

BMW contributions to openMDM 5



Contributed extensions

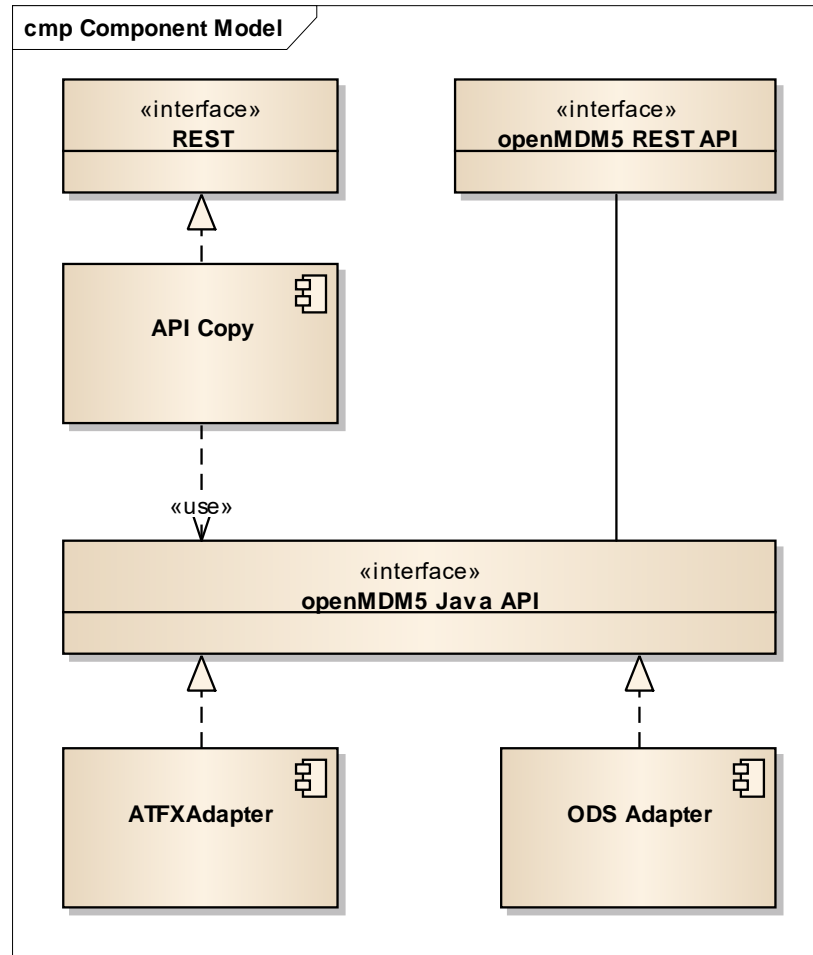
- ATFX importer
- ATFX exporter
- Exporting shopping basket selection to third party applications
- CRUD-Operations
 - Project / Pool / Test / Teststep / Measurement
- New base entity Role
- Configurable path for configuration folder

Changes are pushed to branch mkoller/atfxadapter, except Role which is on mkoller/roles

