Informatica

Informatica® Cloud Data Integration
Summer 2018

Oracle CRM Cloud V1 Connector

Informatica Cloud Data Integration Oracle CRM Cloud V1 Connector
Summer 2018
October 2022

© Copyright Informatica LLC 2018, 2022

This software and documentation are provided only under a separate license agreement containing restrictions on use and disclosure. No part of this document may be reproduced or transmitted in any form, by any means (electronic, photocopying, recording or otherwise) without prior consent of Informatica LLC.

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation is subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License.

Informatica, the Informatica logo, Informatica Cloud, and PowerCenter are trademarks or registered trademarks of Informatica LLC in the United States and many jurisdictions throughout the world. A current list of Informatica trademarks is available on the web at https://www.informatica.com/trademarks.html. Other company and product names may be trade names or trademarks of their respective owners.

Portions of this software and/or documentation are subject to copyright held by third parties. Required third party notices are included with the product.

See patents at https://www.informatica.com/legal/patents.html.

DISCLAIMER: Informatica LLC provides this documentation "as is" without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of noninfringement, merchantability, or use for a particular purpose. Informatica LLC does not warrant that this software or documentation is error free. The information provided in this software or documentation may include technical inaccuracies or typographical errors. The information in this software and documentation is subject to change at any time without notice.

NOTICES

This Informatica product (the "Software") includes certain drivers (the "DataDirect Drivers") from DataDirect Technologies, an operating company of Progress Software Corporation ("DataDirect") which are subject to the following terms and conditions:

1. THE DATADIRECT DRIVERS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.
2. IN NO EVENT WILL DATADIRECT OR ITS THIRD PARTY SUPPLIERS BE LIABLE TO THE END-USER CUSTOMER FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES ARISING OUT OF THE USE OF THE ODBC DRIVERS, WHETHER OR NOT INFORMED OF THE POSSIBILITIES OF DAMAGES IN ADVANCE. THESE LIMITATIONS APPLY TO ALL CAUSES OF ACTION, INCLUDING, WITHOUT LIMITATION, BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, MISREPRESENTATION AND OTHER TORTS.

The information in this documentation is subject to change without notice. If you find any problems in this documentation, report them to us at infa_documentation@informatica.com.

Informatica products are warranted according to the terms and conditions of the agreements under which they are provided. INFORMATICA PROVIDES THE INFORMATION IN THIS DOCUMENT "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT.

Publication Date: 2022-10-06

Table of Contents

Preface 4

Informatica Resources 4

- Informatica Documentation 4
- Informatica Intelligent Cloud Services web site 4
- Informatica Intelligent Cloud Services Communities 4
- Informatica Intelligent Cloud Services Marketplace 4
- Data Integration connector documentation 5
- Informatica Knowledge Base 5
- Informatica Intelligent Cloud Services Trust Center 5
- Informatica Global Customer Support 5

Chapter 1: Introduction to Oracle CRM Cloud V1 Connector 6

Oracle CRM Cloud V1 Connector assets 6

Administration of Oracle CRM Cloud V1 Connector 6

- Generating JSON Web Tokens ID (JWT ID) 7

Chapter 2: Oracle CRM Cloud V1 connections 9

Oracle CRM Cloud V1 connections properties 9

Chapter 3: Mappings and mapping tasks with Oracle CRM Cloud V1 Connector 10

Oracle CRM Cloud V1 Source Transformation in Mappings 10

- Source Transformation Properties 10
- Oracle CRM Cloud V1 Advanced Source Properties in Mappings 11
- Source Transformation Mapping Example 11

Oracle CRM Cloud V1 Target Transformation in Mappings 14

- Target Transformation Properties 14
- Oracle CRM Cloud V1 Advanced Target Properties in Mappings 14
- Input settings properties 14
- Target Transformation Mapping Example 15

Oracle CRM Cloud V1 Midstream Transformation in Mappings 16

- Midstream Transformation Properties 16
- Oracle CRM Cloud V1 Advanced Midstream Properties in Mappings 17
- Midstream Transformation Mapping Example 17

Index 20

Preface

Use *Oracle CRM Cloud V1 Connector* to learn how to read from or write to the Oracle CRM Cloud application by using Cloud Data Integration. Learn to create a connection, develop, and run mappings and mapping tasks in Cloud Data Integration.

