Migrating physics-elog application from RHEL-4 Server to RHEL-5 Server

This document is organized in four sections and covers methodology, work performed and few screenshots for migrating physics-elog application from RHEL-4 server to RHEL-5 server.

SECTION 1: BRIEF OUTLINE OF WORK DONE.

Migrating physics-elog application from RHEL-4 to RHEL-5 Server was done in two phases.

In first phase RHEL-5 server was built, application was installed on to it and a copy of production data was made available under NFS for getting the application tested. The RHEL-5 server was initially names as physics-elog2. Also the application was tested by renaming the RHEL-5 server (physics-elog2), to different hostname physics-elog3. Most of the problems and issues were detected in the first phase.

In the second phase we brought down the RHEL-4 production server physics-elog, after rsyncing the data residing under /var/www NFS share to the test server’s NFS share. The test server physics-elog2 was renamed as physics-elog and was released into production after doing few configuration changes and testing.

SECTION 2: TWO MIGRATION PHASES AND STEPS FOLLOWED

Following section provides sequence of actions performed in the above mentioned two migration phases.

1. Build and configure RHEL-5 server, install and test the application on it.
   1. Build RHEL-5 server and bring it online as physics-elog2.
   2. Procure a separate NFS Share for mounting it under /var/www.
   3. Copy/rsync data from physics-elog:/var/www to physics-elog2:/var/www.
   4. Install Tomcat 6.0.x (we need the manager application, so this might be more than one package!)
   5. Install openjdk 1.6: We need both the runtime and the development system.
   6. Install Apache httpd-devel since /usr/sbin/apxs was missing and tomcat connectors require that.
   7. Install mod\_jk 1.2
   8. To maintain parity with directory structure between Tomcat-5 and Tomcat6, create a directory and link under /usr/tomcat

# mkdir /usr/tomcat/common

# cd /usr/tomcat/common

# ln -s ../lib lib

# ls -la /usr/tomcat/common

total 8

drwxr-xr-x 2 root root 4096 Jan 14 10:46 .

drwxr-xr-x 11 root root 4096 Jan 16 09:25 ..

lrwxrwxrwx 1 root root 6 Jan 14 10:46 lib -> ../lib

* 1. Communicate with Raimund Kammering (Email - [raimund.kammering@desy.de](mailto:raimund.kammering@desy.de)). He will provide two war files. Hostname is embedded in the war file so for new host we would require the following two war files from him –

elog.war

elogbookManager.war

* 1. Deploy the war files under tomcat.

Example – Following URL was used for deploying the two war files on physics-elog2 –

<http://physics-elog2.slac.stanford.edu:8080/manager/html>

* 1. Modify some data files under /var/www for each elogbook which contain references to physics-elog.

The files are –

/var/www/XYZelog/index.html

/var/www/XYZelog/jsp/conf.xml

/var/www/XYXelog/jsp/top.jsp

/var/www/usage/index.html

/var/www/elogbook/template/jsp/top.jsp

* 1. Check/Modify files under /usr/tomcat in case they are referencing the wrong server name.

Note – You can’t modify the files ending with .class.

As an example important files to check are –

/usr/tomcat/webapps/elog/search.jsp

/usr/tomcat/webapps/elog/WEB-INF/classes/FileEdit$ExecThread.class

/usr/tomcat/work/Catalina/localhost/pepelog/org/apache/jsp/top\_jsp.class

/usr/tomcat/work/Catalina/localhost/pepelog/org/apache/jsp/top\_jsp.java

/usr/tomcat/work/Catalina/localhost/elog/org/apache/jsp/search\_jsp.class

/usr/tomcat/work/Catalina/localhost/elog/org/apache/jsp/search\_jsp.java

/usr/tomcat/work/Catalina/localhost/e164elog/org/apache/jsp/top\_jsp.class

* 1. Change CLASSPATH variable if required in following files –

/var/www/XYZelog/bin/search-index

* 1. Copy quartz-all-1.6.0.jar file under /usr/tomcat/lib

cp –p /var/www/TESTElog/jsp/WEB-INF/lib/ quartz-all-1.6.0.jar /usr/tomcat/lib

* 1. /var/www/XYZelog/lplisten script breaks on RHEL-5.

