Installing Tomcat on CentOS

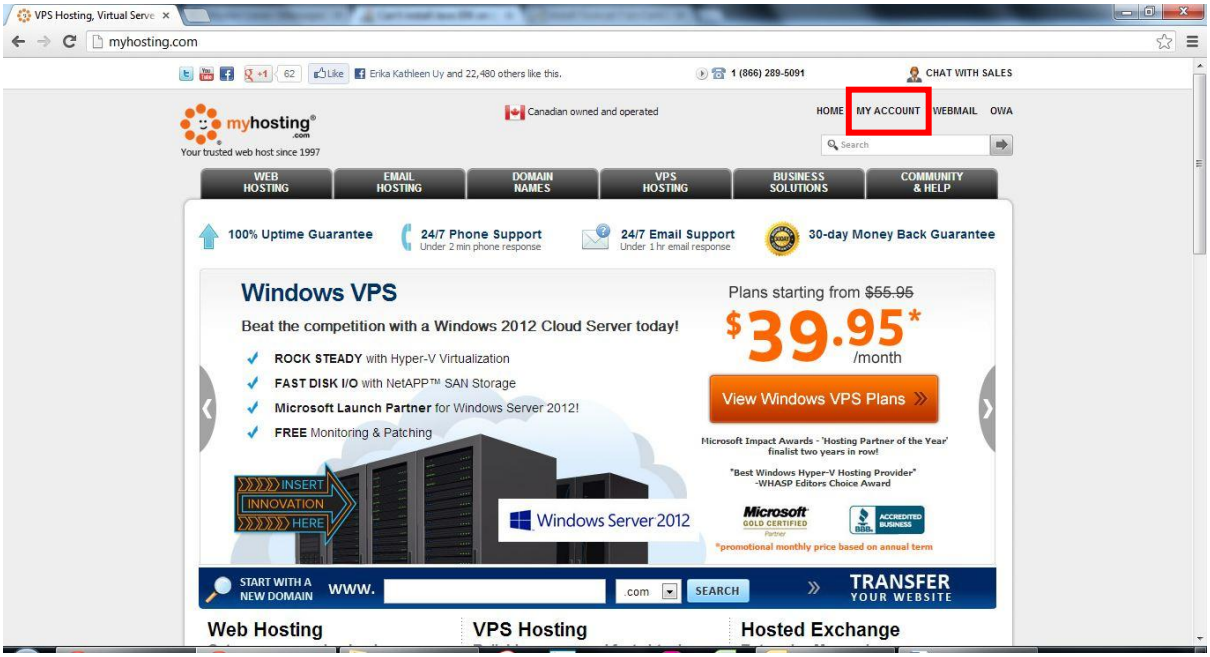
Sources: Installing Tomcat – http://www.davidghedini.com/pg/entry/install_tomcat_7_on_centos

Adding Tomcat Manager – http://www.java-samples.com/showtutorial.php?tutorialid=949

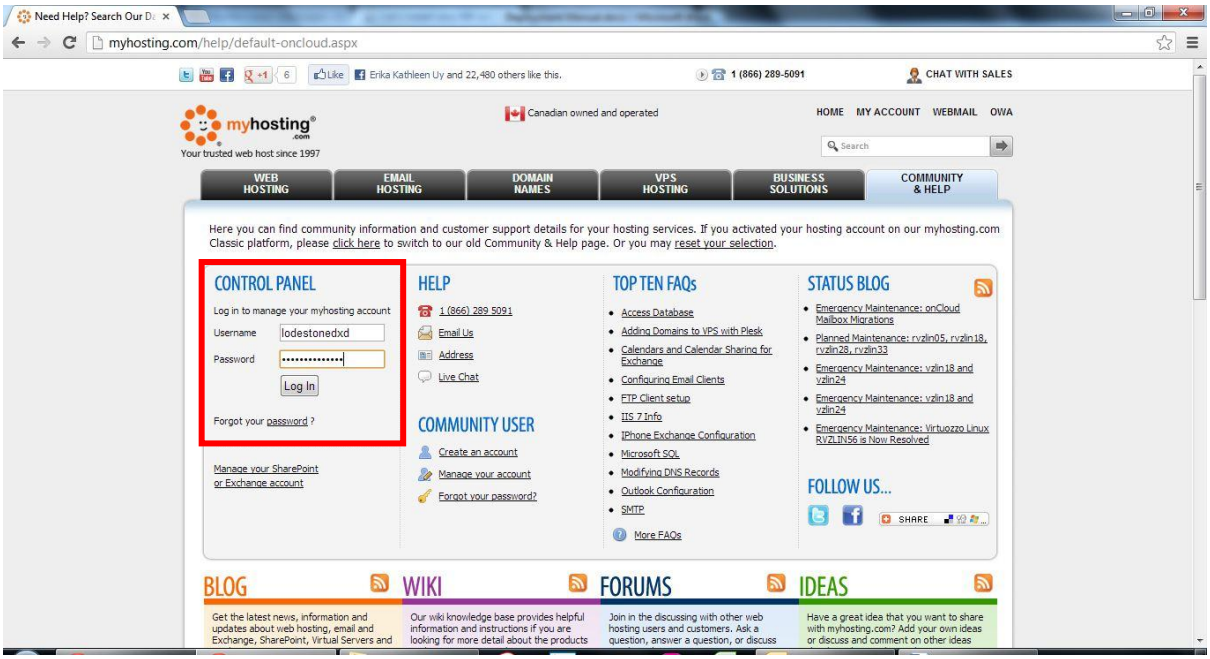
MySQL commands – http://www.linuxcommand.org/man_pages/mysql1.html

