



Installation of Apache OpenMeetings 8.1.0 on Ubuntu 22.04 lts

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

ubuntu-mate-22.04-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.

Starting...

1)

First, we update and upgrade the OS:

`sudo apt update`

`sudo apt upgrade`

2)

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

OpenMeetings 8.1.0 need Java 17 minimum to work. We install OpenJava 21, and nano text editor:

```
sudo apt install openjdk-21-jre openjdk-21-jre-headless nano
```

Now, please, select OpenJava 21, 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, or maybe you'll be asked to keep or replace the "policy.xml" file (modified by us), then pres "Keep" button.

Sox, work the sound. We install it:

```
sudo apt install sox
```

5)

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

FFmpeg will work the video. We install together to vlc for watch the videos:

```
sudo apt install ffmpeg vlc curl
```

6)

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

MariaDB is the data base server. Will install it:

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

Run MariaDB:

```
sudo /etc/init.d/mariadb 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 open810 DEFAULT CHARACTER SET 'utf8';
```

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open810.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

- * open810is the database name.
- * holais 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/open810. All the following information will be based on this directory:

```
cd /opt
```

...download the tomcat-OpenMeetings file:

```
sudo wget https://archive.apache.org/dist/openmeetings/8.1.0/bin/apache-openmeetings-8.1.0.tar.gz
```

...uncompress it:

```
sudo tar xzvf apache-openmeetings-8.1.0.tar.gz
```

...and rename the obtained folder:

```
sudo mv apache-openmeetings-8.1.0 open810
```

...and we do to "nobody" user owner of OpenMeetings installation folder:

```
sudo chown -R nobody:nogroup /opt/open810
```

Download and install the connector between OpenMeetings and MariaDB:

```
cd /opt
```

(Only one line without space between both)

```
sudo wget https://repo1.maven.org/maven2/com/mysql/mysql-connector-j/9.4.0/mysql-connector-j-9.4.0.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-j-9.4.0.jar /opt/open810/webapps/openmeetings/WEB-INF/lib
```

8)

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

Please, download the tomcat-OpenMeetings run script:

```
cd /opt
```

```
sudo wget https://cwiki.apache.org/confluence/download/attachments/27838216/tomcat4
```

...copy it to:

```
sudo cp tomcat4 /etc/init.d/
```

...and concede permission of execution:

```
sudo chmod +x /etc/init.d/tomcat4
```

If you would made the installation in any other different path to /opt/open810, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open810
```

...to

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

9)

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

Start MariaDB, if still it is not:

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

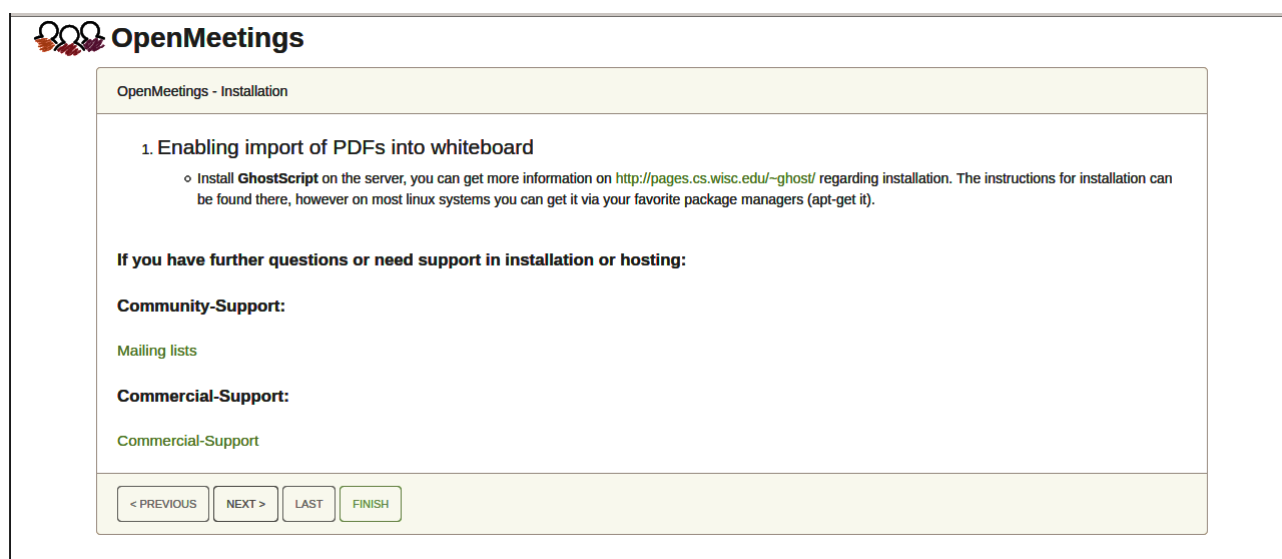
...and now start Tomcat-OpenMeetings:

```
sudo /etc/init.d/tomcat4 start
```

...wait 30 seconds at least, in order that tomcat runing completely. And after this, can go to:

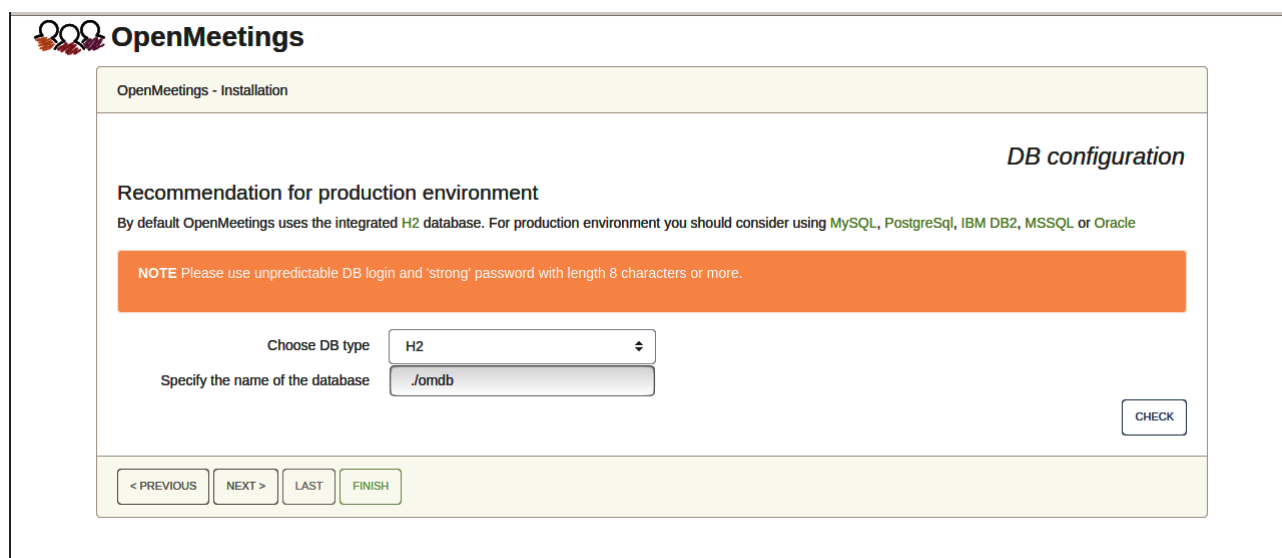
<https://localhost:5443/openmeetings>

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



The screenshot shows the OpenMeetings installation wizard. The title is "OpenMeetings" with a logo of three hands. The page is titled "OpenMeetings - Installation". The main content is "1. Enabling import of PDFs into whiteboard". Below this, there is a bullet point: "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).". Below this, there is a section "If you have further questions or need support in installation or hosting:" with sub-sections "Community-Support:" and "Commercial-Support:". At the bottom, there are four buttons: "< PREVIOUS", "NEXT >", "LAST", and "FINISH".

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



The screenshot shows the OpenMeetings installation wizard. The title is "OpenMeetings" with a logo of three hands. The page is titled "OpenMeetings - Installation". The main content is "DB configuration". Below this, there is a section "Recommendation for production environment" with the text: "By default OpenMeetings uses the integrated H2 database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle". Below this, there is a note: "NOTE Please use unpredictable DB login and 'strong' password with length 8 characters or more." Below the note, there are two input fields: "Choose DB type" with a dropdown menu showing "H2" and "Specify the name of the database" with a text input field containing ".jomdb". At the bottom right, there is a "CHECK" button. At the bottom, there are four buttons: "< PREVIOUS", "NEXT >", "LAST", and "FINISH".