Ad a workaround, do following –

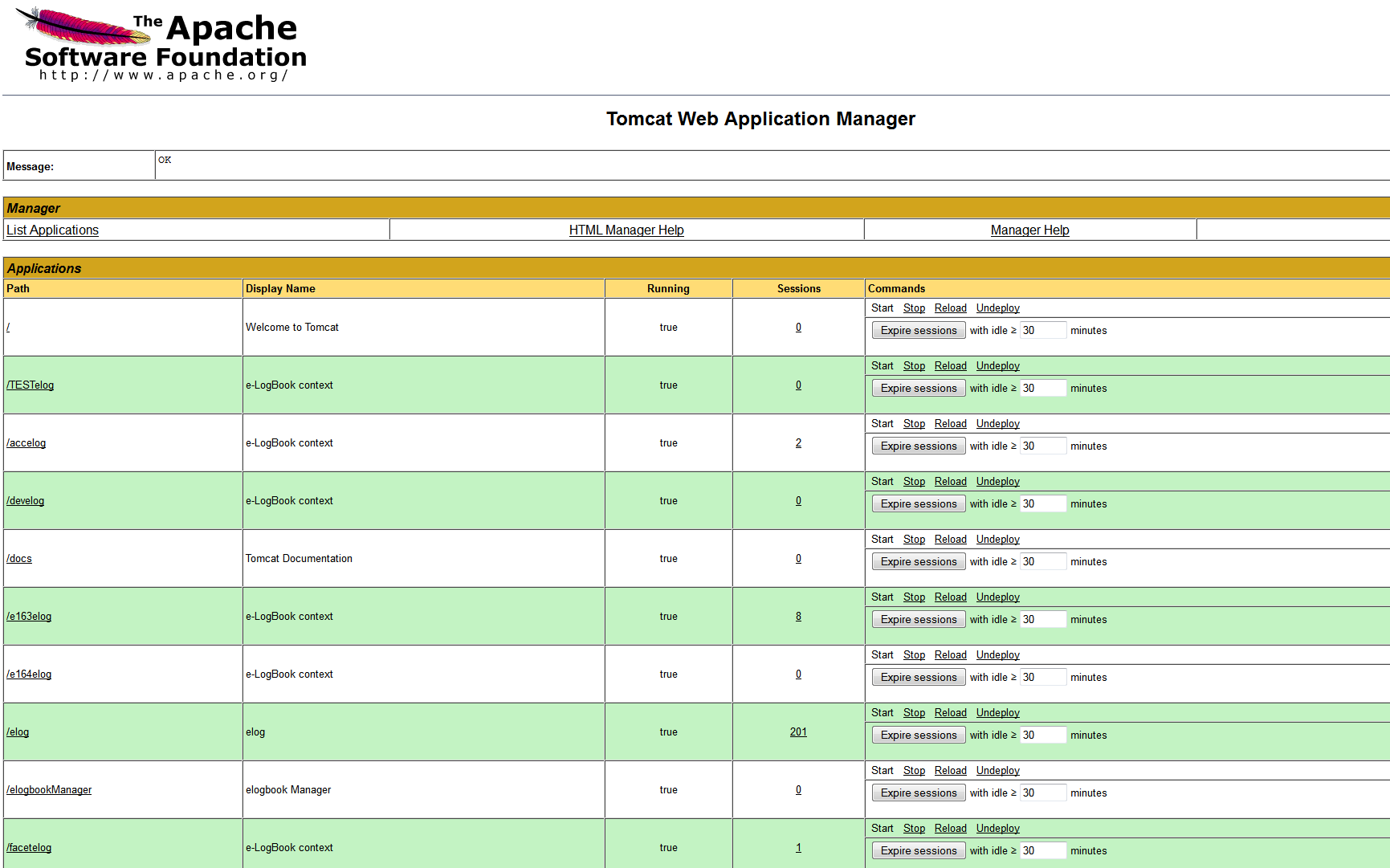
Add “export \_POSIX2\_VERSION=199209” line in lplisten script under each /var/www/XYZelog directory

* 1. At this point turn over server to Raimund for doing some changes/fine tuning. At this moment most of the things related to physics-elog application can be deployed by him or by App. Support team at Desy.
  2. Check tomcat manager and elogbookManager functionality –

<http://physics-elog2.slac.stanford.edu:8080/manager/html>

<http://physics-elog2.slac.stanford.edu/elogbookManager/>

Following is the screenshot of Tomcat Manager, you can check it’s functionality by starting, stopping elogs and by deploying elog.war and elogbookManager.war files.



Following is the screenshot of elogbookManager, you can check it’s functionality by testing “create new index” feature for elogs.

i.e.

cd /var/www/XYZelog/work/index

rm –rf /var/www/XYZelog/work/index/\*

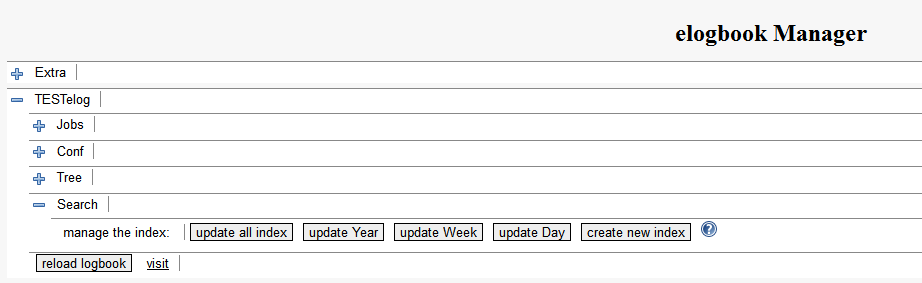
Go to URL - <http://physics-elog.slac.stanford.edu/elogbookManager/> and login providing correct

password.

Select the elog for which you are seeing the problem.

Now do “ Click on the + sign at the left hand side of the particular elog

then -> Search -> Create New Index"



* 1. Check the functionality of each elog from Internet Explorer and from Firefox.

For example –

<http://physics-elog2.slac.stanford.edu/develog/index.jsp>

* 1. For all elogs remove the search indices and recreate them.

For Elogs under elogbookManager you can recreate indices doing following -

**rm /var/www/XYZelog/work/index/\***

Now create a fresh index for all of them from elogbookManager URL:

elogbookManager -> Search -> create new index

For elogs NOT under elogbookManager you can recreate indices by executing

“search-index start” command -

For example - /var/www/e164elog/bin/search-index start

* 1. Create print queues.
  2. Test all the elogs from web browser by creating new entries.
  3. Test by creating a Postscript picture entry in the elog.

lpr –Pdevelog /tmp/tiger.ps

* 1. Create a new elog for testing and check it’s functionality.

