



## **Installation of Apache OpenMeetings 4.0.0 on Centos 6.9**

This tutorial is made based on fresh installations of

**CentOS-6.9-x86\_64-LiveCD.iso**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 4.0.0 stable, that is to say will suppress his compilation. It is done step by step.

5-11-2017

Starting...

1)

```
yum install -y gedit wget
```

At first place we must modify Selinux level security for the installation:

```
sudo gedit /etc/selinux/config
```

...modify:

```
SELINUX=enforcing
```

...to

SELINUX=**permissive**

2)

----- **Update the System** -----

Update operative system:

[yum update -y](#)

...and reboot for the kernel changes and the new **Selinux** configuration take effect.:

[reboot](#)

3)

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

### Add the **Epel** repository ###

**For Centos 6.x 32 bit**

[cd /opt](#)

[wget http://dl.fedoraproject.org/pub/epel/6/i386/epel-release-6-8.noarch.rpm](#)

[rpm -Uvh epel-release-6-8.noarch.rpm](#)

**For CentOS 6.x 64 bit:**

[cd /opt](#)

[wget http://dl.fedoraproject.org/pub/epel/6/x86\\_64/epel-release-6-8.noarch.rpm](#)

[rpm -Uvh epel-release-6-8.noarch.rpm](#)

### Añadimos el repositorio **linuxtech** (32 y 64 bits) ###

...para la instalación de vlc, reproductor de video para las futuras grabaciones que hagamos en OpenMeetings.:

[cd /opt](#)

[wget http://pkgrepo.linuxtech.net/el6/release/linuxtech.repo](#)

```
cp linuxtech.repo /etc/yum.repos.d
```

```
### Adobe repo 32 bit ## For Flash Player.
```

```
rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-i386-1.0-1.noarch.rpm
```

```
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux
```

```
### Adobe repo 64-bit ### 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
```

```
yum update
```

4)

#### ----- Installation of Oracle Java 1.8 -----

Java 1.8 it is necessary to work OpenMeetings 4.0.0. We install Oracle Java.

For Centos 6.x 32 bit:

```
cd /opt
```

Download the file:

(All in one line only. 1<sup>a</sup> and 2<sup>a</sup> without space between them. A space to the 3<sup>a</sup>. Together 3<sup>a</sup> and 4<sup>a</sup>)

```
wget --no-cookies --no-check-certificate --header "Cookie: gpw_e24=http%3A%2F%2Fwww.oracle.com%2F; oraclelicense=accept-securebackup-cookie"
http://download.oracle.com/otn-pub/java/jdk/8u152-b16/aa0333dd3019491ca4f6ddbe78cdb6d0/jdk-8u152-linux-i586.rpm
```

...and install it:

```
rpm -ivh jdk-8u152-linux-i586.rpm
```

For Centos 6.x 64 bit:

```
cd /opt
```

Download the file:

(All in one line only. 1<sup>a</sup> and 2<sup>a</sup> without space between them. A space to the 3<sup>a</sup>. Together 3<sup>a</sup> and 4<sup>a</sup>)

```
wget --no-cookies --no-check-certificate --header "Cookie: gpw_e24=http%3A%2F%2Fwww.oracle.com%2F; oraclelicense=accept-securebackup-cookie" http://download.oracle.com/otn-pub/java/jdk/8u152-b16/aa0333dd3019491ca4f6ddbe78cdb6d0/jdk-8u152-linux-x64.rpm
```

...and install it:

```
rpm -ivh jdk-8u152-linux-x64.rpm
```

Now, for Centos 6.x **32** and **64** bit.

Maybe you have installed various versions of Java. We select the just installed Oracle Java:

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

And to see if the selected version is active:

```
java -version
```

5)

#### ----- Installation of LibreOffice -----

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

We install it:

```
yum -y install libreoffice libreoffice-headless
```

6)

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

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

(Only one line with space between 1<sup>a</sup> and 2<sup>a</sup>)

```
yum install -y libjpeg libjpeg-devel ghostscript freetype freetype-devel unzip gcc gcc-c++ ncurses ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-devel bzip2 bzip2-devel file-roller git autoconf automake pkgconfig tomcat-native nmap nano
```

7)

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

**ImageMagick**, work the images files jpg, png, gif, etc. We install it and some libraries:

```
yum install -y ImageMagick giflib giflib-devel giflib-utils
```

**Sox**, work the sound. Will compile and install it:

```
cd /opt
```

```
wget http://sourceforge.net/projects/sox/files/sox/14.4.2/sox-14.4.2.tar.gz
```

```
tar xzvf sox-14.4.2.tar.gz
```

```
cd /opt/sox-14.4.2
```

```
./configure
```

```
make && make install
```

```
cd /opt
```

