



## **Installation of Apache OpenMeetings 5.0.0-M1 on Centos 7**

This tutorial is made based on fresh installations of

**CentOS-7-x86\_64-Minimal-1708.iso**

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

It is made stepby step.

28-3-2019

Starting...

**1)**

We access to terminal as root::

`su`

....will ask for root password.

Install nano editor:

```
yum install -y nano
```

Add our user system to sudoers, so can use sudo:

```
nano /etc/sudoers
```

...copy and paste replacing **user** by your real user system name:

```
user ALL=(ALL:ALL) ALL
```

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

Now will change the selinux configuration, enforcing to permissive:

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

...modify:

```
SELINUX=enforcing
```

...to

```
SELINUX=permissive
```

Update the system:

```
yum update -y
```

...and reboot the machine to get effect the changes. After reboot continue at step 2:

```
reboot
```

2)

----- **ADD Repos** -----

```
sudo yum install -y wget
```

**EPEL:**

```
sudo wget http://epel.mirror.nucleus.be/7/x86_64/Packages/e/epel-release-7-11.noarch.rpm
```

```
sudo rpm -Uvh epel-release-7*.rpm
```

## Nux ##

(Only one line without space between both)

```
sudo rpm -Uvh http://li.nux.ro/download/nux/dextop/el7/x86_64/nux-dextop-release-0-5.el7.nux.noarch.rpm
```

3)

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

Java **1.8** is necessary for OpenMeetings **5.0.0**. We install OpenJava 1.8:

```
sudo yum install -y java-1.8.0-openjdk
```

Maybe you have installed various versions of Java. We select the just installed OpenJava 1.8:

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

And to see if the selected version is active:

```
java -version
```

4)

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

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

Maybe it is installed, but for iso server:

```
sudo yum -y install libreoffice libreoffice-headless
```

5)

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

Will install packages and libraries we'll need later:

(All in only one line. A space between 1<sup>a</sup> and 2<sup>a</sup>. Together 2<sup>a</sup> and 3<sup>a</sup>)

```
sudo yum install -y libjpeg libjpeg-devel ghostscript freetype freetype-devel unzip gcc gcc-c++  
ncurses ncurses-devel make zlib zlib-devel libtool bison bison-devel openssl-devel bzip2 bzip2-  
devel file-roller git autoconf automake pkgconfig tomcat-native nmap vlc
```

We access terminal as root:

```
su
```

...will ask for root password.

With a script we should compile Ghostscript 9.26, free of security hole:

```
cd /opt
```

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

```
chmod +x ghostscript.sh
```

...and run it:

```
./ghostscript.sh
```

...when be finished will announce it: **GhostScript compilation is Finished!**

```
rm -Rf /opt/ghostscript-9.26
```

6)

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

**ImageMagick**, work the images files jpg, png, gif, etc. We install it and some libraries:

```
yum install -y ImageMagick giflib giflib-devel giflib-utils
```

**Sox**, work the sound. Will compile it:

```
wget http://ftp.icm.edu.pl/packages/sox/14.4.2/sox-14.4.2.tar.gz
```

```
tar xzvf sox-14.4.2.tar.gz
```

```
cd /opt/sox-14.4.2
```

```
./configure
```

```
make && make install
```

```
cd /opt
```

7)

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

FFmpeg work with video. Will install a paquets, libraries and vlc to play the recordings:

(Only one line without space between them)

```
yum install -y glibc alsa-lib-devel faac faac-devel faad2 faad2-devel gsm gsm-devel imlib2 imlib2-  
devel lame-devel vorbis-tools theora-tools libvpx-devel vlc autoconf automake cmake freetype-  
devel gcc gcc-c++ git libtool make mercurial pkgconfig zlib-devel curl
```

This ffmpeg compilation is based on this url:

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

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

When is finished, will appear a text:

**FFmpeg Compilation is Finished!**

So, we download the script:

```
cd /opt
```

```
wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_centos7.sh
```

...concede execution permission to it:

```
chmod +x ffmpeg_centos7.sh
```

...and run it. The compilation will spend about 30 minutes:

```
./ffmpeg_centos7.sh
```

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

When finish, please continue in the next step.

