



Sybase Mobiliser Platform Money Mobiliser Installation and Setup

Version 5.0

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Contents

1	Introduction.....	1
1.1	Purpose.....	1
1.2	General Requirements.....	1
1.2.1	User and Group.....	1
1.2.2	Directory structure.....	1
2	Installation.....	2
2.1	Database Setup	2
2.1.1	Manual Procedure.....	2
2.2	Server Setup.....	3
2.2.1	Server Setup - Deploy.....	3
2.2.2	Server Setup – Configure Database Connections.....	3
2.2.3	Server Setup – Create JDBC Bundles.....	3
2.2.4	Server Setup - Third Party Software installation.....	4
2.3	UI Setup	5
2.3.1	UI Setup - Tomcat.....	5
2.4	Password Encryption (Optional).....	6
2.4.1	Password Encryption Overview.....	6
2.4.2	Encryption Software Installation.....	6
2.4.3	Password Encryption Instructions.....	6
3	Initialization and System Check	8
3.1	Start Server and UI	8
3.2	Preferences Configuration.....	10
3.3	SMPP Configuration (optional).....	11
3.4	SMTP Configuration (optional).....	13
3.5	Default (Administrative) Web UI Accounts.....	14
3.5.1	Customer Support Accounts.....	14
3.5.2	Distribution Partner Portal Account.....	15
3.5.3	Operations Dashboard Admin Account	15
3.5.4	System Console.....	15
4	End to End Test	16
4.1	Add Customer.....	16
5	System Configuration	19
5.1	System Configuration Files.....	19
5.2	System Tuning.....	20
5.2.1	Web Services.....	20
5.2.2	JDBC Connection Pool.....	20
5.2.3	JVM Settings.....	20
5.2.4	Logging	20
5.2.5	Event queuing/recovery Capacity	21
5.2.6	Audit Subsystem.....	21
5.2.7	Event Handlers.....	21

1 Introduction

1.1 Purpose

This Document describes the process of installing and configuring the Mobiliser R5.0.0 Server (Server) and User Interface (UI). The software package allows for immediate test (pre-configured), manual installation, and automated installation. The included Apache webserver comes pre-configured to support the Mobiliser R5.0.0 Server and User Interface.

1.2 General Requirements

For the purpose of demonstration and testing, the Server and UI can be installed on a single system. Minimum system configurations are as follows:

Operating System	RHEL5, IBM AIX6.1
CPU	2 Core (2.93GHz)
Memory	8GB
Storage	50GB
Database	Oracle 11gR2, IBM DB2 9.7.1

The Server and UI should be deployed on separate systems for improved security and performance. The requirements for these systems are dependent on performance objectives.

1.2.1 User and Group

For the test (localhost) installation, the 'sybase' user can be used to manage both the Server and UI.

User	primary Group
sybase	sybase
apache	apache

For the database, use the default accounts as recommended by the respective User Manual.

1.2.2 Directory structure

The following directories are recommended to be in place. All other directories are created by the installer or installation procedure.

File / Directory	Description	Owner	Mode
/opt/sybase	Partition for Sybase® Software	sybase:sybase	rwxrwx---

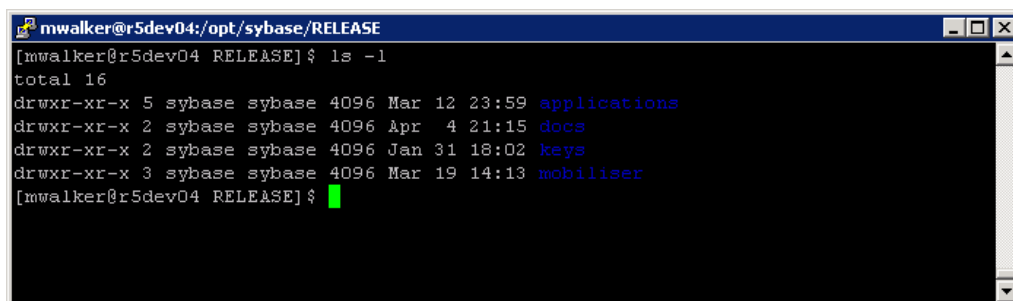
2 Installation

2.1 Database Setup

2.1.1 Manual Procedure

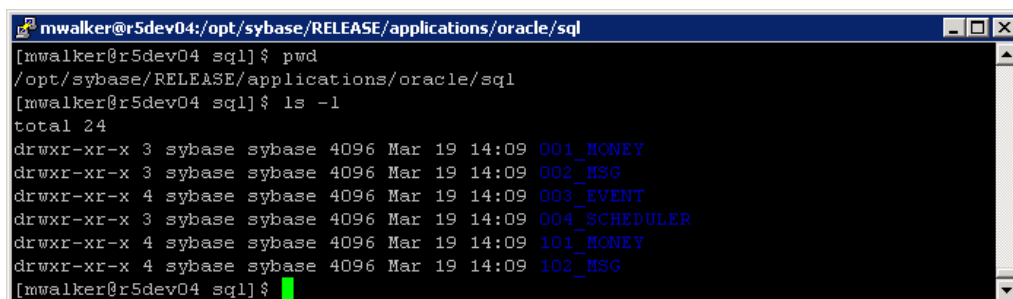
The following procedure is used to create the database structure, users, and seed data required for normal operation and testing. It is important the scripts be executed in the order as listed.

- Unpack the Mobiliser Release 5.0.0 Software in the application user home directory = {Mobiliser_Installation}



```
mwalker@r5dev04:/opt/sybase/RELEASE
[mwalker@r5dev04 RELEASE]$ ls -l
total 16
drwxr-xr-x 5 sybase sybase 4096 Mar 12 23:59 applications
drwxr-xr-x 2 sybase sybase 4096 Apr  4 21:15 docs
drwxr-xr-x 2 sybase sybase 4096 Jan 31 18:02 keys
drwxr-xr-x 3 sybase sybase 4096 Mar 19 14:13 mobiliser
[mwalker@r5dev04 RELEASE]$
```

- Navigate to the {Mobiliser_Installation}/applications/oracle/sql directory in order to obtain the Oracle database build scripts. Note: If using a DB2 database, follow the same instruction but navigate to {Mobiliser_Home}/applications/ibm/sql



```
mwalker@r5dev04:/opt/sybase/RELEASE/applications/oracle/sql
[mwalker@r5dev04 sql]$ pwd
/opt/sybase/RELEASE/applications/oracle/sql
[mwalker@r5dev04 sql]$ ls -l
total 24
drwxr-xr-x 3 sybase sybase 4096 Mar 19 14:09 001_MONEY
drwxr-xr-x 3 sybase sybase 4096 Mar 19 14:09 002_MSG
drwxr-xr-x 4 sybase sybase 4096 Mar 19 14:09 003_EVENT
drwxr-xr-x 3 sybase sybase 4096 Mar 19 14:09 004_SCHEDULER
drwxr-xr-x 4 sybase sybase 4096 Mar 19 14:09 101_MONEY
drwxr-xr-x 4 sybase sybase 4096 Mar 19 14:09 102_MSG
[mwalker@r5dev04 sql]$
```

- Execute the following script as the sys/system user. For DB2 databases, execute as the DB2 instance owner.
 - o /001_MONEY/001_SETUP/001_MONEY_drop_and_create_user.DDL
 - (This script creates and application schema named mobr5 in your database instance, where all subsequent tables will be installed under)
- Execute the following scripts (in order) as the newly created mobr5 user (user: mobr5 / password: paybox).
 - o /001_MONEY/001_SETUP/002_MONEY_gen_oracle.ddl
 - o /002_MSG/001_SETUP/001_MSG_gen_oracle.sql
 - o /003_EVENT/001_SETUP/001_EVENT_oracle.ddl
 - o /003_EVENT/002_DATA/001_EVENT_MobiliserEvents-Base-Data.sql
 - o /004_SCHEDULER/001_SETUP/001_SCHEDULER_tables_oracle.sql
 - o /101_MONEY/002_DATA/001_UMGR_PRIVS.sql
 - o /101_MONEY/002_DATA/002_UMGR_ROLES.sql
 - o /101_MONEY/002_DATA/100_MONEY_Data.sql
 - o /101_MONEY/002_DATA/200_VANILLA_DATA.sql
 - o /101_MONEY/002_DATA/210_VANILLA_USERS.sql

- /101_MONEY/002_DATA/220_VANILLA_MSG_TEMPLATES.sql
- /101_MONEY/002_DATA/300_VANILLA_TEST_DATA.sql
- /101_MONEY/002_DATA/300_VANILLA_TEST_DATA.sql
- /101_MONEY/003_PREFS/003_WEB_prefs.sql
- /102_MSG/002_DATA/001_MSG_Data.sql
- /102_MSG/003_PREFS/002_MSG_prefs.sql

At this point, the Mobiliser database is online and ready for testing.

2.2 Server Setup

2.2.1 Server Setup - Deploy

The following procedure is used to setup and initialize the Server. The Server application is OSGi based and requires very little configuration to be made operable.

- Navigate to the {Mobiliser_Installation}/applications/oracle directory
- Unpack the com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1-dist.zip file. This action will create a com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1 directory
- Copy the com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1 directory to /opt/sybase/ to create the {MOBILISER_HOME} directory
 - Note: For DB2 installations, navigate to {Mobiliser_Installation}/applications/ibm and unpack com.sybase365.mobiliser.vanilla.db2-5.0.0.RELEASE1.zip.
 - Note: It is useful to create a symbolic link 'mobiliser' to the {MOBILISER_HOME} directory

```

mwalker@r5dev04: /opt/sybase/RELEASE/applications/oracle/com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1
mwalker@r5dev04 com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1$ ls -l
total 108
-rwxr-xr-x  3 sybase sybase  4096 Apr  7 01:31 bin
-rwxr-xr-x 23 sybase sybase  4096 Mar 19 10:16 bundles
-rwxr-xr-x  5 sybase sybase  4096 Apr  4 21:10 conf
-rwxr-xr-x  3 sybase sybase  4096 Apr  4 21:11 files
-rwxr-xr-x  2 sybase sybase  4096 Mar 19 10:16 licences
-rwxr-xr-x  2 sybase sybase 69632 Apr 10 19:01 logs
-rwxr-xr-x  3 sybase sybase  4096 Mar 19 10:16 META-INF
-rw-r--r--  1 sybase sybase  2863 Mar 16 14:02 NOTICE
-rwxr-xr-x  5 sybase sybase  4096 Apr  4 21:11 reports
-rwxr-xr-x  8 sybase sybase  4096 Apr 10 19:47 temp
mwalker@r5dev04 com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1$
  
```

2.2.2 Server Setup – Configure Database Connections

The following procedure is necessary to connect to the Mobiliser database.

