

Installation of Apache OpenMeetings 3.3.0 on Arch Linux

This tutorial is based on a fresh installations of

arch-anywhere-2.2.8-x86 64.iso

Arch Anywhere, it is a pure Arch Linux, with the only difference that the installation it is graphical. That's all.

It is tested with positive result. We will use the Apache's binary version OpenMeetings 3.3.0stable, that is to say will suppress his compilation. It is done step by step.

14-7-2017

Please, be connected to Internet during all the process tu 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:

pacman -Syu

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

Java 1.8 it is necessary for OpenMeetings 3.3.0. We'll install Oracle Java. Open Java gave an error in some OpenMeetings function. It is tested.

We'll install Packer. Packer is a wrapper for both Pacman and AUR. Packer reduce the complexity of manually compiling and installing the packages.

First, install the required dependencies:

```
pacman -S base-devel fakeroot jshon expac git wget
```

```
...when ask:
                Enter a selection (default=all):
                                                        ...press Enter.
...will ask also: Continue with the installation? [Y/n]
                                                        ...press Enter.
...and when finish, exit as root:
exit
Download the PKGBUILD script from AUR:
wget https://aur.archlinux.org/cgit/aur.git/plain/PKGBUILD?h=packer
...rename the unloaded file:
mv PKGBUILD\?h\=packer PKGBUILD
...we compile it:
makepkg
...and now install Packer:
sudo pacman -U packer-*.pkg.tar.xz
...will ask: Continue with the installation [Y/n] ...press Enter.
```

Now, being at home, and in the terminal as user, not as root, install Oracle Java:

packer jdk

...will show all the available java versions. Type the number of Oracle Java Development, according to your Arch Linux installation, 32 or 64bit.

In my case i type, at the end of the shell, the number 11.

```
(v) (A) (X)
                                guadal@ari:~
Archivo Editar Ver Buscar Terminal Avuda
8 extra/openjdk8-doc 8.u144-1
     OpenJDK Java 8 documentation
 extra/openjdk8-src 8.u144-1
     OpenJDK Java 8 sources
10 extra/visualvm 1.3.9-1
     Visual tool integrating several commandline JDK tools and lightweight
     profiling capabilities
11 aur/jdk 8u144-1 (768)
   Oracle Java Development Kit
12 aur/jdk7 7u80-1 (135)
   Oracle Java 7 Development Kit (public release - end of support)
13 aur/jdk6 6u45-6 (79)
   Oracle Java 6 Development Kit (public release - end of support)
14 aur/jdk-docs 8u144-2 (51)
   Documentation for Oracle Java Development Kit
15 aur/jdk-devel 9b181-1 (35)
   Oracle Java 9 Development Kit Snapshot
16 aur/jre8-openjdk-infinality 8.u152-1 (29)
   OpenJDK Java 8 full runtime environment with infinality patch applied
17 aur/jre8-openjdk-headless-infinality 8.u152-1 (29)
   OpenJDK Java 8 headless runtime environment with infinality patch applied
18 aur/jdk8-openjdk-infinality 8.u152-1 (29)
   OpenJDK Java 8 development kit with infinality patch applied
19 aur/jre7-openjdk-infinality 7.u111_2.6.7-1 (28)
```

```
quadal@ari:~
                                                                         Archivo Editar Ver Buscar Terminal Ayuda
42 aur/jdk6-docs 6u30-1 (2)
   Documentation for Oracle Java 6 Development Kit
43 aur/bin32-jdk5 5u22-1 (2)
   Oracle Java 5 Development Kit (32-bit) (public release - end of support)
44 aur/jre8-openjdk-jetbrains-git
8.u76.b241.r0.gf3983c7-1 (1)
    OpenJDK Java 8 full runtime environment with JetBrains modifications
45 aur/jre8-openjdk-headless-jetbrains-git
8.u76.b241.r0.gf3983c7-1 (1)
    OpenJDK Java 8 headless runtime environment with JetBrains modifications
46 aur/jdk-dcevm 8u112-2 (1)
    Oracle Java Development Kit with DCEVM patches
47 aur/jdk8-openjdk-jetbrains-git
8.u76.b241.r0.gf3983c7-1 (1)
    OpenJDK Java 8 development kit with JetBrains modifications
48 aur/java8-openjdk-hsdis 8.u112-1 (1)
   Disassembler for HotSpot
49 aur/denix-jdk8 8u77-1 (1)
   Oracle Java 8 Development Kit (in /opt for servers)
50 aur/bin32-jdk-devel 9b181-1 (1)
   Oracle Java 9 Development Kit Snapshot (32-bit)
Type numbers to install. Separate each number with a space.
Numbers: 11
```

