Installation of Apache OpenMeetings 3.1.4 on openSUSE Leap 42.2

This tutorial is made based on fresh installations of

openSUSE-Leap-42.2-DVD-x86_64.iso

It is tested with positive result. We will use the Apache's
binary version OpenMeetings 3.1.4 stable, that is to say
will suppress his compilation. It is done step by step.

12-1-2017

Starting...

1)

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

Update operative system:

zypper refresh

zypper update

2)

------ **Installation of Oracle Java 1.8** ------

Java **1.8** it is necessary to work OpenMeetings **3.1.4**. So, we install Oracle Java 1.8. Open Java
gaves an error in some OpenMeetings function. It is tested:

cd /opt

Download the file:

      (All in one line only. 1ª and 2ª without space between them. A space to the 3ª)

wget --no-cookies --no-check-certificate --header "Cookie: gpw_e24=http%3A%2F%2Fwww.oracle.com%2F; oraclelicense=accept-securebackup-cookie" "http://download.oracle.com/otn-pub/java/jdk/8u111-b14/jdk-8u111-linux-x64.rpm"

...and install it:

zypper install -y jdk-8*.rpm

zypper install update-alternatives

We do to Oracle, the java system default:

update-alternatives --install /usr/bin/java java /usr/java/jdk1.8.0_111/bin/java 1551

update-alternatives --install /usr/bin/javadoc javadoc /usr/java/jdk1.8.0_111/bin/javadoc 1551

update-alternatives --install /usr/bin/jar jar /usr/java/jdk1.8.0_111/bin/jar 1551

update-alternatives --install /usr/bin/javap javap /usr/java/jdk1.8.0_111/bin/javap 1551

update-alternatives --install /usr/bin/javac javac /usr/java/jdk1.8.0_111/bin/javac 1551

update-alternatives --install /usr/bin/javah javah /usr/java/jdk1.8.0_111/bin/javah 1551

update-alternatives --install /usr/bin/jarsigner jarsigner /usr/java/jdk1.8.0_111/bin/jarsigner 1551

Maybe is installed different versions of Java. We select the just installed Oracle Java:

update-alternatives --config java

And to see if the selected version is active:

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:

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, Sox and Swftools ------

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

zypper install -y ImageMagick giflib-devel

Sox, work the sound. Install it:

zypper install -y sox

Swftools. LibreOffice convert to pdf the uploaded office files, and Swftools convert these pdf to swf (flash file), that later will show in the whiteboard. Also convert jpg2swf, png2swf, gif2swf, etc. Don´t install a newer version, surely have not pdf2swf.

zypper install -y swftools

...block the version to prevent changes, because this repo version have pdf2swf:

zypper al swftools

6)

------ Installation of Adobe Flash Player ------

OpenMeetings even need Adobe Flash Player for rooms.

Add Adobe repo and install it:

sudo zypper ar --check --refresh http://linuxdownload.adobe.com/linux/x86_64/ adobe

sudo zypper se -s -r adobe

(Only one line without space between both)

sudo rpm -ivh http://linuxdownload.adobe.com/adobe-release/adobe-release-x86_64-1.0-1.noarch.rpm

sudo rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-adobe-linux

sudo zypper install flash-plugin

7)

------ Compilation of FFmpeg ------

FFmpeg work video. Will install paquets and libraries.

zypper install -y glibc imlib2 imlib2-devel mercurial cmake

zypper install -y freetype2-devel libfreetype6 curl git vlc

zypper install -y libogg-devel libtheora-devel libvorbis-devel libvpx-devel

This ffmpeg compilation is based in this url, updated to 12-1-2017:

https://trac.ffmpeg.org/wiki/CompilationGuide/Centos

The result of any recording we do in OpenMeetings, will be in mp4 format.
I made a script that will download, compile and install ffmpeg.

Download the script:

cd /opt

(Only one line without space between both)

wget https://cwiki.apache.org/confluence/download/attachments/27838216/ffmpeg-opensuse42.sh

...concede permission of execution:

chmod +x ffmpeg-opensuse42.sh

...and run it, be connected to Internet:

./ffmpeg-opensuse42.sh

Will spend about 25 minutes. When finish, will announce it with this text:

FFMPEG Compilation is Finished!