- Navigate to {MOBILISER_HOME}/conf/cfgbackup to locate the files which contain the jdbcUrl (or jdbc.url) parameter
 - com.sybase365.mobiliser.framework.persistence.jdbc.bonecp.pool.properties
 - com.sybase365.mobiliser.util.report.crystalreports.properties

2.2.3 Server Setup – Create JDBC Bundles

The JDBC jar for the respective database provider must be packaged in an OSGi bundle. Once the JDBC driver is available on the system (download from database provider), use the 'create_jdbc_bundle.sh' utility to create the necessary bundle.

- Navigate to the {MOBILISER_INSTALLATION}/applications/oracle directory. (For DB2 database configurations navigate to {MOBILISER_HOME}/applications/ibm)

```

mwalker@r5dev04:/opt/sybase/RELEASE/applications/oracle
mwalker@r5dev04 oracle]$ ls
com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1      create_jdbc_bundle.sh  sql
com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1-dist.zip  oraclemanifest
mwalker@r5dev04 oracle]$

```

- Download an Oracle or DB2 JDBC driver that is compatible with the JRE that was installed onto your system (<http://www.oracle.com>) or (<http://www.ibm.com>)
- Run ./create_jdbc_bundle.sh script using oraclemanifest and JDBC jar as input variables
 - o ex: ./create_jdbc_bundle.sh oraclemanifest ojdbc6.jar (Oracle)
 - o ex: ./create_jdbc_bundle.sh db2manifest db2jcc4.jar (DB2)
- Rename created jar file bundle_<name of jdbc> to oracle-jdbc-osgi_11.2.0.2.0-1.0.1.jar (com.sybase365.com.ibm.db2jcc4-9.7.4.jar for DB2)
- Copy oracle-jdbc-osgi_11.2.0.2.0-1.0.1.jar or com.sybase365.com.ibm.db2jcc4-9.7.4.jar to {MOBILISER_HOME}/bundles/07-frameworks

This completes the database configuration

2.2.4 Server Setup - Third Party Software installation

Several third party jar files are required for normal operation. Obtain this software from the respective vendors and deploy directly onto the OSGi container.

Bouncycastle

- Download and copy into {MOBILISER_HOME}/bundles/07-frameworks directory:
 - o bcprov-jdk16-146.jar (Rename to bcprov-jdk16-1.46.jar)
 - o bcpjg-jdk16-146.jar (Rename to bcpjg-jdk16-1.46.jar)

Springsource

- Download and copy into {MOBILISER_HOME}/bundles/04-xml directory:
 - o com.springsource.org.xmlpull-1.1.4.c.jar

Springsource

- Download and copy into {MOBILISER_HOME}/bundles/07-frameworks directory:
 - o com.springsource.org.apache.commons.digester-1.8.1.jar
 - o com.springsource.org.jgroups-2.2.8.jar

Springsource

- Download and copy into {MOBILISER_HOME}/bundles/16-framework-reports directory:
 - o com.springsource.com.ibm.icu-3.8.1.jar
 - o com.springsource.javax.el-1.0.0.jar
 - o com.springsource.javax.media.jai.codec-1.1.3.jar
 - o com.springsource.javax.media.jai.core-1.1.3.jar
 - o com.springsource.javax.servlet.jsp-2.1.0.jar
 - o com.springsource.org.apache.commons.configuration-1.5.0.jar
 - o com.springsource.org.apache.commons.dbcp-1.2.2.osgi.jar
 - o com.springsource.org.apache.commons.discovery-0.4.0.jar

- o com.springsource.org.apache.commons.fileupload-1.2.1.jar
- o com.springsource.org.apache.commons.jxpath-1.2.0.jar
- o com.springsource.org.apache.commons.net-1.4.1.jar
- o com.springsource.org.apache.poi-3.0.2.FINAL.jar
- o com.springsource.org.jdom-1.1.0.jar

SAP® Crystal Reports (Available at SPDC)

- Download and copy into {MOBILISER_HOME}/bundles/17-crystalreports directory:
 - o com.businessobjects.cvom_12.2.212.1346-1.0.1.jar
 - o com.businessobjects.foundation.logging_12.2.212.1346-1.0.1.jar
 - o com.businessobjects.reports.jdbinterface_12.2.212.1346-1.0.1.jar
 - o com.businessobjects.visualization.pfjgraphics_12.2.212.1346-1.0.1.jar
 - o com.crystaldecisions.common.keycode_12.2.212.1346-1.0.1.jar
 - o com.crystaldecisions.reports.runtime_12.2.212.1346-1.0.1.jar

SAP Crystal Reports (Available at SPDC)

- Download and copy into {MOBILISER_HOME}/bundles/20-mobiliser-reports-services directory:
 - o com.sybase365.mobiliser.util.report.crystalreports.impl-5.0.0.RELEASE1.jar
 - o com.sybase365.mobiliser.util.report.crystalreports.util-5.0.0.RELEASE1.jar
 - o com.sybase365.mobiliser.util.report.crystalreports.web-5.0.0.RELEASE1.war
 - o com.sybase365.mobiliser.util.report.watcher-5.0.0.RELEASE1.jar

Azalea

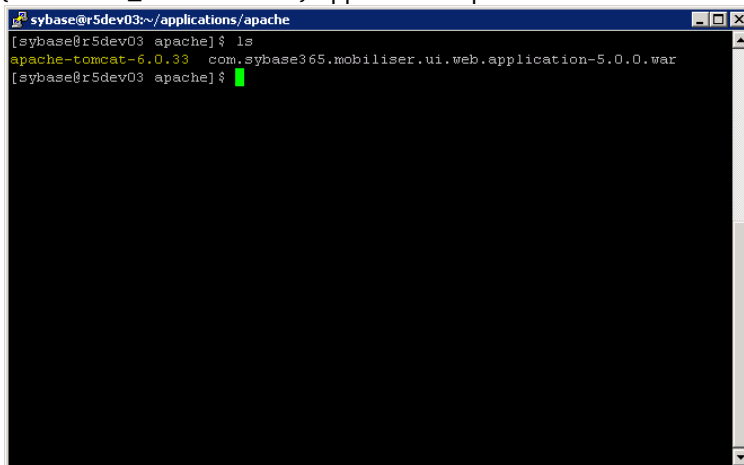
- Download and copy into {MOBILISER_HOME}/bundles/18-report-fragments directory:
 - o com.azalea.ufl.barcode_1.0-1.0.1.jar

2.3 UI Setup

2.3.1 UI Setup - Tomcat

The UI will be deployed on Tomcat (6.0.33) or later. The UI provides access to End User and Administrative Portals.

- The Tomcat Container and UI application are located at {MOBILISER_INSTALLATION}/applications/apache



```

sybase@r5dev03:~/applications/apache
[ sybase@r5dev03 apache ] $ ls
apache-tomcat-6.0.33  com.sybase365.mobiliser.ui.web.application-5.0.0.war
[ sybase@r5dev03 apache ] $
  
```

- Copy the Tomcat Container from {MOBILISER_INSTALLATION}/applications/apache/apache-tomcat-6.0.33 to /opt/sybase to create the {TOMCAT_HOME} directory
 - o Note: It is useful to create a symbolic link 'tomcat' to the {TOMCAT_HOME} directory

- Note: All other necessary application directories are generated automatically on start up by Tomcat
- Copy the UI application 'com.sybase365.mobiliser.ui.web.application-5.0.0.war' to the {TOMCAT_HOME}/webapps directory and rename it to ROOT.war
- Copy the Bouncycastle jar file into {TOMCAT_HOME}/webapps/ROOT/WEB-INF/lib directory
 - bcprov-jdk16-146.jar (Rename to bcprov-jdk16-1.46.jar)
 - The webapps/ROOT directory is created after Tomcat is initialized

2.4 Password Encryption (Optional)

2.4.1 Password Encryption Overview

The purpose of the password encryption tool is to secure passwords that are present in Mobiliser configuration files. The Mobiliser configuration files are located in {MOBILISER_HOME}/conf/cfgbackup and will support passwords configured in an encrypted BASE64 format.

Obtain the software used for password encryption, cm-loader-0.3.3-encrypt.zip, at the following URL:

<http://optimus.sybase.com/nexus/content/repositories/releases/com/sybase365/arf/container/system/cm-loader/0.3.3/cm-loader-0.3.3-encrypt.zip>

2.4.2 Encryption Software Installation

After downloading the encryption software, extract its contents in any location on the Mobiliser system. This location is {ENCRYPTION_HOME}.

