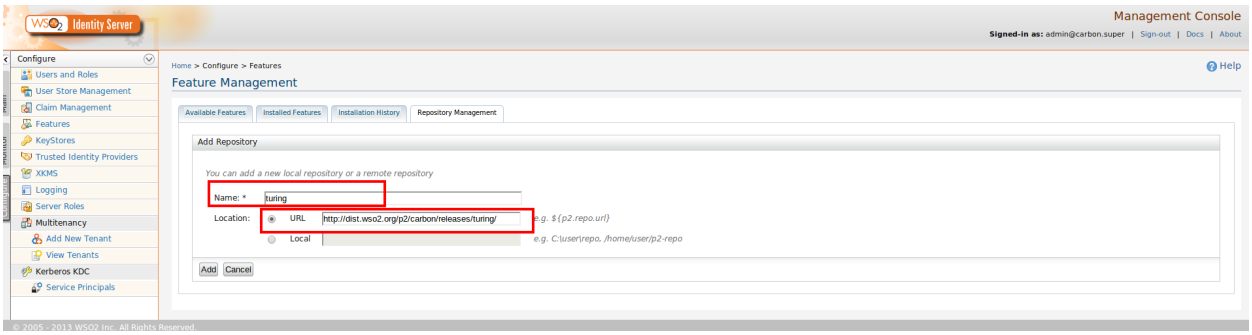
Configuring IS

1. Download pack form http://wso2.com/products/identity-server/

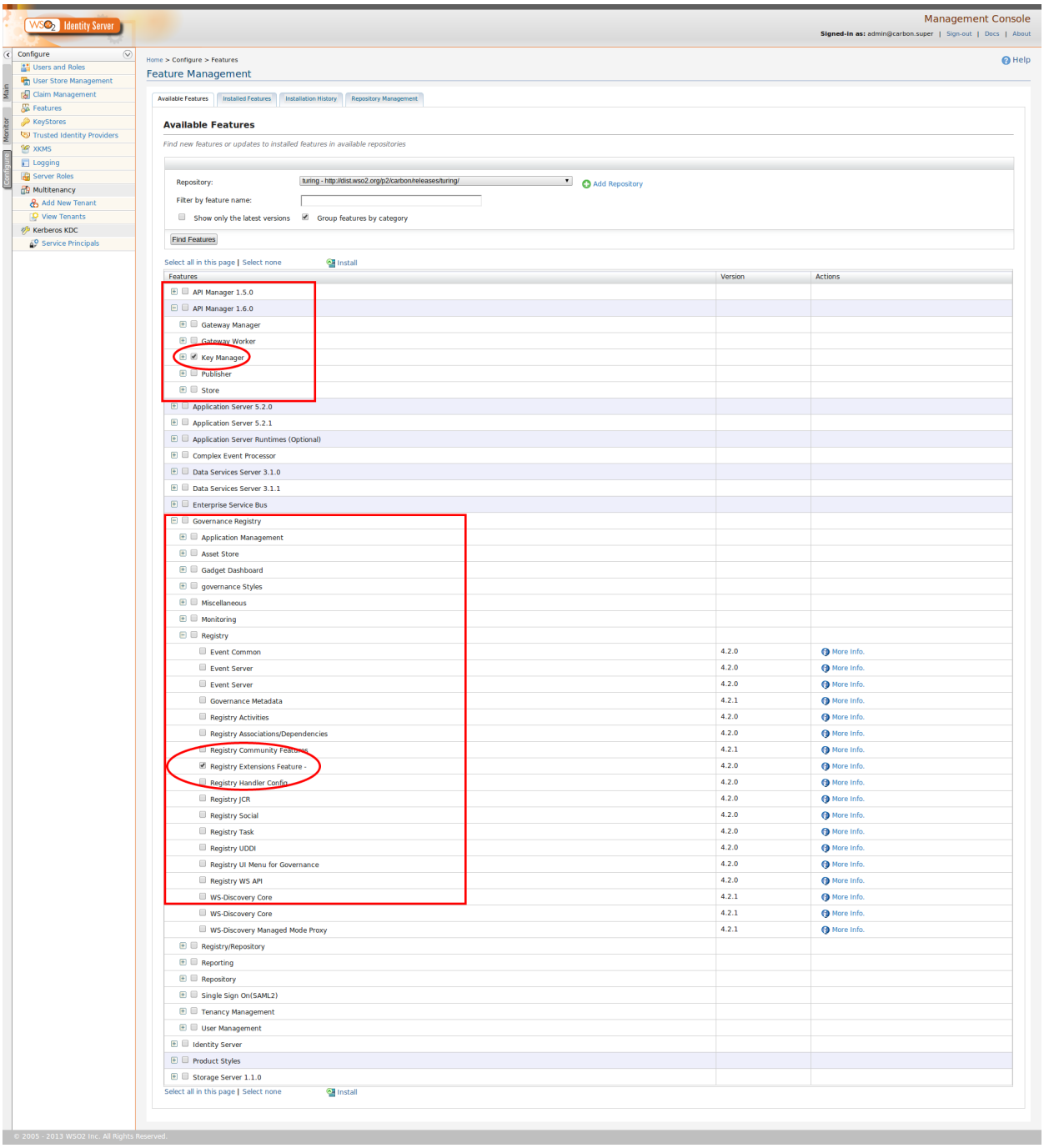
2. Run the pack (Refer : http://docs.wso2.org/display/IS460/Getting+Started)

