Jeppesen Crew Portal Bid Implementation Project

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Change and Revision History

| Version | Date | Author | Summary of changes |
| --- | --- | --- | --- |
|  |  |  |  |
| 1 | 15 Sep 2012 | Per Andersson |  |
| 2 | 23Sep 2012 | Per Andersson | Added information howto reroute to remain at high Interbids load. |
| 3 | 24Jan2013 | Christian Holth Österlund | Added information to trouble shooting section regarding high load on the sysmond servers |
| 4 | 06May2013 | Christian Holth Österlund | Added career in the apache proxy settings |

# About this document

This document describes what and how a system administrator needs to know in order to install, maintain and trouble shoot the system.

This document only describes these aspects of the system where Jeppesen Crew Portal is involved.

# Install instructions

## Overview

For an overview of the different components involved start by reading the System Reference Manual.

## Apache and JBoss

To install Apache and JBoss on a new system follow the following steps.

###### Install Java YUM Package

###### yum install java-1.6.0-sun-1.6.0\*x86\_64

###### Create the environment variables for Java

echo "JAVA\_HOME=/usr/lib/jvm/java-1.6.0/" >> /etc/profile.d/java.sh

echo "PATH=$PATH:$JAVA\_HOME/bin" >> /etc/profile.d/java.sh

echo "CLASSPATH=$JAVA\_HOME/lib" >> /etc/profile.d/java.sh

echo "LD\_LIBRARY\_PATH=$JAVA\_HOME/jre/lib/i386" >> /etc/profile.d/java.sh

echo "export JAVA\_HOME PATH CLASSPATH LD\_LIBRARY\_PATH #JAVA\_OPTS" >> /etc/profile.d/java.sh

###### Add execution permissions to the file.

chmod 755 /etc/profile.d/java.sh

###### Create environment variables for JBoss

echo "JBOSS\_HOME=/opt/java/jboss" >> /etc/profile.d/jboss.sh

echo "PATH=$PATH:$JBOSS\_HOME/bin" >> /etc/profile.d/jboss.sh

echo "export JBOSS\_HOME PATH" >> /etc/profile.d/jboss.sh

###### Add execution permissions to the file.

chmod 755 /etc/profile.d/jboss.sh

###### Uncompress the zip file in /usr/java directory and create dynamic links

lynx "<http://downloads.sourceforge.net/project/jboss/JBoss/JBoss-5.1.0.GA/jboss-5.1.0.GA.zip?r=http%3A%2F%2Fsourceforge.net%2Fprojects%2Fjboss%2Ffiles%2FJBoss%2FJBoss-5.1.0.GA%2Fjboss-5.1.0.GA.zip%2Fdownload&ts=1317024513&use_mirror=softlayer>"

unzip /root/jboss-5.1.0.GA.zip -d /usr/java/

mkdir -p /opt/java

ln -s /usr/java/jboss-5.1.0.GA /opt/java/jboss

###### Create a new user called jboss and assign this user to jboss directory.

adduser jboss

chown -Rf jboss.jboss /opt/java/jboss/ /home/jboss

###### Create JBoss service /etc/init.d/jboss and chmod 755 it

cat <<EOF >> /etc/init.d/jboss.sh

#!/bin/sh

#

# \$Id: jboss\_init\_redhat.sh 81068 2008-11-14 15:14:35Z [dimitris@jboss.org](mailto:dimitris@jboss.org) \$

#

# JBoss Control Script

#

# To use this script run it as root - it will switch to the specified user

#

# Here is a little (and extremely primitive) startup/shutdown script

# for RedHat systems. It assumes that JBoss lives in /usr/local/jboss,

# it's run by user 'jboss' and JDK binaries are in /usr/local/jdk/bin.

# All this can be changed in the script itself.

#

# Either modify this script for your requirements or just ensure that

# the following variables are set correctly before calling the script.

# chkconfig: - 64 36

# description: Jboss Start|Restart|Stop Application Server

# pidfile: /var/run/jboss.pid

#define where jboss is - this is the directory containing directories log, bin, conf etc

JBOSS\_HOME=\${JBOSS\_HOME:-"/opt/java/jboss"}

#define the user under which jboss will run, or use 'RUNASIS' to run as the current user

JBOSS\_USER=\${JBOSS\_USER:-"jboss"}

#make sure java is in your path

JAVAPTH=\${JAVAPTH:-"/opt/java/jdk"}

#configuration to use, usually one of 'minimal', 'default', 'all'

JBOSS\_CONF=\${JBOSS\_CONF:-"default"}

#if JBOSS\_HOST specified, use -b to bind jboss services to that address

JBOSS\_HOST="0.0.0.0"

JBOSS\_BIND\_ADDR=\${JBOSS\_HOST:+"-b \$JBOSS\_HOST"}

#define the classpath for the shutdown class

JBOSSCP=\${JBOSSCP:-"\$JBOSS\_HOME/bin/shutdown.jar:\$JBOSS\_HOME/client/jnet.jar"}

#define the cluster to run

JBOSS\_UDP="230.1.2.3"

JBOSS\_PARTITION="PROD"

