



## Installation of Apache OpenMeetings 3.3.2

on

### Fedora 26 final

This tutorial it is based on a fresh installation of

### Fedora-MATE\_Compiz-Live-x86\_64-26-1.5.iso

It is tested with positive result.  
We will use the Apache's binary version  
OpenMeetings 3.3.2 stable,  
that is to say we'll suppress his compilation.  
It is done step by step.

22-9-2017

Starting...

1)

At first place, modify Selinux level security, for the installation, and install nano editor:

```
dnf install nano
```

```
sudo nano /etc/selinux/config
```

...modify:

```
SELINUX=enforcing
```

...to

```
SELINUX=permissive
```

Press **Ctrl+x** and will ask to save, press **Y**, and **Enter**, to save and leave nano's editor.

2)

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

Update operative system:

```
dnf update -y
```

...and reboot, for kernel changes if it is, and the new **Selinux** configuration:

```
reboot
```

3)

----- ADD Repos -----

```
## RPM Fusion repo ##
```

(Only one line without space between them)

```
su -c 'dnf install --nogpgcheck http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-26.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-26.noarch.rpm'
```

```
### 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
```

Update again:

```
dnf update -y
```

4)

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

We install packages and libraries necessary:

(Only one line with a space between them)

```
dnf install -y libjpeg-turbo libjpeg-turbo-devel libjpeg-turbo-utils giflib-devel freetype-devel gcc-
c++ zlib-devel libtool bison bison-devel file-roller ghostscript freetype unzip gcc ncurses make
bzip2 wget ghostscript ncurses zlib git make automake nasm pavucontrol alsa-plugins-pulseaudio
nmap tomcat-native 'dnf-command(versionlock)'
```

5)

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

Java **1.8** is need it to work OpenMeetings **3.3.2**. Will install Oracle Java 1.8. Open Java gaves an error in some OpenMeetings function. It is tested.

-- Only for Fedora **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/8u144-b01/090f390dda5b47b9b721c7dfaa008135/jdk-
8u144-linux-i586.rpm
```

...and install it:

```
rpm -ivh jdk-8u144-linux-i586.rpm
```

-- Only for Fedora **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/8u144-b01/090f390dda5b47b9b721c7dfaa008135/jdk-
8u144-linux-x64.rpm
```

...and install it:

```
rpm -ivh jdk-8u144-linux-x64.rpm
```

-- Now for both, **32 bit** and **64 bit** –

May be you have installed different versions of Java. Please, select the just installed Oracle Java:

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

And to see if the selected version is active:

```
java -version
```

6)

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

LibreOffice it is installed already in the distro, but if you use a server iso then install it:

```
dnf -y install libreoffice
```

Is need it to convert uploaded office files to pdf.

7)

#### ----- Installation of ImageMagick, Sox and Swftools -----

**ImageMagick**, work with the images files jpg, png, gif, etc. Install it:

```
dnf -y install ImageMagick
```

**Sox**, work with the audio. Install it:

```
dnf -y install sox
```

**Swftools**. LibreOffice convert the uploaded office files to pdf, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. We'll install it from the repo, 'cause this version (0.9.2-5.fc26) have the pdf2swf file. Also we'll block it to prevent changes:

```
dnf install -y swftools
```

...and to block the version:

```
nano /etc/dnf/dnf.conf
```

...at bottom we add:

```
exclude=swftools
```

Press **Ctrl+x** and will ask to save, press **Y**, and **Enter**, to save and leave nano's editor.

8)

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

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

```
dnf install -y flash-plugin
```

9)

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

FFmpeg will work with video. Will install a paquets and libraries.

(Only one line with space between both)

```
dnf install -y glibc alsa-lib-devel gsm gsm-devel imlib2 imlib2-devel libogg libvorbis vorbis-tools  
theora-tools libvpx-devel mercurial cmake curl git vlc
```

This ffmpeg compilation is based on this url, and updated to 22-9-2017.

