

Openfire/Spark Installation and Configuration

1) What is Openfire & what spark ignite??

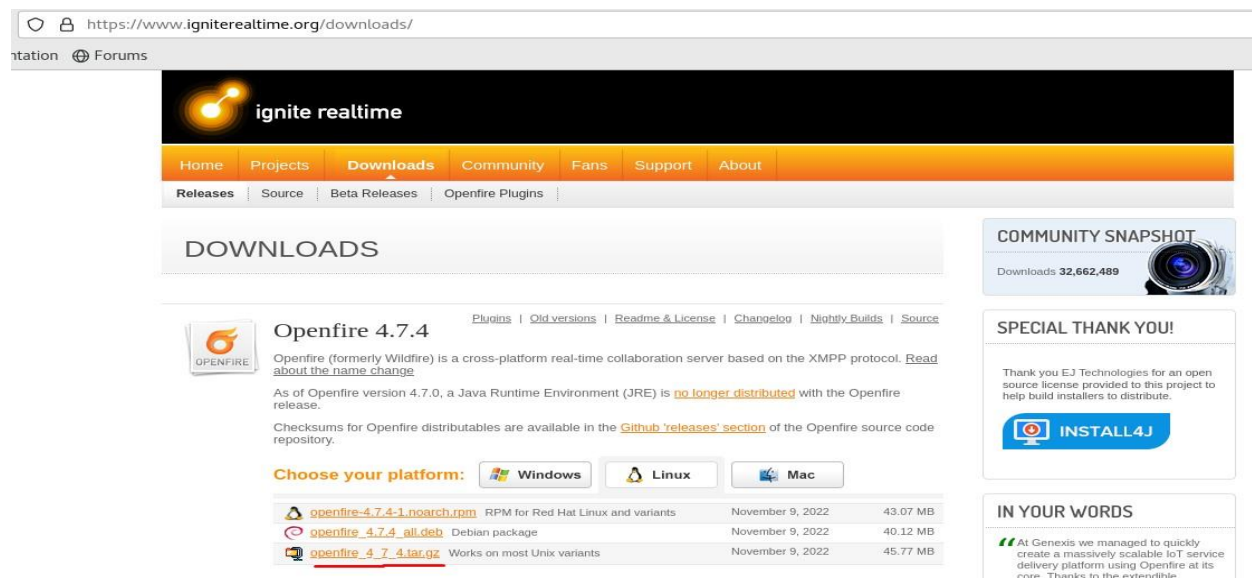
Openfire and Spark are two separate software applications developed by the same organization, Ignite Realtime, for real-time collaboration using the XMPP protocol.

Openfire is a server application that provides the backend infrastructure for real-time messaging and collaboration. It enables the creation of user accounts, groups, chat rooms, and other administrative functions. Openfire supports various authentication mechanisms and can integrate with other systems such as LDAP and Active Directory.

Spark, on the other hand, is a desktop client application that provides a user interface for messaging and collaboration. It is designed to work with Openfire and supports various features such as group chat, file transfer, and screen sharing. Spark is available for Windows, Linux, and macOS.

Together, Openfire and Spark provide a complete solution for real-time messaging and collaboration that can be used by organizations to build their own internal chat networks or by developers to create custom chat applications. The combination of Openfire and Spark is a popular choice among organizations that value open-source, extensibility, and security.

2) We can download both from <https://www.igniterealtime.org/downloads/> .



The screenshot shows the 'Downloads' page for Openfire 4.7.4. The page includes a navigation menu with 'Downloads' selected, a 'COMMUNITY SNAPSHOT' section with 32,662,489 downloads, and a 'SPECIAL THANK YOU!' section. The main content area features the Openfire logo and a description of the software. Below the description, there is a 'Choose your platform:' section with buttons for Windows, Linux, and Mac. A table lists the available download packages:

Package	Description	Release Date	Size
openfire-4.7.4-1.noarch.rpm	RPM for Red Hat Linux and variants	November 9, 2022	43.07 MB
openfire_4.7.4_all.deb	Debian package	November 9, 2022	40.12 MB
openfire_4.7.4.tar.gz	Works on most Unix variants	November 9, 2022	45.77 MB

