



## Installation of Apache OpenMeetings 4.0.1 on Arch Linux

This tutorial is based on a fresh installations of

**arch-anywhere-2.2.8-x86\_64.iso**

Arch Anywhere, it is a pure Arch Linux, with the only difference that the installation it is graphical. That's all.

It is tested with positive result. We will use the Apache's binary version OpenMeetings 4.0.1stable, that is to say will suppress his compilation. It is done step by step.

9-12-2017

Please, be connected to Internet during all the process to run any server.

Starting...

1)

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

Open a terminal as root:

`su`

...will ask for root password, and we update the operative system:

`pacman -Syu`

2)

## ----- Installation of Oracle Java 1.9 -----

Java **1.8** or **1.9** it is necessary for OpenMeetings **4.0.1**. We'll install Oracle Java.

We'll install Packer. Packer is a wrapper for both Pacman and AUR. Packer reduce the complexity of manually compiling and installing the packages.

First, install the required dependencies:

```
pacman -S base-devel fakeroot jshon expac git wget
```

...when ask: **Enter a selection (default=all):** ...press **Enter**.

...will ask also: **Continue with the installation? [Y/n]** ...press **Enter**.

...and when finish, exit as root:

```
exit
```

Download the PKGBUILD script from AUR:

```
wget https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=packer
```

...rename the unloaded file:

```
mv PKGBUILD\?h\=packer PKGBUILD
```

...we compile it:

```
makepkg
```

...and now install Packer:

```
sudo pacman -U packer-*.pkg.tar.xz
```

...will ask: **Continue with the installation [Y/n]** ...press **Enter**.

Now, being at home, and in the terminal as user, not as root, install Oracle Java:

```
packer jdk
```

...will show all the available java versions. Type the number of Oracle Java Development, according to your Arch Linux installation, 32 or 64bit.

In my case i type, at the end of the shell, the number 18:

```
guadal@ar:~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
OpenJDK Java 9 sources  
15 extra/visualvm 1.3.9-1  
    Visual tool integrating several commandline JDK tools and lightweight  
    profiling capabilities  
16 community/java-atk-wrapper-openjdk7 0.33.3-1  
    ATK wrapper for screen reader access to Java Swing applications - OpenJDK  
7  
17 community/java-atk-wrapper-openjdk8 0.33.3-1  
    ATK wrapper for screen reader access to Java Swing applications - OpenJDK  
8  
18 aur/jdk 9.0.1-1 (769) ←  
    Oracle Java Development Kit  
19 aur/jdk7 7u80-1 (133)  
    Oracle Java 7 Development Kit (public release - end of support)  
20 aur/jdk6 6u45-6 (79)  
    Oracle Java 6 Development Kit (public release - end of support)  
21 aur/jdk-docs 9.0.1-1 (53)  
    Documentation for Oracle Java Development Kit  
22 aur/jdk-devel 10b34-1 (36)  
    Oracle Java 10 Development Kit Snapshot  
23 aur/jre8-openjdk-infinity 8.u152-1 (29)  
    OpenJDK Java 8 full runtime environment with infinity patch applied  
24 aur/jre8-openjdk-headless-infinity 8.u152-1 (29)  
    OpenJDK Java 8 headless runtime environment with infinity patch applied
```

```
guadal@ar:~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
IBM® SDK, Java Technology Edition, Version 8  
48 aur/jdk8-docs 8u152-1 (3)  
    Documentation for Oracle Java 8 Development Kit  
49 aur/jdk6-docs 6u30-1 (3)  
    Documentation for Oracle Java 6 Development Kit  
50 aur/jdk5 5u22-1 (3)  
    Oracle Java 5 Development Kit (public release - end of support)  
51 aur/bin32-jdk6 6u45-5 (3)  
    Oracle Java 6 Development Kit (32-bit) (public release - end of support)  
52 aur/zulu-jdk 8u144b01-1 (2)  
    Zulu JVM built upon OpenJDK 8  
53 aur/ldapjdk 4.19-1 (2)  
    The Mozilla LDAP Java SDK  
54 aur/jdk8-openj9-bin 8u152-b16-1 (2)  
    Eclipse (former IBM) OpenJ9 with openjdk8  
55 aur/bin32-jdk5 5u22-1 (2)  
    Oracle Java 5 Development Kit (32-bit) (public release - end of support)  
56 aur/jdk-dcevm 8u144-1 (1)  
    Oracle Java Development Kit with DCEVM patches  
57 aur/java8-openjdk-hsdis 8.u112-1 (1)  
    Disassembler for HotSpot  
Type numbers to install. Separate each number with a space.  
Numbers: 18 ←
```

