



## **Installation of Apache OpenMeetings 5.0.0-M4 on CentOS 8**

This tutorial is made based on fresh installations of

**CentOS-8-x86\_64-1905-dvd1.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.

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
```

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

Update the system:

```
yum update -y
```

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

```
reboot
```

2)

----- ADD Repos -----

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

**EPEL:**

```
sudo yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
```

**## RPMFusion ##**

```
sudo yum install https://download1.rpmfusion.org/free/el/rpmfusion-free-release-8.noarch.rpm
```

3)

**----- Installation of Java -----**

Java 11 is necessary for OpenMeetings 5.0.0-M4. So we install OpenJava 11:

```
sudo yum install -y java-11-openjdk-devel
```

Maybe you have installed various versions of Java. Please select the just installed OpenJava 11:

```
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.

```
cd /opt
```

(Only one line without space between both)

```
sudo wget ftp://mirror.7he.at/pub/tdf/libreoffice/stable/6.4.5/rpm/x86_64/LibreOffice_6.4.5_Linux_x86-64_rpm.tar.gz
```

```
sudo tar -xvf LibreOffice_6.4.5*
```

```
cd LibreOffice_6.4.5.2*
```

```
sudo yum localinstall RPMS/*.rpm
```

```
cd /opt
```

5)

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

Will install packages and libraries we'll need later:

(Only one line with space between each one of them)

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

We access to terminal as root:

```
su
```

...will ask for root password.

With a script we should compile Ghostscript 9.52:

```
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-9.52
```

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
```

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

7)

**----- Installation of FFmpeg -----**

FFmpeg work with the video. Will install a necessary paquet SDL2 before:

```
yum install http://rpmfind.net/linux/epel/7/x86\_64/Packages/s/SDL2-2.0.10-1.el7.x86\_64.rpm
```

...and now ffmpeg:

```
yum install ffmpeg
```

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 open504 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open504 database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open504.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

```
* open504 ..... 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/open504. All the following information will be based on this directory:

```
cd /opt
```

...download the OpenMeetings file: *(Only one line without space between both)*

```
sudo wget https://downloads.apache.org/openmeetings/5.0.0-M4/bin/apache-openmeetings-5.0.0-M4.tar.gz
```

...uncompress it:

```
sudo tar xzvf apache-openmeetings-5.0.0-M4.tar.gz
```

...and rename the obtained folder:

```
sudo mv apache-openmeetings-5.0.0-M4 open504
```

Download and install the connector between OpenMeetings and MariaDB:

*(Only one line without space between both)*

```
sudo wget https://repo1.maven.org/maven2/mysql/mysql-connector-java/8.0.20/mysql-connector-java-8.0.20.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-java-8.0.20.jar /opt/open504/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/open504, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open504
```

...to

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

11)

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

Restart MariaDB:

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

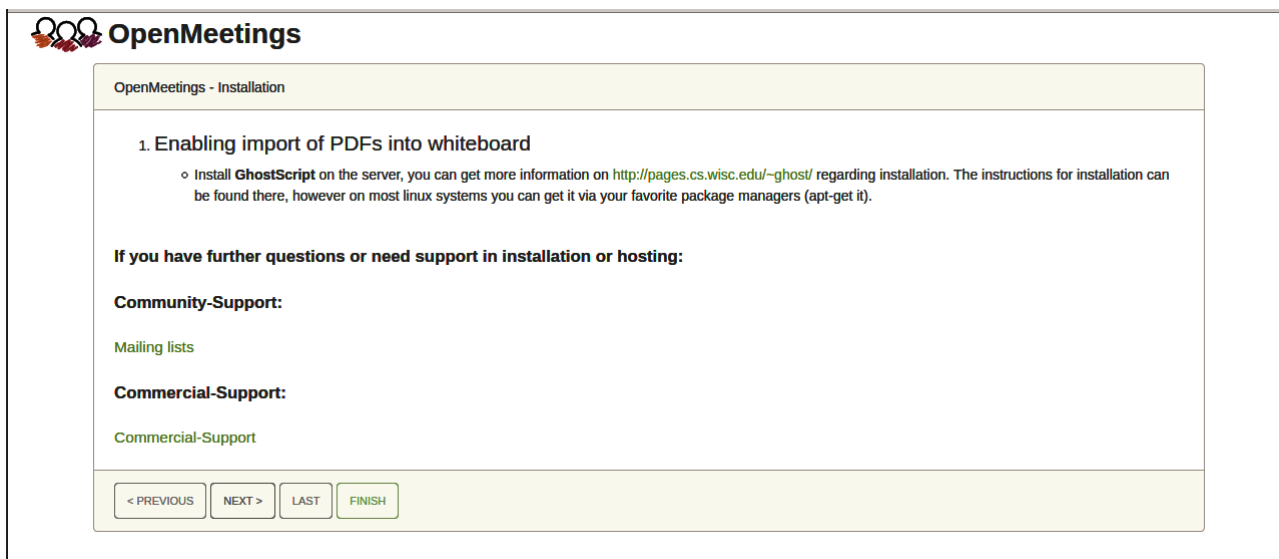
...and run tomcat-OpenMeetings:

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

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

<https://localhost:5443/openmeetings/>

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



**OpenMeetings**

OpenMeetings - Installation

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:**

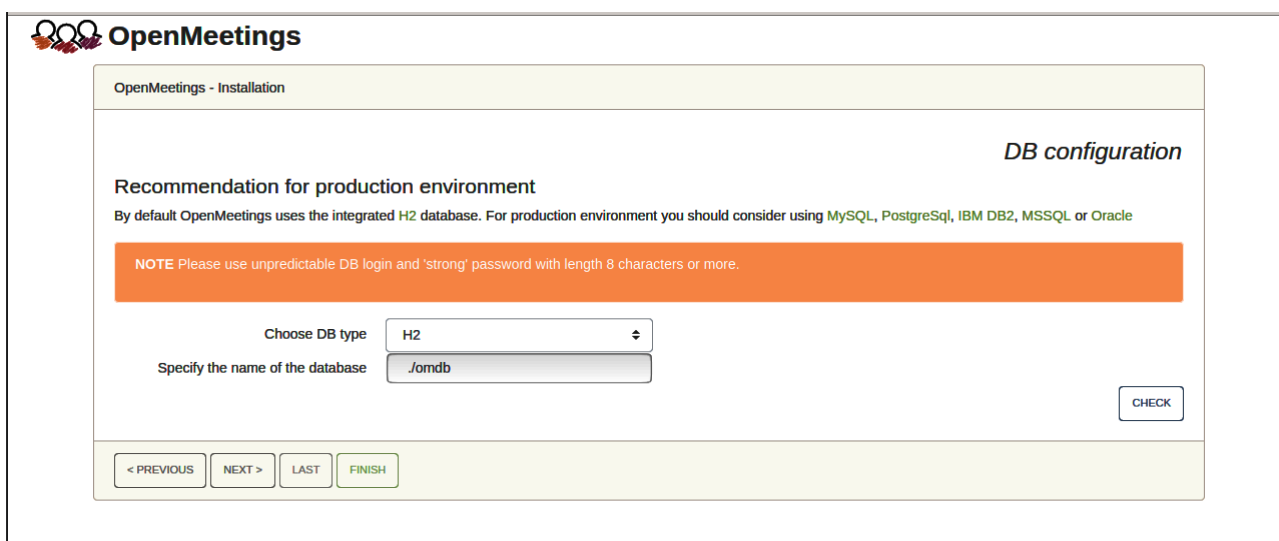
[Mailing lists](#)

**Commercial-Support:**

[Commercial-Support](#)

< PREVIOUS    NEXT >    LAST    FINISH

...push on “Next >” (bottom), and will show the default database configuration with H2, but we employ MySQL (MariaDB):



**OpenMeetings**

OpenMeetings - Installation

*DB configuration*

**Recommendation for production environment**

By default OpenMeetings uses the integrated H2 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:

CHECK

< PREVIOUS    NEXT >    LAST    FINISH

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



The screenshot shows the 'OpenMeetings - Installation' window, specifically the 'DB configuration' step. It includes a recommendation for production environments, a note about using strong passwords, and several input fields for database configuration. The 'Choose DB type' dropdown is set to 'MySQL'. The 'Specify DB host' field contains 'localhost', 'Specify DB port' contains '3306', and 'Specify the name of the database' contains 'openmeetings'. There are also empty fields for 'Specify DB user' and 'Specify DB password'. A 'CHECK' button is located at the bottom right of the configuration area. At the bottom of the window, there are navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'.