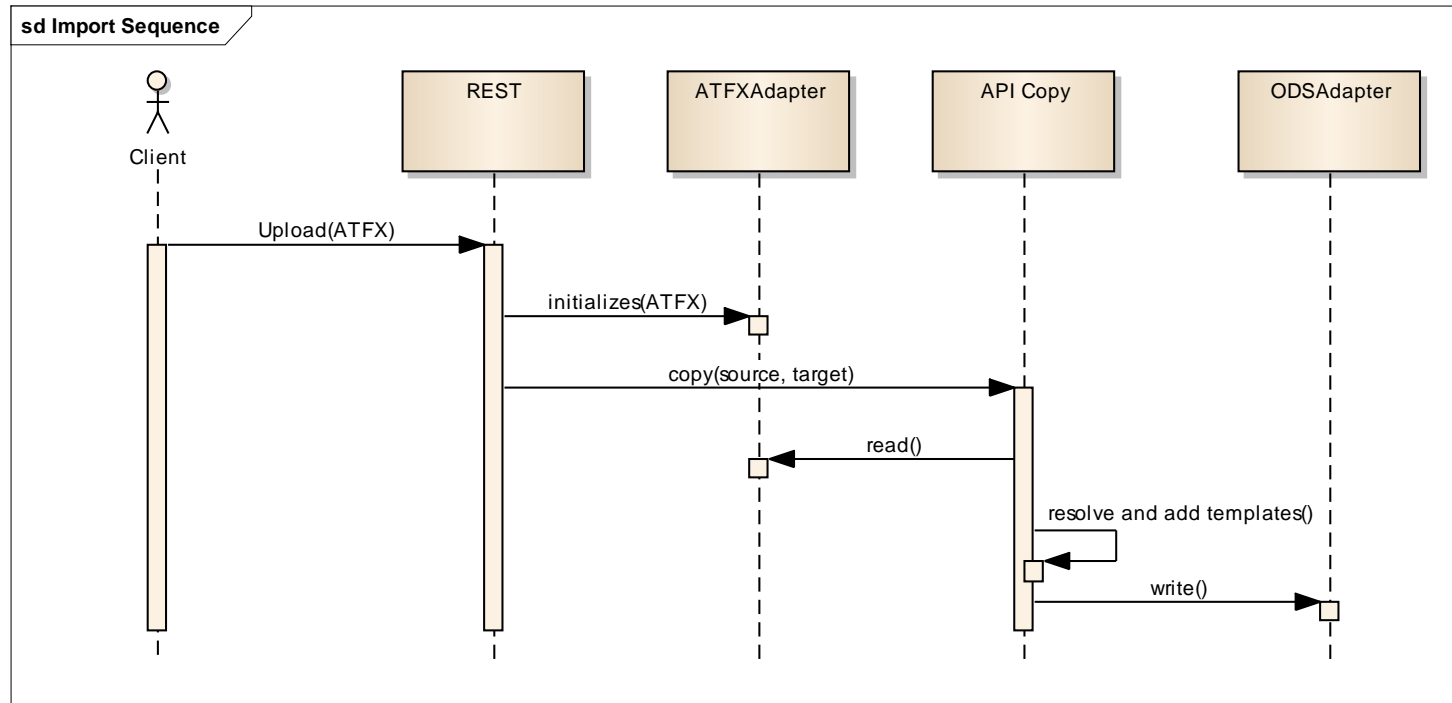
ATFX import

- Import of ATFX files which conform to the openMDM model of the target service
 - No mapping of attributes
 - No automatic template detection
 - Currently classification are written directly to ODS, should be changed when classification Entity is available in openMDM 5
- Import is started by posting the ATFX file to the endpoint
`/mdm/environments/{SOURCENAME}/import`
- Accepted mimetypes
 - `application/atfx` (for standalone ATFX files)
 - `multipart/formdata` (for ATFX files with component files)
 - `application/zip` (for ATFX files with component files)
- Response is a JSON object with properties: state (OK/FAILED), message

