



## Installation of Apache OpenMeetings 3.0.x on CentOS 6.5

This tutorial is made based on fresh installations of

**CentOS-6.5-i386-LiveCD** and **CentOS-6.5-x86\_64-LiveCD**

It is tested in both versions with positive result. We will use the Apache's binary version OpenMeetings 3.0.4, that is to say will suppress his compilation. It is done step by step.

11-2-2014 updated 21-2-2015

Starting...

1)

**-- Add repository --**

Install epel and linuxtech repository, the last one it is to install vlc.

For CentOS 6.x **32 bits**:

```
cd /opt
```

```
wget http://dl.fedoraproject.org/pub/epel/6/i386/epel-release-6-8.noarch.rpm
```

```
rpm -Uvh epel-release-6-8.noarch.rpm
```

For CentOS 6.x **64 bits**:

```
cd /opt
```

```
wget http://dl.fedoraproject.org/pub/epel/6/x86\_64/epel-release-6-8.noarch.rpm
```

```
rpm -Uvh epel-release-6-8.noarch.rpm
```

```
cd /opt
```

```
wget http://pkgrepo.linuxtech.net/el6/release/linuxtech.repo
```

```
cp linuxtech.repo /etc/yum.repos.d
```

Update the repository and the operative system:

```
yum update
```

...installation of vlc to play video:

```
yum install -y vlc
```

...installs automatically many libraries of media.

.

2)

#### ---- Installation of libraries for compilations and packages ----

Copy line to line and then put one after other one in the shell.

```
yum install -y libjpeg libjpeg-devel giflib giflib-devel giflib-utils ghostscript freetype freetype-devel  
unzip gcc ncurses ncurses-devel make gcc-c++ libtermcap libtermcap-devel zlib zlib-devel libtool  
bison bison-devel openssl-devel bzip2 bzip2-devel wget ImageMagick file-roller unzip zlib zlib-  
devel
```

#### ---- Installation and configuration of MySQL ----

```
yum install -y mysql mysql-server
```

Give a root password in MySQL substituting '**new-password**' that we have just chosen:

```
service mysqld start
```

```
/usr/bin/mysqladmin -u root password 'new-password'
```

Build the database for OpenMeetings:

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

...will ask for the root password that we have just chosen, type it...

```
mysql> CREATE DATABASE open304 DEFAULT CHARACTER SET 'utf8';
```

With this command we have created a called database `open304` though you can choose another name to your wish.

Now we create a user with all the permissions for this database.

Type the following command everything in an alone line with space of separation between both:

```
mysql> GRANT ALL PRIVILEGES ON open304.* TO 'openmeetings'@'localhost' IDENTIFIED BY '123456' WITH GRANT OPTION;
```

\* `open304` .....is the database name.

\* `openmeetings` ...is the user name for the database.

\* `123456` .....is the password of the user called `openmeetings`.

You can change the dates...but remember it!

We go out from MySQL console:

```
mysql> quit
```

3)

#### ---- Installation of Adobe flash player----

Go to:

<http://get.adobe.com/flashplayer/>

Once there:

Select version to download... → .rpm for other Linux --> Download now

can install the unloaded file doing right click on him and "[Open with Package Installer](#)".

4)

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

Install now LibreOffice...if it is that you do not have it even installed, for the conversion of files.  
Copy line to line and them put one after other one in the shell:

```
yum -y install libreoffice libreoffice-base libreoffice-core libreoffice-draw libreoffice-headless  
libreoffice-impress libreoffice-writer
```

Now some kind of information only:

LibreOffice **32 bits** establishes himself in **/usr/lib/libreoffice**.

LibreOffice **64 bits** establishes himself in **/usr/lib64/libreoffice**.

