



Installation of Apache OpenMeetings 7.1.0 on Debian 12

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

debian-live-12.2.0-amd64-gnome t.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:

`su`

`apt update`

`apt upgrade`

2)

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

OpenMeetings 7.1.0 need Java 17 to work. So we install OpenJava 17:

```
apt install openjdk-17-jdk openjdk-17-jdk-headless nano
```

Now, please, select OpenJava 17, if you have more than one java versions installed:

```
update-alternatives --config java
```

To see the active java version:

```
java -version
```

3)

----- **Installation of LibreOffice** -----

LibreOffice is needed to convert to pdf the uploaded office files.

The ubuntu desktop iso have already LibreOffice installed.

But we install it specially for server iso:

```
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:

```
apt install -y imagemagick libjpeg62 zlib1g-dev
```

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

```
nano /etc/ImageMagick-6/policy.xml
```

...and comment the following lines, if is not, 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.

Sox, work the sound. We install it:

```
apt install sox
```

5)

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

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

```
apt install ffmpeg vlc wget
```

6)

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

MariaDB is the data base server. Will install it:

```
apt install mariadb-server
```

Run MariaDB:

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

Now we give a root password to MariaDB. Please, replace **new-password** with 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 MariaDB root password that you have just chosen, type it...

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

(Only one line with space between both)

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

- * open710is 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/open710. All the following information will be based on this directory:

```
cd /opt
```

...download the tomcat-OpenMeetings file:

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

...uncompress it:

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

...and rename the obtained folder:

```
mv apache-openmeetings-7.1.0 open710
```

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

```
chown -R nobody:nogroup /opt/open710
```

Download and install the connector 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/open710/webapps/openmeetings/WEB-INF/lib
```

8)

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

Please, download the tomcat run script:

```
cd /opt
```

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

...copy it to:

```
cp tomcat34 /etc/init.d/
```

...and concede permission of execution:

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

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

```
CATALINA_HOME==/opt/open710
```

...to

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

9)

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

Start MariaDB, if still it is not:

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

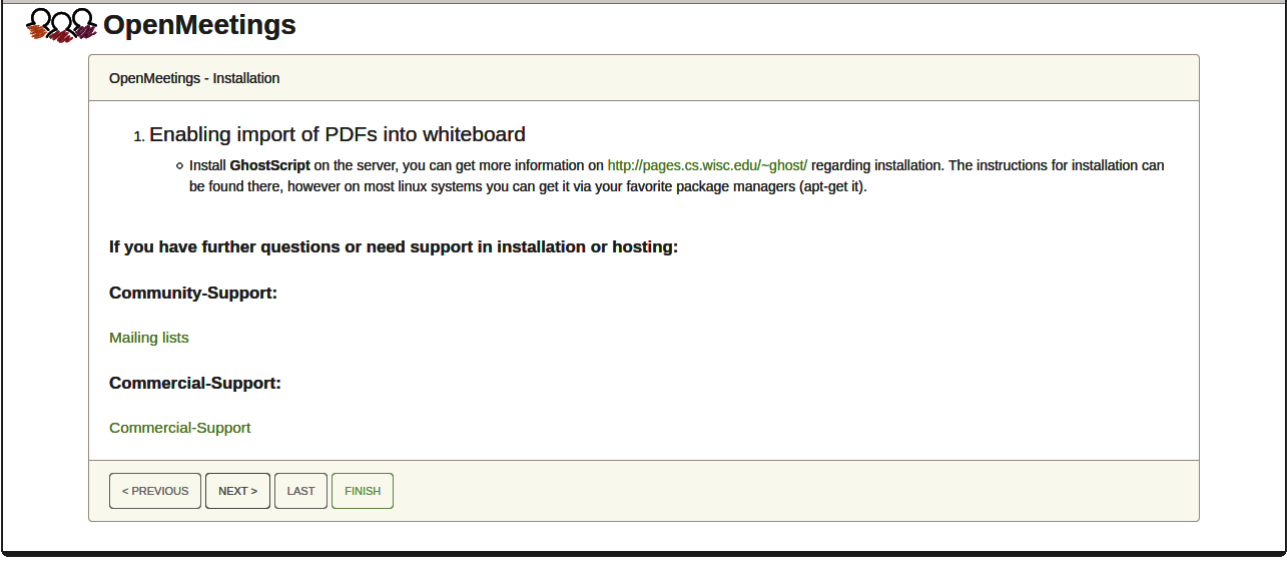
...and now start tomcat-OpenMeetings:

```
/etc/init.d/tomcat34 start
```