1. Switchover to RHEL-5 Server during the maintenance window.
2. Bring down tomcat on physics-elog (RHEL-4 Server).
3. Bring down tomcat on physics-elog2 (RHEL-5 Server).
4. Rsync the data under /var/www from physics-elog to physics-elog2
5. Ensure that /usr/tomcat/webapps/elog/search.jsp file contains the correct hostname. If not edit it and put proper hostname.
6. Create tar file of ssh keys of physics-elog and copy that tar file to physics-elog2:/etc/ssh directory.
7. Change default run level to 1 in /etc/inittab of physics-elog (RHEL-4 Server).
8. Bring physics-elog (RHEL-4 Server) to single user mode.
9. Ensure that physics-elog (RHEL-4 Server) is not on the network by pinging it by hostname and by IP Address.
10. Copy the two war files on physics-elog2 provided by Raimond under /usr/tomcat/webapps.
11. Change/Edit CLASSPATH under /var/www/XYZelog/bin/search-index files.
12. /var/www/XYZelog/lplisten script breaks on RHEL-5.

Ad a workaround, do following –

Add “export \_POSIX2\_VERSION=199209” line in lplisten script under each /var/www/XYZelog directory.

1. Copy the ssh keys of physics-elog to physics-elog2 by untaring the file we have already copied under /etc/ssh directory.

physics-elog2 $ tar -tvf ssh-keys-of-physics-elog.tar

-rw------- root/root 672 2006-10-19 12:57:18 ssh\_host\_dsa\_key

-rw-r--r-- root/root 590 2006-10-19 12:57:18 ssh\_host\_dsa\_key.pub

-rw------- root/root 515 2006-10-19 12:57:16 ssh\_host\_key

-rw-r--r-- root/root 319 2006-10-19 12:57:16 ssh\_host\_key.pub

-rw------- root/root 887 2006-10-19 12:57:16 ssh\_host\_rsa\_key

-rw-r--r-- root/root 210 2006-10-19 12:57:16 ssh\_host\_rsa\_key.pub

1. On physics-elog2 (RHEL-5 Server) :

rm -rf /usr/tomcat/webapps/elog

rm -rf /usr/tomcat/webapps/elogbookManager

1. On physics-elog2 Copy elog.war and elogbookManager.war from desy under /var/www/webapps
2. Rename physics-elog2 as physics-elog and reboot it.
3. For all elogs remove the search indices and recreate them one elog at a time.

rm /var/www/XYZelog/work/index/\*

Now create a fresh index for all of them:

elogbookManager -> Search -> create new index

Note – While index is getting created watch the folder /var/www/ZYZelog/work/index.

You will see index files getting created.

1. Test each elog from web browser by creating new entries.
2. Test creating Postscript picture entry in elogs.

i.e. lpr –Pdevlog /tmp/tiger.ps

1. Test printing from lcls-prod02.

lpr -P Pphysics-lclslog /etc/hosts

1. Test high-level applications print to E-log mechanism. (Procedure listed in next section).
2. Get the physics-elog entry functionality tested by MCC folks in the control center.

SECTION 3: TECHNICAL DETAILS

1) Rebuilt physics-elog2 right from scratch.

2) Server came up with httpd and jre pre installed.

# /usr/sbin/httpd -v

Server version: Apache/2.2.3

Server built: Oct 6 2011 12:12:05

# /usr/bin/java -version

java version "1.6.0\_20"

OpenJDK Runtime Environment (IcedTea6 1.9.10) (rhel-1.23.1.9.10.el5\_7-i386)

OpenJDK Server VM (build 19.0-b09, mixed mode)

3) [root@physics-elog2 tomcat]# chkconfig httpd on

[root@physics-elog2 tomcat]# service httpd start

Starting httpd: [ OK ]

4)Since we also wanted JDK installed jdk-6u29-linux-i586-rpm.bin

This got installed under # /usr/java/jdk1.6.0\_29

[root@physics-elog2 tmp]# chmod 755 jdk-6u29-linux-i586-rpm.bin

[root@physics-elog2 tmp]# ./jdk-6u29-linux-i586-rpm.bin

Unpacking...

Checksumming...

Extracting...

UnZipSFX 5.50 of 17 February 2002, by Info-ZIP (Zip-Bugs@lists.wku.edu).

inflating: jdk-6u29-linux-i586.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.

# /usr/java/jdk1.6.0\_29/bin/java -version

java version "1.6.0\_29"

Java(TM) SE Runtime Environment (build 1.6.0\_29-b11)

Java HotSpot(TM) Server VM (build 20.4-b02, mixed mode)

5) Installed tomcat/apache-tomcat-6.0.35 under /usr

6) Installed httpd-devel since /usr/sbin/apxs was missing and tomcat connectors require that.

[root@physics-elog2 tomcat-connectors-1.2.32-src]# yum install httpd-devel

Loaded plugins: product-id, rhnplugin, security, subscription-manager

Updating Red Hat repositories.

openafs-stanford | 951 B 00:00

rhel-i386-client-5 | 1.3 kB 00:00

rhel-i386-client-supplementary-5 | 1.3 kB 00:00

rhel-i386-client-workstation-5 | 1.3 kB 00:00

Excluding Packages in global exclude list

Finished

Setting up Install Process

Resolving Dependencies

--> Running transaction check

---> Package httpd-devel.i386 0:2.2.3-53.el5\_7.3 set to be updated

--> Processing Dependency: apr-util-devel for package: httpd-devel

--> Processing Dependency: apr-devel for package: httpd-devel

--> Running transaction check

---> Package apr-devel.i386 0:1.2.7-11.el5\_6.5 set to be updated

---> Package apr-util-devel.i386 0:1.2.7-11.el5\_5.2 set to be updated

--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================================================================================

