

# EMFT Texo

*Modeling to the Mobile-Web*

*<http://wiki.eclipse.org/Texo>*

**Martin Taal**

***EMF: Texo – Teneo - CDO***

openbravo.<sup>®</sup>

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# EMFT Texo

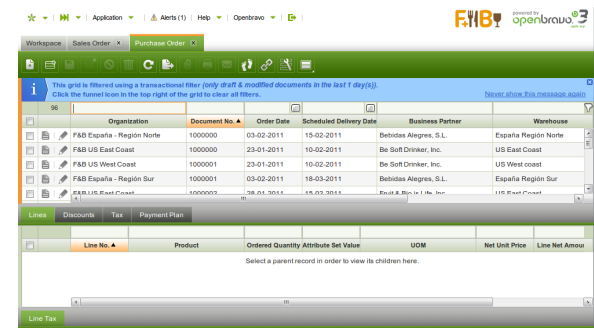
## *Code Generation and Runtime Solution for Model-Driven Development in Web Environments*

### *Features:*

- Devtime: JPA/Entity Code generation
- Runtime: [Model@Runtime](#), XML/XMI serialization
- Runtime: JSON and XML Web Service Functionality
- Runtime: Web UI and RCP UI server integration

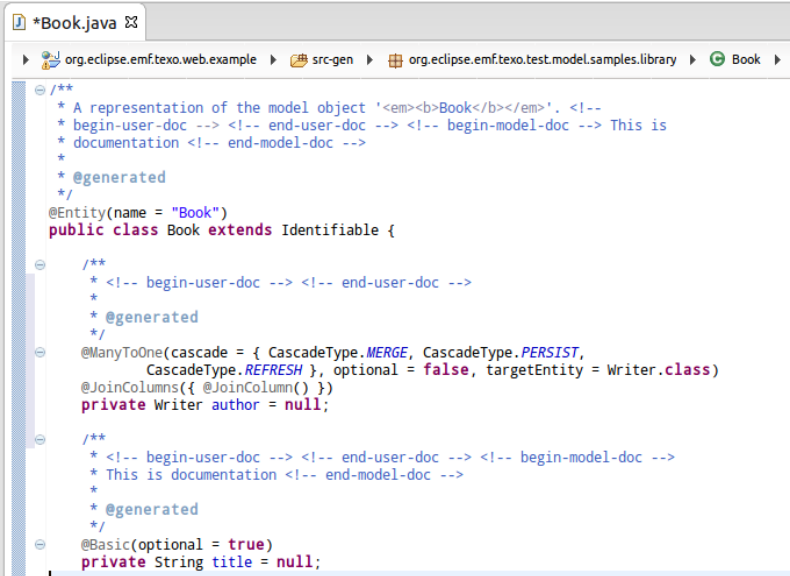
# EMFT Texo

- Difference with EMF
- Data Oriented Business Web Apps
- Web Server/Service Environments:
  - Web/Mobile UI
  - RCP UI
- Generated and Runtime Solution combined



# JPA Entity Generation

- Generates Real Pojos
- Optional Framework Dependencies
- Supports most/all Ecore – XSD Constructs
- JPA Annotation or orm.xml
- Merging of manual code
- Detailed control