Then, please, go to **step 8)**.

But if you prefer copy and paste, i **don´t advise,** here are the commands script:

nano /opt/ffmpeg-opensuse422.sh

...copy the green text **from here**:

```
#  FFmpeg compilation for openSUSE Leap 42.x
# Alvaro Bustos, thanks to Hunter.
# Updated 12-1-2017
# Install libraries

zypper install -y autoconf automake cmake freetype-devel gcc gcc-c++ git libtool make mercurial
nasm pkgconfig zlib-devel

# Install yasm from repos
zypper install -y yasm

# Create a temporary directory for sources.
SOURCES=$(mkdir ~/ffmpeg_sources)
cd ~/ffmpeg_sources

# Download the necessary sources.
#git clone --depth 1 git://git.videolan.org/x264
curl -#LO ftp://ftp.videolan.org/pub/x264/snapshots/last_stable_x264.tar.bz2
hg clone https://bitbucket.org/multicoreware/x265
git clone --depth 1 git://git.code.sf.net/p/opencore-amr/fdk-aac
curl -L -O http://downloads.sourceforge.net/project/lame/lame/3.99/lame-3.99.5.tar.gz
curl -O http://downloads.xiph.org/releases/opus/opus-1.1.3.tar.gz
curl -O http://downloads.xiph.org/releases/ogg/libogg-1.3.2.tar.gz
curl -O http://downloads.xiph.org/releases/vorbis/libvorbis-1.3.5.tar.gz
wget http://downloads.xiph.org/releases/theora/libtheora-1.1.1.tar.gz
git clone --depth 1 https://chromium.googlesource.com/webm/libvpx.git
git clone --depth 1 git://source.ffmpeg.org/ffmpeg

# Unpack files
for file in `ls ~/ffmpeg_sources/*.tar.*`; do
tar -xvf $file
done

cd x264-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --enable-static && make &&
make install && make distclean; cd ..

cd x265/build/linux
cmake -G "Unix Makefiles" -DCMAKE_INSTALL_PREFIX="$HOME/ffmpeg_build"
```

-DENABLE_SHARED:bool=off ../../source && make && make install; cd ~/ffmpeg_sources

cd fdk-aac
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd lame-*/
./configure --prefix="$HOME/ffmpeg_build" --bindir="$HOME/bin" --disable-shared --enable-nasm && make && make install && make distclean; cd ..

cd opus-*/
autoreconf -fiv && ./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libogg-*/
./configure --prefix="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libvorbis-*/
LDFLAGS="-L$HOME/ffmeg_build/lib64" CPPFLAGS="-I$HOME/ffmpeg_build/include" ./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-shared && make && make install && make distclean; cd ..

cd libtheora-*/
./configure --prefix="$HOME/ffmpeg_build" --with-ogg="$HOME/ffmpeg_build" --disable-examples --disable-shared --disable-sdltest --disable-vorbistest && make && make install; cd ..

cd libvpx
./configure --prefix="$HOME/ffmpeg_build" --disable-examples && make && make install && make clean; cd ..

cd ffmpeg
PKG_CONFIG_PATH="$HOME/ffmpeg_build/lib/pkgconfig" ./configure --prefix="$HOME/ffmpeg_build" --extra-cflags="-I$HOME/ffmpeg_build/include" --extra-ldflags="-L$HOME/ffmpeg_build/lib" --bindir="$HOME/bin" --pkg-config-flags="--static" --enable-gpl --enable-nonfree --enable-libfdk_aac --enable-libfreetype --enable-libmp3lame --enable-libopus --enable-libvorbis --enable-libvpx --enable-libx264 --enable-libx265 --enable-libtheora && make && make install && make distclean && hash -r; cd ..

cd ~/bin
cp ffmpeg ffprobe ffserver lame x264 /usr/local/bin

cd ~/ffmpeg_build/bin
cp x265 /usr/local/bin

echo "FFMPEG Compilation is Finished!"