Package Arch Version Repository Size

================================================================================================================================================================================================

Installing:

httpd-devel i386 2.2.3-53.el5\_7.3 rhel-i386-client-workstation-5 151 k

Installing for dependencies:

apr-devel i386 1.2.7-11.el5\_6.5 rhel-i386-client-workstation-5 233 k

apr-util-devel i386 1.2.7-11.el5\_5.2 rhel-i386-client-workstation-5 53 k

Transaction Summary

================================================================================================================================================================================================

Install 3 Package(s)

Upgrade 0 Package(s)

Total download size: 437 k

Is this ok [y/N]: y

Downloading Packages:

(1/3): apr-util-devel-1.2.7-11.el5\_5.2.i386.rpm | 53 kB 00:00

(2/3): httpd-devel-2.2.3-53.el5\_7.3.i386.rpm | 151 kB 00:00

(3/3): apr-devel-1.2.7-11.el5\_6.5.i386.rpm | 233 kB 00:00

------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Total 1.7 MB/s | 437 kB 00:00

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

Installing : apr-devel 1/3

Installing : apr-util-devel 2/3

Installing : httpd-devel 3/3

duration: 3160(ms)

Installed products updated.

Installed:

httpd-devel.i386 0:2.2.3-53.el5\_7.3

Dependency Installed:

apr-devel.i386 0:1.2.7-11.el5\_6.5 apr-util-devel.i386 0:1.2.7-11.el5\_5.2

Complete!

[root@physics-elog2 tomcat-connectors-1.2.32-src]# which apxs

/usr/sbin/apxs

7) Installed tomcat connectors.

# cd /tmp/tomcat-connectors-1.2.32-src/native

# ./configure --with-apxs=/usr/sbin/apxs

# make

# make install

# ls -lrt /usr/lib/httpd/modules/mod\_jk.so

-rwxr-xr-x 1 root root 907999 Dec 13 14:17 /usr/lib/httpd/modules/mod\_jk.so

# chmod 755 /usr/lib/httpd/modules/mod\_jk.so

8) Created tomcat user and group (Added entries in /etc/passwd and /etc/group).

9) Added Jk connectors entries in /etc/httpd/conf/httpd.conf file (Copied from physics-elog)

10) Added Jk connectors entries in /etc/httpd/conf/workers.properties file (Copied from physics-elog)

# cat /etc/httpd/conf/workers.properties

#Original for testing. Now commented out...

# Define 1 real worker using ajp13

#worker.list=worker1

# Set properties for worker1 (ajp13)

#worker.worker1.type=ajp13

#worker.worker1.host=localhost

#worker.worker1.port=8009

# workers.properties - ajp13

#

# List workers

worker.list=ajp13

#

# Define ajp13

worker.ajp13.port=8009

worker.ajp13.host=localhost

worker.ajp13.type=ajp13

worker.ajp13.cachesize=10

worker.ajp13.cache\_timeout=600

worker.ajp13.socket\_timeout=300

11) Created following links under /usr/tomcat/webapps directory -

Note :- Ensure that the link contains “/” after jsp ! i.e. it needs to end with /jsp/

TESTelog -> /var/www/TESTelog/jsp/

accelog -> /var/www/accelog/jsp/

develog -> /var/www/develog/jsp/

e163elog -> /var/www/e163elog/jsp/

e164elog -> /var/www/e164elog/jsp/

facetelog -> /var/www/facetelog/jsp/

fiberelog -> /var/www/fiberelog/jsp/

lclselog -> /var/www/lclselog/jsp/

pepelog -> /var/www/pepelog/jsp/

saberelog -> /var/www/saberelog/jsp

spear3elog -> /var/www/spear3elog/jsp/

sppselog -> /var/www/sppselog/jsp/

12) For Tomcat Manager url to work did following –

Added following in /usr/tomcat/conf/tomcat-users.xml (copied from physics-elog)

<role rolename="tomcat"/>

<role rolename="role1"/>

<role rolename="manager"/>

<user username="tomcat" password="XXXXXXX" roles="manager,tomcat"/>

<user username="role1" password="XXXXXXX" roles="role1"/>

<user username="both" password="XXXXXXX" roles="tomcat,role1"/>

Test the URL <http://physics-elog2:8080/manager/html>

Log on as tomcat password XXXXXXX

13) Edited /etc/init.d/st.tomcat script and set following two variables in the script –

export JAVA\_HOME=/usr/java/jdk1.6.0\_29

export CATALINA\_HOME=/usr/tomcat

14) Added entry for tomcat in /etc/passwd

Added entry for tomcat in /etc/group

$ grep tomcat /etc/passwd

tomcat:x:20001:20001::/home/tomcat:/bin/bash

$ grep tomcat /etc/group

tomcat:x:20001:

15) Added Jk connectors entries in /etc/httpd/conf/httpd.conf file (Copied from physics-elog)

Added Jk connectors entries in /etc/httpd/conf/workers.properties file (Copied from physics-elog)

# grep -i jk /etc/httpd/conf/httpd.conf| grep -v "^#"

LoadModule jk\_module modules/mod\_jk.so

JkWorkersFile "/etc/httpd/conf/workers.properties"

JkLogFile "/etc/httpd/logs/mo\_jk.log"

JkLogLevel info

JkLogStampFormat "[%a %b %d %H:%M:%S %Y]"

JkMount /\*.jsp ajp13

JkMount /servlet/\* ajp13

JkMount /elog/\* ajp13

JkMount /elogbookManager ajp13

JkMount /elogbookManager/\* ajp13

# cat /etc/httpd/conf/workers.properties | grep -v "^#"

worker.list=ajp13

worker.ajp13.port=8009

worker.ajp13.host=localhost

worker.ajp13.type=ajp13

worker.ajp13.cachesize=10

worker.ajp13.cache\_timeout=600

worker.ajp13.socket\_timeout=300

16) # cat /usr/tomcat/conf/tomcat-users.xml

<?xml version='1.0' encoding='utf-8'?>

<!--

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limitations under the License.

