



## Installation of Apache OpenMeetings 5.0.0 M1 on Ubuntu 18.04 LTS

The present tutorial is made based on a minimal fresh installations of

**bionic-desktop-amd64.iso**

My sincere thanks to Maxim Solodovnik for his help, without which i could not have finished this tutorial satisfactorily.

It is made step by step.

25-3-2019

Starting...

1)

First, we update and upgrade the OS:

```
sudo apt update
```

```
sudo apt upgrade
```

2)

----- Installation of OpenJava 1.8 -----

OpenMeetings **4.0.8** need Java **1.8** to work. So, we install OpenJava 1.8:

```
sudo apt install openjdk-8-jdk openjdk-8-jdk-headless nano
```

Now, please, select OpenJava 1.8, if you have more than one java versions installed:

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

To see the active java version:

```
java -version
```

3)

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

LibreOffice is need it to convert to pdf the uploaded office files.

The ubuntu desktop iso have already LibreOffice installed.

But we install it specially for server iso:

```
sudo add-apt-repository ppa:libreoffice/ppa
```

```
sudo apt update
```

```
sudo apt install libreoffice
```

4)

#### ----- Installation ImageMagick and Sox -----

**ImageMagick**, will work the image files, png, jpg, gif, etc. Will install it and some more libraries and paquets:

```
sudo apt install -y imagemagick libjpeg62 zlib1g-dev
```

We modify ImageMagick, so OpenMeetings can upload office files to whiteboard:

```
sudo nano /etc/ImageMagick-6/policy.xml
```

...and comment the two follow lines, near to bottom file:

```
<policy domain="coder" rights="none" pattern="PS" />  
<policy domain="coder" rights="none" pattern="PDF" />
```

...to:

```
<!-- <policy domain="coder" rights="none" pattern="PS" /> -->
<!-- <policy domain="coder" rights="none" pattern="PDF" /> -->
```

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

This last must be repeated every time you update the ImageMagick.

**Sox**, work the sound. We install it:

```
sudo apt install sox
```

5)

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

FFmpeg will work the video. This compilation is based on:

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

Updated files to 1-1-2019. Install some paquets and libraries:

(Only one line with space between each one)

```
sudo apt -y --force-yes install autoconf automake build-essential libass-dev libfreetype6-dev
libgpac-dev libsdl1.2-dev libtheora-dev libtool libva-dev libvdpau-dev libvorbis-dev libxcb1-dev
libxcb-shm0-dev libxcb-xfixes0-dev pkg-config texi2html zlib1g-dev nasm libx264-dev cmake
mercurial libopus-dev curl git vlc unzip make build-essential wget nmap
```

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

The result of any recording we do in OpenMeetings will be in mp4 format.

Please, download the script:

```
cd /opt
```

(En una línea solo sin espacio entre amabas)

```
sudo wget https://cwiki.apache.org/confluence/download/attachments/27838216/
ffmpeg_UbunDebi.sh
```

...concede permission of execution:

```
sudo chmod +x ffmpeg_UbunDebi.sh
```

...and run it (be connected to Internet). The compilation will spend about 20-30 minutes:

```
sudo ./ffmpeg_UbunDebi.sh
```

When finish the compilation, a text will announce it:

FFmpeg Compilation is Finished!

...then, please, go to next step.

6)

----- Installation and configuration of MariaDB data server -----

**MariaDB** is the data server. Will install it. (Version 10.x):

```
sudo apt install mariadb-server
```

Run MariaDB:

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

Now we give a root password to MariaDB. Please, replace **new-password** with your own:

```
sudo mysqladmin -u root password new-password
```

Make a database with his own user for OpenMeetings:

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

...will ask for the root password that you have just choosen, type it...

```
MariaDB [(none)]> CREATE DATABASE open500 DEFAULT CHARACTER SET 'utf8';
```

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open500.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

- \* **open500** .....is the database name.
- \* **hola** .....is the user name for this database.
- \* **1a2B3c4D** ..is the password for this user.

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

Now, we leave MariaDB:

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

7)

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

We'll install OpenMeetings in /opt/open500. All the following information will be based on this directory.

