



## Installation of Apache OpenMeetings 5.0.1 on openSUSE Leap 15.2

This tutorial is made based on fresh installations of

**openSUSE-Leap-15.2-DVD-x86\_64.iso**

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

It is done step by step.

Starting...

1)

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

Update operative system:

[zypper refresh](#)

[zypper update](#)

2)

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

Java 11 is necessary to work Tomcat-OpenMeetings 5.0.1. So, we install OpenJava 11:

```
zypper install -y java-11-openjdk java-11-openjdk-headless update-alternatives
```

Now we'll see if is installed more than one java version. If it is, then please select our OpenJava 11:

```
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 unzip freetype freetype-devel ncurses ncurses-devel make libz1  
zlib-devel libtool bzip2 file-roller git autoconf automake pkg-config nmap 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/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_15.2/ 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
libogg-devel libtheora-devel libvorbis-devel libvpx-devel fdk-aac-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 server -----**

MariaDB is the data 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 open501 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 open501.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

- \* open501 .....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/open501. All the following information will be based on this directory.

```
cd /opt
```

...download the OpenMeetings file:

```
wget https://downloads.apache.org/openmeetings/5.0.1/bin/apache-openmeetings-5.0.1.tar.gz
```

...uncompress it:

```
tar xzvf apache-openmeetings-5.0.1.tar.gz
```

...and rename the obtained folder:

```
mv apache-openmeetings-5.0.1 open501
```

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

...and copy it to where must be:

```
cp /opt/mysql-connector-java-8.0.20.jar /opt/open501/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/tomcat3
```

...copy it to where must be:

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

...concede execution permission:

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

If you made the installation in any other different path to /opt/open501, please edit the script and modify the line:

```
CATALINA_HOME =/opt/open501
```

...to

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

10)

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

Restart mariadb, (be connected to Internet):

