



## **Installation of Apache OpenMeetings 5.0.0-M2 on CentOS 8**

This tutorial is made based on fresh installations of

**CentOS-8-x86\_64-1905-dvd1.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.

22-11-2019

Starting...

1)

We access to terminal as root::

`su`

....will ask for root password.

Install nano editor:

```
yum 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:

```
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 yum install https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
```

**## RPMFusion ##**

```
sudo yum install https://download1.rpmfusion.org/free/el/rpmfusion-free-release-8.noarch.rpm
```

3)

**----- Installation of OpenJava -----**

Java 11 is necessary for OpenMeetings 5.0.0-M2. So we install OpenJava 11:

```
sudo yum install -y java-11-openjdk-devel
```

Maybe you have installed various versions of Java. Please select the just installed OpenJava 11:

```
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.

```
cd /opt
```

(Only one line without space between them))

```
sudo wget ftp://mirror.7he.at/pub/tdf/libreoffice/stable/6.3.3/rpm/x86_64/LibreOffice_6.3.3_Linux_x86-64_rpm.tar.gz
```

```
sudo tar -xvf LibreOffice_6.3.3*
```

```
cd LibreOffice_6.3.3.2*
```

```
sudo yum localinstall RPMS/*.rpm
```

```
cd /opt
```

5)

----- Installation of Ghostscript, necessary packages and libraries -----

Will install packages and libraries we'll need later:

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

```
sudo yum install -y libjpeg libjpeg-devel freetype freetype-devel unzip gcc gcc-c++ ncurses
ncurses-devel make zlib zlib-devel libtool bison openssl-devel bzip2 bzip2-devel file-roller git
autoconf automake pkgconfig nmap vlc
```

We access to terminal as root:

```
su
```

...will ask for root password.

With a script we should compile Ghostscript 9.27, free of security hole:

```
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-9.27
```

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
```

**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 with space between each one of them)

```
yum install -y glibc alsa-lib-devel faad2 faad2-devel gsm imlib2 imlib2-devel vorbis-tools  
theora-tools autoconf automake cmake freetype-devel gcc gcc-c++ 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_centos8.sh
```

...concede execution permission to it:

```
chmod +x ffmpeg_centos8.sh
```

...and run it. The compilation will spend about 30 minutes:

```
./ffmpeg_centos8.sh
```

All the compiled files will be installed at: /usr/local/bin

8)

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

Exit as root:

```
exit
```

MariaDB is the database 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. User password must be of 8 digits minimum:

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

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

```
MariaDB [(none)]> CREATE DATABASE open502 DEFAULT CHARACTER SET 'utf8';
```

Now we create a user with all permission on this open502 database.

(Only one line with space between both)

```
MariaDB [(none)]> GRANT ALL PRIVILEGES ON open502.* TO 'hola'@'localhost'  
IDENTIFIED BY '1a2B3c4D' WITH GRANT OPTION;
```

\* **open502** ..... 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/open502. All the following information will be based on this directory:

```
cd /opt
```

...download the OpenMeetings file:

(Only one line without space between both)

```
sudo wget https://dist.apache.org/repos/dist/release/openmeetings/5.0.0-M2/bin/apache-openmeetings-5.0.0-M2.tar.gz
```

```
sudo tar xzvf apache-openmeetings-5.0.0-M2.tar.gz
```

...and rename the obtained folder:

```
sudo mv apache-openmeetings-5.0.0-M2 open502
```

Download and install the connector between OpenMeetings and MariaDB:

(Only one line without space between both)

```
sudo wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/8.0.16/mysql-connector-java-8.0.16.jar
```

...and copy it to where must be:

```
sudo cp /opt/mysql-connector-java-8.0.16.jar /opt/open502/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/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 made the installation in any other path to /opt/open502, please edit the script and modify the line:

```
CATALINA_HOME==/opt/open502
```