Step 0: Login using SSH

Go to www.myhosting.com > My Account

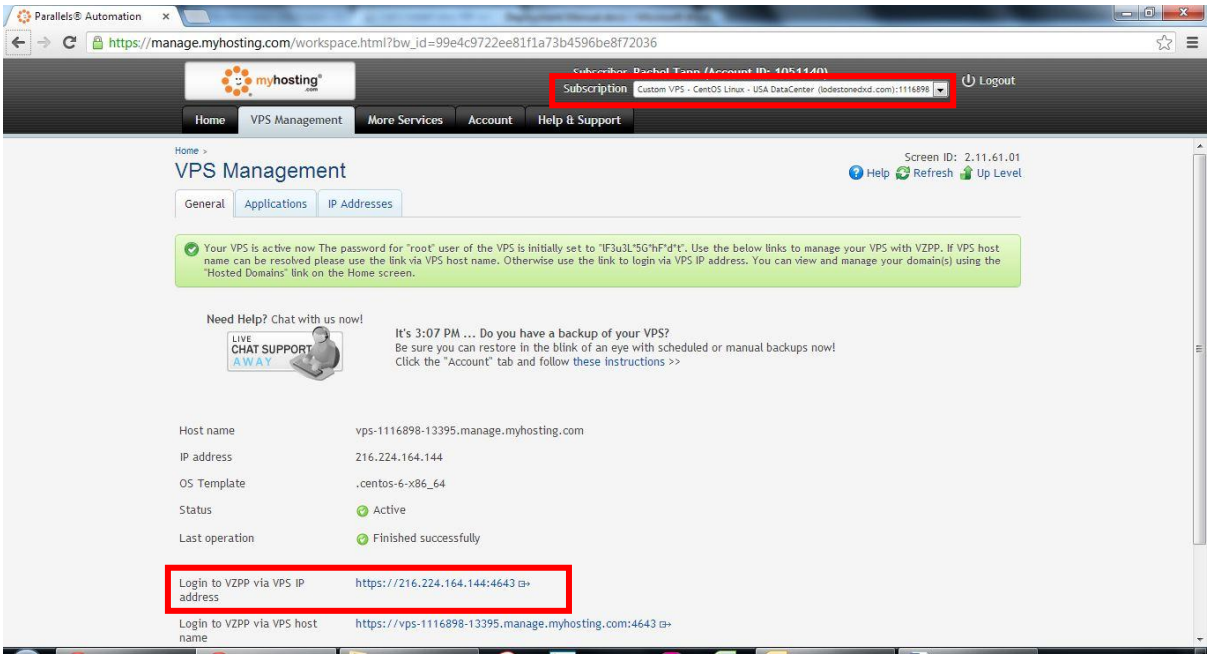


Login using credentials provided

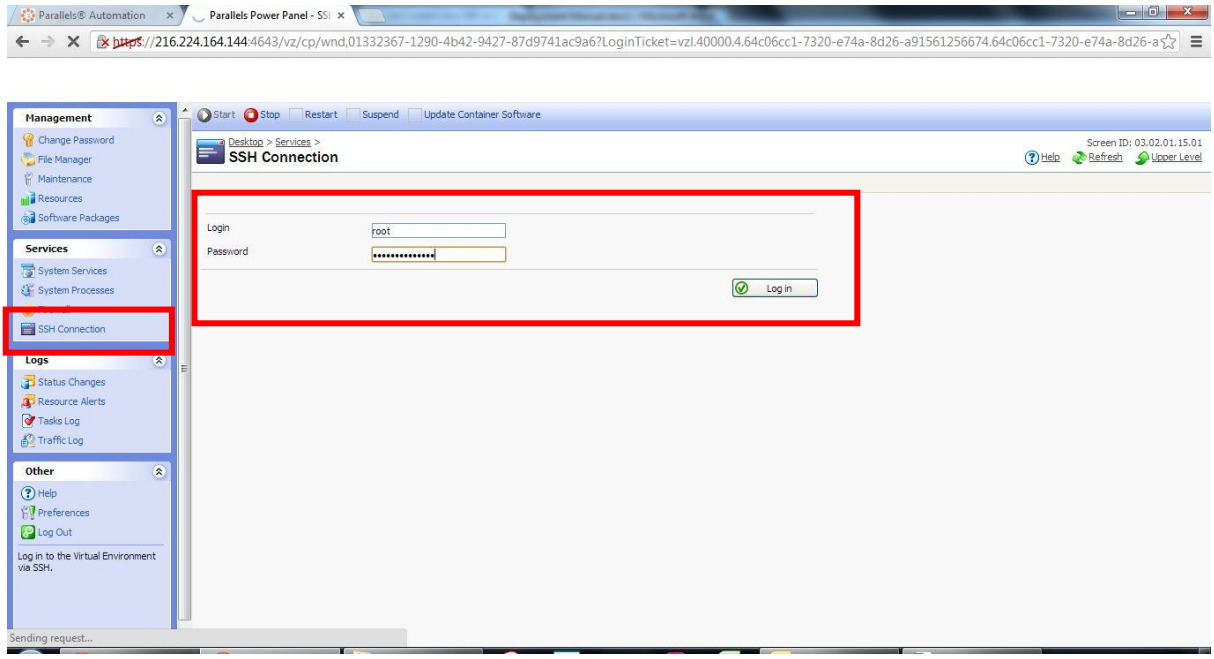


