Cómo crear RESTful web service a partir de conexión a TEIID mediante JDBC (JSON+RESTeasy).

Como seguramente no funcionen bien los servicios web automáticos mediante TEIID Designer veamos cómo crearlos “a mano”.

Nuevo proyecto Maven simple webapp.

Añadir dependencias a maven de teiid (modificar comandos según sea necesario): [Comprobar si hacen falta las tres librerías]

```
mvn install:install-file -DgroupId=org.jboss.teiid -DartifactId=teiid-common-core
-Dversion=8.2.0 -Dpackaging=jar
-Dfile=C:\jbossas7\modules\org\jboss\teiid\common-core\main\teiid-common-core-8.2.0.Final
.jar

mvn install:install-file -DgroupId=org.jboss.teiid -DartifactId=teiid-client
-Dversion=8.2.0 -Dpackaging=jar
-Dfile=C:\jbossas7\modules\org\jboss\teiid\client\main\teiid-client-8.2.0.Final.jar

mvn install:install-file -DgroupId=org.jboss.teiid -DartifactId=teiid-jdbc
-Dversion=8.2.0 -Dpackaging=jar
-Dfile=C:\jbossas7\modules\org\jboss\teiid\translator\jdbc\main\translator-jdbc-8.2.0.Fin
al.jar
```

Modificar pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>org.dsusin.examples</groupId>
  <artifactId>RESTfulExample</artifactId>
  <packaging>war</packaging>
  <version>0.0.1-SNAPSHOT</version>
  <name>RESTfulExample Maven Webapp</name>
  <url>http://maven.apache.org</url>
```

```
<repositories>
  <repository>
       <id>JBoss repository</id>
         <url>https://repository.jboss.org/nexus/content/groups/public-jboss/</url>
      </repository>
</repositories>
     <properties>
         <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
         <project.reporting.outputEncoding>UTF-8</project.reporting.outputEncoding>
     </properties>
<dependencies>
  <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>3.8.1</version>
    <scope>test</scope>
  </dependency>
     <dependency>
    <groupId>org.jboss.resteasy</groupId>
    <artifactId>jaxrs-api</artifactId>
    <version>2.3.4.Final</version>
    <scope>provided</scope>
  </dependency>
  <dependency>
    <groupId>org.codehaus.jackson</groupId>
    <artifactId>jackson-core-asl</artifactId>
    <version>1.9.2</version>
    <scope>provided</scope>
  </dependency>
     <dependency>
    <groupId>org.jboss.teiid</groupId>
    <artifactId>teiid-common-core</artifactId>
    <version>8.2.0</version>
  </dependency>
  <dependency>
    <groupId>org.jboss.teiid</groupId>
    <artifactId>teiid-client</artifactId>
    <version>8.2.0</version>
  </dependency>
  <dependency>
    <groupId>org.jboss.teiid</groupId>
    <artifactId>teiid-jdbc</artifactId>
    <version>8.2.0</version>
```

```
    </dependency>
  </dependencies>
  <build>
    <finalName>RESTfulExample</finalName>
  </build>
</project>
```

Modificar web.xml (aquí podemos cambiar el prefijo del servicio, en este ejemplo es “rest”).

```
<web-app id="WebApp_ID" version="2.4"
       xmlns="http://java.sun.com/xml/ns/j2ee"
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
       http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd">
       <display-name>Restful Web Application</display-name>

       <!-- Auto scan REST service -->
       <context-param>
              <param-name>resteasy.scan</param-name>
              <param-value>true</param-value>
       </context-param>

       <!-- this need same with resteasy servlet url-pattern -->
       <context-param>
              <param-name>resteasy.servlet.mapping.prefix</param-name>
              <param-value>/rest</param-value>
       </context-param>

       <listener>
              <listener-class>
                     org.jboss.resteasy.plugins.server.servlet.ResteasyBootstrap
              </listener-class>
       </listener>

       <servlet>
              <servlet-name>resteasy-servlet</servlet-name>
              <servlet-class>
                     org.jboss.resteasy.plugins.server.servlet.HttpServletDispatcher
              </servlet-class>
       </servlet>
```

```
	<servlet-mapping>
		<servlet-name>resteasy-servlet</servlet-name>
		<url-pattern>/rest/*</url-pattern>
	</servlet-mapping>