ATFX import



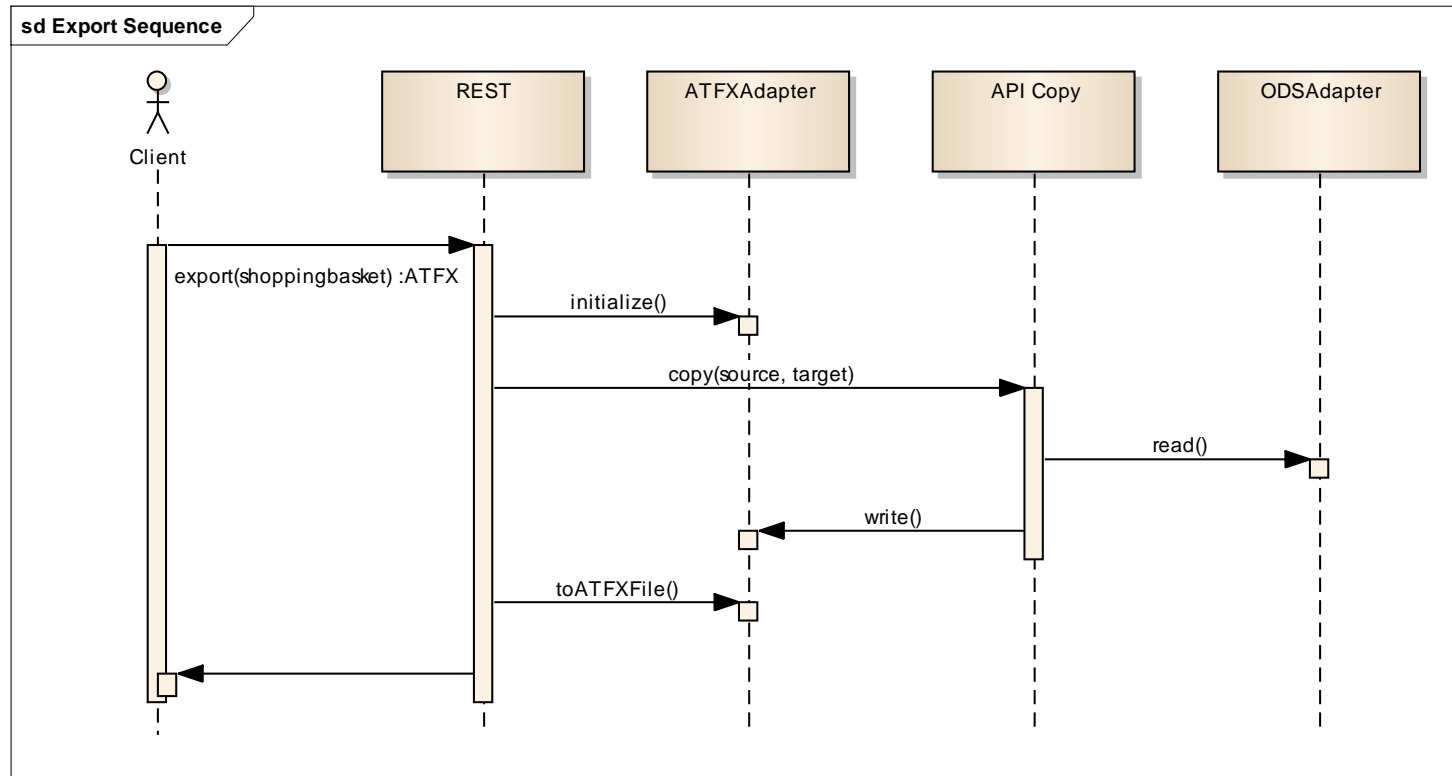
ATFX import



ATFX export

- Export can be started by posting a shopping basket xml file to /mdm/export
 - Returned content type is application/atfx
 - Exports are only allowed from one environment
 - No support for exporting component files (support is missing on MDM5 API level).
So values are always written into the ATFX file
- Export can be started in the shopping basket of the openMDM5 web client

ATFX export



Exporting shopping basket selection to third party applications

- Problem: Web Application cannot spawn native processes to start analysis software
- Idea:
 - Define a file format (shoppingbasket.xsd) which contains relevant information
 - When analysis software should be started, the web browser downloads a shopping basket file
 - Shopping basket file can have different file extensions depending on analysis software to start
 - After downloaded file type handler of the OS starts the analysis software
 - If analysis software cannot handle the shoppingbasket file, conversion tool can be invoked
- Contribution:
 - Custom file extensions can be configured in the openMDM5 web client
 - Shoppingbasket component has an additional drop downbox to start the download of the shopping basket

Exporting shopping basket selection to third party applications

openMDM5 Web Administration About → Logout

Navigator Default ▾

- ▶ PBN_UNECE_R51_Ri
- ▶ PBN_UNECE_R51_Ri
- ▶ PBN_UNECE_R51_Ri
- ▶ PBN_UNECE_R51_Ri
- ▶ PBN_UNECE_R51_Ri
- ▼ PMV Model P2
 - ▼ PBN Measurements
 - ▶ PBN_UNECE_R51_201
 - ▼ PBN_UNECE_R51_Ri
 - ▼ Channel
 - ▼ Channel
 - Noise
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Details MDM Suche

General Prüfung Testablauf Messgerät Sensoren

Versuch In den Warenkorb

Attribut	Wert	Einheit
Geschlossen am:	2014-03-14T17:09:08Z	
Beschreibung		
Links		
Angelegt am:	2014-03-14T17:09:07Z	
MimeType	application/x-asam.aosubtest.test	
Name	PBN_UNECE_R51_20140314170907	

