

Oracle Configurator Cloud

Retrieving Multi-Row Attributes for an Item in PIM using a CX

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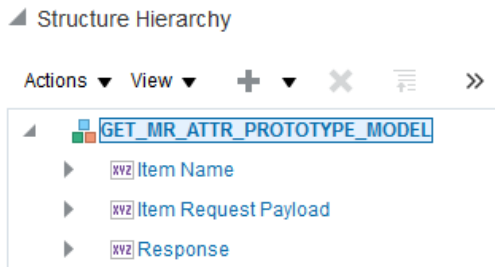
Introduction

Currently, Configurator Cloud does not have support for multi-row attributes that may be defined for a particular model or its components upon import from PIM into the Configurator Modeling Environment. This document describes a simple approach to retrieve all the attributes defined for an item in PIM using a CX. The example provided is just that and is not meant for production use. The sample code takes the *Item Name* for an item defined in PIM as an input and returns all the item attributes for the item, including multi-row attributes. Customers can use this sample code as a starting point for retrieving item attributes and using them within a CX rule to satisfy their specific modeling requirements.

Assumptions

The assumption this document makes is that you are conceptually familiar with the Oracle Fusion Supply Chain Management applications: Product Information Management and Configurator and are comfortable with the Groovy expression language.

Sample model structure used in the prototype:



Simple model, with an empty structure and three text features: Item Name, Item Request Payload and Response.

Multi-Row Attributes defined for item in PIM:

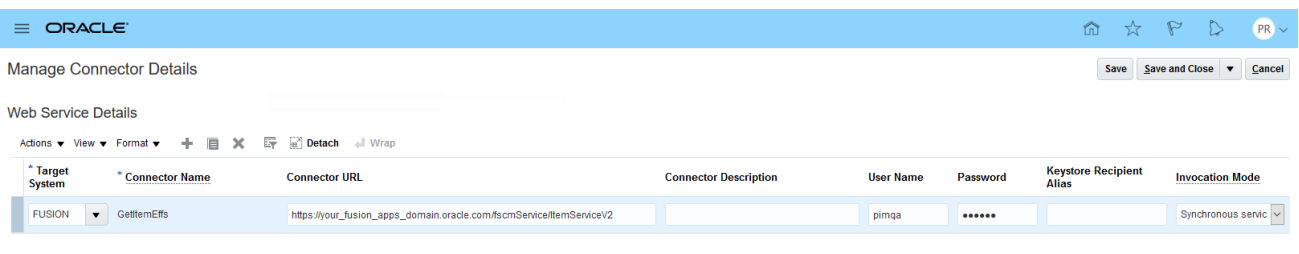
CZ Attribute Matrix

Actions View Format + X [List Icon] [Print Icon] Freeze Detach Wrap

Power Output	Temperature Class	Voltage	Power Factor
750	Medium	75	5
500	High	35	2

The above multi-row attributes will be among the attributes retrieved for the item specified at runtime from Configurator.

Create an external service connector in FSM:



Create an external service connector in the Functional Setup Manager (FSM) to invoke getItemVersions from PIM's itemServiceV2 service. Above is an example of the "Manage External Service Details for Extensions" setup under FSM that connects to the itemServiceV2 service i.e. <https://<<FADomain>>/fscmService/ItemServiceV2>.

CX Rule Definition:

Get Multi-Row Attributes: Details

▲

* Name

Description

Type

Definition

Base Node

Instantiation Scope Instance Instance Set

Event Bindings

+ x

Event	Event Scope	Class	Method
postValueChange	Base node	ScriptClass	getItemMultiRowAttribs()

CX rule with base node tied to the "Item Name" text feature, and a postValueChange (PVC) event that initiates a call to the getItemVersions operation in the itemServiceV2 service.

CX groovy code:

This code is associated with the text feature "Item Name". When the user specifies an item name, the code will execute and generate a request payload that will be displayed in the "Item Request Payload" text feature. A listing of all the item attributes for the item specified will be displayed in the "Response" text feature. To retrieve specific attributes by name and their values, the response can be parsed and formatted using a parser and XML formatting groovy utilities.

Note: The SOAP response from the service call can be larger than 32,000 characters which is the character size limit for a text feature. In our example we have truncated a specific portion of the output (characters 4000-36000) to fit within the "Response" text feature.