Informatica Resources

Informatica provides you with a range of product resources through the Informatica Network and other online portals. Use the resources to get the most from your Informatica products and solutions and to learn from other Informatica users and subject matter experts.

Informatica Documentation

Use the Informatica Documentation Portal to explore an extensive library of documentation for current and recent product releases. To explore the Documentation Portal, visit https://docs.informatica.com.

If you have questions, comments, or ideas about the product documentation, contact the Informatica Documentation team at infa_documentation@informatica.com.

Informatica Intelligent Cloud Services web site

You can access the Informatica Intelligent Cloud Services web site at http://www.informatica.com/cloud. This site contains information about Informatica Cloud integration services.

Informatica Intelligent Cloud Services Communities

Use the Informatica Intelligent Cloud Services Community to discuss and resolve technical issues. You can also find technical tips, documentation updates, and answers to frequently asked questions.

Access the Informatica Intelligent Cloud Services Community at:

https://network.informatica.com/community/informatica-network/products/cloud-integration

Developers can learn more and share tips at the Cloud Developer community:

https://network.informatica.com/community/informatica-network/products/cloud-integration/cloud-developers

Informatica Intelligent Cloud Services Marketplace

Visit the Informatica Marketplace to try and buy Data Integration Connectors, templates, and mapplets:

https://marketplace.informatica.com/

Data Integration connector documentation

You can access documentation for Data Integration Connectors at the Documentation Portal. To explore the Documentation Portal, visit https://docs.informatica.com.

Informatica Knowledge Base

Use the Informatica Knowledge Base to find product resources such as how-to articles, best practices, video tutorials, and answers to frequently asked questions.

To search the Knowledge Base, visit https://search.informatica.com. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at KB_Feedback@informatica.com.

Informatica Intelligent Cloud Services Trust Center

The Informatica Intelligent Cloud Services Trust Center provides information about Informatica security policies and real-time system availability.

You can access the trust center at https://www.informatica.com/trust-center.html.

Subscribe to the Informatica Intelligent Cloud Services Trust Center to receive upgrade, maintenance, and incident notifications. The Informatica Intelligent Cloud Services Status page displays the production status of all the Informatica cloud products. All maintenance updates are posted to this page, and during an outage, it will have the most current information. To ensure you are notified of updates and outages, you can subscribe to receive updates for a single component or all Informatica Intelligent Cloud Services components. Subscribing to all components is the best way to be certain you never miss an update.

To subscribe, go to https://status.informatica.com/ and click **SUBSCRIBE TO UPDATES**. You can then choose to receive notifications sent as emails, SMS text messages, webhooks, RSS feeds, or any combination of the four.

Informatica Global Customer Support

You can contact a Customer Support Center by telephone or online.

For online support, click **Submit Support Request** in Informatica Intelligent Cloud Services. You can also use Online Support to log a case. Online Support requires a login. You can request a login at https://network.informatica.com/welcome.

The telephone numbers for Informatica Global Customer Support are available from the Informatica web site at https://www.informatica.com/services-and-training/support-services/contact-us.html.

CHAPTER 1

Introduction to Oracle CRM Cloud V1 Connector

You can use Oracle CRM Cloud V1 Connector to read data from or write data to Oracle CRM Cloud.

When you use Oracle CRM Cloud V1 Connector, you can create a Oracle CRM Cloud V1 connection and use the connection in Data Integration mappings and tasks. You can use the Oracle CRM Cloud V1 Connector in a Source transformation, Target transformation, and midstream transformation in a mapping.

You can switch mappings to advanced mode to include transformations and functions that enable advanced functionality.

Note: Oracle CRM Cloud V1 Connector does not support lookup and partition.

Oracle CRM Cloud V1 Connector assets

Create assets in Data Integration to integrate data using Oracle CRM Cloud V1 Connector.