8)

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

OpenMeetings even need Adobe Flash Player for cam.

```
yum install -y flash-plugin
```

9)

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

FFmpeg will work with video. Will install a libraries and vlc to play the recordings.

```
yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-devel lame-devel vorbis-tools theora-tools libvpx-devel vlc cmake mercurial nasm curl git
```

This ffmpeg compilation is based on this url, and the file versions are updated 5-11-2017:

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

Download the script i made, to compile and install ffmpeg on Centos 6.8. It is tested and is ok. During the x265 compilation, will look like stop for a minutes in a text that say: **43%**, Don't worry, everything is goeing right. Be patience. The result of any recording we do in OpenMeetings, will be in mp4 format.

Will spend about 30 minutes the complete compilation. When is finished, a text will announce it:

**FFMPEG Compilation isFinished!**

So, we download the script:

```
cd /opt
```

(Only one line without space between both)

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-centos6.sh
```

...concede execution perrmission to it:

```
chmod +x ffmpeg-centos6.sh
```

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

```
./ffmpeg-centos6.sh
```

When be finished, please, go to **step 10**).

But if you prefer copy and paste, i **advise not to do it**, i leave the commands script:

```
sudo gedit /opt/ffmpeg-centos.sh
```

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

```
# Script ffmpeg compile for Centos 6.x
# Alvaro Bustos. Thanks to Hunter
# Updated 5-11-2017
# Install libraries
yum install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel

# Install yasm from repos
yum install -y yasm

# Create a temporary directory for sources.
```

```

SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
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-1.1.5/opus-1.1.5.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$HOME/ffmegg_build/lib" CPPFLAGS="-I$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-centos2.sh
```

```
cd /opt
```

Now be connected to Internet, run the script and wait some long minutes while the compilation:

```
./ffmpeg-centos2.sh
```

Remember the warning about 8 minutes in a false stop...

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

10)

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

We build a file-repository to download MariaDB data server.

**For Centos 6.x 32 bit:**

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```



...copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-x86
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

**For Centos 6.x 64 bit:**

```
sudo gedit /etc/yum.repos.d/MariaDB.repo
```

...copy and paste in:

```
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.0/centos6-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
```

We install it:

```
yum -y install MariaDB-server MariaDB-client
```

...do a backup of the configuration file; and make a new one:

```
mv /etc/my.cnf /etc/my.bak
```

```
cp /usr/share/mysql/my-medium.cnf /etc/my.cnf
```

...and run MariaDB server:

```
service mysql start
```

Give a password to mariadb root . Please, replace **new-password** by your own wish.

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

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

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

...will ask for the root password we does just now:

```
MariaDB [(none)]> CREATE DATABASE open40 DEFAULT CHARACTER SET 'utf8';
```

With this command, we has created a database called open40, though you can choose another name to your wish.

Now we create a user with all the permission on this open40 database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open40.* TO 'hola'@'localhost' IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

```
* open40 ..... name of the database
* hola ..... user for that database
* 1a2B3c4D .....password of that user
```

You can change the data...but remember it! Later we'll need it.

Leave MariaDB:

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

11)

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

We'll install OpenMeetings in /opt/red540. All the following information will be based on this directory.

Call to our folder of installation red540.

Make the folder:

```
mkdir /opt/red540
```

```
cd /opt/red540
```

...and download the OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/4.0.0/bin/apache-openmeetings-4.0.0.zip
```

```
unzip apache-openmeetings-4.0.0.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-4.0.0.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/5.1.42/mysql-connector-java-5.1.42.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.42.jar /opt/red540/webapps/openmeetings/WEB-INF/lib
```

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

```
nano /opt/red540/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**Modify on line 72:**

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

...to

```
, Url=jdbc:mysql://localhost:3306/open40?
```

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

Logically if initially you chose another name for the database, you will type it here.

Press **Ctrl+X**, will ask to save, press **Y** and to exit nano press **Enter**.

We protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red540/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

12)

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

We'll 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 made the installation in any other different path to /opt/red540, please edit the script and modify the line:

```
RED5_HOME=/opt/red540
```

...to

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

13)

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

Restart mariadb:

```
service mysql restart
```

...and run red5-OpenMeetings. Please, be connected to Internet, so the run will be quick:

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

...wait until 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).

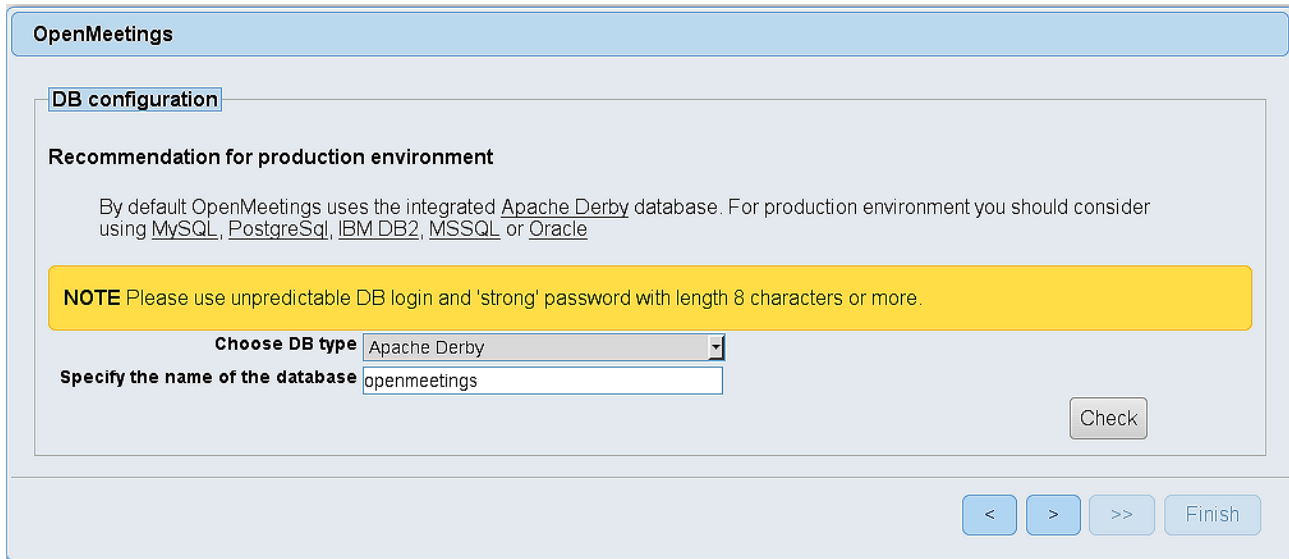
**If you have further questions or need support in installation or hosting:**

**Community-Support:**  
[Mailing lists](#)

**Commercial-Support:**  
[Commercial-Support](#)

< > >> Finish

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



**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

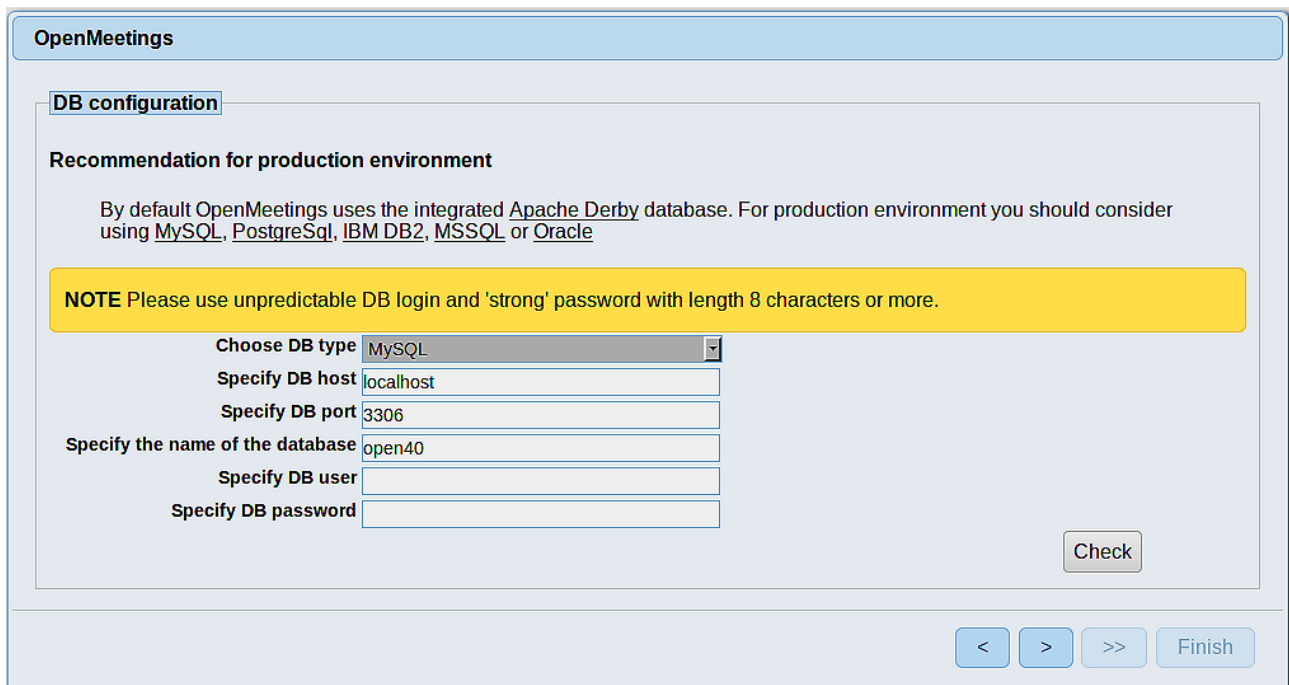
By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSql, IBM DB2, MSSQL or Oracle

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

Choose DB type

Specify the name of the database

...then, 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


...will show the database name we made in step 11.

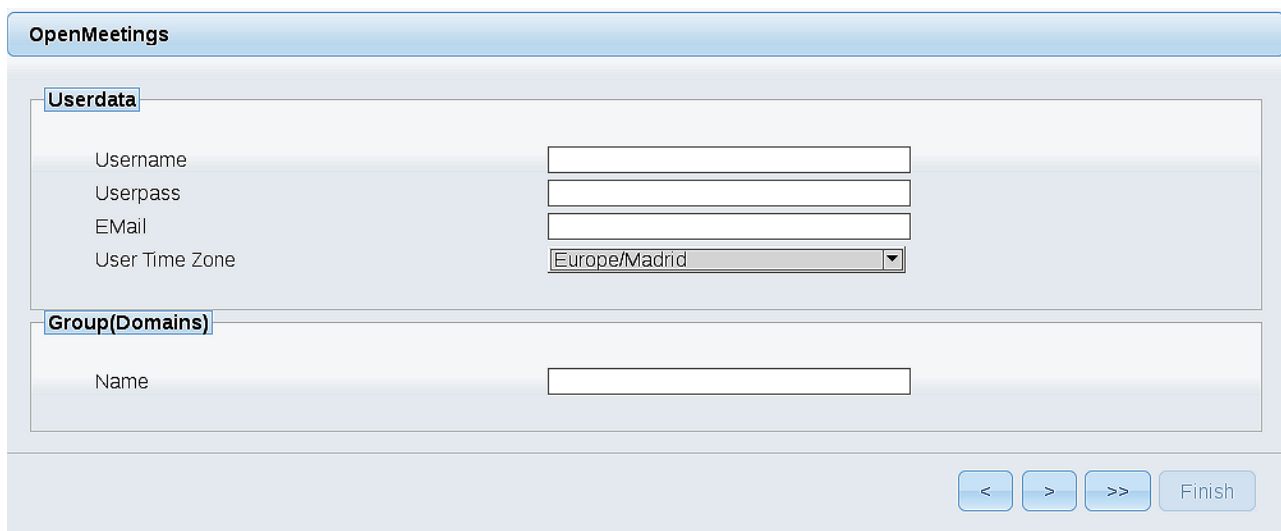
If you`ve choose any other different name for this, will show equally.