2.4.3 Password Encryption Instructions

Navigate to the {ENCRYPTION_HOME}/bin directory. The script is encrypt.sh creates the encrypted password. The encrypt.sh script requires two variables to execute successfully:

- *Decryption Key* – This value is the key that Mobiliser uses to decrypt any password that is in BASE64 format. The decryption key can be changed by an administrator and is located in the {MOBILISER_HOME}/conf/system.properties file; the default value for this decryption key is 'sybase365'.
- *Password Value* – This value is the password in plain text that you would like to have converted to BASE64 format

Ex. ./encrypt.sh <decryption key> <password value>

./encrypt.sh sybase365 secret

```
sybase@perfapp01:opt/sybase/encryption/bin
[sybase@perfapp01 bin]$ ls
encrypt.sh  encrypt.sh
[sybase@perfapp01 bin]$ ./encrypt.sh sybase365 paybox
Encrypted and base64 encoded: Do/p2/KXu10LGXx8Z4I9dA==
[sybase@perfapp01 bin]$
```

Once the encrypt.sh script has been executed successfully a BASE64 encrypted version of your password will be returned to you. In order to use this newly encrypted password within a configuration file it must be entered in the following way:

Ex. {enc}<BASE64 encoded value>

{enc}Do/p2/KXu10LGXx8Z4I9dA==

```
sybase@perfapp01:opt/sybase/mobiliser/conf/cfgbackup
# configuration for BoneCP connection pool
connectionTestStatement=select 1 from dual
driverClass=oracle.jdbc.OracleDriver
jdbcUrl=jdbc:oracle:thin:@perfapp01:1521:orcl
username=mobile
password={enc}Do/p2/KXu10LGXx8Z4I9dA==
idleConnectionTestPeriodInMinutes=1
idleMaxAgeInSeconds=100
maxConnectionsPerPartition=10
minConnectionsPerPartition=5
partitionCount=4
acquireIncrement=1
statementsCacheSize=0
releaseIdleTimeSeconds=
connectionTimeoutInMs=10000
logStatementsEnabled=false

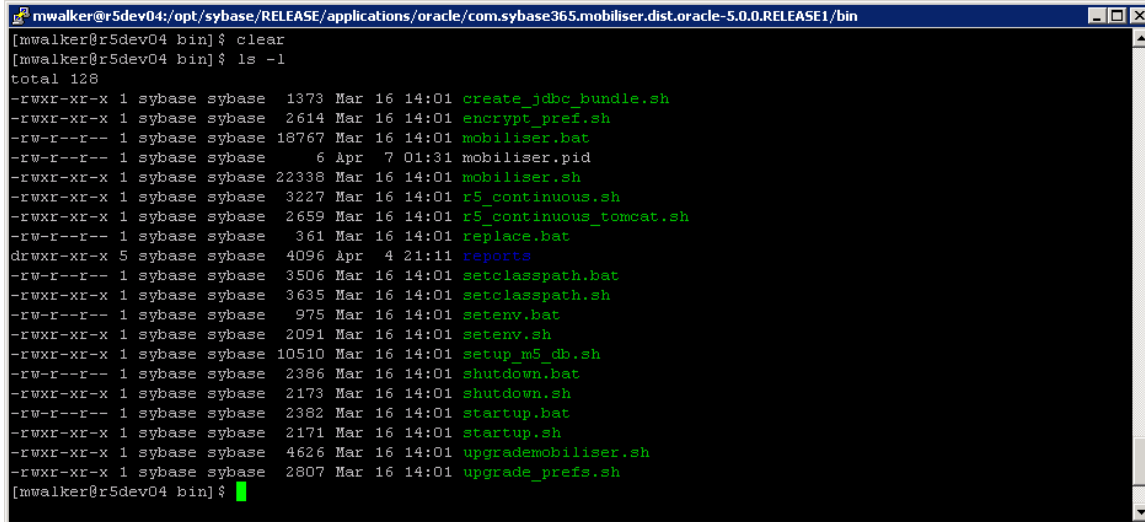
```

When Mobiliser is initialized, it will use its configured decryption key to understand the password that is provided in its various configuration files.

3 Initialization and System Check

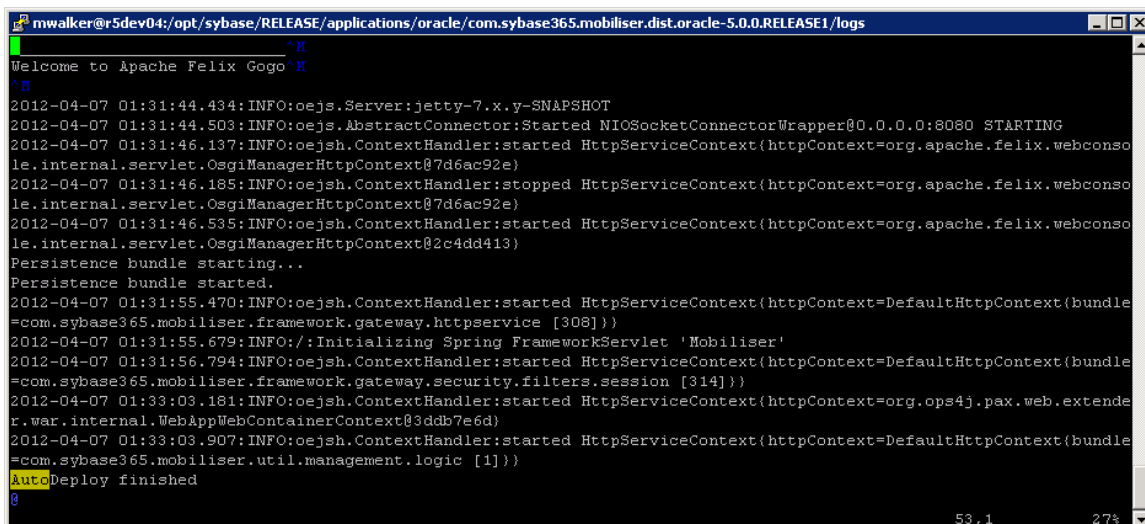
3.1 Start Server and UI

- Execute the following start script {MOBILISER_HOME}/bin/startup.sh to start the Server



```
mwalker@r5dev04:/opt/sybase/RELEASE/applications/oracle/com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1/bin
[mwalker@r5dev04 bin]$ clear
[mwalker@r5dev04 bin]$ ls -l
total 128
-rwxr-xr-x 1 sybase sybase 1373 Mar 16 14:01 create_jdbc_bundle.sh
-rwxr-xr-x 1 sybase sybase 2614 Mar 16 14:01 encrypt_pref.sh
-rw-r--r-- 1 sybase sybase 18767 Mar 16 14:01 mobiliser.bat
-rw-r--r-- 1 sybase sybase 6 Apr 7 01:31 mobiliser.pid
-rwxr-xr-x 1 sybase sybase 22338 Mar 16 14:01 mobiliser.sh
-rwxr-xr-x 1 sybase sybase 3227 Mar 16 14:01 r5_continuous.sh
-rwxr-xr-x 1 sybase sybase 2659 Mar 16 14:01 r5_continuous_tomcat.sh
-rw-r--r-- 1 sybase sybase 361 Mar 16 14:01 replace.bat
drwxr-xr-x 5 sybase sybase 4096 Apr 4 21:11 reports
-rw-r--r-- 1 sybase sybase 3506 Mar 16 14:01 setclasspath.bat
-rwxr-xr-x 1 sybase sybase 3635 Mar 16 14:01 setclasspath.sh
-rw-r--r-- 1 sybase sybase 975 Mar 16 14:01 setenv.bat
-rwxr-xr-x 1 sybase sybase 2091 Mar 16 14:01 setenv.sh
-rwxr-xr-x 1 sybase sybase 10510 Mar 16 14:01 setup_m5_db.sh
-rw-r--r-- 1 sybase sybase 2386 Mar 16 14:01 shutdown.bat
-rwxr-xr-x 1 sybase sybase 2173 Mar 16 14:01 shutdown.sh
-rw-r--r-- 1 sybase sybase 2382 Mar 16 14:01 startup.bat
-rwxr-xr-x 1 sybase sybase 2171 Mar 16 14:01 startup.sh
-rwxr-xr-x 1 sybase sybase 4626 Mar 16 14:01 upgrademobiliser.sh
-rwxr-xr-x 1 sybase sybase 2807 Mar 16 14:01 upgrade_prefs.sh
[mwalker@r5dev04 bin]$
```

- Monitor the Server log at {MOBILISER_HOME}/logs/felix.log until the log specifies that “AutoDeploy finished”



```
mwalker@r5dev04:/opt/sybase/RELEASE/applications/oracle/com.sybase365.mobiliser.dist.oracle-5.0.0.RELEASE1/logs
Welcome to Apache Felix Gogo
2012-04-07 01:31:44.434: INFO:oejs.Server:jetty-7.x.y-SNAPSHOT
2012-04-07 01:31:44.503: INFO:oejs.AbstractConnector:Started NIOSocketConnectorWrapper@0.0.0.0:8080 STARTING
2012-04-07 01:31:46.137: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=org.apache.felix.webconsole.internal.servlet.OsgiManagerHttpContext@7d6ac92e)
2012-04-07 01:31:46.185: INFO:oejsh.ContextHandler:stopped HttpServiceContext(httpContext=org.apache.felix.webconsole.internal.servlet.OsgiManagerHttpContext@7d6ac92e)
2012-04-07 01:31:46.535: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=org.apache.felix.webconsole.internal.servlet.OsgiManagerHttpContext@2c4dd413)
Persistence bundle starting...
Persistence bundle started.
2012-04-07 01:31:55.470: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=DefaultHttpContext(bundle=com.sybase365.mobiliser.framework.gateway.httpservice [308]))
2012-04-07 01:31:55.679: INFO:/:Initializing Spring FrameworkServlet 'Mobiliser'
2012-04-07 01:31:56.794: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=DefaultHttpContext(bundle=com.sybase365.mobiliser.framework.gateway.security.filters.session [314]))
2012-04-07 01:33:03.181: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=org.ops4j.pax.web.extender.war.internal.WebAppWebContainerContext@3d8db7e6d)
2012-04-07 01:33:03.907: INFO:oejsh.ContextHandler:started HttpServiceContext(httpContext=DefaultHttpContext(bundle=com.sybase365.mobiliser.util.management.logic [1]))
AutoDeploy finished
@
53,1 27%
```