...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/tomcat3 start
```

...wait a minimum of 40 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

**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](#)

< > >> Finish

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

### OpenMeetings

**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

Check

< > >> Finish

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

**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

By default OpenMeetings uses the integrated Apache Derby 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

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

**Specify the name of the database** = [open502](#)

**Specify DB user** = [hola](#)

**Specify DB password** = [1a2B3c4D](#)

Please, press

**OpenMeetings**

**Userdata**

Username

Userpass

E-Mail

User Time Zone

**Group(Domains)**

Name

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  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**

Allow self-registering	<input checked="" type="checkbox"/>
Send Email to new registered Users	<input type="checkbox"/>
New Users need to verify their EMail	<input checked="" type="checkbox"/>
Default DB objects of all types will be created (including Rooms, OAuth2 servers etc.)	<input checked="" type="checkbox"/>
Mail-Referer	<input type="text" value="noreply@openmeetings.apache.org"/>
SMTP-Server	<input type="text" value="localhost"/>
SMTP-Server Port(default SmtP-Server Port is 25)	<input type="text" value="25"/>
SMTP-Username	<input type="text"/>
SMTP-Userpass	<input type="text"/>
Enable TLS in Mail Server Auth	<input type="checkbox"/>
Set inviter's email address as ReplyTo in email invitations	<input checked="" type="checkbox"/>
Default Language	<input type="text" value="inglés"/>

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

...the rest we can leave as is. If is necessary, can modify it as you like it.

Now press the button  and a new page will appear:

**OpenMeetings**

**Converters**

Document conversion DPI ⓘ

Document conversion JPEG Quality ⓘ

ImageMagick Path ⓘ

FFMPEG Path ⓘ

SoX Path ⓘ

OpenOffice/LibreOffice Path for jodconverter ⓘ

*see also [Installation](#)*

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


**ImageMagick Path** == /usr/bin

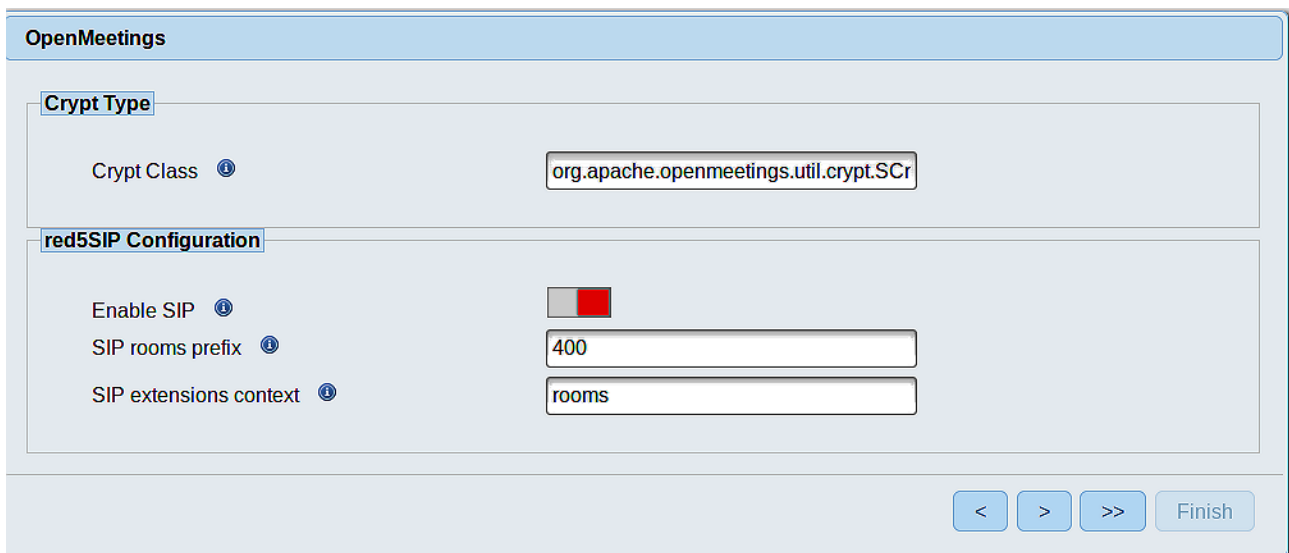
**FFMPEG Path** == /usr/local/bin

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

**OpenOffice/LibreOffice Path for jodconverter** == /opt/libreoffice6.3

As you go introducing paths, you can check if they are correct by pressing the button labeled **Check**. If it does not display any error message, that is OK.

Once completed the paths, please click the  button and move on to another page that would be to activate the SIP. We will leave it as is, unless you want to activate it knowing what it does:

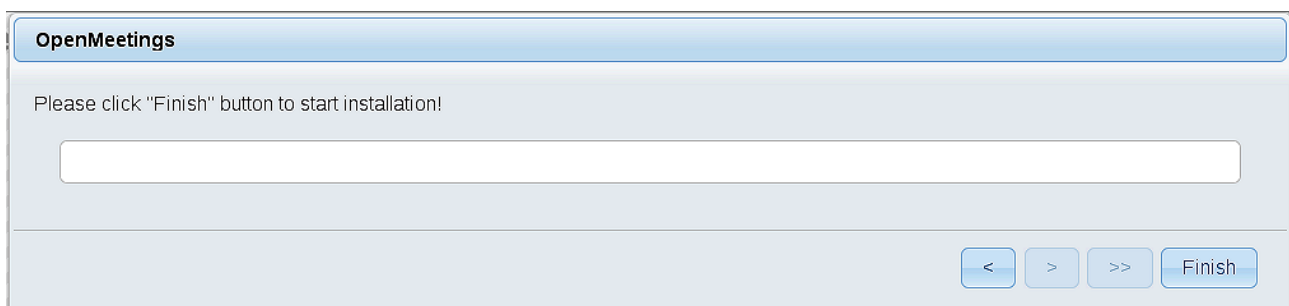


The screenshot shows the 'OpenMeetings' configuration window. It has a title bar 'OpenMeetings' and a light blue header. Below the header, there are two main sections:

- Crypt Type**: Contains a 'Crypt Class' label with an information icon and a text input field containing 'org.apache.openmeetings.util.crypt.SCr'.
- red5SIP Configuration**: Contains three items:
  - 'Enable SIP' with a checked checkbox.
  - 'SIP rooms prefix' with a text input field containing '400'.
  - 'SIP extensions context' with a text input field containing 'rooms'.

At the bottom right of the window, there are four buttons: '<', '>', '>>', and 'Finish'.

Now push the button  Will show this window:



The screenshot shows the 'OpenMeetings' window after clicking the next button. The title bar is 'OpenMeetings'. The main content area contains the text 'Please click "Finish" button to start installation!' and a large empty text input field below it. At the bottom right, there are four buttons: '<', '>', '>>', and '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/tomcat3 restart
```

