

Installing LAMS 2.4 on CentOS 5.8

Installing LAMS v 2.4 on CentOS

These are manual instructions to install LAMS v2.4 into Unix. For this particular example we have chosen CentOS 5.8

Confirm CentOS version

```
[root@c5 ~]# lsb_release -a
LSB Version:
:core-4.0-amd64:core-4.0-ia32:core-4.0-noarch:graphics-4.0-amd64:graphics-4.0-ia32:graphics-4.0-noarch:printing-4.0-amd64:printing-4.0-ia32:printing-4.0-noarch
Distributor ID: CentOS
Description: CentOS release 5.8 (Final)
Release: 5.8
Codename: Final
```

Install Java JDK 1.6

You have **two options** for Java JDK 1.6:

- OpenJDK or
- Oracle Java JDK

Note that you need the JDK (not just the JRE) and the version **must be 1.6**.

With RedHat Enterprise Linux, we recommend you use the Oracle Java JDK instead as some sysadmins have reported problems with OpenJDK.

Option: OpenJDK 1.6

You can use CentOS repositories to get this one and it's quite straight forward

```
[root@c5 ~]# yum install java-1.6.0-openjdk java-1.6.0-openjdk-devel
Loaded plugins: fastestmirror, security
Loading mirror speeds from cached hostfile
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package java-1.6.0-openjdk.x86_64 1:1.6.0.0-1.27.1.10.8.el5_8 set to be updated
--> Processing Dependency: jpackage-utils >= 1.7.3-1jpp.2 for package:
java-1.6.0-openjdk
--> Processing Dependency: libasound.so.2(ALSA_0.9)(64bit) for package:
java-1.6.0-openjdk
--> Processing Dependency: libasound.so.2(ALSA_0.9.0rc4)(64bit) for package:
java-1.6.0-openjdk
--> Processing Dependency: tzdata-java for package: java-1.6.0-openjdk
--> Processing Dependency: libXtst.so.6()(64bit) for package: java-1.6.0-openjdk
--> Processing Dependency: libasound.so.2()(64bit) for package: java-1.6.0-openjdk
--> Processing Dependency: libgif.so.4()(64bit) for package: java-1.6.0-openjdk
--> Running transaction check
---> Package alsa-lib.x86_64 0:1.0.17-1.el5 set to be updated
```

```
---> Package giflib.x86_64 0:4.1.3-7.3.3.el5 set to be updated
---> Package jpackage-utils.noarch 0:1.7.3-1jpp.2.el5 set to be updated
---> Package libXtst.x86_64 0:1.0.1-3.1 set to be updated
---> Package tzdata-java.x86_64 0:2012c-3.el5 set to be updated
--> Finished Dependency Resolution
```

Dependencies Resolved

```
=====
=====
```

Package	Size	Arch	Version
---------	------	------	---------

```
=====
=====
```

```
Installing:
  java-1.6.0-openjdk                x86_64                1:1.6.0.0-1.27.1.10.8.el5_8
updates                             36 M
Installing for dependencies:
  alsa-lib                          x86_64                1.0.17-1.el5
base                                414 k
  giflib                            x86_64                4.1.3-7.3.3.el5
base                                39 k
  jpackage-utils                    noarch                1.7.3-1jpp.2.el5
base                                61 k
  libXtst                           x86_64                1.0.1-3.1
base                                16 k
  tzdata-java                       x86_64                2012c-3.el5
updates                             181 k
```

Transaction Summary

```
=====
=====
```

Install	6 Package(s)
Upgrade	0 Package(s)

```
Total download size: 37 M
Downloading Packages:
(1/6): libXtst-1.0.1-3.1.x86_64.rpm
| 16 kB    00:00
(2/6): giflib-4.1.3-7.3.3.el5.x86_64.rpm
| 39 kB    00:00
(3/6): jpackage-utils-1.7.3-1jpp.2.el5.noarch.rpm
| 61 kB    00:00
(4/6): tzdata-java-2012c-3.el5.x86_64.rpm
| 181 kB   00:00
(5/6): alsa-lib-1.0.17-1.el5.x86_64.rpm
| 414 kB   00:00
(6/6): java-1.6.0-openjdk-1.6.0.0-1.27.1.10.8.el5_8.x86_64.rpm
| 36 MB    00:02
```

```
-----
-----
Total
16 MB/s | 37 MB    00:02
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : alsa-lib
```

```
1/6
  Installing      : giflib
2/6
  Installing      : libXtst
3/6
  Installing      : jpackage-utils
4/6
  Installing      : tzdata-java
5/6
  Installing      : java-1.6.0-openjdk
6/6
```

