



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 3.0.6 stable

that is to say should suppress his compilation.

It is done step by step.

17-9-2014 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 (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

RpmForge

rpm -Uvh 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

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>

...clic on:

Agree and procced

...clic 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/java/jdk1.8.0_45/bin/javac 20000
```

```
update-alternatives --install /usr/bin/javaws javaws /usr/java/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 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 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 you need install:

```
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>

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 3.0.6 stable version.

Should make the OpenMeetings installation in **/opt/red5306**

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 put 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** respectively:

```
, 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-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 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

- 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)
- 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 **SWFTTools** 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 **SWFTTools** is 0.9 as prior version have a bug that does lead to wrong object dimensions in the Whiteboard
- Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whiteboard**
 - OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details
- 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 **CaY** <http://www.cayenne.com/>. You should install CaY in a up to date copy! CaY 4.0 you will NOT work!

...click Next button 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	MySQL
Specify DB host	localhost
Specify DB port	3306
Specify the name of the database	
Specify DB user	
Specify DB password	

Check

< Previous Next > Last Finish

...click **Next** again:

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 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

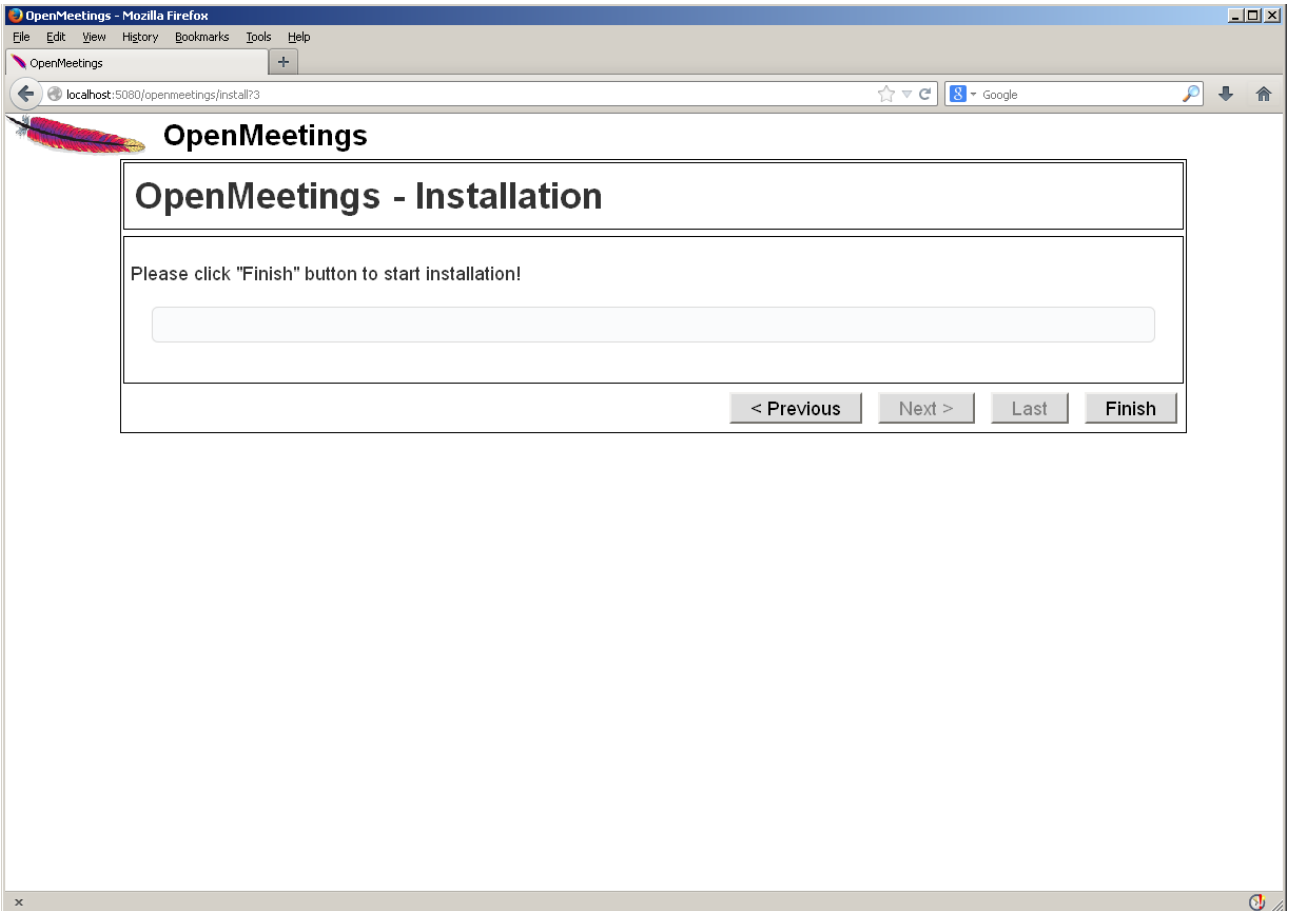
EMail = **email-address** ...of the previous user.

