



## **Installation of Apache OpenMeetings 6.0.0 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:

```
dnf 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:

```
dnf update -y
```

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

```
reboot
```

2)

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

```
sudo dnf install -y wget
```

**EPEL:**

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

**## RPMFusion ##**

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

3)

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

Java 11 is necessary for OpenMeetings 6.0.0. So we install OpenJava 11:

```
sudo dnf 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. We'll remove the old installed version and later install the new:

```
sudo yum remove libreoffice*
```

```
cd /opt
```

(Only one line without space between both)

```
sudo wget ftp://mirror.7he.at/pub/tdf/libreoffice/stable/7.0.4/rpm/x86_64/  
LibreOffice_7.0.4_Linux_x86-64_rpm.tar.gz
```

```
sudo tar -xvf LibreOffice_7.0.4*
```

```
cd LibreOffice_7.0.4.2*
```

```
sudo dnf 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 dnf 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:

```
dnf install -y ImageMagick giflib
```

**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)

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

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

```
dnf install http://rpmfind.net/linux/epel/7/x86_64/Packages/s/SDL2-2.0.10-1.el7.x86_64.rpm
```

...and now ffmpeg:

```
dnf install ffmpeg
```

8)

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

Exit as root:

```
exit
```

MariaDB is the data base server. We install it:

```
sudo dnf 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 open600 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open600 database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open600.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

\* open600 ..... 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/open600. All the following information will be based on this directory:

```
cd /opt
```

...download the OpenMeetings file:

```
sudo wget https://archive.apache.org/dist/openmeetings/6.0.0/bin/apache-openmeetings-6.0.0.tar.gz
```

```
sudo tar xzvf apache-openmeetings-6.0.0.tar.gz
```

...and rename the obtained folder:

```
sudo mv apache-openmeetings-6.0.0 open600
```

