

Liferay Portal-Installation and Configuration

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Table of Contents

1. Application Servers	1
Geronimo 1.1 with Tomcat	1
JBoss 4.04 with Jetty	2
JBoss 4.04 with Tomcat	5
Jetty 5.1.1	8
Tomcat 5.5.17	10
Resin 3.0.19	13
Websphere 6.0.2.5	14
Installation	14
Set Up Database Service	15
Mail Configuration	19
Install Liferay	23
Start Liferay Portal	28
2. Special Cases	30
Using Oracle 9 and 10 Database	30

List of Tables

1.1.	18
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Chapter 1. Application Servers

This document is the expert installation and configuration guide to install Liferay Portal 4.x on top of supported application servers. For easy installation with Liferay bundled with an application server, please refer to Chapter 1: Getting Started [<http://content.liferay.com/4.0.0/docs/quickstart/ch01.html>] of the Quick Start Guide. Please note that this documentation will be using MySQL as the database. To use other databases, please substitute that database JDBC driver and configure accordingly. Consult the Database section of the developers guide or your Database Administrator for more details.

Geronimo 1.1 with Tomcat

1. Download and install Geronimo/Tomcat [<http://geronimo.apache.org/downloads.html>] into your preferred directory. From now on, the directory where you installed Geronimo will be referred to as `$GERONIMO_HOME`.
2. Download and install JDK 5 [<http://java.sun.com/javase/downloads/index.jsp>] . Set an environment variable called `%JAVA_HOME%` to point to your JDK directory.
3. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.
4. Download liferay-portal-4.1.x.war [<http://www.liferay.com/web/guest/downloads>].
5. Download portal-kernal.jar from Liferay Portal 4.1.x Dependencies [<http://www.liferay.com/web/guest/downloads>].
6. Populate your database with the portal schema and default data.
 - a. Download script create-mysql.sql from Liferay Portal 4.1.0 SQL Scripts [<http://www.liferay.com/web/guest/downloads>].
 - b. In command prompt, run mysql script by entering `mysql < create-mysql.sql`.
7. Edit `$GERONIMO_HOME\bin\geronimo.bat`
insert at line 219:

```
set JAVA_OPTS=-Xms128m -Xmx512m -Dfile.encoding=UTF8 -Duser.timezone=GMT
```
8. Point browser to `localhost:8080/console` to enter Administration Console.
 - Login in as **User:** system and **Password:** manager
9. Click **Common Libs** under Services.
 - Click **Browse**, find portal-kernal.jar and add
 - **Group:** Liferay
 - **Artifact:** Portal-kernel
 - **Version:** enter version number of jar
 - **Type:** Jar
 - Click **Install???**

10. Click **Database Pools** under Services
 - Click **Using the Geronimo database pool wizard**
 - **Name of Database Pool:** LiferayPool
 - **Database Type:** MySql
 - Click **Next**
 - **Driver Jar:** click **Download a Driver** and select **MySQL Connector/J3.0.17**
 - Click **Next**
 - **DB User Name:** <none>
 - **DB Password:** <none>
 - **Port:** 3306 (default)
 - **Host:** localhost
 - **Database:** lportal
 - Click **Next**
 - Click **Test Connection**
 - Click **Deploy**
11. Click **Deploy New** under Applications
 - **Archive:** Browse for liferay-portal-4.x.war
 - Click **Install**
12. Click Web App WARs
 - **Uninstall** geronimo/welcome-tomcat/1.1/car
 - **Start** -default/liferayportal/xxxxxxx.../war
13. Open your browser to <http://localhost:8080>. Click on My Liferay at the upper right hand corner to enter the login screen. Your login is test@liferay.com and your password is test.

JBoss 4.04 with Jetty

1. Download and install JBoss AS [<http://labs.jboss.com/portal/jbossas>] into your preferred directory. From now on, the directory where you installed Tomcat will be referred to as \$JBOSS_HOME.
2. Download and install JDK 5 [<http://java.sun.com/javaee/downloads/index.jsp>] . Set an environment variable called %JAVA_HOME% to point to your JDK directory.
3. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.
4. Download liferay-portal-4.x.ear [<http://www.liferay.com/web/guest/downloads>].

5. Edit `$JBOSS_HOME/server/default/conf/jboss-service.xml`:

```
<classpath codebase="${jboss.server.lib.url:lib}/ext" archives="*" />
```
6. Create directory `$JBOSS_HOME/directory/server/default/deploy/jbossweb-jetty.sar`. Download `jetty-5.1.4-jboss-4.0.2.sar` [http://sourceforge.net/project/showfiles.php?group_id=7322&package_id=132252] and unzip to directory.
7. Remove `$JBOSS_HOME/server/default/deploy/jbossweb-tomcat55.sar`.
8. Remove `$JBOSS_HOME/server/default/deploy/management`.
9. Create file `$JBOSS_HOME/server/default/deploy/liferay-ds.xml` with following content:

```
<?xml version="1.0"?>

<datasources>
  <local-tx-datasource>
    <jndi-name>jdbc/LiferayPool</jndi-name>
    <connection-url>
jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8
    </connection-url>
    <driver-class>com.mysql.jdbc.Driver</driver-class>
    <user-name></user-name>
    <password></password>
    <min-pool-size>0</min-pool-size>
  </local-tx-datasource>
</datasources>
```
10. Go to `$JBOSS_HOME/server/default/lib/` and create new directory `ext`. Download `mysql-connector-java-{$version}-bin.jar` [<http://www.mysql.com/products/connector/j/>] and copy to this directory. (This is the JDBC connector for MySQL, for other databases, go to appropriate website to download.)
11. Populate your database with the portal schema and default data.
 - a. Download script `create-mysql.sql` from Liferay Portal 4.1.0 SQL Scripts [<http://www.liferay.com/web/guest/downloads>].
 - b. In command prompt, run `mysql` script by entering `mysql < create-mysql.sql`.
12. Download `portlet.jar` and `portal-kernel.jar` from liferay Portal 4.1.0 Dependencies [<http://www.liferay.com/web/guest/downloads>].
 - a. Copy to `$JBOSS_HOME/server/default/lib/ext`.
13. Set mail properties by replacing the contents of `$JBOSS_HOME/server/default/deploy/mail-service.xml` with:

```
<?xml version="1.0"?>

<server>
  <mbean code="org.jboss.mail.MailService"
name="jboss:service=MailSession">
    <attribute name="JNDIName">mail/MailSession</attribute>
    <attribute name="User">nobody</attribute>
    <attribute name="Password">password</attribute>
    <attribute name="Configuration">
      <configuration>
```



```

value="imap" />
value="smtp" />
value="localhost" />
value="localhost" />
value="localhost" />
</configuration>
</attribute>
</mbean>
</server>

```

14. Configure JAAS. Edit `$JBOSS_HOME/server/default/conf/login-config.xml` and comment out the entire XML for policy 'other' in lines 140-156.

```

<!--<application-policy name = "other">-->
...
  <!--<authentication>
    <login-module code =
"org.jboss.security.auth.spi.UsersRolesLoginModule"
    flag = "required" />
  </authentication>
</application-policy>-->

```

15. Deploy `liferay-portal-4.x.ear`.

- a. Create directory `$JBOSS_HOME/server/default/deploy/liferay-portal.ear`
- b. Unzip `liferay-portal-4.x.ear` to directory
- c. Go to `JBOSS_HOME/server/default/deploy/liferay-portal.ear/lib`
 - i. Move `dom4j.jar`, `jaxen.jar` to `JBOSS_HOME/lib`
 - ii. Move `commons-collections.jar` to `JBOSS_HOME/server/default/lib`
 - iii. Remove `hibernate3.jar`, `jboss-hibernate.jar` from `JBOSS_HOME/server/default/lib`

16. Edit `$JBOSS_HOME/server/default/deploy/jbossjca-service.xml`:

Change Debug attribute in line 63 from true to false:

```
<attribute name="Debug">false</attribute>
```