</web-app>
```

Ejemplo de código con RESTeasy:

/RESTfulExample/src/main/java/org/dsusin/rest/JDBCCallProcedure.java

---

```
package org.dsusin.rest;

import java.sql.CallableStatement;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.sql.Types;
import java.util.ArrayList;
import java.util.List;

import org.teiid.jdbc.TeiidDriver;
import org.teiid.jdbc.TeiidDataSource;

public class JDBCCallProcedure {

	static {
		try {
			Class.forName("org.teiid.jdbc.TeiidDriver").newInstance();
		} catch (Exception e) {
			e.printStackTrace();
		}
	}

	private static Connection getConnection(String user, String password) throws
Exception {
	 TeiidDataSource ds = new TeiidDataSource();
	 ds.setUser(user);
	 ds.setPassword(password);
	 ds.setServerName("localhost");
	 ds.setPortNumber(31000);
	 ds.setDatabaseName("lleida_base_vdb");
```

```
    return ds.getConnection();
}


    public static Parada getParadaById(int idParada) {
            Connection con = null;
            try {
                    con = getConnection("user", "user");
            } catch (Exception e1) {
                    // TODO Auto-generated catch block
                    e1.printStackTrace();
            }
            CallableStatement cs = null;
            try {
                    cs = con.prepareCall("{call getParadaById("+idParada+")}");

                    ResultSet rs=null;
                    Parada pRet = new Parada();
                    boolean bres=cs.execute();
                    if(bres){
                            rs=cs.getResultSet();
                            while(rs.next())
                            {
                                    pRet.setName(rs.getString("out_parada"));
                                    pRet.setCoordX(rs.getString("out_x"));
                                    pRet.setCoordY(rs.getString("out_y"));
                            }
                    }
                    return pRet;
            } catch (SQLException e) {
                    System.err.println("SQLException: " + e.getMessage());
            } finally {
                    if (cs != null) {
                            try {
                                    cs.close();
                            } catch (SQLException e) {
                                    System.err.println("SQLException: " + e.getMessage());
                            }
                    }
                    if (con != null) {
                            try {
                                    con.close();
                            } catch (SQLException e) {
                                    System.err.println("SQLException: " + e.getMessage());
                            }
                    }
            }
            return null;
```

```
}

public static List<Object> getParadas() {
	Connection con = null;
	try {
		con = getConnection("user", "user");
	} catch (Exception e1) {
		// TODO Auto-generated catch block
		e1.printStackTrace();
	}
	CallableStatement cs = null;
	try {
		cs = con.prepareCall("{call getParadas()}");

		ResultSet rs=null;
		//Paradas pList=new Paradas();
		List<Object> pList=new ArrayList<Object>();
		boolean bres=cs.execute();
		if(bres){
			rs=cs.getResultSet();
			while(rs.next())
			{
				Parada par = new Parada();
				par.setName(rs.getString("out_parada"));
				par.setCoordX(rs.getString("out_x"));
				par.setCoordY(rs.getString("out_y"));
				//pList.addParada(par);
				pList.add((Object) par);
			}
		}
		return pList;
	} catch (SQLException e) {
		System.err.println("SQLException: " + e.getMessage());
	} finally {
		if (cs != null) {
			try {
				cs.close();
			} catch (SQLException e) {
				System.err.println("SQLException: " + e.getMessage());
			}
		}
		if (con != null) {
			try {
				con.close();
			} catch (SQLException e) {
				System.err.println("SQLException: " + e.getMessage());
			}
		}
```

```
            }
            return null;
        }
}
```

/RESTfulExample/src/main/java/org/dsusin/rest/MessageRestService.java

---

```
package org.dsusin.rest;

import java.util.ArrayList;
import java.util.List;

import javax.ws.rs.Consumes;
import javax.ws.rs.GET;
import javax.ws.rs.Path;
import javax.ws.rs.PathParam;
import javax.ws.rs.Produces;
import javax.ws.rs.core.Response;

@Path("/json/parada")
public class MessageRestService {

        @GET
        @Path("/get/{stopId}")
        @Produces("application/json; charset=UTF-8")
        public JSONResponse getParadaInJSON(@PathParam("stopId") int id) {

                List<Object> entry=new ArrayList<Object>();
                entry.add((Object) JDBCCallProcedure.getParadaById(id));

                JSONMetaData meta=new JSONMetaData("1.0", "OK", 200, "");
                JSONData data=new JSONData(0,1,1, entry);