-->

<tomcat-users>

<!--

NOTE: By default, no user is included in the "manager-gui" role required

to operate the "/manager/html" web application. If you wish to use this app,

you must define such a user - the username and password are arbitrary.

-->

<!--

NOTE: The sample user and role entries below are wrapped in a comment

and thus are ignored when reading this file. Do not forget to remove

<!.. ..> that surrounds them.

-->

<!--

<role rolename="tomcat"/>

<role rolename="role1"/>

<user username="tomcat" password="tomcat" roles="tomcat"/>

<user username="both" password="tomcat" roles="tomcat,role1"/>

<user username="role1" password="tomcat" roles="role1"/>

-->

<role rolename="tomcat"/>

<role rolename="role1"/>

<role rolename="manager"/>

<user username="tomcat" password="XXXXXXX" roles="manager,tomcat"/>

<user username="role1" password="XXXXXXX" roles="role1"/>

<user username="both" password="XXXXXXX" roles="tomcat,role1"/>

</tomcat-users>

17) Test the URL <http://physics-elog2:8080/manager/html>

Log on as tomcat password XXXXXXX

18) Create print queues and test those.

Create tar file of physics-elog:/etc/cups directory.

Copy /etc/cups.tar directory from physics-elog to physics-elog2.

Install cups-lpd rpm.

rpm –ivh cups-lpd\*

# rpm -qa | grep -i cups

hal-cups-utils-0.6.2-5.2.el5

libgnomecups-0.2.2-9

cups-libs-1.3.7-26.el5\_6.1

cups-1.3.7-26.el5\_6.1

cups-lpd-1.3.7-26.el5\_6.1

# cd /etc

# service cups stop

# mv cups cups.distrib

# mkdir cups

# chgrp lp cups

# cd cups

# cp /tmp/physics-elog-cups.tar /etc/cups

# cd /etc/cups

# tar -xvf physics-elog-cups.tar

# service cups restart

# lpstat –t

[root@physics-elog2 cups]# echo "Test of lplisten and printer pipe done by Shashi at 2:34 pm" > /var/www/develog/devlog

[root@physics-elog2 cups]# echo "Test of lplisten and printer pipe done by Shashi at 2:34 pm" > /var/www/e163elog/e163log

[root@physics-elog2 cups]# echo "Test of full printer queue chain done by Shashi at 2:34 pm" | lpr -Pdevlog

[root@physics-elog2 cups]# echo "Test of full printer queue chain done by Shashi at 2:34 pm" | lpr -Pe163log

**Check the urls for develog and e163log. You should see the above entries.**

[**http://physics-elog2.slac.stanford.edu/e163elog/index.jsp**](http://physics-elog2.slac.stanford.edu/e163elog/index.jsp)

[**http://physics-elog2.slac.stanford.edu/develog/index.jsp**](http://physics-elog2.slac.stanford.edu/develog/index.jsp)

Try to print an image file –

[root@physics-elog2 tmp]# lpr -Pdevlog /tmp/tiger.ps

[root@physics-elog2 tmp]# file /tmp/tiger.ps

/tmp/tiger.ps: document text conforming at level 1.0

This put some contents in testelog. But that was not showing as an image….

Troubleshoot.

Following log is kind of telling us that our system is recognizing it as a ascii file instead as a ps file.

# tail -f /var/www/develog/log/

cronjob.log lplisten.log lplisten.pid search.log

[root@physics-elog2 log]# tail -f /var/www/develog/log/lplisten.log

File created @ Mon Jan 9 15:00:20 PST 2012

PIPE is devlog

File reached @ Mon Jan 9 15:02:55 PST 2012

Error: File /etc/lp/interfaces/devlog-user.txt does not exist

Error: File /etc/lp/interfaces/devlog-title.txt does not exist

File format is: ASCII

I am in /var/www/develog

touching file ./work/2012-01-09T15:02:56.xml

File created @ Mon Jan 9 15:02:56 PST 2012

PIPE is devlog

File reached @ Mon Jan 9 15:03:39 PST 2012

Error: File /etc/lp/interfaces/devlog-user.txt does not exist

Error: File /etc/lp/interfaces/devlog-title.txt does not exist

File format is: ASCII

I am in /var/www/develog

touching file ./work/2012-01-09T15:03:39.xml

File created @ Mon Jan 9 15:03:39 PST 2012

PIPE is devlog

/var/www/XYZelog/lplisten script breaks on RHEL-5. “tail +” option doesn’t work in Redhat 5 as it is.

Following statements would be failing in the script on RHEL-5 –

tail +1c ./logbook-lpr > ./logbook-tail

tail +20 ./logbook-in > ./logbook-lpr

tail +$i ./logbook-tail > ./logbook-tmp

tail +$i ./logbook-tail > ./logbook-tmp

Work around –

This obsolete behavior can be enabled or disabled with the '\_POSIX2\_VERSION' environment variable.

For example on physics-elog2, in /var/www/develog/lplisten script added and I set this variable at the starting of the script and then things started working.