Make sure you are on Subscription: Custom VPS

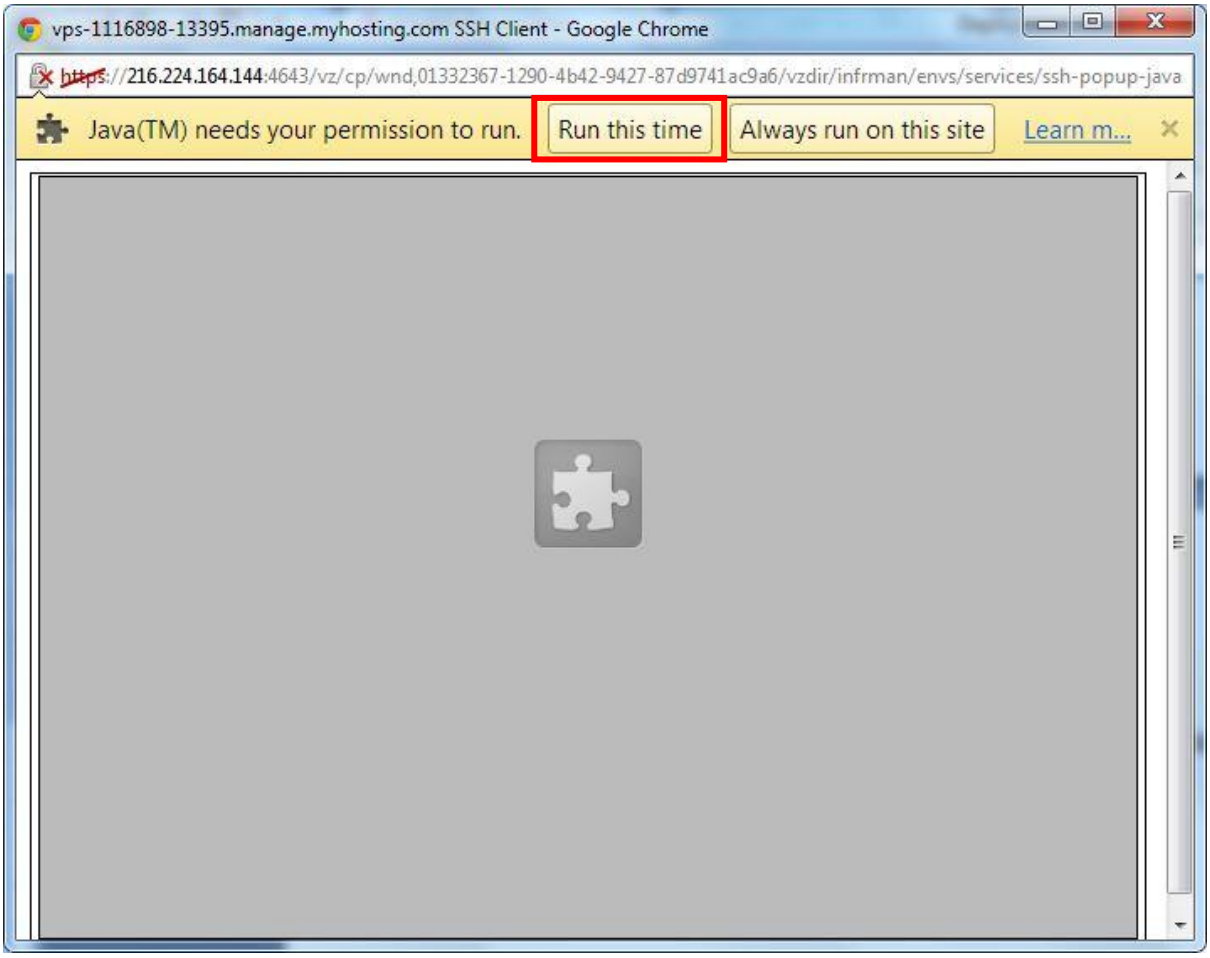
Go to VPS Management > Login to VZPP via VPS IP address



