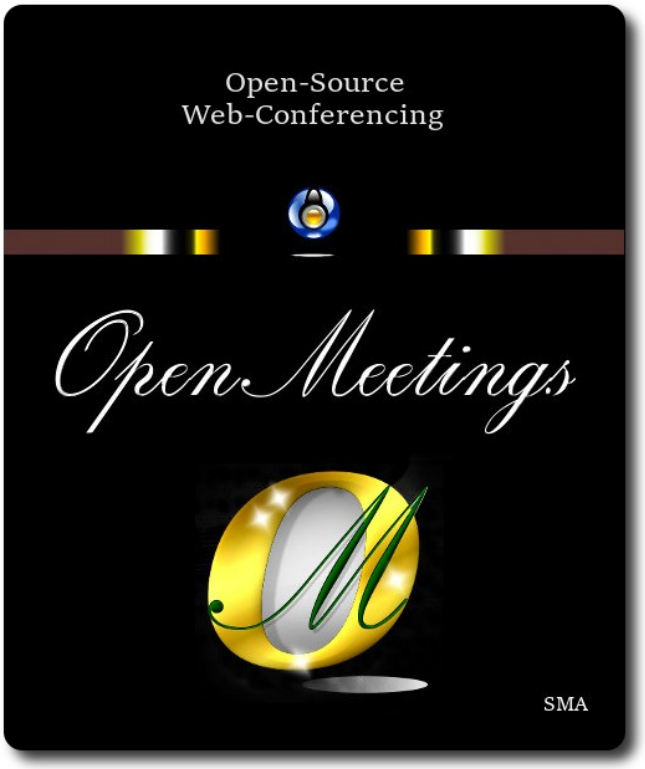


Installation of Apache OpenMeetings 7.1.0 on CentOS 7

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 step by step.

Starting...

1)

We access to terminal as root::

su

….will ask for root password.

Install nano editor:

yum install -y nano wget curl

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 wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm

sudo rpm -Uvh epel-release-latest-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 Java ------

Java 17 is necessary for OpenMeetings 7.1.0. So we download OpenJava 17 file:

(Only one line without space between both)

sudo wget https://download.java.net/java/GA/jdk17.0.2/dfd4a8d0985749f896bed50d7138ee7f/8/GPL/openjdk-17.0.2_linux-x64_bin.tar.gz

...uncompress it:

sudo tar xzf openjdk-17.0.2_linux-x64_bin.tar.gz

...and install it in /opt:

sudo mv jdk-17.0.2 /opt/

sudo update-alternatives --install /usr/bin/java java /opt/jdk-17.0.2/bin/java 1

Maybe you have installed various versions of Java. Please select the just installed OpenJava 17:

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, with space between each one of them)

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

We acces 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 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 each one ofthem)

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 cmake freetype-devel 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 base server ------

Exit as root:

exit

MariaDB is the data base 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.:

sudo mysql -u root -p

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

MariaDB [(none)]> CREATE DATABASE open710 DEFAULT CHARACTER SET 'utf8';

Now we create a user with all permission on this open710 database.

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open710.* TO 'hola'@'localhost' IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;

* open710 ..... 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/open710. All the following information will be based on this directory:

cd /opt

...download the OpenMeetings file:

sudo wget https://archive.apache.org/dist/openmeetings/7.1.0/bin/apache-openmeetings-7.1.0.tar.gz

...uncompress it:

sudo tar xzvf apache-openmeetings-7.1.0.tar.gz

...and rename the obtained folder:

sudo mv apache-openmeetings-7.1.0 open710

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/mysql/mysql-connector-java/8.0.30/mysql-connector-java-8.0.30.jar

...and copy it to where must be:

sudo cp /opt/mysql-connector-java-8.0.30.jar /opt/open710/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/tomcat34

...copy it to where must be:

sudo cp tomcat34 /etc/init.d/

...concede execution permission:

sudo chmod +x /etc/init.d/tomcat34

If you made the installation in any other path to /opt/open710, please edit the script and modify the line:

CATALINA_HOME==/opt/open710

...to

CATALINA_HOME==/your-path-installation

11)

