**KIE and MainetBpmService Installation with WildFly**

**References -** [**https://192.168.100.7/svn/ABM\_SAAS\_Product/trunk/jbpmplatform/baseversion**](https://192.168.100.7/svn/ABM_SAAS_Product/trunk/jbpmplatform/baseversion)

**Part 1 - Configure your server**

1. Download [wildfly-10.1.0.Final](http://download.jboss.org/wildfly/10.1.0.Final/wildfly-10.1.0.Final.zip)
2. Download [mysql-connector-java-5.1.6](http://central.maven.org/maven2/mysql/mysql-connector-java/5.1.6/mysql-connector-java-5.1.6.jar)
3. Unzip wildfly-10.1.0.Final.zip

**DB Driver Configuration**

1. Make directory “mysql\main” under “WILDFLY\_HOME\modules\system\layers\base\com\”; Ignore this step if folder is already available.
2. Copy driver file mysql-connector-java-5.1.6.jar into WILDFLY\_HOME\modules\system\layers\base\com\mysql\main folder.
3. Configure mysql connector details in an xml configuration file named module.xml with content; Ignore this step if content is already available in xml file.

<?xml version="1.0" encoding="UTF-8"?>

<module xmlns="urn:jboss:module:1.1" name="com.mysql">

<resources>

<resource-root path="mysql-connector-java-5.1.6.jar"/>

</resources>

<dependencies>

<module name="javax.api"/>

<module name="javax.transaction.api"/>

</dependencies>

</module>

1. Go to standalone configuration folder (WILDFLY\_HOME/standalone/configuration/) and edit **standalone-full.xml**. Add MySQL datasource under 'datasources' and driver under 'drivers' tags as given below.

<datasources>

<datasource jndi-name="java:jboss/datasources/ServiceDS" pool-name="ServiceMySqlDS"enabled="true"use-java-context="true">

<connection-url>jdbc:mysql://<database Ip>:<database port>/<database name>

</connection-url>

<driver>mysql</driver>

<pool>

<min-pool-size>2</min-pool-size>

<max-pool-size>500</max-pool-size>

</pool>

<security>

<user-name><user Id></user-name>

<password><password></password>

</security>

</datasource>

<drivers>

<driver name="mysql" module="com.mysql">

<driver-class>com.mysql.jdbc.Driver</driver-class>

</driver>

</drivers>

<datasources>

**Configure users**

Create following user in application realm. [Reference](https://docs.jboss.org/author/display/WFLY10/add-user+utility)

* User 1 - System user for application integration using REST call
  + name: SysAdmin
  + password: Super@123
  + roles: user,rest-all
* User 2 - jBPM platform administrator for processes/rule changes or deployment, user management and to make any changes necessary.
  + name: admin
  + password: [Secure Password]
  + roles: admin,analyst,kiemgmt,rest-all,kie-server
* User 3 - Business administrator.
  + name: Administrator
  + password: [Secure Password]
  + roles: Administrators,user

**Part 2 - Deploy applications**

**Database Configuration**

* jBPM have it's own predefined set of database tables. These tables must be created before we deploy jBPM war file in to the server.
* There are two files provided [here](https://192.168.100.7/svn/ABM_SAAS_Product/trunk/jbpmplatform/baseversion/ddl-scripts/mysqlinnodb), one for creating tables and another for dropping tables.
* To create all tables import or run following SQL file in to the database configured with JNDI 'java:jboss/datasources/ServiceDS' <https://192.168.100.7/svn/ABM_SAAS_Product/trunk/jbpmplatform/baseversion/ddl-scripts/mysql5/mysql5-jbpm-schema.sql>

**jBPM Application Configuration**

1. Copy kie-wb-distribution-wars-6.5.0.Final-wildfly10.war into WILDFLY\_HOME/standalone/deployments, while copying rename it as kie-wb to simplify the context paths that will be used on application server.
2. Find persistence.xml under kie-wb.war/WEB-INF/classes/META-INF/. Find hibernate.dialect and change its value accordingly database configuration.
   * For, **MySql** database, dialect value should be **org.hibernate.dialect.MySQLDialect.**
   * Also, conform that in persistence.xml file jta-data-source should be same as configured in standalone-full.xml file.
   * jta-data-source to point to the newly created data source (JNDI name) for your data base for ex:- **java:jboss/datasources/ServiceDS**.

<persistence-unit transaction-type="JTA" name="org.jbpm.domain">

<provider>org.hibernate.ejb.HibernatePersistence</provider>

<jta-data-source>java:jboss/datasources/ServiceDS</jta-data-source>

<mapping-file>META-INF/Taskorm.xml</mapping-file>

<mapping-file>META-INF/JBPMorm.xml</mapping-file>

1. Find jboss-deployment-structure.xml under kie-wb.war/WEB-INF/. Add module under 'dependencies' tag as given below.

<dependencies>

<module name="com.abm.configuration.brms" />

</dependencies>

1. Copy directory 'com' from <https://192.168.100.7/svn/ABM_SAAS_Product/trunk/jbpmplatform/baseversion/customization/jboss_module_configuration> and paste under WILDFLY\_HOME/modules
2. Open file application.properties and update following properties with actual values to integare with MainetService and MainetBpmService
   * mainet.service.rest.url = [protocol]://[host]:[port]/MainetService/rest/
   * workflow.rest.url.base = [protocol]://[host]:[port]/mainetbpmservice/rest

**MainetBpmService Application Configuration**

* MainetBpmService can be deploy on same wildfly-10 server where jBPM is running.
* MainetBpmService will use same JBoss module which we have configured at 4th step of 'jBPM Application Configuration'.

**Configure system properties**

Following list of properties needs to be given to configure JVM tuning considerations and Jboss server system properties in WILDFLY\_HOME/bin/**standalone.conf.bat**

* -Xms10240M -Xmx10240M -XX:MetaspaceSize=5120M -XX:MaxMetaspaceSize=5120M (Heap size can be vary according to usage in production)
* -verbose:gc -XX:+UseConcMarkSweepGC -Dsun.rmi.dgc.server.gcInterval=360000000 (Optional GC and GC logging)
* -Djboss.as.management.blocking.timeout=600 (Jboss server startup timeout)

set "JAVA\_OPTS=-Xms10240M -Xmx10240M -XX:MetaspaceSize=5120M -XX:MaxMetaspaceSize=5120M -verbose:gc -XX:+UseConcMarkSweepGC -Dsun.rmi.dgc.server.gcInterval=360000000 -Djboss.as.management.blocking.timeout=600"

Following list of properties needs to be given to work smoothly for kie-wb with MainetBpmService

* -Dorg.kie.build.disable-project-explorer=true
* -Dorg.kie.override.deploy.enabled=false
* -Dorg.kie.task.insecure=true

**Launching the server**

Best way is to add system properties into startup command when launching Wildfly server. Go to WILDFLY\_HOME/bin and issue following command and wait until the kie workbench comes up.

standalone.bat -c standalone-full.xml -b [IPAddress] -bmanagement=[IPAddress] -Djboss.socket.binding.port-offset=10 -Dorg.kie.build.disable-project-explorer=true -Dorg.kie.task.insecure=true

* [Kie workbench](http://IPAddress:8090/kie-wb/)
* [Kie workbench documentation](https://docs.jboss.org/jbpm/release/6.5.0.Final/jbpm-docs/html/pt03.html)
* [Mainet processes repository](https://github.com/abmindiarepomanager/mainet-workflow)
* [Mainet rule repository](https://github.com/abmindiarepomanager/abm-kie-repo)