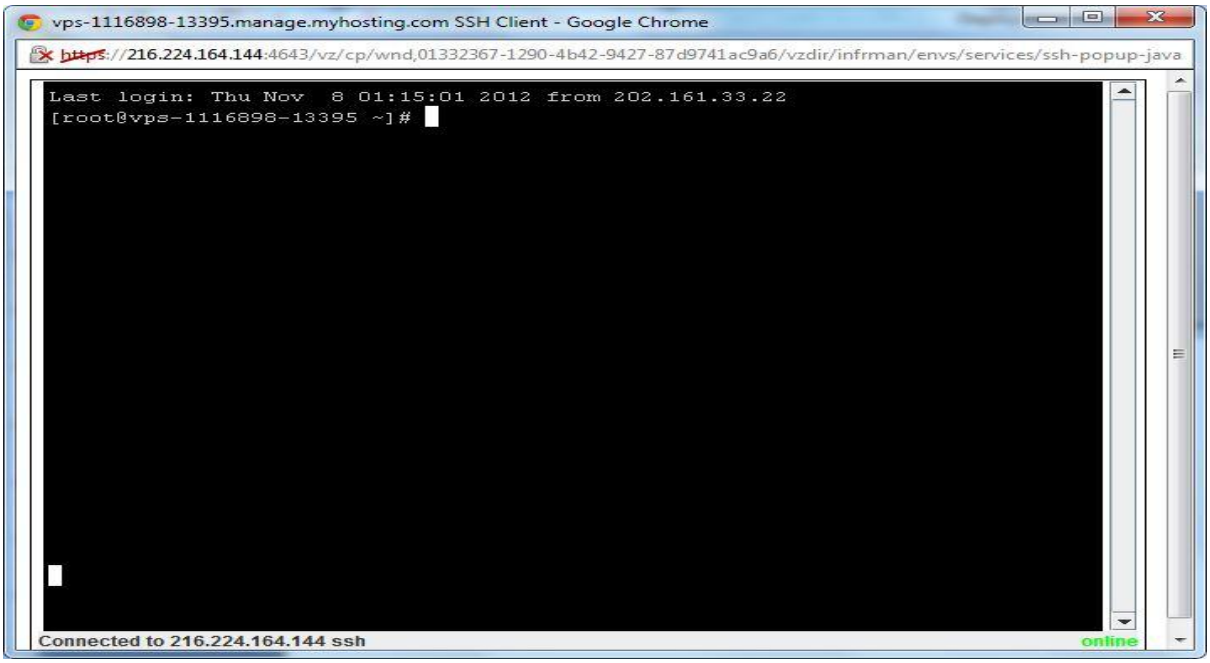
On the Parallels Power Panel, click on SSH Connection and login using credentials provided



A popup will come out asking for permission to run Java. Click on Run this time.



You should see the following window upon successful login or a corresponding error message if wrong credentials were entered



Step 1: Install Java Development Kit (JDK) 1.7

Before we begin, we have to create the destination folder for JDK.

Using the SSH window, key in the following command and press Enter:

mkdir /usr/java

Move to the directory, type the following and press Enter: *cd /usr/java*

There are two ways to obtain JDK, the first method is preferred:

- Use wget on SSH, make sure the highlighted path points to a valid JDK link:
  wget --no-cookies --header "Cookie: gpw_e24=http%3A%2F%2Fwww.oracle.com" "http://download.oracle.com/otn-pub/java/jdk/7u9-b05/jdk-7u9-linux-x64.tar.gz"
- Download from Oracle's website manually and upload to */usr/java* using Parallels Power Panel File Manager:
  Source: http://www.oracle.com/technetwork/java/javase/downloads/index.html

After obtaining JDK, check if the package is in the */usr/java* directory with the *ls –a* command.

Unpack the jdk, make sure the file name matches the one listed in the previous command.

tar -xzf jdk-7u9-linux-x64.tar.gz

Set JAVA_HOME variable with the following commands, press Enter after each line:

JAVA_HOME=/usr/java/jdk1.7.0_09

export JAVA_HOME

PATH=$JAVA_HOME/bin:$PATH

export PATH

NOTE: Do not close the SSH window. If you do, please set the JAVA_HOME again before proceeding.