When you use Oracle CRM Cloud V1 Connector, you can include the following Data Integration assets:

- Mapping
- Mapping task

For more information about the Oracle CRM Cloud object types, click https://docs.oracle.com/en/cloud/saas/sales/r13-update18a/faaps/index.html

For more information about configuring assets and transformations, see *Mappings*, *Transformations*, and *Tasks* in the Data Integration documentation.

Administration of Oracle CRM Cloud V1 Connector

Before you use an Oracle CRM Cloud V1 Connector to read or write data to Oracle CRM Cloud, you must perform certain prerequisite tasks.

Generating JSON Web Tokens ID (JWT ID)

If you use the JWT authentication type in connection property to create an Oracle CRM Cloud V1 connection, perform the following prerequisite tasks to generate a JWT ID:

1. Create a sandbox to create the custom objects.
2. Activate the sandbox.
3. Log in to the sandbox with the same user name after you activate the sandbox.
4. Navigate to the **Application Composer** tab.
5. Select **Sales** from the **Application** drop down menu.
6. Create a new custom object as `JWTObject` in the **Custom Objects** section.

   A `JWTObject` new custom object is created.
7. Expand the `JWTObject` custom object and navigate to the **Server Scripts** tab.
8. Create a new custom function for the `JWTObject` custom object with the following values in the **Custom Function** tab:
   1. **Function Name** as **getJWTToken**.
   2. **Returns** as **String**.
   3. **Visibility** as **Callable by External Systems**.
   4. **Privileged option** as **true**.
9. Paste the following groovy script to generate a JWT token in the function body:

```
def jwt = new oracle.apps.fnd.applcore.common.SecuredTokenBean().getTrustToken();
return jwt;
```

10. Expand the `JWTObject` custom object and navigate to the **Security** tab.
11. Provide the create and read permissions to create a record in the **Security** tab.
12. You must create a single row of data within the `JWTObject_c` custom object before Oracle CRM Coud V1 Connector executes the REST Service to retrieve the JWT token.
13. Create a record within the custom object by using the POST request.

    Use the PostMan application to execute the following request with the values:

```
HTTP Method: POST
URL: https://adc-fap1470-fa-ext.oracledemos.com/crmRestApi/resources/latest/
JWTObject_c
(
    Endpoint URL: https://adc-fap1470-fa-ext.oracledemos.com ,
    Rest operation: /crmRestApi/resources/latest/JWTObject_c)
    Content-Type: application/vnd.oracle.adf.resourceitem+json
    Request Body: {
        "RecordName": "JWT Record 1"
    }
)
```

14. Retrieve the data of the record `Id` using the GET request in our custom object function call.

    Use the PostMan application to execute the following request with the values:

```
HTTP Method: GET
URL: https://adc-fap1470-fa-ext.oracledemos.com/crmRestApi/resources/latest/
JWTObject_c
```

Note: The JWT ID is the `Id` of the record created for the `JWTObject_c` custom object.

15. Provide the `Id` in the **JWT ID** connection property.

    The following image shows an example of the record `Id`:



CHAPTER 2

Oracle CRM Cloud V1 connections

Create an Oracle CRM Cloud V1 connection to securely read data from or write data to Oracle CRM Cloud. You can use an Oracle CRM Cloud V1 connection to specify sources and targets in mappings and mapping tasks.

Oracle CRM Cloud V1 connections properties

The following table describes the Oracle CRM Cloud V1 connection properties:

Connection Property	Description
Runtime Environment	The name of the runtime environment where you want to run the tasks.
Endpoint URL	The URL of CRM application server.
Authentication Type	The type of user authentication to connect to the Oracle CRM Cloud application. You can select the following authentication types: - Basic Authentication - JWT Authentication
Username	The user name of the Oracle CRM Cloud account.
Password	The password for the Oracle CRM Cloud account.
JWT ID	The ID of the JWT authentication type. Enter the JWT ID if you select the authentication type as **JWT Auth**.
REST API Version	The version number of the CRM REST API.

CHAPTER 3

Mappings and mapping tasks with Oracle CRM Cloud V1 Connector

Use the Data Integration Mapping Designer to create a mapping. When you create a mapping, you configure a source or target to represent an Oracle CRM Cloud V1 object. In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

Oracle CRM Cloud V1 Source Transformation in Mappings

When you configure a Source transformation, select an Oracle CRM Cloud V1 connection and choose an Oracle CRM Cloud operation to represent an Oracle CRM Cloud V1 source.