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

I made a script to download, compile and install ffmpeg on Fedora. It is tested and is ok.  
The result of any recording we do in OpenMeetings, will be in mp4 format.

We download this script:

```
cd /opt
```

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

...concede execution permission:

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

...and run it:

```
./ffmpeg-fedora.sh
```

The compilation will spend about 20-30 minutes.

At the end, a text will appear: **FFMPEG Compilation is Finished!**

Then, please go to **step 10**).

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

```
sudo nano /opt/ffmpeg-fedora.sh
```

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

```
# Ffmpeg compilation for Fedora.
# Alvaro Bustos, thanks to Hunter.
```

```
# Updated 22-9-2017
```

```
# Install libraries
```

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

```
# Install yasm from repos
```

```
dnf 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 http://downloads.xiph.org/releases/opus/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
```

```
# 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$HOME/ffmpeg_build/lib" CPPFLAGS="-I$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/ffmpeg-fedora.sh
```

```
cd /opt
```

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

```
./ffmpeg-fedora.sh
```

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

10)

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

MariaDB is the data server fork of MySQL.

We install it:

```
dnf install -y mariadb mariadb-server
```

...and run MariaDB (be connected to Internet, to run it quickly):

```
systemctl start mariadb.service
```

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

```
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:

```
MariaDB [(none)]> CREATE DATABASE open332 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open332 database. User password must be of 8 digits minimum:

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open332.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```



- \* `open332` ..... 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.

Now we leave MariaDB:

MariaDB [(none)]> `quit`

11)

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

Make a folder called `red5332` where download the Apache OpenMeetings file, and where we'll do the installation:

```
mkdir /opt/red5332
```

```
cd /opt/red5332
```

...and download the file:

```
wget http://apache.miloslavbrada.cz/openmeetings/3.3.2/bin/apache-openmeetings-3.3.2.zip
```

```
unzip apache-openmeetings-3.3.2.zip
```

...save the original file to /opt:

```
mv apache-openmeetings-3.3.2.zip /opt
```

12)

### ----- Connector Java MariaDB -----

This file is need it to connect OpenMeetings with 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
```

```
cp mysql-connector-java-5.1.42.jar /opt/red5332/webapps/openmeetings/WEB-INF/lib
```

13)

## ----- Configuration of OpenMeetings for MariaDB -----

Will configure OpenMeetings to connect with our database in MariaDB:

(Only one line without space between both)

```
sudo nano /opt/red5332/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

**Modify line 72:**

```
Url=jdbc:mysql://localhost:3326/openmeetings_3_3?.....
```

to

```
Url=jdbc:mysql://localhost:3326/open332?....
```

...open332 is the database name we gives when install MariaDB and build it.

If you choose any other database name, here is where to replace it.

Press **Ctrl+x**, will ask to save, pres **Y** and **Enter** to exit nano editor.

Protect the access to this file:

(Only one line without space between both )

```
chmod 640 /opt/red5332/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

14)

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

We'll download the script to run Red5-OpenMeetings on Fedora:

```
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/
```

...and concede execution permission:

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

If you made the installation in any other different path to /opt/red5332, please edit the script and modify the line:

```
RED5_HOME=/opt/red5332
```

...to

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

15)

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

Run MariaDB (be connected to Internet, to run it quickly):