- Verify that the Mobiliser console has initialized successfully by viewing the customer WSDL via web browser (<http://localhost:8080/mobiliser/customer/Customer.wsdl>)

```

- <wsdl:definitions targetNamespace="http://mobiliser.sybase365.com/money/customer">
- <wsdl:types>
- <xs:schema attributeFormDefault="unqualified" elementFormDefault="unqualified" jxb:extensionBindingPrefixes="sjc" jxb:version="2.0" targetNamespace="http://mobiliser.sybase365.com/framework/contract/v5_0_base">
- <xs:annotation>
- <xs:appinfo>
- <jxb:schemaBindings>
- <jxb:package name="com.sybase365.mobiliser.framework.contract.v5_0_base"/>
- <jxb:schemaBindings>
- <jxb:globalBindings generateIsSetMethod="false">
- <jxb:globalBindings>
- <jxb:globalBindings>
- <jxb:globalBindings>
- </jxb:globalBindings>
- </jxb:schemaBindings>
- </xs:appinfo>
- <xs:documentation>
- The XML Schema for mobiliser requests. Version: $HeadURL: http://orinoco.sybase.com/svn/mobiliser/m5/framework/tags/com.sybase365.mobiliser.framework-5.0.0.RELEASE1/contract/src/main/resources/com/sybase365/mobiliser/framework/contract/sxsd/base-5-0.xsd $
- </xs:documentation>
- </xs:annotation>
- <xs:simpleType name="strSmall">
- <xs:restriction base="xs:string">
- <xs:maxLength value="6"/>
- <xs:minLength value="0"/>
- </xs:restriction>
- </xs:simpleType>
- <xs:simpleType name="strSmallNonEmpty">
- <xs:restriction base="strSmall">
- <xs:maxLength value="6"/>
- <xs:minLength value="1"/>
- </xs:restriction>
- </xs:simpleType>
- </xs:schema>
- </wsdl:types>
- </wsdl:definitions>

```

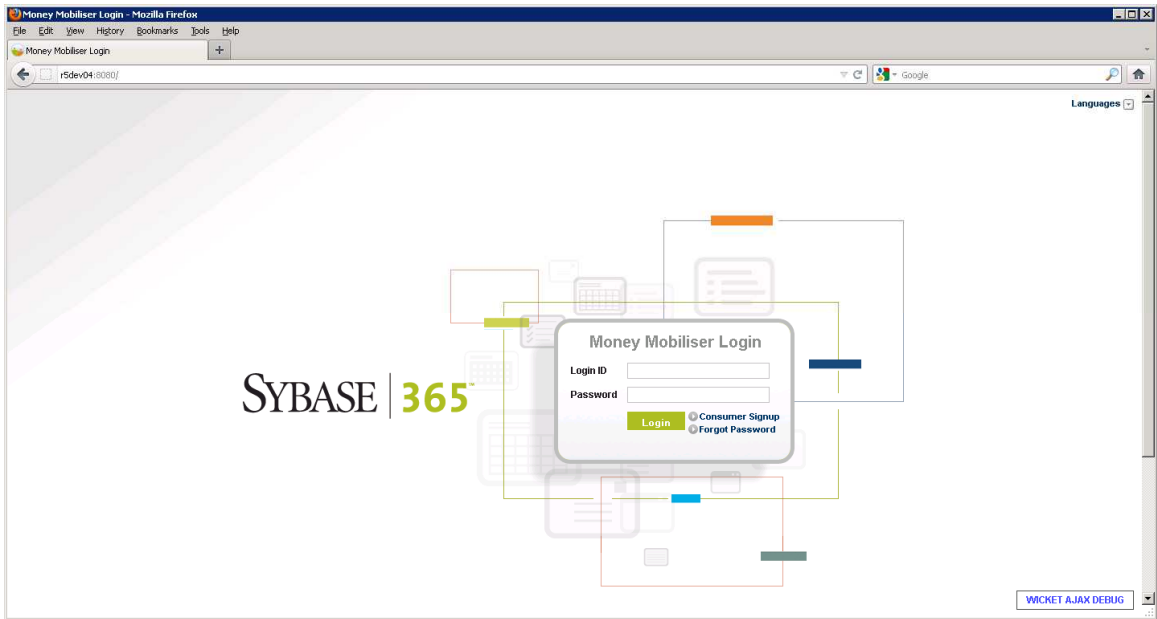
- Execute the following startup script {TOMCAT_HOME}/bin/startup.sh to start the UI

```

[mwalker@r5dev04:~/opt/sybase/tomcat/bin] $ ls -l
total 612
-rw-r--r-- 1 sybase sybase 22705 Aug 16 2011 bootstrap.jar
-rw-r--r-- 1 sybase sybase 11830 Aug 16 2011 catalina.bat
-rwxr-xr-x 1 sybase sybase 17708 Aug 16 2011 catalina.sh
-rw-r--r-- 1 sybase sybase 2374 Aug 16 2011 catalina-tasks.xml
-rw-r--r-- 1 sybase sybase 24172 Aug 16 2011 commons-daemon.jar
-rw-r--r-- 1 sybase sybase 199623 Aug 16 2011 commons-daemon-native.tar.gz
-rw-r--r-- 1 sybase sybase 1342 Aug 16 2011 cpappend.bat
-rw-r--r-- 1 sybase sybase 2108 Aug 16 2011 digest.bat
-rwxr-xr-x 1 sybase sybase 1689 Aug 16 2011 digest.sh
-rw-r--r-- 1 sybase sybase 3150 Aug 16 2011 setclasspath.bat
-rwxr-xr-x 1 sybase sybase 4114 Aug 16 2011 setclasspath.sh
-rwxr-xr-x 1 sybase sybase 694 Mar 13 00:01 setenv.sh
-rw-r--r-- 1 sybase sybase 2108 Aug 16 2011 shutdown.bat
-rwxr-xr-x 1 sybase sybase 1628 Aug 16 2011 shutdown.sh
-rw-r--r-- 1 sybase sybase 2109 Aug 16 2011 startup.bat
-rwxr-xr-x 1 sybase sybase 2023 Aug 16 2011 startup.sh
-rw-r--r-- 1 sybase sybase 26828 Aug 16 2011 tomcat-juli.jar
-rw-r--r-- 1 sybase sybase 241274 Aug 16 2011 tomcat-native.tar.gz
-rw-r--r-- 1 sybase sybase 3479 Aug 16 2011 tool-wrapper.bat
-rwxr-xr-x 1 sybase sybase 3472 Aug 16 2011 tool-wrapper.sh
-rw-r--r-- 1 sybase sybase 2113 Aug 16 2011 version.bat
-rwxr-xr-x 1 sybase sybase 1632 Aug 16 2011 version.sh
[mwalker@r5dev04 bin] $

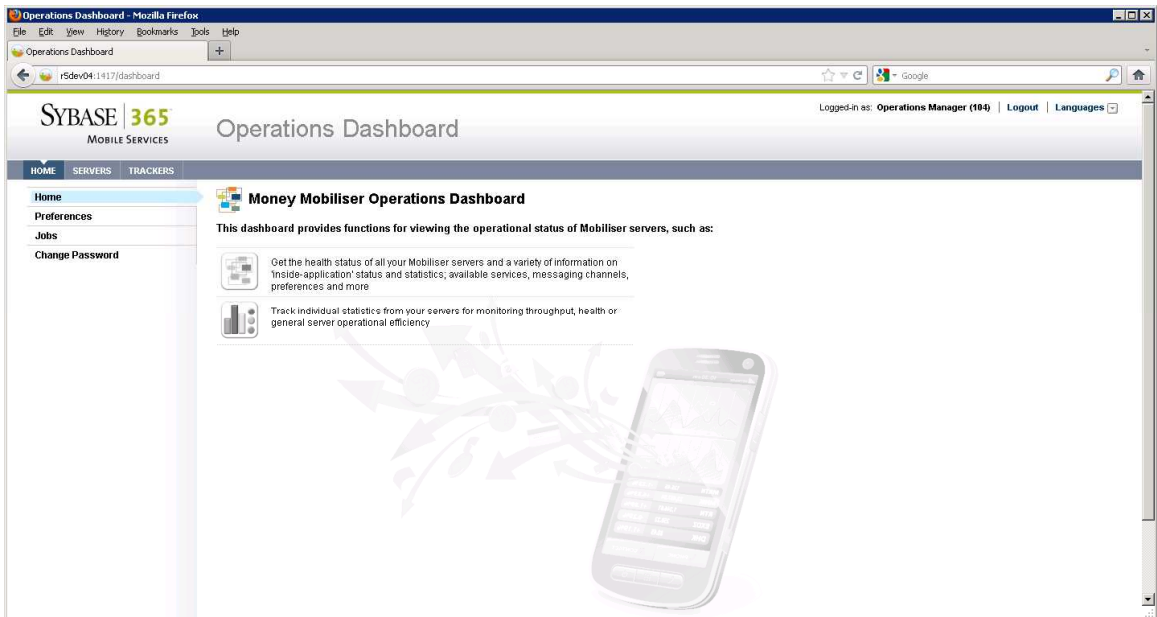
```

- Verify that the Tomcat Web UI application has initialized successfully by viewing it vi web browser (<http://localhost:8088>)