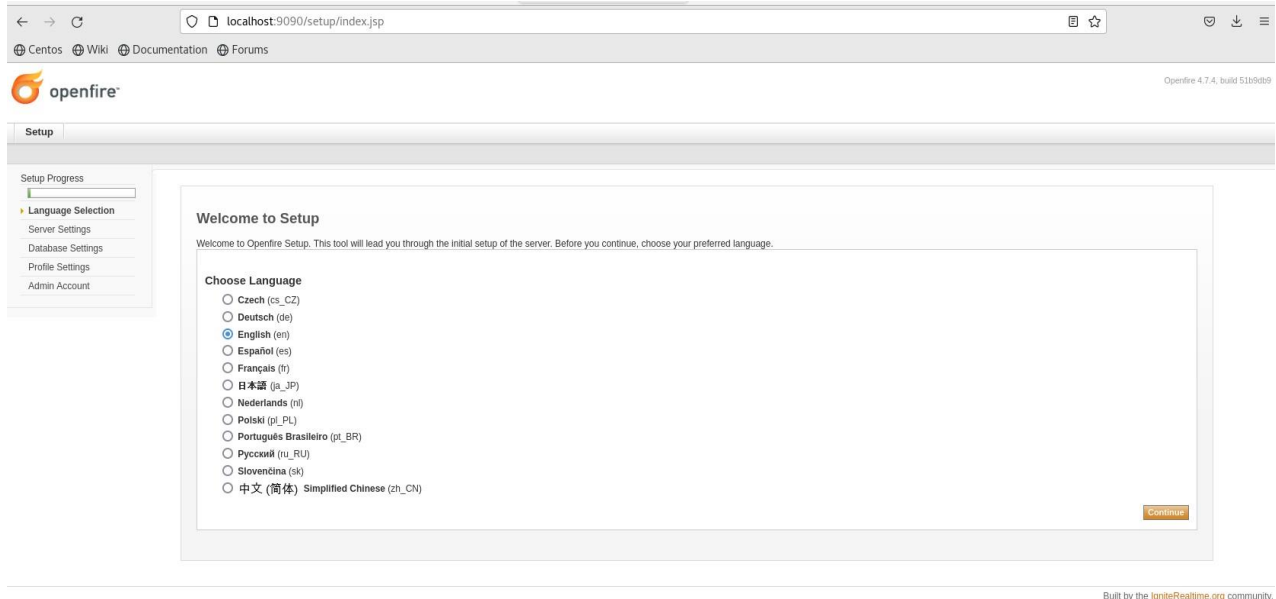
We install Openfire from RPM and or we can directly download ta.gz file and create custom installtion if we want to.

In Our case we do the custom installation from the downloaded tar.gz file we keep downloaded file on our /opt/soft folder and untar it.