5)

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

For **32 bits**:

Please visit:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html?ssSourceSiteId=otnes>

...click on:

**Agree and proceed**

...mark:

**Accept License Agreement**

...and download the file called:

**jdk-8u31-linux-i586.rpm**

Now go in shell where the file it was downloaded. For example:

```
cd /home/your_user_name
```

...and install it:

```
rpm -Uvh jdk-8u31-linux-i586.rpm
```

...and remove the file:

```
rm -f jdk-8u31-linux-i586.rpm
```

For **64 bits**:

Please visit:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html?ssSourceSiteId=otnes>

...click on:

**Agree and proceed**

...mark:

**Accept License Agreement**

...and download the file called:

**jdk-8u31-linux-x64.rpm**

Go in shell where the file it was downloaded. For example:

```
cd /home/your_user_name
```

...and install it:

```
rpm -Uvh jdk-8u31-linux-x64.rpm
```

Environment JAVA\_HOME for **32** bits and **64** bits:

```
gedit /etc/profile
```

...at the end of the file add:

```
export JAVA_HOME=/usr/java/jdk1.8.0_31/bin/java
export PATH=$PATH:/usr/java/jdk1.8.0_31/bin
```

...Attention, the **number** of the version changes if you have unloaded different other one...

...and now activate it:

```
source /etc/profile
```

For **32** and **64** bits: line to line...

```
update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_31/jre/bin/java 20000
```

```
update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_31/bin/jar 20000
```

```
update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.8.0_31/bin/javac 20000
```

```
update-alternatives --install /usr/bin/javaws javaws /usr/java/jdk1.8.0_31/jre/bin/javaws 20000
```

...Attention, the **number** of the version changes if you have unloaded different other one...

```
update-alternatives --config javac
update-alternatives --config java ...select the number of /usr/java/jdk1.8.0_31/bin/java
update-alternatives --config javaws
```

6)

#### ---- Compilation of Sox and Swftools ----

Compile **Sox** for audio.

```
cd /opt
```

```
wget http://sourceforge.net/projects/sox/files/sox/14.4.1/sox-14.4.1.tar.gz/download
```

```
tar xzvf sox-14.4.1.tar.gz
```

```
cd /opt/sox-14.4.1
```

```
./configure --enable-libmp3lame
```

```
make && make install
```

Compile **Swftools** to flash conversion.

```
cd /opt
```

```
wget http://www.swftools.org/swftools-2013-04-09-1007.tar.gz
```

```
tar xzvf swftools-2013-04-09-1007.tar.gz
```

```
cd /opt/swftools-2013-04-09-1007
```

```
./configure --libdir=/usr/lib --bindir=/usr/bin
```

```
make && make install
```

7)

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

Ffmpeg will work for video.

This compilation is based on:

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

...with little modifications.

Should install some package and libraries:

```
yum install autoconf automake gcc gcc-c++ git libtool make nasm pkgconfig zlib-devel
```

Make a folder where download the sources:

```
mkdir ~/ffmpeg_sources
```

First will download all the packages we need to compile. In shell as root:

```
git clone --depth 1 git://github.com/yasm/yasm.git
```

```
git clone --depth 1 git://git.videolan.org/x264
```

```
git clone --depth 1 git://git.code.sf.net/p/openssl-amr/fdk-aac
```

```
curl -L -O http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz
```

```
git clone git://git.opus-codec.org/opus.git
```

```
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
```

```
curl -O http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.4.tar.gz
```

```
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
```

```
curl -O http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
```

```
git clone --depth 1 git://source.ffmpeg.org/ffmpeg
```

...once all these packages-files are downloaded start the compilation.

