



## Installation of Apache OpenMeetings 4.0.0 on openSUSE Leap 42.3

This tutorial is made based on fresh installations of

**openSUSE-Leap-42.3-DVD-x86\_64.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)

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

Update operative system:

`zypper refresh`

`zypper update`

2)

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

Java **1.8** it is necessary to work OpenMeetings **4.0.0**. So, we install Oracle Java 1.8.

```
cd /opt
```

After paste the lines, press space button keyboard and Enter. 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:

```
zypper install jdk-8*.rpm ...type i (ignore) when ask about sign verification.
```

```
zypper install update-alternatives
```

We do to Oracle, the default java system:

```
update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_152/bin/java 1551
```

```
update-alternatives --install /usr/bin/javadoc javadoc /usr/java/jdk1.8.0_152/bin/javadoc 1551
```

```
update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_152/bin/jar 1551
```

```
update-alternatives --install /usr/bin/javap javap /usr/java/jdk1.8.0_152/bin/javap 1551
```

```
update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.8.0_152/bin/javac 1551
```

```
update-alternatives --install /usr/bin/javah javah /usr/java/jdk1.8.0_152/bin/javah 1551
```

```
update-alternatives --install /usr/bin/jarsigner jarsigner /usr/java/jdk1.8.0_152/bin/jarsigner 1551
```

Maybe is installed different 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
```

3)

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

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

Maybe it is installed, but for iso server:

```
zypper install -y libreoffice
```

4)

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

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

(Only one line with space between both)

```
zypper install -y gcc ghostscript unzip freetype freetype-devel ncurses ncurses-devel make libz1  
zlib-devel libtool bzip2 file-roller git autoconf automake pkg-config nmap nano
```

5)

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

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

```
zypper install -y ImageMagick giflib-devel
```

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

```
zypper install -y sox
```

6)

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

OpenMeetings even need Adobe Flash Player for rooms.

Add Adobe repo and install it:

```
sudo zypper ar --check --refresh http://linuxdownload.adobe.com/linux/x86_64/ adobe
```

```
sudo zypper se -s -r adobe
```

(Only one line without space between both)

```
sudo rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-x86_64-1.0-  
1.noarch.rpm
```

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

`sudo zypper install flash-plugin` ...type i (ignore) when ask about sign verification.

7)

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

FFmpeg work video. We install Packman repository to can install somes libraries:

(Only one line witht space between both)

```
zypper ar -f -n packman http://ftp.gwdg.de/pub/linux/misc/packman/suse/openSUSE_Leap_42.3/
repo_packman
```

`zypper update` ...when ask, accept for ever.

(Only one line witht space between both)

```
zypper install -y glibc imlib2 imlib2-devel mercurial cmake freetype2-devel libfreetype6 curl git vlc
libogg-devel libtheora-devel libvorbis-devel libvpx-devel fdk-aac-devel libmp3lame-devel
```

This ffmpeg compilation is based in this url, updated to 5-11-2017:

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

I made a script that will download, compile and install ffmpeg. Download the script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-opensuse42.sh
```

...concede permission of execution:

```
chmod +x ffmpeg-opensuse42.sh
```

...and run it, be connected to Internet:

```
./ffmpeg-opensuse42.sh
```

Will spend about 20 minutes. When finish, will announce it with this text:

**FFMPEG Compilation is Finished!**

Then, please, go to **step 8**).

But if you prefer copy and paste, i **don't advise**, here are the commands script:

```
nano /opt/ffmpeg-opensuse422.sh
```

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

```
# FFmpeg compilation for openSUSE Leap 42.3
# Alvaro Bustos, thanks to Hunter.
# Updated 5-11-2017
# Install libraries

zypper install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel

# Install yasm from repos
zypper install -y yasm

# 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
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$HOME/ffmpeg_build/lib64" CPPFLAGS="-I$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 ..

cp /root/ffmpeg_build/lib/pkgconfig/x264.pc /root/ffmpeg_build/lib64/pkgconfig
cp /root/ffmpeg_build/lib/pkgconfig/x265.pc /root/ffmpeg_build/lib64/pkgconfig

cd ffmpeg-*/
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib64/pkgconfig" ./configure
--prefix="$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/ffmpeg-opensuse422.sh
```

```
cd /opt
```

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

`./ffmpeg-opensuse422.sh`

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

8)

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

MariaDB is the data server.