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/8.0.22/mysql-connector-java-8.0.22.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-java-8.0.22.jar /opt/open600/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/open600, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open600
```

...to

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

11)

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

Restart MariaDB:

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

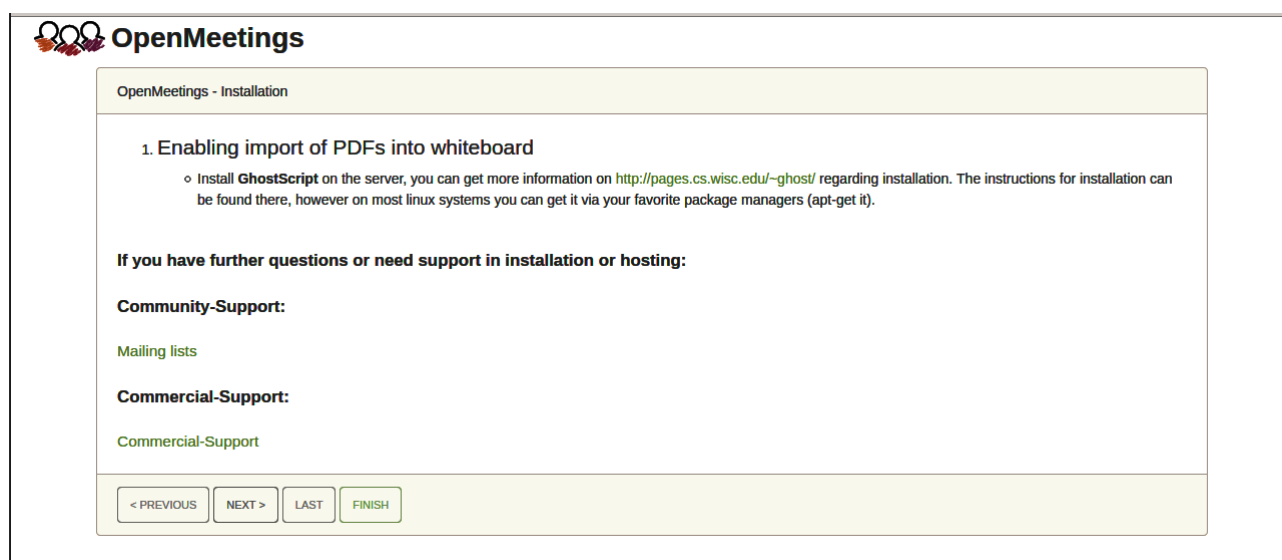
...and run tomcat-OpenMeetings:

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

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

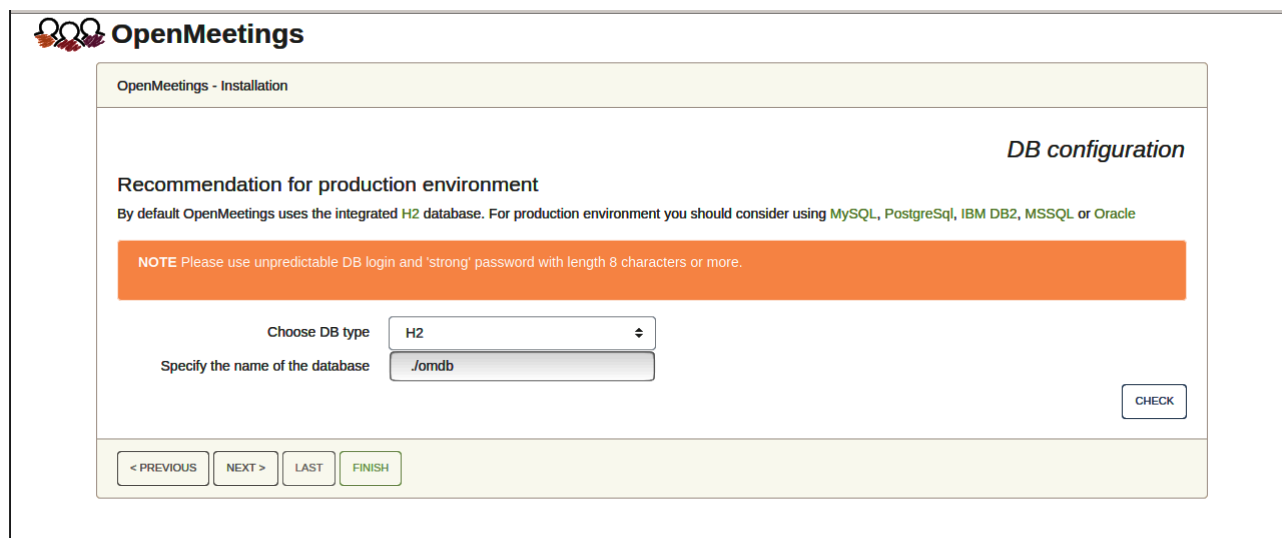
<https://localhost:5443/openmeetings/>

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



The screenshot shows the OpenMeetings installation interface. At the top left is the OpenMeetings logo. The main heading is "OpenMeetings - Installation". Below this, the first step is "1. Enabling import of PDFs into whiteboard". A sub-point indicates that GhostScript should be installed on the server, with a link to <http://pages.cs.wisc.edu/~ghost/> for more information. Below the step, there are sections for "Community-Support" (with a link to "Mailing lists") and "Commercial-Support" (with a link to "Commercial-Support"). At the bottom of the page are four buttons: "< PREVIOUS", "NEXT >", "LAST", and "FINISH".

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



The screenshot shows the OpenMeetings installation interface for the database configuration step. The heading is "OpenMeetings - Installation" and the sub-heading is "DB configuration". A recommendation for a production environment is shown, stating that OpenMeetings uses H2 by default but suggests MySQL, PostgreSQL, IBM DB2, MSSQL, or Oracle for production. A note in an orange box says: "NOTE Please use unpredictable DB login and 'strong' password with length 8 