

# Fineract Installation on Ubuntu Server

## Step-by-step guide

### Step 1 - Installing System Updates and Prerequisites:

Run all below mentioned scripts one by one on the ubuntu console & follow step by step instructions: -

```
# sudo apt-get update
# sudo apt-get upgrade
# sudo apt-get install python-software-properties
# sudo add-apt-repository ppa:webupd8team/java
# sudo apt-get update
```

#### Install Java :

```
# sudo apt-get install oracle-java8-installer
```

java license agreement

 On prompting for accepting oracle java agreement, accept the agreement by pressing y(yes) key.


On completion of java installation, one could verify the installed version by & should be 1.8v:-

```
# java -version
```

#### Install mysql-server : (Only version 5.5 or version 5.6)

```
# sudo apt-get install mysql-server
```

mysql password

 set mysql root password to: **mysql**


(Bad for security, but just to get all installed and instructions on how to change it will be provided later in this guide)

On completion of MySQL installation, one could verify the installed version by & should be 5.5v or 5.6v:-

```
# mysql --version
```

#### Install tomcat :

Note

 For latest release you can download from or If wget/download fails, then follow this link:- <https://tomcat.apache.org/download-70.cgi> >> core >> tar.gz & copy the link address then use it after wget below:-

```
# sudo wget http://mirror.fibergrid.in/apache/tomcat/tomcat-7/v7.0.69/bin/apache-tomcat-7.0.69.tar.gz
# cd /usr/share
# sudo tar xvf /home/ubuntu/apache-tomcat-7.0.69.tar.gz
# sudo mv apache-tomcat-7.0.69 tomcat7
```

## Step 2 - Tomcat setup

## Enabling SSL

To enable tomcat SSL (https), generate and store a key:

```
# sudo keytool -genkey -keyalg RSA -alias tomcat -keystore /usr/share/tomcat.keystore
```

set password to: **xyz123**

(Bad for security, but just to get all installed and instructions on how to change it will be provided later in this guide)


This gets stored in /usr/share/tomcat7 as tomcat.keystore

## Updating server.xml configuration file

It is located at /usr/share/tomcat7/conf/server.xml path

```
# sudo nano /usr/share/tomcat7/conf/server.xml
```

nano shortcut keys

 Tip: To delete line by line you could use ctrl+k  
To exit you could use ctrl+x  
To confirm say yes & you could use y  
then click on enter button to save

copy and replace below content into it

```

<?xml version='1.0' encoding='utf-8'?>
<Server port="8005" shutdown="SHUTDOWN">
<Listener className="org.apache.catalina.core.AprLifecycleListener" SSLEngine="on" />
<Listener className="org.apache.catalina.core.JasperListener" />
<Listener className="org.apache.catalina.core.JreMemoryLeakPreventionListener" />
<Listener className="org.apache.catalina.mbeans.GlobalResourcesLifecycleListener" />
<Listener className="org.apache.catalina.core.ThreadLocalLeakPreventionListener" />

<GlobalNamingResources>
<Resource name="UserDatabase" auth="Container"
type="org.apache.catalina.UserDatabase"
description="User database that can be updated and saved"
factory="org.apache.catalina.users.MemoryUserDatabaseFactory"
pathname="conf/tomcat-users.xml" />

<Resource type="javax.sql.DataSource"
name="jdbc/mifosplatform-tenants"
factory="org.apache.tomcat.jdbc.pool.DataSourceFactory"
driverClassName="org.drizzle.jdbc.DrizzleDriver"
url="jdbc:mysql:thin://localhost:3306/mifosplatform-tenants"
username="root"
password="mysql"
initialSize="3"
maxActive="10"
maxIdle="6"
minIdle="3"
validationQuery="SELECT 1"
testOnBorrow="true"
testOnReturn="true"
testWhileIdle="true"
timeBetweenEvictionRunsMillis="30000"
minEvictableIdleTimeMillis="60000"
logAbandoned="true"
suspectTimeout="60"
/>
</GlobalNamingResources>

<Service name="Catalina">
<Connector protocol="org.apache.coyote.http11.Http11Protocol"
port="443" maxThreads="200" scheme="https"
secure="true" SSLEnabled="true"
keystoreFile="/usr/share/tomcat.keystore"
keystorePass="xyz123"
clientAuth="false" sslProtocol="TLS"
URIEncoding="UTF-8"
compression="force"
compressableMimeType="text/html,text/xml,text/plain,text/javascript,text/css"/>

<Connector port="8009" protocol="AJP/1.3" redirectPort="8443" />

<Engine name="Catalina" defaultHost="localhost">

<Realm className="org.apache.catalina.realm.LockOutRealm">

<Realm className="org.apache.catalina.realm.UserDatabaseRealm"
resourceName="UserDatabase"/>
</Realm>

<Host name="localhost" appBase="webapps"
unpackWARs="true" autoDeploy="true">
<Valve className="org.apache.catalina.valves.AccessLogValve" directory="logs"
prefix="localhost_access_log." suffix=".txt"
pattern="%h %l %u %t &quot;%r&quot; %s %b" />

</Host>
</Engine>
</Service>
</Server>

```

**Note:**



If your any of the server port connections are using port number = 443, then you need to change your port number to 8443, in server.xml here:-

port="443" maxThreads="200" scheme="https" to port="8443" maxThreads="200" scheme="https"

**Download drizzle jdbc connector**

Place it under lib folder

```
# cd /usr/share/tomcat7/lib
```

```
# sudo wget http://central.maven.org/maven2/org/drizzle/jdbc/drizzle-jdbc/1.3/drizzle-jdbc-1.3.jar
```

#### Edit /etc/init.d/tomcat7

```
# sudo nano /etc/init.d/tomcat7
```

copy below red colored content into it & exit by pressing ctrl+x then confirm with y for yes.

```
# Tomcat auto-start
#
# description: Auto-starts tomcat
# processname: tomcat
# pidfile: /var/run/tomcat.pid

case $1 in
start)
sh /usr/share/tomcat7/bin/startup.sh
;;
stop)
sh /usr/share/tomcat7/bin/shutdown.sh
;;
restart)
sh /usr/share/tomcat7/bin/shutdown.sh
sh /usr/share/tomcat7/bin/startup.sh
;;
esac
exit 0
```

```
# sudo chmod 755 /etc/init.d/tomcat7
```

Link this script to the startup folders with a symbolic link. Execute these two commands.

```
# sudo ln -s /etc/init.d/tomcat7 /etc/rc1.d/K99tomcat
# sudo ln -s /etc/init.d/tomcat7 /etc/rc2.d/S99tomcat
```

## Step 3 - Fineract Platform and Database Setup/Population

### Initialize Fineract Platform Database(s)

```
# mysql -u root -p
```

Enter mysql root password, and in mysql console type:

```
create database `mifosplatform-tenants`;
create database `mifostenant-default`;
exit
```

*Optional - If you want to load sample data, otherwise you could skip this part:*

```
# mysql -u root -p mifostenant-default < database/migrations/sample_data/load_sample_data.sql
```

## Step 4 - Copy Apache Fineract war file into webapps directory

Extract the release binary and copy fineract platform war file into Tomcat's webapps folder:

```
# sudo cp fineract-provider.war /usr/share/tomcat7/webapps/
```

Finally start tomcat as service with below command

```
# sudo /etc/init.d/tomcat7 start
```

Setup is complete and Fineract platform should be running.