# grep -i posix /var/www/develog/lplisten

export \_POSIX2\_VERSION=199209

He is short demo –

Linux physics-elog2 2.6.18-274.7.1.el5PAE #1 SMP Mon Oct 17 12:05:46 EDT 2011 i686 i686 i386 GNU/Linux bash-3.2

$ cat /etc/redhat-release Red Hat Enterprise Linux Client release 5.7 (Tikanga) bash-3.2

$ tail +1c /etc/redhat-release

tail: cannot open `+1c' for reading: No such file or directory ==> /etc/redhat-release <== Red Hat Enterprise Linux Client release 5.7 (Tikanga)

bash-3.2$ export \_POSIX2\_VERSION=199209

bash-3.2$ tail +1c /etc/redhat-release Red Hat Enterprise Linux Client release 5.7 (Tikanga)

As an example after all printer issues are resolved, for lclslog print queue you expect following type of entry in /etc/cups/printers.conf file –

<Printer lclslog>

Info Printer queue for the LCLS Logbook

DeviceURI parallel:/var/www/lclselog/lclslog

State Idle

StateTime 1328316107

Accepting Yes

Shared Yes

JobSheets none none

QuotaPeriod 0

PageLimit 0

KLimit 0

OpPolicy default

ErrorPolicy stop-printer

</Printer>

19) Test high-level applications print to E-log mechanism.

Procedure from Bob Hall –

Bring up a production "lclshome" GUI from a machine such as lcls-builder.

Select the "LEM..." button on the right side of the GUI.

After waiting for an image to appear in the "Linac Energy Management" popup window, select the "-> Logbook..." button on the top right area of the window.

Select the "Save Entry" button on the bottom of the "Physics Elog Entry" popup window.

Confirm that an entry is created in the LCLS (lclselog) logbook with the title "LEM Status".

Important URLS which should be functional –

<http://physics-elog.slac.stanford.edu/>

<http://physics-elog.slac.stanford.edu:8080/>

http://physics-elog.slac.stanford.edu:8080/manager/html

<http://physics-elog.slac.stanford.edu/elogbookManager/>

<http://physics-elog.slac.stanford.edu/TESTelog/index.jsp>

<http://physics-elog.slac.stanford.edu/develog/index.jsp>

<http://physics-elog.slac.stanford.edu/lclselog/index.jsp>

<http://physics-elog.slac.stanford.edu/accelog/index.jsp>

<http://physics-elog.slac.stanford.edu/e163elog/index.jsp>

<http://physics-elog.slac.stanford.edu/e164elog/index.jsp>

<http://physics-elog.slac.stanford.edu/facetelog/index.jsp>

<http://physics-elog.slac.stanford.edu/fiberelog/index.jsp>

<http://physics-elog.slac.stanford.edu/pepelog/index.jsp>

<http://physics-elog.slac.stanford.edu/spear3elog/index.jsp>

<http://physics-elog.slac.stanford.edu/sppselog/index.jsp>

SECTION 4: ISSUES, SOLUTIONS AND OBSERVATIONS

Important URLS which should be functional –

<http://physics-elog.slac.stanford.edu/>

<http://physics-elog.slac.stanford.edu:8080/>

http://physics-elog.slac.stanford.edu:8080/manager/html

<http://physics-elog.slac.stanford.edu/elogbookManager/>

<http://physics-elog.slac.stanford.edu/TESTelog/index.jsp>

<http://physics-elog.slac.stanford.edu/develog/index.jsp>

<http://physics-elog.slac.stanford.edu/lclselog/index.jsp>

<http://physics-elog.slac.stanford.edu/accelog/index.jsp>

<http://physics-elog.slac.stanford.edu/e163elog/index.jsp>

<http://physics-elog.slac.stanford.edu/e164elog/index.jsp>

<http://physics-elog.slac.stanford.edu/facetelog/index.jsp>

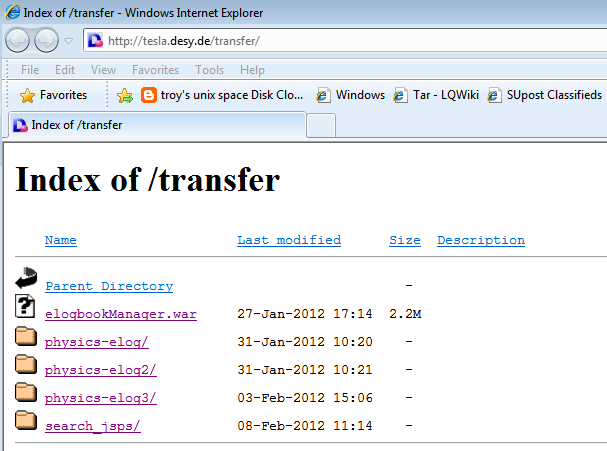
<http://physics-elog.slac.stanford.edu/fiberelog/index.jsp>

