**DME Dev (or UAT) Deployment Instructions**

# Prepare the build on the Dev (or UAT) Server

# Log into the DME Dev (or UAT) Server

ssh fsdsgl-dmeap02d.ncifcrf.gov

or

ssh fsdsgl-dmeap01t.ncifcrf.gov

# Switch user to service account

sudo su - ncif-hpcdm-svc

# Change directory to Git local directory and get the latest code

cd /opt/HPC\_DME\_APIs/src

or

cd /opt/HPC\_DME\_APIs\_new/src

* Get the latest code:

git pull

* If this is first time checkout for a new branch, then switch to the new branch:

git pull

git reset --hard origin/releases/<new version>

Example: git reset --hard origin/releases/3.0.0

git checkout releases/<new version>

Example: git checkout releases/3.0.0

# Build the API Server

mvn clean install -Ddev

or

mvn clean install -Dpreprod

# Build the DME Web Application

cd hpc-web

cp ~/dev-env.conf src/main/resources/appconfigs/dev-env.conf

mvn clean install -Pdev -DskipTests

or

cp ~/preprod-env.conf src/main/resources/appconfigs/preprod-env.conf

mvn clean install -Ppreprod -DskipTests

*(****Note****: If any new env. variable has been added in this release to dev-env.conf or preprod-env.conf, then instead of a blind copy, a merge should be performed)*

# Deployment Steps

***Note****: If this is the first time deploying to the server and the tomcat has not yet been configured, complete* **Step 4** *before proceeding with* **Step 2***.*

# Switch user to root and shutdown the Tomcat server and change directory to the tomcat webapps directory

sudo su  
systemctl stop tomcat  
cd /usr/share/tomcat/webapps

# Update server.xml

In the line

<Context path="" docBase="hpc-web-<prev\_version>" privileged="true"/>

replace <prev\_version> with the value of <new\_version>

<Context path="/hpc-server" docBase="hpc-server-<prev\_version>" privileged="true"/>

replace <prev\_version> with the value of <new\_version>

<Context path="/hpc-scheduler" docBase="hpc-scheduler-<prev\_version>" privileged="true"/>

replace <prev\_version> with the value of <new\_version>

<Context path="/hpc-scheduler-migration" docBase="hpc-scheduler-migration-<prev\_version>" privileged="true"/>

replace <prev\_version> with the value of <new\_version>

e.g.

<Context path="" docBase="hpc-web-3.0.0"/>

<Context path="/hpc-server" docBase="hpc-server-3.0.0"/>

<Context path="/hpc-scheduler" docBase="hpc-scheduler-3.0.0"/>

<Context path="/hpc-scheduler-migration" docBase="hpc-scheduler-migration-3.0.0"/>

# Execute any database scripts (if applicable)

# Stage the war files

* Back up the existing war files e.g.

mv hpc-web-3.0.0.war hpc-web-3.0.0.war.backup.<date>  
mv hpc-server-3.0.0.war hpc-server-3.0.0.war.backup.<date>

mv hpc-scheduler-3.0.0.war hpc-scheduler-3.0.0.war.backup.<date>

mv hpc-scheduler-migration-3.0.0.war hpc-scheduler-migration-3.0.0.war.backup.<date>

* Delete existing war directory e.g.

rm –rf ROOT

rm –rf hpc-server

rm –rf hpc-scheduler

rm –rf hpc-scheduler-migration

* Copy the new DME API Server war file

cp $HPC\_HOME/hpc-server/hpc-ws-rs-impl/target/hpc-server-<version>.war .

* Copy the new DME Web Application war file

cp $HPC\_HOME/hpc-web/target/hpc-web-<version>.war .

* Copy the new scheduler war files to Tomcat

cp $HPC\_HOME/hpc-scheduler/target/hpc-scheduler-<version>.war .

cp $HPC\_HOME/hpc-scheduler-migration /target/hpc-scheduler-migration-<version>.war .

# Start tomcat and verify

systemctl start tomcat

*If the web application URL displays Tomcat home page, stop and start Apache Tomcat*

systemctl stop tomcat

systemctl start tomcat

# [Optional] Accessing Tomcat Logs

* Login into the DME Dev server (or UAT server)

ssh fsdsgl-dmeap02d.ncifcrf.gov

or

ssh fsdsgl-dmeap01t.ncifcrf.gov

* Switch user to the DME service account  
  su - ncif-hpcdm-svc
* Change directory to the tomcat logs directory  
  cd /var/log/tomcat
* Access the tomcat logs in the file catalina.out
* In addition, the DME Web application produces the log file:

/var/log/tomcat/hpcweb.log

* In addition, API Server produces the following log file:  
  /var/log/tomcat/hpc-server/hpc-server.log
* To dynamically change the logging level, modify:  
  /user/share/tomcat/conf/hpc-server/logback.xml