Once you've typed your selected number, push **Enter**. And when ask:

Proceed with installation? [Y/n] **y**

Edit jdk PKGBUILD with \$EDITOR? [Y/n] **n**

Edit jdk.install with \$EDITOR? [Y/n] **n**

...press **Enter** to the question that will do later.

3)

----- **Installation of LibreOffice** -----

OpenMeetings will need LibreOffice to convert to pdf the uploaded office files.

We install LibreOffice and Firefox (my Arch Linux installation have Mate desktop):

```
sudo pacman -S libreoffice firefox
```

...press **Enter** to any question.

4)

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

Will install packages and libraries that we'll need later:

(Only one line with space between both)

```
sudo pacman -S libjpeg ghostscript unzip gcc ncurses make zlib libtool bison bzip2 file-roller  
autoconf automake pkgconfig tomcat-native nmap curl freetype2 nano
```

5)

----- **Installation ImageMagick and Sox** -----

**ImageMagick**, will work with images files jpg, png, gif, etc. We install it:

```
sudo pacman -S imagemagick
```

**Sox**, work the sound. Install it:

```
sudo pacman -S sox
```

6)

----- Installation of Adobe Flash Player -----

OpenMeetings even need Adobe Flash Player for cam. We install it:

```
sudo pacman -S flashplugin
```

7)

----- Compilation of FFmpeg -----

FFmpeg work with video. Will install a libraries, paquets, and vlc to play the recordings that we'll make in OpenMeetings. Access as root to shell:

```
su ...will ask for root password
```

(Only one line with space between both)

```
pacman -S glibc faac faad2 gsm imlib2 vorbis-tools autoconf automake cmake gcc git libtool make  
mercurial nasm pkgconfig yasm vlc qt4
```

The ffmpeg compilation it is based on this url, updated file versions 9-12-2017:

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

I made a script that will download, compile and install ffmpeg. It is tested and works ok. The result of any recordings we do in OpenMeetings, will be in mp4 format.

When the compilation be finished, will appear a text announces it:

**FFMPEG Compilation is Finished!**

So, download the script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-archlinux.sh
```

...concede execution permission to it:

```
chmod +x ffmpeg-archlinux.sh
```

...and run it (be connected to Internet):

[./ffmpeg-archlinux.sh](#)

The compilation will spend about 30 minutes.

When finished, please go to **step 8**).

But if you prefer, can copy and paste, though i **don't advise**.

Leave here the commands script:

[nano /opt/ffmpeg-arch.sh](#)

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

```
# Script ffmpeg compile for Arch Linux
# Alvaro Bustos, thanks to Hunter.
# Updated 9-12-2017

# 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
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
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
wget https://sources.voidlinux.eu/opus-1.2.1/opus-1.2.1.tar.gz
wget http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
wget 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
wget http://ffmpeg.org/releases/ffmpeg-3.1.1.tar.gz

# 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-libfreetype --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 is Finished!"

...to here.

Concede permission of execution:

chmod +x /opt/ffpmeg-arch.sh

```

```
cd /opt
```

Now be connected to Internet, run the script and wait about 30 minutes while the compilation is finished:

```
./ffmpeg-arch.sh
```

All the compiled files will be installed in: /usr/local/bin

8)

----- Installation of MariaDB data server -----

MariaDB is the data server. We install it: (continue as root in shell)

```
pacman -S mariadb
```

Initialize data directories (be connected to Internet):

```
mysql_install_db --user=mysql --basedir=/usr --datadir=/var/lib/mysql
```

...and run MariaDB:

```
systemctl start mysqld
```

Give a password to MariaDB root . Please, modify **new-password** by your own and remember it:

```
mysqladmin -u root password new-password
```

Access to MariaDB:

```
mysql -u root -p
```

...will ask for the password you does just now.

Make a database called open401, for OpenMeetings. User password must be of 8 digits minimum:

```
MariaDB [(none)]> CREATE DATABASE open401 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open401 database:

(Only one line with space between both)



```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open401.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

```
* open401 ..... name of the database
* hola ..... user for that database
* 1a2B3c4D .....password of this user
```

You can change the data, but...remember it! Later we'll need it.  
We leave MariaDB:

```
MariaDB [(none)]> quit
```

9)

### ----- Installation of OpenMeetings -----

We'll install OpenMeetings in /opt/red5401. All the following information will be based on this directory.

Call to our folder of installation red5401

Make that folder:

```
mkdir /opt/red5401
```

```
cd /opt/red5401
```

...and download the OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/4.0.1/bin/apache-openmeetings-4.0.1.zip
```

```
unzip apache-openmeetings-4.0.1.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-4.0.1.zip /opt
```

Download and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.45/mysql-connector-java-5.1.45.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.45.jar /opt/red5401/webapps/openmeetings/WEB-INF/lib
```

Now we are going to configure OpenMeetings for our database in MariaDB:

```
nano /opt/red5401/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**Modify in line 72:**

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

...to

```
, Url=jdbc:mysql://localhost:3306/open401?
```

...it is the name of the database that we did initially.

Press on keyboard, **Ctrl+x**, **Y** and **Enter**, to save changes and exit nano editor.

Logically, if initially you choose another database name, you will type it here.

Protect the access to the file:

(Only one line without space between both)

```
chmod 6401 /opt/red5401/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

10)

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

We make the folder /etc/init.d, where put the red5 run script:

```
mkdir /etc/init.d
```

Download the script to run red5-OpenMeetings:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-2
```

...copy it to where must be:

```
cp red5-2 /etc/init.d/
```

...concede execution permission:

```
chmod +x /etc/init.d/red5-2
```

If you would made the installation in any other different path to /opt/red5401, please edit the script and modify the line:

```
RED5_HOME=/opt/red5401
```

...to

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

11)

### ----- Run red5-OpenMeetings -----

Restart MariaDB:

```
systemctl restart mysqld
```

...and run red5-OpenMeetings. Please, open a new terminal as root, and be connected to Internet, so the running will be quick:

```
/etc/init.d/red5-2 start
```

...wait untill the text “**CleanupJob.cleanRoomFiles**”, it is the last in the shell. Then, go with the browser to:

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

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

**OpenMeetings**

**1. 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).

**If you have further questions or need support in installation or hosting:**


**Community-Support:**

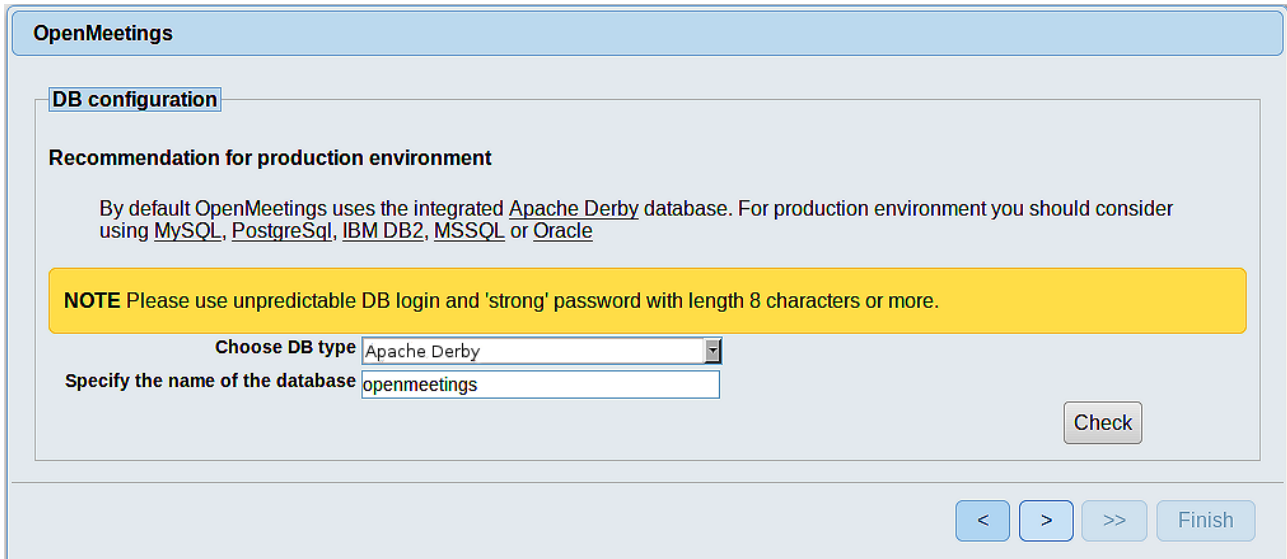
[Mailing lists](#)