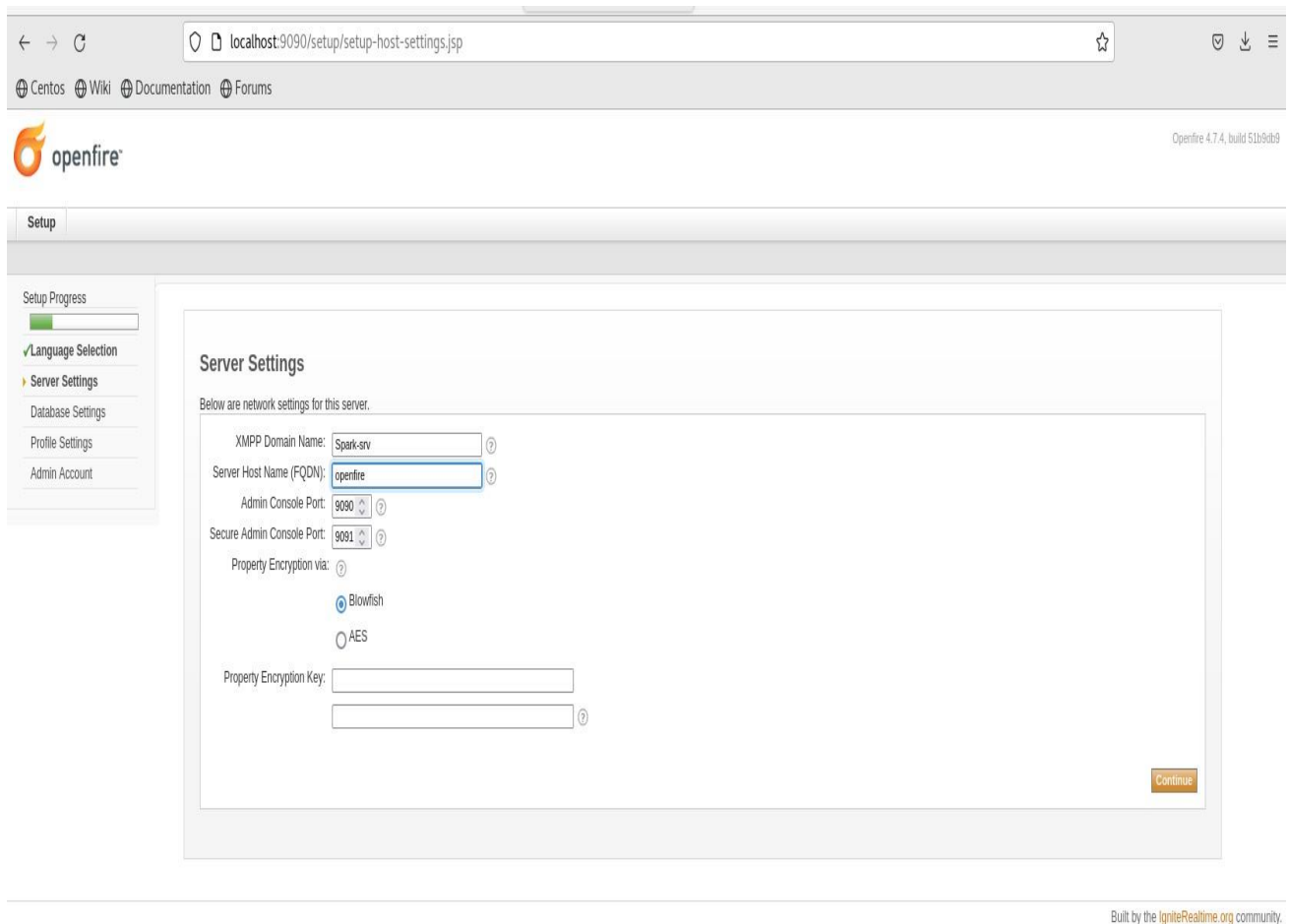
After keeping Openfire in a custom location, we start the application by going /opt/soft/openfire/bin and fire command “./openfire start” or We can shoot from the current terminal “/opt/soft/openfire/bin/openfire start” so application will run, or we can say start.

```
osboxes@ansibel-controller:/opt/soft/openfire/bin
File Edit View Search Terminal Help
[osboxes@ansibel-controller openfire]$ ll
total 412
drwxr-xr-x. 3 osboxes osboxes  4096 Nov  9 11:00 bin
-rw-r--r--. 1 osboxes osboxes 375002 Nov  9 10:59 changelog.html
drwxr-xr-x. 2 osboxes osboxes  4096 Nov  9 11:00 conf
drwxr-xr-x. 4 osboxes osboxes  4096 Nov  9 11:00 documentation
drwxr-xr-x. 2 osboxes osboxes  4096 Nov  9 11:00 lib
-rw-r--r--. 1 osboxes osboxes 10874 Feb 16 2022 LICENSE.html
drwxr-xr-x. 3 osboxes osboxes  4096 Nov  9 11:00 plugins
-rw-r--r--. 1 osboxes osboxes  5403 Feb 16 2022 README.html
drwxr-xr-x. 6 osboxes osboxes  4096 Nov  9 11:00 resources
[osboxes@ansibel-controller openfire]$ cd bin/
[osboxes@ansibel-controller bin]$ ll
total 40
drwxr-xr-x. 3 osboxes osboxes  4096 Nov  9 11:00 extra
-rwxr-xr-x. 1 osboxes osboxes 19424 Nov  9 11:00 openfire
-rw-r--r--. 1 osboxes osboxes  5292 Sep 22 2022 openfirectl
-rw-r--r--. 1 osboxes osboxes  5015 Feb 16 2022 openfire.sh
[osboxes@ansibel-controller bin]$ ./openfire start
Starting openfire
[osboxes@ansibel-controller bin]$ pwd
/opt/soft/openfire/bin
[osboxes@ansibel-controller bin]$
```

3) openfire will listen on 9090 on http for 1st time for installation.