Installed:

```
java-1.6.0-openjdk.x86_64 1:1.6.0.0-1.27.1.10.8.el5_8
```

Dependency Installed:

```
alsa-lib.x86_64 0:1.0.17-1.el5      giflib.x86_64 0:4.1.3-7.3.3.el5
jpackage-utils.noarch 0:1.7.3-1jpp.2.el5
libXtst.x86_64 0:1.0.1-3.1          tzdata-java.x86_64 0:2012c-3.el5
```

Complete!

```
[root@c5 ~]# java -version
java version "1.6.0_22"
OpenJDK Runtime Environment (IcedTea6 1.10.8) (rhel-1.27.1.10.8.el5_8-x86_64)
OpenJDK 64-Bit Server VM (build 20.0-b11, mixed mode)
```

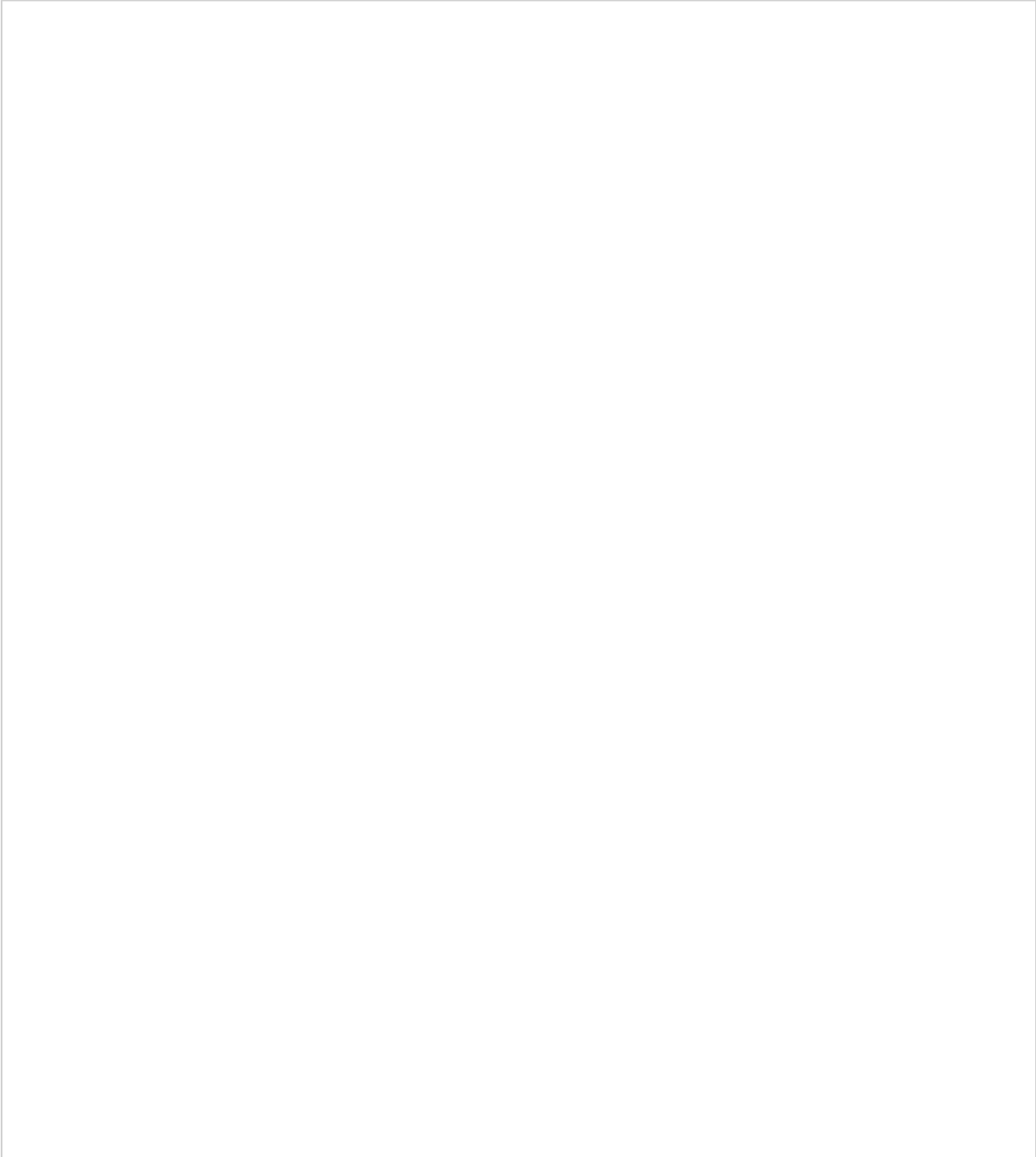
```
[root@c5 ~]#
```

Option: Oracle Java JDK 1.6

Go to [Oracle Java Download](#) and download the RPM for Oracle's Java JDK 1.6. You will need to agree to their terms and conditions, so most likely you would want to use a browser and the copy the file over to your server.

Remember that you need the JDK and not just the JRE.

Once you downloaded the file, proceed to the installation as follows:



```
[root@centos tmp]# chmod +x jdk-6u43-linux-x64-rpm.bin
[root@centos tmp]# ./jdk-6u43-linux-x64-rpm.bin
Unpacking...
Checksumming...
Extracting...
UnZipSFX 5.50 of 17 February 2002, by Info-ZIP (Zip-Bugs@lists.wku.edu).
  inflating: jdk-6u43-linux-amd64.rpm
  inflating: sun-javadb-common-10.6.2-1.1.i386.rpm
  inflating: sun-javadb-core-10.6.2-1.1.i386.rpm
  inflating: sun-javadb-client-10.6.2-1.1.i386.rpm
  inflating: sun-javadb-demo-10.6.2-1.1.i386.rpm
  inflating: sun-javadb-docs-10.6.2-1.1.i386.rpm
  inflating: sun-javadb-javadoc-10.6.2-1.1.i386.rpm
Preparing...                               ##### [100%]
  1:jdk                                     ##### [100%]