**Commercial-Support:**

[Commercial-Support](#)

<
>
>>
Finish

...push on  (bottom), and will show the default configuration with Derby, but we employ MySQL (MariaDB):



**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

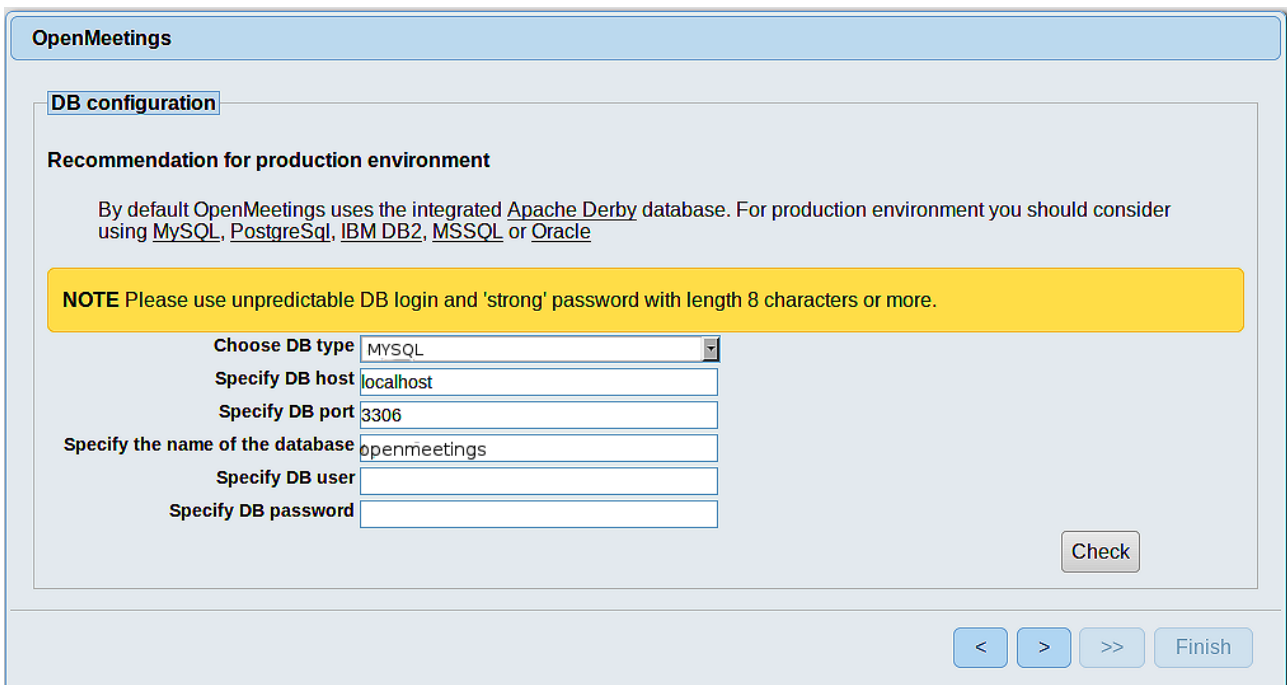
By default OpenMeetings uses the integrated [Apache Derby](#) database. For production environment you should consider using [MySQL](#), [PostgreSql](#), [IBM DB2](#), [MSSQL](#) or [Oracle](#)