```
systemctl restart mysql.service
```

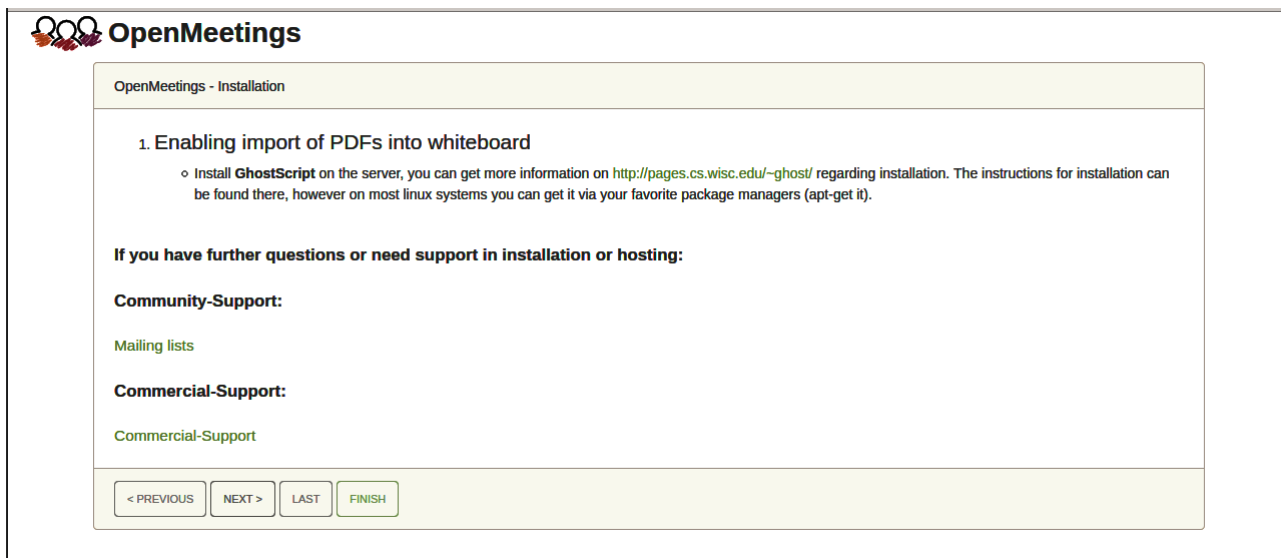
...and run tomcat-OpenMeetings, please, in a new window terminal:

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

...wait about 40 seconds in order tomcat can run completely. Then, go with the browser to:

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

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

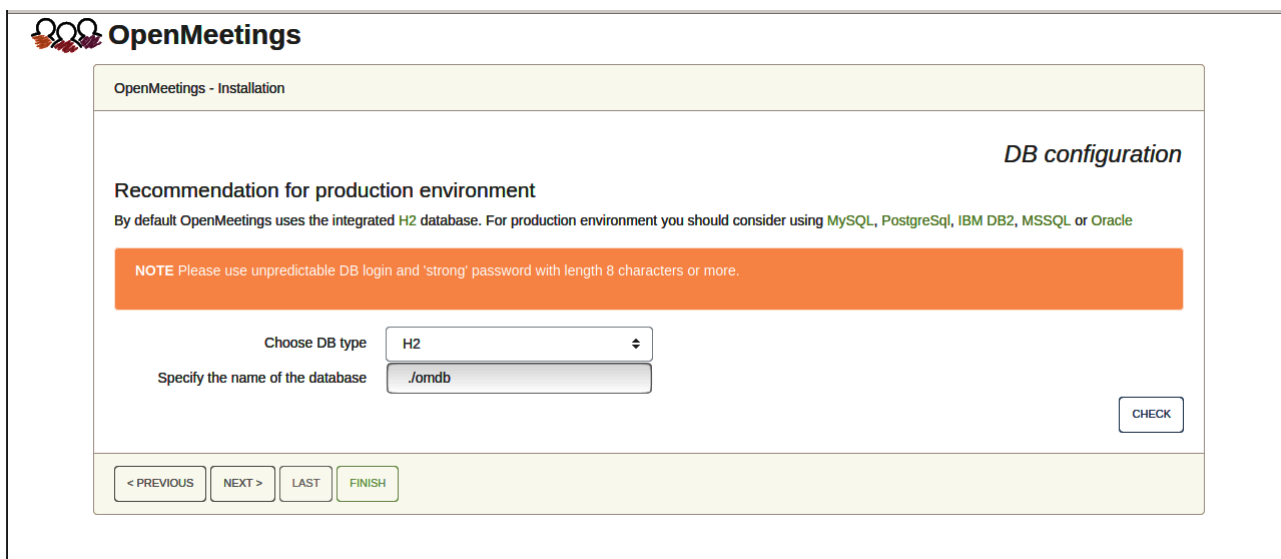


The screenshot shows the 'OpenMeetings - Installation' page. The main heading is '1. Enabling import of PDFs into whiteboard'. Below it, there is a bullet point: 'Install GhostScript on the server, you can get more information on <http://pages.cs.wisc.edu/~ghost/> regarding installation. The instructions 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 instructions, there is a section titled 'If you have further questions or need support in installation or hosting:'. Under this, there are two sub-sections: 'Community-Support:' with a link to 'Mailing lists', and 'Commercial-Support:' with a link to 'Commercial-Support'.

At the bottom of the page, there are four navigation buttons: '< PREVIOUS', 'NEXT >', 'LAST', and 'FINISH'.

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



The screenshot shows the 'OpenMeetings - Installation' page, specifically the 'DB configuration' section. The heading is 'DB configuration'. Below it, there is a section titled 'Recommendation for production environment' with the text: 'By default OpenMeetings uses the integrated H2 database. For production environment you should consider using MySQL, PostgreSql, IBM DB2, MSSQL or Oracle'.

Below this, there is a note in an orange box: 'NOTE Please use unpredictable DB login and 'strong' password with length 8 characters or more.'

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'. A 'CHECK' button is located to the right of the input fields.

At the bottom of the page, there are four navigation 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 8:

**Specify the name of the database** = open501

**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:

**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** = 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

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>	==	<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 can modify 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/local/bin

**SOX Path** == /usr/bin

**OpenOffice/LibreOffice Path for  
jodconverter** == /usr/lib64/libreoffice

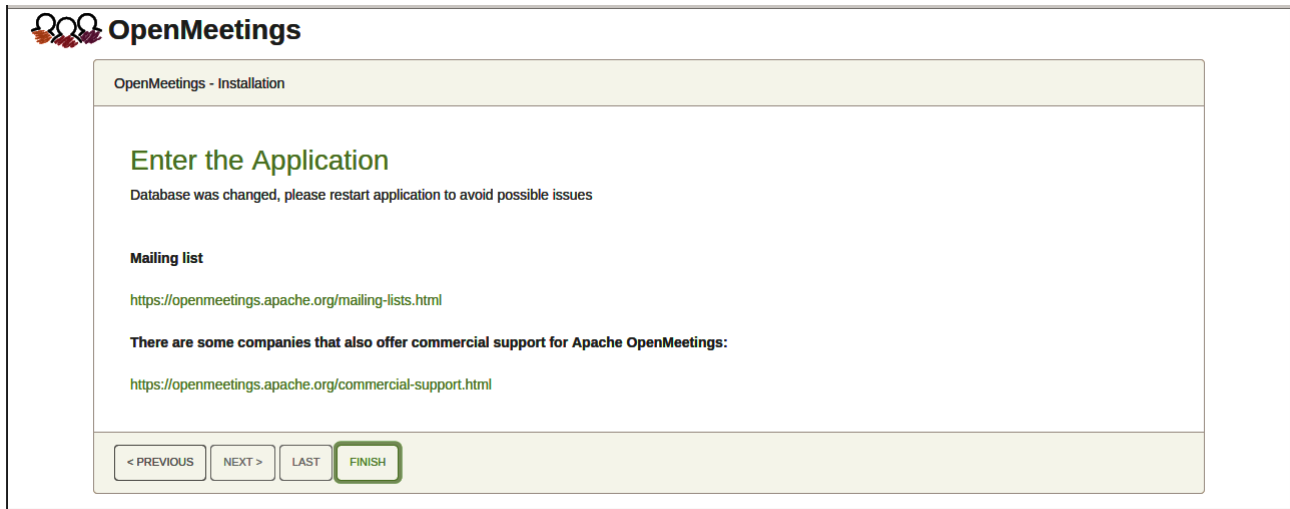
As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**.

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

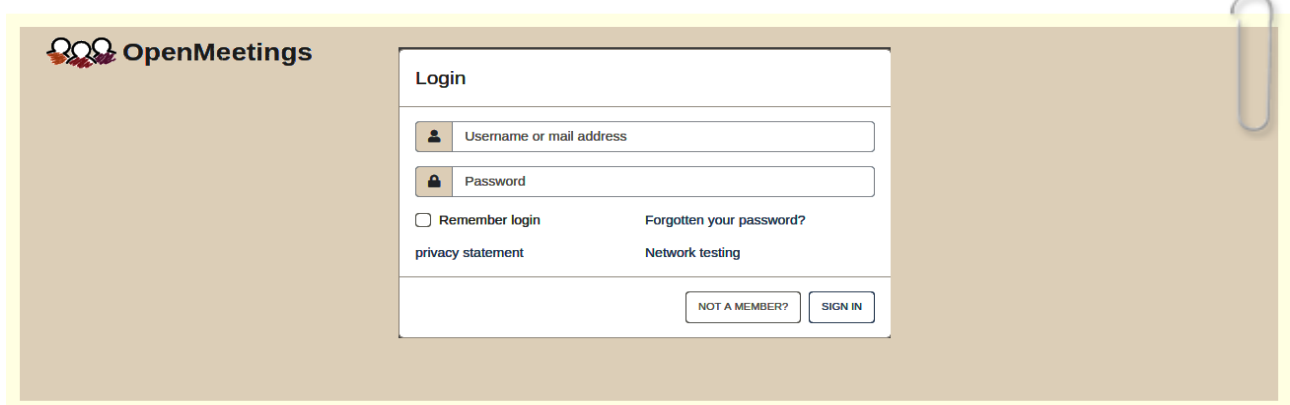
Now push the button “**Next >**” and will show this window:

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 need it to restart the server. Please, open a new terminal and restart tomcat:

`/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 libraries and video codecs -----

We'll install some libraries and video codecs for can see rightly the video recordings we'll make at rooms:

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