Unpacking JAR files...
  rt.jar...
  jsse.jar...
  charsets.jar...
  tools.jar...
  localedata.jar...
  plugin.jar...
  javaws.jar...
  deploy.jar...
Installing JavaDB
Preparing...                               ##### [100%]
  1:sun-javadb-common                       ##### [ 17%]
  2:sun-javadb-core                         ##### [ 33%]
  3:sun-javadb-client                       ##### [ 50%]
  4:sun-javadb-demo                         ##### [ 67%]
  5:sun-javadb-docs                         ##### [ 83%]
  6:sun-javadb-javadoc                     ##### [100%]

Java(TM) SE Development Kit 6 successfully installed.

Product Registration is FREE and includes many benefits:
* Notification of new versions, patches, and updates
* Special offers on Oracle products, services and training
* Access to early releases and documentation

Product and system data will be collected. If your configuration
supports a browser, the JDK Product Registration form will
be presented. If you do not register, none of this information
will be saved. You may also register your JDK later by
opening the register.html file (located in the JDK installation
directory) in a browser.

For more information on what data Registration collects and
how it is managed and used, see:
http://java.sun.com/javase/registration/JDKRegistrationPrivacy.html

Press Enter to continue.....

Done.
```

Check that everything is installed properly:

```
[root@centos tmp]# java -version
java version "1.6.0_43"
Java(TM) SE Runtime Environment (build 1.6.0_43-b01)
Java HotSpot(TM) 64-Bit Server VM (build 20.14-b01, mixed mode)
```