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

Choose DB type

Specify the name of the database

...so, 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](#)

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

Choose DB type

Specify DB host

Specify DB port

Specify the name of the database

Specify DB user

Specify DB password

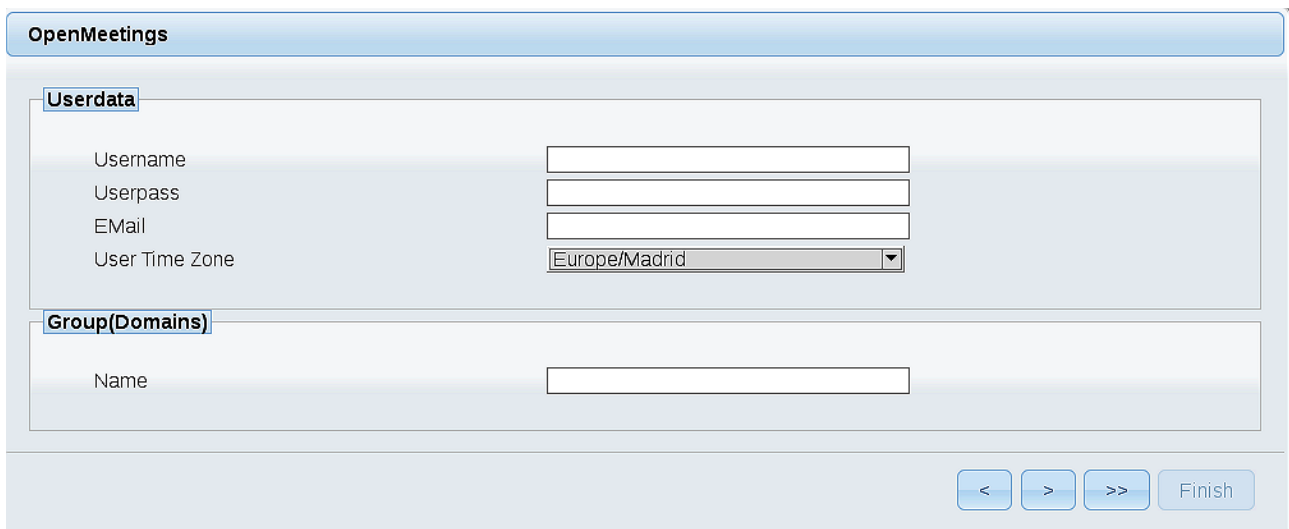
...and will show the database name, we made in the step 9.  
If you`ve choose any other different name for this, will show equally.

Now we must introduce the user name we did for our data base, at the step 8, and his password:

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

Press  button, and will go to:



Here, we must introduce a user name for OpenMeetings, and his password. This must have 8 digits minimum, and at least 1 special symbol like: + ( % # ! ...etc.


**Username** = a-name ...this user will be administrator.

**Userpass** = a-password ...for the previous user.

**Email** = email-adress ...of this previous user.

**User Time Zone** = country where is this server.

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

Press the button  and will lead us to a new page (below) where you can select the language for your OpenMeetings server, as well as other options such as the configuration of the mail server being used to send invitations or meetings from OpenMeetings:

OpenMeetings

Configuration

Allow self-registering	<input checked="" type="checkbox"/>
Send Email to new registered Users	<input type="checkbox"/>
New Users need to verify their EMail	<input type="checkbox"/>
Default DB objects of all types will be created (including Rooms, OAuth2 servers etc.)	<input checked="" type="checkbox"/>
Mail-Referer	<input type="text" value="noreply@openmeetings.apache.org"/>
SMTP-Server	<input type="text" value="localhost"/>
SMTP-Server Port(default SmtP-Server Port is 25)	<input type="text" value="25"/>
SMTP-Username	<input type="text"/>
SMTP-Userpass	<input type="text"/>
Enable TLS in Mail Server Auth	<input type="checkbox"/>
Set inviter's email address as ReplyTo in email invitations	<input checked="" type="checkbox"/>
Default Language	<input type="text" value="inglés"/>

