Installation of Apache OpenMeetings 7.2.0 on openSUSE Leap 15.4

This tutorial is made based on fresh installations of

openSUSE-Leap-15.4-DVD-x86_64.iso

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

1)

------ Update Operative System ------

Update operative system:

su

zypper refresh

zypper update

2)

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

Java 17 is necessary to work Tomcat-OpenMeetings 7.2.0. So, we install OpenJava 17:

Add OpenJava repo:

zypper addrepo https://download.opensuse.org/repositories/home:ecsos/15.4/home:ecsos.repo

...refresh, typing a letter a when ask, to accept for always the keys:

zypper refresh

...and install OpenJava 17:

zypper install java-17-openjdk

export JRE_HOME=/usr/lib64/jvm/java-17-openjdk-17

Now we´ll see if is installed more than one java version. If it is, then please select our OpenJava 17:

update-alternatives --config java

...and to see the active version:

java -version

3)
------ Installation of LibreOffice ------

OpenMeetings need LibreOffice to convert to pdf, the uploaded office files.
Maybe it is installed, but for iso server specially:

zypper install -y libreoffice

4)
------ Installation of necessary packages and libraries ------

We install packages and libraries that we´ll need later:

(Only one line with space between both)

zypper install -y gcc ghostscript freetype freetype-devel ncurses ncurses-devel make libz1
zlib-devel libtool bzip2 git autoconf automake pkg-config nano

5)
------ Installation ImageMagick and Sox ------

ImageMagick, will work with images files jpg, png, gif, etc. We install it and some librarie:

zypper install -y ImageMagick giflib-devel

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

nano /etc/ImageMagick-7-SUSE/policy.xml

...and comment the two following 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 ImageMagick.

Sox, work the sound. Install it:

zypper install -y sox

6)

------ Compilation of FFmpeg and installation of packman repo ------

FFmpeg work the video. We install Packman repository to can install some libraries:

zypper ar -cfp 90 http://ftp.gwdg.de/pub/linux/misc/packman/suse/openSUSE_Leap_15.4/ packman

zypper update   ...when ask, accept for allways typing the letter **a** and pressing **Enter**

(Only one line witht space between both)

zypper install -y glibc imlib2 imlib2-devel mercurial cmake freetype2-devel libfreetype6 curl git vlc libvpx-devel libmp3lame-devel

This ffmpeg compilation is based in this url:

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

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

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg_opensuse15.sh

...concede permission of execution:

chmod +x ffmpeg_opensuse15.sh

...and run it, be connected to Internet:

./ffmpeg_opensuse15.sh

Will spend about 20 minutes. When finish, will announce it with this text:

...FFmpeg Compilation is Finished!

...then, please go to step **7**.

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

7)
------ **Installation of MariaDB data base server** ------

MariaDB is the database server.

We install it:

zypper install -y mariadb mariadb-tools

...and run mariadb:

systemctl start mysql.service

Give a password to MariaDB root . Please, modify new-password by your own:

mysqladmin -u root password new-password

Make a database with his own user for OpenMeetings:

mysql -u root -p

...will ask for the root-mariadb password that we have just chosen:

MariaDB [(none)]> CREATE DATABASE open720 DEFAULT CHARACTER SET 'utf8';

Now we create a user with all permission on this database:

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open720.* TO 'hola'@'localhost'
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;

* open720 ......is the database name.
* hola ………is the user name for the database.
* 1a2B3c4D ..is the password of this user.

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

Now, we leave MariaDB:

MariaDB [(none)]> quit

8)

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

We´ll install OpenMeetings in /opt/open720. All the following information will be based on this directory.

cd /opt

...download the OpenMeetings file:

wget https://archive.apache.org/dist/openmeetings/7.2.0/bin/apache-openmeetings-7.2.0.tar.gz

...uncompress it:

tar xzvf apache-openmeetings-7.2.0.tar.gz

...and rename the obtained folder:

mv apache-openmeetings-7.2.0 open720

Download and install the connector file between OpenMeetings and MariaDB:

cd /opt

(Only one line without space between both)

wget https://repo1.maven.org/maven2/mysql/mysql-connector-java/8.0.30/mysql-connector-java-8.0.30.jar

...and copy it to where must be:

cp /opt/mysql-connector-java-8.0.30.jar /opt/open720/webapps/openmeetings/WEB-INF/lib