8)

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

Exit as root:

`exit`

MariaDB is the database server. We install it:

`sudo yum install -y mariadb-server`

...and run mariadb:

`sudo systemctl start mariadb.service`Give a password to mariadb root . Please, modify `new-password` by your own.`sudo mysqladmin -u root password new-password`

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

`sudo mysql -u root -p`

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

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

Now we create a user with all permission on this open408 database.

(Only one line with space between both)

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

- \* `open500` ..... 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 exit MariaDB:

MariaDB [(none)]> `quit`

9)

## ----- 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 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
```

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
```

10)

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

We'll download the script to run tomcat-OpenMeetings:

```
cd /opt
```

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

...copy it to where must be:

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

...concede execution permission:

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

If you made the installation in any other path to /opt/open500, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open500
```

...to

```
CATALINA_HOME==/your-path-installation
```

11)

### ----- Run Tomcat-OpenMeetings -----

Restart MariaDB:

```
sudo systemctl restart mariadb.service
```

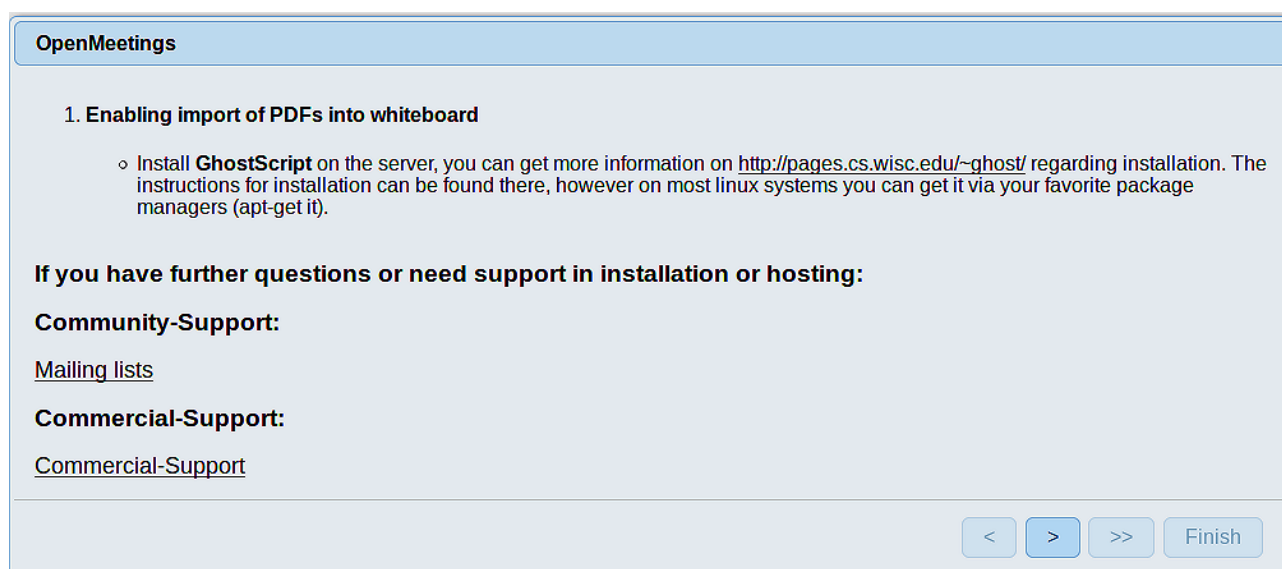
...and run tomcat-OpenMeetings:

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

...wait a minimum of 40 seconds in order tomcat run completely. Then, go with your browser to:

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

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



The screenshot shows a web browser window with the title "OpenMeetings". The main content area contains the following text:

**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:**

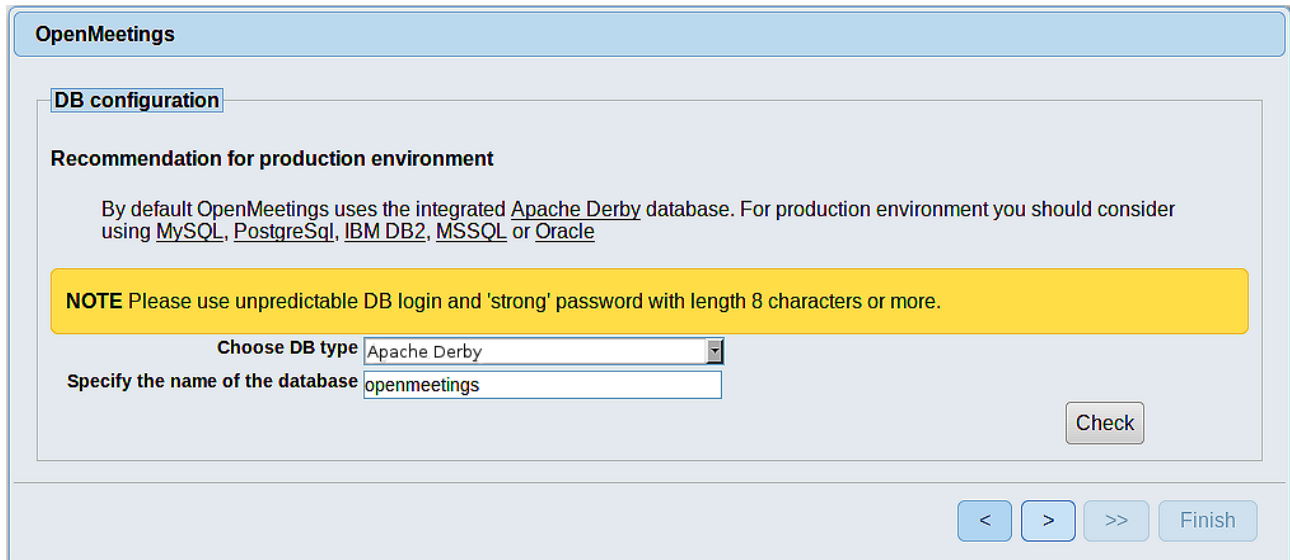
**Community-Support:**  
[Mailing lists](#)

**Commercial-Support:**  
[Commercial-Support](#)

At the bottom right of the page, there are four navigation buttons: "<", ">", ">>", and "Finish".



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