17. In `$JBOSS_HOME/server/default/deploy/jbossws14.sar/META-INF/jboss-service.xml`

Comment out deployer service for JSE and EJB2.1 endpoints

line 36-40

```

<!--<mbean name="jboss.ws:service=WebServiceDeployerJSE"
code="org.jboss.ws.server.WebServiceDeployerJSE">
  <depends-list optional-attribute-name="Interceptables">
<depends-list-element>jboss.web:service=WebServer</depends-list-element>

```

```
    </depends-list>
  </mbean>-->
```

lines 45-49

```
    <!--<mbean name="jboss.ws:service=WebServiceDeployerEJB21"
code="org.jboss.ws.server.WebServiceDeployerEJB21">
    <depends-list optional-attribute-name="Interceptables">
<depends-list-element>jboss.ejb:service=EJBDeployer</depends-list-element>
    </depends-list>
  </mbean>-->
```

lines 72-75

```
    <!--<mbean name="jboss.ws:service=WebServiceDeployerNestedJSE"
code="org.jboss.ws.server.WebServiceDeployerNestedJSE">
    <depends optional-attribute-name="MainDeployer"
proxy-type="attribute">jboss.system:service=MainDeployer</depends>
    <depends>jboss.ws:service=WebServiceDeployerJSE</depends>
  </mbean>-->
```

18. Edit `$JBOSS_HOME/server/default/deploy/jms/jbossmq-destinations-service.xml`. Clear out text between server tags:

```
<?xml version="1.0"?>

<server>
</server>
```

19. Start JBoss. Open your browser to `http://localhost:8080`. Click on My Liferay at the upper right hand corner to enter the login screen. Your login is `test@liferay.com` and your password is `test`.

JBoss 4.04 with Tomcat

1. Download and install JBoss AS [<http://labs.jboss.com/portal/>] into your preferred directory. From now on, the directory where you installed Tomcat will be referred to as `$JBOSS_HOME`.
2. Download and install JDK 5 [<http://java.sun.com/javaee/downloads/index.jsp>] . Set an environment variable called `%JAVA_HOME%` to point to your JDK directory.
3. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.
4. Download liferay-portal-4.x.ear [<http://www.liferay.com/web/guest/downloads>].
5. Edit `$JBOSS_HOME/server/default/conf/jboss-service.xml`:

```
<classpath codebase="${jboss.server.lib.url:lib}/ext" archives="*" />
```
6. Delete `$JBOSS_HOME/server/default/deploy/jbossweb-tomcat55.sar/ROOT.war`.
7. Edit `$JBOSS_HOME/server/default/deploy/jbossweb-tomcat55.sar/conf/web.xml`:

replace default servlet (lines 79-91) :

```
<servlet>
  <servlet-name>default</servlet-name>
<servlet-class>org.apache.catalina.servlets.DefaultServlet</servlet-class>
  <init-param>
    <param-name>debug</param-name>
    <param-value>0</param-value>
  </init-param>
  <init-param>
    <param-name>listings</param-name>
    <param-value>true</param-value>
  </init-param>
  <load-on-startup>1</load-on-startup>
</servlet>
```

with:

```
<servlet>
  <servlet-name>default</servlet-name>
<servlet-class>org.apache.catalina.servlets.DefaultServlet</servlet-class>
  <init-param>
    <param-name>debug</param-name>
    <param-value>0</param-value>
  </init-param>
  <init-param>
    <param-name>listings</param-name>
    <param-value>false</param-value>
  </init-param>
  <init-param>
    <param-name>input</param-name>
    <param-value>4096</param-value>
  </init-param>
  <init-param>
    <param-name>output</param-name>
    <param-value>4096</param-value>
  </init-param>
  <load-on-startup>1</load-on-startup>
</servlet>
```

8. Create `$JBOSS_HOME/server/default/deploy/liferay-ds.xml` with following content:

```
<datasources>
  <local-tx-datasource>
    <jndi-name>jdbc/LiferayPool</jndi-name>
    <connection-url>
jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8
    </connection-url>
    <driver-class>com.mysql.jdbc.Driver</driver-class>
    <user-name></user-name>
    <password></password>
    <min-pool-size>0</min-pool-size>
  </local-tx-datasource>
</datasources>
```

9. Go to `$JBOSS_HOME/server/default/lib/` and create new directory `ext`. Download `mysql-connector-java-{$version}-bin.jar` [<http://www.mysql.com/products/connector/j/>] and copy to this directory. (This is the JDBC connector for MySQL, for other databases, go to appropriate website to download.)

10. Populate your database with the portal schema and default data.
 - a. Download script create-mysql.sql from Liferay Portal 4.x SQL Scripts [<http://www.liferay.com/web/guest/downloads>].
 - b. In command prompt, run mysql script by entering `mysql < create-mysql.sql`.
11. Download portlet.jar and portal-kernel.jar from liferay Portal 4.x Dependencies [<http://www.liferay.com/web/guest/downloads>].
 - a. Copy to `$JBOSS_HOME/server/default/lib/ext`.
12. Set mail properties by replacing the contents of `$JBOSS_HOME/server/default/deploy/mail-service.xml` with:

```
<?xml version="1.0"?>

<server>
  <mbean code="org.jboss.mail.MailService"
name="jboss:service=MailSession">
    <attribute name="JNDIName">mail/MailSession</attribute>
    <attribute name="User">nobody</attribute>
    <attribute name="Password">password</attribute>
    <attribute name="Configuration">
      <configuration>
        <property name="mail.store.protocol"
value="imap" />
        <property name="mail.transport.protocol"
value="smtp" />
        <property name="mail.imap.host"
value="localhost" />
        <property name="mail.pop3.host"
value="localhost" />
        <property name="mail.smtp.host"
value="localhost" />
      </configuration>
    </attribute>
  </mbean>
</server>
```

13. Configure JAAS. Edit `$JBOSS_HOME/server/default/conf/login-config.xml` and comment out the entire XML for policy other in lines 140-156.

```
<!--<application-policy name = "other">-->
  ...
  <!--<authentication>
    <login-module code =
"org.jboss.security.auth.spi.UsersRolesLoginModule"
    flag = "required" />
  </authentication>
</application-policy>-->
```

14. Deploy liferay-portal-4.x.ear.
 - a. create new directory `$JBOSS_HOME/server/default/deploy/liferay-portal.ear`
 - b. unzip liferay-portal-4.x.ear to directory
 - c. go into `$JBOSS_HOME/server/default/deploy/liferay-portal.ear/lib`

- move dom4j.jar,jaxen.jar to JBOSS_HOME/lib
 - move commons-collections.jar goes to JBOSS_HOME/server/default/lib
 - remove hibernate3.jar,jboss-hibernate.jar from JBOSS_HOME/server/default/lib
15. Edit JBOSS_HOME/server/default/deploy/jbossjca-service.xml:
- change Debug attribute in line 63 from true to false:
- ```
<attribute name="Debug">false</attribute>
```
16. Edit JBOSS\_HOME/server/default/deploy/jms/jbossmq-destinations-service.xml. Clear out text between server tags:
- ```
<?xml version="1.0"?>  
  
<server>  
</server>
```
17. Start JBoss. Open your browser to <http://localhost:8080>. Click on My Liferay at the upper right hand corner to enter the login screen. Your login is test@liferay.com and your password is test.