Installing MySQL Server

```
[root@c5 ~]# yum install mysql-server
Loaded plugins: fastestmirror, security
Loading mirror speeds from cached hostfile
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package mysql-server.x86_64 0:5.0.95-1.el5_7.1 set to be updated
--> Processing Dependency: mysql = 5.0.95-1.el5_7.1 for package: mysql-server
--> Processing Dependency: libmysqlclient.so.15(libmysqlclient_15)(64bit) for package:
mysql-server
--> Processing Dependency: perl-DBD-MySQL for package: mysql-server
--> Processing Dependency: perl(DBI) for package: mysql-server
--> Processing Dependency: perl-DBI for package: mysql-server
--> Processing Dependency: libmysqlclient_r.so.15(libmysqlclient_15)(64bit) for
package: mysql-server
--> Processing Dependency: libmysqlclient_r.so.15()(64bit) for package: mysql-server
--> Processing Dependency: libmysqlclient.so.15()(64bit) for package: mysql-server
--> Running transaction check
---> Package mysql.x86_64 0:5.0.95-1.el5_7.1 set to be updated
---> Package perl-DBD-MySQL.x86_64 0:3.0007-2.el5 set to be updated
---> Package perl-DBI.x86_64 0:1.52-2.el5 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====
=====
Package                Arch          Version
Repository              Size
=====
=====
Installing:
mysql-server            x86_64        5.0.95-1.el5_7.1
updates                9.9 M
Installing for dependencies:
mysql                  x86_64        5.0.95-1.el5_7.1
updates                4.9 M
perl-DBD-MySQL         x86_64        3.0007-2.el5
base                   148 k
perl-DBI               x86_64        1.52-2.el5
base                   600 k

Transaction Summary
```

```
=====
=====
Install      4 Package(s)
Upgrade     0 Package(s)

Total download size: 15 M
Downloading Packages:
(1/4): perl-DBD-MySQL-3.0007-2.el5.x86_64.rpm
| 148 kB      00:00
(2/4): perl-DBI-1.52-2.el5.x86_64.rpm
| 600 kB      00:00
(3/4): mysql-5.0.95-1.el5_7.1.x86_64.rpm
| 4.9 MB      00:00
(4/4): mysql-server-5.0.95-1.el5_7.1.x86_64.rpm
| 9.9 MB      00:00
-----

Total
17 MB/s | 15 MB      00:00
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : perl-DBI
1/4
  Installing      : mysql
2/4
  Installing      : perl-DBD-MySQL
3/4
  Installing      : mysql-server
4/4

Installed:
  mysql-server.x86_64 0:5.0.95-1.el5_7.1

Dependency Installed:
  mysql.x86_64 0:5.0.95-1.el5_7.1      perl-DBD-MySQL.x86_64 0:3.0007-2.el5
  perl-DBI.x86_64 0:1.52-2.el5
```

```
Complete!  
[root@c5 ~]#
```

Start MySQL Server

```
[root@c5 tmp]# service mysqld start  
Initializing MySQL database: Installing MySQL system tables...  
OK  
Filling help tables...  
OK  
  
To start mysqld at boot time you have to copy  
support-files/mysql.server to the right place for your system  
  
PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !  
To do so, start the server, then issue the following commands:  
/usr/bin/mysqladmin -u root password 'new-password'  
/usr/bin/mysqladmin -u root -h c5.lamsinternational.com password 'new-password'  
  
Alternatively you can run:  
/usr/bin/mysql_secure_installation  
  
which will also give you the option of removing the test  
databases and anonymous user created by default. This is  
strongly recommended for production servers.  
  
See the manual for more instructions.  
  
You can start the MySQL daemon with:  
cd /usr ; /usr/bin/mysqld_safe &  
  
You can test the MySQL daemon with mysql-test-run.pl  
cd mysql-test ; perl mysql-test-run.pl  
  
Please report any problems with the /usr/bin/mysqlbug script!  
  
The latest information about MySQL is available on the web at  
http://www.mysql.com  
Support MySQL by buying support/licenses at http://shop.mysql.com  
Starting MySQL: [ OK ]  
[root@c5 tmp]#
```

