

C2SIM Version 4.3 Server Build Process

Create VMWare Image for Centos version 7

Create Accounts

Root Account

Password gmul2e4s

Create bmluser account

Password: c2sim67890

Create bmluser/bin directory

Install Java

As root:

Remove Open Java

```
yum -y remove java*
```

Download latest jdk

Install java

```
rpm -ivh jdk-8u65-linux-x64.rpm
```

Java is installed in /usr/java with various soft links

Set JAVA_HOME .bash_profile

```
JAVA_HOME="/usr/java/jdk1.8.0_65"  
export JAVA_HOME
```

Install NetBeans

Download and install netbeans in /opt/netbeans

Create symbolic link to netbeans in ~/bin

```
ln -s /opt/netbeans/netbeans-8.1 netbeans
```

Install SubVersion (If necessary)

As root:

```
yum install subversion
```

Install Maven

As root:

```
yum install maven
```

Other Utilities

Oxygen
jEdit

Install Tomcat

Download and install tomcat in /opt/tomcat

Create symbolic links in ~/bin to start and stop tomcat

```
ln -s /opt/tomcat/apache-tomcat-8.0.30/bin/startup.sh tomcat_start
ln -s /opt/tomcat/apache-tomcat-8.0.30/bin/shutdown.sh tomcat_stop
```

Set \$CATALINA_HOME in ~/.bash_profile

```
CATALINA_HOME="/opt/tomcat/apache-tomcat-8.0.30"
export CATALINA_HOME
```

Set up tomcat admin user.

Adding the following to /conf/tomcat-users.xml

```
<xml version="1.0" encoding="UTF-8">
  <tomcat-users>
    <role rolename="tomcat"/>
    <user username="tomcat" password="tomcat" roles="manager-
      script,manager-gui"/>
  </tomcat-users>
```

Add tomcat support to NetBeans

Bring up NetBeans

On start page press Install Plugins

Add J2EE Support

On menu bar select Window / Services

On Services / Servers select Add Server and choose Apache Tomcat

Add path to Tomcat \$CATALINA_HOME

Add tomcat user

Install Apache Apollo (Messaging Broker)

Download apache-apollo-1.7.1-unix-distro.tar.gz from:

<http://activemq.apache.org/apollo/download.html>

Create /opt/lib/apollo and unpack the distribution there.

Be sure that bmluser is the owner of /opt and /opt/lib/apollo and has RWX permissions.

Navigate to /opt/lib/apollo/apache-apollo-1.7.1/bin create a broker instance:

```
apollo create /opt/apollo/bmlStomp
```

The main configuration file for this instance is:

```
/opt/Apollo/bmlStomp/etc/apollo.xml
```

URL'S for BML SERVER

BML (And MSDL) Submission

//hostname:8080/BMLServer/bml;submitterID=*submitter*;domain=*domain*;
forwarders="*firstForwarder*"

Other Transactions

Non defined yet

Runtime Instructions

Start server

Accounts and passwords:

bmluser / c2sim67890

root / gmul2e4s

Start two server components

Tomcat:

/opt/tomcat/apache-tomcat-8.0.30/bin/startup.sh

Apollo Message Broker:

/opt/apollo/bmlStomp/bin/apollo-broker-service start

Ports Used:

Tomcat 8080

Apollo 61613

The firewall is set up to pass these ports

To shutdown both services gracefully:

/opt/tomcat/apache-tomcat-8.0.30/bin/shutdown.sh

/opt/apollo/bmlStomp/bin/apollo-broker-service stop

There are web based management applications for both services. These are on the Firefox toolbar.

Logins:

Tomcat: User: tomcat Password: tomcat

Apache Apollo: User: admin Password: password

Client Applications

Submit BML transaction

```
java -jar BML_WS_All.jar serverAddr bmlFile submitter domain
```

example:

```
java -jar BML_WS_All.jar 192.168.1.13 IBML09_GSR.xml dsc ibml09
```

The submitter can be any identifier. This will show up in logs

The domain can be ibml09 or cbml. It isn't used at the point but might be in the future.

Receive publications

```
java -jar BML_STOMP stompHostAddr
```

Conversion To Server Environment (INCOMPLETE)

Create user for tomcat (e.g. tomcat_user),
Not a root account

Move bml_files folder to tomcat and change ownership.

Set startup for tomcat under tomcat_user

Move contents of bmluser/.bash_profile to tomcat_user and make appropriate edits.