Installation of Apache OpenMeetings 4.0.2 on Ubuntu 16.04 LTS

This tutorial is made based on a fresh installations of

ubuntu-mate-16.04-desktop-amd64.iso

It is tested with positive result. We will use the Apache's binary version OpenMeetings 4.0.2 stable, that is to say will suppress his compilation. It is done step by step.

25-2-2018

Starting...

1)

First, we update and upgrade the OS:

sudo apt-get update

sudo apt-get upgrade

2)

------ **Installation of OpenJava 1.8** ------

OpenMeetings **4.0.2** need Java **1.8** to work. So, we install OpenJava 1.8:

sudo apt install openjdk-8-jdk openjdk-8-jdk-headless

...and his plugin for web:

sudo apt install icedtea-8-plugin

Now, please, select OpenJava, if you have more than one java versions installed:

sudo update-alternatives --config java

To see the active java version:

java -version

3)

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

LibreOffice is need it to convert to pdf the uploaded office files.

The ubuntu desktop iso have already LibreOffice installed, but we do also for server iso:

sudo add-apt-repository ppa:libreoffice/ppa

sudo apt-get update

sudo apt-get install libreoffice

Now some kind of information only:

LibreOffice installation folder is /usr/lib/libreoffice.

4)

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

ImageMagick, will work the image files, png, jpg, gif, etc. Will install it and some more libraries and paquets:

sudo apt-get install -y imagemagick libjpeg62 zlib1g-dev unzip make build-essential wget nmap

Sox, work the sound. We´ll compile, because this version is newer than the repo:

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

5)

------ **Installation of Adobe flash player** ------

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

sudo apt-get install flashplugin-installer

6)

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

FFmpeg will work with video.

This compilation is based on:

https://trac.ffmpeg.org/wiki/CompilationGuide/Ubuntu

Updated files to 25-2-2018. Install some libraries:

(Only one line with space between each one)

sudo apt-get -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-dev libgpac-dev libsdl1.2-dev libtheora-dev libtool libva-dev libvdpau-dev libvorbis-dev libxcb1-dev libxcb-shm0-dev libxcb-xfixes0-dev pkg-config texi2html zlib1g-dev nasm libx264-dev cmake mercurial libopus-dev curl git vlc

I made a script that will download, compile and install ffmpeg.
The result of any recording we do in OpenMeetings, will be in mp4 format.
Please, download the script:

cd /opt

(Only one line without space between both)

wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-ubuntu-debian.sh

...concede permission of execution:

chmod +x ffmpeg-ubuntu-debian.sh

...and run it (be connected to Internet). The compilation will spend about 20-30 minutes:

./ffmpeg-ubuntu-debian.sh

When finish the compilation, a text will announce it:

<div align="center">FFmpeg Compilation is Finished!</div>

Then, please, go to **step 7).**

But if you prefer copy and paste (**i don´t advise**), here are the commands script:

sudo gedit /opt/ffpmeg.sh

...copy and paste **from here**:

```
# FFmpeg compilation for Ubuntu and Debian.
# Alvaro Bustos. Thanks to Hunter.
# Updated 25-2-2018

sudo apt-get update
sudo apt-get -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-dev
libsdl1.2-dev libtheora-dev libtool libva-dev libvdpau-dev libvorbis-dev libxcb1-dev libxcb-shm0-
dev libxcb-xfixes0-dev pkg-config texi2html zlib1g-dev mercurial cmake

# Create a directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
wget ftp://ftp.gnome.org/mirror/xbmc.org/build-deps/sources/lame-3.99.5.tar.gz
wget http://www.tortall.net/projects/yasm/releases/yasm-1.3.0.tar.gz
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
wget -O fdk-aac.tar.gz https://github.com/mstorsjo/fdk-aac/tarball/master
wget https://sources.voidlinux.eu/opus-1.2.1/opus-1.2.1.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-3.4.2.tar.gz
# Unpack files
for file in `ls ~/ffmpeg_sources/*.tar.*`; do
tar -xvf $file
done

cd yasm-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" && make && sudo make
install && make distclean; cd ..

cd x264-*/
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"
--enable-static && PATH="$HOME/bin:$PATH" make && sudo make install && make distclean;
cd ..
```

```
cd x265/build/linux
PATH="$HOME/bin:$PATH" cmake -G "Unix Makefiles"
-DCMAKE_INSTALL_PREFIX="$HOME/ffmpeg_build" -DENABLE_SHARED:bool=off
../../source && make && sudo make install && make distclean; cd ~/ffmpeg_sources

cd mstorsjo-fdk-aac*
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make &&
sudo make install && make distclean; cd ..

cd lame-*/
./configure --prefix="$HOME/ffmpeg_build" --enable-nasm --disable-shared && make && sudo
make install && make distclean; cd ..

cd opus-*/
./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && sudo make install &&
make distclean; cd ..

cd libvpx-*/
PATH="$HOME/bin:$PATH" ./configure --prefix="$HOME/ffmpeg_build" --disable-examples
--disable-unit-tests && PATH="$HOME/bin:$PATH" make && sudo make install && make clean;
cd ..

cd ffmpeg
PATH="$HOME/bin:$PATH" PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig"
./configure --prefix="$HOME/ffmpeg_build" --pkg-config-flags="--static" --extra-cflags="-
I$HOME/ffmpeg_build/include"  --extra-ldflags="-L$HOME/ffmpeg_build/lib"
--bindir="$HOME/bin" --enable-gpl --enable-libass --enable-libfdk-aac --enable-libfreetype
--enable-libmp3lame --enable-libopus --enable-libtheora --enable-libvorbis --enable-libvpx
--enable-libx264 --enable-libx265 --enable-nonfree && PATH="$HOME/bin:$PATH" make &&
sudo make install && make distclean && hash -r; cd ..

cd ~/bin
cp ffmpeg ffprobe ffplay ffserver vsyasm x264 yasm ytasm /usr/local/bin

cd ~/ffmpeg_build/bin
cp lame x265 /usr/local/bin
echo "FFmpeg Compilation is Finished!"
```

...to here.

Concede permission of execution:

chmod +x /opt/ffpmeg.sh

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

cd /opt

./ffmpeg.sh

All the compiled files are installed in: /usr/local/bin

7)

------ Installation and configuration of MariaDB data server ------

MariaDB is the data server. Will install it. (Version 10.x):

sudo apt-get install mariadb-server

Run MariaDB:

/etc/init.d/mysql start

Now we give a root password to MariaDB. Please, replace new-password with your own:

mysqladmin -u root password new-password

Make a database with his own user for OpenMeetings:

mysql -u root -p

...will ask for the root password that you have just choosen, type it...

MariaDB [(none)]> CREATE DATABASE open402 DEFAULT CHARACTER SET 'utf8';

With this command we has created a database called open402.
Now we create an user on this database. User password must be of 8 digits minimum:

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open402.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;

* open402 ......is the database name.
* hola ………is the user name for this database.
* 1a2B3c4D ..is the password for this user.

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

Now, we leave MariaDB:

MariaDB [(none)]> quit

8)

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

We´ll install OpenMeetings in /opt/red5402. All the following information will be based on this directory.

Make the folder:

mkdir /opt/red5402

cd /opt/red5402

...and download the red5-OpenMeetings file:

wget http://apache.miloslavbrada.cz/openmeetings/4.0.2/bin/apache-openmeetings-4.0.2.zip

unzip apache-openmeetings-4.0.2.zip

...save the unloaded file to /opt:

mv apache-openmeetings-4.0.2.zip /opt

Do to **nobody** owner of the whole OpenMeetings folder installation, by security:

chown -R nobody /opt/red5402

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/red5402/webapps/openmeetings/WEB-INF/lib

Now we form OpenMeetings for our database in MariaDB:

gedit /opt/red5402/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify line 72:

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

...to

, Url=jdbc:mysql://localhost:3306/open402?

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

If initially you choose another name for the database, please type it here. Save changes.

We protect the access to the file:

(Only one line without space between both)

chmod 6402 /opt/red5402/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

9)

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

Please, download the red5 run script:

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-ubdeb2

...and copy it to:

cp red5-ubdeb2 /etc/init.d/

...and concede permission of execution:

chmod +x /etc/init.d/red5-ubdeb2

10)

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

Start MariaDB, if still it is not:

/etc/init.d/mysql start

...and now start red5-OpenMeetings. Please, be connected to Internet:

/etc/init.d/red5-ubdeb2 start

...will appear two text lines in the shell:

start-stop-daemon: --start needs --exec or --startas
Try 'start-stop-daemon --help' for more information.
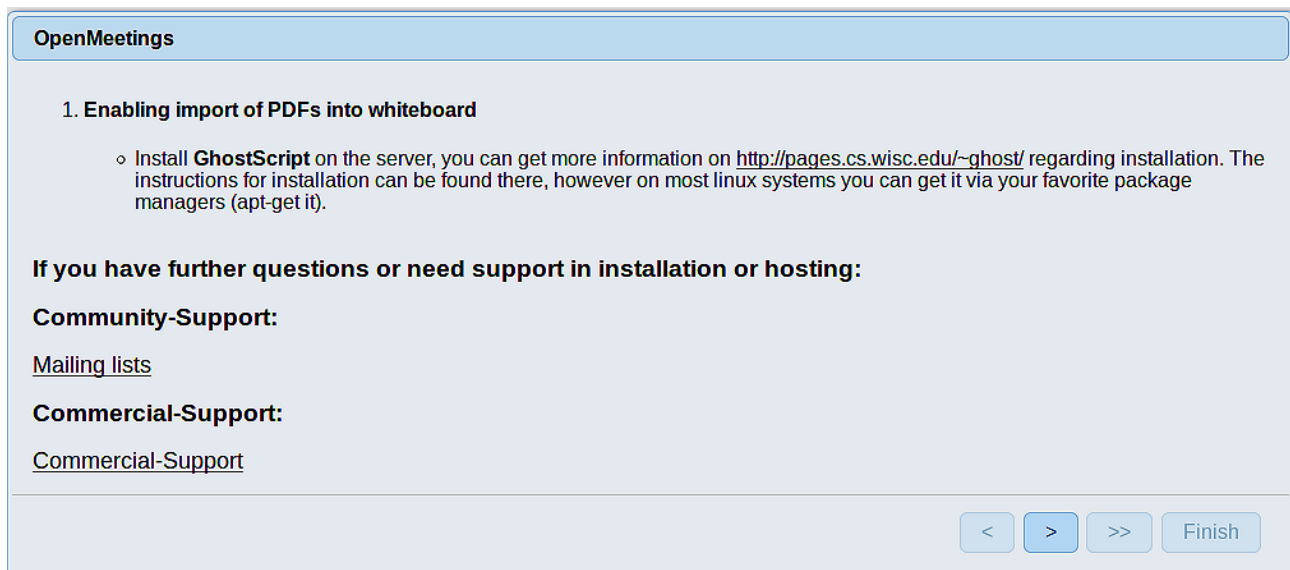
...you do nothing. Don´t worry, everything work right,

...wait 402 seconds at least, in order that red5 it is runing completely. And after this, can go to:

http://localhost:5080/openmeetings/install

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

OpenMeetings

   1. **Enabling import of PDFs into whiteboard**

       o 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:
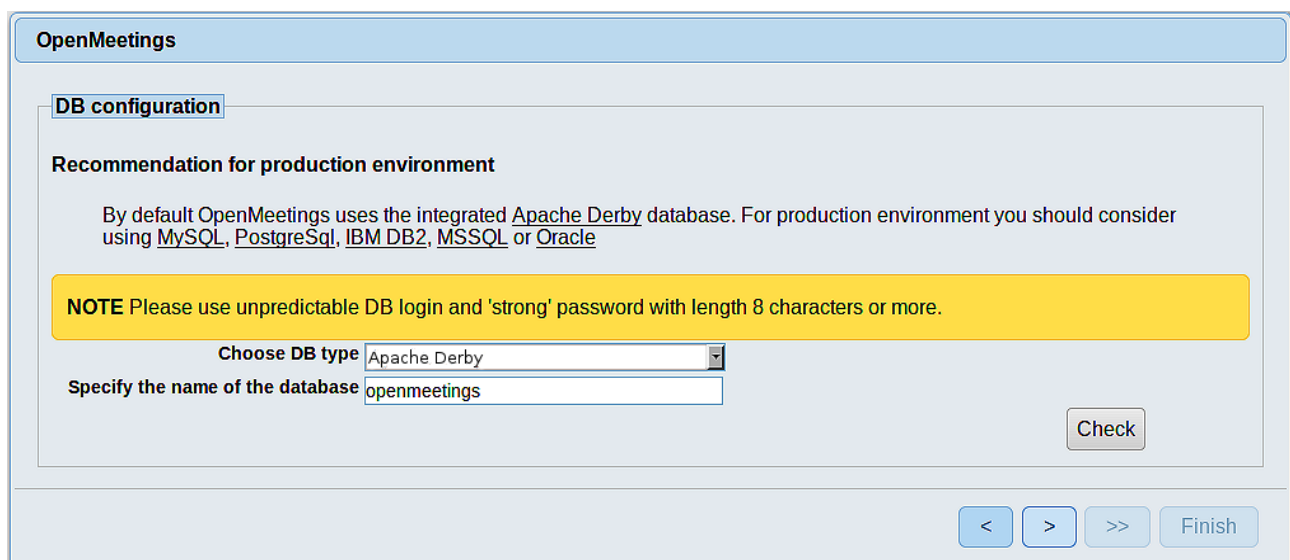
   Community-Support:

   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 Apache Derby

   Specify the name of the database openmeetings

Check

| < | > | >> | Finish |

...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   MYSQL

    Specify DB host   localhost

    Specify DB port   3306

Specify the name of the database   open402

    Specify DB user

    Specify DB password

Check

| < | > | >> | Finish |

...will show the database configuration we made in step 8. 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 7, and his password:

Specify DB user   =   hola

Specify DB password   =   1a2B3c4D

...if you choose a different data, type it here.

Please, press   >   button, and will go to:

OpenMeetings

Userdata

    Username

    Userpass

    EMail

    User Time Zone   Europe/Madrid

Group(Domains)

    Name

| < | > | >> | Finish |

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

`<` `>` `>>` Finish

A valid example to configure the mail server with Gmail, is as follows:
(replace **john@gmail.com** with your real Gmail account)

Mail-Refer	==	john@gmail.com
SMTP-Server	==	smtp.gmail.com
SMTP-Server Port (default Smtp-Server Port is 25)	==	587
SMTP-Username	==	john@gmail.com
SMTP-Userpass	==	password of john@gmail.com
Enable TLS in Mail Server Auth	==	...turn green the button to activate
Default Language	==	...select your language

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

Now press the button > and a new page will appear:

OpenMeetings

Converters

Document conversion DPI ⓘ	150
Document conversion JPEG Quality ⓘ	90
ImageMagick Path ⓘ	[ ] Check
FFMPEG Path ⓘ	[ ] Check
SoX Path ⓘ	[ ] Check
OpenOffice/LibreOffice Path for jodconverter ⓘ	[ ] Check

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   **(32 bits - 64bits)**
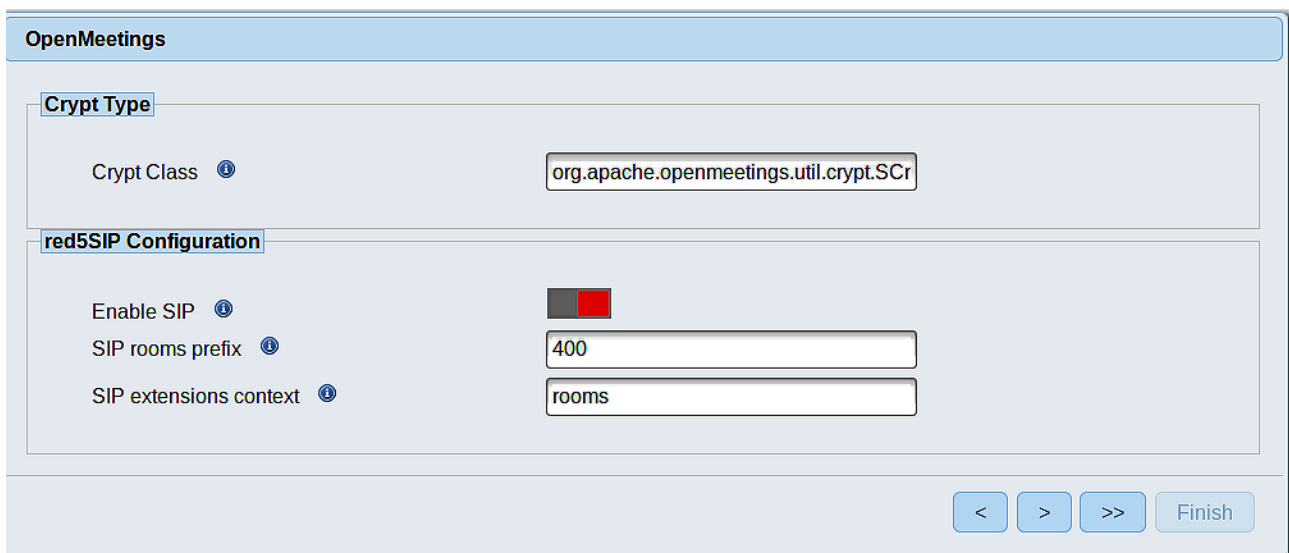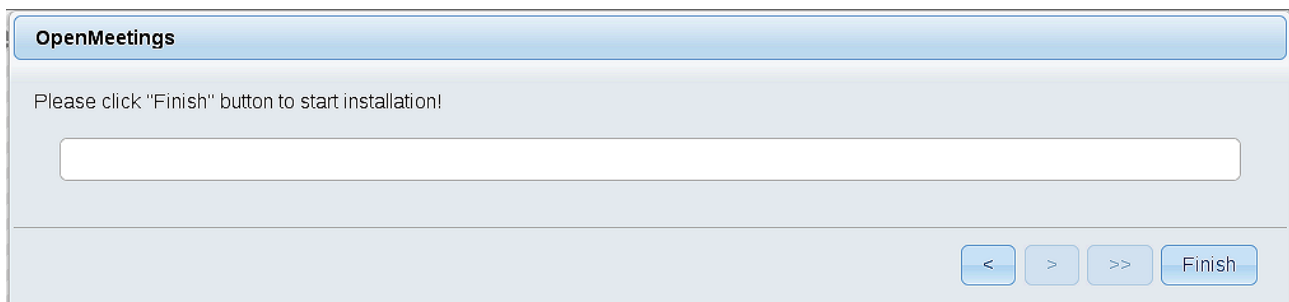
As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**. If it does not display any error message, that is OK.