```
systemctl start mariadb.service
```

...and red5-OpenMeetings (be connected to Internet, to run it quickly):

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

...wait until the text “**clearSessionTable: 0**”, it is the last in the shell. Be patience. Then, go with the browser to:

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

...there will show 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).
- 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

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


**Community-Support:**

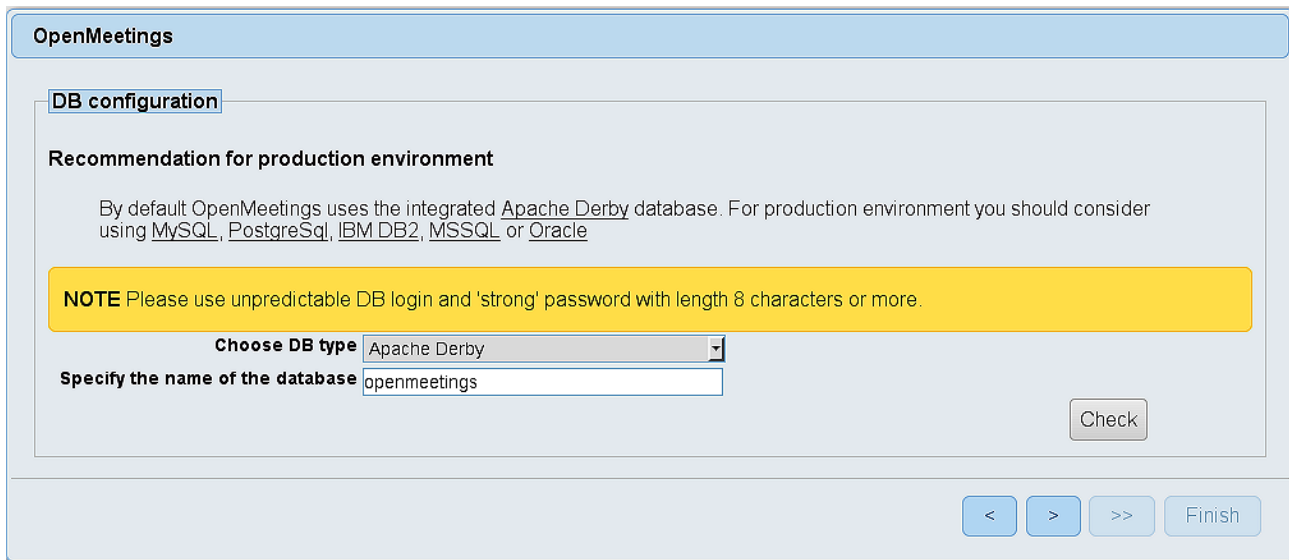
[Mailing lists](#)

**Commercial-Support:**

[Commercial-Support](#)

<
>
>>
Finish

...press on  (bottom), and will show the default 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.

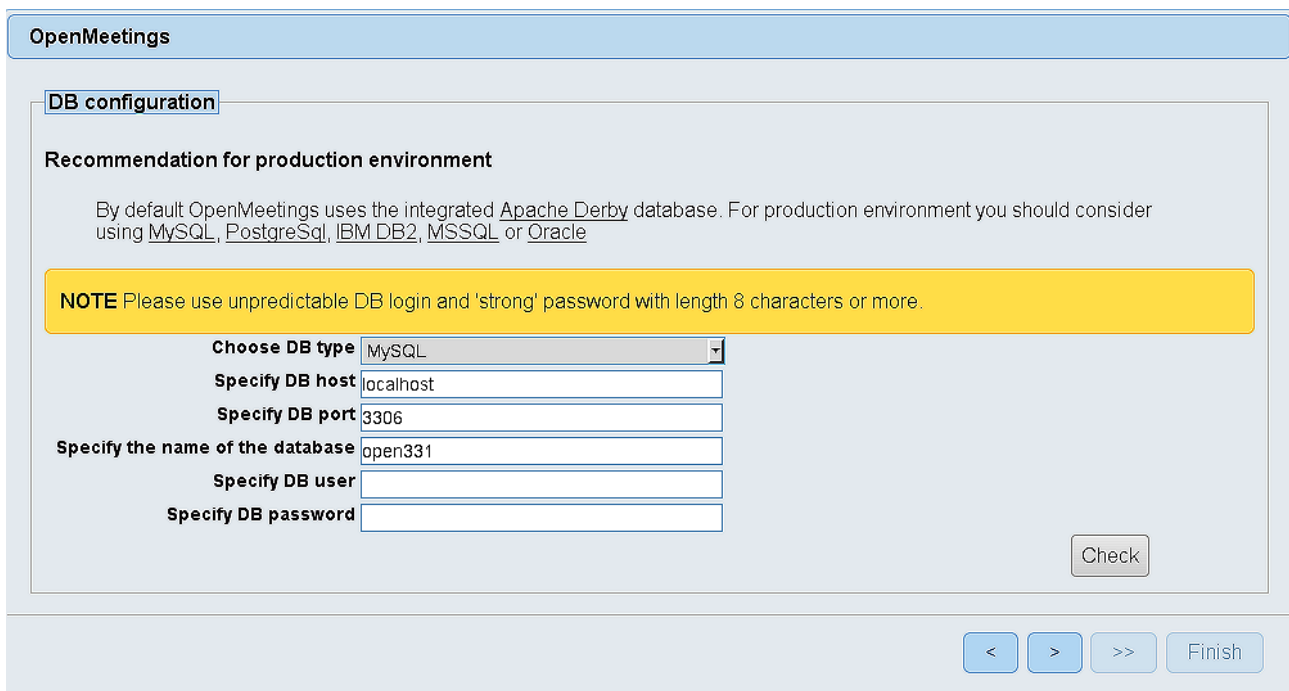
**Choose DB type** Apache Derby

**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** open331

**Specify DB user**

**Specify DB password**

Check

< > >> Finish


...will show the data base configuration we made in step 13.

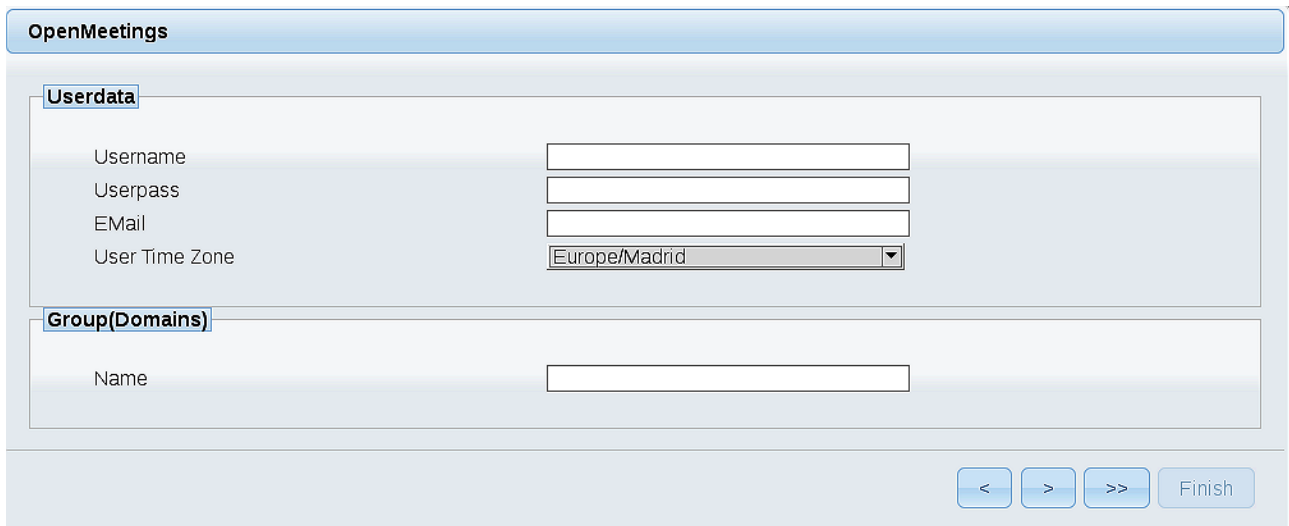