Source Transformation Properties

You can use one or more Source transformations in a mapping.

General

Use to configure the name and a description for the source.

Source

Use to select the connection and operation. You can configure the request options and advanced source properties.

Field Mapping

Use to map elements of the response structure with the output fields.

Fields

Use to edit the source field metadata that you want to use in the mapping.

Oracle CRM Cloud V1 Advanced Source Properties in Mappings

In a mapping, you can configure or create a Source transformation and configure the advanced properties in the **Source** page of the Mapping Task wizard.

The following table describes the advanced properties that you can configure in a Source transformation:

Property	Description
Tracing Level	Amount of detail that appears in the log for the Source transformation. Use the following tracing levels: - Terse - Normal - Verbose Initialization - Verbose Default is normal.
Cache Size for Web Service Response (KB)	Not Applicable. **Note:** Do not change the value of this property unless Informatica Global Customer Support instructs you to do so.

Source Transformation Mapping Example

You can map an Oracle CRM Cloud V1 source to a target and use the mapping to perform a mapping task.

To read and download the data from the Oracle CRM Cloud application, perform the following tasks:

1. In Data Integration, click **New** > **Mapping** > **Create**.

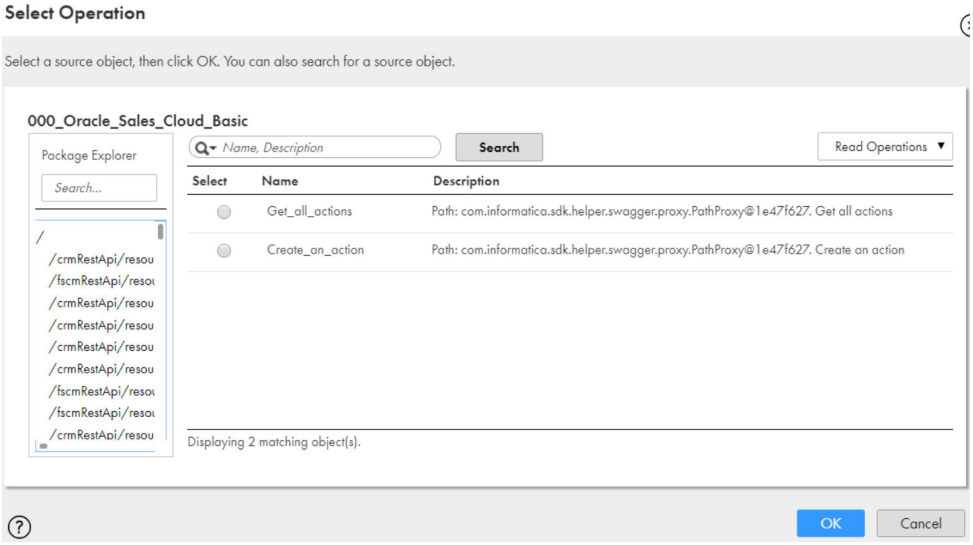
   The **New Mapping** dialog box appears.
2. Enter a name and description for the mapping.
3. On the **Source** tab, perform the following steps:
   1. In the general properties, specify a name and description.
      The following image shows a sample of the Oracle CRM Cloud V1 mapping:

   2. In the **Connection** field, select the configured Oracle CRM Cloud V1 connection to connect to the Oracle CRM Cloud application.
   3. In the **Operation** field, select the required object in the **Package Explorer** section and select the required operation.

      Note: When you select an object in the **Package Explorer** section, all the read and write operations appear in the operation selection section. You must select the read related operations to read data from an Oracle CRM Cloud V1 source.

The following image shows all the list of the operations:



4. In the **Request Options** section, click **Configure** to configure the request message.
   Specify the request message and attributes in the JSON format. Request messages are different for each of the objects and you can configure the request message if you want to filter the data that you want to read.