9)

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

We´ll download the script to run Tomcat-OpenMeetings:

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/tomcat34

...copy it to where must be:

cp tomcat34 /etc/init.d/

...concede execution permission:

chmod +x /etc/init.d/tomcat34

If you made the installation in any other different path to /opt/open720, please edit the script and modify the line:

CATALINA_HOME =/opt/open720

...to

CATALINA_HOME =/your-path-installation

10)

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

Restart mariadb, (be connected to Internet):

systemctl restart mysql.service
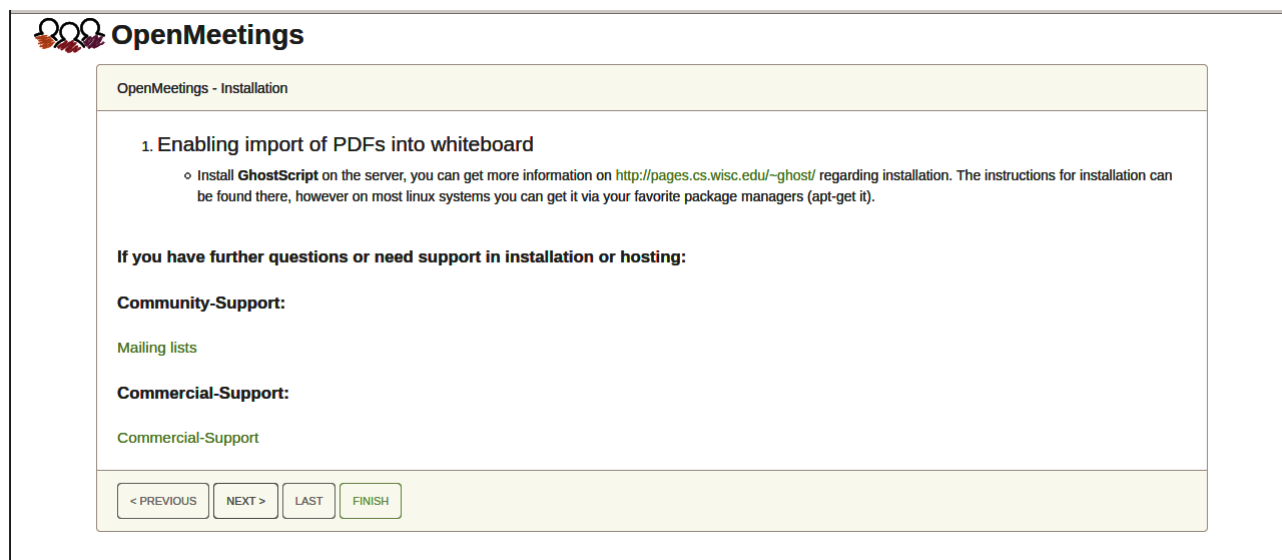
...and run tomcat-OpenMeetings, please, in a new window terminal:

/etc/init.d/tomcat34 start

...wait about 40 seconds in order tomcat can run completly. Then, go with the 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:
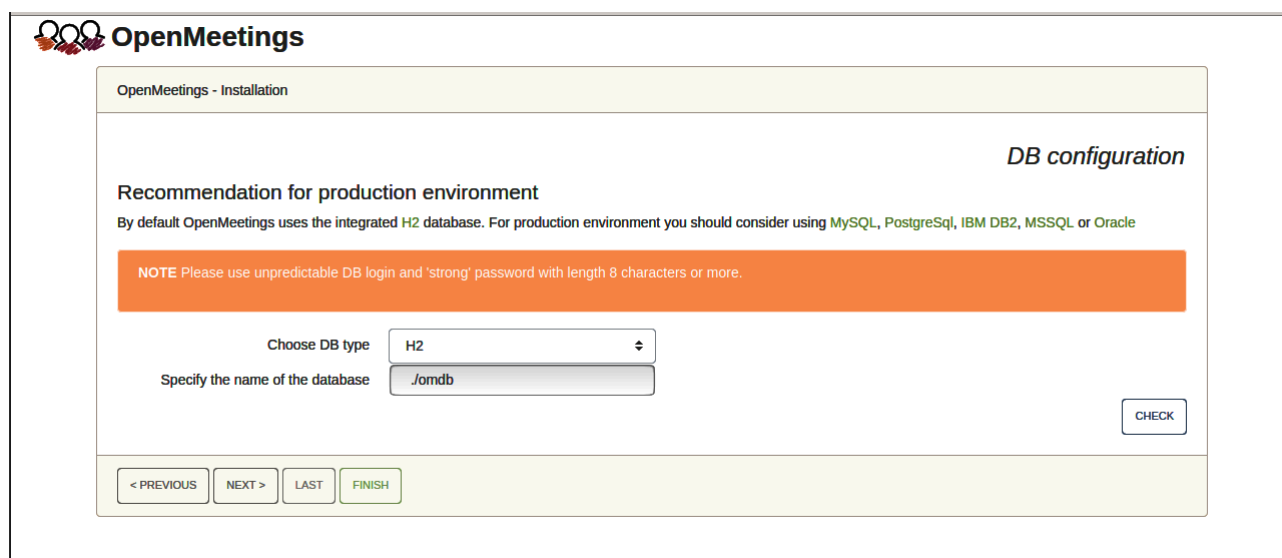
Mailing lists