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

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 DB host:

Specify DB port:

Specify the name of the database:

Specify DB user:

Specify DB password:

< PREVIOUS NEXT > LAST FINISH

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

Specify the name of the database = [open810](#)

Specify DB user = [hola](#)

Specify DB password = [1a2B3c4D](#)

...if you choose any other data, please type it here. Please push “**Next >**” button, and will go to:

OpenMeetings

OpenMeetings - Installation

Userdata

Username:

Userpass:

EMail:

User Time Zone:

Group(Domains)

Name:

< PREVIOUS NEXT > LAST 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 = **password** ...for the previous user.

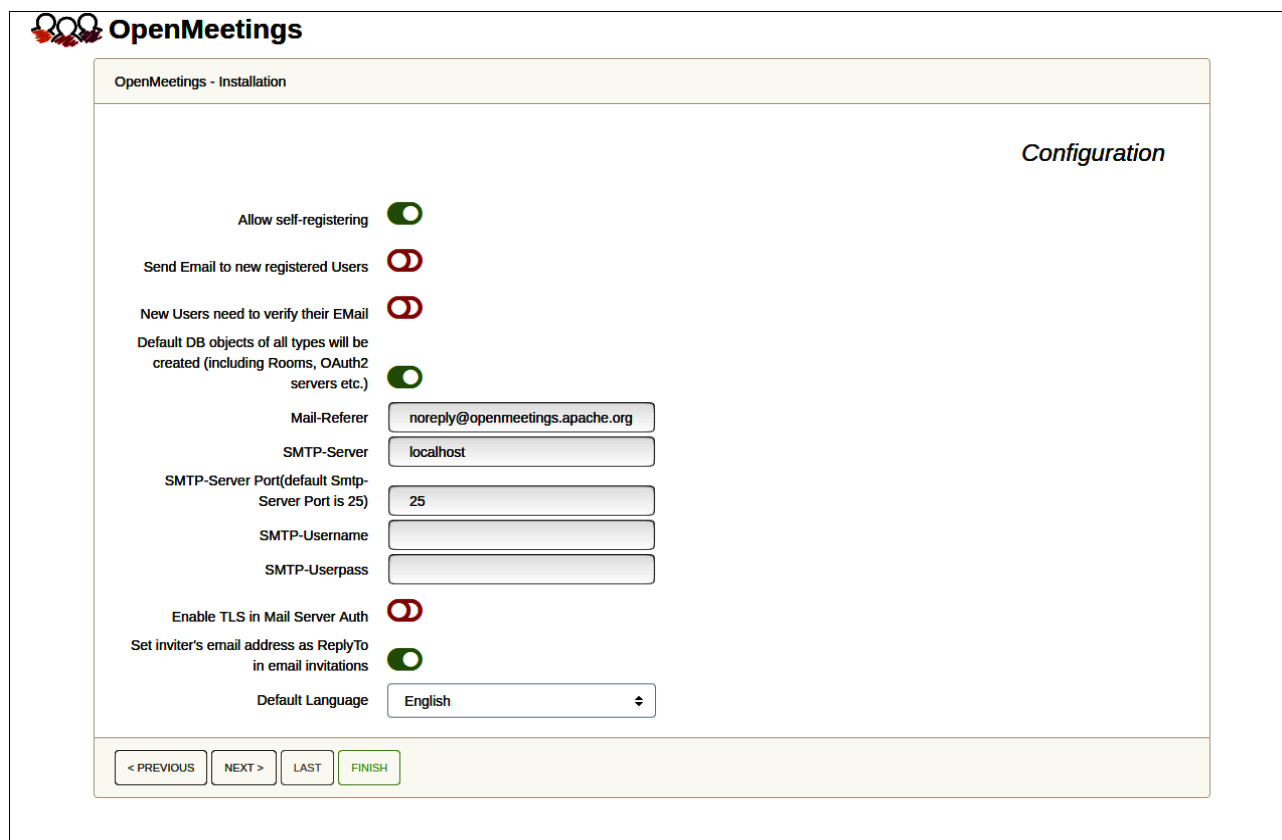
Email = **email-adress** ...of the previous user.

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 “**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)

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

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

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

The screenshot shows the 'OpenMeetings - Installation' page, specifically the 'Converters' section. The page has a light green header with the OpenMeetings logo and title. Below the header, the 'Converters' section contains several configuration options, each with a text input field and a 'CHECK' button:

- 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 left, there is a note: 'see also *Installation*'. At the bottom of the page, there are four 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 == ...here empty

FFMPEG Path == ...here empty

SOX Path == ...here empty

OpenOffice/LibreOffice Path for jodconverter == [/usr/lib/libreoffice](#)

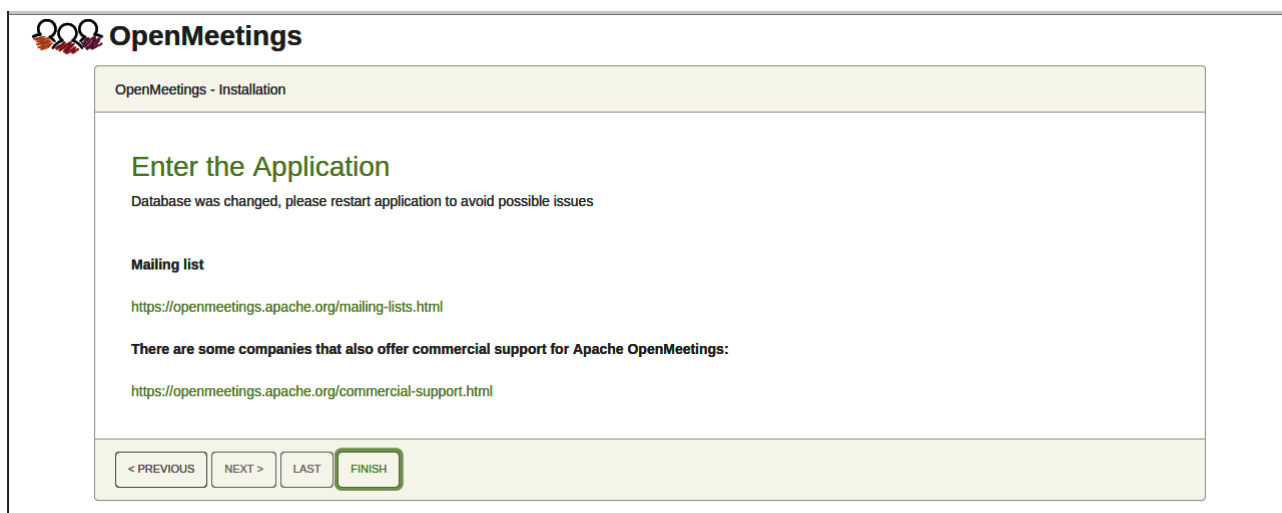
As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**.

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

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

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:

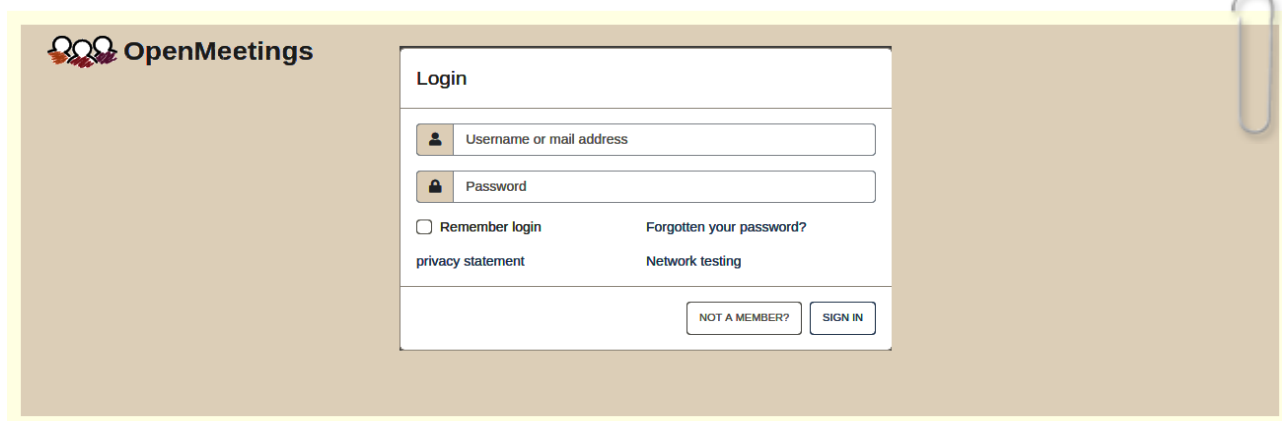
`sudo /etc/init.d/tomcat4 restart`



Now yes, you can clic on [Enter the Application](#), or go with your browser to:

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

...and will take us to the entry of OpenMeetings:



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

...Congratulations!

After installing OpenMeetings, we still need to install Kurento-Media-Server and Coturn (Turn server), to have cam, mic-audio, recordings and share desktop. We'll install them at the next steps.

10)

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

We'll install Kurento Media Server 7.0.2, which is required for OM 8.1.0 (the camera, micro-audio, recording, and desktop sharing). It can run on version 6.18 or higher.

This version we're installing is thanks to "BradXiao". It's not an official version, but i've tested it and it works correctly on Ubuntu 22.04 lts.

We're not root. We go to our respective home:

```
$ cd $HOME
```

...and download the installation script; it will be interactive with the user. The aforementioned script will install the necessary packages, extract the KMS binary files, and create a KMS service on our Ubuntu 22.04 lts:

```
$ wget https://github.com/BradXiao/kurento-ubuntu/releases/download/v7.0.2/install.sh
```

...and also download the file containing the Kurento binaries:

(On a single line with no space between them)

```
$ wget https://github.com/BradXiao/kurento-ubuntu/releases/download/v7.0.2/kms_7.0.2_binaries.tar.gz
```

Grant execution permission to the script:

```
$ chmod +x $HOME/install.sh
```

...and launch it as a user, not as root:

(...when it asks for the installation path, press "Enter," thus accepting that the installation will be done in /opt. And when it asks for the password (Username, type it)

```
$ ./install.sh
```

The script will have installed, launched, and set up Kurento as a service on our Ubuntu 22.04 lts.

In the future, you can launch Kurento with the following command:

```
sudo systemctl start kms.service
```

...or stop it:

```
sudo systemctl stop kms.service
```

If you want to tweak any configuration, you can do so in:

```
/opt/kms/etc/kurento/kurento.conf.json  
/opt/kms/etc/kurento/modules/kurento/*.ini
```

11)

----- Coturn installation (Turn server) -----

Ubuntu 22.04 have not at his repos Coturn (Turn server). Then we'll add Coturn repo:
(Turn server make the connections between OpenMeetings clients, peer to peer)

```
sudo add-apt-repository ppa:ubuntuhandbook1/coturn
```

```
sudo apt update
```

...and install it:

```
sudo apt install coturn
```

...we edit the following file so that the Turn server can work:

```
sudo nano /etc/default/coturn
```

...and we uncomment the line:

```
#TURNSEVER_ENABLED=1
```

....leaving it like this:

```
TURNSEVER_ENABLED=1
```

...exit the nano editor by pressing the **Ctrl+x** keys, ask if you save and press **Y** and then **Enter** to exit.

12)

----- Setting of Turn server -----

Now we'll set up Turn. Created a folder where turn server store the logs:

```
sudo mkdir -p /var/log/turnserver
```

...create a password that we'll need to put it in the configuration file of the turn server and later in an OpenMeetings file. We created it:

```
sudo openssl rand -hex 32
```

...will generate something similar to this:

```
751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXXXX
```

...copy that long password and paste it into a text file by saving it.

Edit the turn configuration file:

`sudo nano /etc/turnserver.conf`

...in this file we will have to uncomment (delete #) only the following lines:

`use-auth-secret`

`static-auth-secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

(on the above line put the long password we just saved in a text file)

`realm=your_real_domain` ...change company.org to your real domain

`stale-nonce=0` ...change 600 to 0 (zero)

`log-file=/var/log/turnserver/turnserver.log` .

(above change /var/log/turnserver.log to /var/log/turnserver/turnserver.log)

...exit the nano editor by pressing the **Ctrl+x** keys, ask if you save and press **Y** and then **Enter** to exit.

13)

----- Setting Up OpenMeetings 8.1.0 with Kurento media server-----

Edit the openmeetings.properties file of OpenMeetings: (if you made OpenMeetings installation in another different path please substitute it below)

`sudo nano /opt/open810/webapps/openmeetings/WEB-INF/classes/openmeetings.properties`

...and in the `### Kurento ###` section we modify only the following lines:

`#### Kurento ####`

`kurento.turn.url=`

`kurento.turn.user=`

`kurento.turn.secret=`

...to

`kurento.turn.url=Public IP of your server:3478`

`kurento.turn.user=`

`kurento.turn.secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...above, in:

`kurento.turn.secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...replace the line: `751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...by the long password that we generated in step 13 and that we save in a text file

....exit the nano editor by pressing the **Ctrl+x** keys, ask if you save and press **Y** and then **Enter** to exit.

Restart Turn server: `sudo /etc/init.d/coturn restart`

Restart Kurento: `sudo systemctl restart kms.service`

Tomcat-OpenMeetings: `sudo /etc/init.d/tomcat4 restart`

14)

----- Open ports required for servers-----

We need open some ports in the router and the firewall for the servers access. These are:

3478 TCP-UDP IN

5443 TCP IN

8888 TCP IN

49152:65535 UDP IN-OUT

...if you have installed gufw (ufw firewall interface) you can open them directly from there adding rules.

In case you prefer to open them (the firewall) with IPTables, these are the commands (*this is orientative only*):

```
sudo iptables -A INPUT -p tcp -m tcp --dport 3478 -j ACCEPT
```

```
sudo iptables -A INPUT -p udp -m udp --dport 3478 -j ACCEPT
```

```
sudo iptables -A INPUT -p tcp -m tcp --dport 5443 -j ACCEPT
```

```
sudo iptables -A INPUT -p tcp -m tcp --dport 8888 -j ACCEPT
```

```
sudo iptables -A INPUT -p udp --match multiport --dports 49152:65535 -j ACCEPT
```

```
sudo iptables -A OUT -p udp --match multiport --dports 49152:65535 -j ACCEPT
```

...after launching the commands we save the changes:

```
sudo service iptables save
```

...and restart IPTables:

```
sudo service iptables restart
```

Now you can access OpenMeetings.

Click the link down and type the user name and his password you choosed in step 9:

<https://localhost:5443/openmeetings>

After installing OpenMeetings, you can find a tutorial for building SSL certificates Let's Encrypt needed for "https" url with which will work OpenMeetings. Here is:

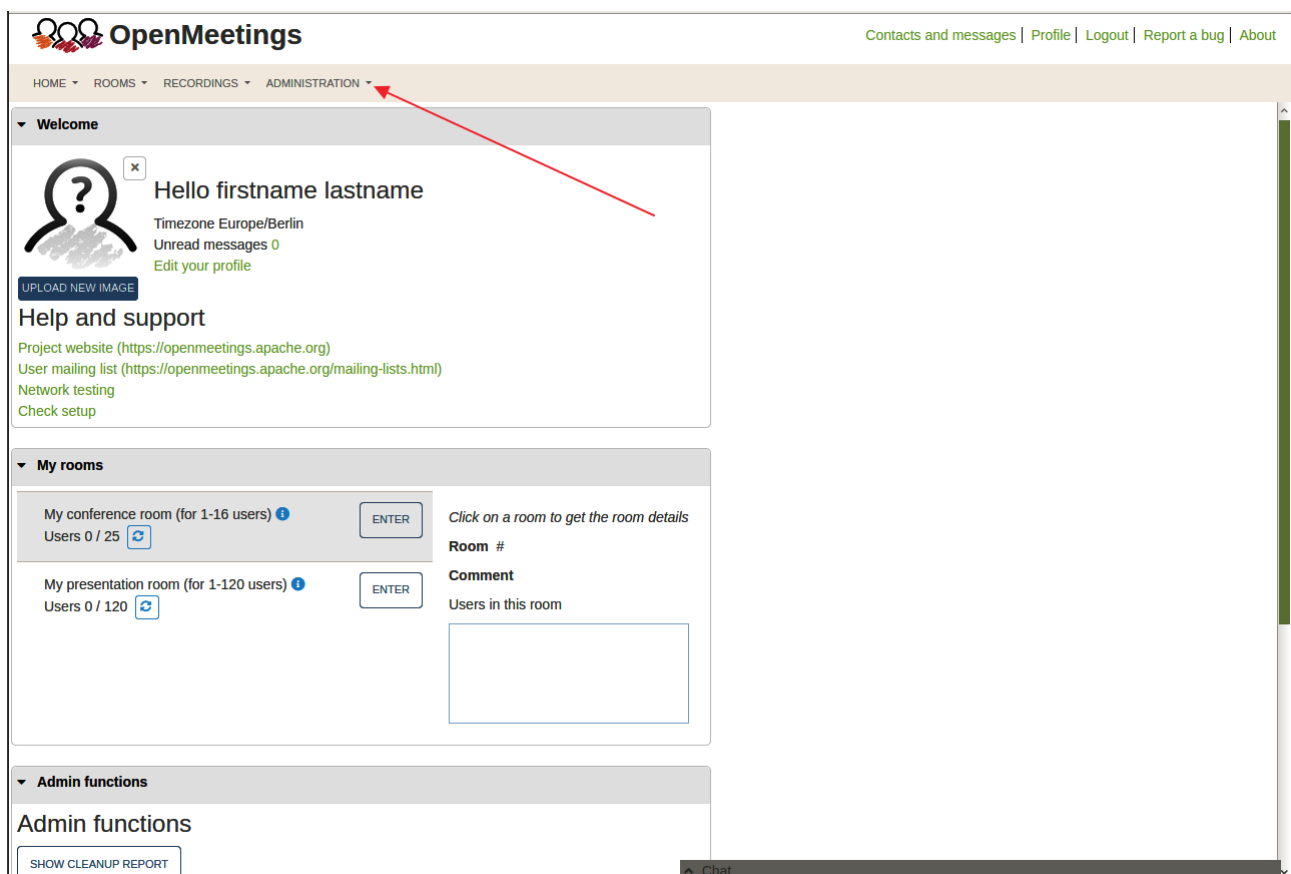
[Installation SSL certificates for OpenMeetings 8.1.0 on Ubuntu 22.04 LTS](#)

15)

----- OpenMeetings's Configuration -----

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

Administration → Configuration



The screenshot displays the OpenMeetings web interface. At the top, the navigation bar includes 'HOME', 'ROOMS', 'RECORDINGS', and 'ADMINISTRATION', with a red arrow pointing to the 'ADMINISTRATION' dropdown. The main content area is divided into sections: 'Welcome' with a user profile card, 'My rooms' with two room cards, and 'Admin functions' with a 'SHOW CLEANUP REPORT' button. The interface is clean and modern, with a light beige header and a white main area.

...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 for a selected item. Red arrows indicate the sequence of actions: 1. Clicking the 'edit' icon (pencil) in the table header. 2. Clicking the 'Value' field in the configuration form. 3. Clicking the 'Key' field in the configuration 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.enabled	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

Type: STRING

Key:

Value:

Last update:

Updated by:

Comment:

So to conclude, the commands to remember to run the servers are (this order):

- `sudo /etc/init.d/mariadb start`MariaDB data server
- `sudo systemctl start kms.service`Kurento Media Server
- `sudo /etc/init.d/coturn start`Turn server (Coturn)
- `sudo /etc/init.d/tomcat4 start`Tomcat-OpenMeetings

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 live iso with OpenMeetings 8.1.0 on Ubuntu 24.04 lts, Ubuntu 22.04 lts, Ubuntu 20.04 lts and other on Ubuntu 18.04 lts are at your disposal.

Can find them here:

[Live iso download](#)

Thank you.

Alvaro Bustos (PMC and Committer at Apache OpenMeetings).