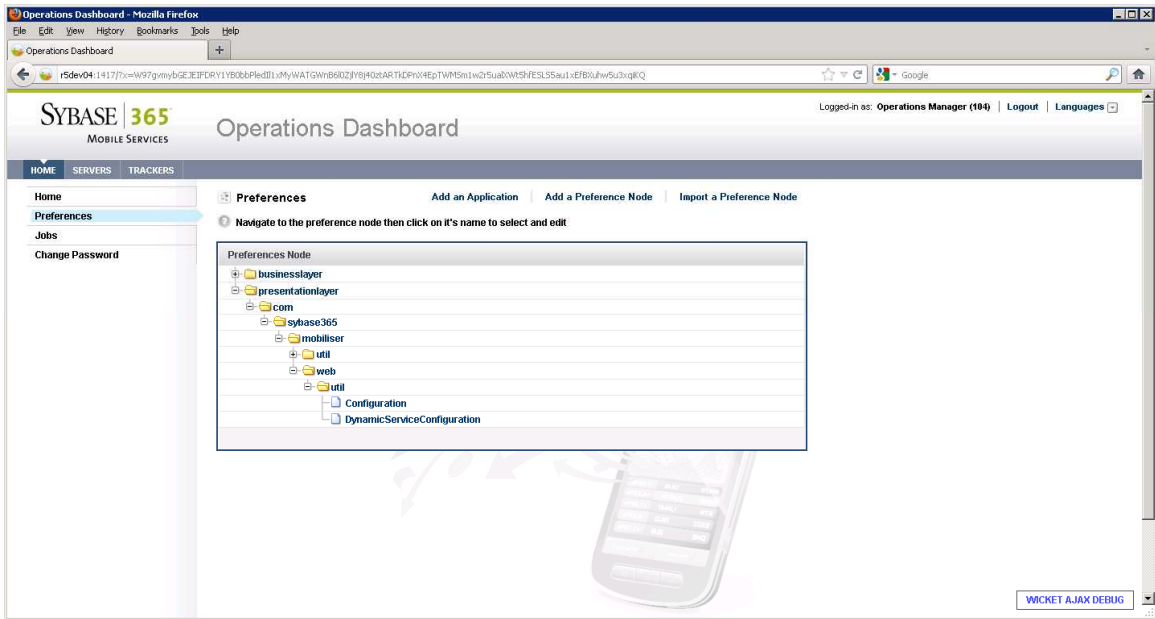


3.2 Preferences Configuration

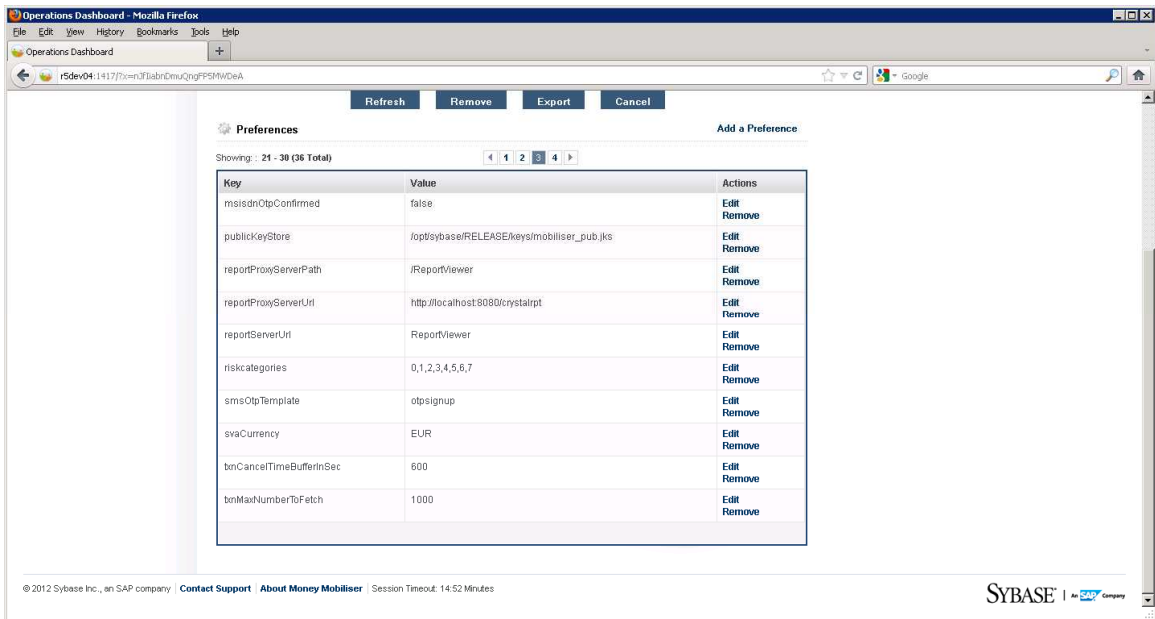
- Log into the UI (Operations Dashboard) as the opsmgr user (opsmgr: secret). You will be prompted to change the password for the user before you are logged in.



- Select Preferences on the left side of the screen, expand to the following path /presentationlayer/com/sybase365/mobiliser/util/web/util and select the Configuration file.



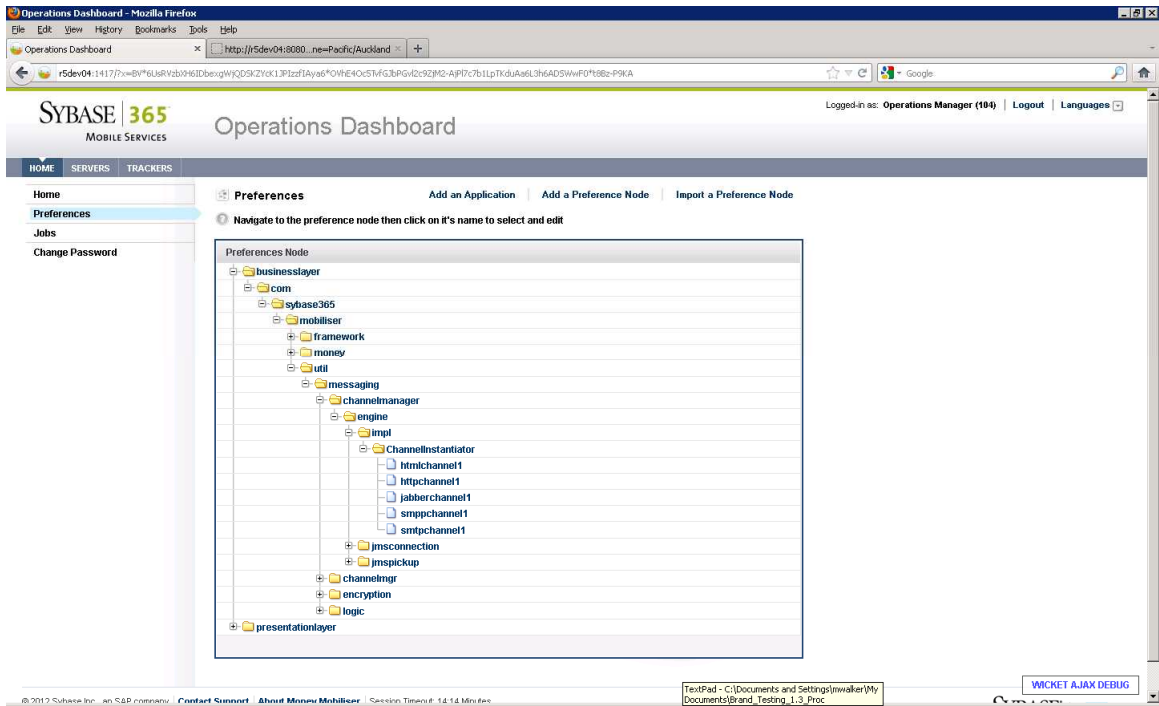
- Navigate to the Key named publicKeyStore (Page 3) and edit the value to “{MOBILISER_HOME}/keys/mobiliser_pub.jks”
 - o This will allow Mobiliser to use the test keystore which comes with the package



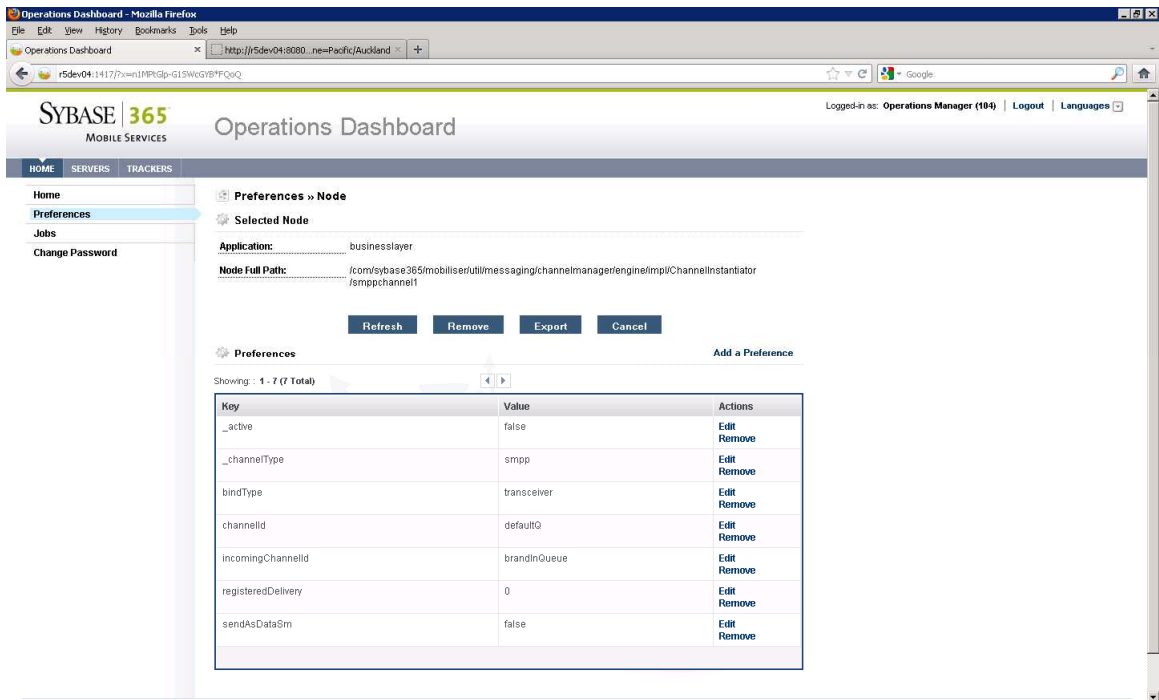
- Click Refresh to assure that preferences changes were committed.

3.3 SMPP Configuration (optional)

- Log into the UI (Operations Dashboard) as the opsmgr user
- Select Preferences on the left side of the screen, expand to the following path com/sybase365/mobiliser/util/messaging/channelmanager/engine/impl/ChannelInstantiator/ and select the smppchannel1 node file.



- Navigate through all of the node preferences, and enter all relevant SMPP account information.