...**to here.**

Concede permission of execution:

chmod +x /opt/ffpmeg-opensuse422.sh

cd /opt

Now be connected to Internet, run the script, and wait some long minutes while the compilation:

./ffmpeg-opensuse422.sh

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

8)

------ 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 password that we have just chosen:

MariaDB [(none)]> CREATE DATABASE open314 DEFAULT CHARACTER SET 'utf8';

With this command we has created a database called open314.
Now we create a user with all permission on this database.

(Only one line with space between both)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON open314.* TO 'hola'@'localhost'
IDENTIFIED BY '123456' WITH GRANT OPTION;

                       * open314 ......is the database name.
                       * hola ………is the user name for the database.
                       * 123456 …....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

9)

                          ------ **Installation of OpenMeetings** ------

We´ll install OpenMeetings in /opt/red5314. All the following information will be based on this directory.

Make the folder:

mkdir /opt/red5314

cd /opt/red5314

...and download the OpenMeetings file:

wget http://apache.miloslavbrada.cz/openmeetings/3.1.4/bin/apache-openmeetings-3.1.4.zip

unzip apache-openmeetings-3.1.4.zip

...save the unloaded file to /opt:

mv apache-openmeetings-3.1.4.zip /opt

Download and install the connector file between OpenMeetings and MariaDB:

cd /opt

                          (Only one line without space between both)

wget http://repo1.maven.org/maven2/mysql/mysql-connector-java/5.1.39/mysql-connector-java-5.1.39.jar

...and copy it to where must be:

cp /opt/mysql-connector-java-5.1.39.jar /opt/red5314/webapps/openmeetings/WEB-INF/lib

Now we are going to configure OpenMeetings for our database in MariaDB:

nano /opt/red5314/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

Modify on line 71:

, Url=jdbc:mysql://localhost:3306/openmeetings_3_1?

...to

, Url=jdbc:mysql://localhost:3306/open314?

...it is the name of the database that we did initially.

Modify on line 76:

, Username=root

...to

, Username=hola

...is the user that we did initially for the database.

Modify on line 77:

, Password=" />

...to

, Password=123456" />

...it is the password that we did initially for the user "hola" in the database.

Logically, if initially you choose another name and password for the database, you will to change them here.

Push **Ctrl+x**, **Y** and **Enter** in the keyboard, to save and leave nano.

We protect the access to the file:

<div align="center">(Only one line without space between both)</div>

chmod 640 /opt/red5314/webapps/openmeetings/WEB-INF/classes/META-INF/mysql_persistence.xml

10)
<div align="center">------ **Script to launch red5-OpenMeetings** ------</div>

We´ll download the script to run red5-OpenMeetings:

cd /opt

wget https://cwiki.apache.org/confluence/download/attachments/27838216/red5-3

...copy it to where must be:

cp red5-3 /etc/init.d/

...concede execution permission:

chmod +x /etc/init.d/red5-3

If you made the installation in any other different path to /opt/red5314, please edit the script and modify the line:

export RED5_HOME=/opt/red5314

...to

export RED5_HOME=/your-path-installation

11)
------ Run red5-OpenMeetings ------

Restart mariadb, (be connected to Internet):

systemctl restart mysql.service

...and run red5-OpenMeetings, please, in a new window terminal (be connected to Internet):

/etc/init.d/red5-3 start

...wait till the text "**clearSessionTable: 0**" it is the last in the terminal.

Then, go with the browser to:

http://localhost:5080/openmeetings/install

...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).

○ Install **SWFTools** on the server, you can get more information on http://www.swftools.org/ regarding installation. Some of the Linux distributions already have it in there package manager see http://packages.debian.org/unstable/utils/swftools), the recommended version of **SWFTools** is 0.9 as prior version have a bug that does lead to wrong object dimensions in the Whiteboard

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 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

Choose DB type | Apache Derby ▼
Specify the name of the database | openmeetings
Specify DB user | user
Specify DB password | secret

Check

| < | > | >> | Finish |

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

...will show the database configuration we made in step 9, or with your own modifications.

Please, press   button, and will go to:

Now we must introduce the followings data, in order can continue:

<div align="center">

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.