Jetty 5.1.1

1. Download and install JDK 1.4 or 1.5 [<http://java.sun.com/javaaee/>]. Set an environment variable called %JAVA_HOME% to point to your JDK directory.
2. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.
3. Download and install Jetty 5.1.11 [<http://jetty.mortbay.org/jetty/index.html>]. Note: Only this version of Jetty is supported by Liferay. Others may work but will not be covered in this documentation. From now on the home directory where you installed Jetty will be called \$JETTY_HOME.
4. Download liferay-portal-pro-4.1.0.war [<http://www.liferay.com/web/guest/downloads>].
5. Download portlet.jar and portal-kernel.jar from liferay Portal 4.x Dependencies [<http://www.liferay.com/web/guest/downloads>].
 - a. Create a \$JETTY_HOME/lib/ext directory and copy these two files there. If the files do not extract to this directory, make sure they are in the correct directory by moving them there.
6. Populate your database with the portal schema and default data.
 - a. Download script create-mysql.sql from Liferay Portal 4.x SQL Scripts [<http://www.liferay.com/web/guest/downloads>]
 - b. In command prompt, run mysql script by entering `mysql < create-mysql.sql`
7. Edit \$JETTY_HOME/extra/etc/start-plus.config.

```
$(jetty.home)/lib/ext/
```

```
$(jetty.home)/lib/ext/*
```

8. Create a data source bound to jdbc/LiferayPool by editing \$JETTY_HOME/etc/jetty.xml.

```
<Call name="addService">
  <Arg>
    <New class="org.mortbay.jetty.plus.JotmService">
      <Set name="Name">TransactionMgr</Set>
      <Call name="addDataSource">
        <Arg>jdbc/LiferayPool</Arg>
        <Arg>
          <New
class="org.enhydra.jdbc.standard.StandardXADataSource">
          <Set name="DriverName">com.mysql.jdbc.Driver</Set>
          <Set
name="Url">jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8</
          <Set name="User"></Set>
          <Set name="Password"></Set>
          </New>
        </Arg>
        <Arg>
          <New
class="org.enhydra.jdbc.pool.StandardXAPoolDataSource">
          <Arg type="Integer">4</Arg>
          <Set name="MinSize">4</Set>
          <Set name="MaxSize">15</Set>
          </New>
        </Arg>
      </Call>
    </New>
  </Arg>
</Call>
```

9. Download mysql-connector-java-{\$version}-bin.jar [<http://www.mysql.com/products/connector/j/>] and copy to \$JETTY_HOME/lib/ext.. (This is the JDBC connector for MySQL, for other databases, go to appropriate website to download.)

10. Create a mail session bound to mail/MailSession.

- a. Edit \$JETTY_HOME/etc/jetty.xml and configure a mail session.

```
<Call name="addService">
  <Arg>
    <New
class="org.mortbay.jetty.plus.MailService">
    <Set name="Name">MailService</Set>
    <Set name="JNDI">mail/MailSession</Set>
    <Put
name="mail.smtp.host">localhost</Put>
    </New>
  </Arg>
</Call>
```

11. Create \$JETTY_HOME/etc/jaas.config.

```
PortalRealm {
  com.liferay.portal.kernel.security.jaas.PortalLoginModule
required;
};
```

12. Create directory `$JETTY_HOME/webapps/root` and unpack `liferay-portal-pro-4.x.war`.
13. Go to `$JETTY_HOME/webapps/root/WEB-INF/lib` and delete `xercesImpl.jar` and `xml-apis.jar`.
14. Copy `$JETTY_HOME/webapps/root/WEB-INF/lib/commons-logging.jar` to `JETTY_HOME/ext` (overwriting existing one).

15. Create batch file.

- a. Create a directory `$JETTY_HOME/bin`
- b. Create `run.bat` (Note, this is for Windows platform. For other platforms, configure accordingly)

```
@echo off

if "" == "%JAVA_HOME%" goto errorJavaHome

%JAVA_HOME%/bin/java -Xmx512m -Dfile.encoding=UTF8 -Duser.timezone=GMT
-Djava.security.auth.login.config=./etc/jaas.config
-DSTART=../extra/etc/start-plus.config -jar ../start.jar ../etc/jetty.xml

goto end

:errorJavaHome
    echo JAVA_HOME not defined.

    goto end

:end
```

Note: If you get a `java.lang.OutOfMemoryError` exception while starting up Jetty, give your JVM more memory by setting `-Xmx512m`.

16. Start Liferay by running `run.bat`. Open your browser to `http://localhost:8080`. Click on My Liferay at the upper right hand corner to enter the login screen. Your login is `test@liferay.com` and your password is `test`.

Tomcat 5.5.17

1. Download and install Tomcat 5.5.17 [<http://tomcat.apache.org/>] into your preferred directory. From now on, the directory where you installed Tomcat will be referred to as `$TOMCAT_HOME`.
2. Download and install JDK 5 [<http://java.sun.com/javase/downloads/index.jsp>] . Set an environment variable called `%JAVA_HOME%` to point to your JDK directory.

Note: If you are using JDK 1.4, you must download and install the JDK 1.4 Compatibility Package at `tomcat.apache`. **For JDK 1.4 users:** delete `$TOMCAT_HOME/webapps/ROOT/WEB-INF/lib/xercesImpl.jar`. **For JDK 5 users:** move `$TOMCAT_HOME/webapps/ROOT/WEB-INF/lib/xercesImpl.jar` to `TOMCAT_HOME/common/endorsed`.

3. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.

4. Create and edit `$TOMCAT_HOME/conf/Catalina/localhost/ROOT.xml` to set up the portal web application.

```
<Context path="">
</Context>
```

5. Download `liferay-portal-pro-4.x.war` [<http://www.liferay.com/web/guest/downloads>].
6. Download `portlet.jar` and `portal-kernel.jar` from Liferay Portal 4.x Dependencies [<http://www.liferay.com/web/guest/downloads>].
 - a. Create a `$TOMCAT_HOME/common/lib/ext` directory and copy these two files there. If the files do not extract to this directory, make sure they are in the correct directory by moving them there.
7. Edit `$TOMCAT_HOME/conf/catalina.properties`.

```
common.loader=
  ${catalina.home}/common/classes,\
  ..\
  ${catalina.home}/common/lib/ext/*.jar
```

8. Configure data sources for your database. Make sure the JDBC driver for your database is accessible by Tomcat.
 - a. Download `mysql-connector-java-{$version}-bin.jar` [<http://www.mysql.com/products/connector/j/>]. (This is the JDBC connector for MySQL, for other databases, go to appropriate website to download.)
 - b. Copy to `$TOMCAT_HOME/common/lib/ext`.
9. Edit `$TOMCAT_HOME/conf/Catalina/localhost/ROOT.xml`.

```
<Context...>
  <Resource
    name="jdbc/LiferayPool"
    auth="Container"
    type="javax.sql.DataSource"
    driverClassName="com.mysql.jdbc.Driver"
    url="jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8"
    username=""
    password=""
    maxActive="100"
    maxIdle="30"
    maxWait="10000"
  />
</Context>
```

10. Populate your database with the portal schema and default data.
 - a. Download script `create-mysql.sql` from Liferay Portal 4.x SQL Scripts [<http://www.liferay.com/web/guest/downloads>].
 - b. In command prompt, run `mysql` script by entering `mysql < create-mysql.sql`
11. Create a mail session bound to `mail/MailSession`.

Edit `$TOMCAT_HOME/conf/Catalina/localhost/ROOT.xml` and configure a mail session.

```
<Context...>
```

```

    <Resource
      name="mail/MailSession"
      auth="Container"
      type="javax.mail.Session"
      mail.transport.protocol="smtp"
      mail.smtp.host="localhost"
    />
  </Context>

```

12. Configure JAAS.

Edit `$TOMCAT_HOME/conf/Catalina/localhost/ROOT.xml` and configure a security realm.

```

<Context...>
  <Realm
    className="org.apache.catalina.realm.JAASRealm"
    appName="PortalRealm"
    userClassNames="com.liferay.portal.security.jaas.PortalPrincipal"
    roleClassNames="com.liferay.portal.security.jaas.PortalRole"
    debug="99"
    useContextClassLoader="false"
  />
</Context>

```

13. Repeat this step for a file called `$TOMCAT_HOME/conf/Catalina/localhost/tunnel.xml` if you want to enable Liferay's HTTP tunneling.