### 1) ---- YASM ---

```
cd ~/ffmpeg_sources
```

```
cd yasm
```

```
autoreconf -fiv
```

```
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin"
```

```
make
```

make install

make distclean

**2) ---- libx264 ---**

cd ~/ffmpeg\_sources

cd x264

./configure --prefix="\$HOME/ffmpeg\_build" --bindir="\$HOME/bin" --enable-static

make

make install

make distclean

**3) --- libfdk\_aac ---**

cd ~/ffmpeg\_sources

cd fdk-aac

autoreconf -fiv

./configure --prefix="\$HOME/ffmpeg\_build" --disable-shared

make

make install

make distclean

**4) --- libmp3lame ---**

cd ~/ffmpeg\_sources

tar xzvf lame-3.99.5.tar.gz

cd lame-3.99.5

(In only one line)



```
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --disable-shared --enable-nasm
```

```
make
```

```
make install
```

```
make distclean
```

**5) --- libopus ---**

```
cd ~/ffmpeg_sources
```

```
cd opus
```

```
autoreconf -fiv
```

```
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
```

```
make
```

```
make install
```

```
make distclean
```

**6) --- libogg ---**

```
cd ~/ffmpeg_sources
```

```
tar xzvf libogg-1.3.2.tar.gz
```

```
cd libogg-1.3.2
```

```
./configure --prefix="$HOME/ffmpeg_build" --disable-shared
```

```
make
```

```
make install
```

```
make distclean
```

**7) --- libvorbis ---**

```
cd ~/ffmpeg_sources
```

```
tar xzvf libvorbis-1.3.4.tar.gz
```

```
cd libvorbis-1.3.4
```

```
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-shared
```

```
make
```

```
make install
```

```
make distclean
```

**8) --- libvpx ---**

```
cd ~/ffmpeg_sources
```

```
cd libvpx
```

```
./configure --prefix="$HOME/ffmpeg_build" --disable-examples
```

```
make
```

```
make install
```

```
make clean
```

**9) --- libtheora ---**

```
cd ~/ffmpeg_sources
```

```
tar xzvf libtheora-1.1.1.tar.gz
```

```
cd libtheora-1.1.1
```

(In only one line)

```
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-  
examples --disable-shared --disable-sdltest --disable-vorbistest
```

```
make
```

```
make install
```

```
make distclean
```

**10) --- FFmpeg ---**

```
cd ~/ffmpeg_sources
```

```
cd ffmpeg
```

(In only one line )

```
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" --enable-gpl --enable-nonfree
--enable-libfdk_aac --enable-libmp3lame --enable-libopus --enable-libvorbis --enable-libvpx
--enable-libx264 --enable-libtheora
```

```
make
```

```
make install
```

```
make distclean
```

```
hash -r
```

-----  
The compilation is finished.  
-----

Now we have the compiled files in: ~/bin

Should copy all them to /usr/local/bin to be enabled:

```
cd ~/bin
```

```
cp ffmpeg ffprobe ffserver lame vsyasm x264 yasm yasm /usr/local/bin
```

**7)**

Type the name of your machine in:

```
gedit /etc/hosts
```

...for example:

```
127.0.0.1          localhost.localdomain localhost your-machine
::1               localhost6.localdomain6 localhost6
your-ip-local your-machine
```

8)

Install for the conversion **Jodconverter**.

```
cd /opt
```

```
wget http://jodconverter.googlecode.com/files/jodconverter-core-3.0-beta-4-dist.zip  
unzip jodconverter-core-3.0-beta-4-dist.zip
```

9)

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

We'll install OpenMeetings in /opt/red5304. All the following information will be based on this directory.

Call to our folder of installation **red5304**

Make the folder:

```
mkdir /opt/red5304
```

```
cd /opt/red5304
```

```
wget http://apache.rediris.es/openmeetings/3.0.4/bin/apache-openmeetings-3.0.4.zip  
unzip apache-openmeetings-3.0.4.zip
```

...remove the unloaded file:

```
rm -f apache-openmeetings-3.0.4.zip
```

Do to **nobody** user of the whole OpenMeetings folder installation:

```
chown -R nobody /opt/red5304
```

Unload and install the connector between OpenMeetings and MySQL:

```
cd /opt
```

```
wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.29/mysql-connector-java-5.1.29.jar
```

...and copy it to where it must be:

```
cp /opt/mysql-connector-java-5.1.29.jar /opt/red5304/webapps/openmeetings/WEB-INF/lib
```