</div>

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.

A valid example to configure the mail server with Gmail, is as follows:
(replace **john@gmail.com** with your real Gmail account)

Mail-Refer (system_email_addr)   ==   john@gmail.com

SMTP-Server (smtp_server)   ==   smtp.gmail.com

SMTP-Server Port (default Smtp-Server Port is 25)
(smtp_port)   ==   587

SMTP-Username (email_username)   ==   john@gmail.com

SMTP-Userpass (email_userpass)   ==   password of john@gmail.com

Enable TLS in Mail Server Auth   ==   Yes

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

Default Language   =   english

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

Now press the button [>] and a new page will appear:

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

SWFTools Path (Path)	==	/usr/bin
ImageMagick Path (Path)	==	/usr/bin
FFMPEG Path (Path)	==	/usr/local/bin
SOX Path (Path)	==	/usr/bin
OpenOffice/LibreOffice Path (Path) for jodconverter	==	/usr/lib64/libreoffice

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   `org.apache.openmeetings.util.crypt.SHA`

*You can use this default crypt type which is equal to PHP-MD5 function or BSD-Style encryption by using:***org.apache.openmeetings.utils.crypt.MD5CryptImplementation** *for more information or to write your own Crypt-Style see:* Custom Crypt Mechanism *You can edit this value later BUT previous created Users and Sessions might be not usable anymore*

red5SIP Configuration

Enable SIP   `No ⌄`

Enable red5SIP integration

SIP rooms prefix   `400`

Prefix for phone number of conference rooms

SIP extensions context   `rooms`

Context of Asterisk extensions

[<] [>] [>>] [Finish]
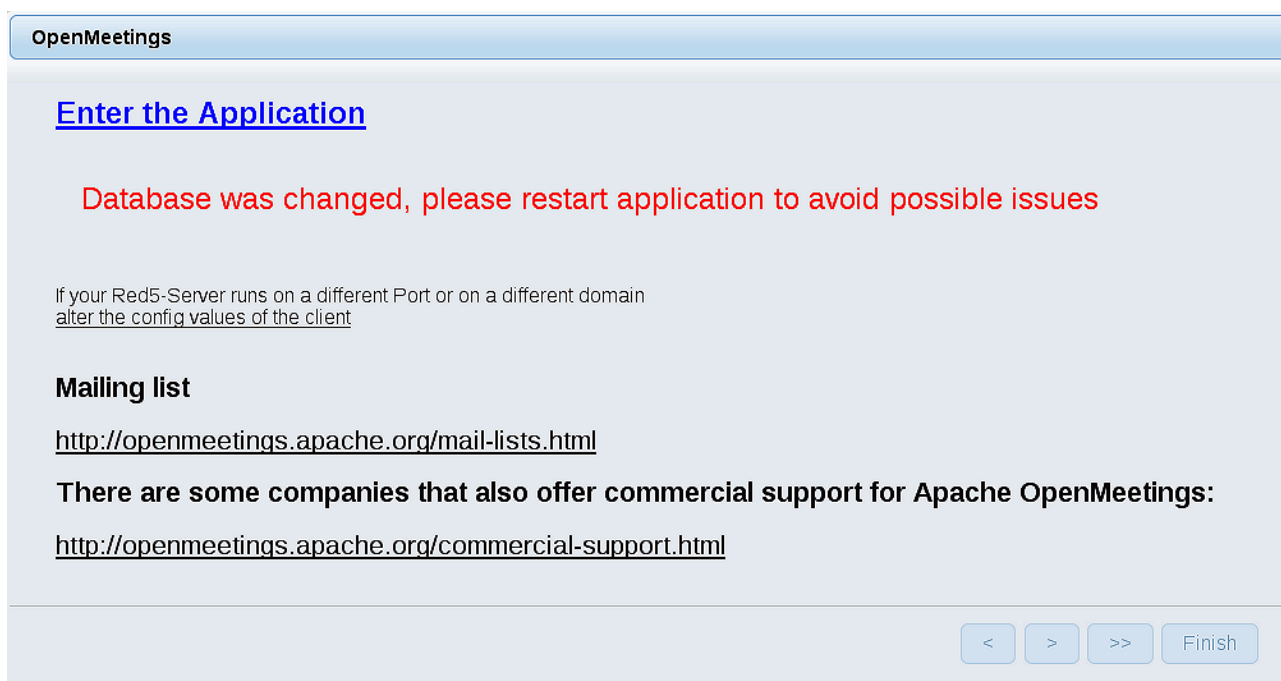
Now push the button Will show this window:

Press **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 the server. Please, open a new terminal and restart red5:

/etc/init.d/red5-3 restart

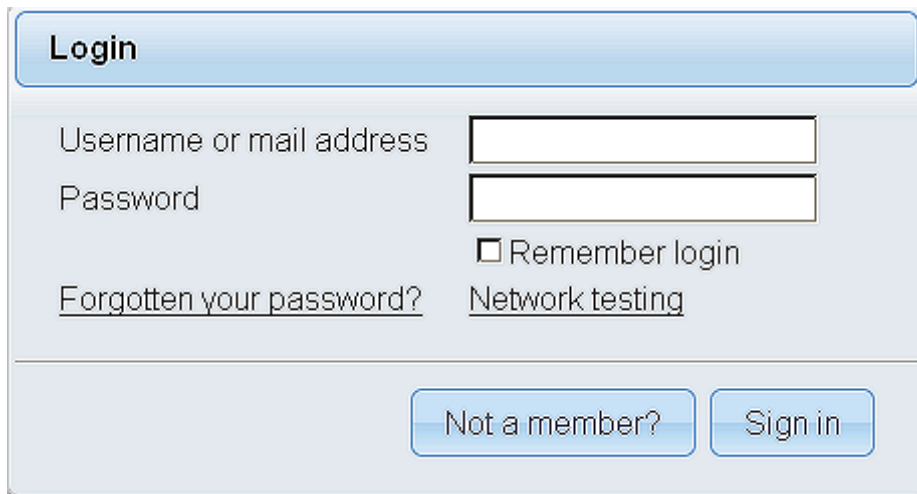Now yes, you can clic on **Enter the Application**, or go with your browser to:

http://localhost:5080/openmeetings

...and will take us to the entry of OpenMeetings:

Introduce the user's name and the password that you have choosen during the installation, push **Sign in** button and…

...**Congratulations!**

The next time that you like to accede OpenMeetings, would be:

http://localhost:5080/openmeetings

Remember to open in the server, the two following ports:

1935   5080

...in order that it could accede to OpenMeetings from other machines from Lan or Internet.

12)

------ OpenMeetings's configuration ------

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:
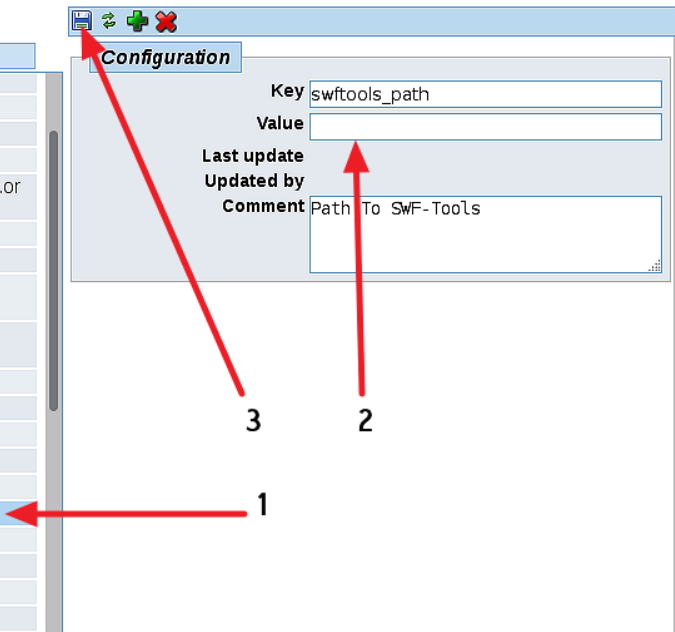
And this is all.

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

Thank you.

Alvaro Bustos