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

<https://localhost:5443/openmeeting>

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

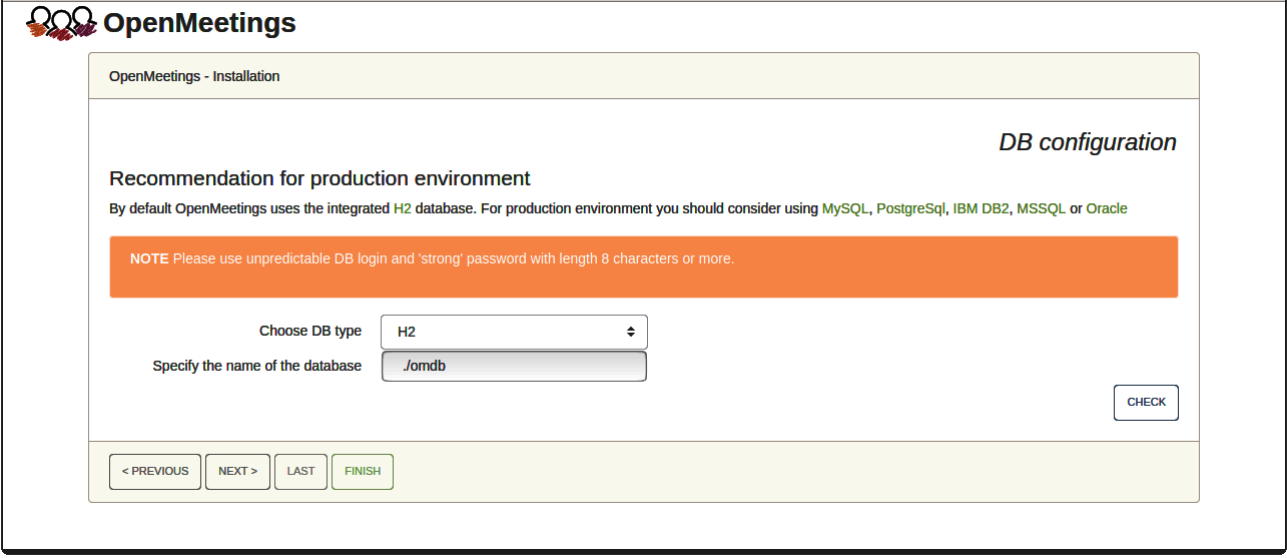


The screenshot shows the 'OpenMeetings - Installation' page. The main heading is '1. Enabling import of PDFs into whiteboard'. Below it, there is a bullet point: 'Install GhostScript on the server, you can get more information on <http://pages.cs.wisc.edu/~ghost/> regarding installation. The instructions for installation can be found there, however on most linux systems you can get it via your favorite package managers (apt-get it).

Below the bullet point, there is a section titled 'If you have further questions or need support in installation or hosting:' followed by 'Community-Support:' and 'Commercial-Support:'. There are links for 'Mailing lists' and 'Commercial-Support'.

At the bottom of the page, 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' page with the 'DB configuration' section. The heading is 'Recommendation for production environment'. Below it, there is a note: 'By default OpenMeetings uses the integrated H2 database. For production environment you should consider using MySQL, PostgreSQL, IBM DB2, MSSQL or Oracle'.

Below the note, there is a red box with the text: 'NOTE Please use unpredictable DB login and 'strong' password with length 8 characters or more.'

Below the red box, 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 '/omdb'.

At the bottom right of the page, there is a 'CHECK' button.

