib
```

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

```
chown -R nobody /opt/red5303
```

16)

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

Will configure OpenMeetings to connect with MariaDB:

```
cd /opt/red5303/webapps/openmeetings/WEB-INF/classes/META-INF
```

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

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

```
cd /opt
```

```
sudo gedit /opt/red5303/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/open303?....
```

...open303 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 **open303** 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/red5303/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/red5303

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/red5303
```

...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:

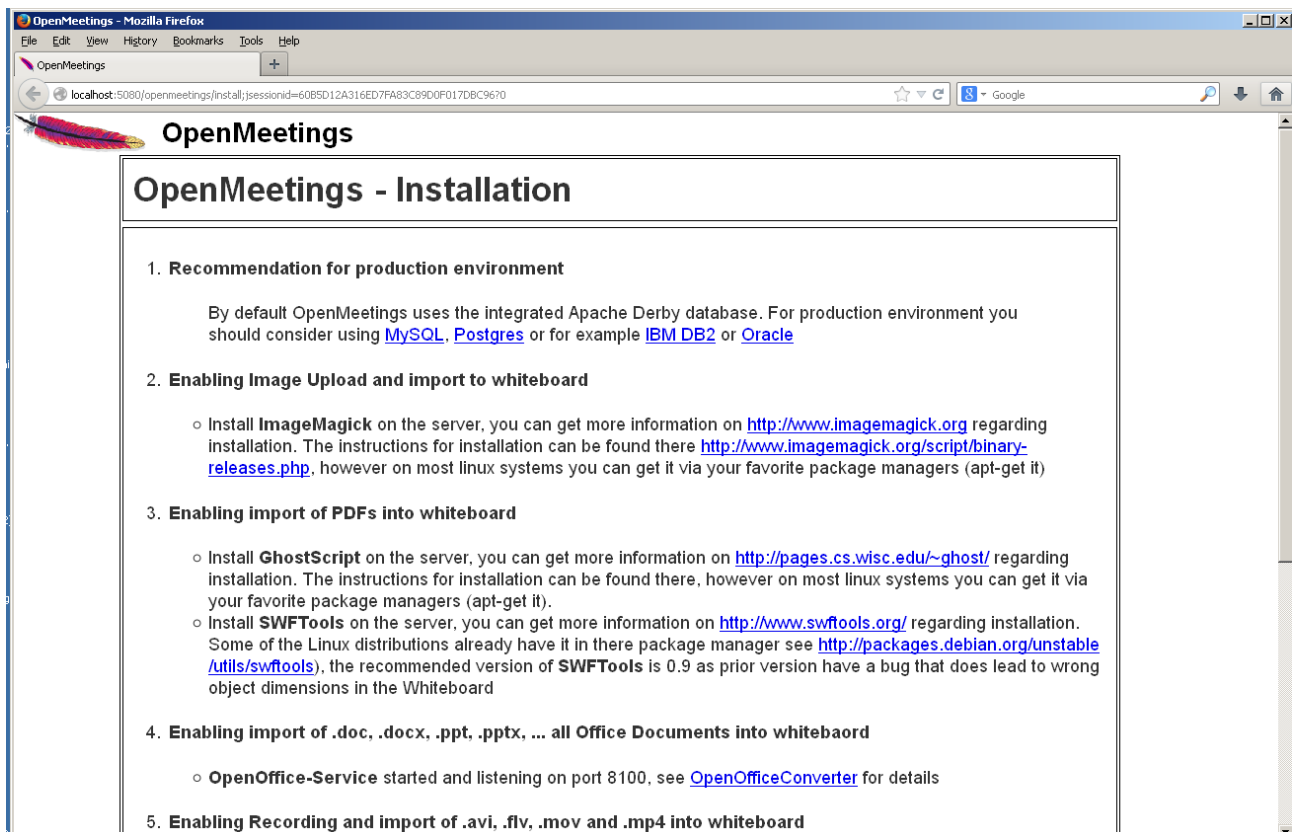


`/etc/init.d/red5 start`

...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:



The screenshot shows a Mozilla Firefox browser window displaying the OpenMeetings installation page. The browser's address bar shows the URL `localhost:5080/openmeetings/install`. The page title is "OpenMeetings - Installation". The content is organized into five numbered sections, each with a title and a list of instructions or recommendations. The sections are:

- 1. Recommendation for production environment**

By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using [MySQL](#), [Postgres](#) or for example [IBM DB2](#) or [Oracle](#)
- 2. 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)
- 3. 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
- 4. Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whiteboard**
  - OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details
- 5. Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard**

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

**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

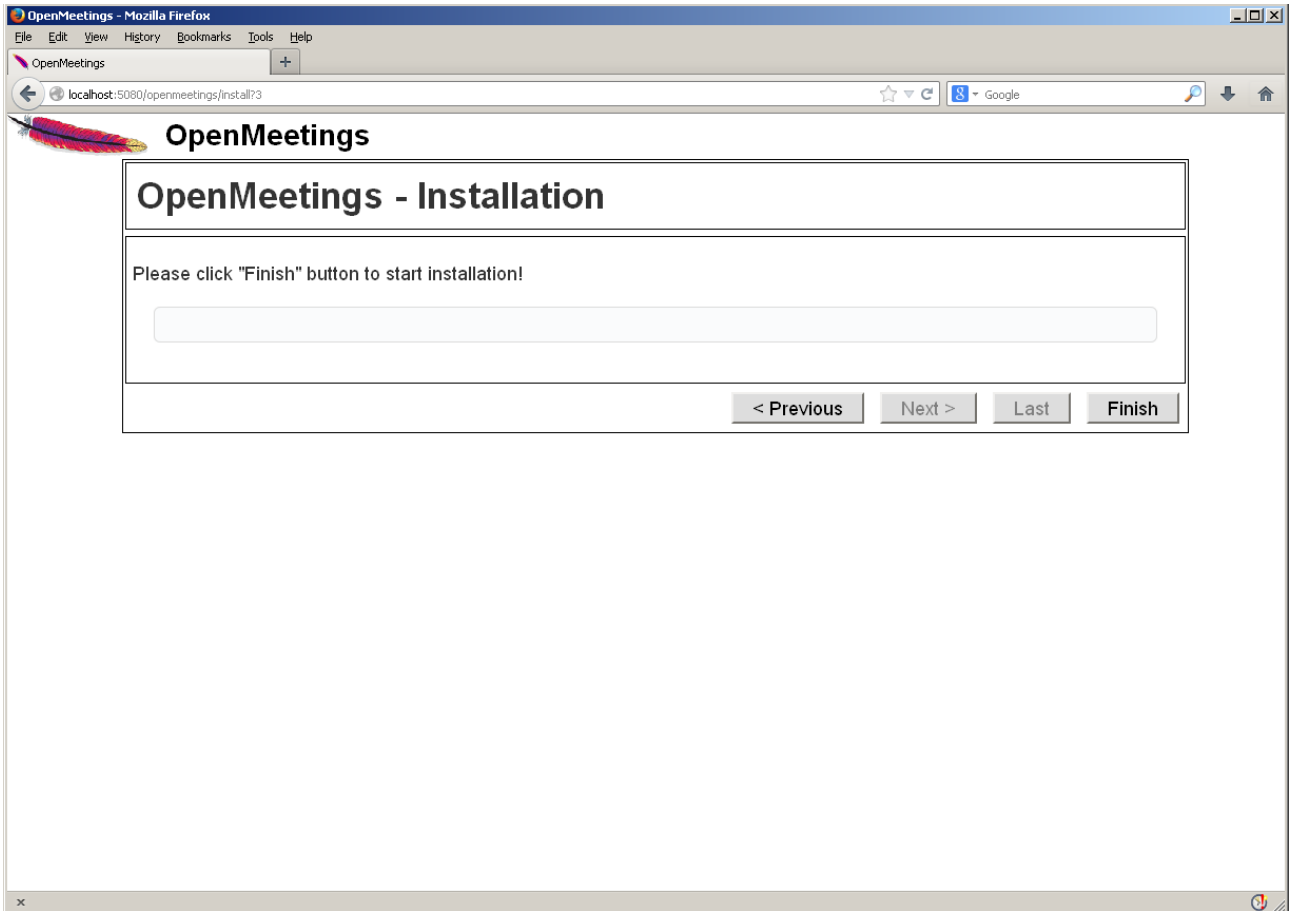
EMail = **email-address** ...of the previous user.