<http://physics-elog.slac.stanford.edu/pepelog/index.jsp>

<http://physics-elog.slac.stanford.edu/spear3elog/index.jsp>

<http://physics-elog.slac.stanford.edu/sppselog/index.jsp>

URL for downloading war files : <http://tesla.desy.de/transfer/>



Important rpms installed on physics-elog (RHEL-5) Server –

[root@physics-elog develog]# rpm -qa | grep -i jre

[root@physics-elog develog]# rpm -qa | grep -i jdk

jdk-1.6.0\_29-fcs

ldapjdk-4.18-2jpp.3.el5

java-1.6.0-openjdk-1.6.0.0-1.23.1.9.10.el5\_7

[root@physics-elog develog]# rpm -qa | grep -i java

libgtk-java-2.8.7-3.el5

libgnome-java-2.12.4-3.fc6

tzdata-java-2011l-4.el5

sun-javadb-core-10.6.2-1.1

glib-java-0.2.6-3.fc6

cairo-java-1.0.5-3.fc6

bsh-javadoc-1.3.0-9jpp.1

java-1.4.2-gcj-compat-1.4.2.0-40jpp.115

sun-javadb-demo-10.6.2-1.1

libglade-java-2.12.5-3.fc6

gcc-java-4.1.2-51.el5

sun-javadb-common-10.6.2-1.1

sun-javadb-docs-10.6.2-1.1

java-1.4.2-gcj-compat-javadoc-1.4.2.0-40jpp.115

java-1.6.0-openjdk-1.6.0.0-1.23.1.9.10.el5\_7

java-1.4.2-gcj-compat-src-1.4.2.0-40jpp.115

sun-javadb-javadoc-10.6.2-1.1

xmlrpc-javadoc-2.0.1-3jpp.1

java-1.4.2-gcj-compat-devel-1.4.2.0-40jpp.115

sun-javadb-client-10.6.2-1.1

# rpm -qa | grep -i tomcat

tomcat5-jsp-2.0-api-5.5.23-0jpp.22.el5\_7

tomcat5-servlet-2.4-api-5.5.23-0jpp.22.el5\_7

# rpm -qa | grep -i cups

hal-cups-utils-0.6.2-5.2.el5

libgnomecups-0.2.2-9

cups-libs-1.3.7-26.el5\_6.1

cups-1.3.7-26.el5\_6.1

cups-lpd-1.3.7-26.el5\_6.1

Important module related to Tomcat Jk connector -

# ls -lrt /usr/lib/httpd/modules/mod\_jk.so

-rwxr-xr-x 1 root root 907999 Dec 13 14:17 /usr/lib/httpd/modules/mod\_jk.so

Problem - Elog URL (e.g. <http://physics-elog2.slac.stanford.edu/develog>) not getting displayed properly and showing some kind of errors.

Solution – Hostname is embedded in the war files. We need to have proper elog.war and elogbookManager.war files. Communicate with Raimund Kammering (Email - [raimund.kammering@desy.de](mailto:raimund.kammering@desy.de)). He will provide two war files. Hostname is embedded in the war file so for new host we would require the following two war files from him –

elog.war

elogbookManager.war

Deploy the war files under tomcat.

Example – Following URL was used for deploying the two war files on physics-elog2 –

<http://physics-elog2.slac.stanford.edu:8080/manager/html>

**Problem –** Tree structure of Elog URL (e.g. e164elog and pepelog), not getting displayed properly or showing errors or improper results during search function.

**Solution –** Raimund fixed the search for e164elog and pepelog! Was as expected a bad mixture of new index and old search JSP pages!!

Here once more:

-elogbookManager elog use ONLY the elogbookManager to act on the search index!

-old elogs MUST use search-index script and search and result JSP pages in the XYZelog . So I removed the existing index created a new one PLUS added two libs to XYZelog/jsp/WEB-INF/lib which in the old installation resided in tomcat/common/lib!

[root@physics-elog lib]# cd /var/www/e164elog/jsp/WEB-INF/lib

[root@physics-elog lib]# ls -lrt

total 1564

-rw-r----- 1 root root 62694 Feb 10 09:20 avalon-framework.jar

-rw-r--r-- 1 root root 1519742 Feb 10 09:20 fop.jar

**Problem –** Left side display broken for some of the elog URLS.

**Solution –**

\* quartz jar is needed for left frame (only for elogs managed by the elogbookManager)

\* on old tomcat installations it might reside under tomcat/common/lib (don't put them there, but see below).

\* when tomcat starts and finds the XYZelog/jsp/left.jsp it produces tomcat/work/Catalina/localhost/XYZelog/org/apache/jsp/left.java

and compiles it to tomcat/work/Catalina/localhost/XYZelog/org/apache/jsp/left.class. Only at this step the quartz jar file is needed!

(By the way: this is what is happening to all jsp files ;-)

So if you now remove the quartz jar file and restart tomcat it will simply use tomcat/work/Catalina/localhost/XYZelog/org/apache/jsp/left.class

as long as you do not modify the left.jsp file!

One possible solution is to add the quartz jar file to all XYZelog/jsp/WEB-INF/lib directories but a better solution might be to put them in a place where one quartz jar will be visible to all web applications which is: tomcat/lib (see e.g.: <http://tomcat.apache.org/tomcat-6.0-doc/appdev/deployment.html#Shared_Library_Files> for details about class loading)!

**Problem –** Duplicate date entries being seen under elog urls for elogs managed by elogbookManager.

**Solution -** Recreate indexes for the elogs managed by elgbookManager.

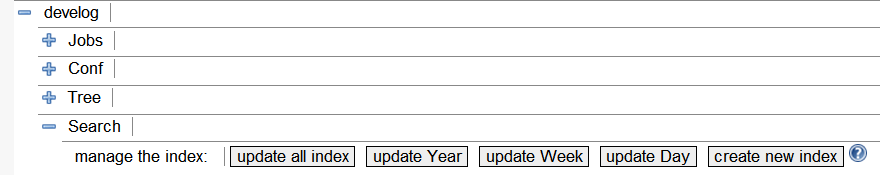
cd /var/www/XYZelog/work/index

rm –rf /var/www/XYZelog/work/index/\*

Go to URL - <http://physics-elog.slac.stanford.edu/elogbookManager/> and login providing correct password.

