

## Installation of Apache OpenMeetings 7.2.0 on AlmaLinux 9

This tutorial is made based on fresh installations of

**AlmaLinux-9.4-x86\_64-minimal.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-9.noarch.rpm
```

## RPMFusion ## (Please not install **NON FREE**)

(Only one line with space between both)

```
sudo dnf install --nogpgcheck https://mirrors.rpmfusion.org/free/el/rpmfusion-free-release-$(rpm -E %rhel).noarch.rpm -y
```

3)

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

FFmpeg takes care of the video work. We install it now so that you don't encounter any incompatibilities later. Also install dnf utils and vlc video player for the recording we'll make on OpenMeetings:

```
sudo dnf install dnf-utils -y
```

...enable the crb repository:

```
sudo dnf config-manager --set-enabled crb
```

...and install ffmpeg and vlc:

```
sudo dnf install -y ffmpeg ffmpeg-devel vlc
```

4)

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

Java 17 is necessary for OpenMeetings 7.2.0. So we install it:

```
sudo dnf install -y java-17-openjdk
```

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
```

5)

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

OpenMeetings will need LibreOffice to convert uploaded office files to PDF. Now we can install it:

```
sudo dnf install -y libreoffice
```

6)

----- Installation of Ghostscript -----

Ghostscript allows you to present PS and PDF data on the screen: We install it:

```
sudo dnf install -y ghostscript
```

7)

----- Installation ImageMagick and Sox -----

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

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

**Sox**, work the sound. We install it::

```
sudo dnf install -y sox
```

8)

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

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:

```
sudo mysql -u root -p
```

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

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

Now we create a user with all permission on this open720 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 ..... 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/open720. All the following information will be based on this directory:

```
cd /opt
```

...download the OpenMeetings file:

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

```
sudo tar xzvf apache-openmeetings-7.2.0.tar.gz
```

...and rename the obtained folder:

```
sudo mv apache-openmeetings-7.2.0 open720
```

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/8.0.30/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/open720/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 after create the folder init.d:

```
sudo mkdir -p /etc/init.d
```

```
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/open720, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open720
```

...to

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

11)

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

Restart MariaDB:

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

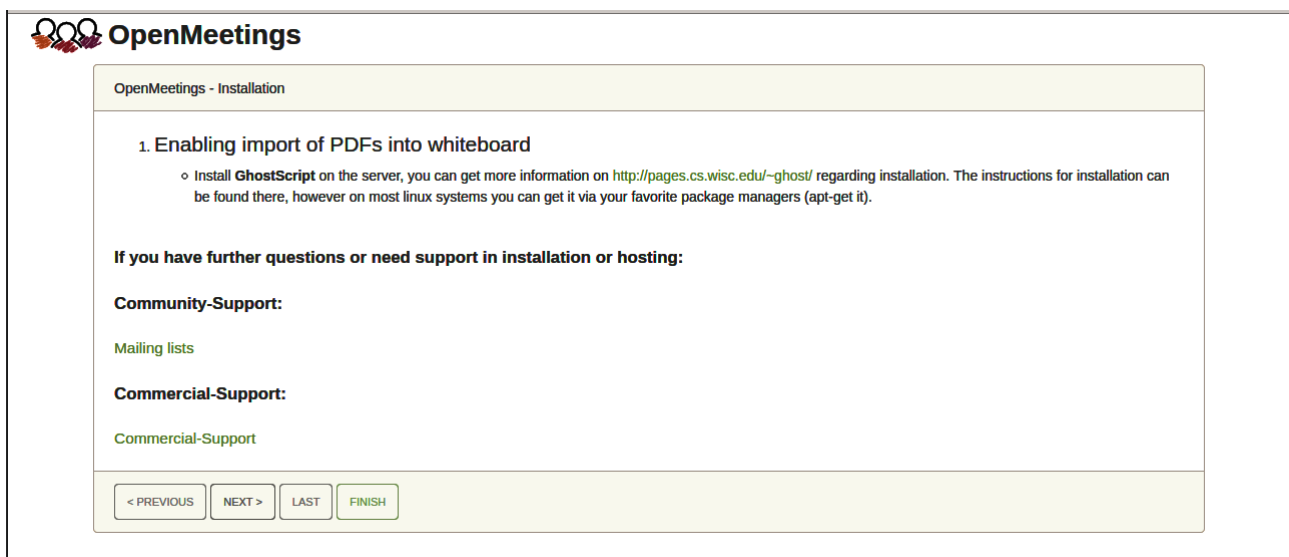
...and run tomcat-OpenMeetings:

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

...wait a minimum of 30 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:



**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

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

The screenshot shows the 'OpenMeetings - Installation' window. The title bar includes the OpenMeetings logo and the text 'OpenMeetings'. The main content area is titled 'DB configuration' and contains a 'Recommendation for production environment' section. This section states that the default is the integrated H2 database, but for production, MySQL, PostgreSQL, IBM DB2, MSSQL, or Oracle are recommended. A note in an orange box asks for unpredictable DB login and a strong password. Below this, the 'Choose DB type' dropdown is set to 'H2', and the 'Specify the name of the database' field contains '/omdb'. A 'CHECK' button is on the right. At the bottom, there are navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'.

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

This screenshot shows the same 'OpenMeetings - Installation' window, but with 'MySQL' selected in the 'Choose DB type' dropdown. The 'Specify the name of the database' field now contains 'openmeetings'. Other fields are filled: 'Specify DB host' is 'localhost', 'Specify DB port' is '3306', 'Specify DB user' is empty, and 'Specify DB password' is empty. The 'CHECK' button remains on the right. The navigation buttons at the bottom are the same as in the previous screenshot.

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



**Specify the name of the database** = open720

**Specify DB user** = hola

**Specify DB password** = 1a2B3c4D

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

The screenshot shows the 'OpenMeetings - Installation' configuration screen. It features a header with the OpenMeetings logo and title. Below the header, the page is divided into two main sections: 'Userdata' and 'Group(Domains)'. The 'Userdata' section contains five input fields: 'Username', 'Userpass', 'EMail', 'User Time Zone' (a dropdown menu currently set to 'Europe/Madrid'), and 'Name'. The 'Group(Domains)' section is currently empty. At the bottom of the page, there are four navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and '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** = 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 - 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>  | == | <b>john@gmail.com</b>                       |
| <b>SMTP-Server</b>                                       | == | <b>smtp.gmail.com</b>                       |
| <b>SMTP-Server Port (default SmtP-Server Port is 25)</b> | == | <b>587</b>                                  |
| <b>SMTP-Username</b>                                     | == | <b>john@gmail.com</b>                       |
| <b>SMTP-Userpass</b>                                     | == | <b>password of john@gmail.com</b>           |
| <b>Enable TLS in Mail Server Auth</b>                    | == | <b>...turn green the button to activate</b> |
| <b>Default Language</b>                                  | == | <b>...select your language</b>              |

...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:

**OpenMeetings**

OpenMeetings - Installation

*Converters*

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ  CHECK

FFMPEG Path ⓘ  CHECK

SoX Path ⓘ  CHECK

OpenOffice/LibreOffice Path for jodconverter ⓘ  CHECK

*see also Installation*

< PREVIOUS   NEXT >   LAST   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** == [/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. We will leave it as is:

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 - Installation

Please click "Finish" button to start installation!