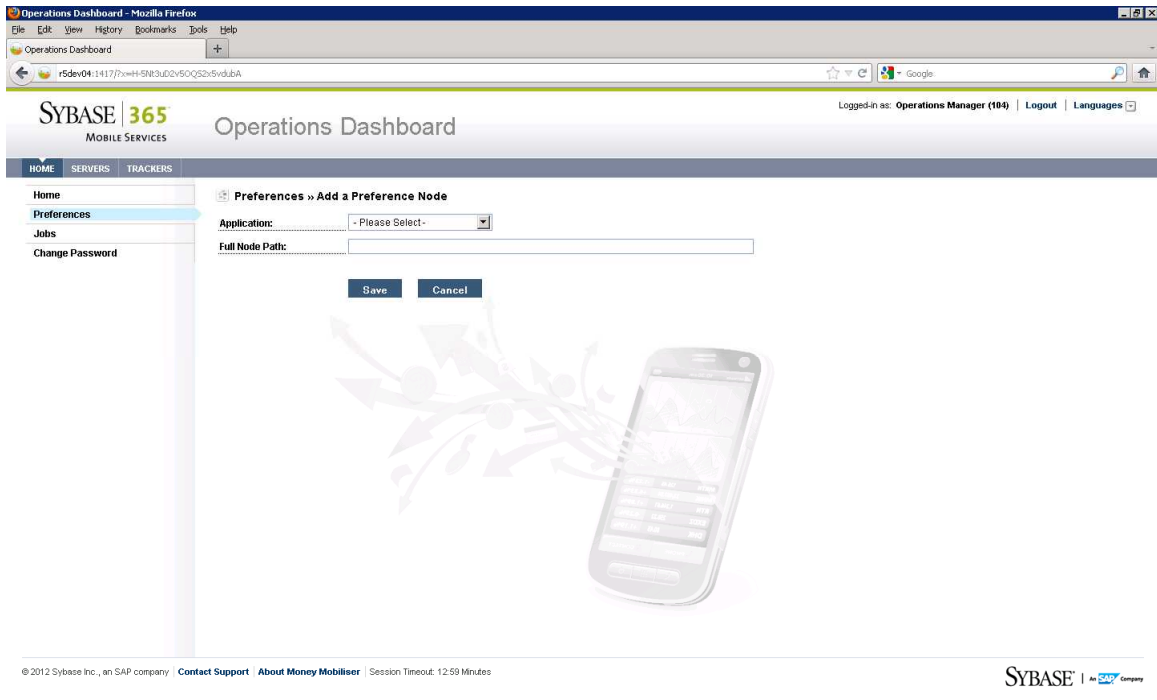


- Click Refresh to assure that preferences changes were committed

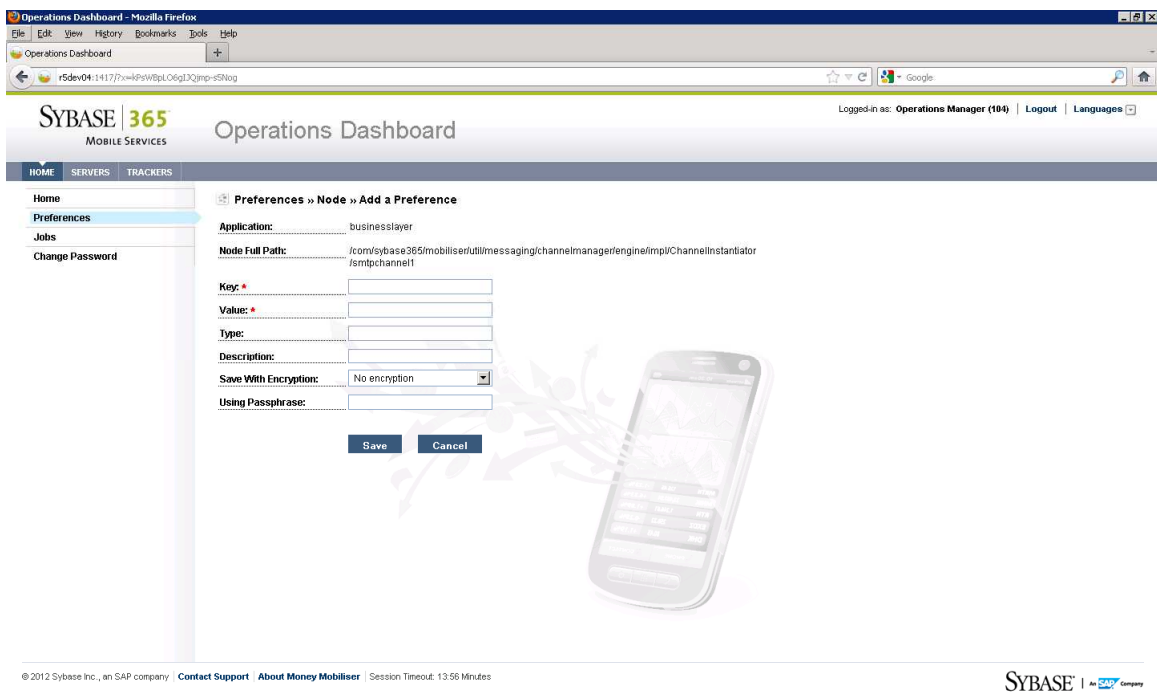
3.4 SMTP Configuration (optional)

Log into the UI (Operations Dashboard) as the opsmgr user

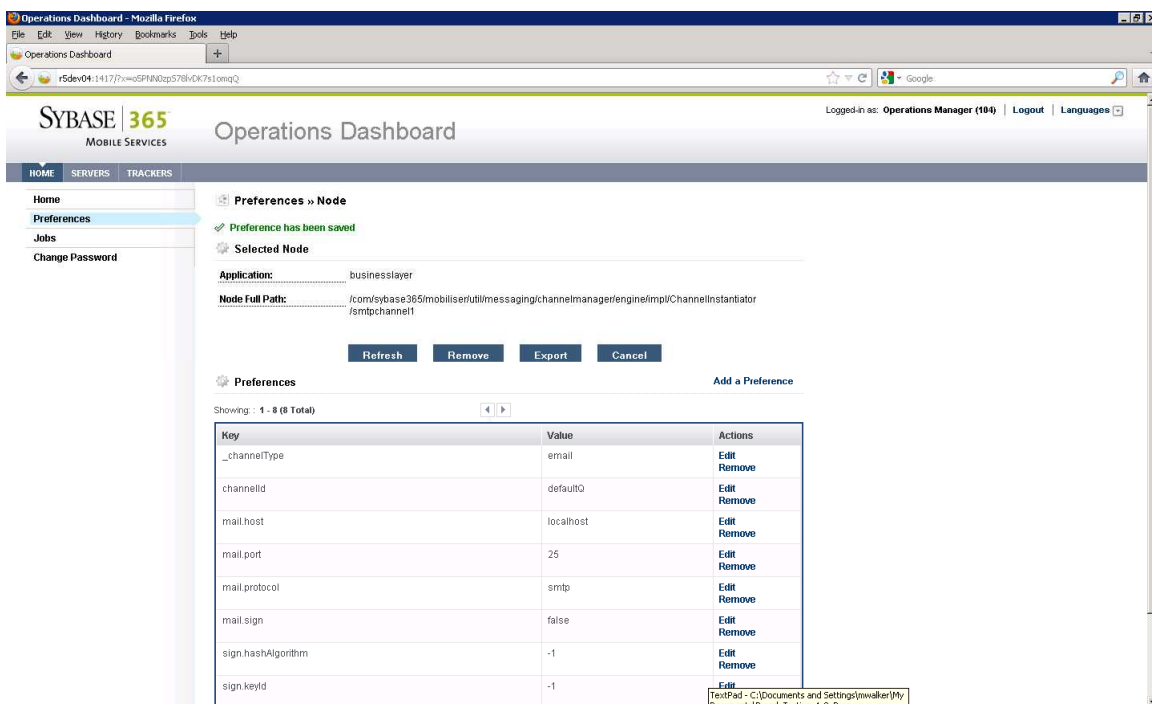
- Select Preferences on the left side of the screen, then select "Add a Preference Node"



- Select businesslayer in the Application drop down list and enter the following path in the Full Node Path field:
com/sybase365/mobiliser/util/messaging/channelmanager/engine/impl/ChannelInstantiator/smtpchannel1, then click save.
- Navigate to the newly created preference node in the preference tree, and double click on the smtpchannel1 node. Then select "Add a Preference"



- In the Key field enter `_channelType`, in the Value field enter `email`, in the Type field enter `java.lang.String`. Click Save.
- Repeat previous step to enter the following values
 - o Key: `channeled`, Value: `default`, Type: `java.lang.String`
 - o Key: `mail.host`, Value: `localhost`, Type: `java.lang.String`
 - o Key: `mail.port`, Value: `25`, Type: `java.lang.String`
 - o Key: `mail.protocol`, Value: `smtp`, Type: `java.lang.String`
 - o Key: `mail.sign`, Value: `false`, Type: `java.lang.String`
 - o Key: `sign.hashAlgorithm`, Value: `-1`, Type: `java.lang.String`
 - o Key: `sign.keyId`, Value: `-1`, Type: `java.lang.String`
- Click Refresh to assure that preferences changes were committed



3.5 Default (Administrative) Web UI Accounts

The following user accounts are the administrative accounts that are created after a Mobiliser Installation. Note: After logging attempting to log in with these accounts you will be prompted to change the password for the account before proceeding

3.5.1 Customer Support Accounts

Customer Support Tool – `cstfull: secret`
 Manager User Accounts – `usermgr: secret`
 Manage Notifications and Alerts – `notifmgr:secret`

3.5.2 *Distribution Partner Portal Account*

Create and Manage Merchants – Headquarter:secret

3.5.3 *Operations Dashboard Admin Account*

View and Manage System Configuration – opsmgr:secret

3.5.4 *System Console*

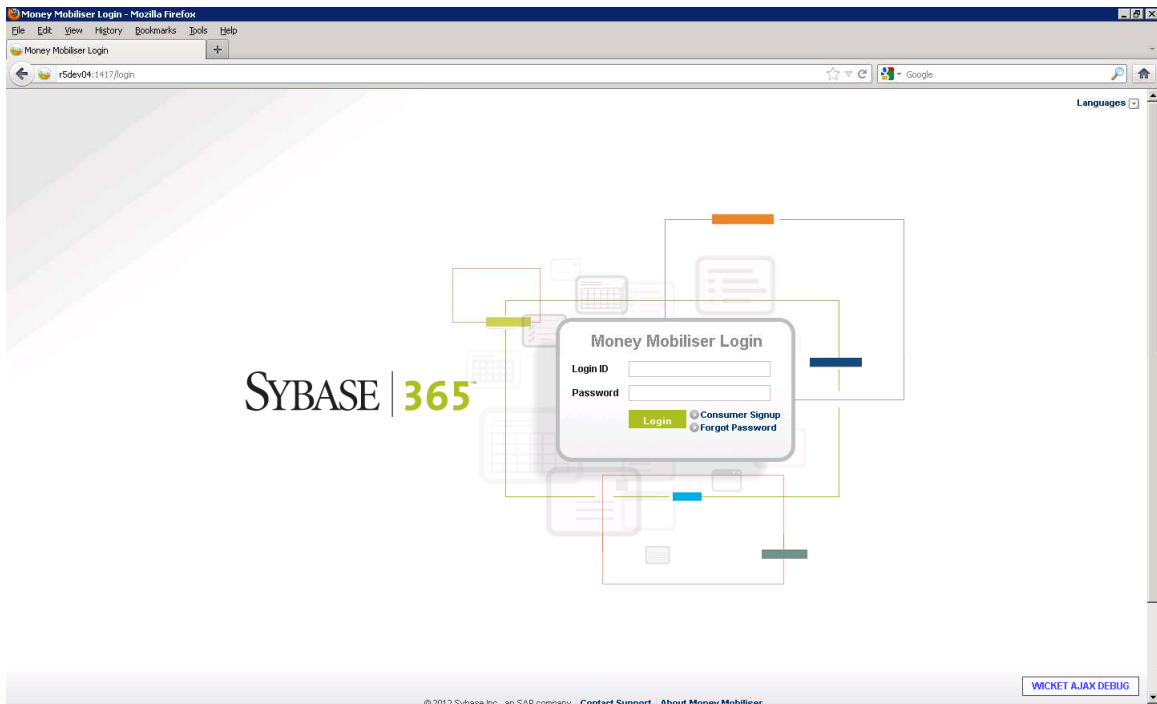
Use this console to monitor the functions of the Mobiliser container