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

**Specify the name of the database** = **open504**

**Specify DB user** = **hola**

**Specify DB password** = **1a2B3c4D**

Please, press “**Next >**” button and will go to:

The screenshot shows the 'OpenMeetings - Installation' window, specifically the 'Userdata' step. It includes input fields for 'Username', 'Userpass', 'EMail', and 'Name'. The 'User Time Zone' dropdown is set to 'Europe/Madrid'. The text 'Userdata' and 'Group(Domains)' is displayed on the right side of the screen. At the bottom of the window, there are navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'.

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 “Next >” 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

OpenMeetings - Installation

### Configuration

Allow self-registering

Send Email to new registered Users

New Users need to verify their EMail

Default DB objects of all types will be created (including Rooms, OAuth2 servers etc.)

Mail-Referer:

SMTP-Server:

SMTP-Server Port(default SmtP-Server Port is 25):

SMTP-Username:

SMTP-Userpass:

Enable TLS in Mail Server Auth

Set inviter's email address as ReplyTo in email invitations

Default Language:

< PREVIOUS    NEXT >    LAST    FINISH

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

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

Now press the button “Next >” and a new page will appear:

**OpenMeetings**

OpenMeetings - Installation

*Converters*

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ  CHECK

FFMPEG Path ⓘ  CHECK

SoX Path ⓘ  CHECK

OpenOffice/LibreOffice Path for jodconverter ⓘ  CHECK

*see also Installation*

< PREVIOUS    NEXT >    LAST    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/bin

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

**OpenOffice/LibreOffice Path for jodconverter** == /opt/libreoffice6.4

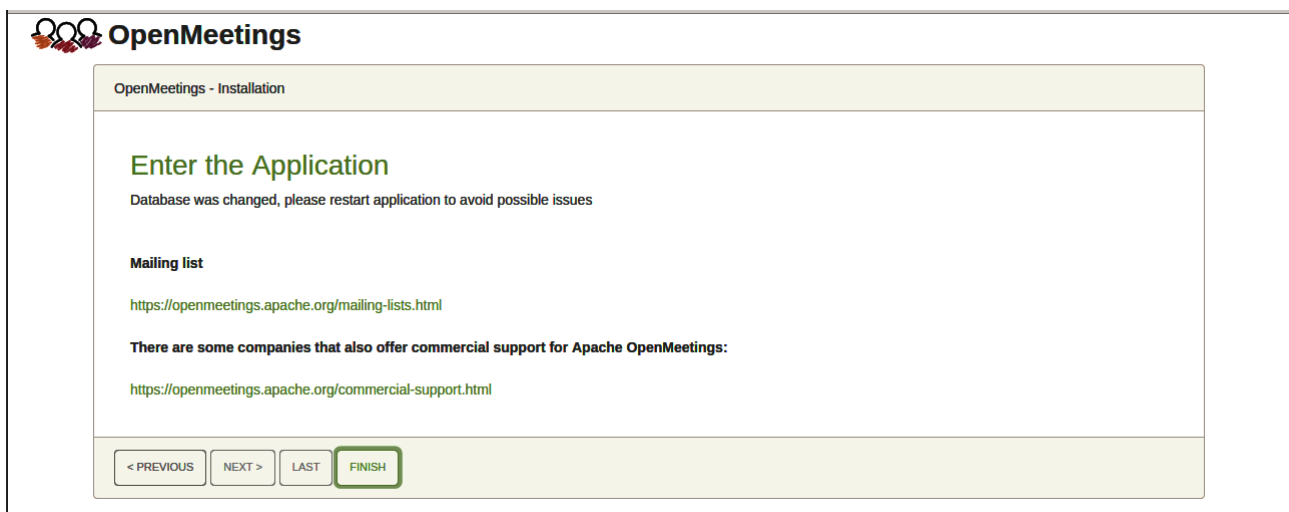
As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**.