Once you've typed your selected number, push Enter . And when ask:
Proceed with installation? [Y/n] y
Edit jdk PKGBUILD with \$EDITOR? [Y/n] n
Edit jdk.install with \$EDITOR? [Y/n] n
press Enter to the question that will do later.
3) Installation of LibreOffice
OpenMeetings will need LibreOffice to convert to pdf the uploaded office files.
We install LibreOffice and Firefox (my Arch Linux installation have Mate desktop):
sudo pacman -S libreoffice firefox
press Enter to any question.
4) Installation of necessary packages and libraries
Will install packages and libraries that we'll need later:
(Only one line with space between both)
sudo pacman -S libjpeg ghostscript unzip gcc ncurses make zlib libtool bison bzip2 file-roller autoconf automake pkgconfig tomcat-native nmap curl freetype2 nano
5) Installation ImageMagick, Sox and Swftools
ImageMagick, will work with images files jpg, png, gif, etc. We install it:
sudo pacman -S imagemagick
Sox, work the sound. Install it:
sudo pacman -S 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. Don't install a newer version, surely have not pdf2swf as this repo version. So, we install it:

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pac]	zer	CXX/	$t \alpha \alpha$	le
pac	KCI.	S 44 T	LIOU.	IJ

Will ask to type a number:

Type numbers to install. Separate each number with a space.

Numbers: ...type number 0

Once you've typed the zero, push Enter. And when ask:

Proceed with installation? [Y/n] ...press Enter

Edit swftools PKGBUILD with \$EDITOR? [Y/n]

[sudo] password for "your-user": ...type your user password and press **Enter**

Continue with the installation? [Y/n] ...press **Enter**

Now, we'll block the installed version, actually swftools-0.9.2-5, since contain pdf2swf.

For this, edit the pacman.conf file:

sudo nano /etc/pacman.conf

...search the line: #IgnorePkg =

...uncomment it: IgnorePkg =

...and add swftools: IgnorePkg = swftools

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

Keep this version and not update it, unless you have the security that the most recent version contains the pdf2swf file.



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

sudo pacman -S flashplugin

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

FFmpeg work with video. Will install a libraries, paquets, and vlc to play the recordings that we'll make in OpenMeetings. Access as root to shell:

su ...will ask for root password

(Only one line with space between both)

pacman -S glibc faac faad2 gsm imlib2 vorbis-tools autoconf automake cmake gcc git libtool make mercurial nasm pkgconfig yasm vlc qt4

The ffmpeg compilation it is based on this url, updated file versions 14-7-2017:

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 30 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

make install && make distclean; cd..

```
...copy the green text from here:
# Script ffmpeg compile for Arch Linux
# Alvaro Bustos, thanks to Hunter.
# Updated 14-7-2017
# 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 &&
```

cd libogg-*/

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

cd libvorbis-*/

LDFLAGS="-L\$HOME/ffmeg_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-libvyx --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-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

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

MariaDB is the data server. We install it: (continue as root in shell)

pacman -S mariadb

Initialize data directories (be connected to Internet):

mysql install db --user=mysql --basedir=/usr --datadir=/var/lib/mysql

...and run MariaDB:

systemctl start mysqld

Give a password to MariaDB root . Please, modify new-password by your own and remember it:

mysqladmin -u root password new-password

Access to MariaDB:

mysql -u root -p

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

Make a database called open330, for OpenMeetings. User password must be of 8 digits minimum:

MariaDB [(none)] > CREATE DATABASE open330 DEFAULT CHARACTER SET 'utf8';

Now we create a user with all permission on this open330 database:

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open330.* TO 'hola'@'localhost' IDENTIFIED BY 'la2B3c4D' WITH GRANT OPTION;

```
* open330 ...... name of the database

* hola ..... user for that database
```

* 1a2B3c4Dpassword of this user

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

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

We'll install OpenMeetings in /opt/red5330. All the following information will be based on this directory.

