



## **Installation of Apache OpenMeetings 3.2.1 on Gentoo**

This tutorial is based on a fresh installations on

**stage3-amd64-20170202.tar.bz2**

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.2.1 stable, that is to say will suppress his compilation. It is done step by step.

26-4-2017

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:

`emerge -uaD world`

2)

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

Java **1.8** it is necessary for OpenMeetings **3.2.1**. We'll install Oracle Java.

```
cd /usr/portage/distfiles
```

...download the java 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/8u131-b11/d54c1d3a095b4ff2b6607d096fa80163/jdk-8u131-linux-x64.tar.gz
```

...we install it:

```
emerge --verbose dev-java/oracle-jdk-bin:1.8
```

...maybe you have installed various versions of Java. We see it:

```
java-config --list-available-vms
```

...select the just installed Oracle Java:

```
java-config --set-system-vm oracle-jdk-bin-1.8
```

...and to see the active version:

```
java -version
```

3)

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

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

We install it (will spend about 35 minutes):

```
cd /opt
```

```
emerge libreoffice-bin
```

4)

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

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

emerge zlib libtool bzip2 autoconf automake pkgconfig tomcat-native nmap freetype nano

5)

----- **Installation ImageMagick, Sox and Swftools** -----

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

```
emerge imagemagick
```

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

```
emerge sox
```

**Swftools**. LibreOffice convert to pdf the uploaded office files, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. Also convert jpg2swf, png2swf, gif2swf, etc. After try compile different swftools source versions, get fail in all them. Trying to install from Portage, also gave an error. To avoid it, please run these commands:

```
nano /etc/portage/package.accept_keywords
```

...and type, or copy in, this line:

```
media-gfx/swftools
```

...press in keyboard **Ctrl+x**, **Y** and **Enter**, to save and exit nano editor.

Now we can install swftools:

```
emerge swftools
```

We have swftools installed, but without pdf2swf file, that we need to convert pdf to swf files. To solve it, i've ideaded a way, that without be very orthodox, yes it is efective. It is tested. Please, run these commands:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/swf.zip
```

...this zip unloaded, contain two files: pdf2swf and libjpeg.so.8.1.2. Both copyed from my Arch Linux installation. Unzipe:

```
unzip swf.zip
```

...copy the two files mentioned, to his respective path:

```
cd swf
```

```
cp pdf2swf /usr/bin
```

```
cp libjpeg.so.8.1.2 /lib
```

...and we do a smylelink to libjpeg.so.8.1.2. It is the path that will look for pdf2swf to work:

```
ln -s /lib/libjpeg.so.8.1.2 /lib/libjpeg.so.8
```

```
cd /opt
```

6)

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

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

```
emerge adobe-flash
```

Prepare this plugin for Firefox. Please, change **you-user** by your real user name:

```
mkdir /home/you-user/.mozilla/plugins
```

```
ln -s /usr/lib64/nsbrowser/plugins/libflashplayer.so /home/you-user/.mozilla/plugins
```

7)

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

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

```
emerge glibc faac faad2 gsm imlib2 cmake curl git mercurial yasm
```

The ffmpeg compilation it is based on this url, updated file versions 26-4-2017:

<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 25 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 and Gentoo
# Alvaro Bustos, thanks to Hunter.
# Updated 26-4-2017

# 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
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.3.tar.gz
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
curl -O 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$HOME/ffmpeg_build/lib" CPPFLAGS="-I$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 ffmpegserver 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-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:

```
emerge mariadb
```

**ATTENTION!** When MariaDB installation is finished, a lines before the last, in the shell, is a command tha we need to copy and run. Actualy is this, please check it, and if is the same run it:

```
emerge --config =dev-db/mariadb-10.0.29
```

...will ask for a new root mariadb password. Choose one you like it and type it twice.

Run MariaDB:

```
/etc/init.d/mysql start
```

...and access to MariaDB:

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

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

We make a database called open321, for OpenMeetings:

```
MariaDB [(none)]> CREATE DATABASE open321 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open321 database:

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open321.* TO 'hola'@'localhost'  
IDENTIFIED BY '123456' WITH GRANT OPTION;
```

```
* open321 ..... name of the database  
* hola ..... user for that database  
* 123456 .....password of this user
```

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

We exit MariaDB:

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

9)

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

We'll install OpenMeetings in /opt/red5321. All the following information will be based on this directory.