   The following example shows a sample request message for the Actions object:

```
{
  "expand" : " ",
  "fields" : " ",
  "onlyData" : " ",
  "dependency" : " ",
  "limit" : 0,
  "offset" : 0,
  "totalResults" : " ",
  "q" : " ",
  "orderBy" : " ",
  "finder" : " "
}
```

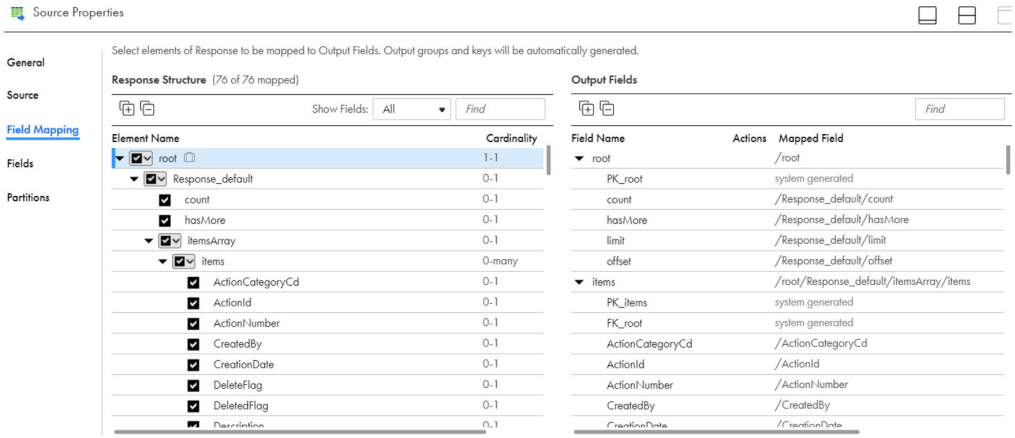
   Note: In the request message, you can provide the maximum value of the **Limit** property as 499. The default value is 25.

5. In the **Advanced Properties** section, you can set the tracing level to normal and use the default cache size of 1024.

4. On the **Field Mapping** tab, you can select the elements in the response structure that you want to map to the output fields.

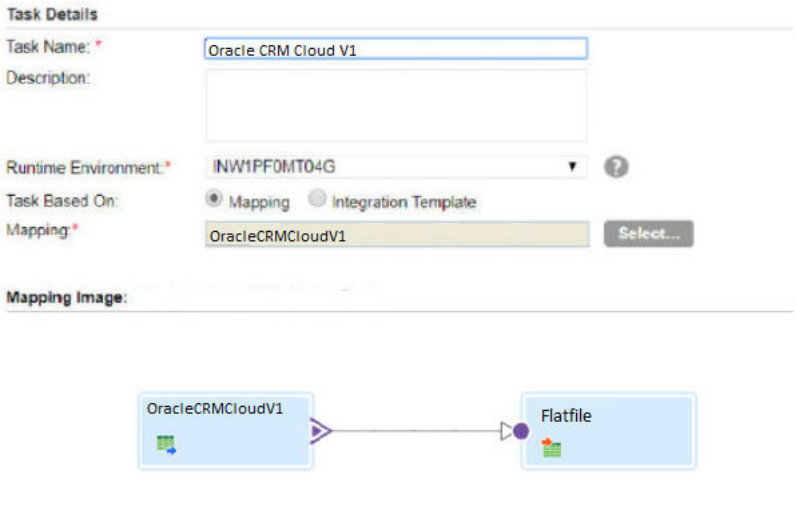
   Select the check box and expand the option. Select **Map All Decendants** > **Output Group** to choose the source from where you want to read.

The following image shows the response structure on the left pane in a hierarchical format and the output groups on the right pane in a relational format:



5. On the Target transformations, specify the target connection, target type, object, and operation for the target transformations.
6. Map the source and target.
7. Click **Save and Run** the mapping.
8. In Data Integration, click **New** > **Task**.
9. Click **Mapping Task** > **Create** and select the mapping for the task.

   The following image shows the Mapping Task wizard with the applied mapping:



Oracle CRM Cloud V1 Target Transformation in Mappings

When you configure a Target transformation, select an Oracle CRM Cloud V1 connection and choose an Oracle CRM Cloud operation to represent an Oracle CRM Cloud V1 target.