Groovy Code for the CX

```
import oracle.apps.scm.configurator.runtime.core.IRuntimeNode;
import oracle.apps.scm.configurator.runtime.core.ITextFeature;
import oracle.apps.scm.configurator.runtime.core.IBooleanFeature;
import oracle.apps.scm.configurator.runtime.core.IBomOptionClass;
import oracle.apps.scm.configurator.runtime.core.IConfiguration;
import oracle.apps.scm.configurator.runtime.core.SoapServiceResponse;
import oracle.apps.scm.configurator.runtime.core.SoapServiceRequest;
import oracle.apps.scm.configurator.runtime.core.ServiceException;

def getItemMultiRowAttribs() {
    config = cxEvent.getConfiguration();
    def baseNode = cxEvent.baseNode;
    IRuntimeNode root = (IRuntimeNode)config.getRootBomModel();
    def String configName;
    def boolean selections;
    selections = false;
    ITextFeature ip = (ITextFeature) root.getChildByName("Item Request Payload");
```

```

ITextFeature resp = (ITextFeature) root.getChildByName("Response");
ip.setTextValue("");
resp.setTextValue("");

//Get the item name for which you want multi-row attribute details
ITextFeature itemName = (ITextFeature) root.getChildByName("Item Name");

String stringResp;
SoapServiceResponse response;

//Build the item payload
StringBuffer xmlPayloadItem = new StringBuffer();
xmlPayloadItem.append("<typ:getItemVersions
xmlns:typ='http://xmlns.oracle.com/apps/scm/productModel/items/itemServiceV2/types/'>");
xmlPayloadItem.append("<typ:itemNumber> " + itemName.getTextValue() + "</typ:itemNumber>");
xmlPayloadItem.append("<typ:organizationCode> " + "V1" + "</typ:organizationCode>");
xmlPayloadItem.append("</typ:getItemVersions>");

ip.setTextValue(xmlPayloadItem.toString());

//Now call the service
try {
    // Invoke the external web service registered in FSM to retrieve item details
    response = config.invokeSoapService("GetItemEffs", xmlPayloadItem.toString());
    sb = response.getSoapBody();
    resp.setTextValue(sb.toString().substring(4000, 36000)); //The range of characters returned from the service
    call; text features have a limit of 32,000 characters
    stringResp = "";
} catch (ServiceException e) {
    resp.setTextValue("Exception response for getItemVersion details - " + e.getMessage());
    ((IBooleanFeature)baseNode).exclude();
    return;
}
}

```

Sample output response:

The sample output displays the multi-row attribute details for the item.

Sample Output Response

```

<ns14:ItemEFFBCZ_Attribute_MatrixPrivateVO
xmlns:ns9="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel/">
  <ns9:ContextCode>CZ_Attribute_Matrix</ns9:ContextCode>
  <ns9:CreatedBy>PIMQA</ns9:CreatedBy>
  <ns9:CreationDate>2019-07-12T21:38:12.185Z</ns9:CreationDate>
  <ns9:EffLineId>300100183132137</ns9:EffLineId>
  <ns9:InventoryItemId>300100183132086</ns9:InventoryItemId>
  <ns9:LastUpdateDate>2019-07-12T21:38:31.011Z</ns9:LastUpdateDate>
  <ns9:LastUpdateLogin>8CD1AA1D41980B2DE053CC5AF00AE9F8</ns9:LastUpdateLogin>
  <ns9:LastUpdatedBy>PIMQA</ns9:LastUpdatedBy>
  <ns9:ObjectVersionNumber>1</ns9:ObjectVersionNumber>
  <ns9:OrganizationId>204</ns9:OrganizationId>
  <ns9:CategoryCode>zcz_eff_ic5</ns9:CategoryCode>
  <ns13:RaiseEvent>Y</ns13:RaiseEvent>
  <ns13:IsPersistentAttributeUpdated>false</ns13:IsPersistentAttributeUpdated>
  <ns13:IsAddedToChildEntitiesMap>false</ns13:IsAddedToChildEntitiesMap>
  <ns13:IsImportCase>false</ns13:IsImportCase>
  <ns13:BulkloadRecCreated xsi:nil="true"/>
  <ns13:powerOutput>750</ns13:powerOutput>
  <ns13:RedLinepowerOutput xsi:nil="true"/>
  <ns13:temperatureClass>Medium</ns13:temperatureClass>
  <ns13:RedLinetemperatureClass xsi:nil="true"/>
  <ns13:voltage>75</ns13:voltage>