Select language hit next.



The screenshot shows the Openfire 4.7.4 setup interface. The browser address bar displays 'localhost:9090/setup/setup-host-settings.jsp'. The page title is 'Setup'. On the left, a 'Setup Progress' sidebar shows 'Language Selection' as completed and 'Server Settings' as the current step. The main content area is titled 'Server Settings' and contains the following fields:

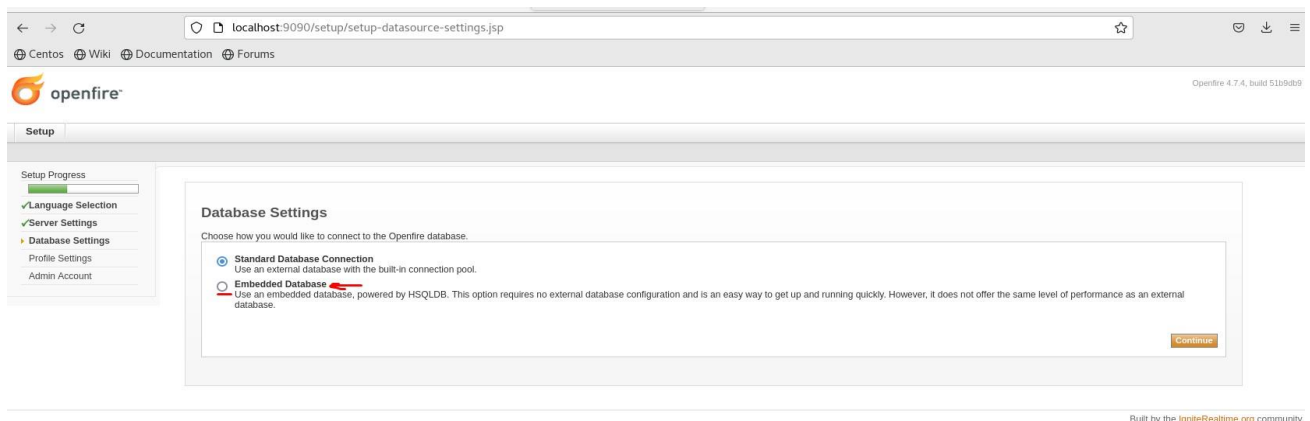
- XMPP Domain Name: spark-srv
- Server Host Name (FQDN): openfire
- Admin Console Port: 9090
- Secure Admin Console Port: 9091
- Property Encryption via: Blowfish (selected) and AES
- Property Encryption Key: (empty field)

A 'Continue' button is located at the bottom right of the form.

We can setup server settings like Domain name and FQDN and hit next.

Admin port 9090 and secure admin port is 9091 on https.

Select database embedded one because we do not maintain database of openfire server.



The screenshot shows the Openfire 4.7.4 setup interface for 'Database Settings'. The browser address bar displays 'localhost:9090/setup/setup-datasource-settings.jsp'. The page title is 'Setup'. The 'Setup Progress' sidebar shows 'Database Settings' as the current step. The main content area is titled 'Database Settings' and contains the following options:

- Standard Database Connection (selected): Use an external database with the built-in connection pool.
- Embedded Database: Use an embedded database, powered by HSQLDB. This option requires no external database configuration and is an easy way to get up and running quickly. However, it does not offer the same level of performance as an external database.