```
zypper install
libvidstab1_1-1.1.0-lp151.1.1.x86_64 libvidstab1_1-1.1.0-lp151.1.1.x86_64
libavutil55-3.4.4-lp151.3.3.x86_64 libxvidcore4-1.3.5-lp151.2.2.x86_64
libavresample3-3.4.4-lp151.3.3.x86_64 libswresample2-3.4.4-lp151.3.3.x86_64
libswscale4-3.4.4-lp151.3.3.x86_64 libpostproc54-3.4.4-lp151.3.3.x86_64
libavcodec57-3.4.4-lp151.3.3.x86_64 vlc-codecs-3.0.7.1-lp151.6.5.1.x86_64
libavformat57-3.4.4-lp151.3.3.x86_64 libavfilter6-3.4.4-lp151.3.3.x86_64
libavdevice57-3.4.4-lp151.3.3.x86_64
```

12)

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

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

```
zypper install -y 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
```

...stop OpenMeetings, MariaDB and Docker:

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

```
systemctl stop mysql.service
```

```
systemctl stop docker.service
```

...and reboot the machine. After this, please follow in the step 13:

```
reboot
```

13)

### ----- Installation 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:

```
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)

```
docker run -d --name kms -p 8888:8888 --mount  
type=bind,source=/opt/open501/webapps/openmeetings/data,target=/opt/open501/webapps/  
openmeetings/data kurento/kurento-media-server
```

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

Run kurento-media-server:

```
docker start kms
```

Run MariaDB for OpenMeetings:

```
systemctl start mysql.service
```

...and launch tomcat-OpenMeetings:

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

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

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 5.0.1 on openSUSE Leap 15.2](#)