# [First time only] Setup Configuration files on Tomcat Server

# Configure Tomcat

To allow the server to communicate with iRODS and LDAP, we need to deploy/configure a keystore:

* Copy keystore and cacerts into /user/share/tomcat/conf/hpc-server

mkdir /user/share/tomcat/conf/hpc-server

cp $HPC\_HOME/hpc-server/hpc-ws-rs-impl/src/main/resources/cacerts.jks /user/share/tomcat/conf/hpc-server

cp $HPC\_HOME/hpc-server/hpc-ws-rs-impl/src/main/resources/keystore.jks /user/share/tomcat/conf/hpc-server

* Create file /user/share/tomcat/bin/setenv.sh and add the following:

export UMASK=0022   
JAVA\_OPTS="$JAVA\_OPTS -Djavax.net.ssl.trustStore=$CATALINA\_HOME/conf/hpc-server/cacerts.jks -Djavax.net.ssl.trustStorePassword=changeit -Dlogback.configurationFile=$CATALINA\_HOME/conf/hpc-server/logback.xml"

* Copy properties file into /user/share/tomcat/conf/hpc-server

cp $HPC\_HOME/hpc-server/hpc-ws-rs-impl/src/main/resources/WEB-INF/spring/hpc-server.properties /user/share/tomcat/conf/hpc-server

* Create logback.xml file in /user/share/tomcat/conf/hpc-server

|  |
| --- |
| <configuration scan="true" scanPeriod="15 seconds">    <include resource="org/springframework/boot/logging/logback/base.xml"/>    <property name="API\_SERVER\_LOG" value="${catalina.base}/logs/hpc-server/hpc-server.log"/>  <property name="SCHEDULER\_SERVER\_LOG" value="${catalina.base}/logs/hpc-server/hpc-scheduler.log"/>  <property name="SCHEDULER\_MIGRATION\_SERVER\_LOG" value="${catalina.base}/logs/hpc-server/hpc-scheduler-migration.log"/>    <appender name="API\_SERVER\_FILE\_ROLLING" class="ch.qos.logback.core.rolling.RollingFileAppender">  <file>${API\_SERVER\_LOG}</file>    <rollingPolicy class="ch.qos.logback.core.rolling.SizeAndTimeBasedRollingPolicy">  <fileNamePattern>${catalina.base}/logs/hpc-server/hpc-server.%d{yyyy-MM-dd}.%i.log</fileNamePattern>  <!-- each archived file, size max 500MB -->  <maxFileSize>500MB</maxFileSize>  <!-- total size of all archive files, if total size > 200GB, it will delete old archived file -->  <totalSizeCap>15GB</totalSizeCap>  <!-- 90 days to keep -->  <maxHistory>90</maxHistory>  </rollingPolicy>    <encoder>  <pattern>%d %p [%t] %m%n</pattern>  </encoder>  </appender>    <logger name="gov.nih.nci.hpc" level="debug" additivity="false">  <appender-ref ref="API\_SERVER\_FILE\_ROLLING"/>  </logger>    <root level="error">  <appender-ref ref="API\_SERVER\_FILE\_ROLLING"/>  </root>      </configuration> |

* Update /user/share/tomcat/conf/hpc-server/hpc-server.properties as follows:

1. Set the hpc.integration.ldap.password.
2. Set hpc.dao.oracle.password.
3. Check to see if it is pointed to the Dev Oracle instance
4. Check to see if it is pointed to the Dev iRODS instance

* Configure the SSL port 7738 for DME API Server

To enable SSL on port 7738, add the following connector to /user/share/tomcat/conf/server.xml:

<Connector protocol="org.apache.coyote.http11.Http11NioProtocol" port="7738" maxThreads="200" maxParameterCount="1000" sslEnabledProtocols="TLSv1.2" scheme="https" secure="true" SSLEnabled="true" keystoreFile="${catalina.base}/conf/hpc-server/keystore.jks" keystorePass="changeit" clientAuth="false" sslProtocol="TLS"/>

* To access the Web application directly at port 8080, add the following context in /user/share/tomcat/conf/server.xml.

<Context path="" docBase="hpc-web-<version>" privileged="true"/>

* To access the hpc-server at path /hpc-server, add the following context in $CATALINA\_HOME/conf/server.xml.

<Context path="/hpc-server" docBase="hpc-server-<version>" privileged="true"/>

* To avoid war expansion into two folders, update the following in $CATALINA\_HOME/conf/server.xml.

<Host name="localhost" appBase="webapps"  
 **unpackWARs="true"** **autoDeploy="false"** **deployOnStartup="false"**>

* To deploy the scheduler and migration war files, add the following context in $CATALINA\_HOME/conf/server.xml.

<Context path="/hpc-scheduler" docBase="hpc-scheduler-<version>"

<Context path="/hpc-scheduler-migration" docBase="hpc-scheduler-migration-<version>"