Commercial-Support:

Commercial-Support

< PREVIOUS	NEXT >	LAST	FINISH

...press on "**Next >**" (bottom), and will show the default 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	H2
Specify the name of the database	./omdb

CHECK

< PREVIOUS	NEXT >	LAST	FINISH

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

Now we must introduce the database name, user name and his password, we did at the step 7:

Specify the name of the database = open720

Specify DB user = hola

Specify DB password = 1a2B3c4D

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

Press "**Next >**" 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 "**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:

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 can modify it as you like.

Now press the button "**Next >**" and a new page will appear:

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

|		
ImageMagick Path	==	...here empty
FFMPEG Path	==	/usr/local/bin
SOX Path	==	...here empty
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**.

Once completed the paths, please click the "**Next >**" button and move on to another page that we will leave it 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 need it to restart the server. Please, open a new terminal and restart tomcat:

/etc/init.d/tomcat34 restart
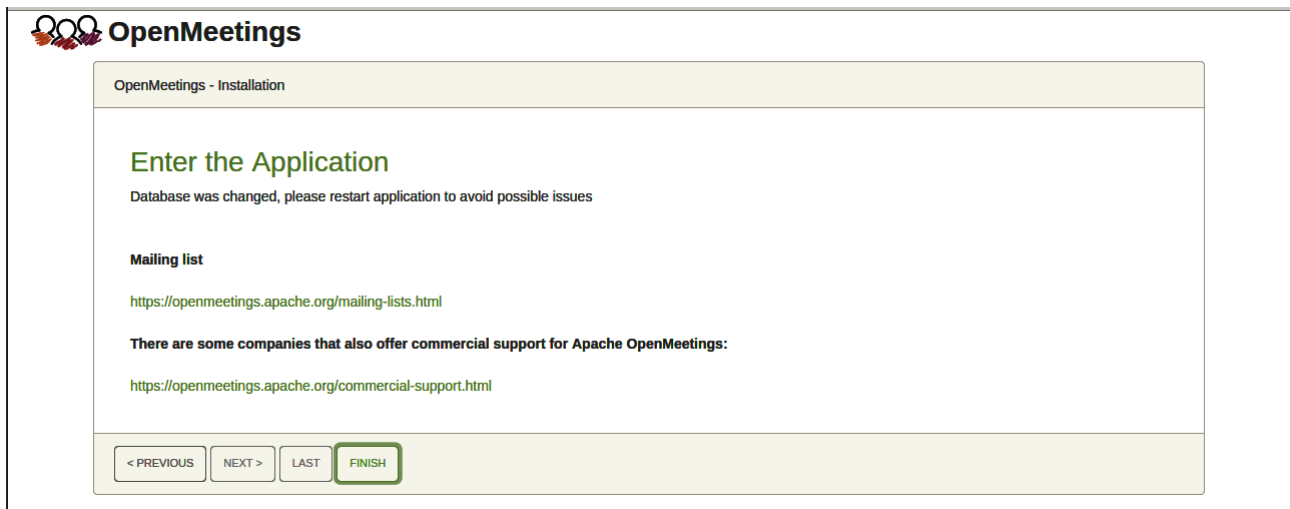
Now you can click on Enter the Application and it will take you to the OpenMeetings entry.
But wait before entering OpenMeetings, we have to install Podman, Kurento-Media-Server
and Coturn (Turn server), something we will do in the next steps, so that you can have access to the
camera, micro, recording and desktop sharing in the room.
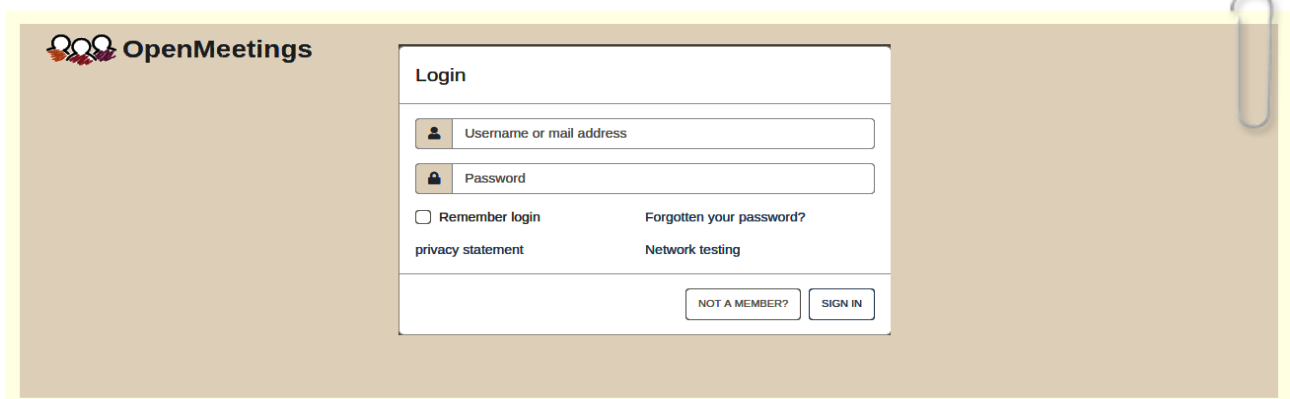
11)