User Time Zone = Select your geographic situation

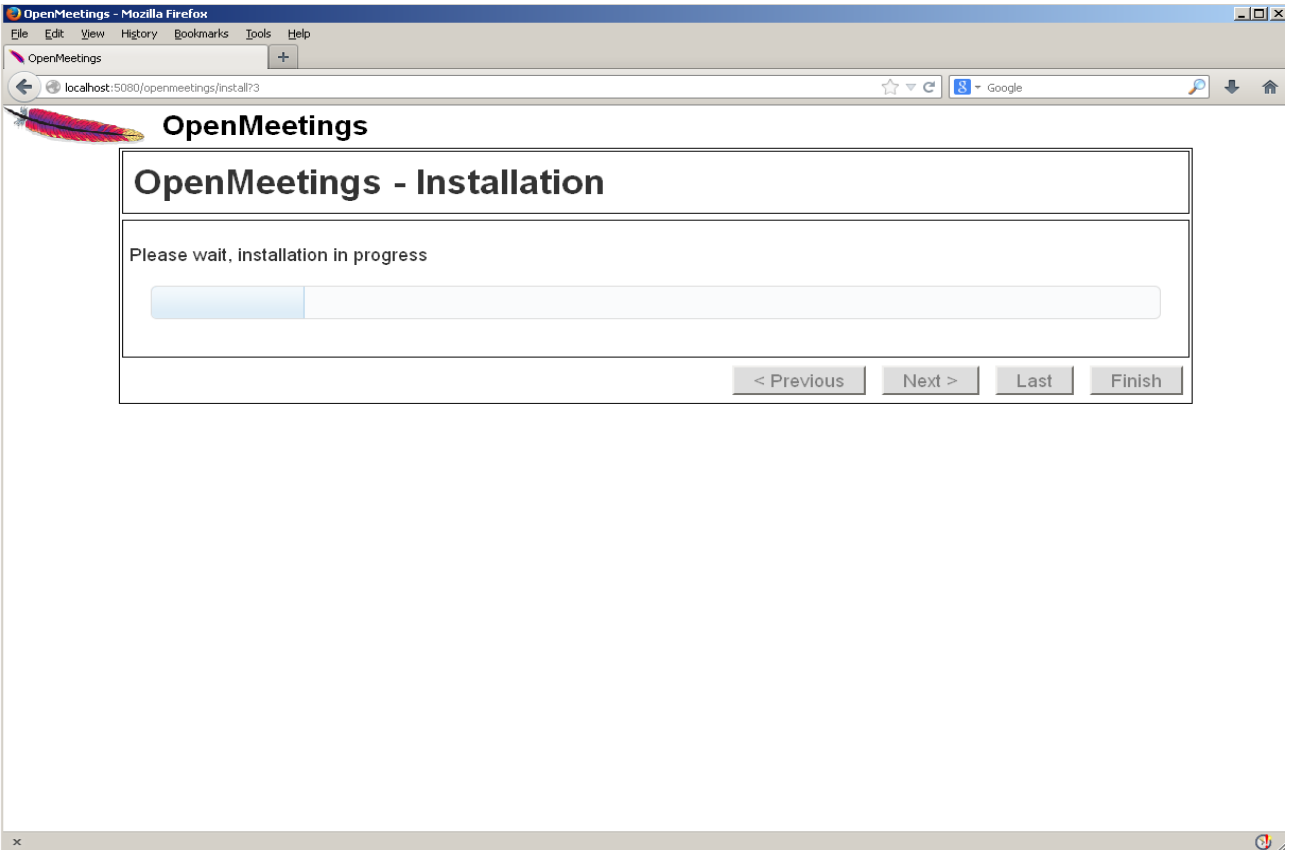
Name = **example-openmeetings** ...group name to choose