14. Create `$TOMCAT_HOME/conf/jaas.config`.

```

PortalRealm {
  com.liferay.portal.kernel.security.jaas.PortalLoginModule
  required;
};

```

15. Edit `$TOMCAT_HOME/bin/catalina.bat` so that Tomcat can reference the login module.

```

rem ----- Execute...

set JAVA_OPTS=-Xms128m -Xmx512m -Dfile.encoding=UTF8 -Duser.timezone=GMT
-Djava.security.auth.login.config=%CATALINA_HOME%/conf/jaas.config

```

16. Delete contents `$TOMCAT_HOME/webapps/ROOT` directory.

17. Unpack `liferay-portal-pro-4.x.war` to `$TOMCAT_HOME/webapps/ROOT`.

18. For supporting UTF-8 URIEncoding, edit `$TOMCAT_HOME/conf/server.xml`.

```

<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->
  <Connector port="8080" maxHttpHeaderSize="8192"
    maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
    enableLookups="false" redirectPort="8443" acceptCount="100"
    connectionTimeout="20000" disableUploadTimeout="true"
    URIEncoding="UTF-8"
  />

```

19. Run Tomcat, point browser to `http://localhost:8080`. Sign in as `test@liferay.com` and password `test`

Resin 3.0.19

1. Download and install Resin [<http://www.caucho.com/>] into your preferred directory. From now on, the directory where you installed Resin will be referred to as `$JBOSS_HOME`.
2. Download and install JDK 5 [<http://java.sun.com/javase/downloads/index.jsp>] . Set an environment variable called `%JAVA_HOME%` to point to your JDK directory.
3. Download MySQL from www.mysql.com [<http://www.mysql.com>] and install.
4. Edit `$RESIN_HOME/conf/resin.conf` .

replace lines 60-64

```
<class-loader>
  <tree-loader path="${resin.home}/lib"/>
  <tree-loader path="${server.root}/lib"/>
</class-loader>
```

with

```
<class-loader>
  <tree-loader path="${resin.home}/lib"/>
  <tree-loader path="${server.root}/lib"/>
  <compiling-loader path="${server.rootDir}/common/classes"/>
  <library-loader path="${server.rootDir}/common/lib"/>
</class-loader>
```

add:

```
<database>
  <jndi-name>jdbc/LiferayPool</jndi-name>
  <driver type="com.mysql.jdbc.Driver">
<url>jdbc:mysql://localhost/lportal?useUnicode=true&characterEncoding=UTF-8</url>
  <user></user>
  <password></password>
  </driver>
<prepared-statement-cache-size>8</prepared-statement-cache-size>
  <max-connections>20</max-connections>
  <max-idle-time>30s</max-idle-time>
</database>

  <resource jndi-name="mail/MailSession" type="javax.mail.Session">
    <init>
      <mail.store.protocol>imap</mail.store.protocol>
<mail.transport.protocol>smtp</mail.transport.protocol>
      <mail.imap.host>localhost</mail.imap.host>
      <mail.pop3.host>localhost</mail.pop3.host>
      <mail.smtp.host>localhost</mail.smtp.host>
    </init>
  </resource>

  <system-property
javax.xml.parsers.DocumentBuilderFactory="org.apache.xerces.jaxp.DocumentBuilderFactory
/>
  <system-property
javax.xml.parsers.SAXParserFactory="org.apache.xerces.jaxp.SAXParserFactoryImpl"
/>
  <system-property
```

```
javax.xml.transform.TransformerFactory="org.apache.xalan.processor.TransformerFactoryImpl" />
    <system-property
org.xml.sax.driver="org.apache.xerces.parsers.SAXParser" />
```

5. Go to \$RESIN_HOME and create new directory common\lib. Download mysql-connector-java-{\$version}-bin [http://www.mysql.com/products/connector/j/]. jar and copy to this directory. (This is the JDBC connector for MySQL, for other databases, go to appropriate website to download.)
6. Populate your database with the portal schema and default data.
 - a. Download script create-mysql.sql from Liferay Portal 4.1 SQL Scripts [http://www.liferay.com/web/guest/downloads].
 - b. In command prompt, run mysql script by entering `mysql < create-mysql.sql`.
7. Download portlet.jar and portal-kernel.jar from Liferay Portal 4.1 Dependencies [http://www.liferay.com/web/guest/downloads] and copy to \$RESIN_HOME\common\lib.
8. Delete contents of \$RESIN_HOME\webapps\ROOT.
9. Unzip liferay-portal-pro-4.x.war to \$RESIN_HOME\webapps\ROOT.
10. Download liferay-portal-ent-4.0.0-src.zip.
 - a. Go to \$lib\development\ and copy activation.jar and mail.jar to \$RESIN_HOME\common\lib, saxpath.jar and xalan.jar to \$RESIN_HOME\lib
 - b. Go to \$lib\portal and copy xercesImpl.jar and xml-apis.jar to \$RESIN_HOME\lib
11. Go to \$RESIN_HOME\bin and create run.bat.

```
..\httpd.exe -Xmx512m -Dfile.encoding=UTF-8 -Duser.timezone=GMT
```
12. Start Resin. Open your browser to http://localhost:8080. Click on **My Liferay** at the upper right hand corner to enter the login screen. Your login is test@liferay.com and your password is test.

Websphere 6.0.2.5

Note: Throughout this installation and configuration process, Websphere will prompt you to Click Save to apply changes to Master Configuration. Do so intermittently to save your changes.

Installation

1. Download Liferay Portal Professional 4.1.0 WAR , unzip and compile.
2. Install IBM Websphere.
3. Install MySQL.
4. Download and extract these liferay jars to websphere\appserver\lib\ext.

- portal-kernel.jar and portlet.jar (Liferay Portal 4.1.1 Dependencies [http://www.liferay.com/web/guest/downloads])
- liferay-portal-jaas.jar (Liferay Portal Enterprise 4.1.1 JAAS Libraries [http://www.liferay.com/web/guest/downloads])
- portal-ear\mysql-connector-java-3.x.x-bin.jar (MySQL [http://dev.mysql.com/downloads/connector/j/3.1.html])

Set Up Database Service

1. Start Websphere.
2. Open Administrative Console and login.
3. Click **Resources**, click **JDBC Providers**.

Welcome | Logout | Support | Help

Welcome

- Guided Activities
- Servers
- Applications
- Resources
 - JMS Providers
 - JDBC Providers
 - Resource Adapters
 - Asynchronous beans
 - Schedulers
 - Cache instances
 - Object pool managers
 - Mail Providers
 - URL Providers
 - Resource Environment Providers
- Security
- Environment
- System administration
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

JDBC providers

JDBC providers

JDBC providers are used by the installed applications to access data from databases.

Scope: Cell=**lab-02Node01Cell**, Node=**lab-02Node01**

Cell : lab-02Node01Cell Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#)