Now we are going to form OpenMeetings for our database in MySQL:

```
cd /opt/red5304/webapps/openmeetings/WEB-INF/classes/META-INF
```

```
mv persistence.xml persistence.xml-ori
```

```
mv mysql_persistence.xml persistence.xml
```

```
gedit /opt/red5304/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml
```

...to change on **line 81**

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

...to

```
, Url=jdbc:mysql://localhost:3306/open304
```

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

... to change on **line 86**

```
, Username=root
```

...to

```
, Username=openmeetings
```

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

...to change on **line 87**

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

...to

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

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

Logically if initially you chose another name and password for the database, you will to change them here.

We protect the access to the file:

```
chmod 640 /opt/red5304/webapps/openmeetings/WEB-INF/classes/META-INF/persistence.xml
```

11)

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

Do a script of start and stop for red5-OpenMeetings that we will call "**red5**"

[gedit /etc/init.d/red5](#)

...copy, paste and save the whole green text of below:

```
#!/bin/bash
# For RedHat and cousins:
# chkconfig: 2345 85 85
# description: Red5 flash streaming server
# processname: red5
# Created By: Sohail Riaz (sohaileo@gmail.com)

PROG=red5
RED5_HOME=/opt/red5304
DAEMON=$RED5_HOME/$PROG.sh
PIDFILE=/var/run/$PROG.pid

# Source function library
. /etc/rc.d/init.d/functions

[ -r /etc/sysconfig/red5 ] && . /etc/sysconfig/red5

RETVAL=0

case "$1" in
    start)
        echo -n $"Starting $PROG: "
        cd $RED5_HOME
        $DAEMON >/dev/null 2>/dev/null &
        RETVAL=$?
        if [ $RETVAL -eq 0 ]; then
            echo $! > $PIDFILE
            touch /var/lock/subsys/$PROG
        fi
        [ $RETVAL -eq 0 ] && success $"$PROG startup" || failure $"$PROG startup"
        echo
        ;;
    stop)
        echo -n $"Shutting down $PROG: "
        killproc -p $PIDFILE
        RETVAL=$?
        echo
```

```

[ $RETVAL -eq 0 ] && rm -f /var/lock/subsys/$PROG
;;
restart)
$0 stop
$0 start
;;
status)
status $PROG -p $PIDFILE
RETVAL=$?
;;
*)
echo $"Usage: $0 {start|stop|restart|status}"
RETVAL=1
esac

exit $RETVAL

```

**12)**

Give permission of execution to the script newly made:

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

**13)**

Start MySql if still it is not:

```
service mysqld start
```

...and now we start red5-OpenMeeting:

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

...wait 10 seconds *at least* in order that red5 it is run completely, and later go to:

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

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



## OpenMeetings

### OpenMeetings - Installation

#### 1. Recommendation for production environment

By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using [MySQL](#), [Postgres](#) or for example [IBM DB2](#) or [Oracle](#)

#### 2. Enabling Image Upload and import to whiteboard

- Install **ImageMagick** on the server, you can get more information on <http://www.imagemagick.org> regarding installation. The instructions for installation can be found there <http://www.imagemagick.org/script/binary-releases.php>, however on most linux systems you can get it via your favorite package managers (apt-get it)

#### 3. 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

#### 4. Enabling import of .doc, .docx, .ppt, .pptx, ... all Office Documents into whiteboard

- **OpenOffice-Service** started and listening on port 8100, see [OpenOfficeConverter](#) for details

#### 5. Enabling Recording and import of .avi, .flv, .mov and .mp4 into whiteboard

...click on **Next** (bottom)

...and this another page will appear:



## OpenMeetings

### OpenMeetings - Installation

#### Userdata

Username

Userpass

EMail

User Time Zone

#### Organisation(Domains)

Name

< Previous

Next >

Last

Finish

...here we have to introduce necessarily, to be able to continue, the following:

**Username** = **a-name** ...this user will be administrator.

**Userpass** = **password** ...for the previous user.




**Email** = email-adress ...of the previous user.

**User Time Zone** = Country where is this server

Organisation(Domains)

**Name** = **example-openmeetings** ...group name to choose.

Go below completely of the page and touch the button **Finish**




**OpenMeetings**

### OpenMeetings - Installation

Please click "Finish" button to start installation!