Call to our folder of installation red5321

Make that folder:

```
mkdir /opt/red5321
```

```
cd /opt/red5321
```

...and download the OpenMeetings file:

```
wget http://apache.miloslavbrada.cz/openmeetings/3.2.1/bin/apache-openmeetings-3.2.1.zip
```

```
unzip apache-openmeetings-3.2.1.zip
```

...save the unloaded file to /opt:

```
mv apache-openmeetings-3.2.1.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/5.1.39/mysql-connector-java-5.1.39.jar
```

...and copy it to where must be:

```
cp /opt/mysql-connector-java-5.1.39.jar /opt/red5321/webapps/openmeetings/WEB-INF/lib
```

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

```
nano /opt/red5321/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/open321?
```

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

#### **Modify in line 77:**

```
, Username=root
```

...to

```
, Username=hola
```

...is the user that we did initially for the database.

#### **Modify in line 78:**

```
, Password="" />
```

...to

```
, Password=123456" />
```

...it is the password that we did initially for the user "hola" in the database.

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

Logically, if initially you choose another user name, password or database name, you will change them here.

Protect the access to the file:

(Only one line without space between both)

```
chmod 640 /opt/red5321/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml
```

10)

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

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/red5321, please edit the script and modify the line:

```
RED5_HOME=/opt/red5321
```

...to

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

11)

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

Restart MariaDB:

```
/etc/init.d/mysql restart
```

...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 until the text “**clearSessionTable: 0**”, 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).
- Install **SWFTools** 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 **SWFTools** 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

...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](#)

**Choose DB type** Apache Derby

**Specify the name of the database** openmeetings

**Specify DB user** user

**Specify DB password** secret

Check

<
>
>>
Finish

...so, scroll and **Choose DB type** to MySQL:

The screenshot shows the 'OpenMeetings' installation wizard at the 'DB configuration' step. It includes a 'Recommendation for production environment' section with a 'Check' button. Below this, there are several input fields for database configuration: 'Choose DB type' (set to MySQL), 'Specify DB host' (localhost), 'Specify DB port' (3306), 'Specify the name of the database' (open321), 'Specify DB user' (hola), and 'Specify DB password' (123456). Navigation buttons at the bottom include '<', '>', '>>', and 'Finish'.

<b>Choose DB type</b>	MySQL
<b>Specify DB host</b>	localhost
<b>Specify DB port</b>	3306
<b>Specify the name of the database</b>	open321
<b>Specify DB user</b>	hola
<b>Specify DB password</b>	123456

...will show the database configuration we made in the step 9.

If you`ve choose any other differents data, will show equally.

Please, press  button, and will go to:

The screenshot shows the 'OpenMeetings' installation wizard at the 'Userdata' and 'Group(Domains)' steps. The 'Userdata' section has input fields for 'Username', 'Userpass', 'EMail', and a dropdown for 'User Time Zone' (set to Europe/Madrid). The 'Group(Domains)' section has a 'Name' input field. Navigation buttons at the bottom include '<', '>', '>>', and 'Finish'.

Username	<input type="text"/>
Userpass	<input type="text"/>
EMail	<input type="text"/>
User Time Zone	Europe/Madrid

Name	<input type="text"/>
------	----------------------

Now we must introduce the followings data, in order can continue the installation:

**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.

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:

**Default Language** = [english](#)

...the rest we can leave as is. If necessary, can modify it as you like it:

**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

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

SWFTools Zoom ⓘ	100	
SWFTools JPEG Quality ⓘ	85	
SWFTools Path ⓘ		Check
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:

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

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

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

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

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

As you go introducing routes, 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.utils.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