Make the folder:

```
sudo mkdir /opt/open500
```

```
cd /opt/open500
```

...and download the tomcat-OpenMeetings file:

(Only one line without space between each one)

```
sudo wget https://builds.apache.org/view/M-R/view/OpenMeetings/job/openmeetings/  
lastSuccessfulBuild/artifact/openmeetings-server/target/apache-openmeetings-5.0.0-M1-  
SNAPSHOT.zip
```

```
sudo unzip apache-openmeetings-5.0.0-M1-SNAPSHOT.zip
```

...save the unloaded file to /opt:

```
sudo mv apache-openmeetings-5.0.0-M1-SNAPSHOT.zip /opt
```

Do to **nobody** owner of the whole OpenMeetings folder installation, by security:

```
sudo chown -R nobody:nogroup /opt/open500
```

Download and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
sudo wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/8.0.15/mysql-connector-  
java-8.0.15.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-java-8.0.15.jar /opt/open500/webapps/openmeetings/WEB-INF/lib
```

8)

----- **Script to launch Tomcat-OpenMeetings** -----

Please, download the tomcat run script:

cd /opt

sudo wget https://cwiki.apache.org/confluence/download/attachments/27838216/tomcat3

...copy it to:

sudo cp tomcat3 /etc/init.d/

...and concede permission of execution:

sudo chmod +x /etc/init.d/tomcat3

9)

----- **Run Tomcat-OpenMeetings** -----

Start MariaDB, if still it is not:

sudo /etc/init.d/mysql start

...and now start tomcat-OpenMeetings. Please, be connected to Internet:

sudo /etc/init.d/tomcat3 start

...wait 40 seconds at least, in order that tomcat runing completely. And after this, can go to:

<https://localhost:5443/openmeetings>

...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  button (bottom), and will show the default database configuration with Derby, but we employ MySQL (MariaDB),



