

C2SIM Server Build Process

Operating System

Create VMWare Image for Centos version 7

Create Accounts

Root Account

 Password gmul2e4s

Create bmluser account

 Password: c2sim67890

Set bmluser for automatic logon

Create bmluser/bin directory

Locate the following line in /etc/sudoers

```
root    ALL=(ALL)    ALL
```

Add the following to give bmluser full sudo rights

```
bmluser  ALL=(ALL)    ALL
```

Install Java

Remove Open Java (Non Sun/Oracle)

```
sudo 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 in .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 (If doing development on server)

As root:

yum install maven

Other Utilities may also be installed

Oxygen
jEdit

Install Tomcat

Download and install tomcat in /opt/tomcat
Download latest tomcat e.g. apache-tomcat-8.0.30
Create /opt/tomcat
sudo mkdir /opt/tomcat
cd /opt/tomcat
sudo chmod /opt/tomcat 755

Install

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

See the current C2SIM Server Reference Implementation Guide