JBOSS\_HAPARTITION\_MCAST\_PORT="12345"

JBOSS\_WEBPARTITION\_MCAST\_PORT="23456"

JBOSS\_ENTITYPARTITION\_MCAST\_PORT="34567"

JBOSS\_SFSBPARTITION\_MCAST\_PORT="45678"

#define the script to use to start jboss

JBOSSSH=\${JBOSSSH:-"\$JBOSS\_HOME/bin/run.sh -c \$JBOSS\_CONF -u \$JBOSS\_UDP -g \$JBOSS\_PARTITION -Djboss.hapartition.mcast\_port=\$JBOSS\_HAPARTITION\_MCAST\_PORT -Djboss.webpartition.mcast\_port=\$JBOSS\_WEBPARTITION\_MCAST\_PORT -Djboss.ejb3entitypartition.mcast\_port=\$JBOSS\_ENTITYPARTITION\_MCAST\_PORT -Djboss.ejb3sfsbpartition.mcast\_port=\$JBOSS\_SFSBPARTITION\_MCAST\_PORT \$JBOSS\_BIND\_ADDR"}

if [ "\$JBOSS\_USER" = "RUNASIS" ]; then

SUBIT=""

else

SUBIT="su - \$JBOSS\_USER -c "

fi

if [ -n "\$JBOSS\_CONSOLE" -a ! -d "\$JBOSS\_CONSOLE" ]; then

# ensure the file exists

touch \$JBOSS\_CONSOLE

if [ ! -z "\$SUBIT" ]; then

chown \$JBOSS\_USER \$JBOSS\_CONSOLE

fi

fi

if [ -n "\$JBOSS\_CONSOLE" -a ! -f "\$JBOSS\_CONSOLE" ]; then

echo "WARNING: location for saving console log invalid: \$JBOSS\_CONSOLE"

echo "WARNING: ignoring it and using /dev/null"

JBOSS\_CONSOLE="/dev/null"

fi

#define what will be done with the console log

JBOSS\_CONSOLE=\${JBOSS\_CONSOLE:-"/dev/null"}

JBOSS\_CMD\_START="cd \$JBOSS\_HOME/bin; \$JBOSSSH"

JBOSS\_CMD\_STOP=\${JBOSS\_CMD\_STOP:-"java -classpath \$JBOSSCP org.jboss.Shutdown --shutdown"}

if [ -z "\`echo \$PATH | grep \$JAVAPTH\`" ]; then

export PATH=\$PATH:\$JAVAPTH

fi

if [ ! -d "\$JBOSS\_HOME" ]; then

echo JBOSS\_HOME does not exist as a valid directory : \$JBOSS\_HOME

exit 1

fi

echo JBOSS\_CMD\_START = \$JBOSS\_CMD\_START

case "\$1" in

start)

cd \$JBOSS\_HOME/bin

if [ -z "\$SUBIT" ]; then

eval \$JBOSS\_CMD\_START >\${JBOSS\_CONSOLE} 2>&1 &

else

\$SUBIT "\$JBOSS\_CMD\_START >\${JBOSS\_CONSOLE} 2>&1 &" fi

;;

stop)

if [ -z "\$SUBIT" ]; then

\$JBOSS\_CMD\_STOP

else

\$SUBIT "\$JBOSS\_CMD\_STOP"

fi

;;

restart)

\$0 stop

\$0 start

;;

\*)

echo "usage: \$0 (start|stop|restart|help)"

esac

EOF

###### Configure JBOSS to start as a service and start it

chkconfig --add jboss

chkconfig jboss on

service jboss start

###### Configure HTTPD to start as a service and start it

chkconfig --add httpd

chkconfig httpd on

service httpd start

###### Change the default / root to redirect to /portal, by creating/re-creating /opt/java/jboss/server/default/deploy/ROOT.war/index.html

echo '<html><meta http-equiv="refresh" content="0;url=/portal"></html>' > /opt/java/jboss/server/default/deploy/ROOT.war/index.html

###### Change the admin console password

sed --in-place "s/admin=admin/jeppesen=carmen/g" /opt/java/jboss/server/all/conf/props/jmx-console-users.properties

###### Set up proxy pass from port 80 to port 8080

echo "ProxyPass /admin http://"`hostname`":8080/admin" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /admin http://"`hostname`":8080/admin" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /home http://"`hostname`":8080/home" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /home http://"`hostname`":8080/home" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /portal http://"`hostname`":8080/portal" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /portal http://"`hostname`":8080/portal" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /portal-admin http://"`hostname`":8080/portal-admin" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /portal-admin http://"`hostname`":8080/portal-admin" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /std-ib http://"`hostname`":8080/std-ib" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /std-ib http://"`hostname`":8080/std-ib" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /vacation http://"`hostname`":8080/vacation" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /vacation http://"`hostname`":8080/vacation" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPass /career http://"`hostname`":8080/career" >> /etc/httpd/conf.d/proxy\_ajp.conf

echo "ProxyPassReverse /career http://"`hostname`":8080/career" >> /etc/httpd/conf.d/proxy\_ajp.conf

###### Setup apache and restart apache

echo '<html><meta http-equiv="refresh" content="0;url=/portal/"></html>' > /var/www/html/index.html

## Carmusr J2EE web applications

When a change in the Carmusr involve any J2EE web application (a change in the Crew Portal, they need to be rebuilt and re-deployed.