Node : lab-02Node01

Server : server1

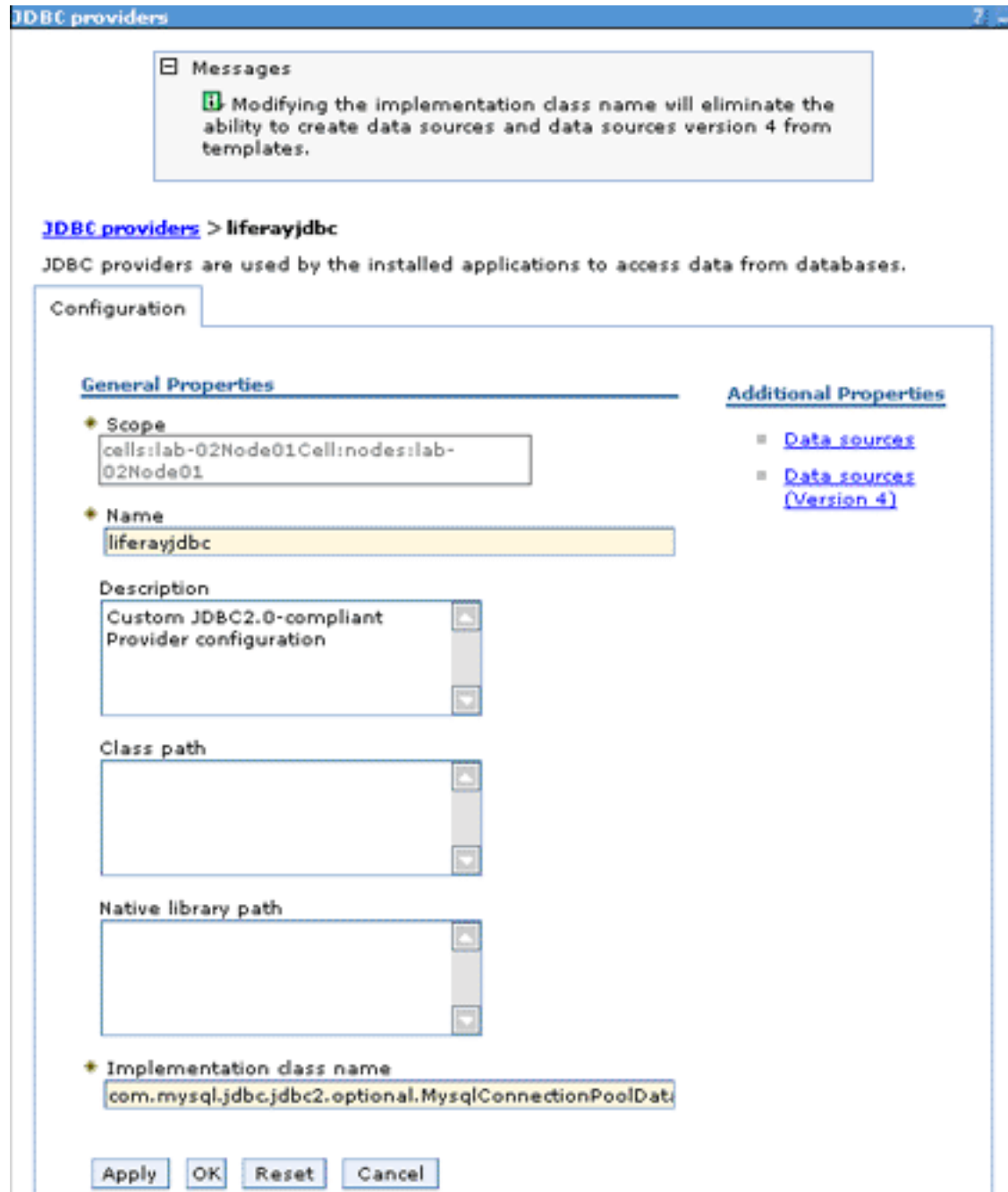
Apply

Preferences

New Delete

Select	Name	Description
	None	
Total 0		

4. Click **Next**.
5. For name, enter name of jdbc provider, e.g. liferayjdbc.
6. Clear any text in classpath.
7. For Implementation class name enter `com.mysql.jdbc.jdbc2.optional.MysqlConnectionPoolDataSource`



8. Click **OK**.
9. Click **Data sources** under Additional Properties.
10. Click **New**.
11. Enter a name: liferaydatabasesource.
12. Enter JNDI, jdbc/LiferayPool.
13. Everything else should stay to default.

14. Click **OK**.

General Properties

✦ **Scope**

✦ **Name**

JNDI name

Use this Data Source in container managed persistence (CMP)

Description

Category

Data store helper class name

Select a data store helper class

Data store helper classes provided by WebSphere Application Server

- Generic data store helper
 (com.ibm.websphere.rsadapter.GenericDataStoreHelper)

Specify a user-defined data store helper

Enter a package-qualified data store helper class name

Component-managed authentication alias

Component-managed authentication alias

Authentication alias for XA recovery

Use component-managed authentication alias

Specify:

Container-managed authentication

Container-managed authentication alias (deprecated in V6.0, use resource reference authentication settings instead)

Mapping-configuration alias (deprecated in V6.0, use resource reference authentication settings instead)

The additional properties will not be available until the general properties for this item are saved.

Additional Properties

- Connection pool properties
- WebSphere Application Server data source properties
- Custom properties

Related Items

- J2EE Connector Architecture (J2C) authentication data entries

15. Under Additional Properties, click **Custom properties**.

16. Click **New**.

17. Create 3 custom properties by entering **Name**, **Value** and clicking **OK** for each row on this table.

Table 1.1.

name	value
1. user	root
2. serverName	localhost
3. databaseName	lportal

JDBC providers > **liferayjdbc** > **Data sources** > **liferaydatabasesource** > **Custom properties** > **New**

Custom properties that may be required for resource providers and resource factories. For example, most database vendors require additional custom properties for data sources that access the database.

Configuration

General Properties

* Scope

Required

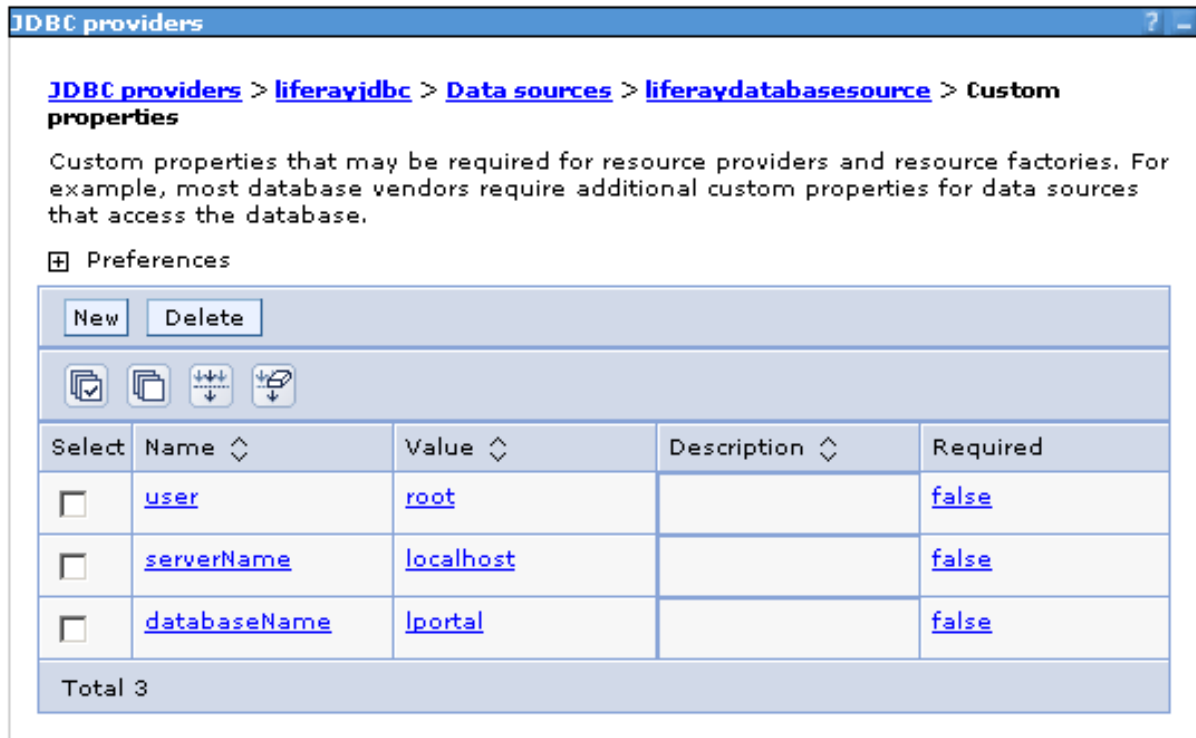
* Name

Value

Description

Type

18. When done correctly, custom properties should look like this:



19. Download Liferay Portal 4.1.0 SQL Scripts [<http://www.liferay.com/web/guest/downloads>] and extract create-mysql.sql.
20. In command prompt, run mysql script by entering `mysql < trunk\sql\create\create-mysql.sql`
21. Click data sources test connection to test.