Select the elog for which you are seeing the problem.

Now do “ Click on the + sign at the left hand side of the particular elo -> Search -> Create New Index"



An elog managed by the elogbookManager MUST not use the cron job at all! So please no search-index update it's all done by the manager automatically!

And yes for an elog managed by the elogbookManager you can use the elogbookManager to do an recreate index (even though this should in normal operation not be needed).

**Problem -** “Logbook Search” is not working on physics-elog2 and getting following error message -

SEVERE: Servlet.service() for servlet jsp threw exception

java.lang.ClassCastException: org.apache.xml.dtm.ref.DTMManagerDefault cannot be cast to org.apache.xml.dtm.DTMManager

at org.apache.xml.dtm.DTMManager.newInstance(DTMManager.java:135)

at org.apache.xpath.XPathContext.<init>(XPathContext.java:100)

at org.apache.taglibs.standard.tag.common.xml.XPathUtil.valueOf(XPathUtil.java:461)

at org.apache.taglibs.standard.tag.common.xml.ExprSupport.doStartTag(ExprSupport.java:64)

at org.apache.taglibs.standard.tag.el.xml.ExprTag.doStartTag(ExprTag.java:62)

at org.apache.jsp.search\_jsp.\_jspx\_meth\_x\_005fout\_005f0(search\_jsp.java:716)

at org.apache.jsp.search\_jsp.\_jspx\_meth\_c\_005fset\_005f0(search\_jsp.java:688)

at org.apache.jsp.search\_jsp.\_jspService(search\_jsp.java:110)

at org.apache.jasper.runtime.HttpJspBase.service(HttpJspBase.java:70)

at javax.servlet.http.HttpServlet.service(HttpServlet.java:717)

at org.apache.jasper.servlet.JspServletWrapper.service(JspServletWrapper.java:388)

at org.apache.jasper.servlet.JspServlet.serviceJspFile(JspServlet.java:313)

at org.apache.jasper.servlet.JspServlet.service(JspServlet.java:260)

at javax.servlet.http.HttpServlet.service(HttpServlet.java:717)

at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:290)

at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:206)

at org.apache.catalina.core.StandardWrapperValve.invoke(StandardWrapperValve.java:233)

at org.apache.catalina.core.StandardContextValve.invoke(StandardContextValve.java:191)

at org.apache.catalina.core.StandardHostValve.invoke(StandardHostValve.java:127)

at org.apache.catalina.valves.ErrorReportValve.invoke(ErrorReportValve.java:102)

at org.apache.catalina.core.StandardEngineValve.invoke(StandardEngineValve.java:109)

at org.apache.catalina.connector.CoyoteAdapter.service(CoyoteAdapter.java:293)

at org.apache.jk.server.JkCoyoteHandler.invoke(JkCoyoteHandler.java:190)

at org.apache.jk.common.HandlerRequest.invoke(HandlerRequest.java:291)

at org.apache.jk.common.ChannelSocket.invoke(ChannelSocket.java:776)

at org.apache.jk.common.ChannelSocket.processConnection(ChannelSocket.java:705)

at org.apache.jk.common.ChannelSocket$SocketConnection.runIt(ChannelSocket.java:898)

at org.apache.tomcat.util.threads.ThreadPool$ControlRunnable.run(ThreadPool.java:690)

at java.lang.Thread.run(Thread.java:662)

**Solution –** Provided by Raimund.

- created ${CATALINA\_HOME}/endorsed

- moved:

serializer.jar xalan.jar xercesImpl.jar xml-apis.jar

from:

/usr/tomcat/webapps/elog/WEB-INF/lib

to ${CATALINA\_HOME}/endorsed

restarted tomcat

**Problem –** Image file not getting recorded in elog properly.

**Solution –**

# lpr -Pdevlog /tmp/tiger.ps

[root@physics-elog2 tmp]# file /tmp/tiger.ps

/tmp/tiger.ps: document text conforming at level 1.0

This put some contents in testelog. But that was not showing as an image.

Following statements would be failing in the script on RHEL-5 –

tail +1c ./logbook-lpr > ./logbook-tail

tail +20 ./logbook-in > ./logbook-lpr

tail +$i ./logbook-tail > ./logbook-tmp

tail +$i ./logbook-tail > ./logbook-tmp

Work around –

This obsolete behavior can be enabled or disabled with the '\_POSIX2\_VERSION' environment variable.

For example on physics-elog2, in /var/www/develog/lplisten script added and I set this variable at the starting of the script and then things started working.

# grep -i posix /var/www/develog/lplisten

export \_POSIX2\_VERSION=199209

**Problem –** Remote printing issue.

**Solution -** I created a remote printer devlogtest on lcls-prod01, which was pointing to devlog printer on physics-elog2.

Following was failing from lcls-prod01 –

lpr –Pdevlogtest /tmp/tiger.ps

Steps taken to resolve –

* 1. Installed cups-lpd rpm.

rpm –ivh cups-lpd\*

* 1. Edited physics-elog2:/etc/cups/printers.conf and put line “Shared Yes” in the section for printer devlog

As an example after all printer issues are resolved, for lclslog print queue you expect following type of entry in /etc/cups/printers.conf file –

<Printer lclslog>

Info Printer queue for the LCLS Logbook

DeviceURI parallel:/var/www/lclselog/lclslog

State Idle

StateTime 1328316107

Accepting Yes

Shared Yes

JobSheets none none

QuotaPeriod 0

PageLimit 0

KLimit 0

OpPolicy default

ErrorPolicy stop-printer

</Printer>