characters or more." Below this, there are two input fields: "Choose DB type" with a dropdown menu set to "H2", and "Specify the name of the database" with a text box containing "Jomdb". A "CHECK" button is located to the right of the text box. At the bottom are four buttons: "< PREVIOUS", "NEXT >", "LAST", and "FINISH".



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

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 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 = [open600](#)

Specify DB user = [hola](#)

Specify DB password = [1a2B3c4D](#)

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

OpenMeetings - Installation

*Userdata*

Username:

Userpass:

EMail:

User Time Zone:

Name:

*Group(Domains)*

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>	==	john@gmail.com
<b>SMTP-Server</b>	==	smtp.gmail.com
<b>SMTP-Server Port (default SmtP-Server Port is 25)</b>	==	587
<b>SMTP-Username</b>	==	john@gmail.com
<b>SMTP-Userpass</b>	==	password of john@gmail.com
<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:

The screenshot shows the 'Converters' section of the OpenMeetings installation wizard. The page title is 'OpenMeetings - Installation'. The section is titled 'Converters'. The configuration options are:

- Document conversion DPI: 150
- Document conversion JPEG Quality: 90
- ImageMagick Path: [input field] CHECK
- FFMPEG Path: [input field] CHECK
- SoX Path: [input field] CHECK
- OpenOffice/LibreOffice Path for jodconverter: [input field] CHECK

At the bottom, there are navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and '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/local/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:

**OpenMeetings**

OpenMeetings - Installation

Crypt Class ?

Enable SIP ?

SIP rooms prefix ?

SIP extensions context ?

Crypt Type  
red5SIP Configuration

< PREVIOUS    NEXT >    LAST    FINISH

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