Target Transformation Properties

You can use one or more Target transformations in a mapping.

When you select a target transformation, the **Properties** panel displays the following sections:

General

Use to configure the name and a description for the target.

Incoming Fields

Includes the field rules that define the data written to the target. Allows a preview of the target fields.

Target

Use to select the connection and the operation, and to configure the advanced target properties.

Target Fields

Not applicable for an Oracle CRM Cloud V1 targets.

Field Mapping

Use to define the field mappings from the upstream transformation to the target.

Oracle CRM Cloud V1 Advanced Target Properties in Mappings

In a mapping, you can configure or create a Target transformation and configure the advanced properties in the **Target** page of the Mapping Task wizard.

The following table describes the advanced properties that you can configure in a Target transformation:

Property	Description
Tracing Level	Amount of detail that appears in the log for the Source transformation. Use the following tracing levels: - Terse - Normal - Verbose Initialization - Verbose Default is normal.
Cache Size for Web Service Request (KB)	Not Applicable. **Note:** Do not change the value of this property unless Informatica Global Customer Support instructs you to do so.

Input settings properties

You can enable **Sorted Input** under **Input Settings**. Sorted Input indicates that input data is presorted. Default is disabled.

Enable sorted input for better performance.

Note: When **Sorted Input** is enabled and the input is not sorted, the Secure Agent does not process input and the mapping fails.

Target Transformation Mapping Example

You can map a source to an Oracle CRM Cloud V1 target and use the mapping to perform a mapping task.

To read data from a source and write to an Oracle CRM Cloud V1 target, perform the following tasks:

1. In Data Integration, click **New** > **Mapping** > **Create**.

   The **New Mapping** dialog box appears.
2. Enter a name and description for the mapping.
3. On the Source transformation, specify a name and description in the general properties.
4. On the Target transformation and perform the following tasks on the **Target** tab:
   1. In the **Connection** field, select the Oracle CRM Cloud V1 connection to connect to Oracle CRM Cloud application.
   2. In the **Operation** field, select the required object in the **Package Explorer** section and select the required operation.

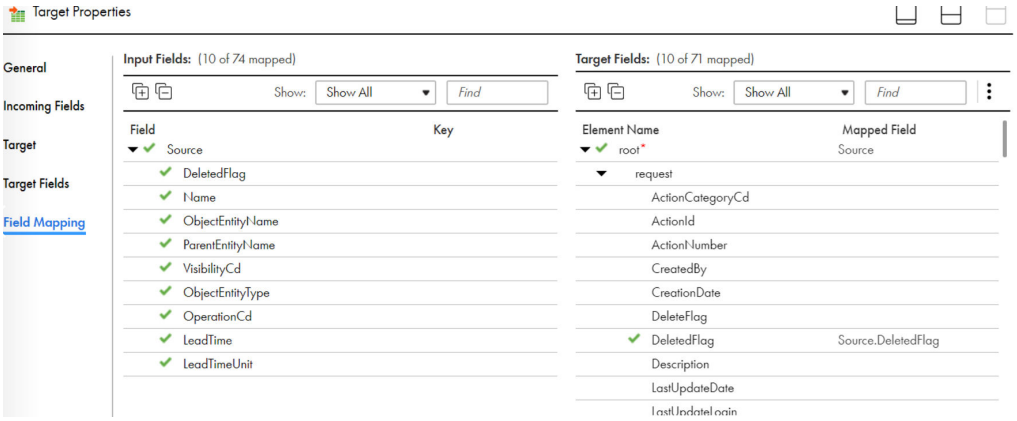
      Note: When you select an object in the **Package Explorer** section, all the read and write operations appear in the operation selection section. You must select the write related operations to write data to an Oracle CRM Cloud V1 target.

      The following image shows the list of all the operations:

   3. In the **Advanced Properties** section, you can set the cache size and the transaction commit interval.
5. On the **Field Mapping** tab, select the input elements to map to the target fields.

The following image shows all the mapped fields between the input file and the Oracle CRM Cloud V1 target:



6. Map the source and target.
7. Click **Save and Run** the mapping.
8. In Data Integration, click **New** > **Task**.
9. Click **Mapping Task** > **Create** and select the mapping for the task.