3. After the server is started install the Key Manager feature. For more information refer: http://docs.wso2.org/display/IS460/Installing+Features

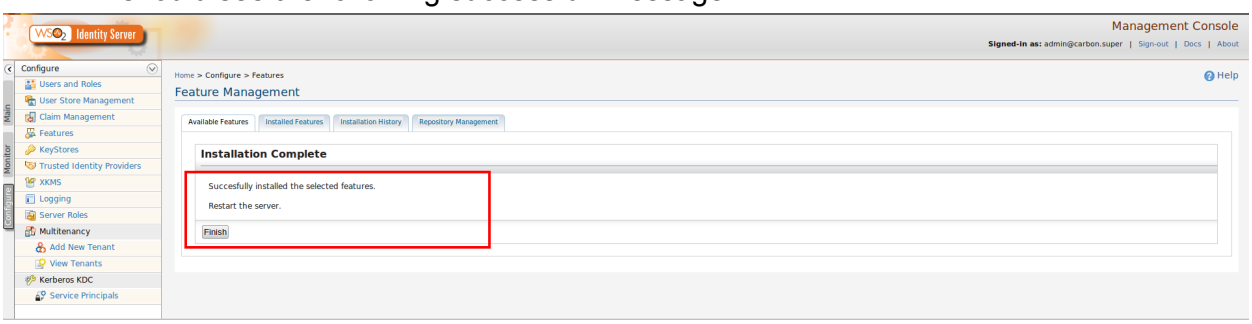
    a. Go to the feature manager and add the following feature repository as shown below.
    P2 Repo: http://dist.wso2.org/p2/carbon/releases/turing/



    b. After adding, find the feature in that repository. (Click on “find features” button).
        i. Select “Key Manager feature” from “Api Manager 1.6.0” features category.
        ii. Select “Registry Extension Feature” feature from “Governance registry” features category. (both are shown in the below diagram)



c. Click on “Install” button and go through the wizard to complete the installation. Finally you should see the following successfull message.



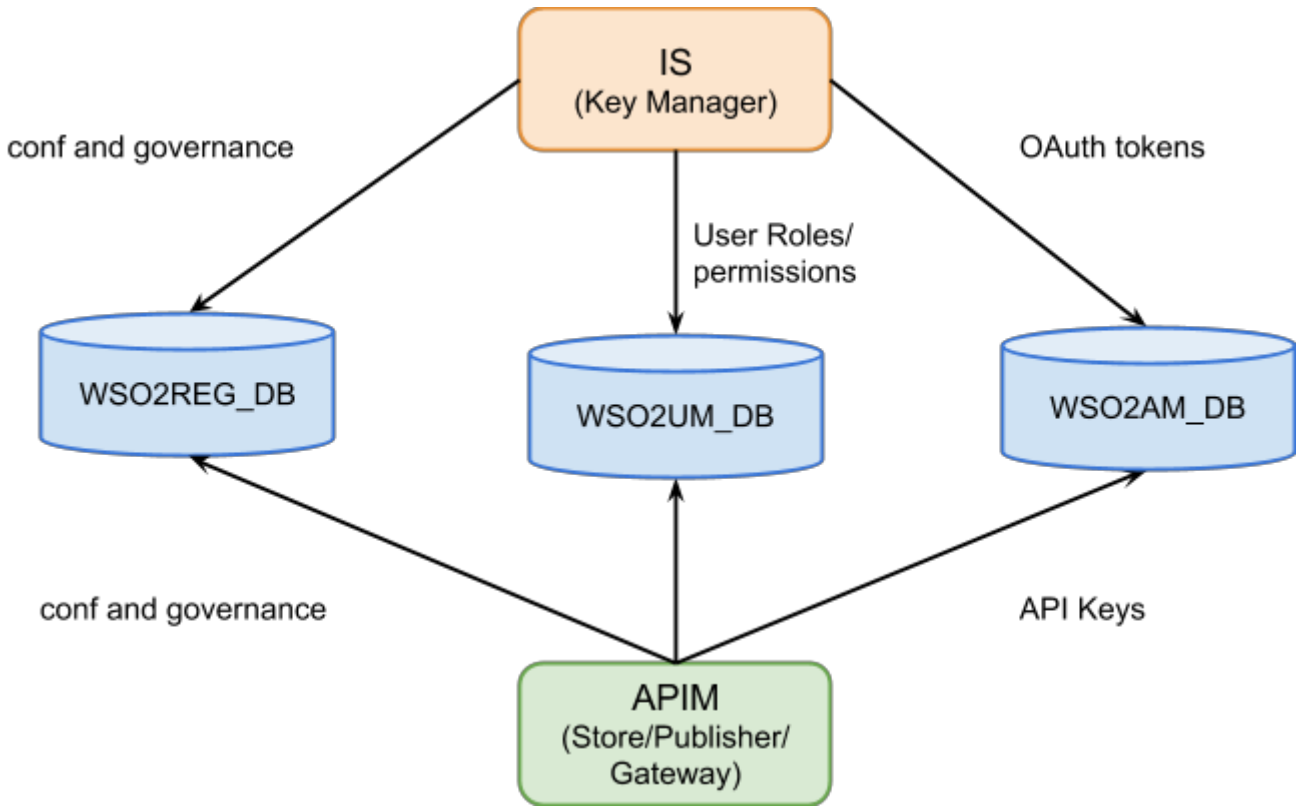
d. Copy the api-manager.xml from an API Manager 1.6.0 pack into IS_HOME/repository/conf (replace the one available there)