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

Restart MariaDB:

sudo systemctl restart mariadb.service

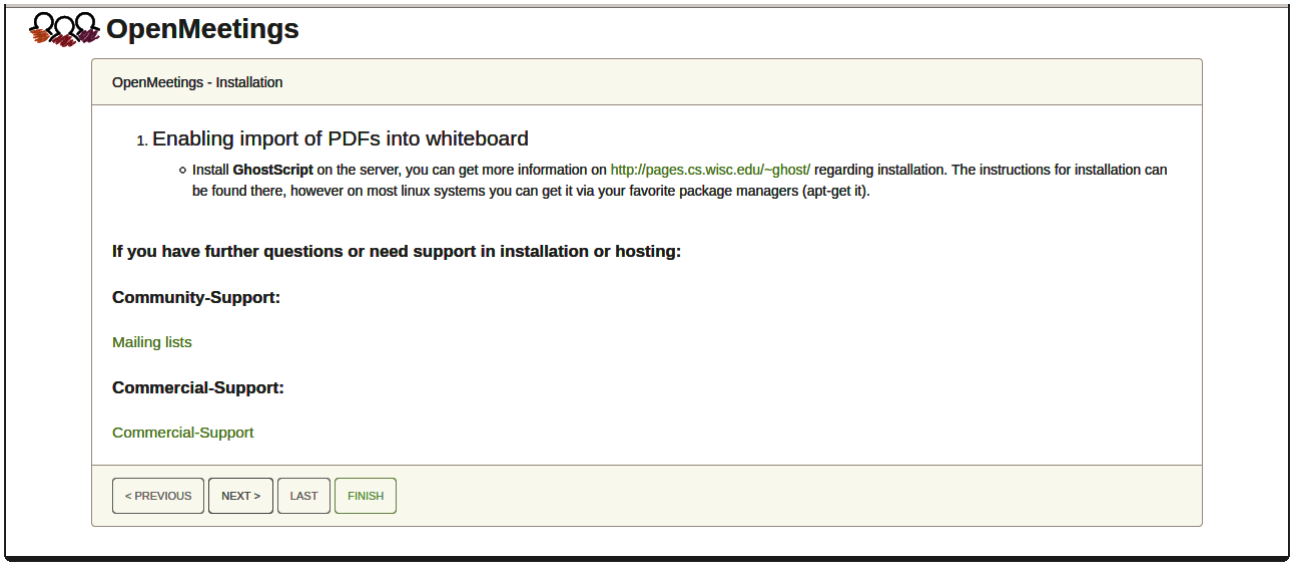
...and run tomcat-OpenMeetings:

sudo /etc/init.d/tomcat34 start

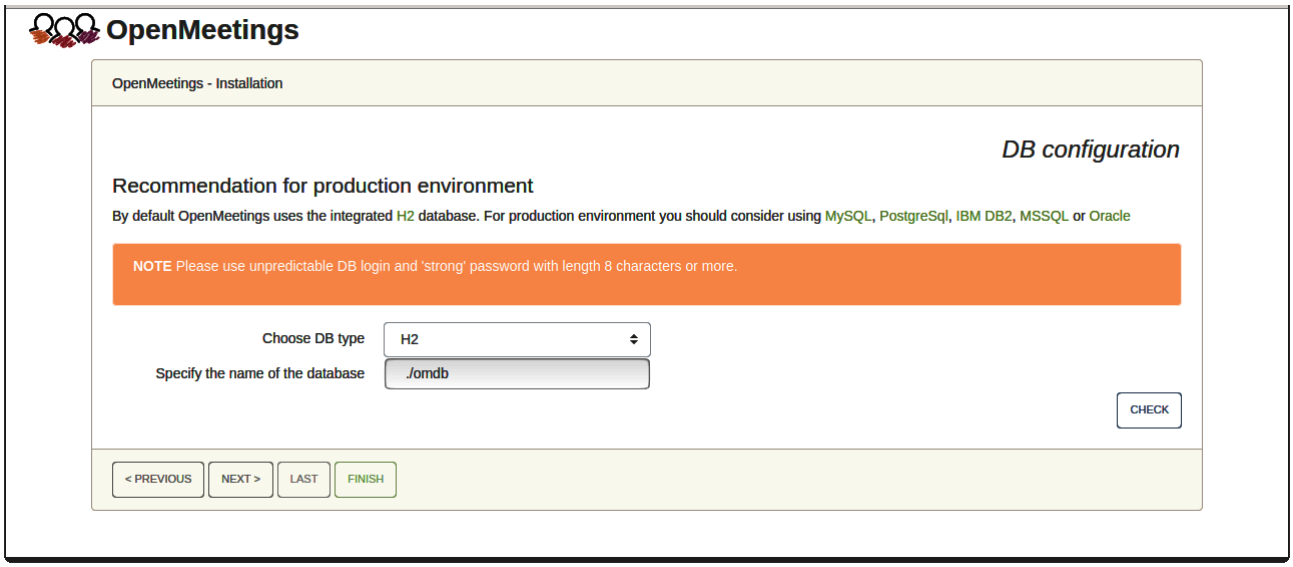
...wait a minimum of 40 seconds in order tomcat run completly. Then, go with your browser to:

https://localhost:5443/openmeetings/

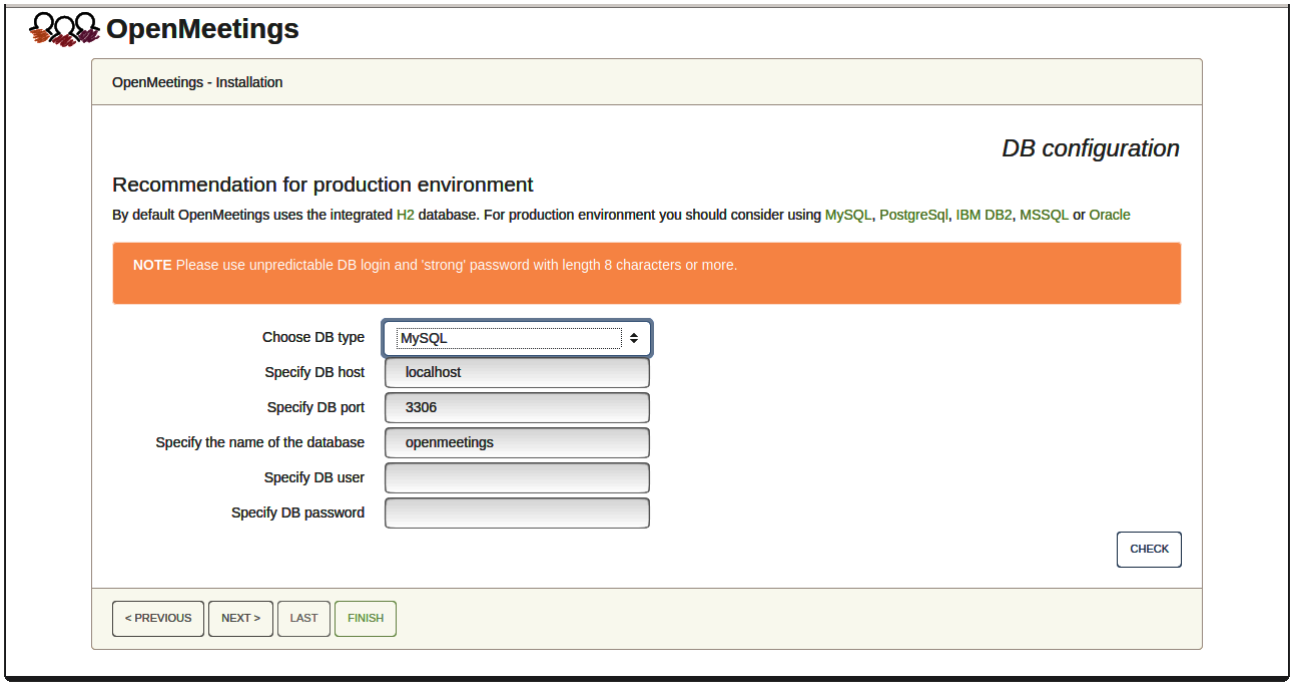
...there will appear a page similar to this one:



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



...so, scroll and "**Choose DB type"** to MySQL:



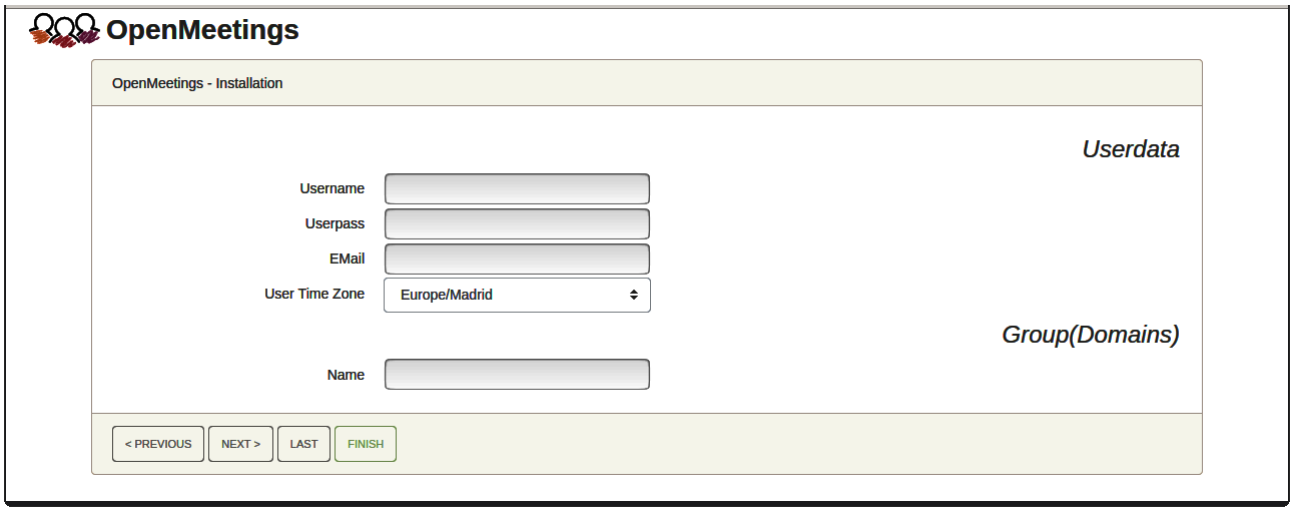
Here we must introduce the database name, user name and his password we did at the step 8:

Specify the name of the database = open710

Specify DB user = hola

Specify DB password = 1a2B3c4D

Please, 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.

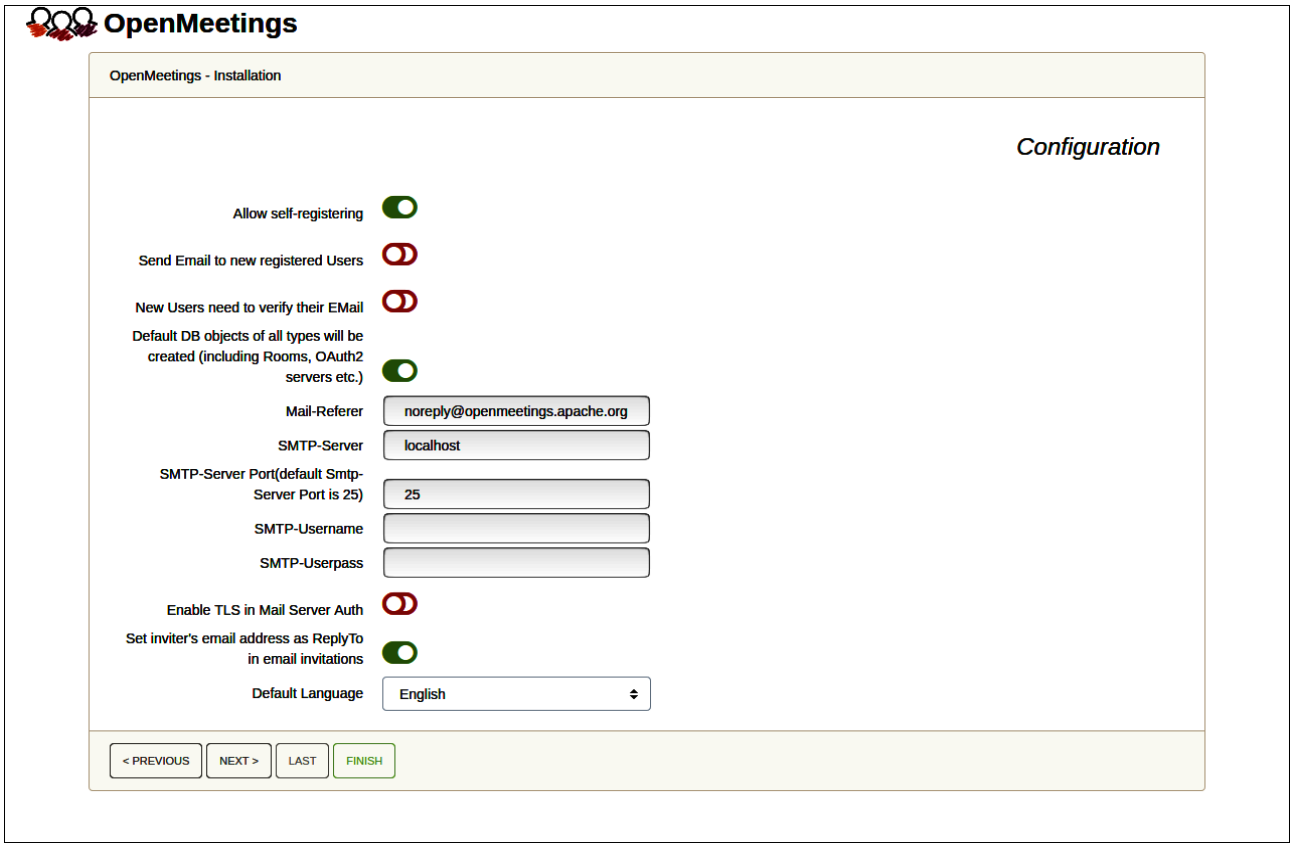
Userpass = a-password ...for the previous user

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)