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

We´ll install Podman as recipient for kurento-media-server.

zypper install -y podman

...stop OpenMeetings, MariaDB and Podman:

/etc/init.d/tomcat34 stop

systemctl stop mysql.service

systemctl stop podman.service

…and reboot the machine. After this, please follow in the step 12:

reboot

12)

------ 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 rooms). We´ll install Kurento 7.0.0 version, needeed for OpenMeetings 7.2.0 (can be Kurento 6.18+). If you have installed a before version please uninstall it like this:

First run Podman:

systemctl start podman.service

========= Uninstall old Kurento =========

podman stop kms

podman rm kms

========= Finish uninstall old Kurento ====

…and now we´ll install kurento-media-server. But first we´ll create the folder where will be the video recorder files we should make in rooms, as well as the uploaded files and documents:

mkdir -p /opt/om_data   (if you choose another path please substitute it below as well)

…and install kurento 6.18.0:

(Only one line, with space between both)

podman run -d --name kms -p 8888:8888 --mount
type=bind,source=/opt/om_data,target=/opt/om_data kurento/kurento-media-server:6.18.0

(if ask, please select the line that say docker.io/kurento/…)

If you made the installation of /opt/om_data in another path, please edit the script called "tomcat34"
downloaded at step 9:

nano /etc/init.d/tomcat34

 and modify the line number 7:

export JAVA_OPTS="-Djava.awt.headless=true -DDATA_DIR=/opt/om_data"

...to

export JAVA_OPTS="-Djava.awt.headless=true -DDATA_DIR=/your-path-installation/om_data"

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

Restart OpenMeetings to take effect the changes:

/etc/init.d/tomcat34 restart

Run Korento:

podman start kms   ...kms is Kurento Media Server

13)

------ Coturn installation and configuration of Turn server------

Install Coturn (Turn server make the connections between OpenMeetings clients, peer to peer):

zypper install coturn

Configuration of turn server.

First we 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:

openssl rand -hex 32

...will generate something similar to this:

751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXX

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

Now edit the turn file configuration:

nano /etc/coturn/turnserver.conf

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

use-auth-secret

static-auth-secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXX

(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=60 ...change 600 to 60

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

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

14)
------ Setting Up OpenMeetings 7.2.0 with Kurento media server------

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

nano /opt/open720/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=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXX

...above, in:

kurento.turn.secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXX

...replace the line: 751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXX

...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.