< 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/tomcat34 restart`

OpenMeetings - Installation

**Enter the Application**

Database was changed, please restart application to avoid possible issues

**Mailing list**

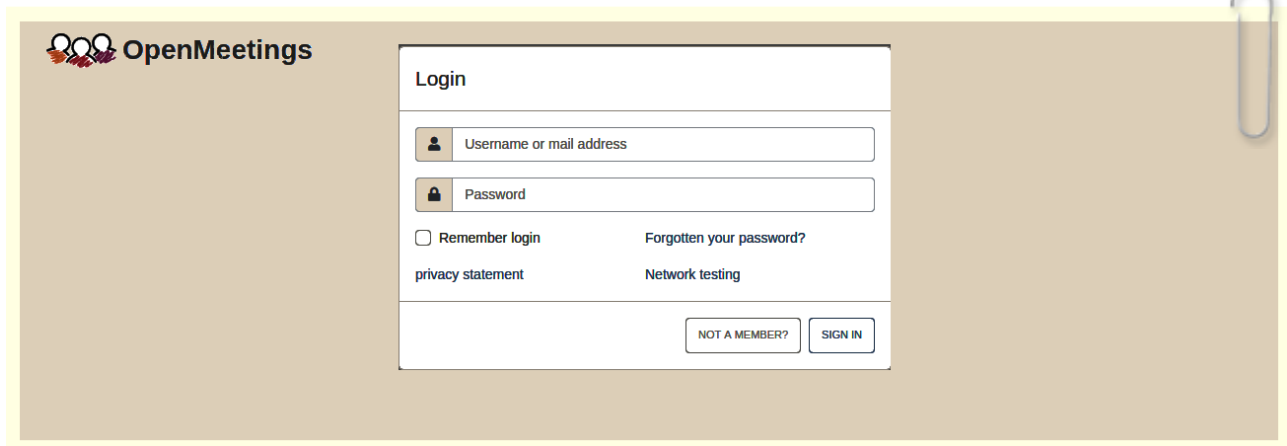
<https://openmeetings.apache.org/mailling-lists.html>

**There are some companies that also offer commercial support for Apache OpenMeetings:**

<https://openmeetings.apache.org/commercial-support.html>

< PREVIOUS   NEXT >   LAST   FINISH

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 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/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, needed 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:

```
sudo systemctl start podman.service
```

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

```
sudo podman stop kms
```

```
sudo 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:

```
sudo 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)

```
sudo 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/...](https://docker.io/kurento/))

If you made the installation of `/opt/om_data` in another path, please edit the script called "tomcat34" downloaded at step 10:

```
sudo 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:

```
sudo /etc/init.d/tomcat34 restart
```

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

```
sudo podman start kms
```

14)

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

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

```
sudo dnf 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:

```
751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXXXX
```

...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:

```
verbose
```

```
use-auth-secret
```

```
static-auth-secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXXXX
```

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

`realm=your_real_domaing` ...here your real domain

`stale-nonce=0` ....modify 600 to zero

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

`simple-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 7.2.0 with Kurento media server-----

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

`sudo 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=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...above, in:

`kurento.turn.secret=751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...replace the line: `751c45cae60a2839711a94c8d6bf0089e78b2149ca602fdXXXXXXXXXXXXXXXXXX`

...by 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 podman stop kms
```

```
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`

Kurento: `sudo podman 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 with IPTables, these are the commands (Only as orientation):

```
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 running 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 to login:

<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 7.2.0 on AlmaLinux 9](#)

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**

OpenMeetings Contacts and messages | Profile | Logout | Report a bug | About

HOME ▾ ROOMS ▾ RECORDINGS ▾ ADMINISTRATION ▾

**Welcome**

**Hello firstname lastname**

Timezone Europe/Berlin  
Unread messages 0  
[Edit your profile](#)

[UPLOAD NEW IMAGE](#)

**Help and support**

Project website (<https://openmeetings.apache.org>)  
User mailing list (<https://openmeetings.apache.org/mailling-lists.html>)  
[Network testing](#)  
[Check setup](#)

**My rooms**

My conference room (for 1-16 users) ?

Users 0 / 25 ↻

*Click on a room to get the room details*

**Room #**

**Comment**

Users in this room

My presentation room (for 1-120 users) ?

Users 0 / 120 ↻

**Admin functions**

Admin functions

Chat

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

OpenMeetings Contacts and messages | Profile | Logout | Report a bug | About

HOME ▾ ROOMS ▾ RECORDINGS ▾ ADMINISTRATION ▾

50 ◀◀ ◀ ▶▶ ▶▶

| 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**

Type:

Key:

Value:

Last update:

Updated by:

Comment:

1

2

3

Chat

And with this we conclude.

-----

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 7.2.0 on Ubuntu 18.04 lts and other on Ubuntu 20.04 lts, it is at your disposal.

Can find it here:

[Live iso download](#)

Thank you.

Alvaro Bustos (PMC and Committer at Apache OpenMeetings).