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 ⓘ | org.apache.openmeetings.util.crypt.SCr |

red5SIP Configuration

Enable SIP ⓘ	
SIP rooms prefix ⓘ	400
SIP extensions context ⓘ	rooms

[<] [>] [>>] Finish

Now push the button [>] and will show this window:
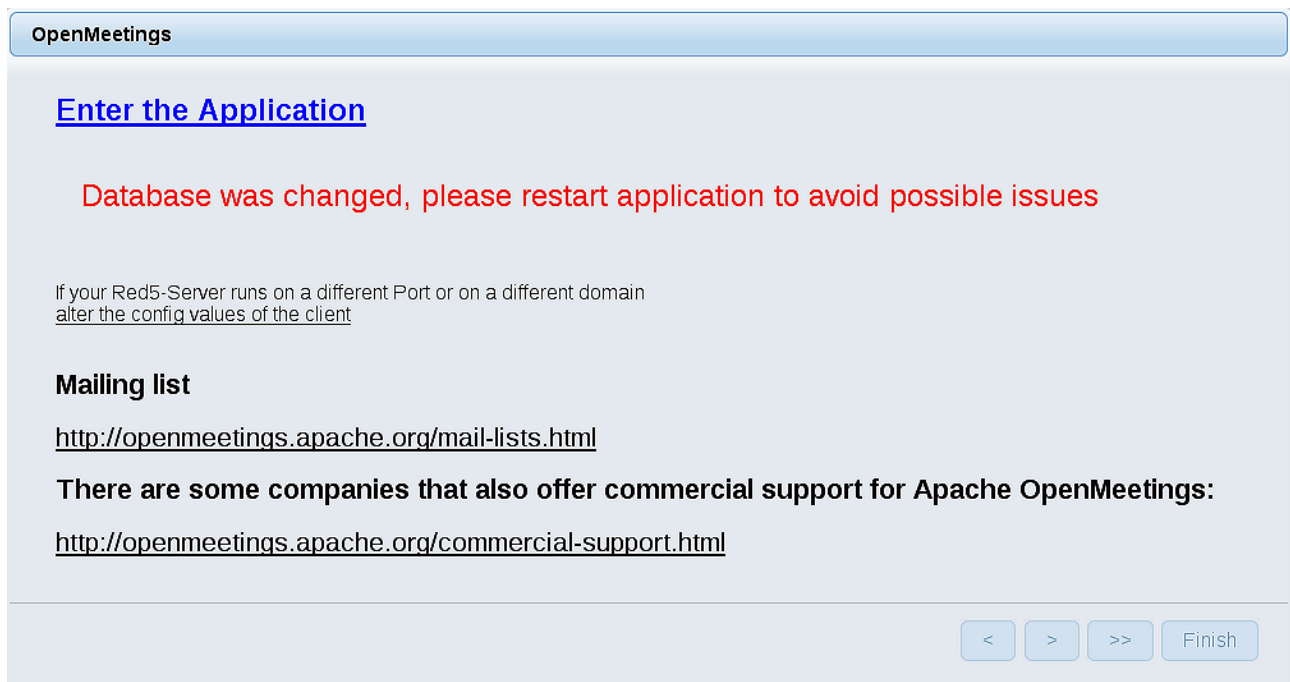
OpenMeetings

Please click "Finish" button to start installation!