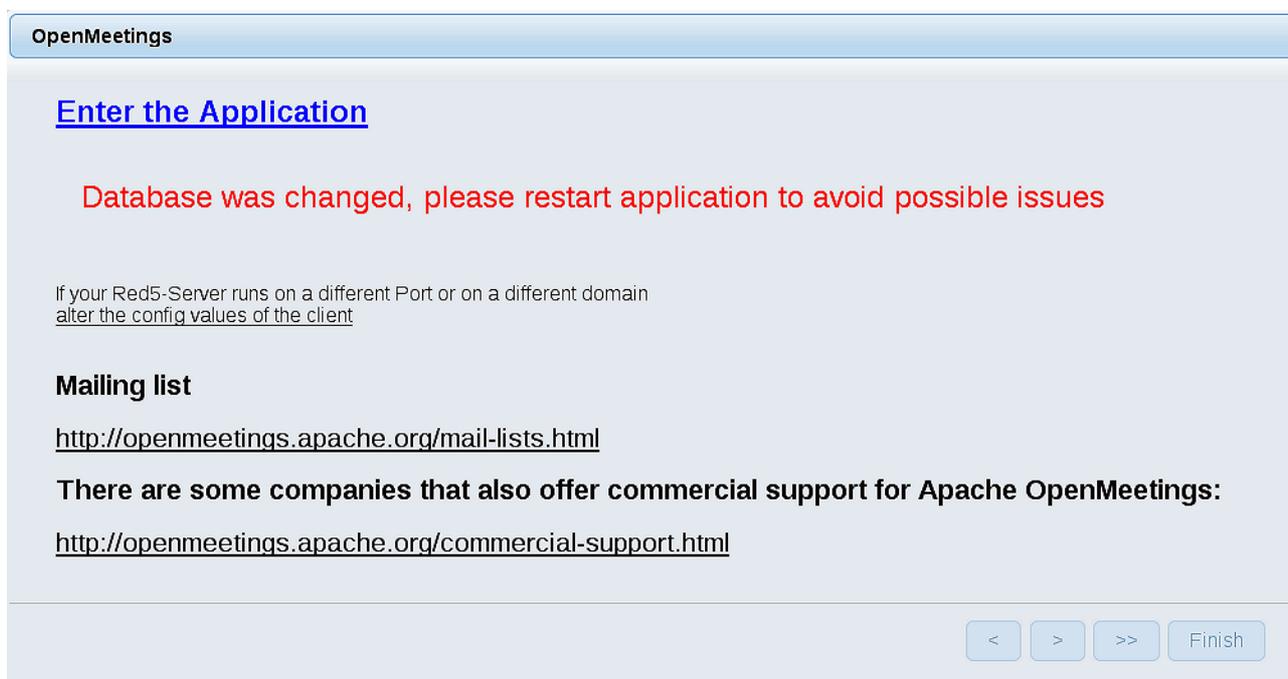
Now, touch the button  Will show this window:



Press **Finish** button...wait a seconds until 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:

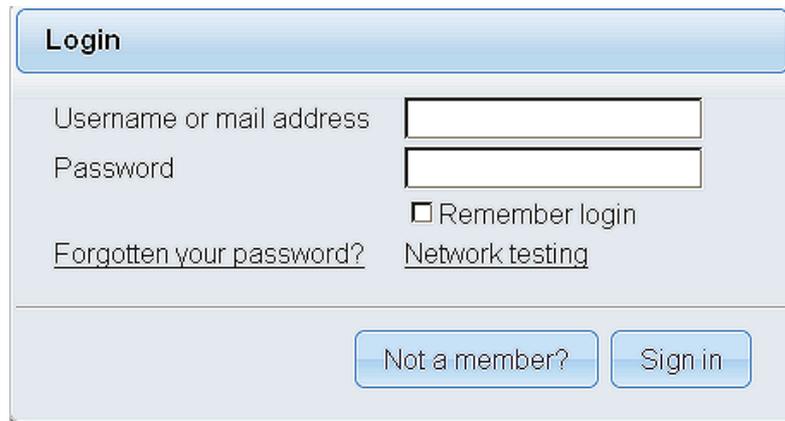
`/etc/init.d/red5-2 restart`



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:



The image shows a login form titled "Login". It contains the following elements:

- A header bar with the text "Login".
- A label "Username or mail address" followed by a text input field.
- A label "Password" followed by a password input field.
- A checkbox labeled "Remember login".
- A link "Forgotten your password?" and a link "Network testing".
- Two buttons at the bottom: "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 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](#)

**Help and support**



...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**

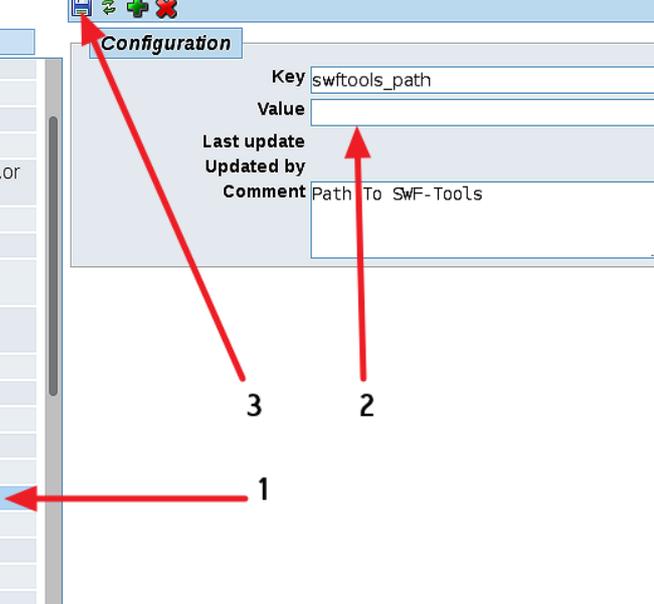
Key:

Value:

Last update:

Updated by:

Comment:



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