Oracle CRM Cloud V1 Midstream Transformation in Mappings

Before you configure a midstream transformation, you must create a business service. Select an Oracle CRM Cloud V1 connection and choose an Oracle CRM Cloud operation when you create a business service.

Midstream Transformation Properties

When you configure the midstream transformation, select the business service and the operation on the **Web Service** tab.

When you select a midstream transformation, the **Properties** panel displays the following areas and information:

General

Use to configure the name and a description for the transformation.

Incoming Fields

Includes the field rules that define the data that you read from the source. Allows a preview of the source fields.

Web Service

Specifies the business service and the operation that you want to perform in an Oracle CRM Cloud application.

Request Mapping

Maps the incoming fields from source file to elements in request structure.

Response Mapping

Maps the selected elements from the response structure with the output fields. You can view the response structure on the **Response Mapping** tab. When you map the elements from the response structure to the output fields, the Secure Agent creates the output groups, along with the primary and foreign keys for the field names.

Output Fields

Displays the fields included in the mapping.

Advanced

The properties required to configure a midstream transformation.

Oracle CRM Cloud V1 Advanced Midstream Properties in Mappings

The following table describes the advanced properties that you can configure for a midstream transformation:

Property	Description
Cache Size for Web Service Request (KB)	Memory available for the web service request. If the request is more than 100 KB, you can increase the cache size. Default is 100 KB.
Cache Size for Web Service Response (KB)	Memory available for the web service response. If the web service response contains many rows or columns, you might want to increase the cache size. Default is 100 KB.
Allow Input Flush	Not applicable.
Transaction Commit Control	Not applicable.

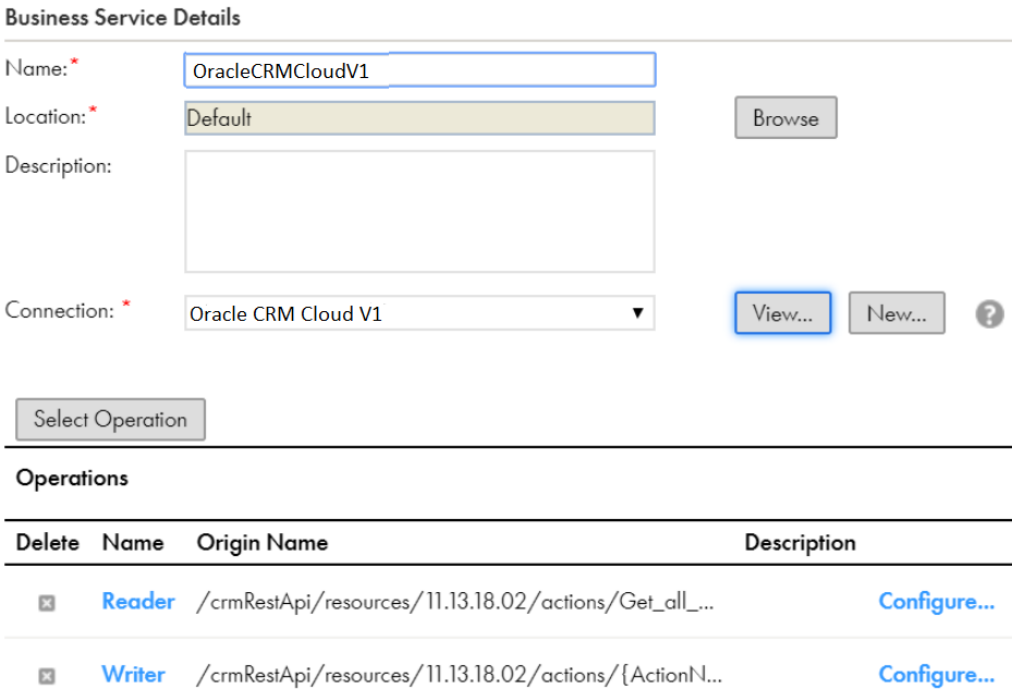
Midstream Transformation Mapping Example

To read data from an Oracle CRM Cloud V1 source and to write the data to a flat file, perform the following tasks:

1. Create an Oracle CRM Cloud V1 connection to read data from an Oracle CRM Cloud V1 source.
2. In Data Integration, click **New** > **Components** > **Business Sevice**.