To do this start $CARMUSR/bin/cmsshell and type:

crewportal buildsystem

crewportal deploysystem

This will compile all Java files needed by the web applications, package java classes other resources and property files into .ear files and copy them to the JBoss nodes to the correct location.

For the deployment to take effect, JBoss need to be restarted as well.

# Operational Procedures

## JBoss log files

JBoss and the deployed Jeppesen J2EE web applications (Jeppesen Crew Portal) produce log files in a directory called /opt/java/jboss/server/default/log on each machine running JBoss.

The log directories contain files with a daily file name rotation scheme. To avoid that these disks run out of available disk space these directories should be monitored and have a regular clean up of old log files.

## Report Server log files

The report servers will produce log files in a directory called:

1. /var/carmtmp/logfiles/ if the directory exist
2. $CARMTMP/logfiles/ otherwise

The benefit of using /var/carmtmp/logfiles/ is performance since it is faster to write on a local disk than on a NFS mounted disk which $CARMTMP typically is.

The log directories contain files with a daily file name rotation scheme. To avoid that these disks run out of available disk space these directories should be monitored and have a regular clean up of old log files.

# Trouble Shooting

The following section contain common problems, how to identify them according to symptoms and how to fix them.

## User not allowed to log-in

|  |  |
| --- | --- |
| **Problem.** | **User not allowed to login** |
| Symptom. | User is presented with from login instead of being logged in directly. |
| Diagnose. |  |
| Cause. | User either missing in the data base, incorrect login id or connection to the data base is down. |
| Solution. | 1. Verify that the JCPB database is up. 2. Verify that the LPTA cookie is created and correct. (If cookie is sent it will be printed to $JBOSS\_HOME/server/default/logs/server.log. Search for “Cookie name: WA\_UID cookie value: <loginid>”) 3. Verify that the user exists in the admin GUI (see Jeppesen Crew Portal Bid Administration Guide). If no: Add or correct user in CMS (see CMS system administration guide) and wait until the next import\_job has finished. 4. Verify the user login-id in the admin GUI (see Jeppesen Jeppesen Crew Portal Administration Guide). If mismatch, wait until next import job for login-id to update. |

## Error loading quota

|  |  |
| --- | --- |
| **Problem.** | **Error loading quota** |
| Symptom. | When user login there’s an error message saying either:  Server busy. You can place bids but your schedule and quota may not be up to date. Please try to login again later for correct values.  Server busy. You can place bids but your schedule and quota may not be up to date. Please try to login again later for correct values. (error 102)  Server busy. You can place bids but your schedule and quota may not be up to date. Please try to login again later for correct values. (error 103) |
| Diagnose. | There is a problem with the communication between JBoss and the backend report servers. |
| Cause. | portal\_latest or crewportalproxy down or experiencing problems. |
| Solution. | Check that all sysmond processes are running correctly (see CMS system administration guide) |

## Error connecting to JBoss

|  |  |
| --- | --- |
| **Problem.** | **Error connecting to JBoss** |
| Symptom. | When user login there’s an error message saying “Unable to connect to HTTP server” |
| Diagnose. | JBoss is down. |
| Cause. |  |
| Solution. | Check the JBoss java processes and start the ones that are down. (see chapter [1.4.1 Jboss status](#_Jboss_status)) |

## Crew check in/out fails

|  |  |
| --- | --- |
| **Problem.** | **Crew check in/out fails** |
| Symptom. | Crew gets a timeout error message when trying to check in or out. |
| Diagnose. | High load on the publish-node (the machine running the PUBLISH report server) at the same time as there are many users of Interbids. |
| Cause. | Interbids is generating the load. |
| Solution. | Re-route the Interbids queries from PUBLISH to LATEST by:   1. Edit the routing table in the top of /opt/Carmen/CARMUSR/PROD/bin/sysmond/crewportalproxy, replace “portal\_publish” with “portal\_latest” as the target for “cp\_publish”. 2. Stop the CREWPORTAL\_PROXY Sysmond process on cp\_main\_node (h1cms16a) by starting a cmsshell on cp\_main\_node and run “sysmondctl stop CREWPORTAL\_PROXY”. 3. Start the CREWPORTAL\_PROXY process again by running “sysmondctl start CREWPORTAL\_PROXY”. |

## High load on sysmond servers

|  |  |
| --- | --- |
| **Problem.** | **High load on sysmond servers** |
| Symptom. | Interbids users gets timeout error messages and high resource usages on sysmond servers |
| Diagnose. | High load on the sysmond servers at the same time as there is a many interbids users logged on. |
| Cause. | Interbids is generating the load. |
| Solution. | Stop all interbids traffic to the sysmond servers.  Stop the CREWPORTAL\_PROXY Sysmond process on cp\_main\_node (h1cms16a) by starting a cmsshell on cp\_main\_node and run “sysmondctl stop CREWPORTAL\_PROXY”. |