At the bottom of the page, 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 = [open710](#)

Specify DB user = [hola](#)

Specify DB password = [1a2B3c4D](#)

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

Configuration

OpenMeetings - Installation

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' window. The title bar includes the OpenMeetings logo and the text 'OpenMeetings'. The main content area is titled 'Converters' and contains several configuration options:

- 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 window, 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

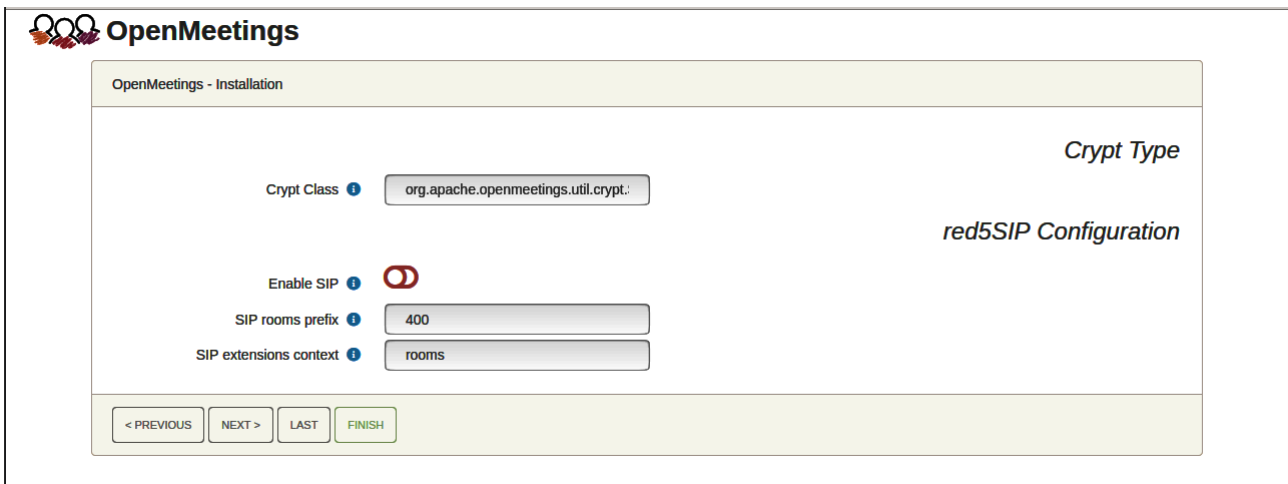
FFMPEG Path == ...here empty

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:

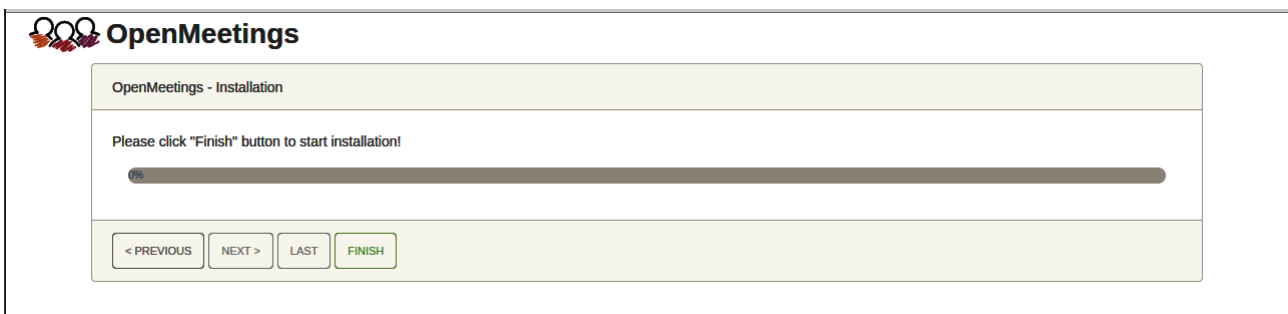


The screenshot shows the 'OpenMeetings - Installation' configuration page. It features several input fields and a checkbox:

- Crypt Class:** A text input field containing 'org.apache.openmeetings.util.crypt.'
- Enable SIP:** A checkbox that is currently checked.
- SIP rooms prefix:** A text input field containing '400'.
- SIP extensions context:** A text input field containing 'rooms'.