Mail Configuration

1. Click **Resources, Mail providers**.
2. Click **Built-in Mail Provider**.
3. Click **Mail Sessions**.
4. Click **New**.
 - a. **Name:** liferaymail
 - b. **JNDI name:** mail/MailSession



5. Click **OK**.
6. Click **Security**.
7. Click **Global security**.

8. Select **Enable global security**.
9. Deselect **enforce java 2 security**.
10. In **Active user registry**, select custom user registry.
11. Click **Apply** to go to Custom user registry page.

Global security

Specifies the global security configuration for a managed domain. The following steps are required to turn on security: 1. Configure the desired user registry listed under User registries and set its properties. 2. Select the Enable global security option on this panel. 3. Select the configured user registry type from the Active user registry option on this panel.

Configuration

General Properties

- Enable global security
- Enforce Java 2 security
- Enforce fine-grained JCA security
- Use domain-qualified user IDs
- * Cache timeout: seconds
- Issue permission warning
- Active protocol:
- Active authentication mechanism:
- Active user registry:
- Use the Federal Information Processing Standard (FIPS)

User registries

- [Custom](#)
- [LDAP](#)
- [Local OS](#)

Authentication

- Authentication mechanisms
- Authentication protocol
- JAAS Configuration

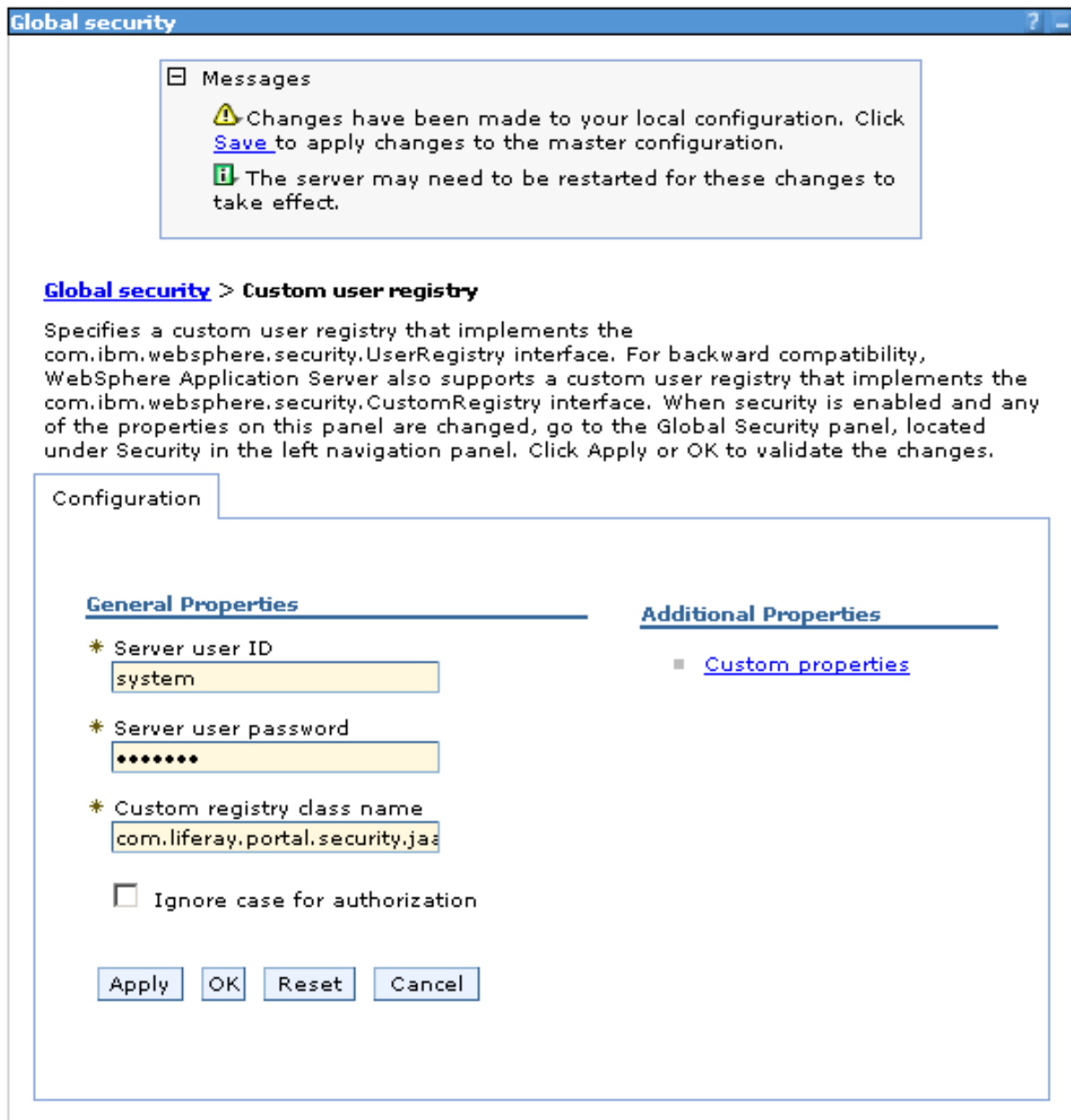
Authorization

- [Authorization providers](#)

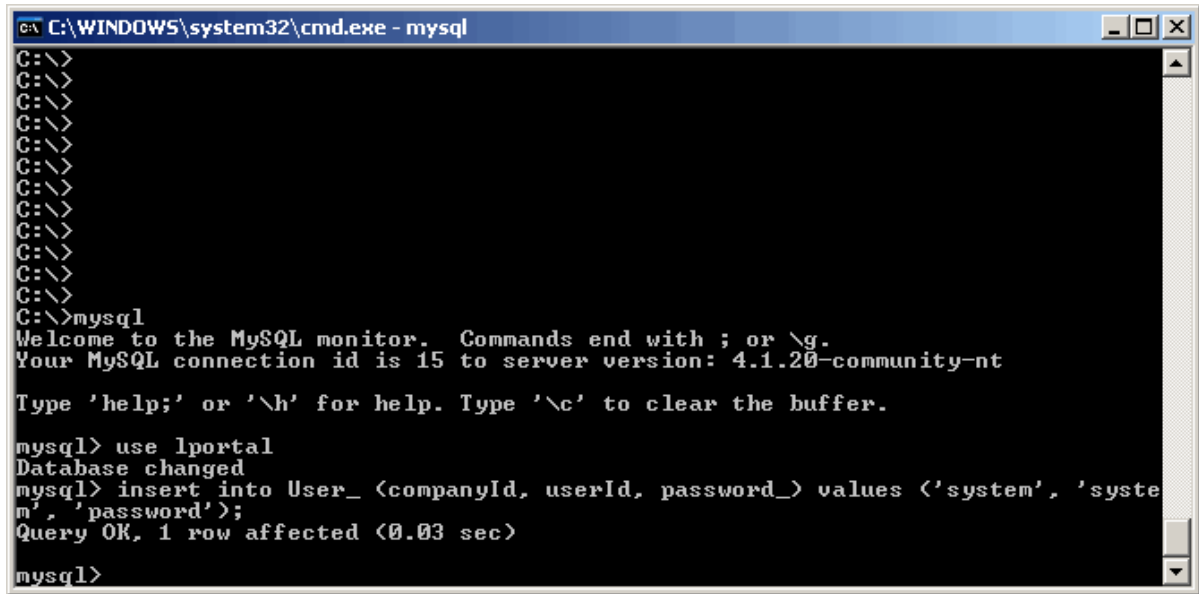
Additional Properties

- [Custom properties](#)

12. Enter 'system' for server user ID.
13. Enter 'password' for server user password.
14. Enter Custom registry class name
com.liferay.portal.security.jaas.ext.websphere.PortalUserRegistry.
15. Click **Apply**.