**OpenMeetings**

OpenMeetings - Installation

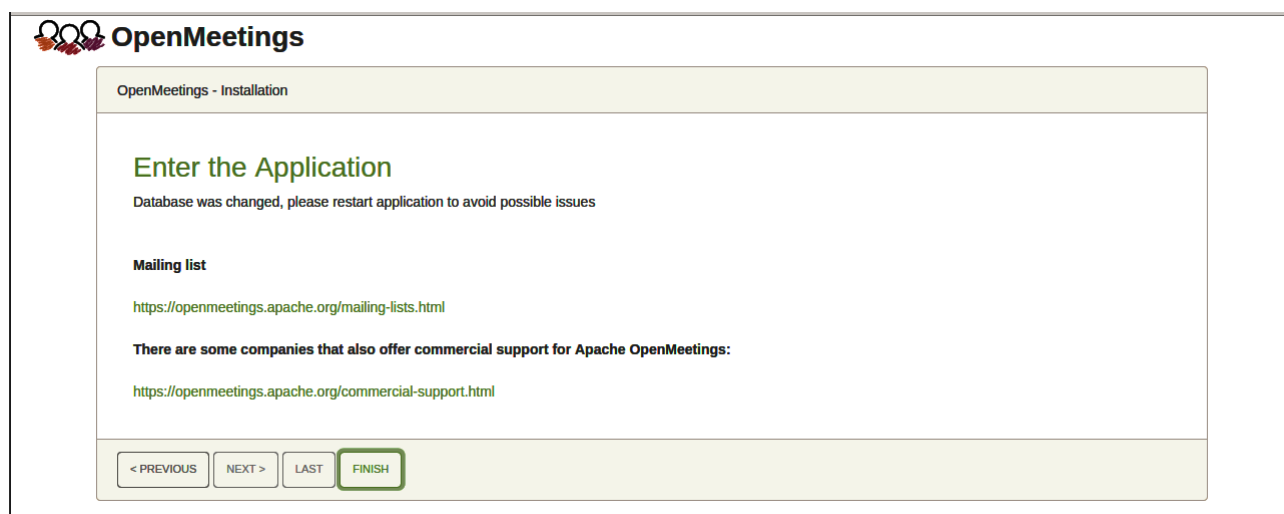
Please click "Finish" button to start installation!

0%

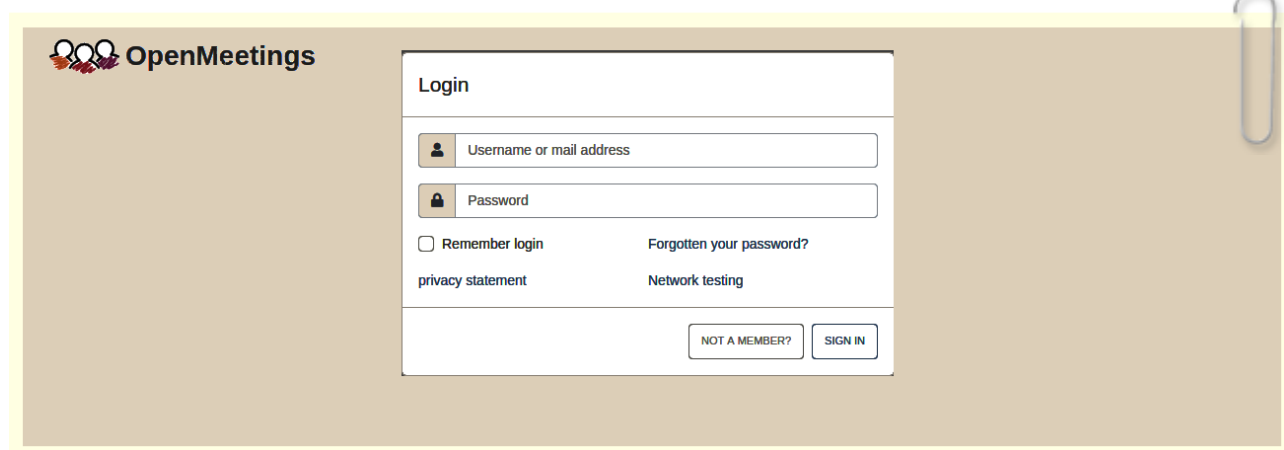
< PREVIOUS    NEXT >    LAST    FINISH

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 dnf 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/open600/webapps/openmeetings/data,target=/opt/open600/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**

# After installing OpenMeetings, you still need to install Coturn (Turn server), for which you can download the following tutorial and follow it from step 5:

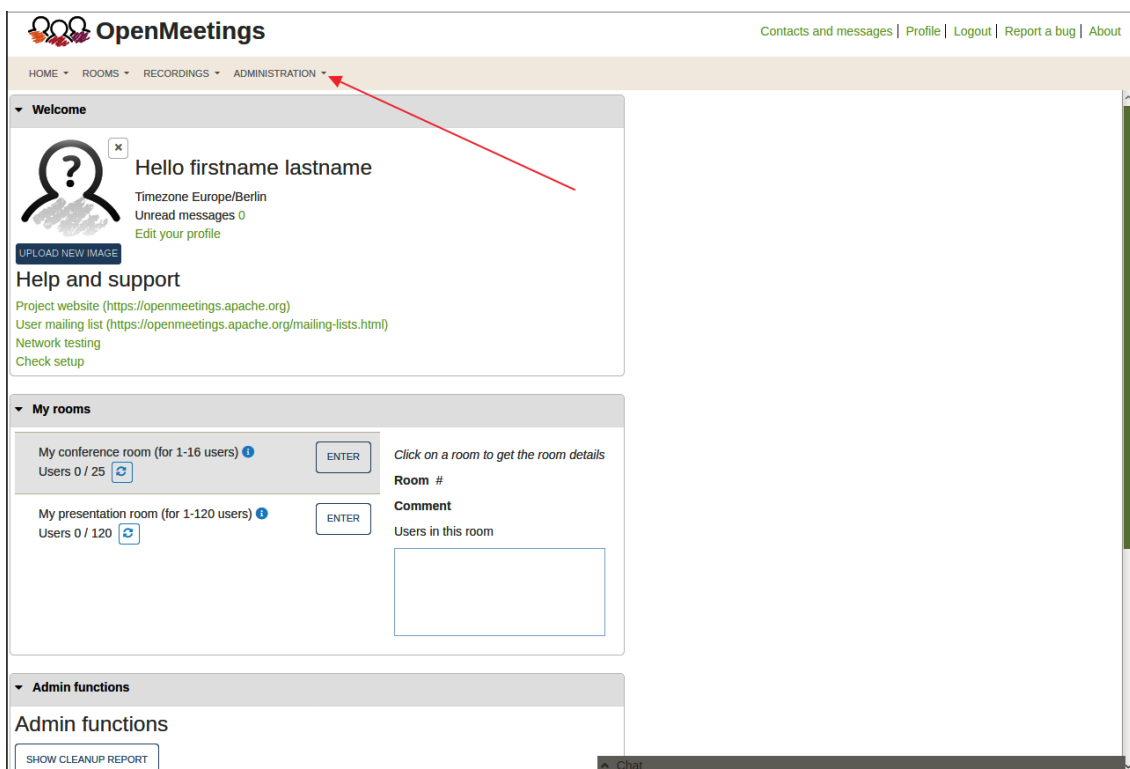
[Installation SSL certificates and Coturn for OpenMeetings 6.0.0 on CentOS 8](#)

14)

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

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

**Administration → Configuration**



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

The screenshot shows the OpenMeetings Administration interface. On the left is a table of configuration items, and on the right is a 'Configuration' form. Red arrows indicate the sequence of actions:

- Arrow 1 points from row 20 in the table to the 'Key' field in the form.
- Arrow 2 points from the 'Value' field in the form to row 20 in the table.
- Arrow 3 points from the 'Type' dropdown in the form to the 'Type' field in the table.

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
22	dashboard.rss.feed1	https://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom

Configuration form fields:

- Type: STRING
- Key: [Empty field]
- Value: [Empty field]
- Last update: [Empty field]
- Updated by: [Empty field]
- Comment: [Empty field]

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

<https://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 6.0.0 on Ubuntu 18.04 lts, it is at your disposal.

Can find it here:

[Live iso download](#)

Thank you

Alvaro Bustos (PMC and Committer at Apache OpenMeetings).