



## Installation of Apache OpenMeetings 5.0.0 on Arch Linux

This tutorial is based on a fresh installations of

**arch-anywhere-2.2.9-x86\_64.iso**

Arch Anywhere, it is a pure Arch Linux, with the only difference that the installation it is graphical.

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)

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

Update the system:

`sudo pacman -Syu`

2)

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

Java 11 it is necessary for OpenMeetings 5.0.0. We'll install Open Java 11.

```
sudo pacman -S jdk11-openjdk
```

Do OpenJava 11 as default (maybe is another java versions installed):

```
sudo archlinux-java set java-11-openjdk
```

3)

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

OpenMeetings will need LibreOffice to convert to pdf the uploaded office files.

We install it:

```
sudo pacman -S libreoffice
```

...press **Enter** to any question.

4)

----- **Installation of necessary packages and libraries** -----

Will install packages and libraries that we'll need later:

(Only one line with space between each one of them)

```
sudo pacman -S libjpeg ghostscript unzip gcc neurses make zlib libtool bison bzip2 file-roller  
autoconf automake pkgconfig tomcat-native nmap curl freetype2 nano base-devel fakeroot jshon  
expac git wget
```

...press **Enter** to any question.

5)

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

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

```
sudo pacman -S imagemagick
```

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

```
sudo nano /etc/ImageMagick-7/policy.xml
```

...and comment the following lines, if is not, , near to bottom file:

```
<policy domain="module" rights="none" pattern="{PS,PDF,XPS}" />
```

```
<policy domain="delegate" rights="none" pattern="gs" />
```

...to

```
<!-- <policy domain="module" rights="none" pattern="{PS,PDF,XPS}" /> -->
```

```
<!-- <policy domain="delegate" rights="none" pattern="gs" /> -->
```

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

**Sox**, work the sound. Install it:

```
sudo pacman -S sox
```

6)

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

FFmpeg work with video. Will install it and vlc to play the recordings that we'll make in OpenMeetings:

```
sudo pacman -S ffmpeg vlc
```

7)

#### ----- Installation of MariaDB data server -----

MariaDB is the data server. We install it:

```
sudo pacman -S mariadb
```

Initialize data directories:

```
sudo mysql_install_db --user=mysql --basedir=/usr --datadir=/var/lib/mysql
```

...and run MariaDB:

```
sudo systemctl start mysqld
```

Give a password to root MariaDB. Please replace `new-password` by your own and remember it:

```
sudo mysqladmin -u root password new-password
```

Access to MariaDB:

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

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

Make a database called `open500`, for OpenMeetings. User password must be of 8 digits minimum:

```
MariaDB [(none)]> CREATE DATABASE open500 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this `open500` database:

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open500.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

```
* open500 ..... name of the database  
* hola ..... user for that database  
* 1a2B3c4D .....password of this user
```

You can change the data, but...remember it! Later we'll need it.  
We leave MariaDB:

```
MariaDB [(none)]> quit
```

8)

### ----- Installation of OpenMeetings -----

We'll install OpenMeetings in `/opt/open500`. All the following information will be based on this directory:

```
cd /opt
```

...download the OpenMeetings file:

```
sudo wget https://downloads.apache.org/openmeetings/5.0.0/bin/apache-openmeetings-5.0.0.tar.gz
```

...uncompress it:

```
sudo tar xzvf apache-openmeetings-5.0.0.tar.gz
```

...rename the obtained folder:

```
sudo mv apache-openmeetings-5.0.0 open500
```

...and we do to **nobody** owner of the folder installation:

```
sudo chown -R nobody /opt/open500
```

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/8.0.20/mysql-connector-java-8.0.20.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-java-8.0.20.jar /opt/open500/webapps/openmeetings/WEB-INF/lib
```

9)

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

We make the folder /etc/init.d where put the Tomcat-OpenMeetings run script:

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

Download the script to run tomcat-OpenMeetings:

```
cd /opt
```

```
sudo wget https://cwiki.apache.org/confluence/download/attachments/27838216/tomcat3
```

...copy it to where must be:

```
sudo cp tomcat3 /etc/init.d/
```

...concede execution permission:

```
sudo chmod +x /etc/init.d/tomcat3
```

If you would made the installation in any other different path to /opt/open500, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open500
```

...to

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

10)

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

Restart MariaDB:

```
sudo systemctl restart mysqld
```

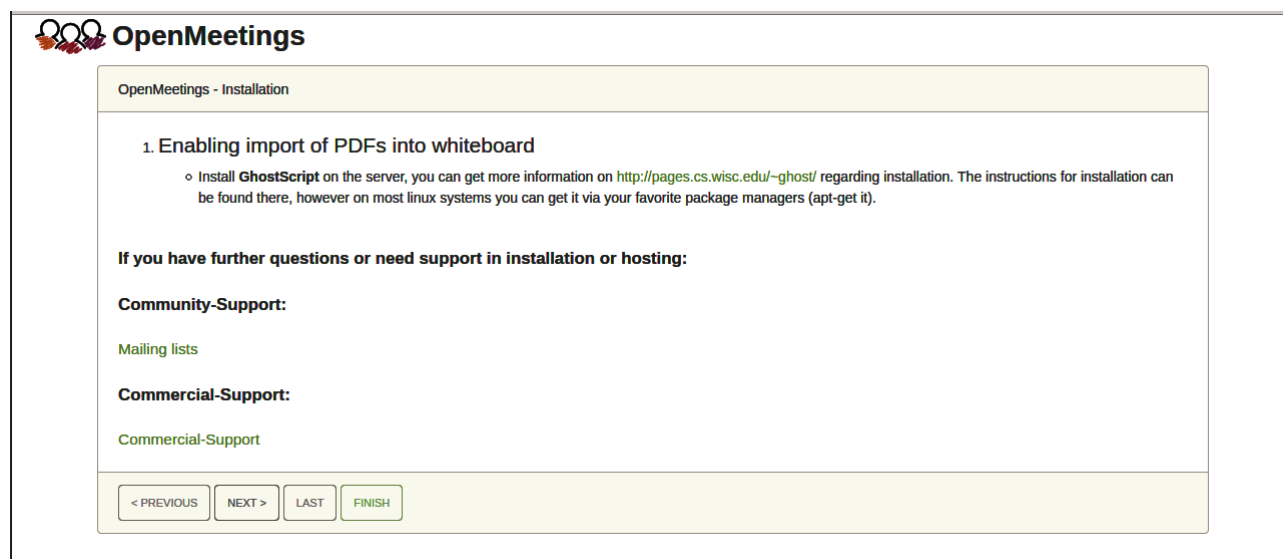
...and run tomcat-OpenMeetings:

```
sudo /etc/init.d/tomcat3 start
```

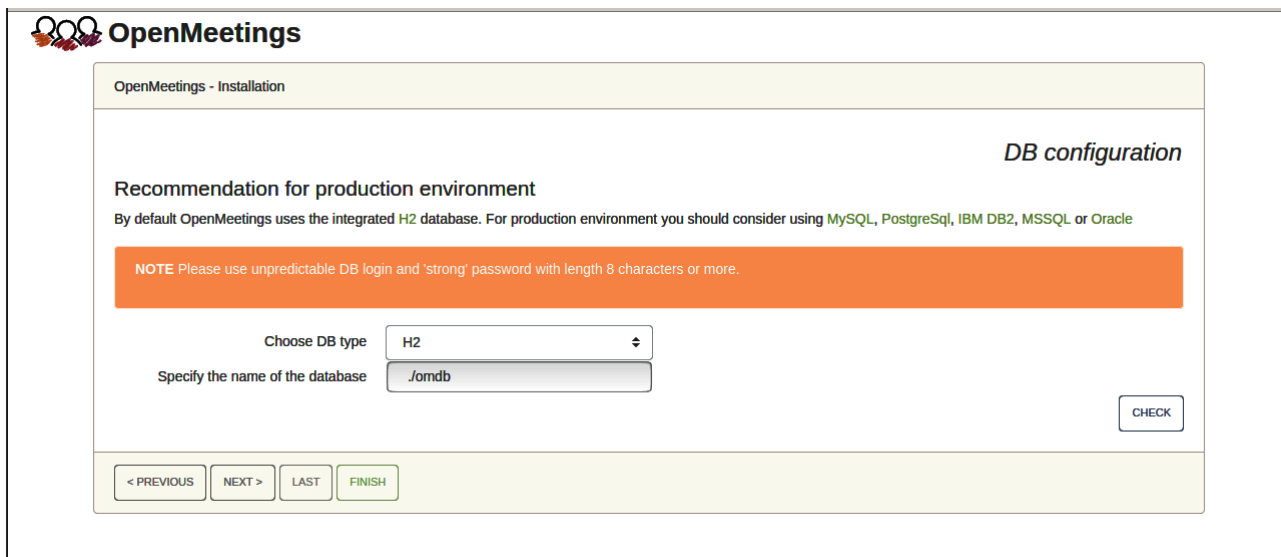
...wait around 40 seconds for running Tomcat completely. Then, go with the browser to:

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

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



...push 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

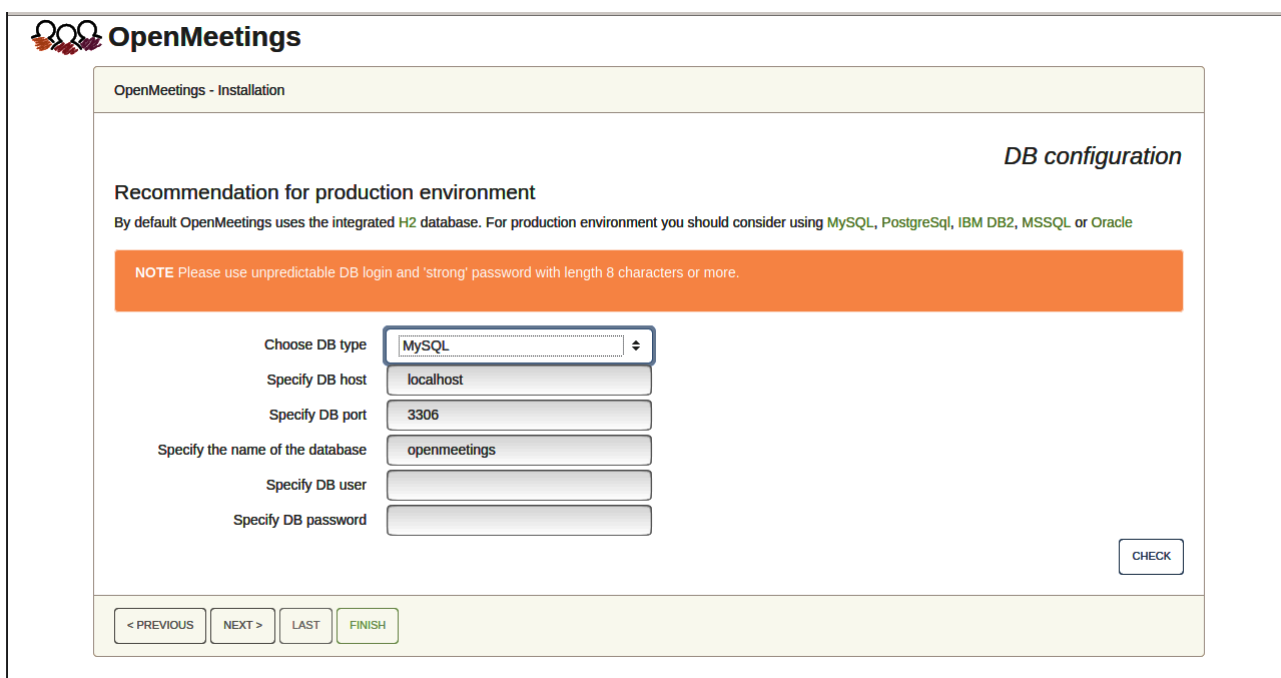
**NOTE** Please use unpredictable DB login and 'strong' password with length 8 characters or more.

Choose DB type:

Specify the name of the database:

< PREVIOUS   NEXT >   LAST   FINISH

...so, 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 7:

**Specify the name of the database** = **open500**

**Specify DB user** = **hola**

**Specify DB password** = **1a2B3c4D**

If you choose different data please type it here.

Press “Next >” button, and will go to:

The screenshot shows the 'OpenMeetings - Installation' configuration page. It features a header with the OpenMeetings logo and title. Below the header, there is a form with the following fields and labels:

- Username**: A text input field.
- Userpass**: A text input field.
- EMail**: A text input field.
- User Time Zone**: A dropdown menu currently showing 'Europe/Madrid'.
- Name**: A text input field.

On the right side of the form, there are two labels: *Userdata* and *Group(Domains)*. At the bottom of the form, there are four 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 this 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

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:

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>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Server</b>	==	<a href="mailto:smtp@gmail.com">smtp@gmail.com</a>
<b>SMTP-Server Port (default SmtP-Server Port is 25)</b>	==	<a href="#">587</a>
<b>SMTP-Username</b>	==	<a href="mailto:john@gmail.com">john@gmail.com</a>
<b>SMTP-Userpass</b>	==	<a href="#">password of john@gmail.com</a>
<b>Enable TLS in Mail Server Auth</b>	==	<a href="#">...turn green the button to activate</a>
<b>Default Language</b>	==	<a href="#">...select your language</a>

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

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** == [/usr/bin](#)

**FFMPEG Path** == [/usr/bin](#)

**SOX Path** == [/usr/bin](#)

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

Once completed the paths, please click the “Next >” button and move on to another page that 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, touch the button “**Next >**” Will show this window:

OpenMeetings - Installation

Please click "Finish" button to start installation!

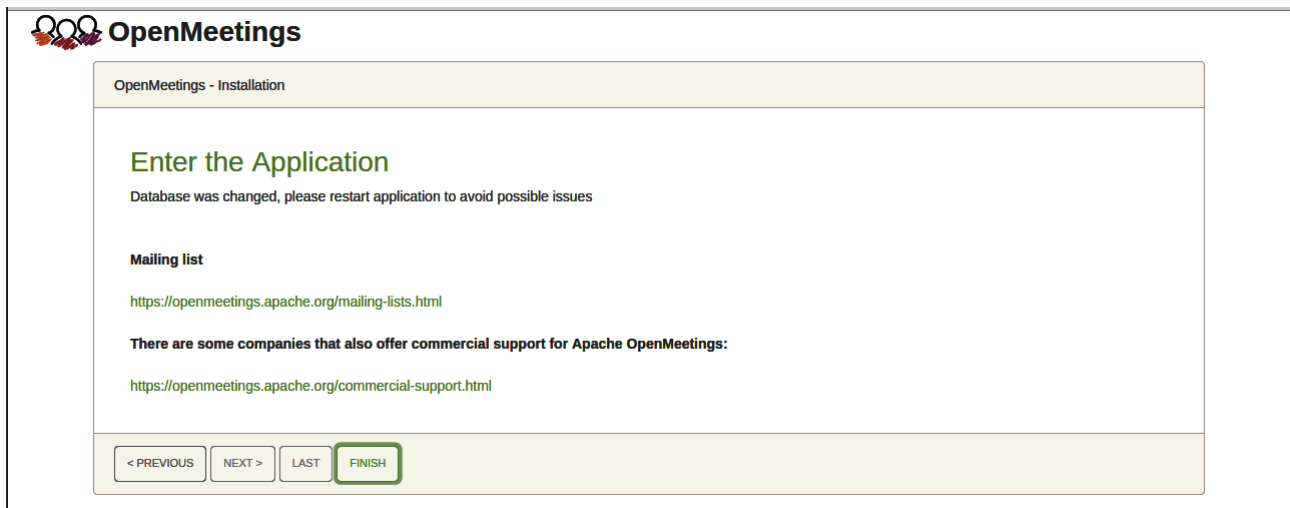
0%

< PREVIOUS   NEXT >   LAST   FINISH

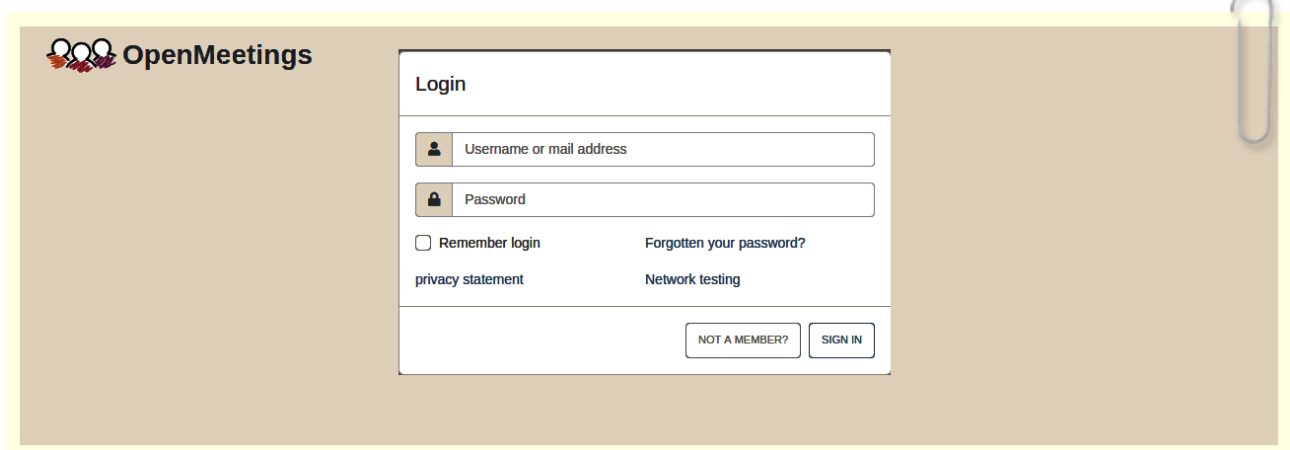
Press **Finish** button...wait a seconds until the tables are fill in our database.

When is concluded, this another page will appear. **Don't** clic on **Enter the Application**.  
First is needed to restart tomcat server:

`sudo /etc/init.d/tomcat3 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 and Kurento-Media-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 Docker -----

We'll install Docker as recipient for kurento-media-server.