We install it:

`zypper install -y mariadb mariadb-tools`

...and run mariadb:

`systemctl start mysql.service`

Give a password to MariaDB root . Please, modify `new-password` by 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-mariadb password that we have just chosen:

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

Now we create a user with all permission on this database. User password must be of 8 digits minimum with letter case, numbers or caracters + \* % etc:

(Only one line with space between both)

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

- \* `open40` .....is the database name.
- \* `hola` .....is the user name for the database.
- \* `1a2B3c4D` ..is the password of this user.

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

Now, we leave MariaDB:

MariaDB [(none)]> `quit`

9)

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

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

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 file 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 choose another name for the database, you must type it here.

Press **Ctrl+x, Y** and **Enter** in the keyboard, to save and leave nano.

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
```

10)

----- **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:

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

...to

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

11)

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

Restart mariadb, (be connected to Internet):

```
systemctl restart mysql.service
```

...and run red5-OpenMeetings, please, in a new window terminal (be connected to Internet):

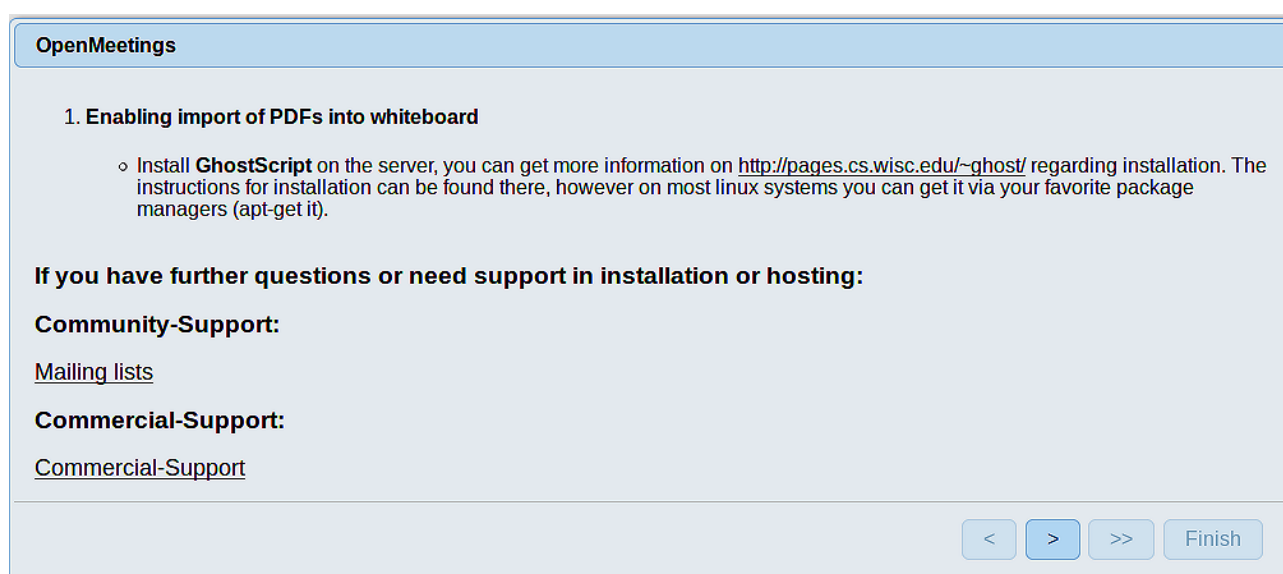
```
/etc/init.d/red5-2 start
```

...wait till the text “**CleanupJob.cleanRoomFiles**” it is the last in the terminal.