Create a LAMS user within MySQL


```
[root@c5 tmp]# mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.0.95 Source distribution

Copyright (c) 2000, 2011, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE lams DEFAULT CHARACTER SET utf8 COLLATE utf8_unicode_ci;
Query OK, 1 row affected (0.00 sec)

mysql> GRANT ALL PRIVILEGES ON lams.* TO lams@localhost IDENTIFIED BY 'lamsdemo';
Query OK, 0 rows affected (0.00 sec)

mysql> exit
Bye
[root@c5 tmp]#
```

Download LAMS v2.4 for Linux/Unix

```
[root@c5 tmp]# wget
http://downloads.lamsinternational.com/2.4/stable/unix/lams-unix-installer-2.4.0.tar.g
z
```

Prepare LAMS 2.4 installation

Copy JBoss and LAMS Binaries to app directory

Within the lams installer, copy the jboss-5.1 folder to /usr/local

```
[root@c5 lams-installer]# cp -rp jboss-5.1 /usr/local
[root@c5 lams-installer]#
```

Create a nonlogin user for LAMS

```
useradd -d /usr/local/jboss-5.1/bin -M lams
```

and set permissions

```
[root@c5 lams-installer]# chown -R lams:lams /usr/local/jboss-5.1/
[root@c5 lams-installer]#
```

Import LAMS Db into MySQL

```
[root@c5 lams-installer]# mysql -u lams -p lams < lams.sql
Enter password: lamsdemo
[root@c5 lams-installer]#
```

Customizing LAMS settings

The default settings for LAMS are:

LAMS ear folder	/usr/local/jboss-5.1/server/default/deploy/lams.ear
Repository directory	/var/opt/lams/repository
Temp directory	/var/opt/lams/tmp
Server URL	http://localhost:8080/lams/

If you want to change any of these settings, you can copy paste the text below, do the modifications necessary, save it as a file and then import it into mysql.

:q

Example: /tmp/config-lams.sql

```
update lams_configuration set config_value = 'http://<your-desired-url>:8080/lams/'
where config_key = 'ServerURL';
update lams_configuration set config_value =
'/usr/local/jboss-5.1/server/default/deploy/lams.ear' where config_key = 'EARDir';
update lams_configuration set config_value = '/var/opt/lams/repository' where
config_key = 'ContentRepositoryPath';
update lams_configuration set config_value = '/var/opt/lams/Temp' where config_key =
'TempDir';
```

Then you can run this into the db as we did before:

```
[root@c5 lams-installer]# mysql -u lams -p lams < /tmp/config-lams.sql
Enter password: lamsdemo
[root@c5 lams-installer]#
```

Set permissions to repository and tmp folders

```
[root@c5 lams-installer]# mkdir -p /var/opt/lams
[root@c5 lams-installer]# chown -R lams:lams /var/opt/lams
[root@c5 lams-installer]#
```