Step 2: Download and Unpack Tomcat

Using the SSH window, enter: *cd /usr/share*

Download Tomcat into */usr/share* directory by:

- Using wget, make sure the highlighted portion is a valid tomcat download link: *wget "http://mirror.nus.edu.sg/apache/tomcat/tomcat-7/v7.0.32/bin/apache-tomcat-7.0.32.tar.gz"*
- Using the following link and uploading using Parallels Power Panel File Manager: http://mirror.nus.edu.sg/apache/tomcat/tomcat-7/v7.0.32/bin/apache-tomcat-7.0.32.tar.gz

After obtaining JDK, check if the package is in the */usr/share* directory with the *ls –a* command.

Unpack tomcat, make sure the file name matches the one listed in the previous command.

tar -xzf apache-tomcat-7.0.29.tar.gz

Step 3: Configure Tomcat to Run as a Service

Using the SSH window, enter: *cd /etc/init.d*

Create a file called tomcat and open it. Enter: *vi tomcat*

Press 'a' to start editing.

Input the following text, make sure the highlighted portions refer to the paths used in Steps 1 and 2:

```
#!/bin/bash
# description: Tomcat Start Stop Restart
# processname: tomcat
# chkconfig: 234 20 80
JAVA_HOME=/usr/java/jdk1.7.0_09
export JAVA_HOME
PATH=$JAVA_HOME/bin:$PATH
export PATH
CATALINA_HOME=/usr/share/apache-tomcat-7.0.29

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

Press 'Esc' once you are done editing, and key in *':x'* and press Enter to save and exit the file.

Set the permissions to run the script using the following commands, press Enter after each line:

chmod 755 tomcat

chkconfig --add tomcat

chkconfig --level 234 tomcat on

Start tomcat. Enter: *service tomcat start*

Now you should be able to access tomcat by going to: http://[ipaddress]:8080/

Step 4: Redirect traffic from port 80 to port 8080

Using the SSH window, enter the following command:

iptables -t nat -A PREROUTING -p tcp --dport 80 -j REDIRECT --to-port 8080

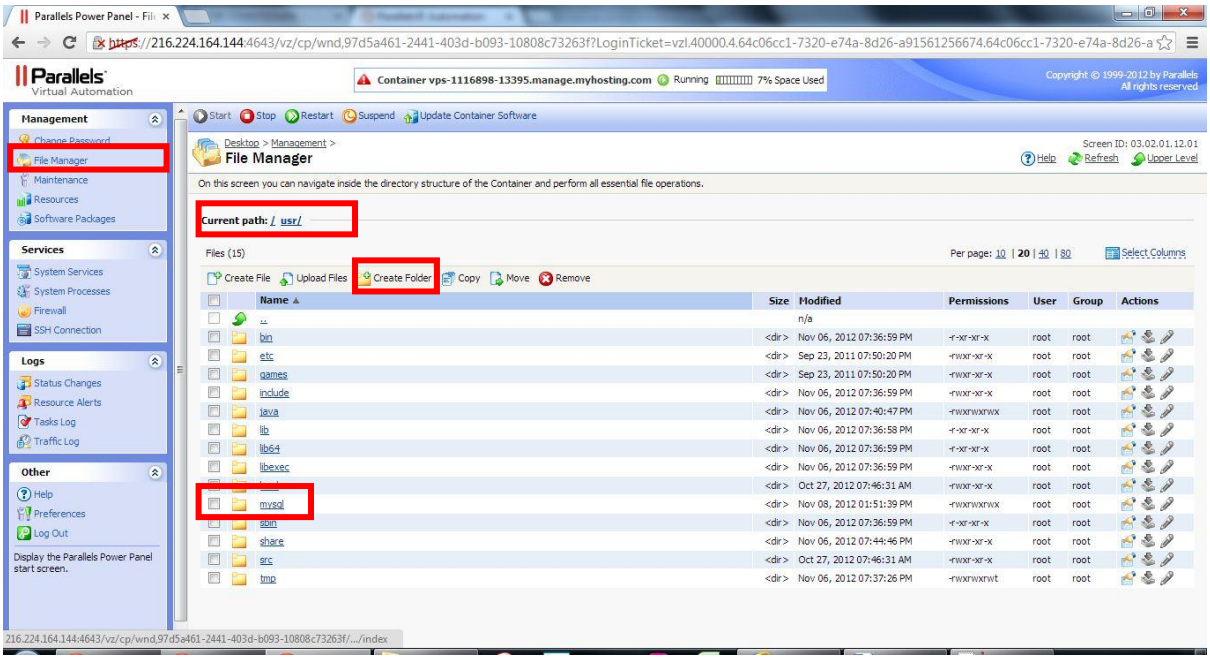
iptables -t nat -A PREROUTING -p udp --dport 80 -j REDIRECT --to-port 8080

Now, you can access tomcat from http://[ipaddress]/

Step 5: Instantiate MySQL (Database) tables

Refer to "Backup and Restore Database" section for migration.

Using the Parallels Power Panel File Manager, create the */usr/mysql* directory.



Enter the folder and upload the *init.sql* provided using the 'Upload Files' button

To set the mysql password for the first time, enter:

mysqladmin -u root password [database password]

To reset the mysql password, enter:

mysqladmin -u root -p'[old database password]' password '[new database password]'

NOTE: If you set the password to something other than the provided credentials, please refer to 'Changing Database Password' section.

Using the SSH window, enter:

cd /usr/mysql

mysql –password=[database password] < init.sql

This will populate the mysql tables.

Step 6: Adding manager-gui role and user to Tomcat Manager

Using the SSH window, enter: *cd /usr/share/apache-tomcat-7.0.29/conf*

Edit *tomcat-users.xml*. Enter: *vi tomcat-users.xml*

Replace some-username and some-password with your own credentials

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version
2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at

      http://www.apache.org/licenses/LICENSE-2.0

  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->
<tomcat-users>
    <role rolename="manager"/>
    <role rolename="manager-gui"/>
    <user password="some-password" roles="manager,manager-gui"
username="some-username"/>
</tomcat-users>
```