Once completed the paths, please click the “**Next >**” button and move on to another page. We will leave it as is:

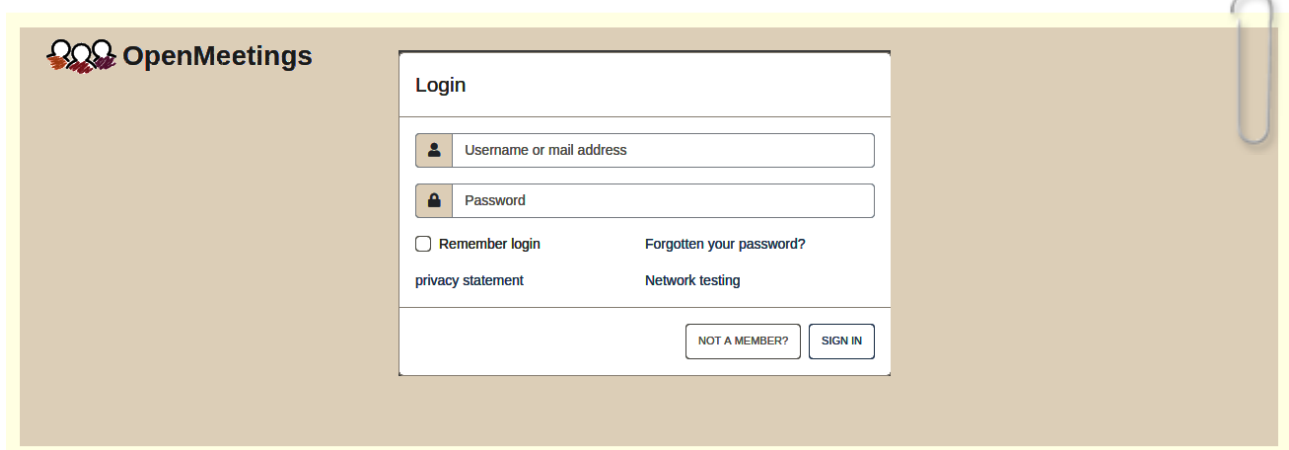
Now push the button “**Next >**” Will show this window:

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/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 you can have access to the camera, micro, recording  
and desktop sharing in the room



12)

## ----- Installation of Podman -----

Podman will be the recipient for Kurento-Media-Server. We install it:

```
sudo yum install podman
```

...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)

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

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

Install kurento-media-server:

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

```
sudo podman run -d --name kms -p 8888:8888 --mount
type=bind,source=/opt/open504/webapps/openmeetings/data,target=/opt/open504/webapps/
openmeetings/data kurento/kurento-media-server
```