Start LAMS

```
su -l lams -c "/usr/local/jboss-5.1/bin/run.sh -b 50.97.148.3"

[root@c5 local]# su -l lams -c "/usr/local/jboss-5.1/bin/run.sh -b 50.97.148.3"
=====

JBoss Bootstrap Environment

JBOSS_HOME: /usr/local/jboss-5.1

JAVA: java

JAVA_OPTS: -Dprogram.name=run.sh -Xms128m -Xmx512m -XX:MaxPermSize=256m
-Dorg.jboss.resolver.warning=true -Dsun.rmi.dgc.client.gcInterval=3600000
-Dsun.rmi.dgc.server.gcInterval=3600000 -Djava.net.preferIPv4Stack=true

CLASSPATH: /usr/local/jboss-5.1/bin/run.jar

=====

11:49:02,275 INFO [ServerImpl] Starting JBoss (Microcontainer)...
11:49:02,276 INFO [ServerImpl] Release ID: JBoss [The Oracle] 5.1.0.GA (build:
SVNTag=JBoss_5_1_0_GA date=200905221634)
11:49:02,276 INFO [ServerImpl] Bootstrap URL: null
11:49:02,276 INFO [ServerImpl] Home Dir: /usr/local/jboss-5.1
11:49:02,276 INFO [ServerImpl] Home URL: file:/usr/local/jboss-5.1/
11:49:02,276 INFO [ServerImpl] Library URL: file:/usr/local/jboss-5.1/lib/
11:49:02,277 INFO [ServerImpl] Patch URL: null
11:49:02,277 INFO [ServerImpl] Common Base URL: file:/usr/local/jboss-5.1/common/
11:49:02,277 INFO [ServerImpl] Common Library URL:
file:/usr/local/jboss-5.1/common/lib/
11:49:02,277 INFO [ServerImpl] Server Name: default
11:49:02,277 INFO [ServerImpl] Server Base Dir: /usr/local/jboss-5.1/server
11:49:02,277 INFO [ServerImpl] Server Base URL: file:/usr/local/jboss-5.1/server/
11:49:02,277 INFO [ServerImpl] Server Config URL:
file:/usr/local/jboss-5.1/server/default/conf/
11:49:02,277 INFO [ServerImpl] Server Home Dir: /usr/local/jboss-5.1/server/default
11:49:02,277 INFO [ServerImpl] Server Home URL:
file:/usr/local/jboss-5.1/server/default/
11:49:02,278 INFO [ServerImpl] Server Data Dir:
/usr/local/jboss-5.1/server/default/data
11:49:02,278 INFO [ServerImpl] Server Library URL:
file:/usr/local/jboss-5.1/server/default/lib/
11:49:02,278 INFO [ServerImpl] Server Log Dir:
/usr/local/jboss-5.1/server/default/log
11:49:02,278 INFO [ServerImpl] Server Native Dir:
/usr/local/jboss-5.1/server/default/tmp/native
11:49:02,278 INFO [ServerImpl] Server Temp Dir:
```

```
/usr/local/jboss-5.1/server/default/tmp
11:49:02,278 INFO [ServerImpl] Server Temp Deploy Dir:
/usr/local/jboss-5.1/server/default/tmp/deploy
11:49:02,736 INFO [ServerImpl] Starting Microcontainer,
bootstrapURL=file:/usr/local/jboss-5.1/server/default/conf/bootstrap.xml
...
...

11:49:52,180 INFO [AutoPatchService] Applied 0 patches.
11:49:52,181 INFO [ContextLoader] Root WebApplicationContext: initialization
completed in 73 ms
11:49:52,192 INFO [TilesPlugin] Tiles definition factory loaded for module ''.
11:49:52,192 INFO [Dispatcher] Connector initialized to
net.fckeditor.connector.impl.ContextConnector
11:49:52,198 INFO [TomcatDeployment] deploy, ctxPath=/lams/www
11:49:52,349 INFO [Http11Protocol] Starting Coyote HTTP/1.1 on http-50.97.148.3-8080
11:49:52,429 INFO [AjpProtocol] Starting Coyote AJP/1.3 on ajp-50.97.148.3-8009
11:49:52,523 INFO [ServerImpl] JBoss (Microcontainer) [5.1.0.GA (build:
SVNTag=JBoss_5_1_0_GA date=200905221634)] Started in 50s:244ms
```

If you see something like this, you now have LAMS running.

Login as sysadmin (u: sysadmin p: sysadmin) and you are ready to go.

Start on boot

If you need LAMS to start on boot (as service) then get `start-stop-daemon` to help you with this.

```
# cd /tmp
# yum install gcc
# wget
"http://developer.axis.com/download/distribution/apps-sys-utils-start-stop-daemon-IR1_9_18-2.tar.gz"
# tar xvzf apps-sys-utils-start-stop-daemon-IR1_9_18-2.tar.gz
# cd apps/sys-utils/start-stop-daemon-IR1_9_18-2/
# gcc start-stop-daemon.c -o start-stop-daemon
# cp start-stop-daemon /usr/sbin/
```