The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section. It includes a recommendation for production environments, a note about using strong passwords, and a form where 'Apache Derby' is selected as the database type and 'openmeetings' is entered as the database name. A 'Check' button is visible at the bottom right of the configuration area.

**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

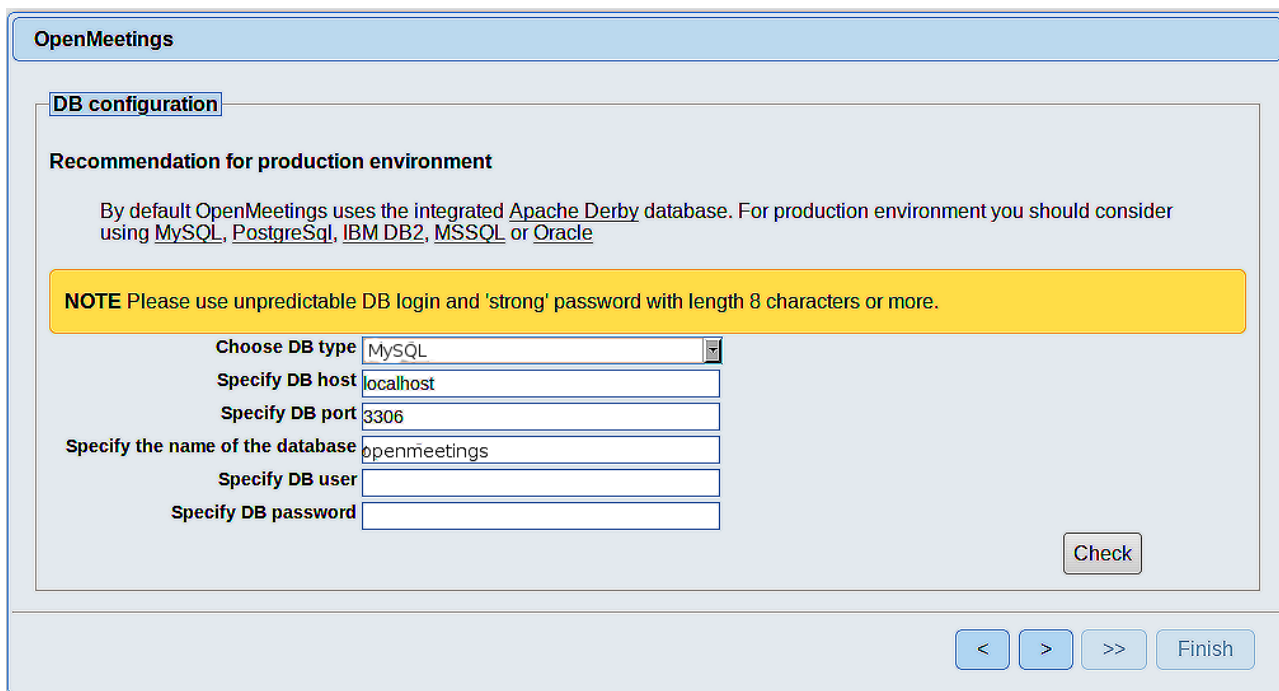
By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle

**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

Choose DB type

Specify the name of the database

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



The screenshot shows the 'OpenMeetings' application window with the 'DB configuration' section. The 'Choose DB type' dropdown is now set to 'MySQL'. Additional fields for 'Specify DB host', 'Specify DB port', 'Specify DB user', and 'Specify DB password' are visible. The 'Check' button is still present.

**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


Now we must introduce the database name, user name and his password, we did at the step 6:

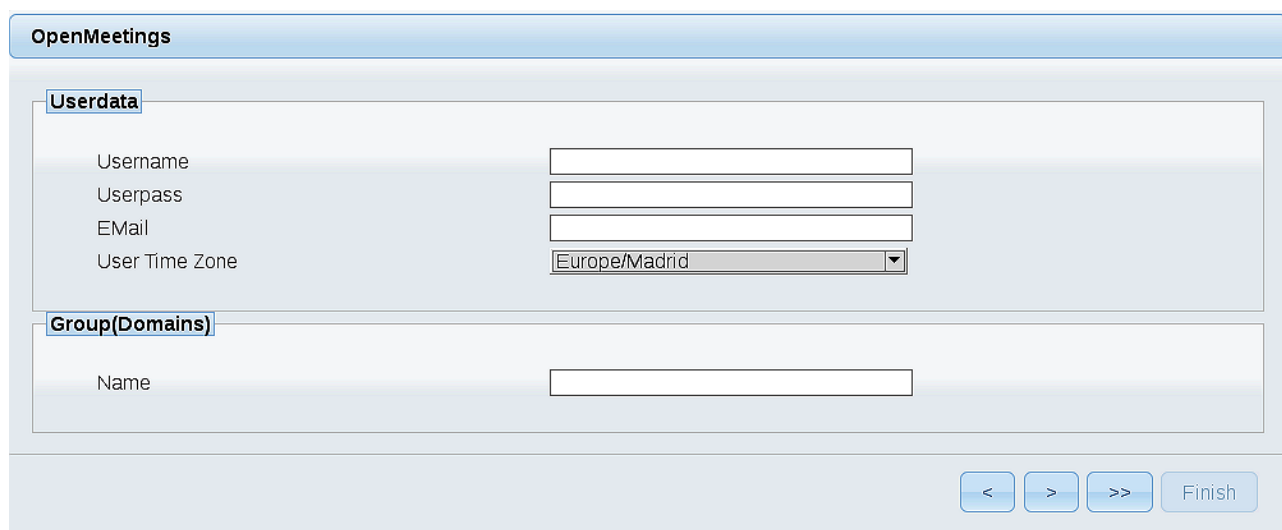
Specify the name of the database = open500

Specify DB user = hola

Specify DB password = 1a2B3c4D

...if you choose any other data, please type it here.

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 will be administrator.


**Userpass** = 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.

Write down your username and password on a piece of paper, then it will be used to access OpenMeetings later.

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>	==	<a href="#">john@gmail.com</a>
<b>SMTP-Server</b>	==	<a href="#">smtp.gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25)</b>	==	<a href="#">587</a>
<b>SMTP-Username</b>	==	<a href="#">john@gmail.com</a>
<b>SMTP-Userpass</b>	==	<a href="#">password of john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	<a href="#">...turn green the button to activate</a>