Warenkorb Standard ▾ + ✎ 📄 ✕

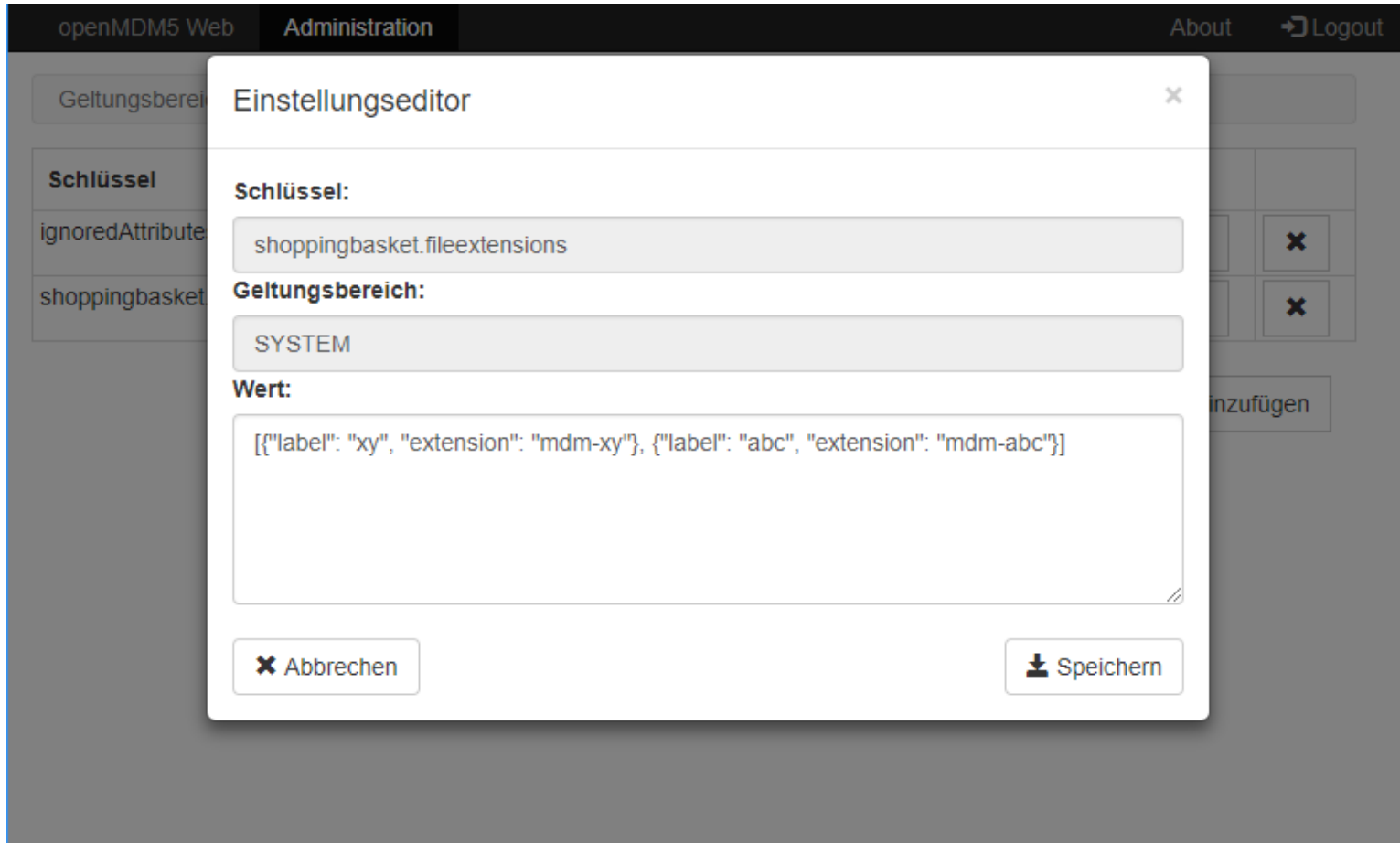
		Test.Name ▾
<input type="checkbox"/>		ATFX
<input type="checkbox"/>	✕	PBN_UNECE_R51_20140314170907

⏪ ⏩ 1 10 ▾

abc

localhost:8080/org.eclipse.mdm.nucleus/#

Exporting shopping basket selection to third party applications



The screenshot shows the 'openMDM5 Web Administration' interface. A modal dialog box titled 'Einstellungseditor' is open, displaying configuration details for a setting. The dialog has a close button (X) in the top right corner. The configuration fields are as follows:

- Schlüssel:** shoppingbasket.fileextensions
- Geltungsbereich:** SYSTEM
- Wert:** [{"label": "xy", "extension": "mdm-xy"}, {"label": "abc", "extension": "mdm-abc"}]

At the bottom of the dialog, there are two buttons: 'Abbrechen' (Cancel) with a close icon (X) and 'Speichern' (Save) with a download icon.

CRUD-Operations

- Added REST endpoints for creating, updating and deleting Entities
 - Project, Pool, Test, TestStep and Measurement
- For TestStep and Measurement context data can be created and updated
- Endpoints are consistent with already existing endpoints
 - Catalog and Template Entities
- No measured values can be read or written through the REST interface
- No support for attribute units

New base entity Role

- Use case: Administer Roles and assign Roles to Users
- Added new base entity Role in org.eclipse.mdm.api.default
- Extended org.eclipse.mdm.api.base to support n-to-m relation type
 - BaseEntitiyManager#loadRelatedEntities(Entity, Relation name)
 - Added additional store for n-to-m relations to Core
- Added implementation in org.eclipse.mdm.api.odsadapter

New base entity Role

- Example usage:

```
Transaction transaction = entityManager.startTransaction();
User user = entityFactory.createUser(„Kennung“, „Name“, „Vorname“);
Role role = entityFactory.createRole(„Auswerter“);
role.addUser(user);

transaction.create(Arrays.asList(user, role));
transaction.commit();

entityManager.loadRelatedEntities(role, Role.REL_GROUPS2USERS, User.class)
    .foreach(user -> System.out.println(user.getName()));
```

Configurable path for configuration folder

- Until now it was mandatory to put the configuration files and folders in the „config“ folder of Glassfish
- In some deployment scenarios more flexibility is needed
- The root folder of all openMDM5 configuration files can now be specified with the system property „org.eclipse.mdm.configPath“
- If the system property is not found, the behaviour is the same as before.