### OpenMeetings

## [Enter the Application](#)

Database was changed, please restart application to avoid possible issues

If your Red5-Server runs on a different Port or on a different domain  
[alter the config values of the client](#)

### Mailing list

<http://openmeetings.apache.org/mail-lists.html>

**There are some companies that also offer commercial support for Apache OpenMeetings:**  
<http://openmeetings.apache.org/commercial-support.html>

< > >> 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 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

### Login

Username or mail address

Password

Remember login

[Forgotten your password?](#) [Network testing](#)

[Not a member?](#) [Sign in](#)

12)

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

First install some necessary libraries:

```
sudo yum install -y yum-utils device-mapper-persistent-data lvm2
```

Add the Docker repo:

```
sudo dnf config-manager --add-repo=https://download.docker.com/linux/centos/docker-ce.repo
```

...update:

```
sudo yum update
```

...install docker:

```
sudo dnf install --nobest docker-ce
```

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/tomcat3 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 room.

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/open502/webapps/openmeetings/data,target=/opt/open502/webapps/
openmeetings/data kurento/kurento-media-server
```

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

```
sudo docker start kms
```

...and run also MariaDB and tomcat-OpenMeetings:

```
sudo systemctl start mariadb.service
```

```
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>

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

**5443 8888**

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 shows the OpenMeetings web interface. At the top, there is a navigation bar with four items: Home, Rooms, Recordings, and Administration. The Administration item is highlighted with a red arrow pointing upwards. Below the navigation bar, there is a 'Welcome' section with a user profile icon (a question mark inside a circle) and the text 'Hello firstname lastname'. To the right of the profile icon, there is a button labeled 'Upload new image'. Below the profile icon, there is a link 'Edit your profile'. At the bottom of the page, there is a section titled 'Help and support'.



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

The screenshot shows the Administration section of the OpenMeetings web interface. On the left is a table of configuration items, and on the right is a configuration form for the selected item.

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	8
16	document.dpi	150
17	document.quality	90
18	path.imagemagick	
19	path.sox	
20	path.ffmpeg	
21	path.office	
22	dashboard.rss.feed1	http://mail-archives.apache.org/mod_mbox/openmeetings-user/?format=atom
23	dashboard.rss.feed2	http://mail-archives.apache.org/mod_mbox/openmeetings-dev/?format=atom
24	send.email.at.register	false
25	send.email.with.verification	false

The configuration form on the right shows the following fields:

- Type: string
- Key: path.ffmpeg
- Value: (empty text box)
- Last update: Oct 17, 2017 5:54:57 PM
- Updated by: toro
- Comment: Path To FFMPEG

Red arrows indicate the sequence of actions: 1 points to the 'path.ffmpeg' row in the table, 2 points to the 'Value' field in the form, and 3 points to the 'Save' button in the form.

-----  
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-M2 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).