Press ‘Esc’ and enter ‘*:x’* to Save and Exit file

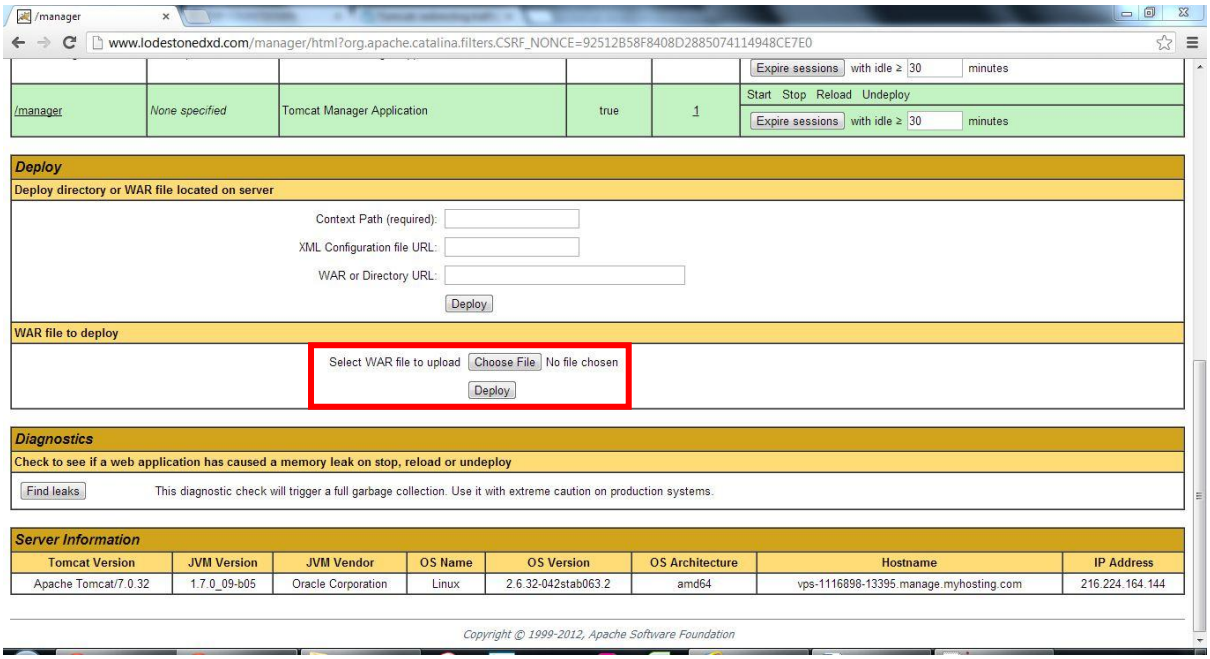
Restart Tomcat. Enter: *service tomcat restart*

Step 7: Deploy Application

Using your web browser, go to http://[ipaddress]/manager

Login using some-username and some-password.

Scroll down and click on ‘Choose File’.



Browse your directory for the .war file LodestoneDxD.war.

Click ‘Deploy’ and wait for the upload to finish.