[<] [>] [>>] Finish

Press **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-ubdeb2 restart
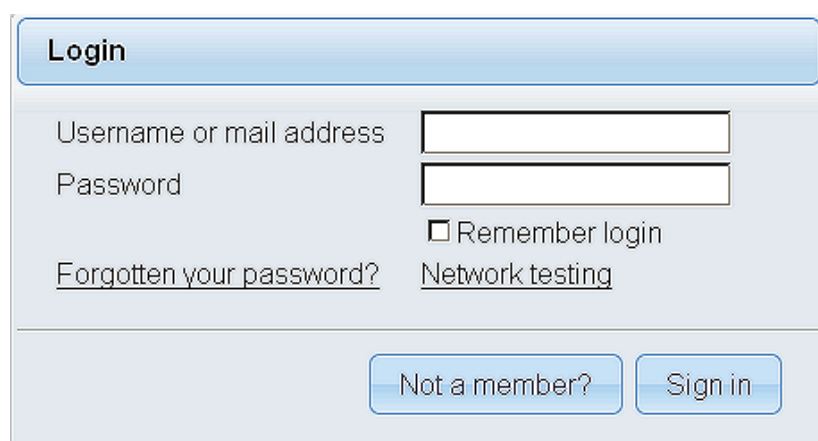
Now yes, you can clic on **Enter the Application**, or go with your browser to:

http://localhost:5080/openmeetings

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

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

...**Congratulations!**

The next time that you like accede to 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.

11)

------ **OpenMeetings's Configuration** ------

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

Administration → Configuration
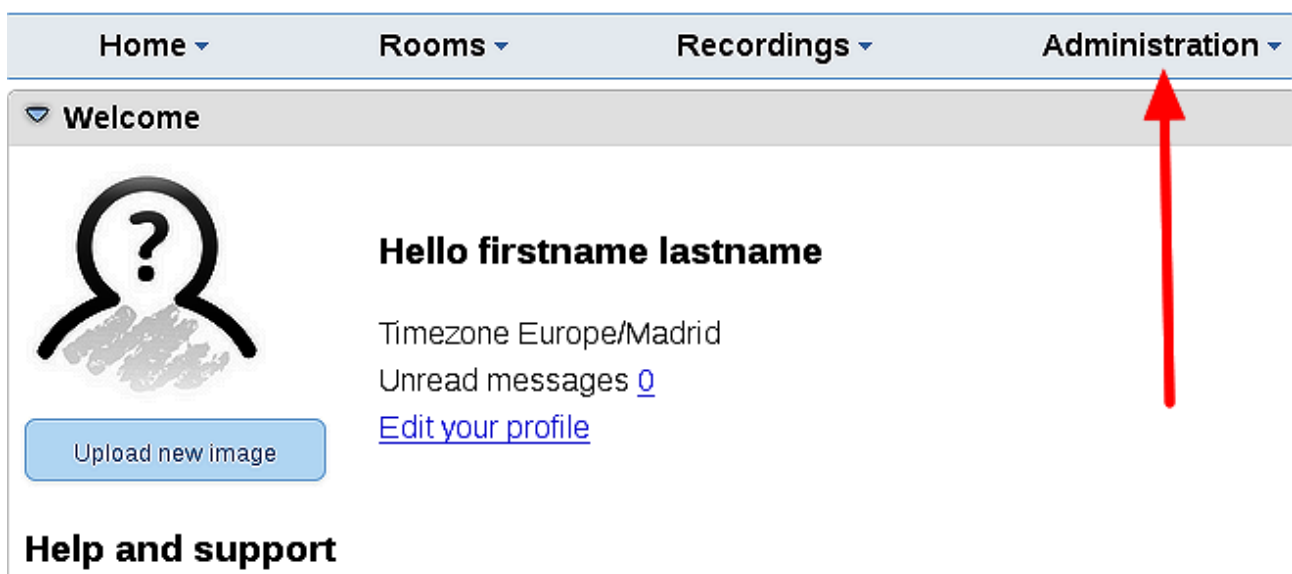
...and following the order of the red arrows:

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