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).

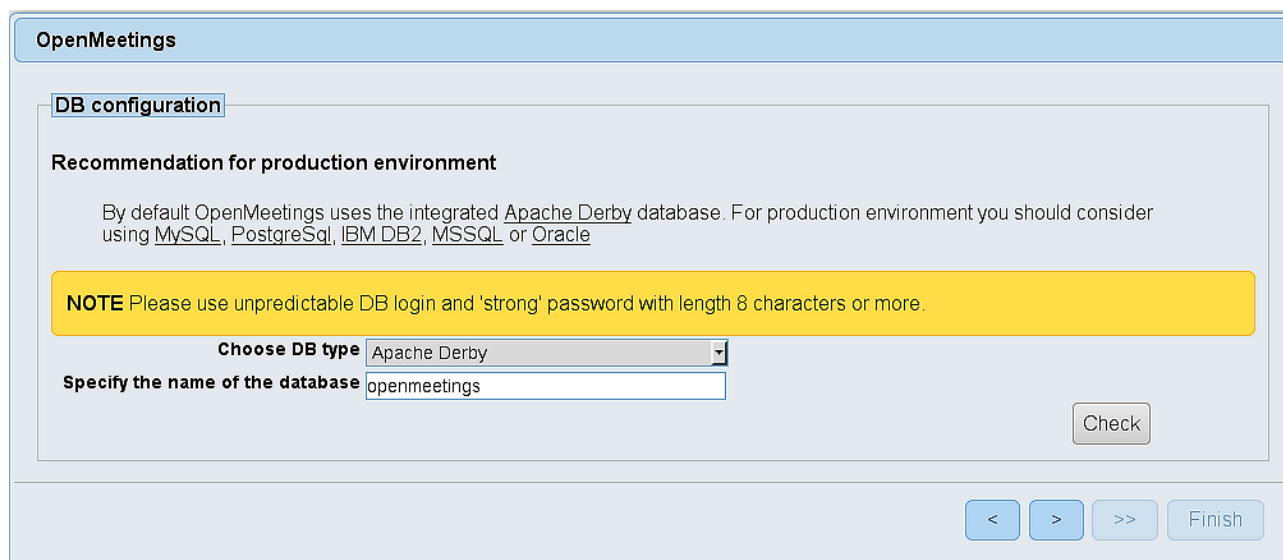
**If you have further questions or need support in installation or hosting:**

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

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

< > >> Finish

...press on  (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**

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

Specify DB host

Specify DB port

Specify the name of the database

Specify DB user

Specify DB password

...will show the database configuration we made in 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**

...if you choose any other data, type it here.  
Please, press  button, and will go to:

**OpenMeetings**

**Userdata**

Username

Userpass

EMail

User Time Zone

**Group(Domains)**

Name

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-address ...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 you can modify it as you like.

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

Document conversion DPI ⓘ	<input type="text" value="150"/>	
Document conversion JPEG Quality ⓘ	<input type="text" value="90"/>	
ImageMagick Path ⓘ	<input type="text"/>	<input type="button" value="Check"/>
FFMPEG Path ⓘ	<input type="text"/>	<input type="button" value="Check"/>
SoX Path ⓘ	<input type="text"/>	<input type="button" value="Check"/>
OpenOffice/LibreOffice Path for jodconverter ⓘ	<input type="text"/>	<input type="button" value="Check"/>

see also [Installation](#)

< > >> Finish

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


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

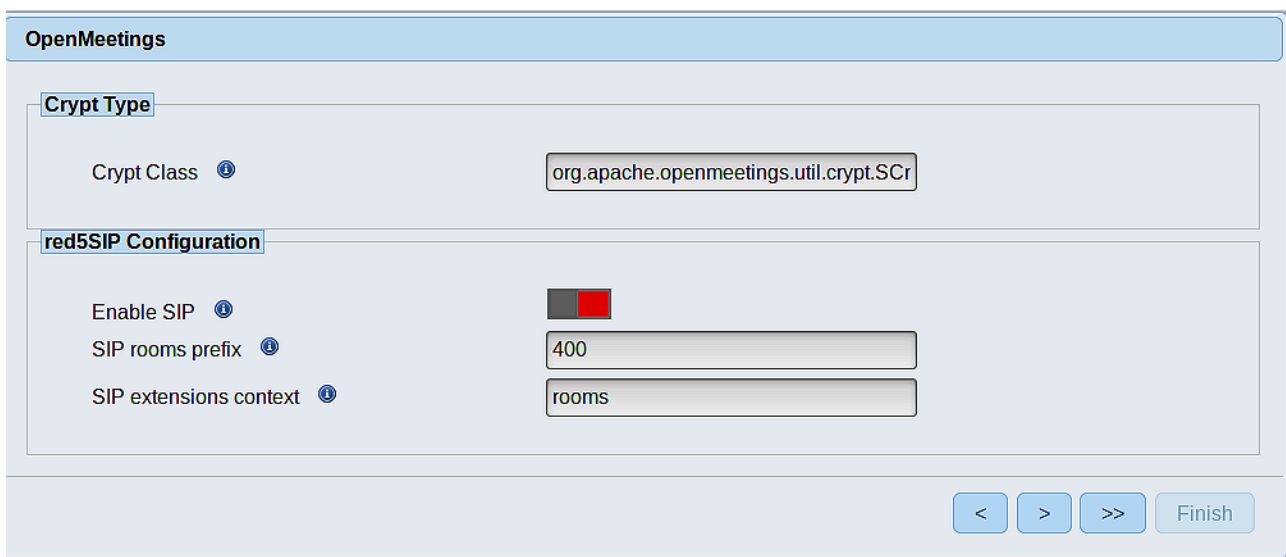
**FFMPEG Path (Path)** == `/usr/local/bin`

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