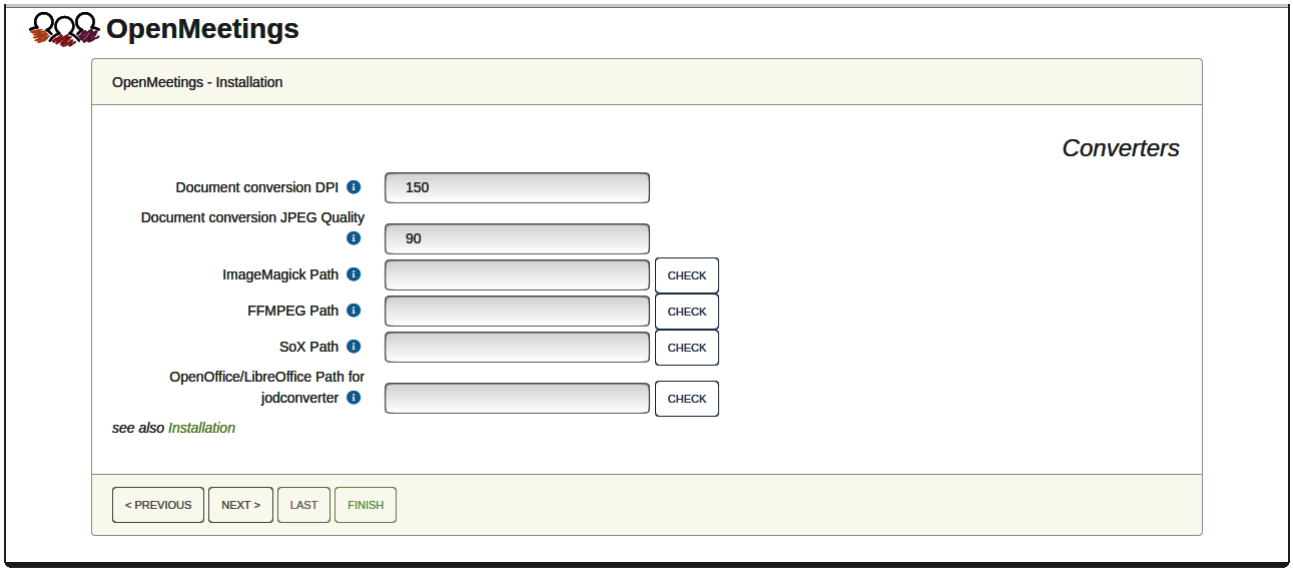
Mail-Refer	==	john@gmail.com
SMTP-Server	==	smtp.gmail.com
SMTP-Server Port (default Smtp-Server Port is 25)	==	587
SMTP-Username	==	john@gmail.com
SMTP-Userpass	==	password of john@gmail.com
Enable TLS in Mail Server Auth	==	...turn green the button to activate

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 "**Next >**" and a new page will appear:

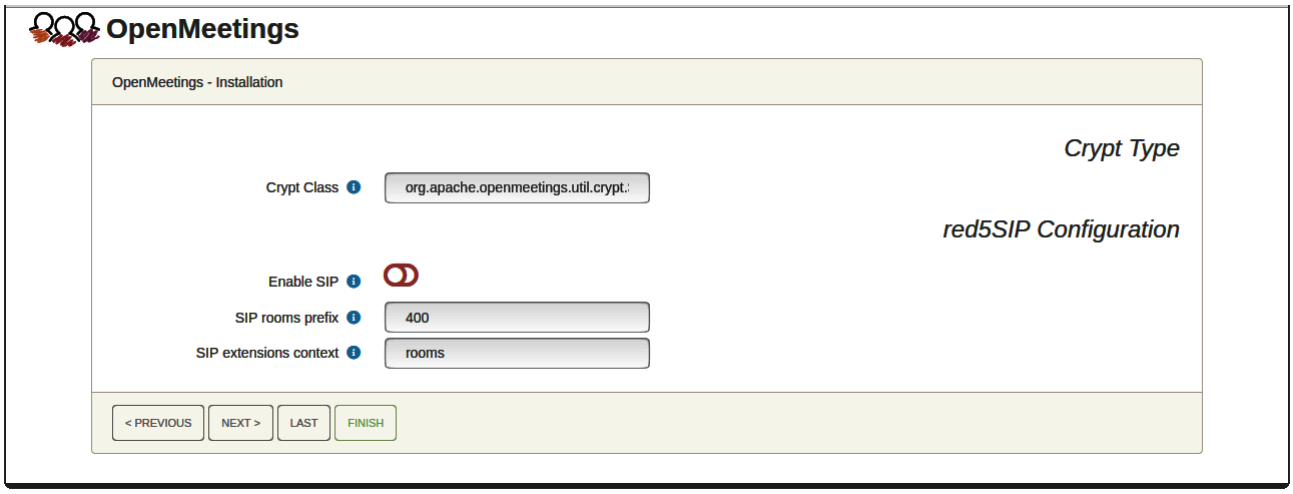


Here we´ll introduce the respective paths for the image, video, audio and conversion of uploaded files:

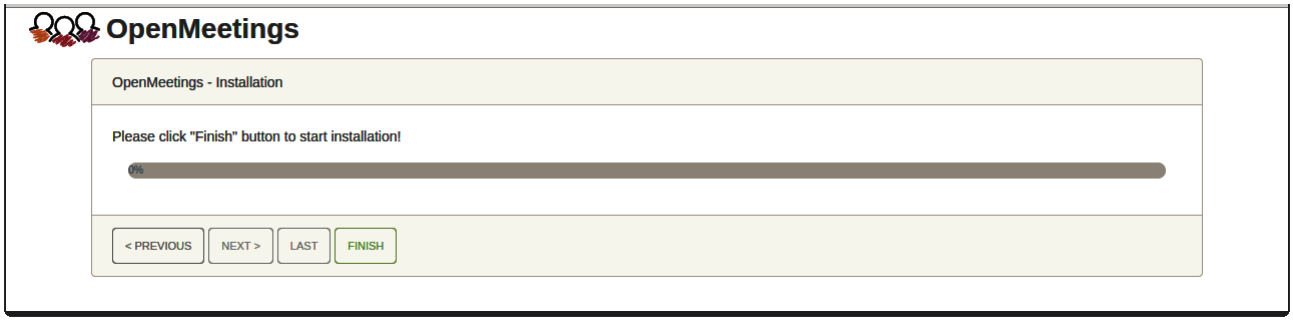
ImageMagick Path	==	...here empty
FFMPEG Path	==	/usr/local/bin
SOX Path	==	/usr/local/bin
OpenOffice/LibreOffice Path for jodconverter	==	/usr/lib64/libreoffice

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

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

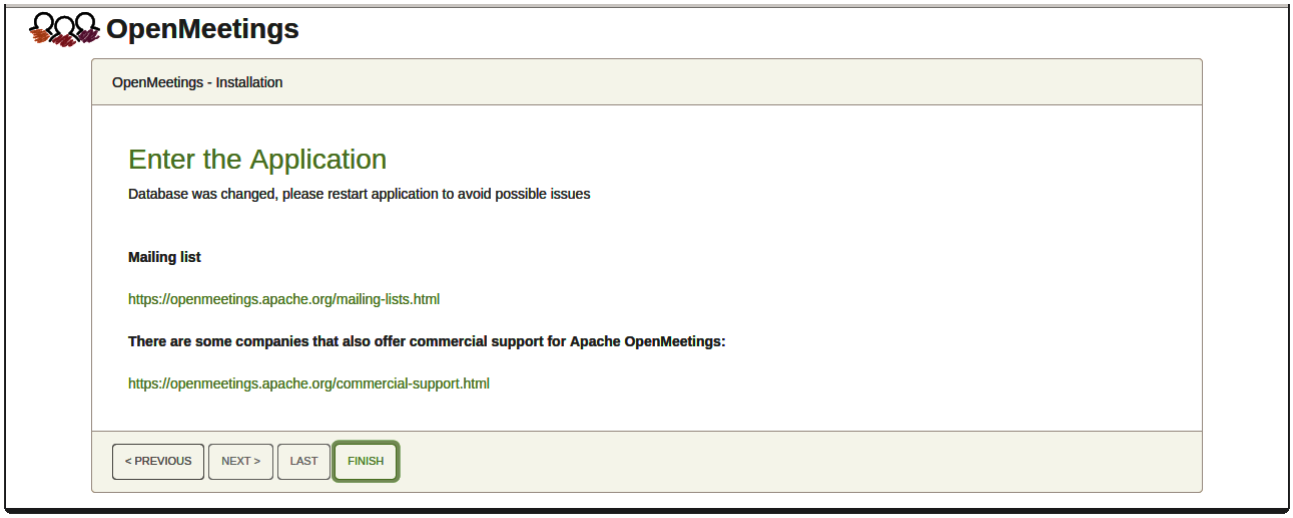


Now push the button "**Next >**" Will show this window:

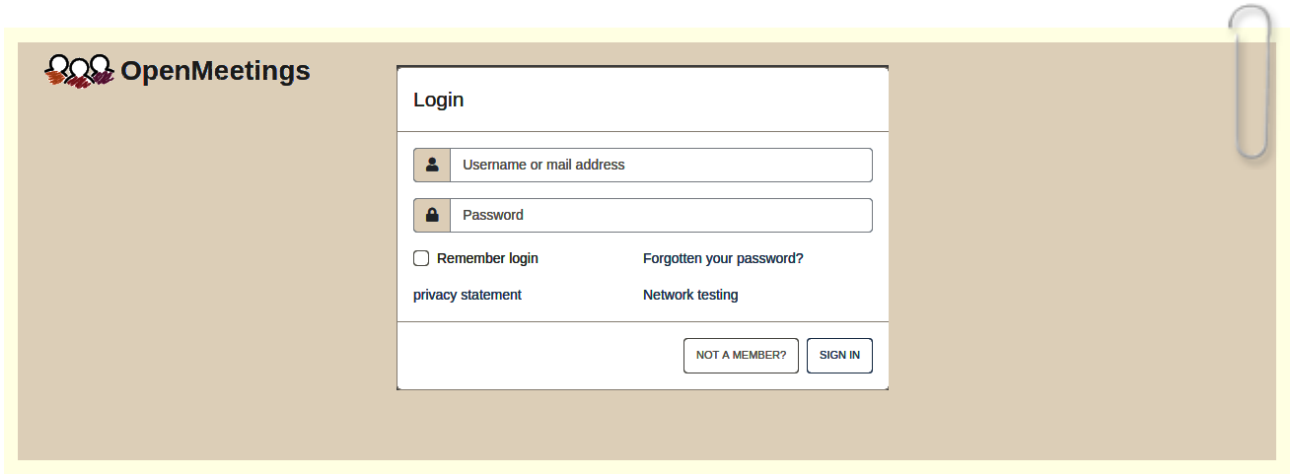


Clic "**Finish"** button...wait a seconds untill the tables are fill in the database.
When has concluded, this another page will appear. Don´t clic on **Enter the Application**.
First is need it to restart tomcat server. Be connected to Internet:

sudo /etc/init.d/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 Docker, 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



12)

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

First install some neccessary 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/tomcat34 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 rooms). We´ll install Kurento 6.18.0 version, needeed for OpenMeetings 7.1.0 (can be Kurento 6.18+). If you have installed a before version please uninstall it like this:

First run docker:

sudo systemctl start docker.service

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

sudo docker stop kms

sudo docker rm kms

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

…and now we´ll install kurento-media-server 6.18.0. 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:

sudo mkdir -p /opt/om_data

…and install kurento:

(Only one line, with space between both)

sudo docker 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

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

sudo docker start kms

14)

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

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

sudo yum 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:

sudo 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:

sudo nano /etc/coturn/turnserver.conf

...in this file we will have to uncomment (delete #) only 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 ...type your real domain

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

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.

15)

------ Setting Up OpenMeetings 7.1.0 with Kurento media server------

Edit the openmeetings.properties file of OpenMeetings:

sudo nano /opt/open710/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

...for the long password that we generated in step 14 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 continue in the next step 16
But before we stop the servers:

sudo docker stop kms

sudo systemctl stop docker.service

sudo systemctl stop coturn.service

sudo /etc/init.d/tomcat34 stop

sudo systemctl stop mariadb.service

...and now reboot:

sudo reboot

16)

------ Run the servers after rebooted the machine ------

Run any server related to OpenMeetings:

MariaDB:	sudo systemctl start mariadb.service
Docker:	sudo systemctl start docker.service
Kurento:	sudo docker start kms
Coturn:	sudo systemctl start coturn.service
Tomcat-OpenMeetings:	sudo /etc/init.d/tomcat34 start

17)

------ 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:

```
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 run the commands we save the changes:

```
sudo service iptables save
```

...and restart IPTables:

```
sudo service iptables restart
```

Now you can access OpenMeetings.

Clic the link down and type the user name and his password choosed in step 11:

https://localhost:5443/openmeetings

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:

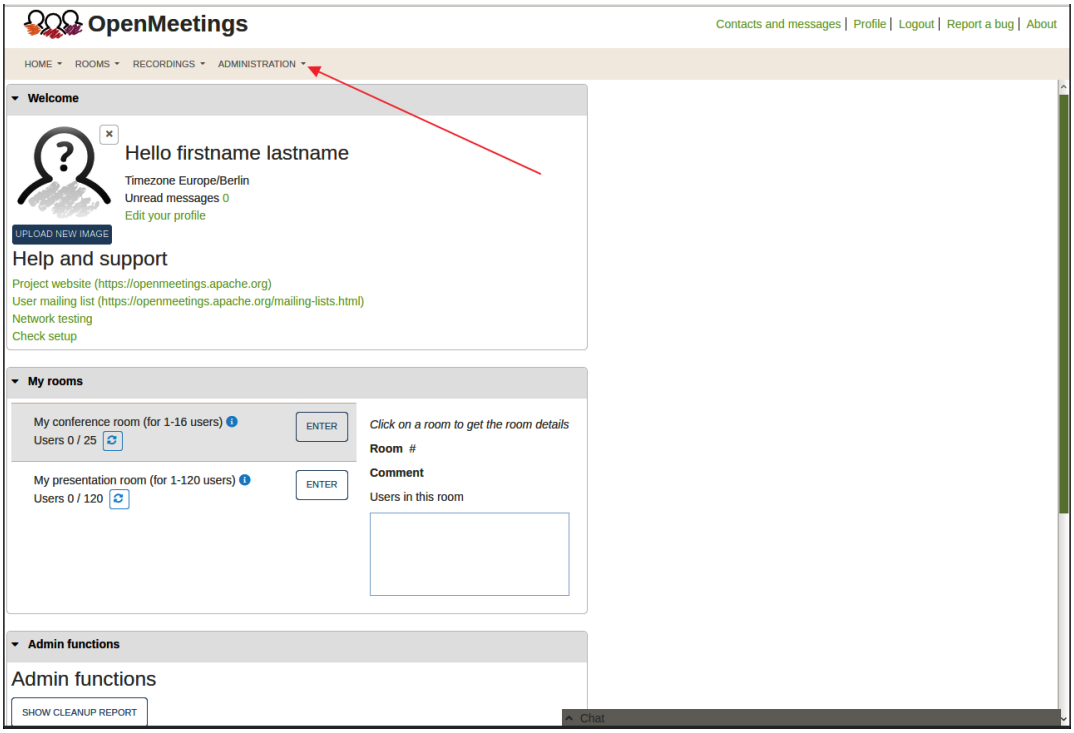
Installation SSL certificates for OpenMeetings 7.1.0 on CentOS 7

18)

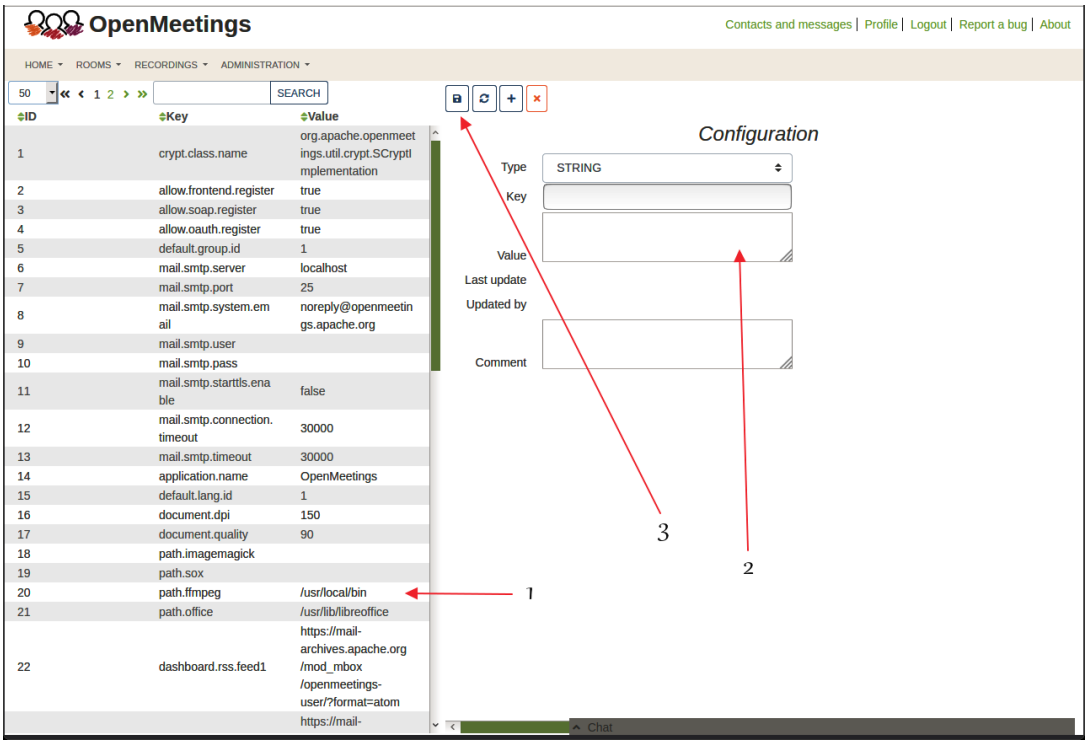
------ OpenMeetings's configuration ------

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:

https://openmeetings.apache.org/mailing-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 downoload:

OpenMeetings Wallpaper Download

A dvd live iso with OpenMeetings 7.1.0 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).