#### InfoSphere MDM Advanced Edition (Physical) - Headless Workbench Build

The Lloyds POC work has been done based on this [developer works article](https://www.ibm.com/developerworks/community/blogs/64033fdd-4a35-4733-852f-a39abcdf4fb3?tags=cba&lang=en). The article has an attachment which some scripts and a sample workbench project. Unfortunately, the project attached to the article was created with Workbench 11.4 which is not backwardly-compatible with workbench 11.3, so we created a very simple Workbench project with a data addition and entity extension. One other minor change was required to the *mdm-wb-build.xml* script, which was to remove a dependency to a non-existent *detectAndCopy* target in the *runBuild* target.

#### Pre-reqs

Before we can build a Workbench project, the following software must be installed and configured and the *mdm\_wb\_build.properties* file correctly edited:

* Install a recent version of *Apache ANT* – (we used version 1.10.5)
* Install *Rational Application Developer for WebSphere Software v9.0*
* Install *WebSphere Application Server v8.5.5.1* and create a profile
* Download *ant-contrib-1.0b3.jar* from [here](https://repo1.maven.org/maven2/ant-contrib/ant-contrib/1.0b3/ant-contrib-1.0b3.jar) and rename it from *ant-contrib-1.0b3.jar* to *ant-contrib.jar*
* *InputFolder* property - set to where the workbench project folders are (in our case we specified the git checkout dir)
* *OutputFolderPrefix* property - set to a folder where the build output will go
* *AntContribHome* property - set to the folder containing the *ant-contrib.jar*
* *EclipseHome* property - set to the install dir of *RAD4WS*
* *WASHome* property - set to the *WAS 8.5* install dir
* *WSRuntimeTypeId* property - leave as it is - if you wish to list all of the *WebSphere Runtime Type Ids* installed run the *listServerTypes.xml* ANT script headlessly in *RAD* (e.g. run */opt/IBM/SDP/bin/runAnt.sh -buildfile listServerTypes.xml*)
* *WSRuntimeId* property - leave as it is has no effect on the build
* *OSGIUtilLib* property - this should be set to the *RAD4WS* shared resources directory's plugins folder (this can be found by running *Installation Manager*, clicking *Modify* and then selecting *IBM Software Delivery Platform* - the shared resources folder path is shown in the *Details* section)
* *OSGIJarName* property - leave as it is

All remaining properties should be left as they are

#### Running the workbench build

Once all the pre-reqs are satisfied run this command:

**ant -f mdm\_wb\_build.xml**

#### Checking the build output

This is the output from running the *mdm\_wb\_build.xml* script when everything is set up:

Buildfile: /home/dobuild/Downloads/autobuilds/scripts/mdm\_wb\_build.xml

runBuild:

[echo] Start of target runBuild

[mkdir] Created dir: /home/dobuild/wbbuildoutput201907250252/logs

[mkdir] Created dir: /home/dobuild/wbbuildoutput201907250252/CBAExport

[mkdir] Created dir: /home/dobuild/wbbuildoutput201907250252/sql

[mkdir] Created dir: /home/dobuild/wbbuildoutput201907250252/workspace

[mkdir] Created dir: /home/dobuild/wbbuildoutput201907250252/wsdl

[exec] using workspace /home/dobuild/wbbuildoutput201907250252/workspace

[exec] invoking java launch of Eclipse ...

[exec] Install location:

[exec] file:/opt/IBM/SDP/

[exec] Configuration file:

[exec] file:/opt/IBM/SDP/configuration/config.ini loaded

[exec] Configuration location:

[exec] file:/home/dobuild/.eclipse/org.eclipse.platform\_4.2.0\_1529064711/configuration/

[exec] Configuration file:

[exec] file:/home/dobuild/.eclipse/org.eclipse.platform\_4.2.0\_1529064711/configuration/config.ini loaded

[exec] Shared configuration location:

[exec] file:/opt/IBM/SDP/configuration/

[exec] Framework located:

[exec] file:/opt/IBM/SDP/../IBMIMShared/plugins/org.eclipse.osgi\_3.8.2.v20130124-134944.jar

[exec] Loading extension: reference:file:com.ibm.cds\_2.2.0.201203051532.jar

[exec] eclipse.properties not found

[exec] Loading extension: reference:file:org.eclipse.birt.jetty.overlay\_4.2.2.v201210101433.jar

[exec] eclipse.properties not found

[exec] Framework classpath:

[exec] file:/opt/IBM/SDP/../IBMIMShared/plugins/org.eclipse.osgi\_3.8.2.v20130124-134944.jar