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

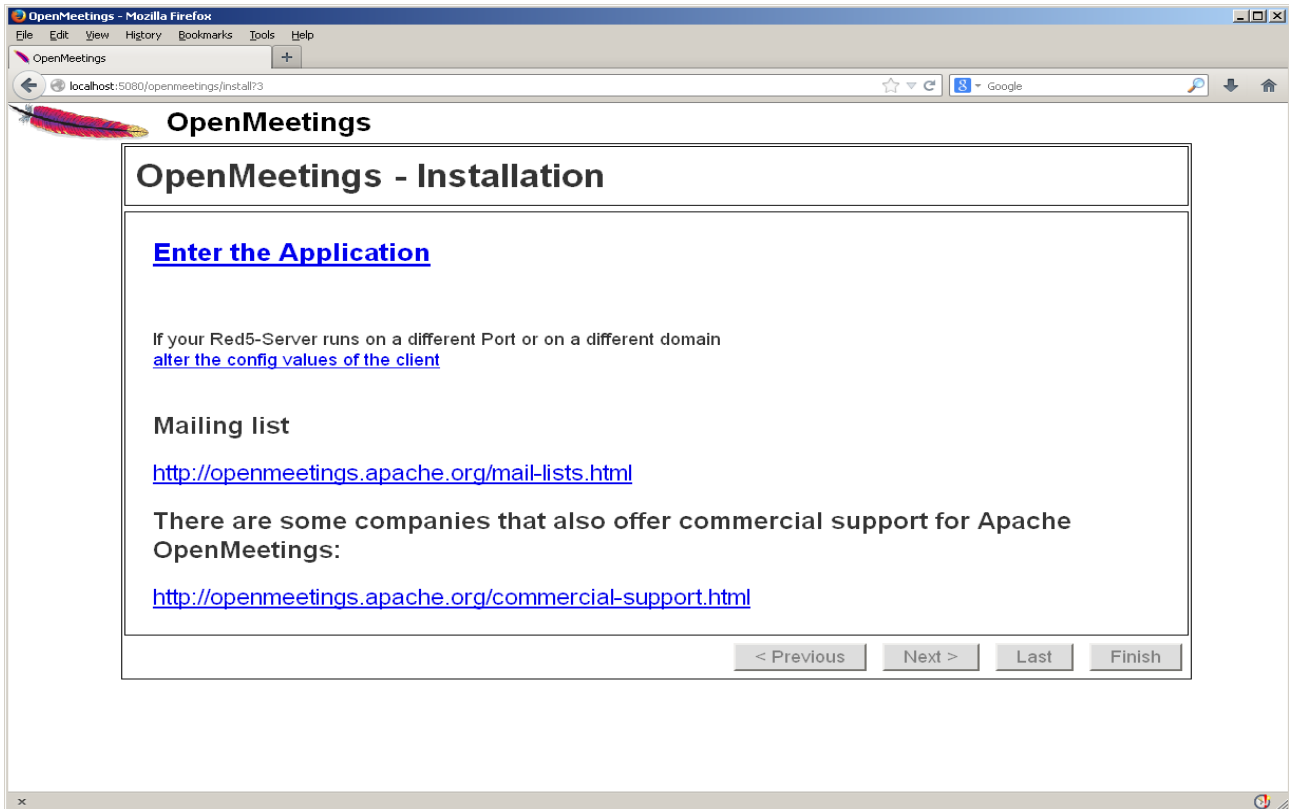
...click **Last** and this other page will appear:



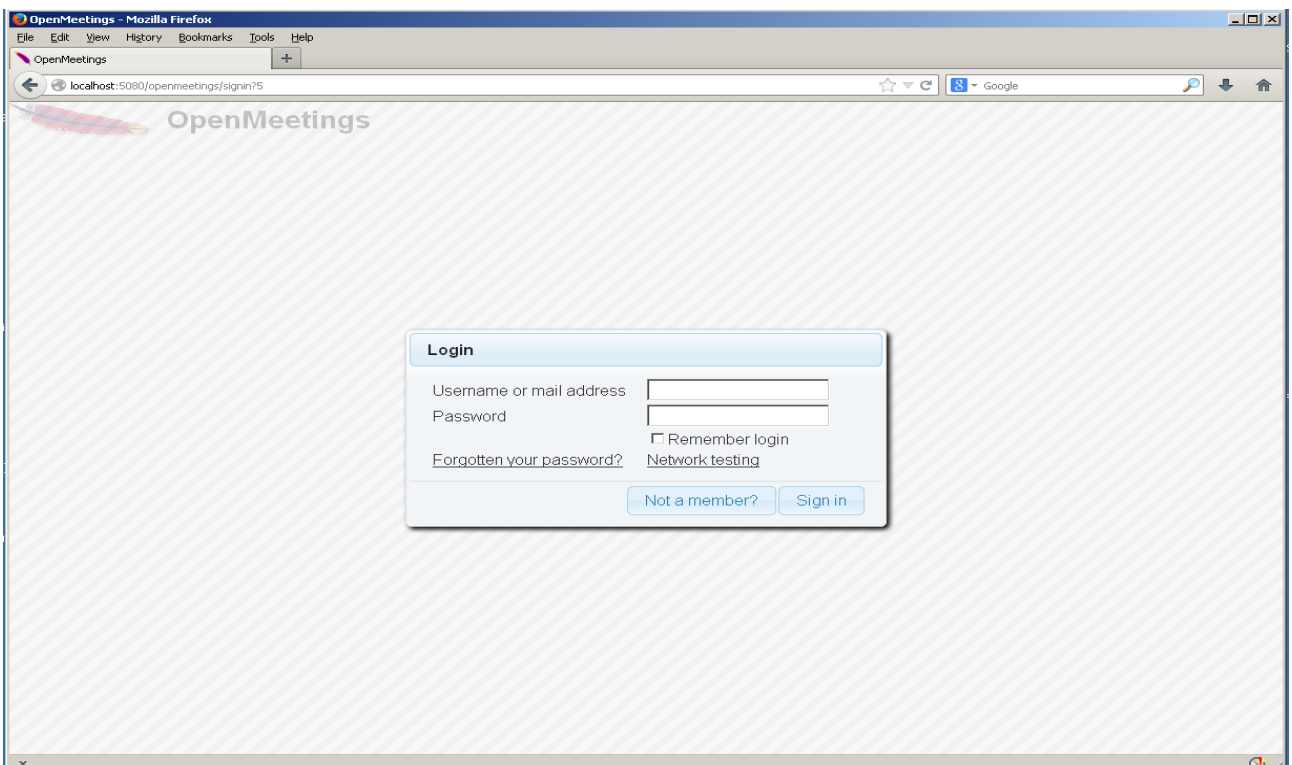
... clic **Finish** and will start to fill the database tables:



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**

The screenshot shows the OpenMeetings Administration interface. On the left is a table of configuration keys and values. On the right is a 'Configuration' form for editing a specific key. Red annotations highlight key actions:

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-station

The 'Configuration' form on the right shows the following fields:

- Key: ffmpeg_path
- Value: /usr/local/bin
- Last update: [empty]
- Updated by: [empty]
- Comment: Path To FFmpeg

Red annotations in the image:

- Arrow 1 points to the 'ffmpeg_path' row in the table.
- Arrow 2 points to the 'Value' field in the configuration form.
- Arrow 3 points to the save button in the configuration form.

...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