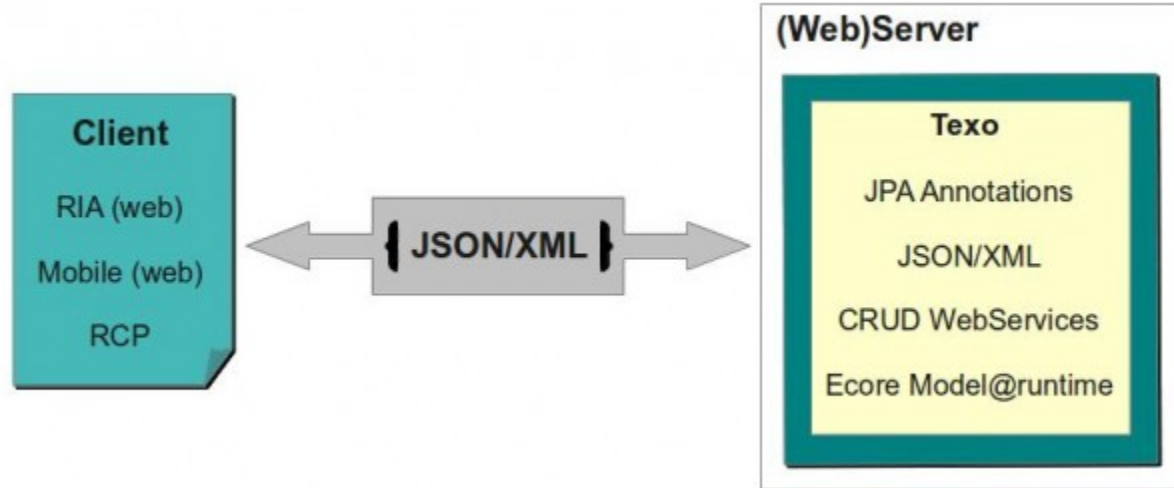


```
1 *Book.java
2 org.eclipse.emf.texo.web.example > src-gen > org.eclipse.emf.texo.test.model.samples.library > Book
3
4 /**
5  * A representation of the model object '<em><b>Book</b></em>'. <!--
6  * begin-user-doc --> <!-- end-user-doc --> <!-- begin-model-doc --> This is
7  * documentation <!-- end-model-doc -->
8  *
9  * @generated
10  */
11 @Entity(name = "Book")
12 public class Book extends Identifiable {
13
14     /**
15     * <!-- begin-user-doc --> <!-- end-user-doc -->
16     *
17     * @generated
18     */
19     @ManyToOne(cascade = { CascadeType.MERGE, CascadeType.PERSIST,
20         CascadeType.REFRESH }, optional = false, targetEntity = Writer.class)
21     @JoinColumn({ @JoinColumn() })
22     private Writer author = null;
23
24     /**
25     * <!-- begin-user-doc --> <!-- end-user-doc --> <!-- begin-model-doc -->
26     * This is documentation <!-- end-model-doc -->
27     *
28     * @generated
29     */
30     @Basic(optional = true)
31     private String title = null;
32 }
```



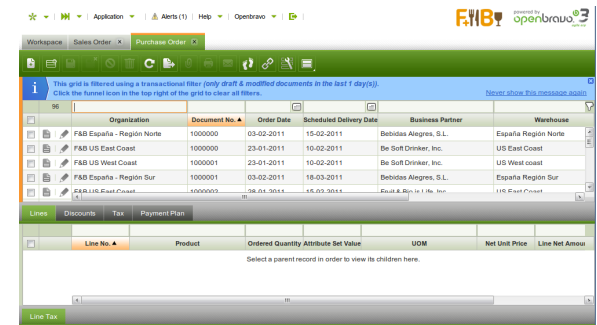
# JSON/XML Webservice Layer

Automatic → based on in-memory runtime model



# JSON/XML WS Layer → Details

- Based on real application development experience...
- Querying:
  - Simple GET request
  - (named) query as URL or JSON/XML
  - Named parameter support
  - Security: prevent sql injection
- Paged retrieval with smart counting
- Individual and mass insert/delete/update
- Server side changes are propagated back to the client
- Proxy resolving support
- Etc. etc.

