



## **Installation of Apache OpenMeetings 5.0.0-M1**

on

### **Fedora 29 final**

This tutorial it is based on a fresh installation of

**Fedora-MATE\_Compiz-Live-x86\_64-29-1.2.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.

28-4-2019

**1)**

At first place, modify Selinux level security, for the installation, and install nano editor:

`su`

`dnf install nano`

`sudo nano /etc/selinux/config`

...modify:

**SELINUX=enforcing**

...to

**SELINUX=permissive**

Press **Ctrl+x** and will ask to save, press **Y**, and **Enter**, to save and leave nano's editor.

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.

```
exit ...exit as root.
```

2)

----- Update the system -----

Update the system:

```
sudo dnf update -y
```

...and reboot the machine to get effect the changes. After reboot continue at step 3:

```
sudo reboot
```

3)

----- ADD Repos -----

```
## RPM Fusion repo ##
```

(Only one line without space between them)

```
sudo su -c 'dnf install --nogpgcheck http://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-29.noarch.rpm http://download1.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-29.noarch.rpm'
```

Update again:

```
sudo dnf update -y
```

4)

----- Installation of packets and libraries -----

We install necessary packets and libraries:

(Only one line with a space between each one)

```
sudo dnf install -y libjpeg-turbo libjpeg-turbo-devel libjpeg-turbo-utils giflib-devel freetype-devel  
gcc-c++ zlib-devel libtool bison bison-devel file-roller ghostscript freetype unzip gcc ncurses make  
bzip2 wget ghostscript ncurses zlib git make automake nasm pavucontrol alsa-plugins-pulseaudio  
nmap tomcat-native 'dnf-command(versionlock)' h264enc
```

5)

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

Java is needed to work OpenMeetings 5.0.0-M1. Will install OpenJava 11.

-- Only for Fedora **32 bit** --

```
sudo dnf install java-11-openjdk.i686 java-11-openjdk-headless.i686
```

-- Only for Fedora **64 bit** --

```
sudo dnf install java-11-openjdk.x86_64 java-11-openjdk-headless.x86_64
```

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

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

...and to see if the selected version is active:

```
sudo java -version
```

6)

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

LibreOffice is installed already in the desktop-distro, but especially for server iso:

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

Is needed to convert uploaded office files to pdf.

7)

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

**ImageMagick**, work with the images files jpg, png, gif, etc. Install it:

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

**Sox**, work with the audio. Install it:

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

8)

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

FFmpeg will work the video. Will install a paquets and libraries:

(Only one line with space between 1<sup>a</sup> and 2<sup>a</sup>, together 2<sup>a</sup> and 3<sup>a</sup>)

```
sudo dnf install -y ffmpeg glibc alsa-lib-devel gsm gsm-devel imlib2 imlib2-devel libogg libvorbis  
vorbis-tools theora-tools libvpx-devel mercurial cmake curl git gstreamer1-libav gstreamer1-  
plugins-ugly
```

9)

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

MariaDB is the data server fork of MySQL.

We install it:

```
sudo dnf install -y mariadb mariadb-server
```

...and run MariaDB (be connected to Internet, to run it quickly):

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

Give a password to MariaDB root. Please, replace **new-password** by your own which:

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

Make a database for OpenMeetings:

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

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

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

Now we create a user with all permission on this open500 database. User password must be of 8 digits minimum:

(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 that user

You can change the data...but remember it! Later we'll need it.

Now we leave MariaDB:

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

## 10)

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

Make a folder called open500 where download the Apache OpenMeetings file, and where we'll do the installation of OpenMeetings 5.0.0-M1 stable:

```
sudo mkdir /opt/open500
```

```
cd /opt/open500
```

...download and uncompress the file:

(Only one line without space between both)

```
sudo wget http://archive.apache.org/dist/openmeetings/5.0.0-M1/bin/apache-openmeetings-5.0.0-M1.zip
```

```
sudo unzip apache-openmeetings-5.0.0-M1.zip
```

...save the original file to /opt:

```
sudo mv apache-openmeetings-5.0.0-M1.zip /opt
```

11)

**----- Installation connector OpenMeetings with MariaDB -----**

This file-driver is need it to connect OpenMeetings with MariaDB. Download and install it:

```
cd /opt
```

(Only one line without space between both)

```
sudo wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/8.0.15/mysql-connector-java-8.0.15.jar
```

```
sudo cp mysql-connector-java-8.0.15.jar /opt/open500/webapps/openmeetings/WEB-INF/lib
```