IS IMPORTANT...we must reboot the machine and after to continue in the next step 15.

But before we´ll stop any server:

podman stop kms

systemctl stop podman.service

systemctl stop coturn.service

/etc/init.d/tomcat34 stop

systemctl stop mysql.service

...and now reboot:

reboot

15)
------ Run the servers after rebooted the machine ------

Run any server related to OpenMeetings:

MariaDB: systemctl start mysql.service

Podman: systemctl start podman.service

Kurento: podman start kms

Coturn: systemctl start coturn.service

Tomcat-OpenMeetings: /etc/init.d/tomcat34 start

16)

------ 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

To open them (the firewall) with IPTables, these are the commands:

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

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

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

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

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

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

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

ervice iptables save

...and restart IPTables:

service iptables restart

Now you can access OpenMeetings.

Clic the link down and type the user name and his password you choosed in step 10:

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

Installation SSL certificates for OpenMeetings 7.2.0 on openSUSE Leap 15.4

The next time you like launch the servers, please do it following this order:

systemctl start mysql.service

systemctl start podman.service
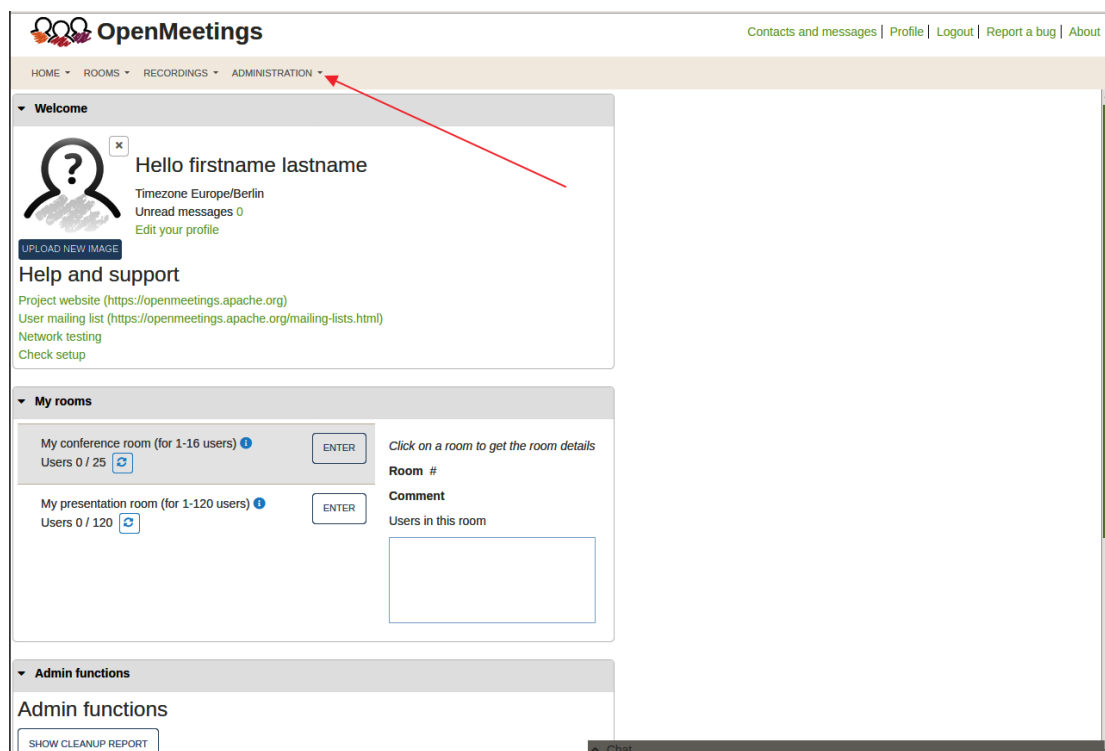
podman start kms

systemctl start coturn.service

/etc/init.d/tomcat34 start

17)

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

Once you acced to 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:

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

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 downoload:

OpenMeetings Wallpaper Download

A dvd live iso with OpenMeetings 7.2.0 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)