- Default url = Error! Hyperlink reference not valid.
- Default Account – sysmgr:secret
 - o Note: This password may have been updated on first attempt to log into the Operations Dashboard.

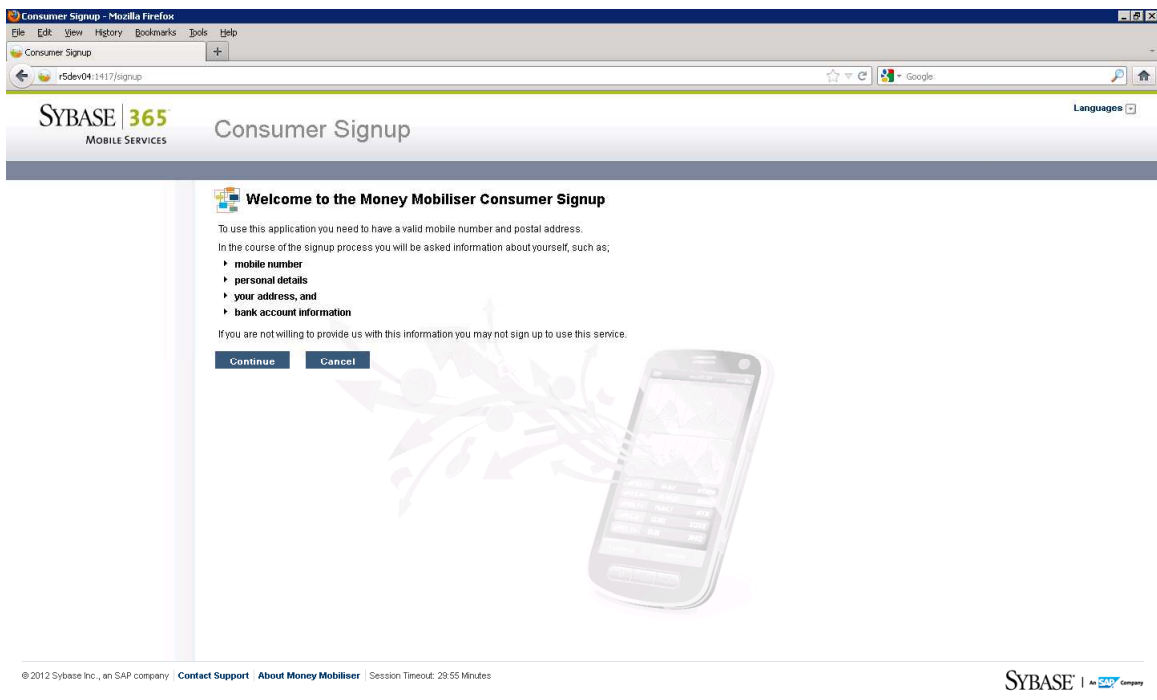
4 End to End Test

4.1 Add Customer

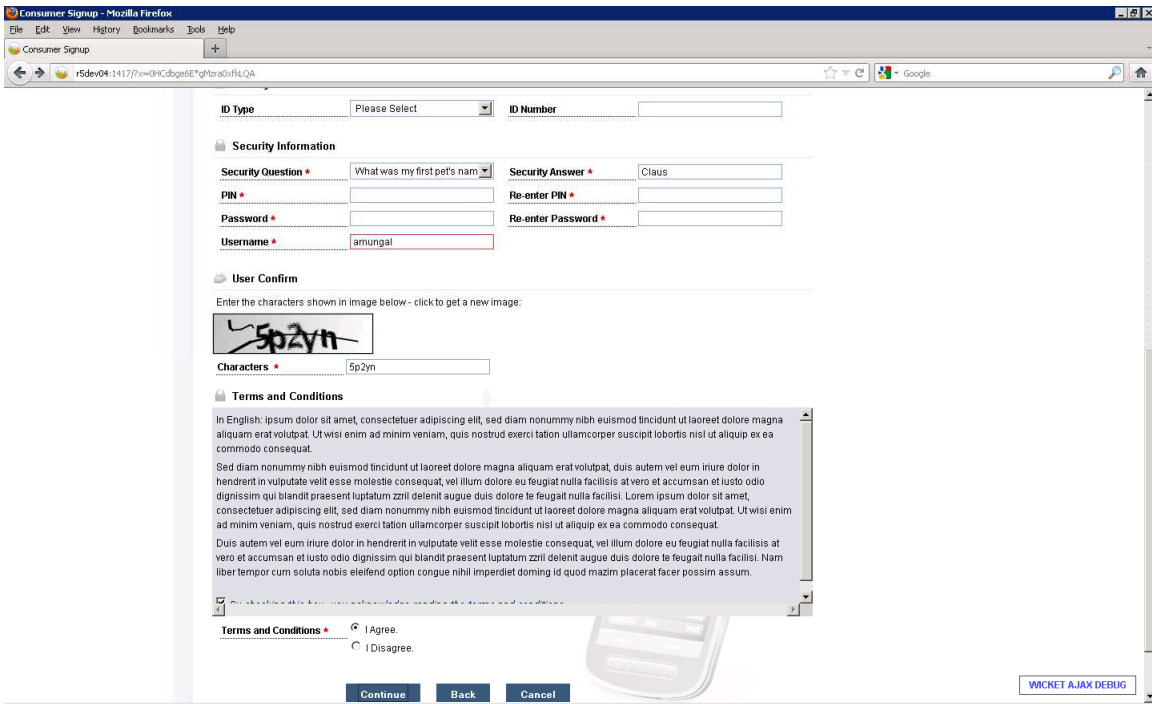
- The consumer signup process begins at the Web UI login screen. Click on the link that says "Consumer Signup"



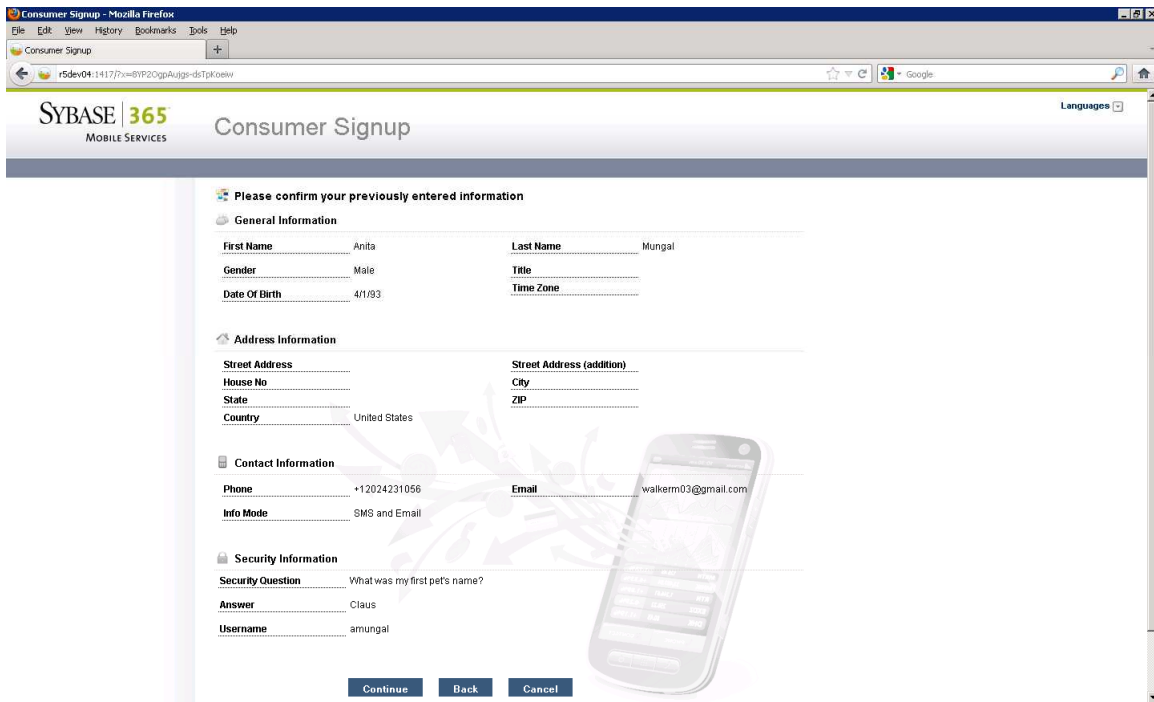
- Click Continue to move on to the Consumer Signup form for new Mobiliser customers