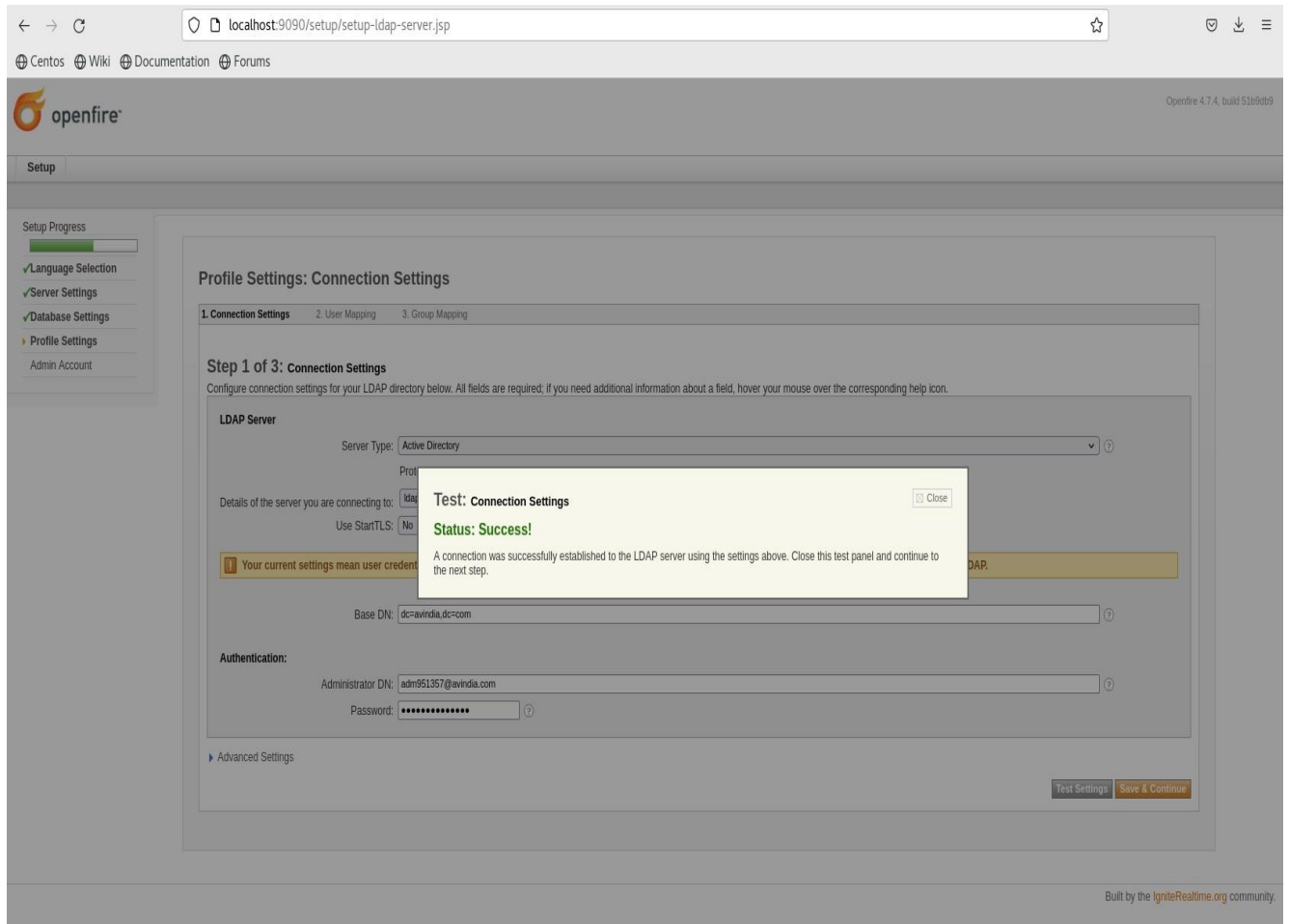
A 'Continue' button is located at the bottom right of the form.

In Our earlier and easy usage, we create a local environment so need to create and delete, update user from openfire server but now we use active directory feature so if user exists on AD then we can directly import user from the AD and maintain from AD only.

4) Domain Integration as shown as below

The screenshot displays the Openfire 4.7.4 setup interface. The browser address bar shows 'localhost:9090/setup/setup-ldap-server.jsp'. The Openfire logo and version 'Openfire 4.7.4, build 51b9db9' are visible. The 'Setup' page has a sidebar with 'Profile Settings' selected. The main content area is titled 'Profile Settings: Connection Settings' and shows 'Step 1 of 3: Connection Settings'. The configuration includes: Server Type: Active Directory; Protocol: ldap; Host: 10.10.10.5; Port: 389; Use StartTLS: No; Base DN: dc=avindia,dc=com; Administrator DN: adm951357@avindia.com; Password: [masked]. A warning message states: 'Your current settings mean user credentials will be passed in plain text between Openfire and your LDAP server. You should either use LDAPS or enable StartTLS for LDAP.' Buttons for 'Test Settings' and 'Save & Continue' are at the bottom right. The footer text reads 'Built by the igniteRealtime.org community.'