At the bottom of the form, there are four buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'. The 'FINISH' button is highlighted in green. On the right side of the page, the text 'Crypt Type' and 'red5SIP Configuration' is visible.

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



The screenshot shows the 'OpenMeetings - Installation' progress page. It features a progress bar and a message:

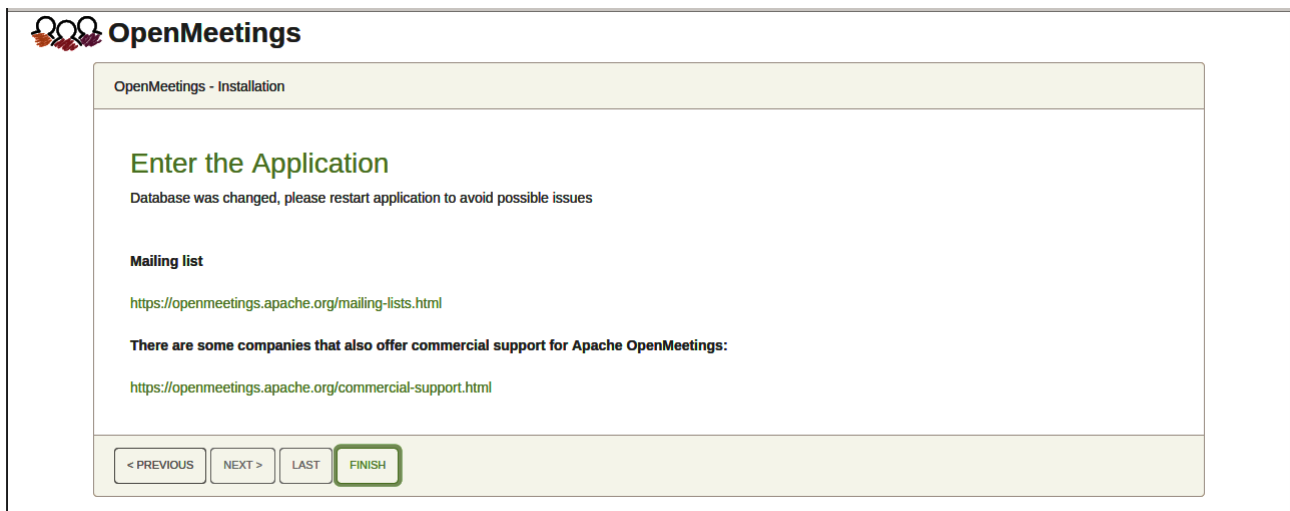
Please click "Finish" button to start installation!

The progress bar is currently at 0%. At the bottom of the form, there are four buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'. The 'FINISH' button is highlighted in green.

Press “**Finish**” button ...wait a seconds until 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:

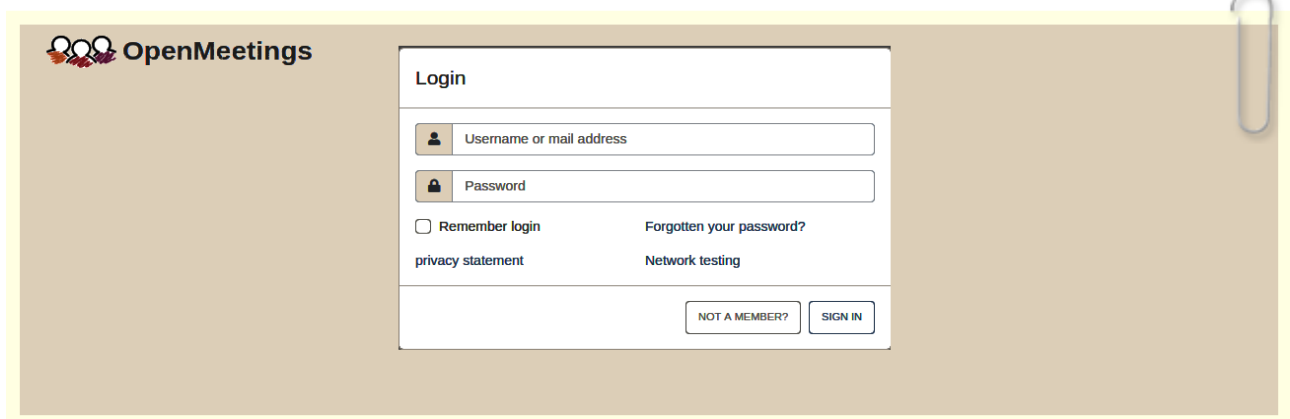
`/etc/init.d/tomcat34 restart`



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 Docker, 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 Docker -----

We'll install Docker as recipient of Kurento Media Server. For that, we'll create his repository:

```
nano /etc/apt/sources.list.d/docker.list
```

...and copy-paste the following line:

```
deb [arch=amd64] https://download.docker.com/linux/debian bookworm stable
```

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

Install the public claves for this repository:

```
wget https://download.docker.com/linux/debian/gpg -O- | sudo apt-key add
```

...update:

```
apt update
```

...and install Docker:

```
apt install -y docker-ce docker-ce-cli containerd.io
```

To test it works right, we'll install "hello world":

```
docker run hello-world
```

...and appear this announce:

```
"Hello from Docker!
```

```
This message shows that your installation appears to be working correctly."
```

```
.....  
.....
```

For a normal user, no root, can run Docker, we add it to docker group:

```
adduser your-user docker
```

(change **your-user** by your real user system name)

11)

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

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, needed 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:

```
systemctl start docker.service
```

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

```
docker stop kms
```

```
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:

```
mkdir -p /opt/om_data
```

...and install kurento:

(Only one line, with space between both)

```
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, wich name is kms:

```
docker start kms
```

12)

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

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

```
apt install coturn
```

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

```
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.

13)

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

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

```
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:

```
openssl rand -hex 32
```

...will generate something similar to this:

```
751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX
```

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

Edit the turn configuration file:

```
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.

14)

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

Edit the openmeetings.properties file of OpenMeetings:

[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=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXX
```

...above, in:

```
kurento.turn.secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXX
```

...replace the line: `751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXX`

...by the long password that we generated in step 12 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 coturn:

`/etc/init.d/coturn restart`

Restart docker:

`/etc/init.d/docker restart`

Start Kurento:

`docker start kms`

Restart Tomcat-OpenMeetings:

`/etc/init.d/tomcat34 restart`

15)

----- **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:

```
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 launching the commands we save the changes:

`service 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 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 wich will work OpenMeetings. Here is:

[Installation SSL certificates for OpenMeetings 7.1.0 on Debian 12](#)

16)

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

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

Administration → Configuration

The screenshot displays the OpenMeetings web application 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 main menu with options: "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 for "Hello firstname lastname", "Timezone Europe/Berlin", "Unread messages 0", and "Edit your profile"), "Help and support" (with links for "Project website", "User mailing list", "Network testing", and "Check setup"), "My rooms" (with two room entries: "My conference room (for 1-16 users)" and "My presentation room (for 1-120 users)", each with an "ENTER" button and a "Click on a room to get the room details" link), 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 items, and on the right is a 'Configuration' form. Red arrows indicate the sequence of actions:

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

The 'Configuration' form on the right has the following fields:

- Type: STRING
- Key: (empty)
- Value: (empty)
- Last update: (empty)
- Updated by: (empty)
- Comment: (empty)

Red arrows indicate the sequence: Arrow 1 points to the 'path.office' row in the table. Arrow 2 points to the 'Value' field in the form. Arrow 3 points to the 'Key' field in the form.

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

```

/etc/init.d/mariadb start           ....MariaDB data server
systemctl start docker.service     ....Docker
docker start kms                   ...Kurento Media Server
/etc/init.d/coturn start           ...Turn server (Coturn)
/etc/init.d/tomcat34 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 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).