                JSONResponse response=new JSONResponse(meta, data);

                return response;
        }

        @GET
        @Path("/get")
        @Produces("application/json; charset=UTF-8")
        public JSONResponse getParadasInJSON() {

                List<Object> entry=new ArrayList<Object>();
                entry=JDBCCallProcedure.getParadas();
```

```
                JSONMetaData meta=new JSONMetaData("1.0", "OK", 200, "");
                JSONData data=new JSONData(0,1,1, entry);

                JSONResponse response=new JSONResponse(meta, data);

                return response;
        }
}
```

/RESTfulExample/src/main/java/org/dsusin/rest/Parada.java

```
package org.dsusin.examples;

public class Parada {

        String name;
        String coord_x;
        String coord_y;

        public String getName() {
                return name;
        }

        public String getCoordX() {
                return coord_x;
        }

        public String getCoordY() {
                return coord_y;
        }

        public void setName(String name) {
                this.name = name;
        }

        public void setCoordX(String in_x) {
                this.coord_x= in_x;
        }

        public void setCoordY(String in_y) {
                this.coord_y= in_y;
        }
}
```

/RESTfulExample/src/main/java/org/dsusin/rest/JSONResponse.java

```
package org.dsusin.rest;

public class JSONResponse {
	public JSONMetaData meta;
	public JSONData data;

	JSONResponse(){
		meta=null;
		data=null;
	}

	JSONResponse(JSONMetaData m, JSONData d){
		meta=m;
		data=d;
	}

	public void setResponse(JSONMetaData m, JSONData d){
		meta=m;
		data=d;
	}

	public void setData(JSONData d){
		this.data=d;
	}

	public void setMetaData(JSONMetaData m){
		this.meta=m;
	}
}
```

/RESTfulExample/src/main/java/org/dsusin/rest/JSONMetaData.java

```
package org.dsusin.rest;

public class JSONMetaData {
	public String v;
	public String status;
	public int code;
	public long timeRef;
	public String msg;

	JSONMetaData(){
		this.v="";
		this.status="";
		this.code=0;
```

```
                timeRef=(int) (System.currentTimeMillis() / 1000L);
                this.msg="";
        }

        JSONMetaData(String v, String status, int code, String msg){
                this.v=v;
                this.status=status;
                this.code=code;
                timeRef=(int) (System.currentTimeMillis() / 1000L);
                this.msg=msg;
        }

        public void setVersion(String v){
                this.v=v;
        }
        public void setStatus(String status){
                this.status=status;
        }
        public void setCode(int code){
                this.code=code;
        }
        public void setTimeRef(long timeRef){
                this.timeRef=timeRef;
        }
        public void setMsg(String msg){
                this.msg=msg;
        }
        public String  getVersion(){
                return this.v;
        }
        public String getStatus(){
                return this.status;
        }
        public int getCode(){
                return this.code;
        }
        public long getTimeRef(){
                return this.timeRef;
        }
        public String getMsg(){
                return this.msg;
        }
}
```

/RESTfulExample/src/main/java/org/dsusin/rest/JSONData.java

```java
package org.dsusin.rest;

import java.util.List;

public class JSONData {
	public int startIndex;
	public int itemsPerPage;
	public int totalResults;
	public List<Object> entry;

	JSONData(){
		this.startIndex=0;
		this.itemsPerPage=0;
		this.totalResults=0;
		this.entry=null;
	}

	JSONData(int startIndex, int itemsPerPage, int totalResults, List<Object> entry){
		this.startIndex=startIndex;
		this.itemsPerPage=itemsPerPage;
		this.totalResults=totalResults;
		this.entry=entry;
	}

	public void setStartIndex(int startIndex){
		this.startIndex=startIndex;
	}
	public void setItemsPerPage(int itemsPerPage){
		this.itemsPerPage=itemsPerPage;
	}
	public void setTotalResults(int totalResults){
		this.totalResults=totalResults;
	}
	public void setEntry(List<Object> entry){
		this.entry=entry;
	}

	public int getStartIndex(){
		return this.startIndex;
	}
	public int getItemsPerPage(){
		return this.itemsPerPage;
	}
	public int getTotalResults(){
		return this.totalResults;
	}
	public List<Object> getEntry(){
		return this.entry;
```

```
        }
}
```