A valid example to configure the mail server with Gmail, is as follows:

(replace **john@gmail.com** with your real Gmail account)

<b>Mail-Refer</b>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Server</b>	==	<a href="mailto:smtp@gmail.com">smtp@gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25)</b>	==	<a href="mailto:587">587</a>
<b>SMTP-Username</b>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Userpass</b>	==	<a href="mailto:password of john@gmail.com">password of john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	<a href="mailto:...turn green the button to activate">...turn green the button to activate</a>
<b>Default Language</b>	==	<a href="mailto:...select your language">...select your language</a>

...the rest you can change it as you like.

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

*see also [Installation](#)*

< > >> Finish

Here we'll introduce the respective paths for the image, video, audio and conversion of uploaded files:

**ImageMagick Path** == `/usr/bin`

**FFMPEG Path** == `/usr/local/bin`

**SOX Path** == `/usr/bin`

**OpenOffice/LibreOffice Path for jodconverter** == `/usr/lib/libreoffice`

Once completed the paths, please click the  button and move on to another page that would be to activate the SIP. We will leave it as is, unless you want to activate it knowing what it does:

**OpenMeetings**

**Crypt Type**

Crypt Class ⓘ


**red5SIP Configuration**

Enable SIP ⓘ

SIP rooms prefix ⓘ

SIP extensions context ⓘ

< > >> Finish

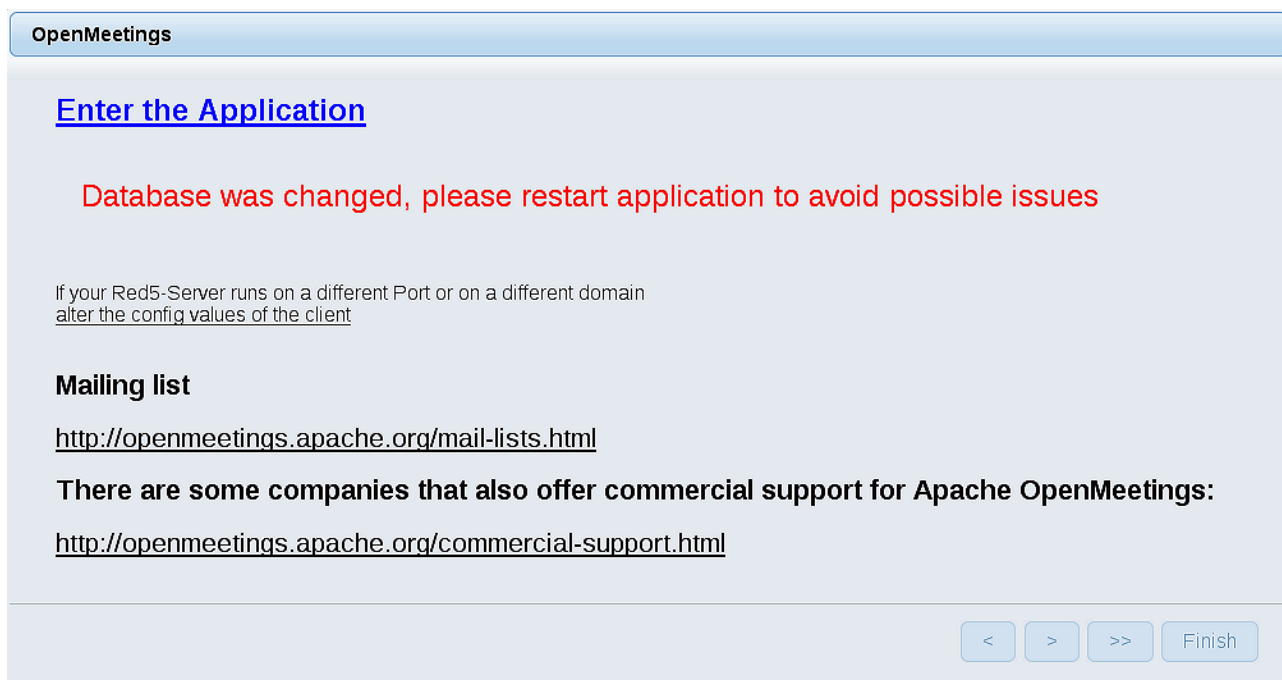
Now, touch the button  Will show this window:



Press **Finish** button...wait a seconds untill the tables are fill in our database.