User Time Zone = Select your geographyc situation

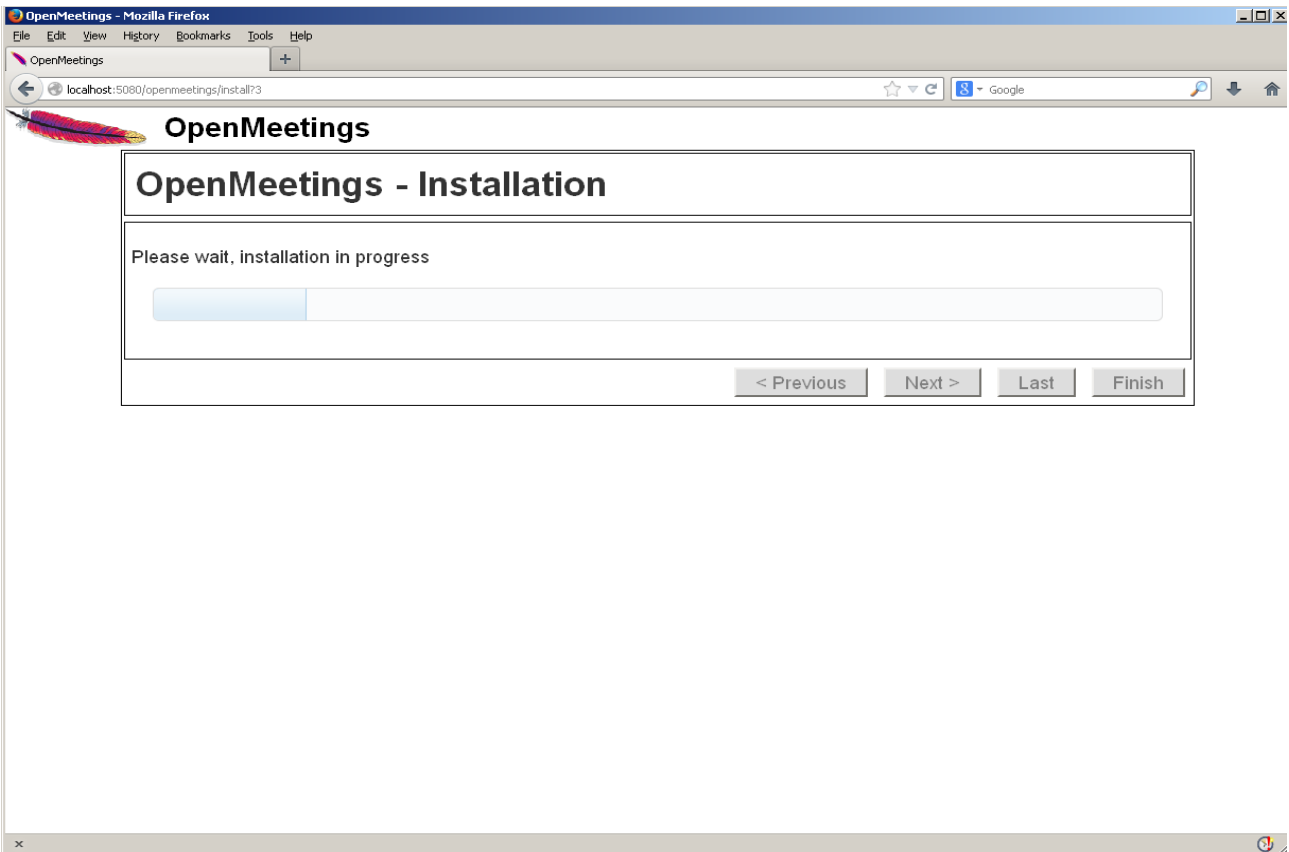
Name = **example-openmeetings** ...group name to choose