e. Then change the GatewayType property as following,

```
<GatewayType>None</GatewayType>
```

f. Restart Identity Server

Following diagram illustrate how databases are shared between IS and APIM



- *WSO2REG_DB* - This is used to keep the registry information
- *WSO2UM_DB* - This is used to keep the permissions (i.e permission store). Also this will be used to keep the Internal roles.
- *WSO2AM_DB* - This will be used to keep the identity data and api related data. OAuth tokens, Keys will be also in this. When serving key-validation requests, key manager validates whether there are subscriptions made by the particular key. For this WSO2AM_DB should be accessed.

4. Open the IS/repository/conf/datasources/master-datasource.xml file and add the following data sources. This is where we define the above databases as data sources so that they can be used in the servers.

```
    <datasource>
        <name>WSO2AM_DB</name>
        <description>The datasource used for API Manager database</description>
        <jndiConfig>
            <name>jdbc/WSO2AM_DB</name>
        </jndiConfig>
        <definition type="RDBMS">
            <configuration>
    <url>jdbc:mysql://localhost:3306/apimgt?autoReconnect=true&amp;relaxAutoCommit=true</url>
                <username>apiuser</username>
                <password>apimanager</password>
                <driverClassName>com.mysql.jdbc.Driver</driverClassName>
                <maxActive>50</maxActive>
                <maxWait>60000</maxWait>
                <testOnBorrow>true</testOnBorrow>
                <validationQuery>SELECT 1</validationQuery>
                <validationInterval>30000</validationInterval>
            </configuration>
        </definition>
    </datasource>

    <datasource>
        <name>WSO2REG_DB</name>
        <description>The datasource used for registry and user manager</description>
        <jndiConfig>
            <name>jdbc/WSO2REG_DB</name>
        </jndiConfig>
        <definition type="RDBMS">
            <configuration>
    <url>jdbc:mysql://localhost:3306/registry?autoReconnect=true&amp;relaxAutoCommit=true</url>
                <username>apiuser</username>
                <password>apimanager</password>
                <driverClassName>com.mysql.jdbc.Driver</driverClassName>
                <maxActive>50</maxActive>
                <maxWait>60000</maxWait>
                <testOnBorrow>true</testOnBorrow>
                <validationQuery>SELECT 1</validationQuery>
                <validationInterval>30000</validationInterval>
            </configuration>
        </definition>
    </datasource>

    <datasource>
        <name>WSO2UM_DB</name>
        <description>The datasource used for registry and user manager</description>
        <jndiConfig>
            <name>jdbc/WSO2UM_DB</name>
        </jndiConfig>
        <definition type="RDBMS">
            <configuration>
<url>jdbc:mysql://localhost:3306/userstore?autoReconnect=true&amp;relaxAutoCommit=true
                </url>
                <username>apiuser</username>
                <password>apimanager</password>
```

```
                <driverClassName>com.mysql.jdbc.Driver</driverClassName>
                <maxActive>50</maxActive>
                <maxWait>60000</maxWait>
                <testOnBorrow>true</testOnBorrow>
                <validationQuery>SELECT 1</validationQuery>
                <validationInterval>30000</validationInterval>
            </configuration>
        </definition>
    </datasource>
```