16. Insert username/password into database.
17. Open a mysql console.
18. Enter Use lportal
19. Enter Insert into User_ (companyId, userId, password_) values ('system', 'system', 'password');



```
C:\WINDOWS\system32\cmd.exe - mysql
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>
C:>mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 15 to server version: 4.1.20-community-nt

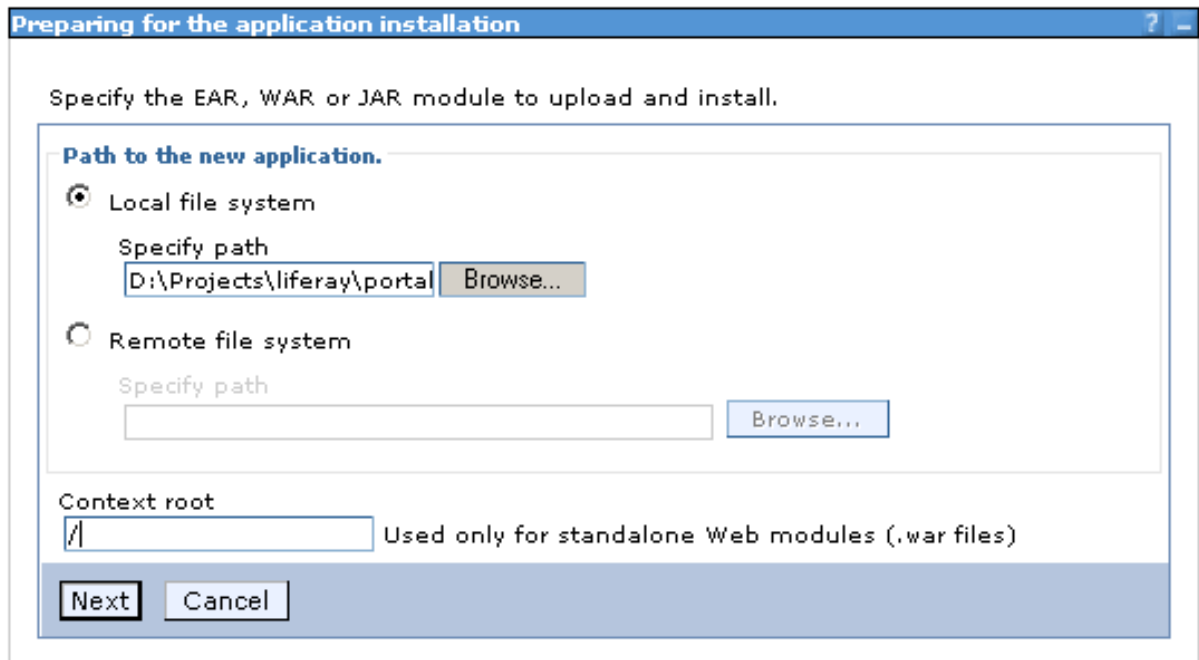
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> use lportal
Database changed
mysql> insert into User_ (companyId, userId, password_) values ('system', 'system', 'password');
Query OK, 1 row affected (0.03 sec)

mysql>
```

Install Liferay

1. Click **Applications**, click **Install new applications**
2. Browse for portal-ear\liferay-portal.war.
3. Enter context root '/'.



4. Click **Next**

5. Select **Generate Default Bindings**>**Override default bindings**>**Use default virtual host name for web modules**:

Preparing for the application installation

Choose to generate default bindings and mappings.

Generate Default Bindings

Override:

Do not override existing bindings

Override existing bindings

Virtual Host

Do not use default virtual host name for Web modules

Use default virtual host name for Web modules:

Host name
default_host

Specific bindings file
 Browse...

Previous Next Cancel

6. Click **Next**. Click **Continue**. For **Steps 1 to 4**, click **Next** to apply defaults.

Install New Application ? -

Specify options for installing enterprise applications and modules.

→ **Step 1: Select installation options**

[Step 2](#) Map modules to servers

[Step 3](#) Map resource references to resources

[Step 4](#) Map virtual hosts for Web modules

[Step 5](#) Map security roles to users/groups

[Step 6](#) Summary

Select installation options

Specify the various options that are available to prepare and install your application.