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

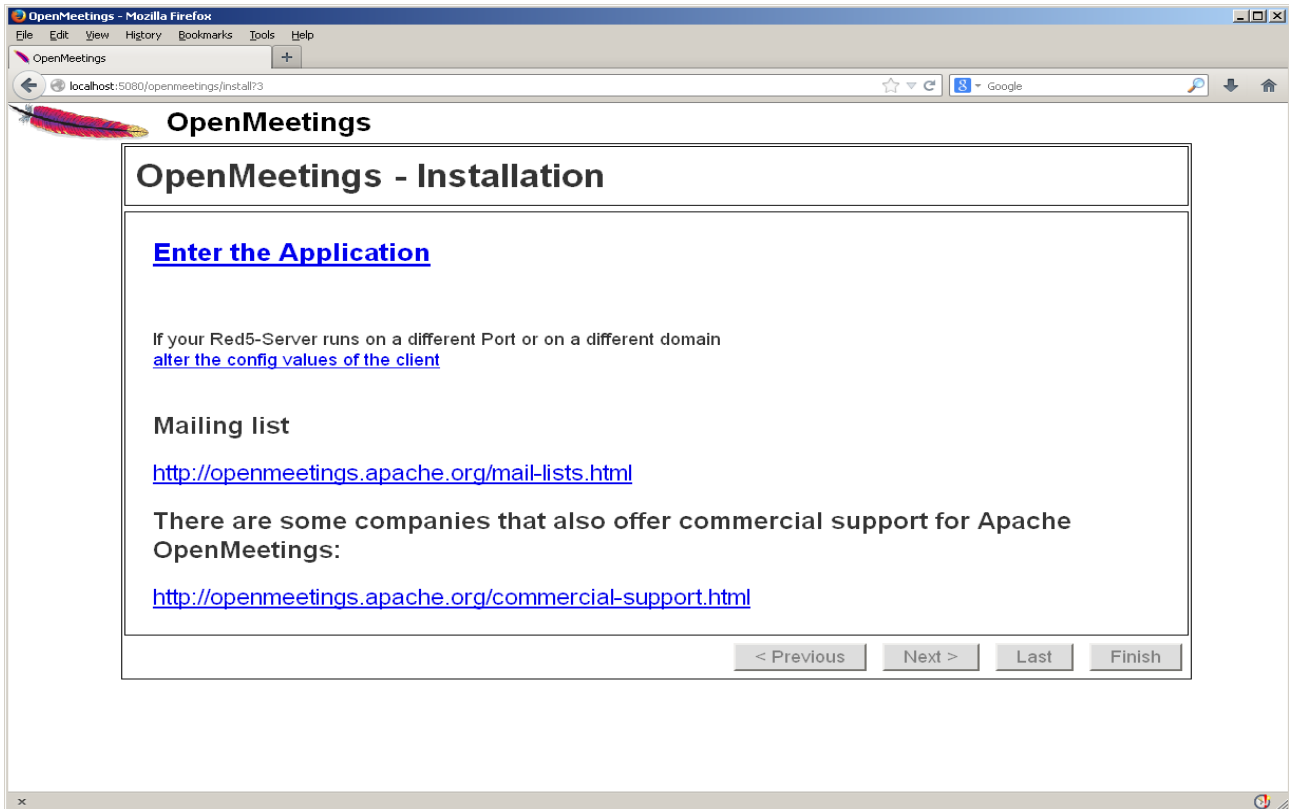
...click **Last** and this other page will appear:



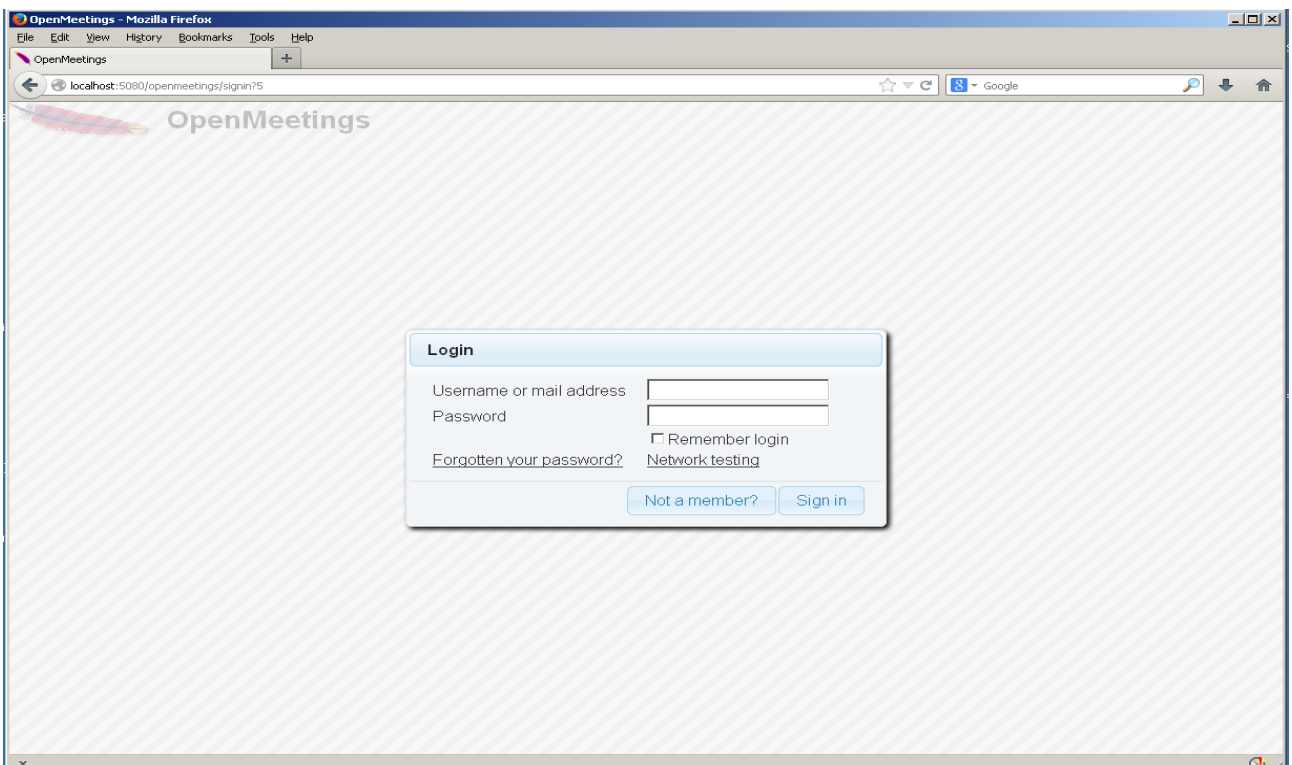
...click **Finish** and will start to fill the database tables:



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**

ID	Key	Value
4	default_group_id	1
5	default_domain_id	1
6	smtp_server	localhost
7	smtp_port	25
8	system_email_addr	noreply@openmeetings.apache.org
9	email_username	
10	email_userpass	
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	/opt/jod/lib
24	rss_feed1	http://mail-archives.apache.org/mod_mbox/openmeetings-user@ferret-stone.com

...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