```

```

<ns13:RedLinevoltage xsi:nil="true"/>
<ns13:powerFactor>5</ns13:powerFactor>
<ns13:RedLinepowerFactor xsi:nil="true"/>
</ns14:ItemEFFBCZ__Attribute__MatrixPrivateVO>
<ns14:ItemEFFBCZ__Attribute__MatrixPrivateVO
xmlns:ns9="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel/">
<ns9:ContextCode>CZ Attribute Matrix</ns9:ContextCode>
<ns9:CreatedBy>PIMQA</ns9:CreatedBy>
<ns9:CreationDate>2019-07-12T21:32:58.129Z</ns9:CreationDate>
<ns9:EffLineId>300100183132093</ns9:EffLineId>
<ns9:InventoryItemId>300100183132086</ns9:InventoryItemId>
<ns9:LastUpdateDate>2019-07-12T21:33:46.142Z</ns9:LastUpdateDate>
<ns9:LastUpdateLogin>8CD1AA1D41980B2DE053CC5AF00AE9F8</ns9:LastUpdateLogin>
<ns9:LastUpdatedBy>PIMQA</ns9:LastUpdatedBy>
<ns9:ObjectVersionNumber>1</ns9:ObjectVersionNumber>
<ns9:OrganizationId>204</ns9:OrganizationId>
<ns9:CategoryCode>zcz_eff_ic5</ns9:CategoryCode>
<ns13:RaiseEvent>Y</ns13:RaiseEvent>
<ns13:IsPersistentAttributeUpdated>false</ns13:IsPersistentAttributeUpdated>
<ns13:IsAddedToChildEntitiesMap>false</ns13:IsAddedToChildEntitiesMap>
<ns13:IsImportCase>false</ns13:IsImportCase>
<ns13:BulkloadRecCreated xsi:nil="true"/>
<ns13:powerOutput>500</ns13:powerOutput>
<ns13:RedLinepowerOutput xsi:nil="true"/>
<ns13:temperatureClass>High</ns13:temperatureClass>
<ns13:RedLinetemperatureClass xsi:nil="true"/>
<ns13:voltage>35</ns13:voltage>
<ns13:RedLinev

```

Runtime Implementation of the CX:

Configure: GET_MR_ATTR_PROTOTYPE_MODEL

Save for Later Finish and Review Finish Cancel

Item Name zCZ_ALZ_EFF_SI1

Item Request Payload

```

<?xml:version="1.0" encoding="UTF-8" ?>
<?xml:stylesheet type="text/xsl" href="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel.xsl" ?>
<item xmlns="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel" itemNumber="zCZ_ALZ_EFF_SI1" organizationCode="V1">
  <getItems>
    <item>
      <contextCode>CZ Attribute Matrix</contextCode>
      <createdBy>PIMQA</createdBy>
      <creationDate>2019-07-12T21:32:58.129Z</creationDate>
      <effLineId>300100183132093</effLineId>
      <inventoryItemId>300100183132086</inventoryItemId>
      <lastUpdateDate>2019-07-12T21:33:46.142Z</lastUpdateDate>
      <lastUpdateLogin>8CD1AA1D41980B2DE053CC5AF00AE9F8</lastUpdateLogin>
      <lastUpdatedBy>PIMQA</lastUpdatedBy>
      <objectVersionNumber>1</objectVersionNumber>
      <organizationId>204</organizationId>
      <categoryCode>zcz_eff_ic5</categoryCode>
      <raiseEvent>Y</raiseEvent>
      <isPersistentAttributeUpdated>false</isPersistentAttributeUpdated>
      <isAddedToChildEntitiesMap>false</isAddedToChildEntitiesMap>
      <isImportCase>false</isImportCase>
      <bulkloadRecCreated>false</bulkloadRecCreated>
      <powerOutput>500</powerOutput>
      <redLinePowerOutput>false</redLinePowerOutput>
      <temperatureClass>High</temperatureClass>
      <redLineTemperatureClass>false</redLineTemperatureClass>
      <voltage>35</voltage>
    </item>
  </getItems>
</item>

```

Response

```

<?xml:version="1.0" encoding="UTF-8" ?>
<?xml:stylesheet type="text/xsl" href="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel.xsl" ?>
<item xmlns="http://xmlns.oracle.com/apps/scm/productCatalogManagement/advancedItems/protectedModel">
  <contextCode>CZ Attribute Matrix</contextCode>
  <createdBy>PIMQA</createdBy>
  <creationDate>2019-07-12T21:32:58.129Z</creationDate>
  <effLineId>300100183132093</effLineId>
  <inventoryItemId>300100183132086</inventoryItemId>
  <lastUpdateDate>2019-07-12T21:33:46.142Z</lastUpdateDate>
  <lastUpdateLogin>8CD1AA1D41980B2DE053CC5AF00AE9F8</lastUpdateLogin>
  <lastUpdatedBy>PIMQA</lastUpdatedBy>
  <objectVersionNumber>1</objectVersionNumber>
  <organizationId>204</organizationId>
  <categoryCode>zcz_eff_ic5</categoryCode>
  <raiseEvent>Y</raiseEvent>
  <isPersistentAttributeUpdated>false</isPersistentAttributeUpdated>
  <isAddedToChildEntitiesMap>false</isAddedToChildEntitiesMap>
  <isImportCase>false</isImportCase>
  <bulkloadRecCreated>false</bulkloadRecCreated>
  <powerOutput>500</powerOutput>
  <redLinePowerOutput>false</redLinePowerOutput>
  <temperatureClass>High</temperatureClass>
  <redLineTemperatureClass>false</redLineTemperatureClass>
  <voltage>35</voltage>
</item>

```

After specifying an item name, in this case "zCZ_ALZ_EFF_SI1", an item request payload is generated and submitted to the service and the formatted return messages is displayed in the *Response* text feature.



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