Now create a file called `lams2` in `/etc/init.d` folder (as root) and modify the script below according to your setup (specifically the IP):

```
#!/bin/sh
# lams2          This shell script takes care of starting and stopping
#
# chkconfig: 2345 90 20
# description:  LAMS 2
# processname: java
#
#               Written by Miquel van Smoorenburg <miquels@cistron.nl>.
#               Modified for Debian
#               by Ian Murdock <imurdock@gnu.ai.mit.edu>.
#               Modified for LAMS
#               by Ernie Ghiglione <ernieg@lamsfoundation.org>.
#
# Version:      @(#)skeleton 1.9 26-Feb-2001 miquels@cistron.nl
#
# Attempt to locate JAVA_HOME, code borrowed from jabref package

if [ -z $JAVA_HOME ]
then
    t=/usr/lib/jvm/java-1.6.0 && test -d $t && export JAVA_HOME=$t
fi
JBOSS_USER=lams
JAVA_HOME=/usr/lib/jvm/java-1.6.0
PATH=/sbin:/bin:/usr/sbin:/usr/bin:${JAVA_HOME}/bin
JAVA=${JAVA_HOME}/bin/java
JBOSS_HOME=/usr/local/jboss-5.1
NAME=default
DESC="LAMS 2 Server $NAME"
IP=50.97.254.234
```

```

test -x $JAVA || exit 0

# Read an optional running configuration file
if [ "x$RUN_CONF" = "x" ]; then
    RUN_CONF="{JBOSS_HOME}/bin/run.conf"
fi
if [ -r "$RUN_CONF" ]; then
    . "$RUN_CONF"
fi

# Setup the java endorsed dirs
JBOSS_ENDORSED_DIRS="{JBOSS_HOME}/lib/endorsed"

# Setup the classpath
runjar="{JBOSS_HOME}/bin/run.jar"
if [ ! -f "$runjar" ]; then
    die "Missing required file: $runjar"
fi
JBOSS_BOOT_CLASSPATH="$runjar"

# Include the JDK javac compiler for JSP pages. The default is for a Sun JDK
# compatible distribution which JAVA_HOME points to
if [ "x$JAVAC_JAR" = "x" ]; then
    JAVAC_JAR="{JAVA_HOME}/lib/tools.jar"
fi

if [ "x$JBOSS_CLASSPATH" = "x" ]; then
    JBOSS_CLASSPATH="{JBOSS_BOOT_CLASSPATH}:$JAVAC_JAR"
else
    JBOSS_CLASSPATH="{JBOSS_CLASSPATH}:$JBOSS_BOOT_CLASSPATH:$JAVAC_JAR"
fi

DAEMON_OPTS="{JAVA_OPTS} -Djava.endorsed.dirs={JBOSS_ENDORSED_DIRS} -classpath
{JBOSS_CLASSPATH} -Dprogram.name org.jboss.Main -b $IP -c $NAME"

#set -e
start() {
    start-stop-daemon --start --chuid {JBOSS_USER} --quiet --background
--make-pidfile --pidfile {JBOSS_HOME}/$NAME.pid --exec $JAVA -- $DAEMON_OPTS
}

stop() {
    start-stop-daemon --stop --quiet --pidfile {JBOSS_HOME}/$NAME.pid
}
case "$1" in
    start)
        echo "$DESC is starting up."
        start
        ;;
    stop)
        echo -n "Stopping $DESC... "
        stop
        rm -f /var/run/$NAME.pid
        echo "stopped."
        ;;
    status)
        if [ -e /var/run/$NAME.pid ]; then
            if [ -r /var/run/$NAME.pid ]; then

```

```
pid=`cat /var/run/"$NAME".pid`
if [ "X$pid" = "X" ]; then
    echo "$DESC is not running."
    exit 1
else
    echo "$DESC is running ($pid)."
    exit 0
fi
fi
echo "$DESC is not running."
;;
restart|force-reload)
#
#       If the "reload" option is implemented, move the "force-reload"
#       option to the "reload" entry above. If not, "force-reload" is
#       just the same as "restart".
#
echo -n "Restarting $DESC: "
#set +e
stop
#set -e
sleep 10
start
;;
*)
N=/etc/init.d/$NAME
echo "Usage: $N {start|stop|restart|force-reload|status}" >&2
exit 1
;;
esac
```

```
exit 0
```

Now, make this file executable:

```
# chmod +x /etc/init.d/lams2
```

Set this and mysql up for startup on boot:

```
# cd /etc/init.d  
# chkconfig --levels 235 lams2 on  
# chkconfig --levels 235 mysqld on
```

And you are **done!**

For further details, please check out the [Sysadmin Guide](#)

Need help?

Check out the technical forums in the [LAMS Community](#)