When is concluded, this another page will appear. **Don't** clic on [Enter the Application](#).  
First is need it to restart red5 server. Please, be connectd to Internet. Open a new terminal as root:

`/etc/init.d/red5-2 restart`

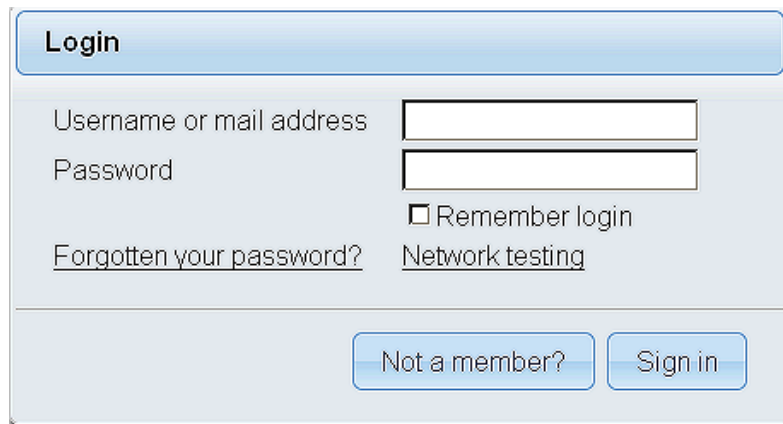


Now yes, you can clic on [Enter the Application](#), or go with your browser to:



<http://localhost:5080/openmeetings>

...and will take us to the entry of OpenMeetings:



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

...**Congratulations!**

The next time that you like to accede OpenMeetings, would be:

<http://localhost:5080/openmeetings>

Remember to open in the server, the two following ports:

**1935 5080**

...in order that it could accede to OpenMeetings from other machines in Lan or Internet.

12)


----- **OpenMeetings's configuration** -----

Once you acced to OpenMeetings, if you would like to do any modification in the configuration, please go to:

## Administration → Configuration

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

Welcome




**Hello firstname lastname**

Timezone Europe/Madrid  
Unread messages 0  
[Edit your profile](#)

[Upload new image](#)

**Help and support**



...and following the order of the red arrows:

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 [Navigation icons] Search

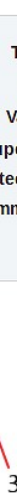


ID	Key	Value
1	crypt.class.name	org.apache.openmeetings.util.crypt.SCryptImplementation
2	allow.frontend.register	true
3	allow.soap.register	true
4	allow.oauth.register	true
5	default.group.id	1
6	mail.smtp.server	localhost
7	mail.smtp.port	25
8	mail.smtp.system.email	noreply@openmeetings.apache.org
9	mail.smtp.user	
10	mail.smtp.pass	
11	mail.smtp.starttls.enable	false
12	mail.smtp.connection.timeout	30000
13	mail.smtp.timeout	30000
14	application.name	OpenMeetings
15	default.lang.id	8
16	document.dpi	150
17	document.quality	90
18	path.imagemagick	
19	path.sox	
20	path.ffmpeg	
21	path.office	
22	dashboard.rss.feed1	http://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom
23	dashboard.rss.feed2	http://mail-archives.apache.org/mod_mbox/openmeetings-dev/?format=atom
24	send.email.at.register	false
25	send.email.with.verification	false

**Configuration**

Type: string  
Key: path.ffmpeg  
Value:   
Last update: Oct 17, 2017 5:54:57 PM  
Updated by: toro  
Comment: Path To FFMPEG

1 2 3

Chat



And this is all.

-----

If you have some doubt or question, please raise it in the Apache OpenMeetings forums:

<http://openmeetings.apache.org/mail-lists.html>



Thank you.

Alvaro Bustos