If you`ve choose any other different name for this, will show equally.

Now we must introduce the user name we did for our data base, at the step 10, and his password:

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

Please, 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 name will have administrator rights.

**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 (allow_frontend_register)	Yes
Send Email to new registered Users (sendEmailAtRegister)	No
New Users need to verify their EMAIL (sendEmailWithVerificationCode)	No
Default Rooms of all types will be created	Yes
Mail-Referer (system_email_addr)	noreply@openmeetings.apache.org
SMTP-Server (smtp_server)	localhost
SMTP-Server Port(default SmtP-Server Port is 25) (smtp_port)	25
SMTP-Username (email_username)	
SMTP-Userpass (email_userpass)	
Enable TLS in Mail Server Auth	No
Set inviter's email address as ReplyTo in email invitations (inviter.email.as.replyto)	Yes
Default Language	inglés
Default Font for Export [default_export_font]	TimesNewRoman

<
>
>>
Finish


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

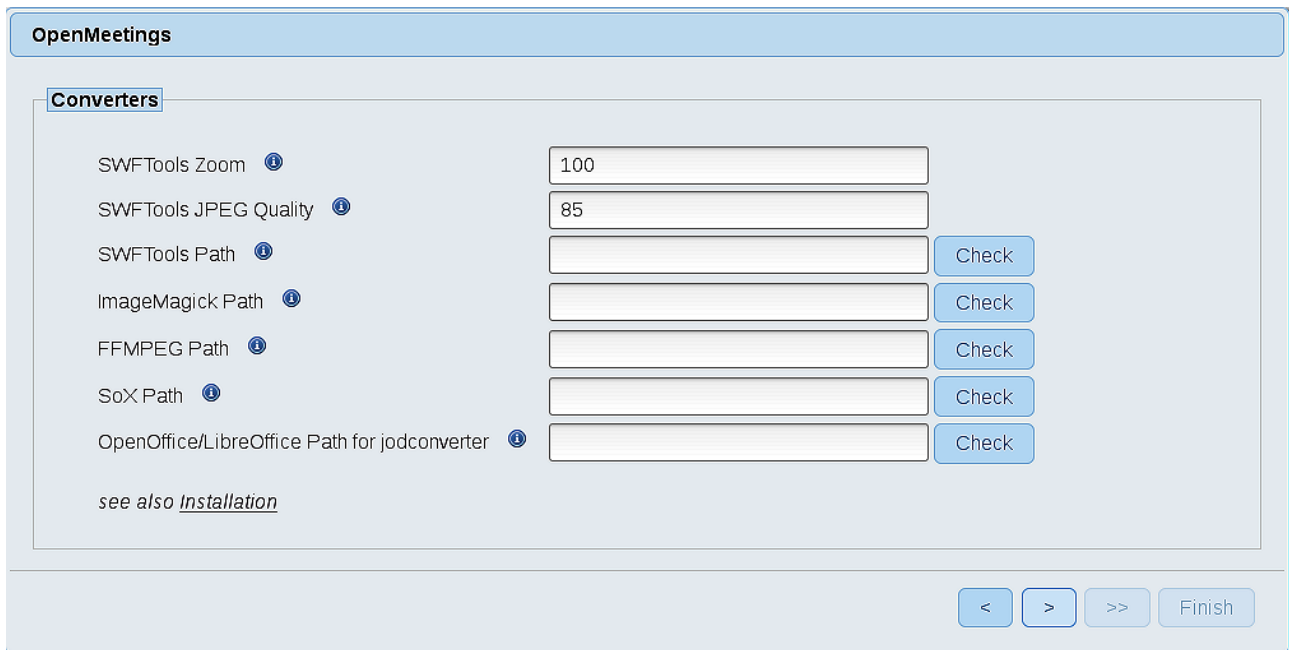