Call to our folder of installation red5330

Make that folder:

mkdir /opt/red5330

cd/opt/red5330

...and download the OpenMeetings file:

wget http://apache.miloslavbrada.cz/openmeetings/3.3.0/bin/apache-openmeetings-3.3.0.zip

unzip apache-openmeetings-3.3.0.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.3.0.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/red5330/webapps/openmeetings/WEB-INF/lib

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

nano/opt/red5330/webapps/openmeetings/WEB-INF/classes/META-INF/mysql persistence.xml

Modify in line 72:

, Url=jdbc:mysql://localhost:3306/openmeetings_3_3?

```
...to
, Url=jdbc:mysql://localhost:3306/open330?
...it is the name of the database that we did initially.
Press on keyboard, Ctrl+x, Y and Enter, to save changes and exit nano editor.
Logically, if initially you choose another database name, you will type it here.
Protect the access to the file:
                             (Only one line without space between both)
chmod 640 /opt/red5330/webapps/openmeetings/WEB-INF/classes/META-
INF/mysql persistence.xml
10)
                           ----- Script to launch red5-OpenMeetings -----
We make the folder /etc/init.d, where put the red5 run script:
mkdir /etc/init.d
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/red5330, please edit the script
and modify the line:
```

RED5_HOME=/opt/red5330

...to

RED5_HOME=/your-path-installation

11)

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

Restart MariaDB:

systemctl restart mysqld

...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

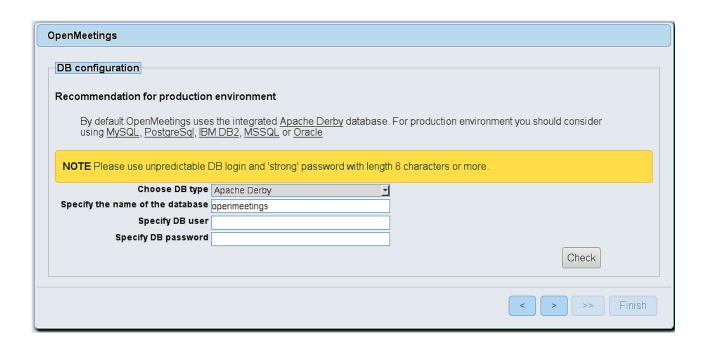
...wait untill the text "clearSessionTable: 0", it is the last in the shell. Then, go with the browser to:

http://localhost:5080/openmeetings/install

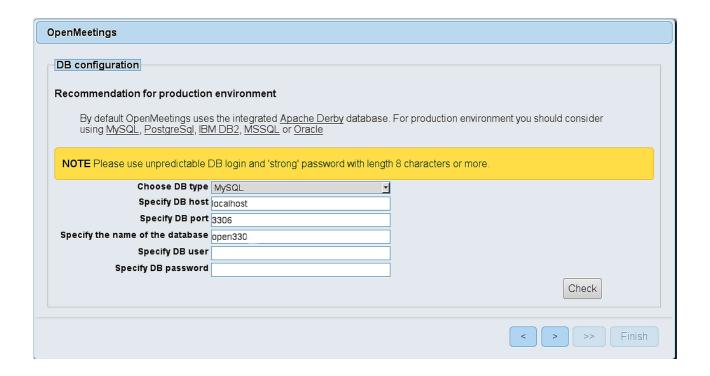
...there will appear a page similar to this one:



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



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



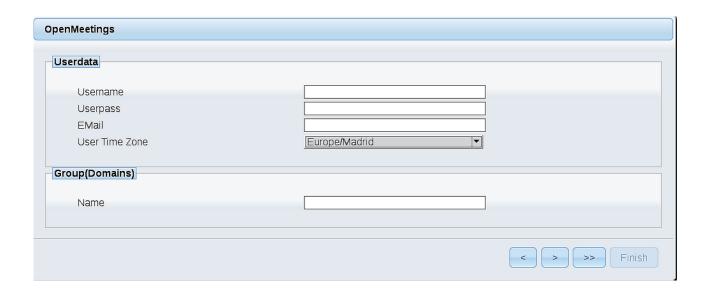
...and will show the database name, we made in the step 9. If you've choose any other different name for this, will show equally.

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

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 will be administrator.

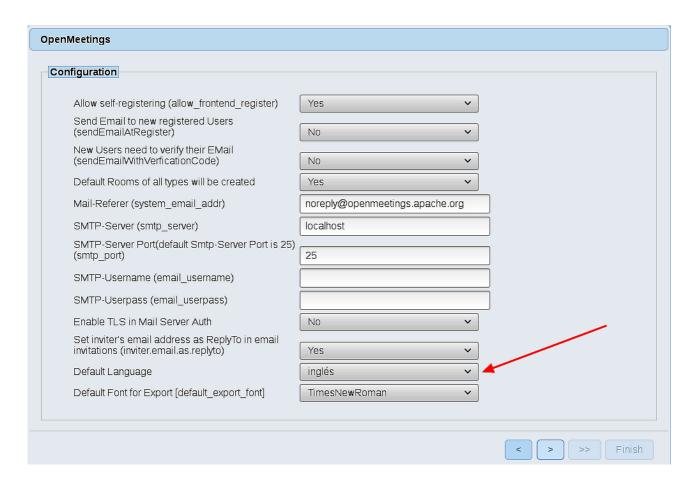
Userpass = a-password ...for the previous user.