Same configuration should be done for active directory collaboration and AD's global administrator use authentication must be done to achieve proper success in auth.



Test connection before proceeding so we can achieve 100 % success in setting up server-side configuration.

5) Very important setup not to forget adding administrator of openfire server this activity done only when we configure openfire server so if want add administrator we can do after completion of openfire server.

The screenshot shows the Openfire 4.7.4 setup interface. The browser address bar is `localhost:9090/setup/setup-admin-settings.jsp`. The page title is "Administrator Account". Below the title, there is a text box for "Add Administrator:" and two radio buttons: "The value provided above is a LDAP user." (selected) and "The value provided above is an LDAP group name." Below these is an "Add" button. A table lists administrators with columns for "Administrator", "Test", and "Remove".

Administrator	Test	Remove
kaushal.kate	<input checked="" type="checkbox"/>	<input type="checkbox"/>
prashant.jagdale	<input checked="" type="checkbox"/>	<input type="checkbox"/>
amardeep	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Buttons for "Remove" and "Continue" are also visible.

So, add AD's server administrators at this step only so others can access openfire admin console.

The screenshot shows the Openfire 4.7.4 setup interface after completion. The browser address bar is `localhost:9090/setup/setup-finished.jsp`. The page title is "Setup Complete!". Below the title, there is a text box stating "This installation of Openfire is now complete. To continue:" and a button labeled "Login to the admin console".

6) So now setup is complete we can access openfire admin portal by <http://localhost:9090> & <https://localhost:9091> for secure authentication.

The screenshot shows the Openfire web interface at localhost:9090/index.jsp. The page title is 'Server Information'. Below the title, there is a section for 'Server Properties' with the following details:

- Server Uptime: 3 days, 2 hours, 20 minutes -- started May 5, 2023 8:23:55 AM
- Version: Openfire 4.7.4
- Server Directory: /opt/soft/openfire
- XMPP Domain Name: ansibel-controller

The 'Environment' section provides the following information:

- Java Version: 1.8.0_362 Red Hat, Inc. -- OpenJDK 64-Bit Server VM
- Appserver: jetty/9.4.43.v20210629
- Server Host Name (FQDN): ansibel-controller
- OS / Hardware: Linux / amd64
- Locale / Timezone: en / Eastern Standard Time (-5 GMT)
- OS Process Owner: osboxes
- Java Memory: 58.81 MB of 444.69 MB (13.2%) used

On the right side of the page, there is a 'Ignite Realtime News' section with several news items:

- Spark 3.0.2 Released, Mar 31, 2023
- Openfire Pádé plugin 1.7.6 released!, Mar 18, 2023
- Release v1.1.0 of the MUC Real-Time Block List plugin for Openfire, Mar 18, 2023
- Developing Openfire Efficient XML Interchange (EXI) functionality, Mar 14, 2023
- Botz version 1.2.0 release, Mar 9, 2023
- HTTP File Upload v1.2.2 released!, Mar 5, 2023
- Translations everywhere!, Mar 2, 2023

Now our openfire server backend is ready to use 1st thing here we can see all the details regarding server.

A few things we need to observe are that Java memory is by default allocated and we may increase if in case we face issue slowness or GC full.