<b>Default Language</b>	==	<a href="#">...select your language</a>

...the rest you can change it as you like.

Now press the button  and a new page will appear:



**OpenMeetings**

**Converters**

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

see also [Installation](#)

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


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

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

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

**OpenOffice/LibreOffice Path for jodconverter** == `/usr/lib/libreoffice (32bit - 64bit)`

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 a title bar 'OpenMeetings' and a light blue header. Below the header, there are two main sections:

- Crypt Type**: Contains a label 'Crypt Class' with a help icon, and a text input field containing the value 'org.apache.openmeetings.util.crypt.SCr'.
- red5SIP Configuration**: Contains three items:
  - 'Enable SIP' with a help icon and a red toggle switch.
  - 'SIP rooms prefix' with a help icon and a text input field containing '400'.
  - 'SIP extensions context' with a help icon and a text input field containing 'rooms'.

At the bottom right of the window, there are four buttons: '<', '>', '>>', and 'Finish'.

Now push the button  and will show this window:

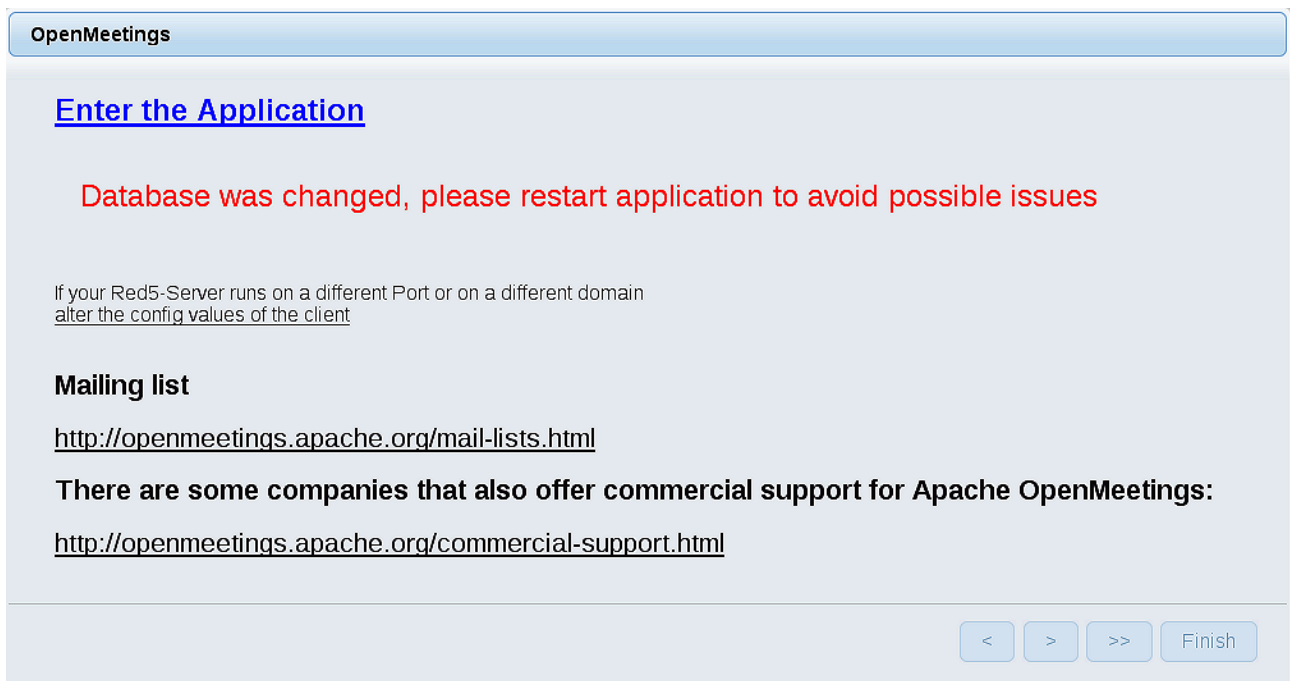
The screenshot shows the 'OpenMeetings' window after clicking the right arrow button. The title bar is 'OpenMeetings'. The main content area contains the text 'Please click "Finish" button to start installation!' and a large empty text input field below it. At the bottom right, there are four buttons: '<', '>', '>>', and 'Finish'.

Press **Finish** button ...wait a seconds untill the tables are fill in the database.

When has concluded, this another page will appear. **Don't** clic on [Enter the Application](#).

First is needed restart the server:

```
sudo /etc/init.d/tomcat3 restart
```



Now you can click on [Enter the Application](#) and it will take you to the OpenMeetings entry. **But wait before entering OpenMeetings**, we have to install Docker and Kurento-Media-Server, something we will do in the next steps, so that you can have access to the camera, micro, recording and desktop sharing in the room.

**Login**

Username or mail address	<input style="width: 100%;" type="text"/>
Password	<input style="width: 100%;" type="password"/>
	<input type="checkbox"/> Remember login
<a href="#">Forgotten your password?</a>	<a href="#">Network testing</a>

10)

### ----- Installation of Docker -----

We'll install Docker as recipient for kurento-media-server.  
First install some needed dependencies:

```
sudo apt install apt-transport-https ca-certificates curl software-properties-common
```

Import claves:

```
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
```

...should verify looking that the last 8 digits they are same to:

**0EBF CD88**

...for this, run the command:

```
sudo apt-key fingerprint 0EBFCD88
```

...that will return something like this:

```
pub 4096R/0EBFCD88 2017-02-22
```

```
Key fingerprint = 9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88
```

```
uid Docker Release (CE deb) <docker@docker.com>
```

```
sub 4096R/F273FCD8 2017-02-22
```

Now add the repository:

```
sudo nano /etc/apt/sources.list
```

...paste at the end of file:

```
deb [arch=amd64] https://download.docker.com/linux/ubuntu bionic stable
```

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

Update system:

```
sudo apt update
```

...and install Docker:

```
sudo apt install docker-ce
```

...and run it:

```
sudo systemctl start docker
```

We can prove if the installation it is correct. For that run the command:

```
sudo docker run hello-world
```

...will tell us that the installation it is right, if is so.

To finish we have to add our system user to docker group:

```
sudo usermod -aG docker $USER
```

(When you want to update the Docker version, just launch the following command:

```
sudo apt install docker-ce )
```

Introduce the user's name and the password that you have chosen during the installation, push **Sign in** button, and...

11)

#### ----- Installation of Kurento-Media-Server -----

Kurento Media Server is needed for can access to cam, mic-audio, recording and share dektop.

Run docker, if is not:

```
sudo systemctl start docker
```

...and install kurento-media-server:

(Only one line, a space between 1 and 2, and without space between 2 an3)

```
sudo docker run -d --name kms -p 8888:8888 --mount
type=bind,source=/opt/open500/webapps/openmeetings/data,target=/opt/open500/webapps/
openmeetings/data kurento/kurento-media-server:xenial-latest
```

... if you had done the installation of OpenMeetings in a different path, please replace it the brown color text :

```
/opt/open500/webapps/openmeetings/data
```

...which corresponds to yours.

To see the name and numbering ID of our kurento:

```
sudo docker ps -a
```

... write down the ID (number) and the name, we will need them. The name is kms.

Once the entire installation is finished, we will stop all the servers, reboot the computer and we'll return here:

```
sudo /etc/init.d/tomcat3 stop    ...stop tomcat-OpenMeetings
sudo docker stop kms          ...stop kurento
sudo systemctl stop docker.service    ...stop docker
sudo systemctl stop mysqld    ...stop MariaDB
sudo reboot                    ...reboot the machine
```

Once the computer has rebooted, we launch the servers **following this order**:

```
sudo systemctl start mysqld
sudo systemctl start docker.service
sudo docker start kms
sudo /etc/init.d/tomcat3 start
```

Now you can access OpenMeetings with all the functions at your disposal.  
Click on the link below and enter the username and password you entered in the paper

<https://localhost:5443/openmeetings>

To be able to connect from the Internet or LAN with this server, remember to open the ports following:

https = **5443 8888** ----- http = **5080 8888**

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](#)

[Upload new image](#)

**Help and support**



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

Home ▾ Rooms ▾ Recordings ▾ Administration ▾

50 | Search

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



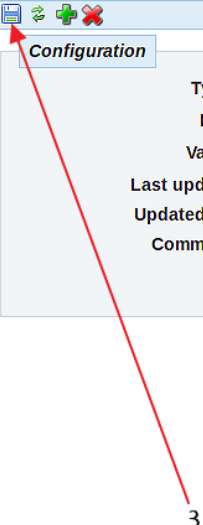
Key: path.ffmpeg

Value:

Last update: Oct 17, 2017 5:54:57 PM

Updated by: toro

Comment: Path To FFMPEG

1 2 3

Chat



-----

If you have some doubt or question, please raise it in the Apache OpenMeetings forums:

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



Also you can download if you like, a wallpaper of OpenMeetings for different devices as: PC, Mac, Smartphone, iPhone and Tablets. Here is the link to download:

[Download](#)

Thank you.

Alvaro Bustos