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)

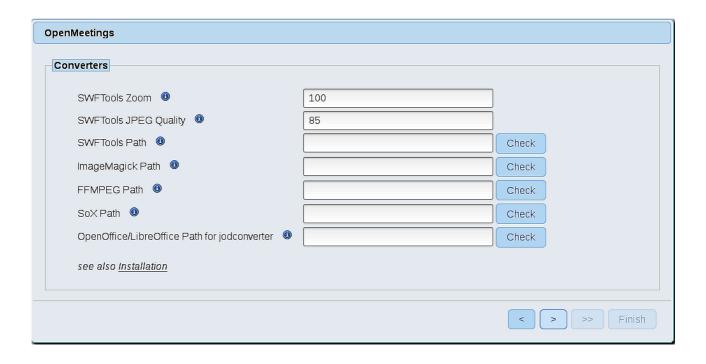
Mail-Refer (system_email_addr)== john@gmail.comSMTP-Server (smtp_server)== smtp.gmail.comSMTP-Server Port (default Smtp-Server Port is 25)
(smtp_port)== 587SMTP-Username (email_username)== john@gmail.comSMTP-Userpass (email_userpass)== password of john@gmail.comEnable TLS in Mail Server Auth== Yes

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

Default Language == english

...the rest we can leave as is.

Now press the button and a new page will appear:



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

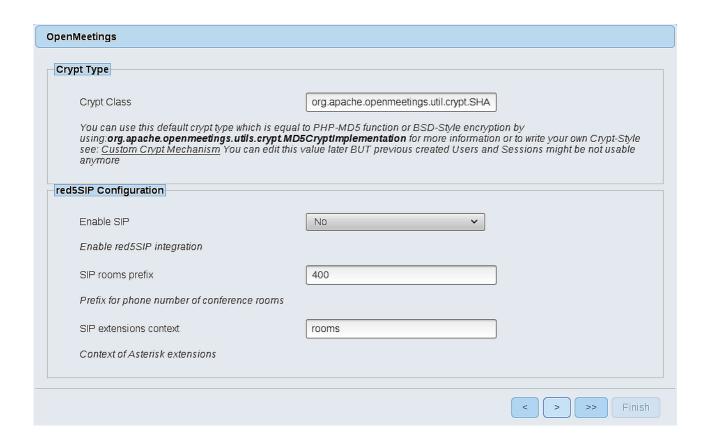
FFMPEG Path == /usr/local/bin

SOX Path == /usr/bin

OpenOffice/LibreOffice Path for jodconverter == /usr/lib/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:



Now, touch the button Will show this window:



Press Finish button...wait a seconds untill 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 connected to Internet. Open a new terminal as root:



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 to accede OpenMeetings, would be:

http://localhost:5080/openmeetings

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

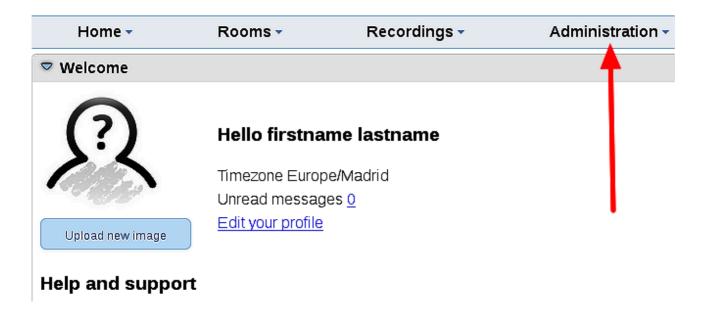
1935 5080

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

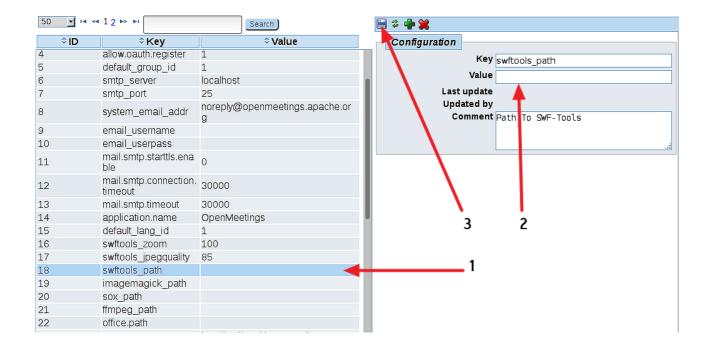
12) ----- OpenMeetings's configuration -----

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

Administration \rightarrow 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