We can do that by creating a file in /opt/soft/openfire/bin filename "openfire.vmoptions" contains

"-Xms8000m

-Xmx12000m

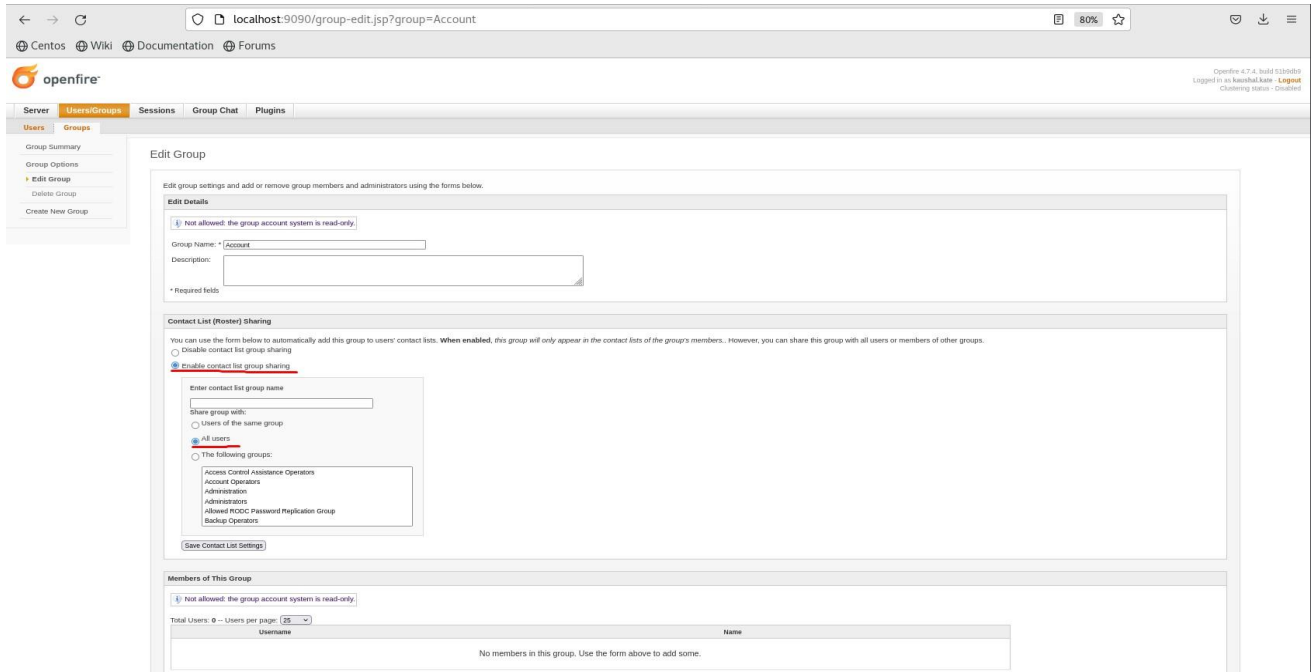
"

So, we specifically saying minimum 8 Gb to 12 GB Java memory should be used by openfire server.

Minium 6 GB utilized as we have seen in observation and minimum 6 CPU core for standard 400-500 user via Active directory and if user increase then we need to increase Java memory and CPU also.

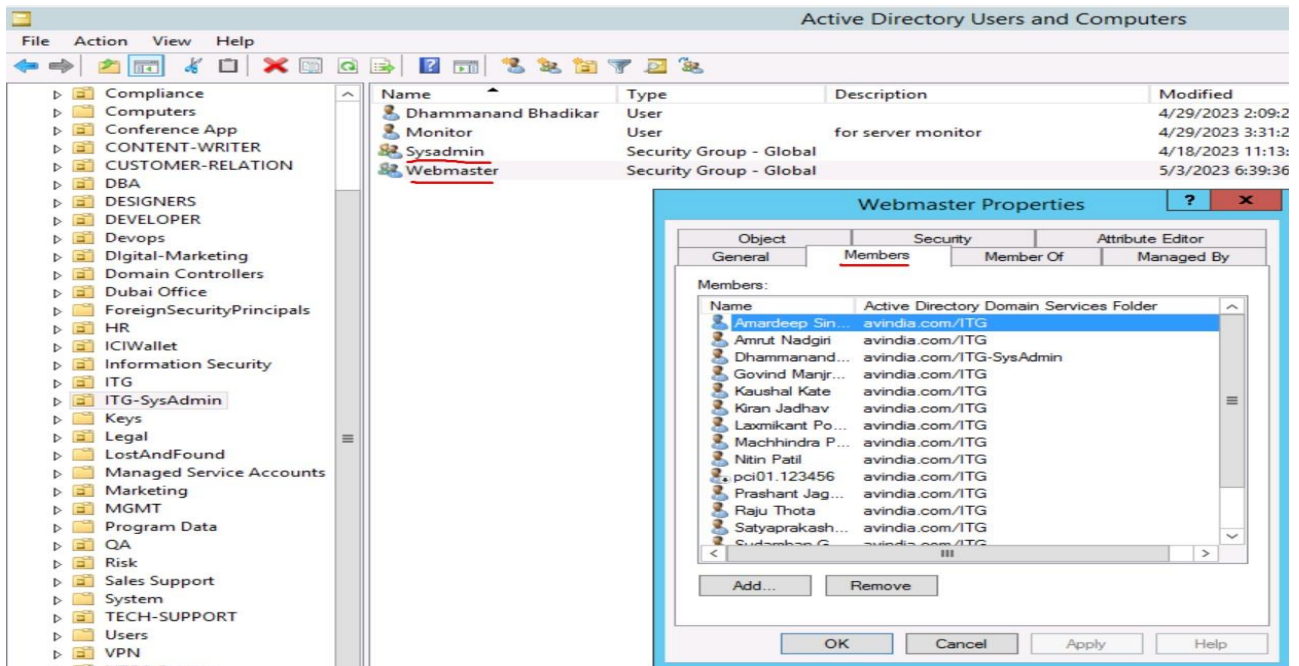
If Java memory is utilized above 80% then we must restart openfire server by
"/opt/soft/openfire/bin/openfire restart".