Step 8: Redirect ROOT traffic to the application

Suppose we want to redirect traffic from http://[ipaddress]/ to the application, we have to edit the *index.jsp* file in */usr/share/apache-tomcat-7.0.29/webapps/ROOT/*

cd /usr/share/apache-tomcat-7.0.29/webapps/ROOT/

vi index.jsp

Delete all the content and replace them with the following two lines:

```
<%@page contentType="text/html" pageEncoding="UTF-8" %>
<% response.sendRedirect("/LodestoneDxD/login"); %>
```

Press 'Esc' and type *:x* to Save and Exit the File.

Restart Tomcat: *service tomcat restart*

Changing Database Username and/or Password

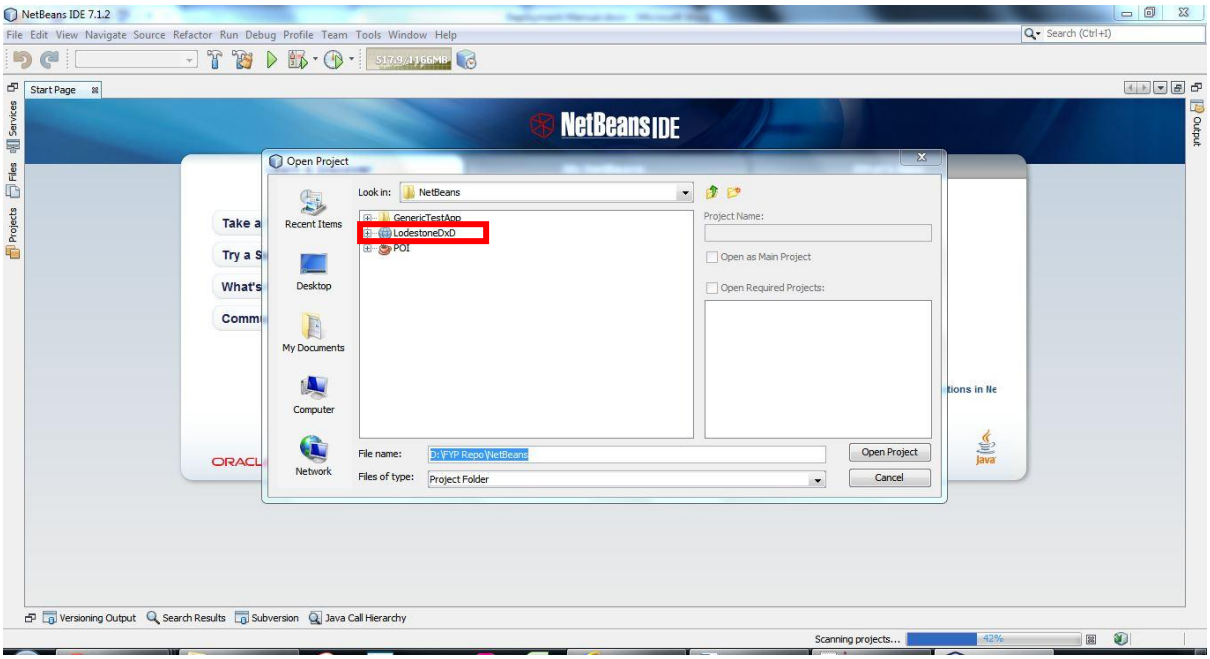
If you change the database password to something other than the one provided, you need to update and repackage the application by doing the following steps.

Make sure you have installed NetBeans (Java EE or All) : http://netbeans.org/downloads/

Open NetBeans.

Go to File > Open Project.

Browse through your own directory to find the project folder.