**OpenOffice/LibreOffice Path (Path) for jodconverter** == `/usr/lib64/libreoffice`

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:

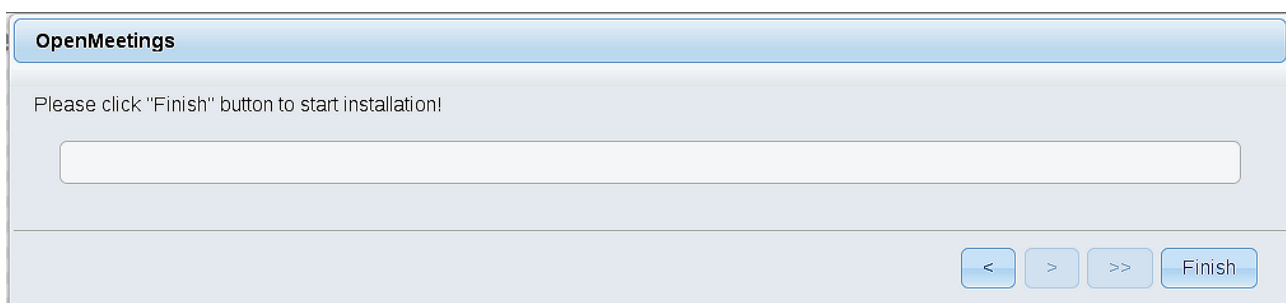


The screenshot shows the 'OpenMeetings' configuration window. It has two main sections:

- Crypt Type:** Contains a 'Crypt Class' field with a value of `org.apache.openmeetings.util.crypt.SCr`.
- red5SIP Configuration:** Contains three fields:
  - 'Enable SIP' with a red toggle switch.
  - 'SIP rooms prefix' with a value of `400`.
  - 'SIP extensions context' with a value of `rooms`.

At the bottom right, there are navigation buttons: '<', '>', '>>', and 'Finish'.

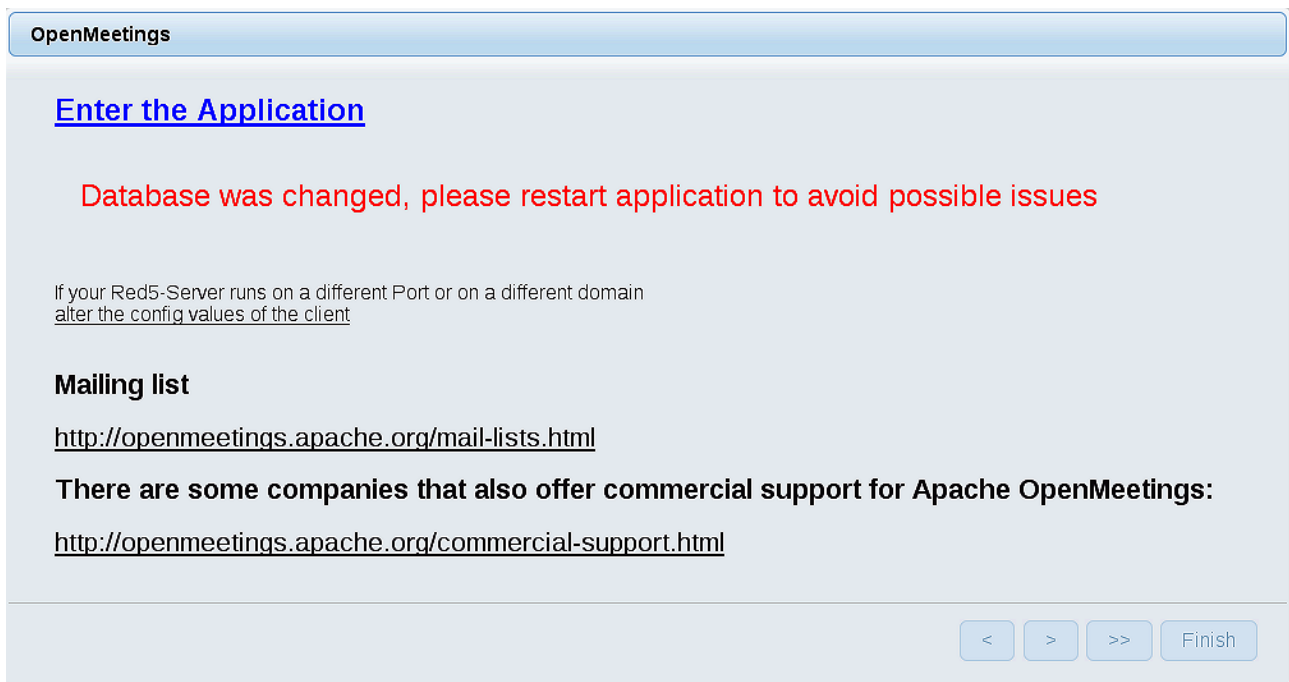
Now push the button  Will show this window:



The screenshot shows the 'OpenMeetings' configuration window after clicking the next button. The message reads: "Please click 'Finish' button to start installation!". There is a large empty text box below the message. At the bottom right, there are navigation buttons: '<', '>', '>>', and 'Finish'.

Press **Finish** button...wait a seconds until 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, open a new terminal and restart red5:

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

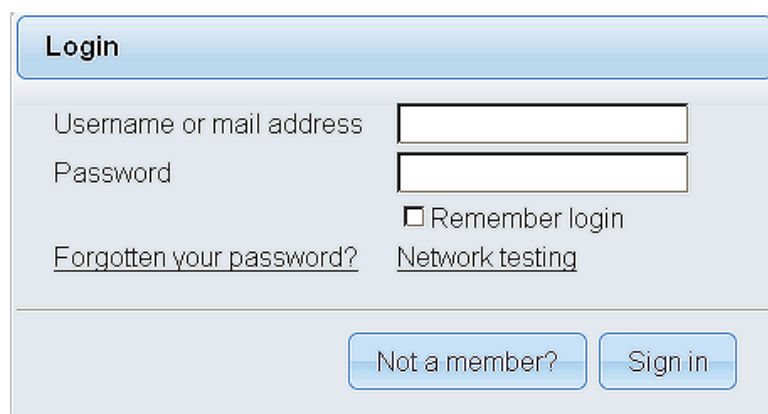


The screenshot shows a window titled "OpenMeetings". At the top, there is a blue header bar with the text "OpenMeetings". Below the header, the main content area has a light blue background. It features a blue underlined link "Enter the Application". Below this link, a red text message reads: "Database was changed, please restart application to avoid possible issues". Underneath, there is a small note: "If your Red5-Server runs on a different Port or on a different domain alter the config values of the client". A section titled "Mailing list" contains the URL <http://openmeetings.apache.org/mail-lists.html>. Below that, another section states: "There are some companies that also offer commercial support for Apache OpenMeetings:" followed by the URL <http://openmeetings.apache.org/commercial-support.html>. At the bottom right of the window, there are four buttons: "<", ">", ">>", and "Finish".

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:



The screenshot shows a login form titled "Login". It has a light blue header bar with the text "Login". Below the header, there are two input fields: "Username or mail address" and "Password". To the right of the "Password" field, there is a checkbox labeled "Remember login". Below the input fields, there are two links: "Forgotten your password?" and "Network testing". At the bottom of the form, there are two buttons: "Not a member?" and "Sign in".

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 from 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**

The screenshot displays the OpenMeetings web application interface. At the top, there is a navigation bar with four menu items: "Home", "Rooms", "Recordings", and "Administration". The "Administration" menu item is highlighted with a red arrow pointing upwards. Below the navigation bar, the main content area shows a "Welcome" message. On the left, there is a user profile icon with a question mark and a button labeled "Upload new image". To the right of the icon, the text reads "Hello firstname lastname", "Timezone Europe/Madrid", "Unread messages 0", and a link "Edit your profile". At the bottom left, there is a section titled "Help and support".



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

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

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.

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