6) User administration is an important and easy task if we use AD integration.



For Active directory integration we must go in groups active/enable all working security group from AD.

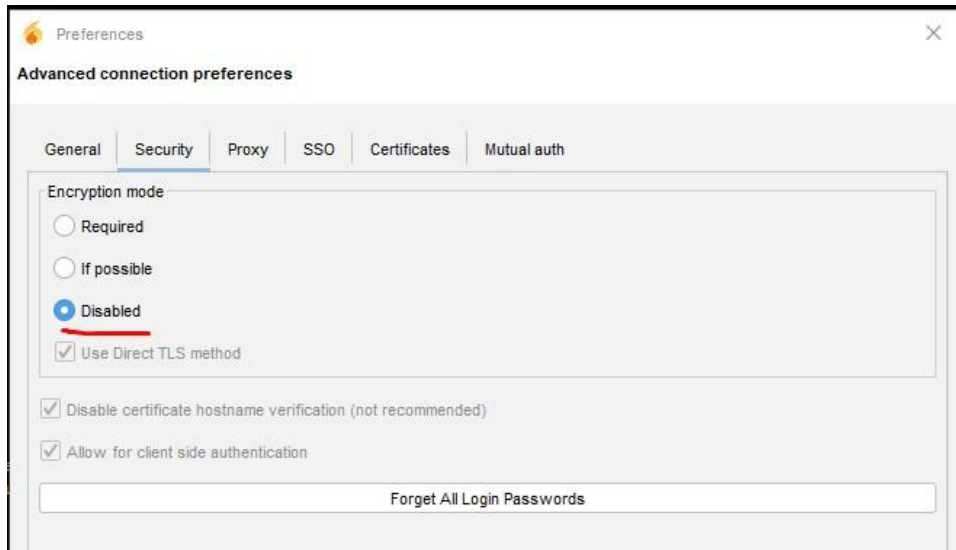
At AD side we must create a security group in the organization unit (OU) so openfire can fetch all users and groups.



7) If we follow these above settings at openfire side, then backend is configured.

We must install spark client who can connect to openfire server. Spark clients can be windows, Linux, Mac.

Basic setting in Spark client is



Disabled TLS to connect openfire server in Spark client newer then 2.72.

Import Note:-

How to stop, start & restart Spark server??

In our case we have configured in root so take root access and fire below command

```
"/opt/soft/openfire/bin openfire start"
```

```
"/opt/soft/openfire/bin/openfire stop"
```

```
"/opt/soft/openfire/bin/openfire restart"
```

```
"/opt/soft/openfire/bin /openfire status"
```

Or we can go to path /opt/openfire/bin/ and ". /openfire start "

```
"/openfire restart "
```

```
"/openfire stop "
```

“./openfire status ”