12)

**----- 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/
```

...and concede execution permission:

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

If you 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
```

13)

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

Run MariaDB:

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

...and Tomcat-OpenMeetings:

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

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

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

...there will show 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

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

**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 the name of the database

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

**OpenMeetings**

**DB configuration**

**Recommendation for production environment**

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**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

Now we must introduce the database name, the user name and his password we did at the step 9:

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

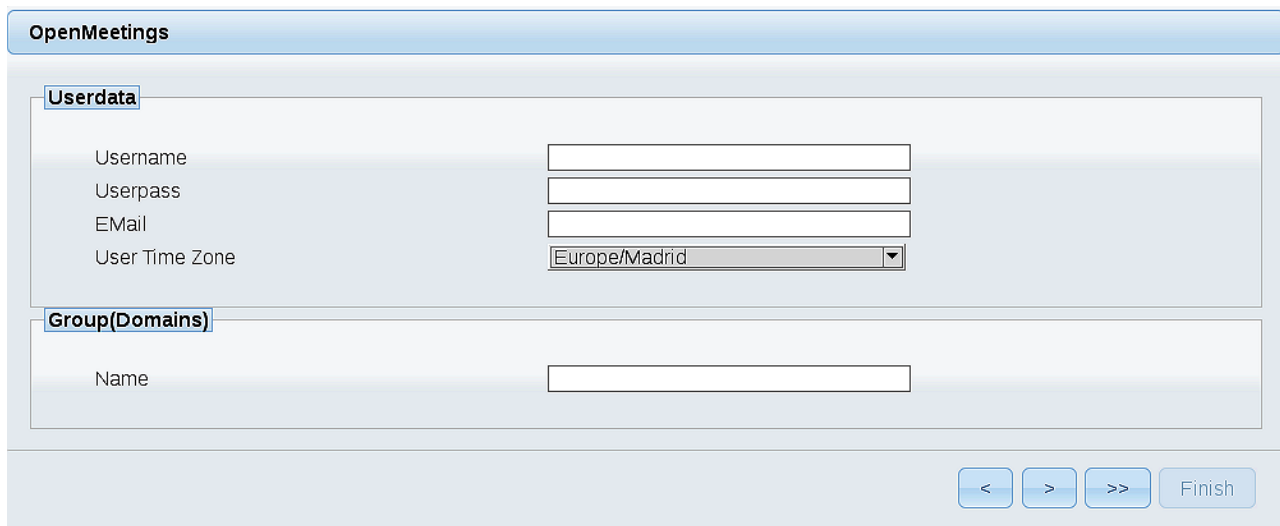
**Specify DB user** = **hola**

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



...if you choose any other data please type it here.

Press  button, and will go to:



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 name will have administrator rights.

**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 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>  | == | <a href="#">john@gmail.com</a>                       |
| <b>SMTP-Server</b>                                       | == | <a href="#">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="#">john@gmail.com</a>                       |
| <b>SMTP-Userpass</b>                                     | == | <a href="#">password of john@gmail.com</a>           |
| <b>Enable TLS in MailServer Auth</b>                     | == | <a href="#">...turn green the button to activate</a> |

To select the language of your OpenMeetings server, please scroll on the line:

|                         |    |   |
|-------------------------|----|---|
| <b>Default Language</b> | == | <a href="#">...select your language</a> |
|-------------------------|----|---|

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

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 (LibreOffice):

|   |    |  |                 |
|---|----|--|-----------------|
| <b>ImageMagick Path</b>                             | == | <a href="#">/usr/bin</a>               |                 |
| <b>FFMPEG Path</b>                                  | == | <a href="#">/usr/bin</a>               |                 |
| <b>SOX Path</b>                                     | == | <a href="#">/usr/bin</a>               |                 |
| <b>OpenOffice/LibreOffice Path for jodconverter</b> | == | <a href="#">/usr/lib/libreoffice</a>   | <b>(32bits)</b> |
|   | == | <a href="#">/usr/lib64/libreoffice</a> | <b>(64bits)</b> |

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:

**OpenMeetings**

**Crypt Type**

Crypt Class ⓘ

**red5SIP Configuration**

Enable SIP ⓘ

SIP rooms prefix ⓘ

SIP extensions context ⓘ

< > >> Finish

Now push the button  Will show this window:

**OpenMeetings**

Please click "Finish" button to start installation!