Pre-compile JSP

Directory to install application

Distribute application

Use Binary Configuration

Deploy enterprise beans

Application name

Create MBeans for resources

Enable class reloading

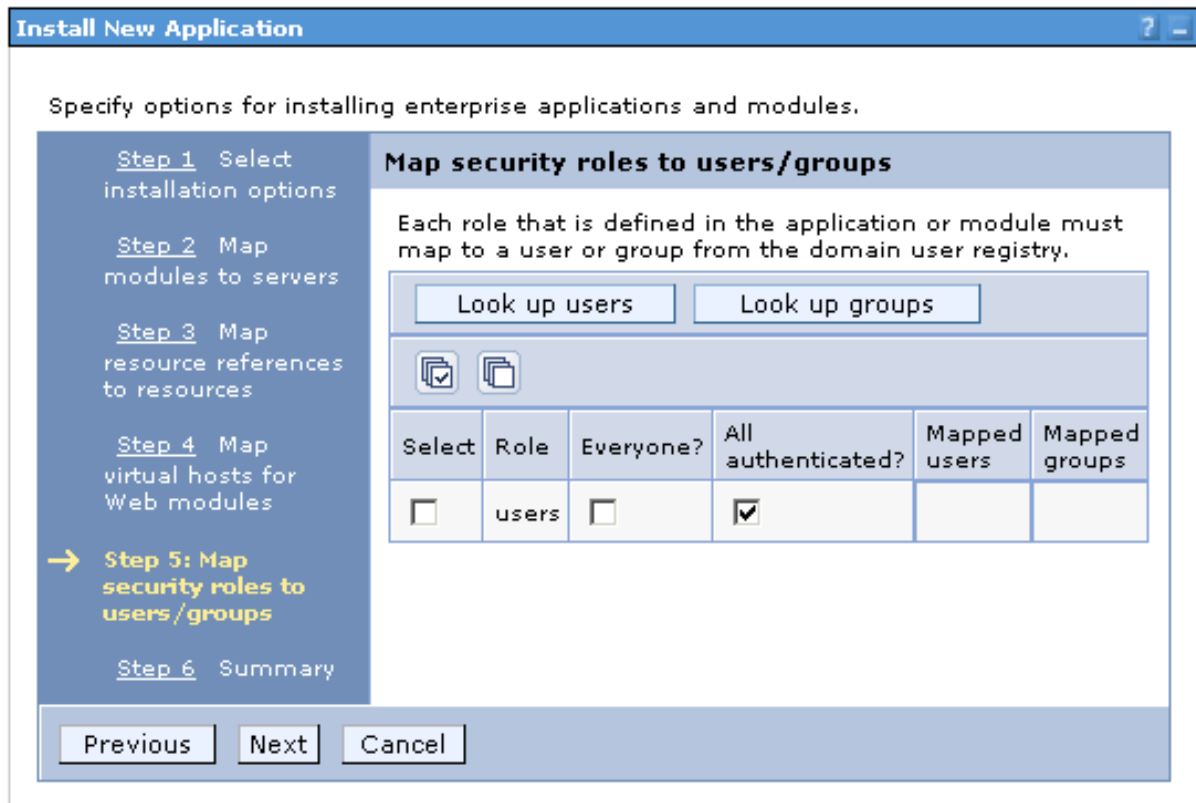
Reload interval in seconds

Deploy Web services

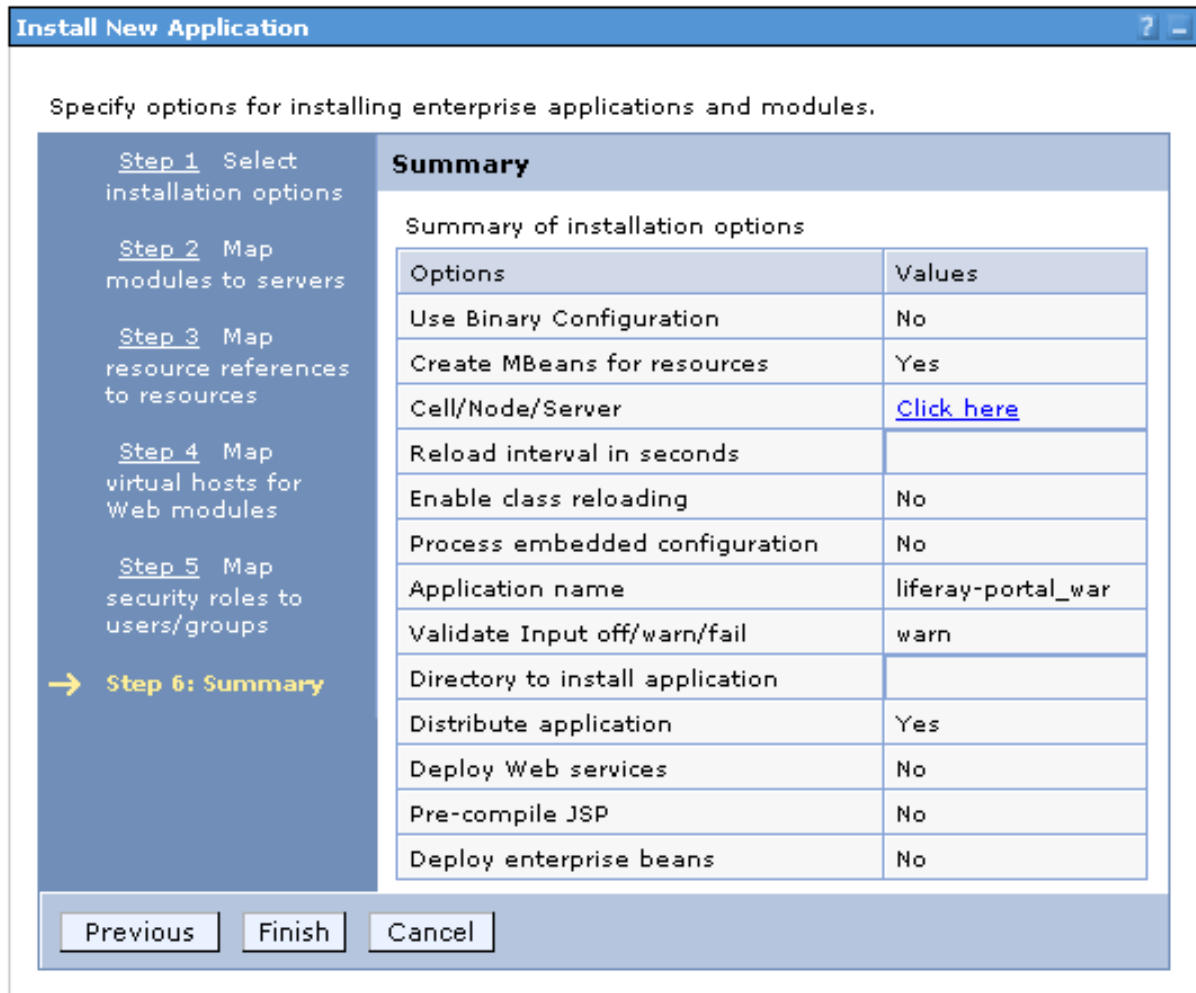
Validate Input off/warn/fail

Process embedded configuration

7. In **Step 5**, check **all authenticated**.



8. Click Next.



9. Click **Finish**.
10. Wait for installation process.

Installing...

If there are enterprise beans in the application, the EJB deployment process can take several minutes. Please do not save the configuration until the process completes.

Check the SystemOut.log on the Deployment Manager or server where the application is deployed for specific information about the EJB deployment process as it occurs.

ADMA5016I: Installation of liferay-portal_war started.

ADMA0014E: Validation failed. Duplicate root context(/) was found on the samenode lab-02Node01 and same default host default_host

ADMA5068I: The resource validation for application liferay-portal_war completed successfully, but warnings occurred during validation.

ADMA5058I: Application and module versions validated with versions of deployment targets.

ADMA5005I: The application liferay-portal_war is configured in the WebSphere Application Server repository.

ADMA5053I: The library references for the installed optional package are created.

ADMA5005I: The application liferay-portal_war is configured in the WebSphere Application Server repository.

ADMA5001I: The application binaries are saved in C:\Program Files\IBM\WebSphere\AppServer\profiles\default\wstemp\0\workspace\cells\lab-02Node01 Cell\applications\liferay-portal_war.ear\liferay-portal_war.ear

ADMA5005I: The application liferay-portal_war is configured in the WebSphere Application Server repository.

SECJ0400I: Successfully updated the application liferay-portal_war with the appContext:IDForSecurity information.

ADMA5011I: The cleanup of the temp directory for application liferay-portal_war is complete.

ADMA5013I: Application liferay-portal_war installed successfully.

Application liferay-portal_war installed successfully.

To start the application, first save changes to the master configuration.

[Save to Master Configuration](#)

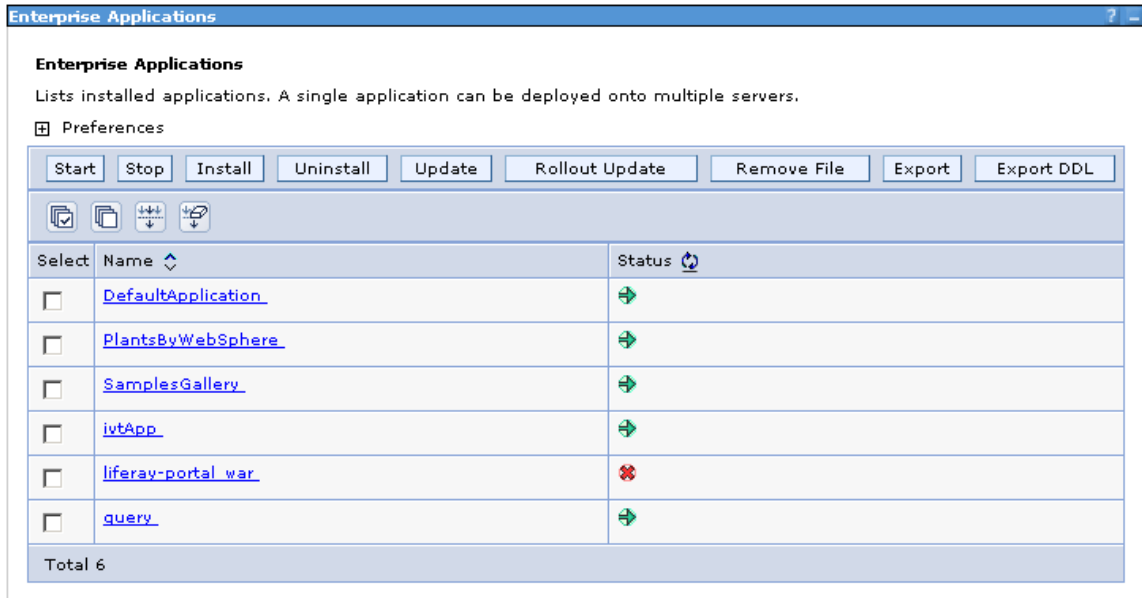
To work with installed applications, click the "Manage Applications" button.

[Manage Applications](#)

11. Save this configuration to master configuration by clicking on **System administration** and **Save Changes to Master Repository**.

Start Liferay Portal

1. Applications.
 - a. Click **Enterprise Applications**.



- b. Uninstall **DefaultApplication**, **PlantsByWebSphere** and **SamplesGallery**.
 - c. Select **liferay-portal.war**, click **start**
2. Open up browser and point to <http://localhost:9080>. Liferay portal home page should be seen.
 3. Edit your Stop the Server shortcut to set the user id and password. If you don't do this, you will not be able to stop the server after you restart WebSphere: "C:\Program Files\WebSphere\AppServer\bin\stopServer.bat" server1 -user system -password password
 4. Stop Websphere and retart it. Login on with '**system**' for username and '**password**' for password.

Chapter 2. Special Cases

Using Oracle 9 and 10 Database

For Oracle 9 and 10 use jdbc driver ojdbc14.jar

[http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/htdocs/jdbc_10201.html]

For Oracle 10, also follow this step:

1. Edit portal.properties and add:

```
hibernate.jdbc.batch_size=0
```

Do not use the default setting of 20.