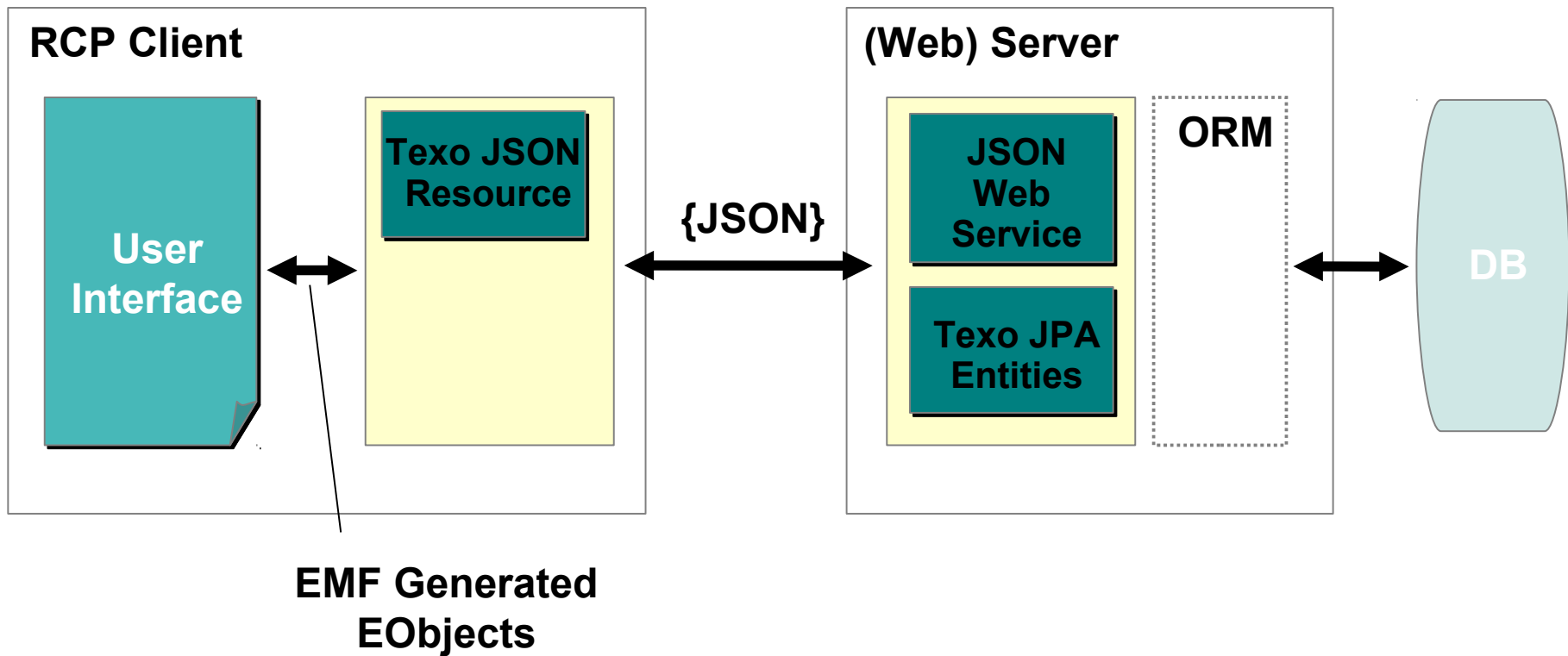


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# EMFT Texo - Demo

- Demo
- JPA annotated code generated from model
- XML and JSON Webservices
- HTML5 Web UI

# EMFT Texo – RCP Integration





# All the other topics...

- Other topics
  - DAO Layer generation
  - Test Data Generation – Mass Testing
  - Control code generation → Model Annotations
  - Override/extend generation templates
  - XSD support
- Future Topics:
  - Implement Generic Model Explorer → Sencha/Enyo
  - 'Other' Code Generation Patterns

# EMFT Texo

<http://wiki.eclipse.org/Texo>

<http://martintaal.wordpress.com/>

## Martin Taal's Blog

About EMF, Teneo, CDO, Texo, Hibernate, Open-Source ERP and other topics

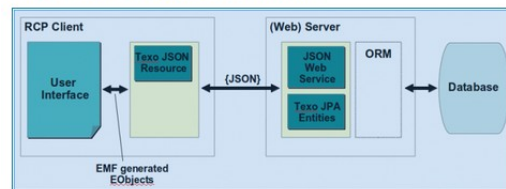
### Taking EMF to the third tier: the Texo JSON Resource

leave a comment »

Hi!

After supporting a [2-tier](#) architecture it is now time to make the step to a full [3-tier](#) application architecture for EMF based RCP's connected to a standard JPA web server. The server side of this 3-tier architecture was already done earlier: the [Texo JSON web service layer](#). The only remaining topic was implementing the client side: an EMF resource which talks JSON with the server.

Well a first version is available now: the [JSONTexoResource](#). This resource uses JSON to communicate with a server with JPA entities generated from core models using Texo.



The nice thing is that the JSONTexoResource transparently works with EMF Proxies. So EMF proxies are automatically resolved by sending a HTTP request to the server and getting the content of the object.

It is easy to override Texo code to add authentication support to the HTTP communication layer. An additional nice feature is that the server side can change/update objects when they are being persisted. Server-side changes are sent back to the client (executing the persist action) and merged with the client side objects.

The Texo Resource also support loading objects using queries, counting, retrieving and refreshing individual objects (from the server) and cross-reference queries.

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#### Bio

I am an independent software consultant mainly working on data-centric business web applications on topics such as e-procurement, product data

The screenshot shows the Eclipse Wiki page for 'Texo'. The page title is 'Texo' and it features a 'Contents [hide]' section with a list of links: 1 Introduction, 2 Benefits of using Texo, 3 Download & Install, 4 Quick Start, 5 Documentation (with sub-links for 5.1 Code generation topics, 5.2 ORM/JPA generation topics, 5.3 Runtime topics, 5.3.1 JPA/Persistence Integration, 5.3.2 XML/JSON REST Web Service Support, 5.3.3 Framework, 5.3.4 RCP Persistence using EMF Resources and Texo, 5.3.5 EMF/XML/XMI, 5.3.6 Miscellaneous), 6 Main Design Concepts, and 7 Texo and EMF. The page also includes navigation tabs (Page, Discussion, Edit, History, Move, Watch), a navigation sidebar, and a toolbox.