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

```
systemctl start mysql.service
```

```
systemctl start docker.service
```

```
docker start kms
```

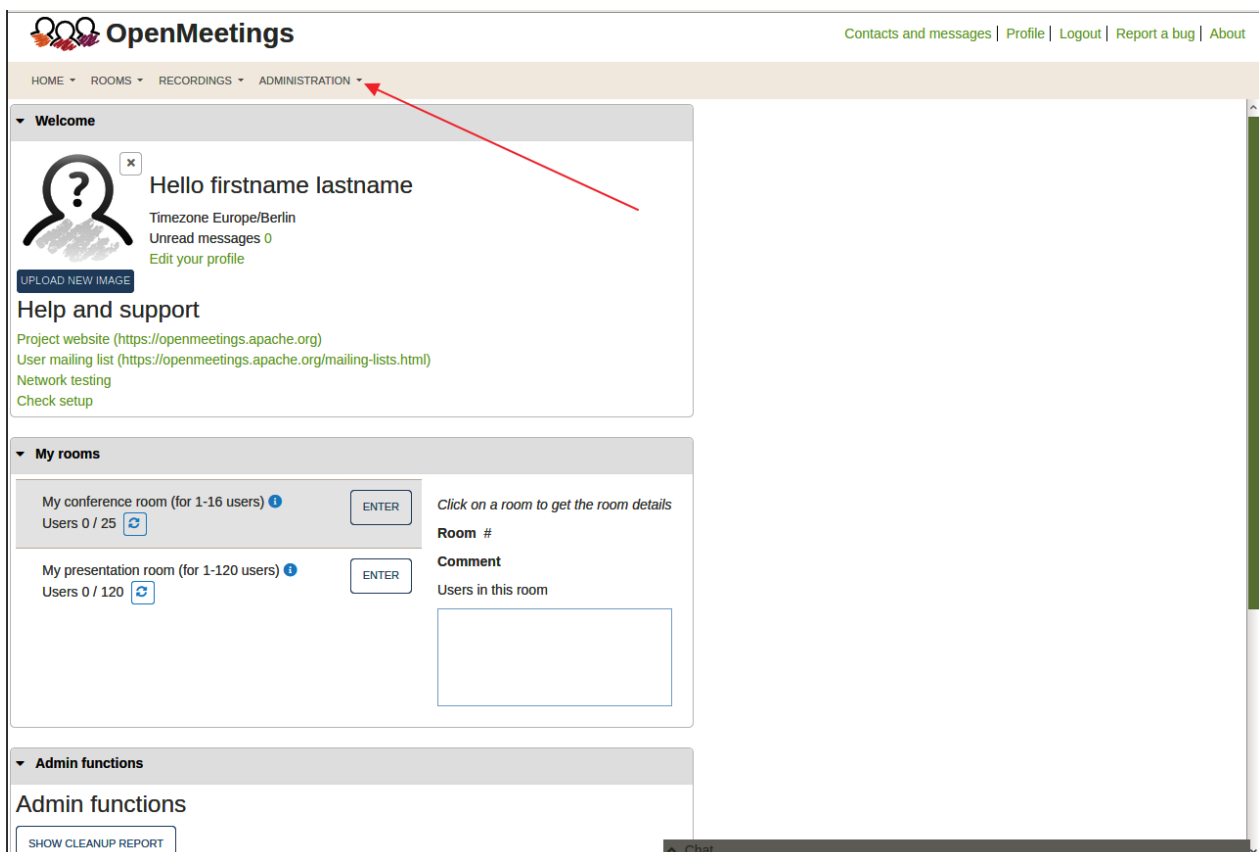
```
/etc/init.d/tomcat3 start
```

14)

----- 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, the OpenMeetings logo is on the left, and navigation links for 'Contacts and messages', 'Profile', 'Logout', 'Report a bug', and 'About' are on the right. Below the header is a navigation bar with 'HOME', 'ROOMS', 'RECORDINGS', and 'ADMINISTRATION'. A red arrow points to the 'ADMINISTRATION' dropdown menu. The main content area is divided into three sections: 'Welcome' with a user profile card, 'My rooms' with a list of conference and presentation rooms, and 'Admin functions' with a 'SHOW CLEANUP REPORT' button. A 'Chat' window is visible at the bottom right.

...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. Three red arrows indicate the sequence of actions: arrow 1 points from the 'path.office' row in the table to the 'Key' field in the form; arrow 2 points from the 'Value' field in the form to the 'path.office' row; arrow 3 points from the 'Type' dropdown in the form to the 'crypt.class.name' row in the table.

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

Configuration form fields: Type (STRING), Key, Value, Last update, Updated by, Comment.

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

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



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 5.0.1 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).