<b>Mail-Refer (system_email_addr)</b>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Server (smtp_server)</b>	==	<a href="mailto:smtp@gmail.com">smtp@gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25) (smtp_port)</b>	==	587
<b>SMTP-Username (email_username)</b>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Userpass (email_userpass)</b>	==	password of <a href="mailto:john@gmail.com">john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	Yes

To select the language of your server OpenMeetings, please scroll on the line:

<b>Default Language</b>	==	<a href="#">english</a>
-------------------------	----	-------------------------

...the rest we can leave as is.

Now press the button  and a new page will appear:



**OpenMeetings**

**Converters**

SWFTools Zoom ⓘ

SWFTools JPEG Quality ⓘ

SWFTools Path ⓘ

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:

**SWFTools Path (Path)** == [/usr/bin](#)


**ImageMagick Path (Path)** == [/usr/bin](#)

**FFMPEG Path (Path)** == [/usr/local/bin](#)

**SOX Path (Path)** == [/usr/bin](#)

**OpenOffice/LibreOffice Path (Path) for jodconverter** == [/usr/lib/libreoffice](#) **(32bits)**  
 == [/usr/lib64/libreoffice](#) **(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

*You can use this default crypt type which is equal to PHP-MD5 function or BSD-Style encryption by using: **org.apache.openmeetings.util.crypt.MD5CryptImplementation** for more information or to write your own Crypt-Style see: [Custom Crypt Mechanism](#) You can edit this value later BUT previous created Users and Sessions might be not usable anymore*

red5SIP Configuration

Enable SIP

*Enable red5SIP integration*

SIP rooms prefix

*Prefix for phone number of conference rooms*

SIP extensions context

*Context of Asterisk extensions*

Now push the button  Will show this window:

OpenMeetings

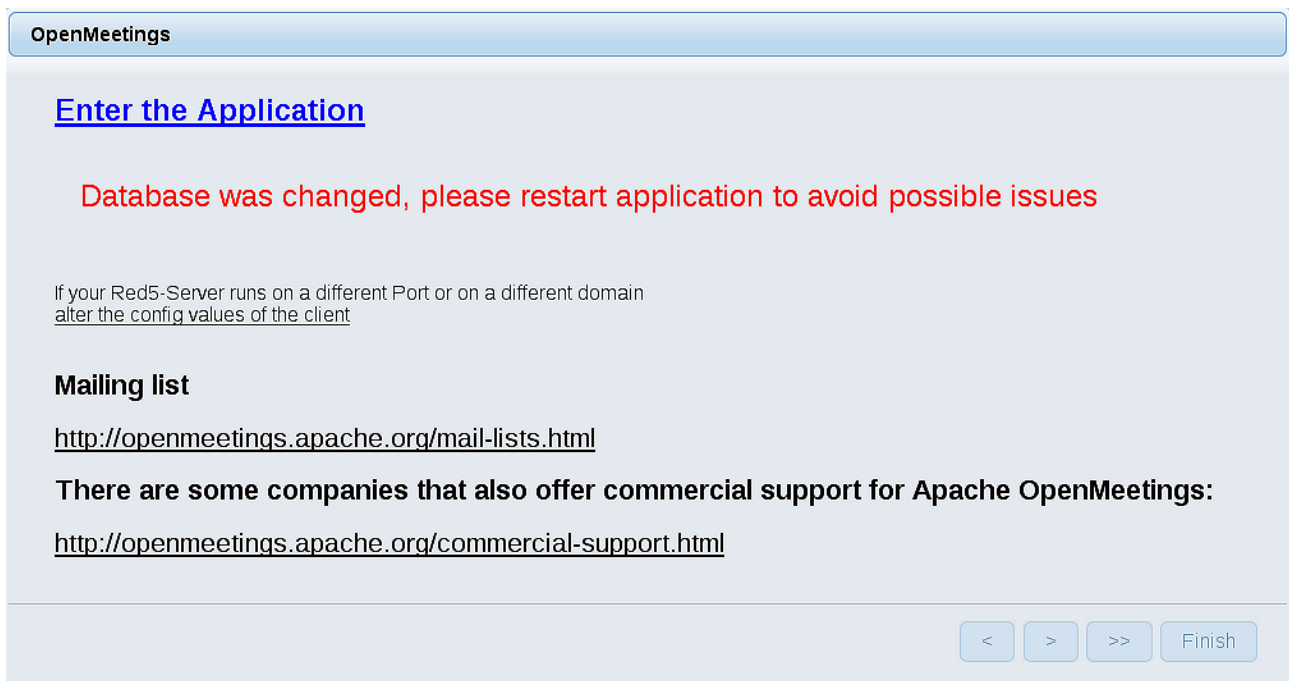
Please click "Finish" button to start installation!

Push **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 (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:

The screenshot shows a "Login" form with a light blue header bar. The form contains the following elements: a label "Username or mail address" next to a text input field; a label "Password" next to a password input field; a checkbox labeled "Remember login"; a link "Forgotten your password?" and a link "Network testing" below the password field. 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 accede to OpenMeetings, would be:

<http://localhost:5080/openmeetings>

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

**1935 5080**

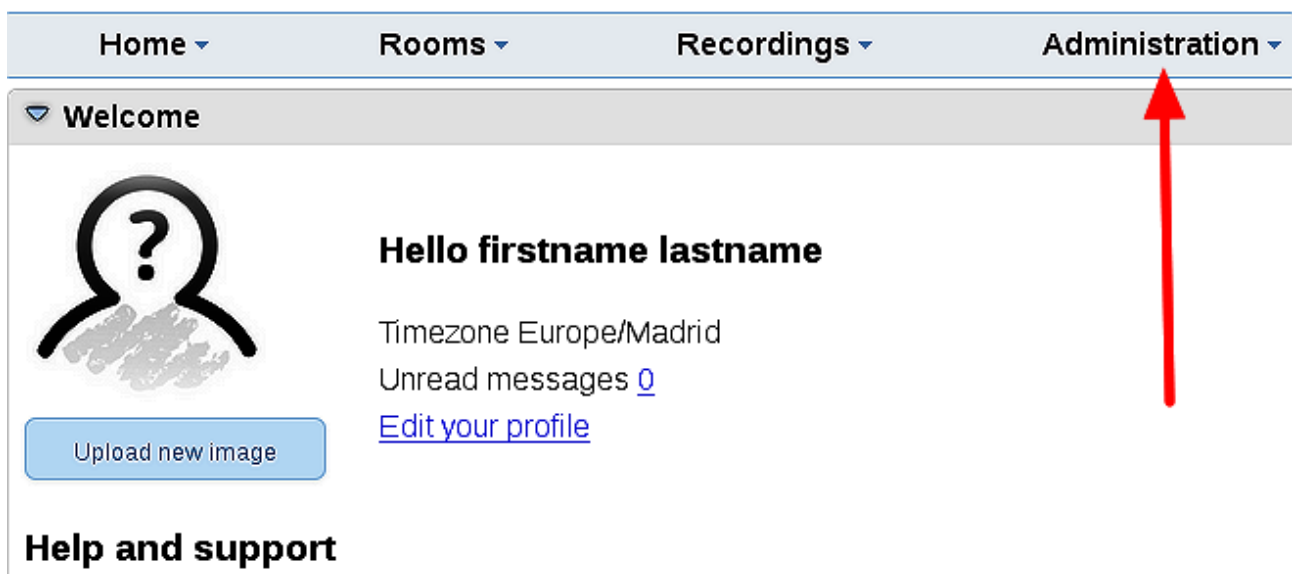
...in order that it could accede to OpenMeetings from other machines in Lan or from Internet.

16)

----- Configuration of OpenMeetings -----

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:

ID	Key	Value
4	allow.oauth.register	1
5	default_group_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_jpegquality	85
18	swftools_path	
19	imagemagick_path	
20	sox_path	
21	ffmpeg_path	
22	office.path	

**Configuration**

Key: swftools\_path

Value:

Last update:

Updated by:

Comment: Path To SwF-Tools

1 → (row 18 in table)  
 2 → (Value field in configuration)  
 3 → (Configuration window title)

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