[exec] file:/opt/IBM/IBMIMShared/plugins/

[exec] file:/opt/IBM/SDP/../IBMIMShared/plugins/com.ibm.cds\_2.2.0.201203051532.jar

[exec] file:/opt/IBM/SDP/../IBMIMShared/plugins/org.eclipse.birt.jetty.overlay\_4.2.2.v201210101433.jar

[exec] Debug options:

[exec] file:/opt/IBM/SDP/.options not found

[exec] Time to load bundles: 11

[exec] Starting application: 4982

[exec] !SESSION 2019-07-25 02:52:19.175 -----------------------------------------------

[exec] eclipse.buildId=unknown

[exec] java.fullversion=JRE 1.7.0 IBM J9 2.6 Linux amd64-64 Compressed References 20130306\_140761 (JIT enabled, AOT enabled)

[exec] J9VM - R26\_Java726\_SR4\_FP1\_20130306\_1011\_B140761

[exec] JIT - r11.b03\_20130131\_32403ifx1

[exec] GC - R26\_Java726\_SR4\_FP1\_20130306\_1011\_B140761\_CMPRSS

[exec] J9CL - 20130306\_140761

[exec] BootLoader constants: OS=linux, ARCH=x86\_64, WS=gtk, NL=en\_US

[exec] Framework arguments: -application com.ibm.etools.j2ee.ant.RunAnt -buildfile /home/dobuild/Downloads/autobuilds/scripts/mdm\_wb\_build\_inside\_eclipse.xml -logger org.apache.tools.ant.XmlLogger -logfile /home/dobuild/wbbuildoutput201907250252/logs/MDM\_WB\_BUILD\_log.xml -application org.eclipse.ant.core.antRunner -DDSTAMP=20190725 -DTSTAMP=0252

[exec] Command-line arguments: -application com.ibm.etools.j2ee.ant.RunAnt -data /home/dobuild/wbbuildoutput201907250252/workspace -os linux -ws gtk -consoleLog -debug -buildfile /home/dobuild/Downloads/autobuilds/scripts/mdm\_wb\_build\_inside\_eclipse.xml -logger org.apache.tools.ant.XmlLogger -logfile /home/dobuild/wbbuildoutput201907250252/logs/MDM\_WB\_BUILD\_log.xml -application org.eclipse.ant.core.antRunner -DDSTAMP=20190725 -DTSTAMP=0252

[exec]

[exec] !ENTRY org.eclipse.ant.core 4 3 2019-07-25 02:52:24.535

[exec] !MESSAGE The library "lib/ant-contrib-1.0.jar" specified from "com.ibm.mdm.mds.workbench.core" for the extraClasspathEntries extension does not exist

[exec] java returned ErrorCode 0

[exec] runAnt.sh DONE.

[xslt] Processing /home/dobuild/wbbuildoutput201907250252/logs/MDM\_WB\_BUILD\_log.xml to /home/dobuild/wbbuildoutput201907250252/logs/MDM\_WB\_BUILD\_log.html

[xslt] Loading stylesheet /home/dobuild/Downloads/autobuilds/scripts/mdm\_wb\_build\_report.xsl

[echo] End of target runBuild

zipArtifacts:

[echo] Start of target zipArtifacts

[zip] Building zip: /home/dobuild/wbbuildoutput201907250252/exportArtifacts.zip

[echo] End of target zipArtifacts

cleanUpWhenDone:

[echo] Start of target cleanUpWhenDone

[delete] Deleting directory /home/dobuild/wbbuildoutput201907250252/sql

[delete] Deleting directory /home/dobuild/wbbuildoutput201907250252/wsdl

[echo] End of target cleanUpWhenDone

all:

BUILD SUCCESSFUL

Total time: 1 minute 33 seconds

#### Build artefacts

The build artefacts are copied to the folder specified by the *OutputFolderPrefix* property with a timestamp (e.g. *wbbuildoutput201907250252*). In the root of the folder is a file called *exportArtifacts.zip* containing *SQL*, *WSDL* and *XSD* files. The *CBA* is copied to the *CBAExport* folder. In the *logs* folder are two files, *MDM\_WB\_BUILD\_log.xml* and *MDM\_WB\_BUILD\_log.html*. Pointing your browser at the html log shows this output:

MDM Workbench Build

The following is the state of the MDM Workbench Ant build, at the end of each target.

checkPropertiesExist: SUCCESSFUL

createServerRuntimeAndTargetPlatform: SUCCESSFUL

importProjects: SUCCESSFUL

generateCode: SUCCESSFUL

workspaceBuild: SUCCESSFUL

exportCBAs: SUCCESSFUL

End of report.