5. Replace the IS_HOME/repository/conf/registry.xml by the registry.xml in APIM_HOME/repository/conf/ folder. Handler to evaluate xacml media type is not present in the copied registry.xml. Therefore add the following handler

```
    <handler
class="org.wso2.carbon.identity.entitlement.policy.finder.registry.RegistryPolicyHandler">
        <filter
class="org.wso2.carbon.identity.entitlement.policy.finder.registry.RegistryPolicyMediaTypeMatcher">
            <property name="mediaType">application/xacml-policy+xml</property>
        </filter>
    </handler>
```

6. Create the registry mounts. Open IS/repository/conf/registry.xml and insert the following sections.

```
            <dbConfig name="govregistry">
                <dataSource>jdbc/WSO2REG_DB</dataSource>
            </dbConfig>

            <remoteInstance url="https://localhost">
                <id>gov</id>
                <dbConfig>govregistry</dbConfig>
                <readOnly>false</readOnly>
                <enableCache>true</enableCache>
              <registryRoot>/</registryRoot>
            </remoteInstance>

            <mount path="/_system/governance" overwrite="true">
                <instanceId>gov</instanceId>
                <targetPath>/_system/governance</targetPath>
            </mount>

            <mount path="/_system/config" overwrite="true">
              <instanceId>gov</instanceId>
              <targetPath>/_system/config</targetPath>
            </mount>
```

7. Change the datasource in identity.xml (IS/repository/conf/identity.xml) from
   jdbc/WSO2CarbonDB → jdbc/WSO2AM_DB

8. Open the user-mgt.xml and change the permission datassource from

jdbc/WSO2CarbonDB → jdbc/WSO2UM_DB

Note: Add the correct LDAP configuration

9. Open api-manager.xml and change the ThriftClientPort (under APIKeyManager section) to 10398.

10. Creating Databases: Create the following databases in the MySQL database server;
    a. userstore
    b. registry
    c. apimgt

    For creating ustore and regdb, use the script inside IS_HOME/dbscripts/mysql.sql.

    When creating apimgt db, both the scripts; APIM_HOME/dbscripts/apimgt/mysql.sql and IS_HOME/dbscripts/identity/mysql.sql should be used. Script inside APIM/dbscripts/apimgt/ only have tables needed to manage Oauth access tokens. To make all the other identity related features working, the script inside IS/dbscripts/identity too should be used. Therefore create a combined script from both these two and use it.

    Create a user ‘apiuser’ with password ‘apimanager’ . Grant all accesses to above three data bases to this user.

    ex:

```
grant all on apimgt.* TO apiuser@localhost identified by "apimanager";
grant all on userstore.* TO apiuser@localhost identified by "apimanager";
grant all on registry.* TO apiuser@localhost identified by "apimanager";
```

11. JWT configuration must be done at IS. For ***JWT Token generation*** please follow : http://docs.wso2.org/pages/viewpage.action?pageId=32350971

Configuring API Manager

1. Add the three data sources into master-datasources.xml
2. Open user-mgt.xml and change the permission datassource from
   jdbc/WSO2CarbonDB → jdbc/WSO2UM_DB

   Note: Add the correct LDAP configuration (same one as in IS)

3. Open registry.xml and add the folowing;

```
<dbConfig name="govregistry">
    <dataSource>jdbc/WSO2REG_DB</dataSource>
 </dbConfig>

 <remoteInstance url="https://localhost">
    <id>gov</id>
```

```
    <dbConfig>govregistry</dbConfig>
    <readOnly>false</readOnly>
    <enableCache>true</enableCache>
   <registryRoot>/</registryRoot>
</remoteInstance>

<mount path="/_system/governance" overwrite="true">
    <instanceId>gov</instanceId>
    <targetPath>/_system/governance</targetPath>
</mount>

<mount path="/_system/config" overwrite="true">
   <instanceId>gov</instanceId>
   <targetPath>/_system/config</targetPath>
</mount>
```

4. Open api-manager.xml
    a. Change the *ServerUrl* of the *AuthManager* to point to IS
    Change
    <ServerURL>https://${carbon.local.ip}:${mgt.transport.https.port}/services/</ServerURL>
    to
    `<ServerURL>https://${carbon.local.ip}:{port}/services/</ServerURL>`

    b. Change the *ServerUrl* of the *APIKeyManager* to point to IS
    Change
    <ServerURL>https://${carbon.local.ip}:${mgt.transport.https.port}/services/</ServerURL>
    to
    <ServerURL>https://${carbon.local.ip}:{port}/services/</ServerURL>

    c. Change the *KeyValidatorClientType* from ThriftClient to WSClient

    d. Change the *ThriftServerPort* (under APIKeyManager section) to 10398

    e. Change the *ThriftServerHost* to point to Identity servers IP address

    f. Change *EnableThriftServer* to true

Note: Add MySQL jdbc driver to both servers:

i.e. put the jar into CARBON_HOME/repository/components/lib