...and wait a *moment* until the tables are constructed in the database.  
When has concluded this another page will appear:



**OpenMeetings**

### OpenMeetings - Installation

[Enter the Application](#)

If your Red5-Server runs on a different Port or on a different domain  
[alter the config values of the client](#)

**Mailing list**

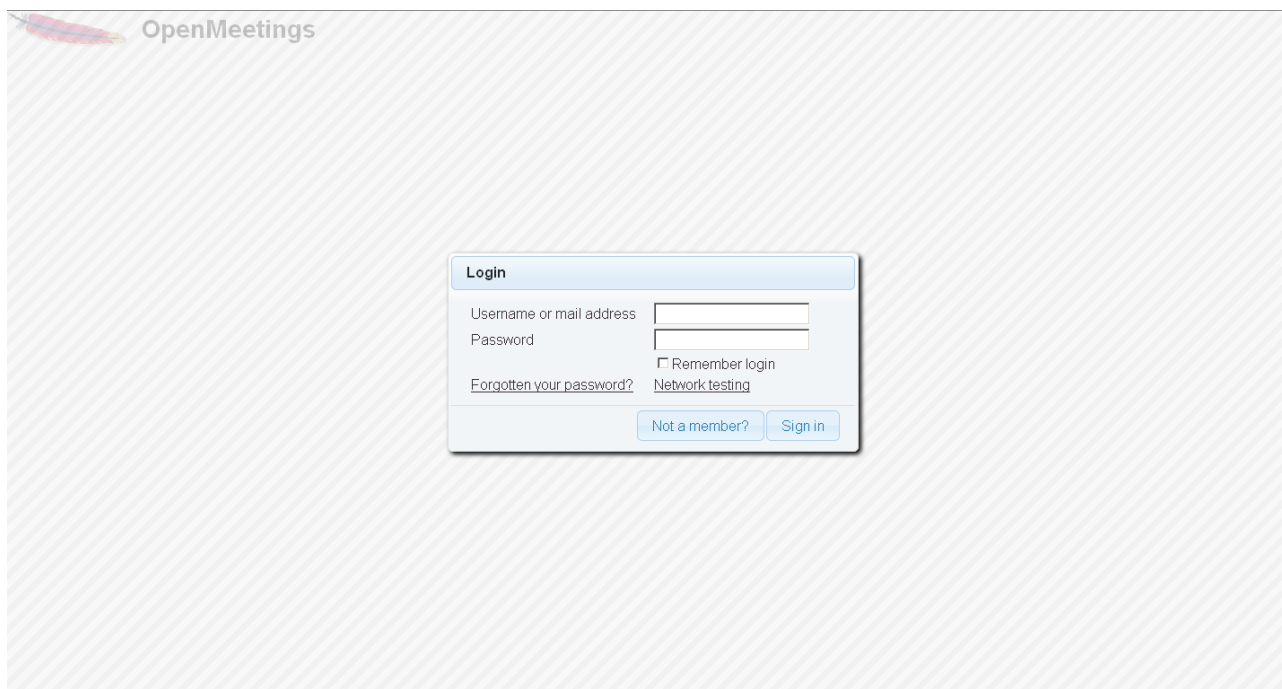
<http://openmeetings.apache.org/mail-lists.html>

There are some companies that also offer commercial support for Apache OpenMeetings:

<http://openmeetings.apache.org/commercial-support.html>

...clíc on **Enter the Application**

..and we will see OpenMeetings's entry:



Introduce the user's name and the password that you have chosen during the installation and

**...Congratulations!**

The next time that you wants to accede to OpenMeetings will be:

<http://localhost:5080/openmeetings>

Remember to open in the server three following ports:

5080    1935    8088

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

14)

**---- OpenMeetings's configuration ----**

Once we have acceded to OpenMeetings go to:

**Administration → Configuration**

**OpenMeetings**

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

▼ Welcome

**Hello firstname lastname**

Timezone Europe/Madrid  
Unread messages [0](#)  
[Edit your profile](#)

Upload new image

**Help and support**

[Project website \(http://openmeetings.apache.org\)](http://openmeetings.apache.org)  
[User mailing list \(http://openmeetings.apache.org/mail-lists.html\)](http://openmeetings.apache.org/mail-lists.html)  
[Network testing](#)

▼ How to

1 Pres  
2 C  
3

OpenMe to enter meeting

▼ My rooms

My conference room (for 1-16 users) [Enter](#)  
Users 0 / 25 ↻

My webinar room (for 1-120 users) [Enter](#)  
Users 0 / 150 ↻

*Click on a room to get the room details*

**Room #**

**Comment**

Users in this room

...introduce the parameters for the conversion of files, the audio and the video:

Clic on: **swftools\_path**...and to the right in **Value** type: **/usr/bin**

Clic on: **imagemagick\_path**...and to the right in **Value** type: **/usr/bin**

Clic on: **sox\_path**...and to the right in **Value** type: **/usr/local/bin**

Clic on: **ffmpeg\_path**...and to the right in **Value** type: **/usr/bin**

Clic on: **office.path**...and to the right in **Value** type (32 bits): **/usr/lib/libreoffice**  
Clic on: **office.path**...and to the right in **Value** type (64bits): **/usr/lib64/libreoffice**

Clic on: **jod.path**...and to the right in **Value** type: **/opt/jodconverter-core-3.0-beta-4/lib**

The screenshot shows the OpenMeetings Administration interface. The top navigation bar includes 'Home', 'Rooms', 'Recordings', and 'Administration'. The 'Administration' tab is active, showing a 'Configuration' sub-tab. On the left, a table lists system parameters. The parameter 'ffmpeg\_path' (ID 21) is highlighted. A red arrow labeled '1' points to this row. On the right, the configuration form for 'ffmpeg\_path' is displayed, showing fields for 'Key', 'Value', 'Last update', 'Updated by', and 'Comment'. A red arrow labeled '2' points to the 'Value' field. Another red arrow labeled '3' points to the 'Configuration' tab header.

ID	Key	Value
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	
23	jod.path	/opt/jod/lib
24	rss_feed1	http://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom
25	rss_feed2	http://mail-archives.apache.org/mod_mbox/openmeetings-dev/?format=atom
26	sendEmailAtRegister	0
27	sendEmailWithVerificationCode	0
28	default_export_font	TimesNewRoman
29	default.rpc.userid	1
30	application.base.url	http://localhost:5080/openmeetings/
31	red5sip.enable	no
32	red5sip.room_prefix	400

Now there is OpenMeetings ready to work completely.

## 15)

We are going to remove files and folders that already do not serve us, if you do not want to save them.

```
rm -f /opt/jodconverter-core-3.0-beta-4-dist.zip
```

```
rm -f /opt/mysql-connector-java-5.1.29.jar
```

```
rm -f /opt/lame-3.99.5.tar.gz
```

```
rm -f /opt/sox-14.4.1.tar.gz
```

```
rm -f /opt/swftools-2013-04-09-1007.tar.gz
```

```
rm -f /opt/ffmpeg-2.1.3.tar.gz
```

```
rm -f -R /opt/lame-3.99.5
```

```
rm -f -R /opt/sox-14.4.1
```

```
rm -f -R /opt/swftools-2013-04-09-1007
```

```
rm -f -R /opt/ffmpeg-2.1.3
```

And that 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