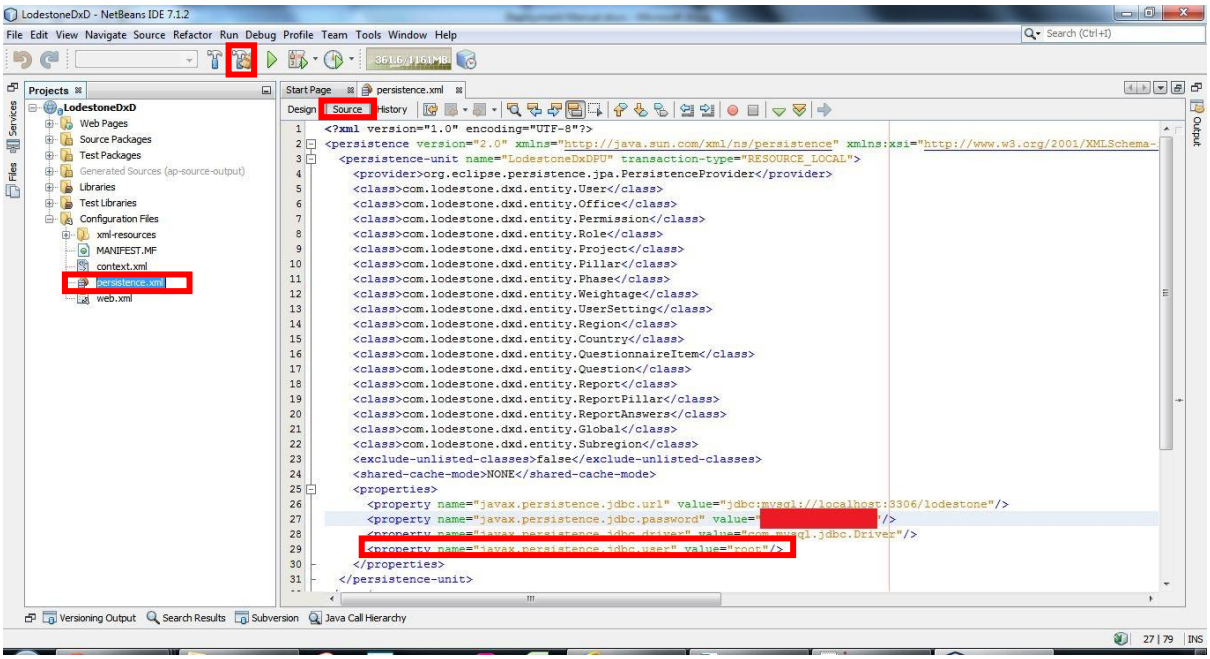
Go to the persistence.xml file under Configuration Files.

Open the Source tab.

Edit the username by changing the value under <property name=" javax.persistence.jdbc.user"> field.

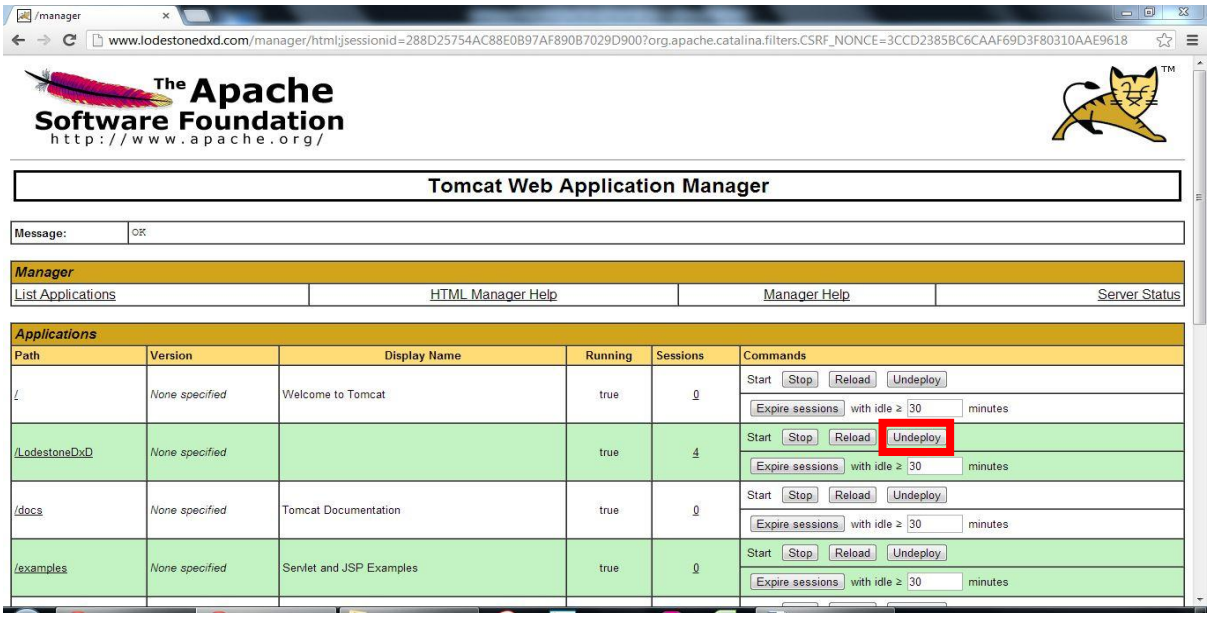
Edit the field in red for password.

Click on the Clean and Build option in the toolbar.



Go back to the project folder directory. Under the LodestoneDxD > dist folder, you will find the new .war file, which you can deploy using Step 7 above.

NOTE: Be sure to Undeploy the application first before Deploying new packaged .war file.



Backup and Restore Database

Source: http://www.thegeekstuff.com/2008/09/backup-and-restore-mysql-database-using-mysqldump/

Using the SSH window, enter:

cd */usr/mysql*

mysqldump -u root -p[database password] lodestone > backup.sql

This creates a backup.sql file, which you can take to another server and use the following command to restore.

mysql –password=[database password] < backup.sql

This will populate the mysql tables with all the previous data.