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

Please, press  button, and we'll 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 the 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>	==	john@gmail.com
<b>SMTP-Server</b>	==	smtp.gmail.com
<b>SMTP-Server Port (default SmtP-Server Port is 25)</b>	==	587
<b>SMTP-Username</b>	==	john@gmail.com
<b>SMTP-Userpass</b>	==	password of john@gmail.com
<b>Enable TLS in Mail Server Auth</b>	==	...turn green the button to activate
<b>Default Language</b>	==	...select your language

...the rest we you can modify it as you like it.

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/local/bin`

**OpenOffice/LibreOffice Path for jodconverter** == `/usr/lib/libreoffice` (32bits)  
 == `/usr/lib64/libreoffice` (64bits)

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



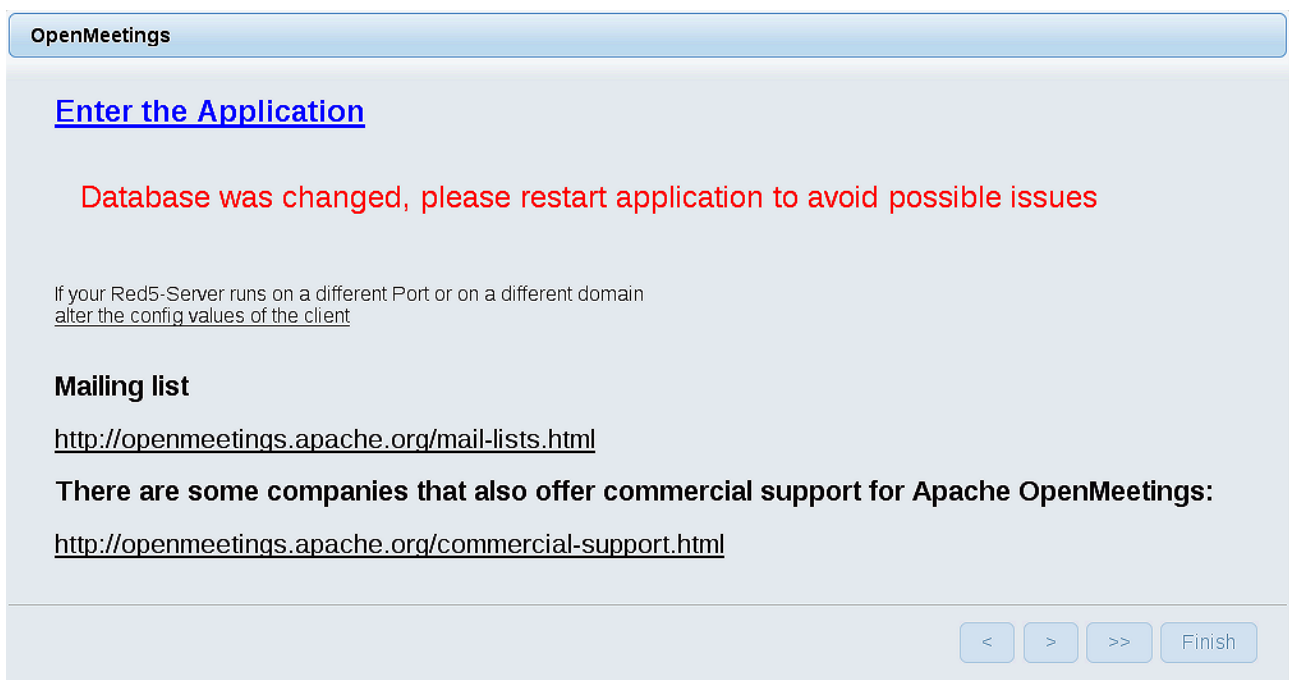
Now push the button  Will show this window:



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