< > >> Finish

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 (be connected to Internet):

[/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

The image shows a login form with the following elements:

- Title:** Login
- Fields:**
  - Username or mail address (text input)
  - Password (password input)
- Options:**
  - Remember login
- Links:**
  - [Forgotten your password?](#)
  - [Network testing](#)
- Buttons:**
  - Not a member?
  - Sign in

14)

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

Docker will be the recipient of Kurento media server. First we install some necessary libraries:

```
sudo dnf -y install dnf-plugins-core
```

...add docker repo:

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

...update:

```
sudo dnf update
```

...install docker:

```
sudo dnf install docker-ce docker-ce-cli containerd.io
```

...should ask if we accept, press **y** and **Enter**,

...run it:

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

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, mariadb and docker:

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

```
sudo systemctl stop mariadb.service
```

```
sudo systemctl stop docker.service
```

...and reboot the machine. After this, follow in the step 15:

```
sudo reboot
```

15)

#### ----- 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 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/open500/webapps/openmeetings/data,target=/opt/open500/webapps/
openmeetings/data kurento/kurento-media-server
```

Run kurento-media-server, wich 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 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>

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

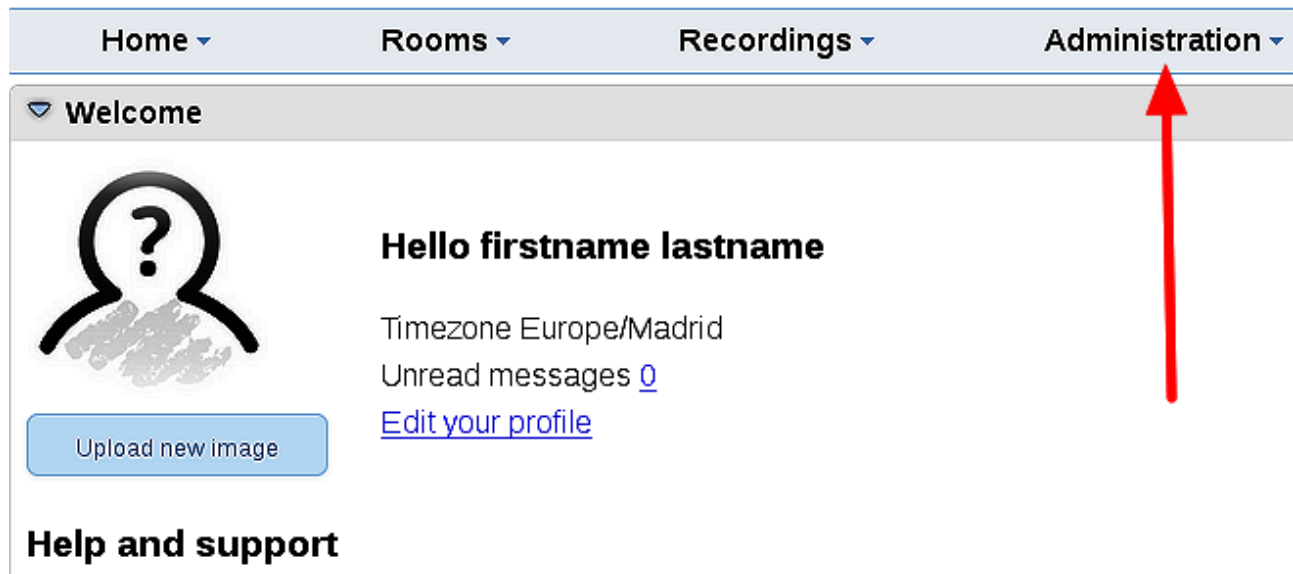
**5443 8888**

16)

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

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

**Administration → Configuration**



...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 parameters, and on the right is a configuration form for the selected parameter.

| 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 details for the selected parameter (ID 20):

- 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 flow of information: arrow 1 points from the table row to the form's key field; arrow 2 points from the form's value field back to the table; arrow 3 points from the form's type dropdown to the table's type column.

17)

----- Order to run the servers -----

Once finished the installation of OpenMeetings, the next time you run the servers, please do it in this order:

- `sudo systemctl start mariadb.service` ..MariaDB data server
- `sudo systemctl start docker.service` ...Docker, recipiente de Kurento media server
- `sudo docker start kms` ...Kurento media server
- `sudo /etc/init.d/tomcat3 start` ...Tomcat-OpenMeetings

-----

If you have some doubt or question, please expose it in 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:

[Download](#)

Thank you.

Alvaro Bustos