```
su
```

```
pacman -S docker
```

Add your user system to docker group and so can run docker without be root.  
Replace **user** by your real system user name:

```
gpasswd -a user docker
```

```
su - ${USER}      ...to take effect the changes
```

```
su
```

...stop OpenMeetings and MariaDB:

```
/etc/init.d/tomcat3 stop
```

```
systemctl stop mysqld
```

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

```
reboot
```

**12)**

### ----- Instalation of Kurento-Media-Server -----

After had rebooted the computer, we'll install Kurento-Media-Server need it for cam, mic-audio, recordings and share dektop.

First run docker:

```
sudo systemctl start docker.service
```

...and install kurento-media-server:

(Only one line, with space between 1 and 2, and without space between 2 and 3)

```
sudo docker run -d --name kms -p 8888:8888 --mount
type=bind,source=/opt/open500/webapps/openmeetings/data,target=/opt/open500/webapps/
openmeetings/data kurento/kurento-media-server
```

...if you does the OpenMeetings installation in a different path, then please replace the brown text.

To know the name and the number ID of our kurento:

```
sudo docker ps -a
```

...the name it is: kms. We need it to run kurento.

Run kurento-media-server:

```
sudo docker start kms
```

Run MariaDB for OpenMeetings:

```
sudo systemctl start mysqld
```

...and launch tomcat-OpenMeetings:

```
sudo /etc/init.d/tomcat3 start
```

 ...wait around 40 seconds to tomcat run completely.

Now you can access OpenMeetings with all the functions at your disposal.  
Clic the link down and type the user name and his password to login:

<https://localhost:5443/openmeetings>

Can connect to this server from Internet or LAN is necessary open these ports:

**5443 8888**

# After installing OpenMeetings, you still need to install Coturn (Turn server), for which you can download the following tutorial and follow it from step 5:

[Installation SSL certificates and Coturn for OpenMeetings 5.0.0 on Arch Linux](#)

13)

----- **Configuration of OpenMeetings** -----

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

## Administration → Configuration

The screenshot shows the OpenMeetings user interface. At the top, there is a navigation bar with the following items: HOME, ROOMS, RECORDINGS, and ADMINISTRATION. The ADMINISTRATION menu is highlighted with a red arrow. Below the navigation bar, there is a 'Welcome' section with a user profile card. The profile card displays a question mark icon, the text 'Hello firstname lastname', and other details like 'Timezone Europe/Berlin' and 'Unread messages 0'. Below the profile card, there is a 'Help and support' section with links to the project website, user mailing list, network testing, and check setup. Further down, there is a 'My rooms' section with two room cards: 'My conference room (for 1-16 users)' and 'My presentation room (for 1-120 users)'. Each room card has an 'ENTER' button and a 'Click on a room to get the room details' link. Below the room cards, there is an 'Admin functions' section 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 Configuration page. At the top, there is a navigation bar with the following items: HOME, ROOMS, RECORDINGS, and ADMINISTRATION. Below the navigation bar, there is a search bar and a table of configuration items. The table has three columns: ID, Key, and Value. The table contains 22 rows of configuration items. To the right of the table, there is a 'Configuration' form with fields for Type, Key, Value, Last update, Updated by, and Comment. Red arrows point to specific elements: arrow 1 points to the 'path.office' row in the table; arrow 2 points to the 'Value' field in the configuration form; arrow 3 points to the 'Type' 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

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

<http://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 5.0.0 on Ubuntu 18.04 is at your disposal. Can find it here:

[Live iso download](#)

Thank you.

Alvaro Bustos (PMC and Committer at Apache OpenMeetings).