When has concluded, this another page will appear. **Don't** clic on [Enter the Application](#). First is need it to restart the server. Please, be connected to Internet:

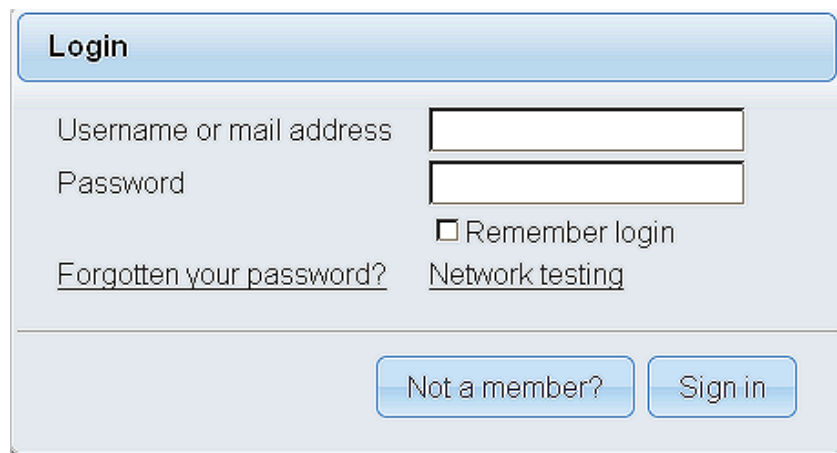
[/etc/init.d/red5-2 restart](#)



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:



**Login**

Username or mail address

Password

Remember login

[Forgotten your password?](#) [Network testing](#)

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, will be through:

<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.

14)


----- **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](#)

**Help and support**



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

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 | 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



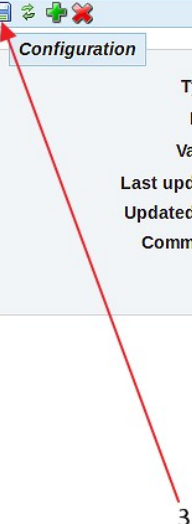
Key: path.ffmpeg

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.

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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