**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

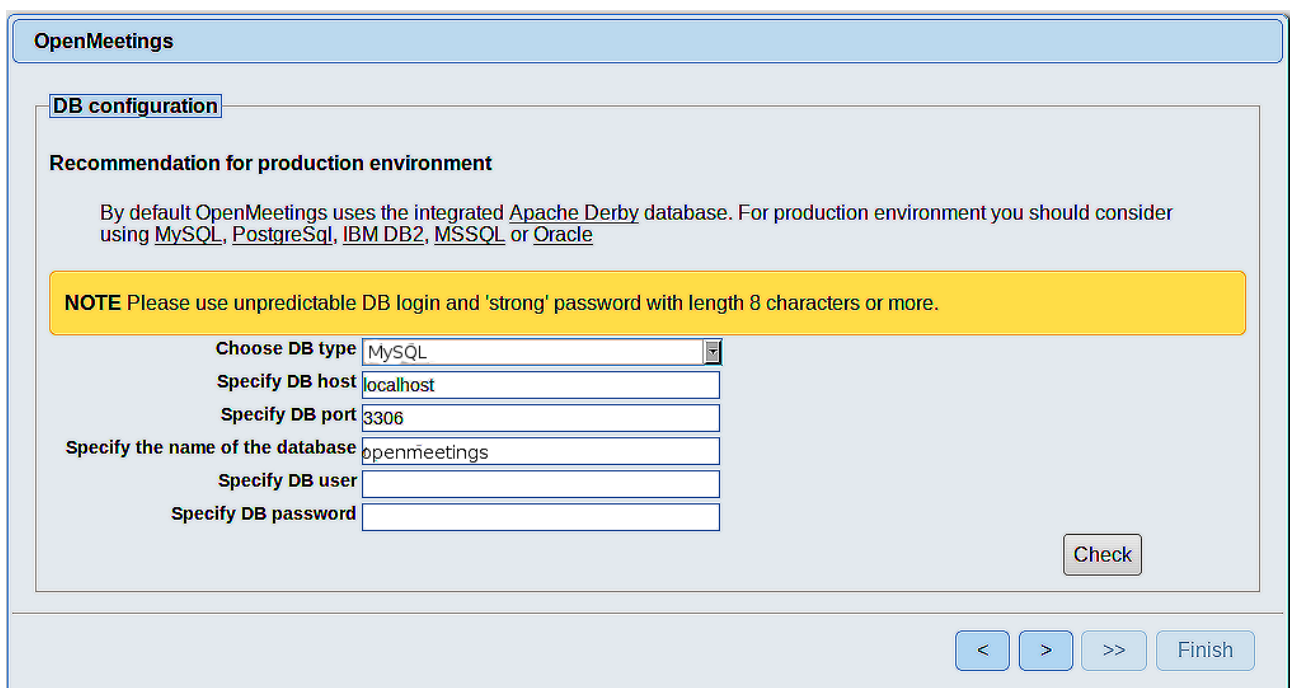
By default OpenMeetings uses the integrated Apache Derby database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle

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

Choose DB type

Specify the name of the database

...so, 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

Specify DB host

Specify DB port

Specify the name of the database

Specify DB user


Specify DB password

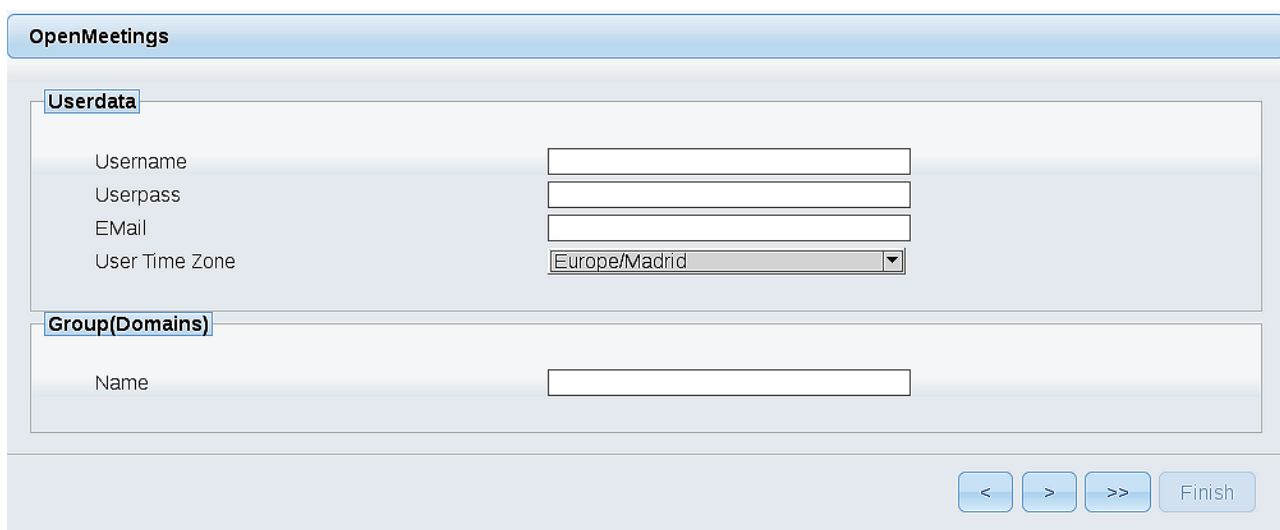
Here we must introduce the database name, user name and his password we did at the step 8:

**Specify the name of the database** = open500

**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 will be administrator.

**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	<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="password"/>
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)

**Mail-Refer** == [john@gmail.com](mailto:john@gmail.com)

**SMTP-Server** == [smtp.gmail.com](mailto:smtp.gmail.com)

**SMTP-Server Port (default SmtP-Server Port is 25)** == [587](#)

**SMTP-Username** == [john@gmail.com](mailto:john@gmail.com)

**SMTP-Userpass** == [password of john@gmail.com](#)

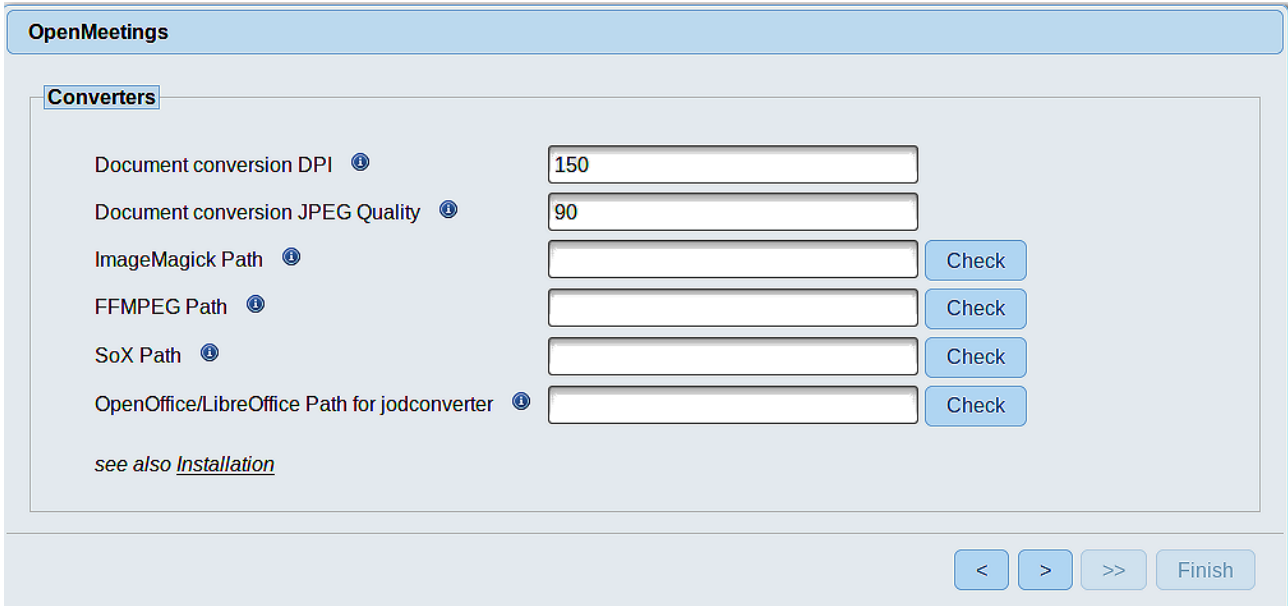
**Enable TLS in Mail Server Auth** == [...turn green the button to activate](#)

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

**Default Language** == [...select your language](#)

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

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](#)*

< > >> Finish

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/local/bin`

**OpenOffice/LibreOffice Path for jodconverter** == `/usr/lib64/libreoffice`

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:

Now push the button  Will show this window:

Clic **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 need it to restart tomcat server. Be connected to Internet:

`sudo /etc/init.d/tocat3 restart`

OpenMeetings

[Enter the Application](#)

**Database was changed, please restart application to avoid possible issues**

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>

<
>
>>
Finish

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
<u><a href="#">Forgotten your password?</a></u>	<u><a href="#">Network testing</a></u>

Not a member?
Sign in

12)

----- **Installation of Docker** -----

First install some necessary libraries:

```
sudo yum install -y yum-utils device-mapper-persistent-data lvm2
```

Add the Docker repo:

```
sudo yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
```

...update:

```
sudo yum update
```

...install docker:

```
sudo yum install docker-ce docker-ce-cli containerd.io
```

Add your user system name to docker group and so can run docker without be root.  
Replace **user** by your real system user name:

```
sudo gpasswd -a user docker
```

...stop tomcat and mariadb:

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

```
sudo systemctl stop mariadb.service
```

...and reboot the machine. After this, follow in the step 13:

```
sudo reboot
```

13)

#### ----- Instalation of Kurento-Media-Server -----

After had rebooted the computer, we'll install Kurento-Media-Server need it for cam, mic-audio, recordings and share dektop in room.

First run docker:

```
sudo systemctl start docker.service
```

...and install kurento-media-server:

(Only one line, with space between 1 and 2, and without space between 2 and 3)

```
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
```

Run kurento-media-server, with name its kms:

```
sudo docker start kms
```

...and run also MariaDB and tomcat-OpenMeetings:

```
sudo systemctl start mariadb.service
```

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

 ...wait around 40 seconds to tomcat run completely.

Now you can access OpenMeetings with all the functions at your disposal.  
Clic the link down and type the user name and his password to login:

<http://localhost:5080/openmeetings>

or

<https://localhost:5443/openmeetings>

To connect to this server from Internet or LAN is necessary open these ports:

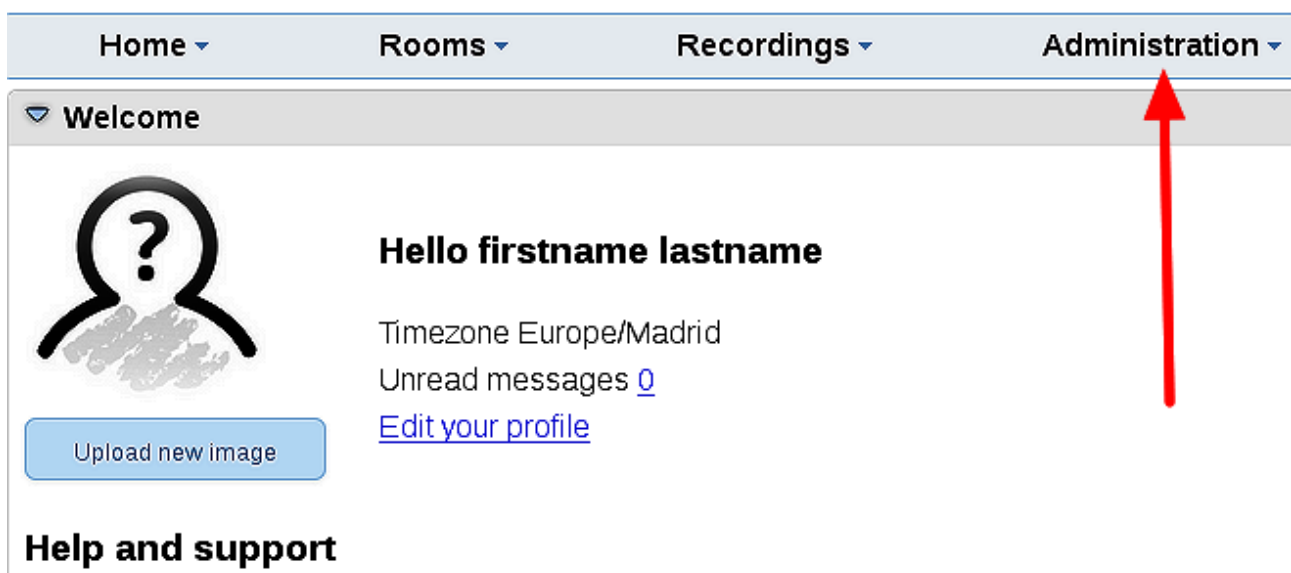
http = **5080 8888** ----- https = **5443 8888**

14)

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

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

**Administration → Configuration**



The screenshot shows the OpenMeetings user interface. At the top, there is a navigation bar with four items: "Home", "Rooms", "Recordings", and "Administration". The "Administration" item is highlighted with a red arrow pointing upwards. Below the navigation bar, there is a "Welcome" section with a user profile icon (a question mark inside a circle) and the text "Hello firstname lastname". To the right of the profile icon, there is a button labeled "Upload new image". Below the profile icon, there is a section for "Help and support".



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

The screenshot shows the 'Administration' section of the OpenMeetings web interface. On the left is a table of configuration items, and on the right is a 'Configuration' form for editing a specific item. Three red arrows indicate the sequence of actions:

- Arrow 1 points from the 'path.ffmpeg' row in the table to the 'Key' field in the form.
- Arrow 2 points from the 'Value' field in the form to the 'path.office' row in the table.
- Arrow 3 points from the 'Value' field in the form to the 'Configuration' form header.

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

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