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

```
sudo podman 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 completly.

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

<https://localhost:5443/openmeetings>

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

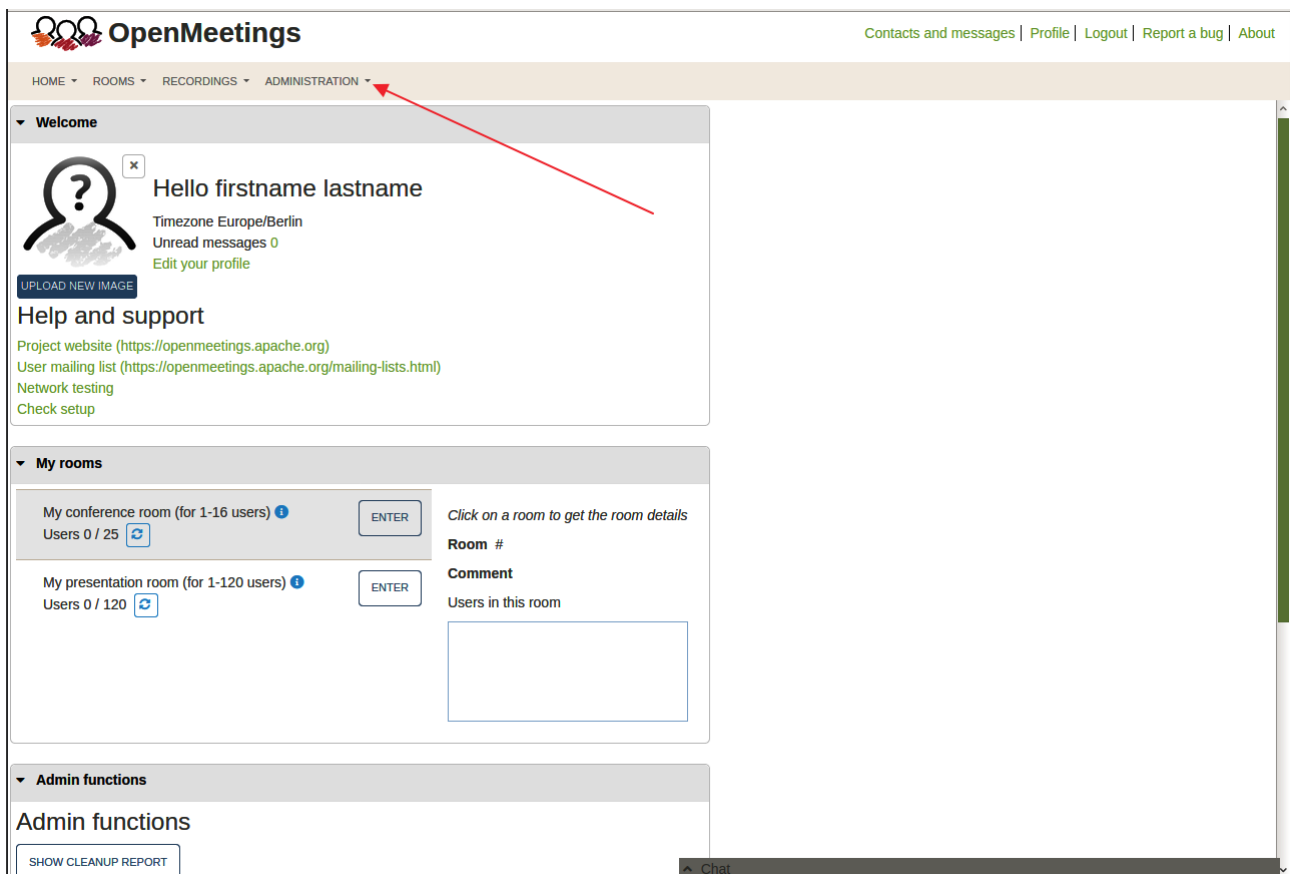
**5443 8888**

14)

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

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

**Administration → Configuration**



The screenshot shows the OpenMeetings web interface. At the top, there is a navigation bar with the OpenMeetings logo and the text "OpenMeetings". To the right of the logo, there are links for "Contacts and messages", "Profile", "Logout", "Report a bug", and "About". Below the navigation bar, there is a menu with "HOME", "ROOMS", "RECORDINGS", and "ADMINISTRATION". A red arrow points to the "ADMINISTRATION" menu item. The main content area is divided into several sections: "Welcome" with a user profile card, "Help and support" with links to the project website, user mailing list, network testing, and check setup; "My rooms" with two room entries, each having an "ENTER" button and a "Room #" field; and "Admin functions" with a "SHOW CLEANUP REPORT" button. At the bottom right, there is a "Chat" button.

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

The screenshot shows the OpenMeetings Administration interface. On the left is a table of configuration keys and values. On the right is a 'Configuration' form with fields for Type, Key, Value, Last update, Updated by, and Comment. Red arrows indicate the mapping between the table and the form:

- Arrow 1 points from the 'mail.smtp.user' row in the table to the 'Key' field in the form.
- Arrow 2 points from the 'mail.smtp.user' row in the table to the 'Value' field in the form.
- Arrow 3 points from the 'mail.smtp.user' row in the table to the 'Type' dropdown in the form.

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	1
16	document.dpi	150
17	document.quality	90
18	path.imagemagick	
19	path.sox	
20	path.ffmpeg	/usr/local/bin
21	path.office	/usr/lib/libreoffice
		https://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom
22	dashboard.rss.feed1	https://mail-

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

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



Also you can download if you like, a wallpaper of OpenMeetings for different devices such as:

PC, Mac, Smartphone, iPhone and Tablets. Here is the link to download:



[OpenMeetings Wallpaper Download](#)

A dvd live iso with OpenMeetings 5.0.0-M4 on Ubuntu 20.04 and other on Ubuntu 18.04, it is at your disposal.

Can find them here:

[Live iso download](#)

Thank you

Alvaro Bustos (PMC and Committer at Apache OpenMeetings).