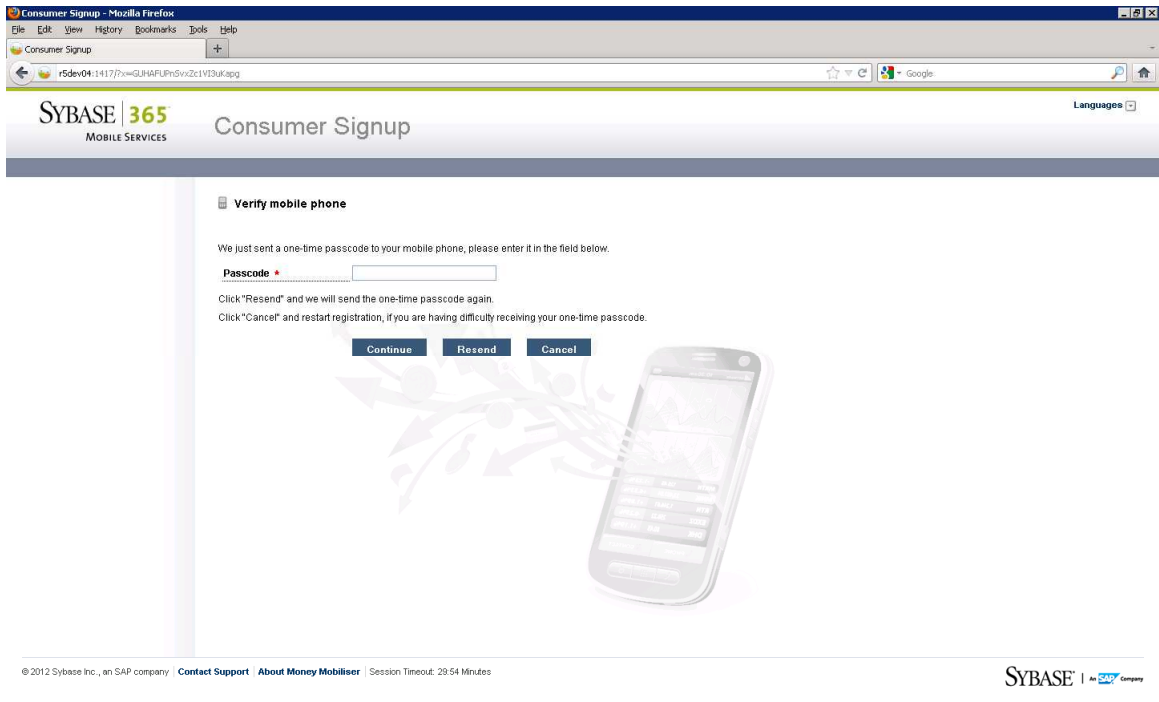
- Fill in all required information fields, accept Terms and Conditions, and confirm captcha image. Click Continue.



- At the account summary page click Continue again



- At the final part of the consumer signup, you will be asked for an OTP code to finalize the creation of the account.



- Go to the Channel Manager console to find the OTP information:
 - o Error! Hyperlink reference not valid.
 - o If asked for credentials to enter page use the following; Mobiliser:secret



- Enter OTP specified on the page and click Continue
- You will receive a confirmation page specifying a successful consumer signup, click continue and you will be redirected to the Web UI login page again where you can log in with the newly created Mobiliser account

5 System Configuration

System configuration data for Mobiliser 5.0.0 is distributed between 1) configuration files and 2) system preferences (database). Configuration files are specific to the local container. System Preferences are supplied by the preferences server and are therefore available to multiple containers. File based configuration is covered in this section. Preferences configuration is covered in section [3.2](#).

5.1 System Configuration Files

Path: {MOBILISER_HOME}/conf

File:

- *config.properties*
 - o *basic felix configuration info*
- *jetty.xml*
 - o *threadpool used to accept client connections*
- *system.properties*
 - o *define location for configuration files*
 - o *Decryption key for local container*
 - o *Path to user details cache settings*
- *userdetails-ehcache.xml*
 - o *User Details cache settings*
- *mob-ehcache.xml*
 - o *global and web service specific cache settings*

Path: {MOBILISER_HOME}/conf/cfgbackup

File:

- *com.sybase365.mobiliser.framework.event.core.properties*
 - o *Event Handler (batch, queue, threads) settings for the local container*
- *com.sybase365.mobiliser.framework.event.scheduler.quartz.properties*
 - o *Database configuration and scheduler settings for Event generation*
- *com.sybase365.mobiliser.framework.gateway.http.service.properties*
 - o *context root for Mobiliser 5.0.0 web services*
- *com.sybase365.mobiliser.framework.gateway.security.authentication.jmx.properties*
 - o *jmx service url*
- *com.sybase365.mobiliser.framework.gateway.security.authentication.ldap.properties*
 - o *ldap configuration data*
- *com.sybase365.mobiliser.framework.gateway.security.authentication.webconsole.properties*
 - o *mobiliser privilege (mob_umgr_privileges) required for console access*
- *com.sybase365.mobiliser.framework.gateway.security.filters.x509.properties*
 - o *Subject DN filter*
- *com.sybase365.mobiliser.framework.gateway.soap.jms.properties*
 - o *URL to JMS Provider*
- *com.sybase365.mobiliser.framework.persistence.hibernate.sessionfactory.properties*
 - o *hibernate settings*
- *com.sybase365.mobiliser.framework.persistence.jdbc.bonecp.pool.properties*
 - o *jdbc configuration and threadpool provider settings*
- *com.sybase365.mobiliser.framework.service.api.properties*
 - o *org.springframework.dao.DataAccessException*
 - o *org.springframework.transaction.TransactionException*
- *com.sybase365.mobiliser.util.prefs.encryption.aes.properties*
 - o *preferences encryption key*
- *com.sybase365.mobiliser.util.prefs.encryption.tripledes.properties*
 - o *preferences encryption key*
- *com.sybase365.mobiliser.util.prefs.store.local.properties*
 - o *preferences node and settings to be used*
- *com.sybase365.mobiliser.util.report.crystalreports.properties*
 - o *jdbc configuration for Crystal Reports*
- *com.sybase365.mobiliser.util.report.watcher.properties*
 - o *local output directory and polling configuration for reporting function*
- *org.apache.felix.webconsole.internal.servlet.OsgiManager.properties*
 - o *configuration for System Console*
- *org.ops4j.pax.logging.properties*
 - o *log4j settings for Mobiliser Core*
- *org.ops4j.pax.web.properties*
 - o *log4j settings for Jetty*

5.2 System Tuning

System tuning is achieved through managing various thread and connection pools. These settings are found in configuration files and in preferences. The system can be optimized to accommodate large numbers of client connections, a large number of database connections, or both. With the exception of event and audit processing, the settings that have the greatest impact on performance are:

5.2.1 Web Services

- jetty thread pool size: setting the minimum number of threads to the same value as of the maximum number of threads for the most consistent performance. For minimal performance settings, there should be at least 80 threads (4x default number of acceptor threads (20)).

- small to medium systems (8-32 logical cores): 128 threads
- large systems (>32 logical cores): 256 threads

5.2.2 JDBC Connection Pool

- bonecp connection pool: For best performance use 3 or 4 partitions. The minimum number of connections should be the same value as the maximum number of connections to avoid issues with idle thread eviction policies. Sizing information:

- small to medium systems (8-32 logical cores): 128 connections per partition
- large systems (>32 logical cores): 256-512 connections per partition

Ex.

```
-> jdbcUrl=jdbc:oracle:thin:@perf01-xor.resdev.lab:1521:orcl
-> maxConnectionsPerPartition=512
-> minConnectionsPerPartition=512
-> partitionCount=3
```

5.2.3 JVM Settings

- JVM args are defined in the {MOBILISER_HOME}/bin/setenv.sh script. The following settings provide optimal heap size and management for high performance installations:

- MOBILISER_OPTS="-Xms32G -Xmx32G"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:PermSize=256M -XX:MaxPermSize=256M"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:ReservedCodeCacheSize=128M"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:+UseLargePages -XX:LargePageSizeInBytes=2M"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:+UseParNewGC -XX:+UseConcMarkSweepGC"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:CMSInitiatingOccupancyFraction=70 -XX:+UseCMSInitiatingOccupancyOnly"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:ParallelCMSThreads=20"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:ParallelGCThreads=40"
- MOBILISER_OPTS="\$MOBILISER_OPTS -XX:+ExplicitGCInvokesConcurrent"

5.2.4 Logging

Felix (OSGi) and Mobiliser logging can become quite verbose. Log level should be set to WARN for best performance

- conf/cfgbackup/org.ops4j.pax.logging.properties
- conf/config.properties
 - o org.ops4j.pax.logging.service.frameworkEventsLogLevel=WARN

5.2.5 Event queuing/recovery Capacity

Status Events are generated through the transaction lifecycle. Optimize the settings for Event Handlers to avoid delayed processing.

- conf/cfgbackup/com.sybase365.mobiliser.framework.event.core.properties
 - > regeneration.batch.size=16384
 - > delayedq.capacity=16777216
 - > processq.capacity=16777216
 - > catchupq.capacity=16777216

5.2.6 Audit Subsystem

Audit Subsystem configuration are defined in system preferences

PATH: /businesslayer/system/com/sybase365/mobiliser/money/auditmgr/AuditDispatcher/
 (Name:Value)
 VALUE: 100
 batchSize: 1024
 maxInterval: 1000
 maxConcurrent: 4

5.2.7 Event Handlers

Event Handlers process status events that are generated for each transaction

PATH:
 /businesslayer/system/com/sybase365/mobiliser/money/jobs/event/handler/registration/RegistrationTransactionEventHandler/
 event.handler.maxActive: 128
 event.handler.maxIdle: 128

PATH:
 /businesslayer/system/com/sybase365/mobiliser/money/jobs/event/handler/transaction/TransactionNotificationEventHandler/
 event.handler.maxActive: 128
 event.handler.maxIdle: 128

PATH:
 /businesslayer/system/com/sybase365/mobiliser/money/jobs/event/handler/balancealert/BalanceAlertEventHandler/
 event.handler.maxActive: 128
 event.handler.maxIdle: 128

PATH:/businesslayer/system/com/sybase365/mobiliser/money/jobs/event/handler/invoicepay/InvoiceAutoPayEventHandler/
 event.handler.maxActive: 128
 event.handler.maxIdle: 128

PATH: /businesslayer/system/com/sybase365/mobiliser/money/ams/logic/transfer/TransactionEventHandler/
event.handler.maxActive: 128
event.handler.maxIdle: 128