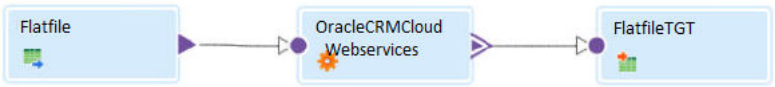
   The **Business Sevice Details** dialog box appears.

The following image shows the configured business service that associates an Oracle CRM Cloud V1 connection and an operation:



3. On the Web Services transformation, specify a name and description in the general properties.

   The following image shows the source, web service, and target in the Oracle CRM Cloud V1 mapping:



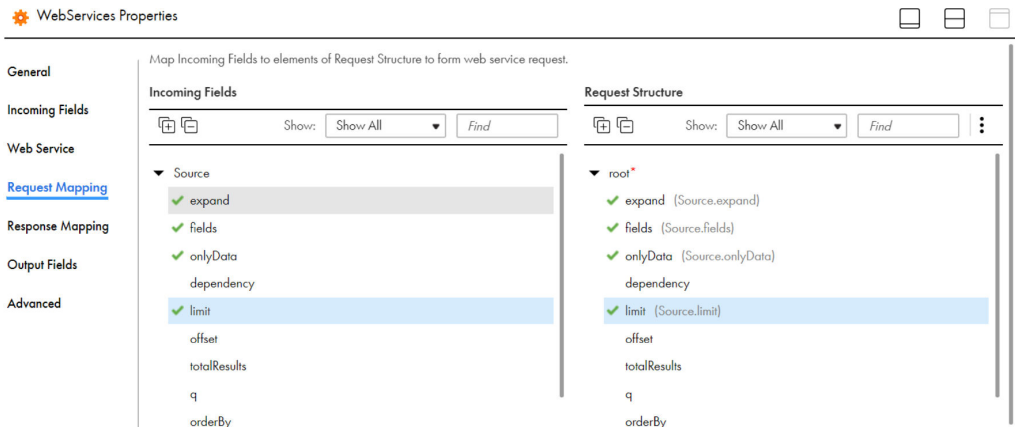
4. On the **Web Service** tab, select the business service and the operation that you configured.

   The following image shows the configured web service:



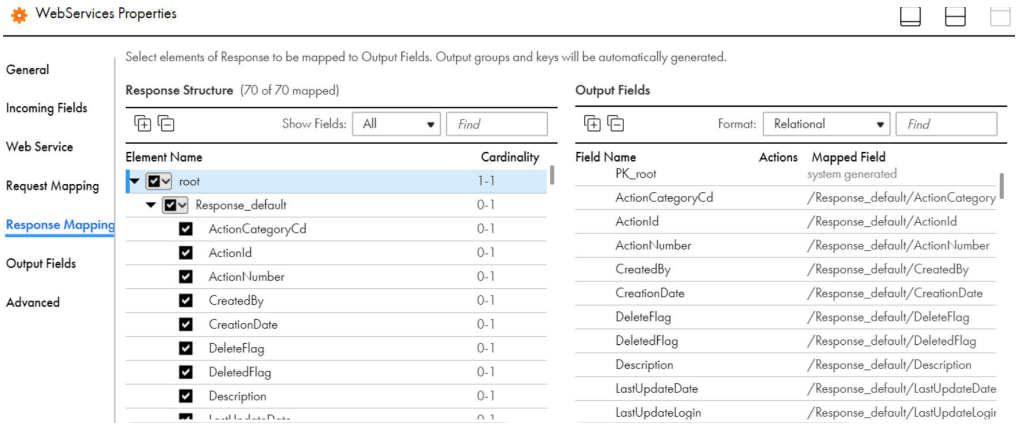
5. On the **Request Mapping** tab, map the incoming fields from the source to the elements of Request Structure to form a web service request.

The following image shows the fields that you map:



6. On the **Response Mapping** tab, select the source details fields that you want to write to the target file on the **Response Structure**.

   The following image shows the source details fields that you want to write to the target file:

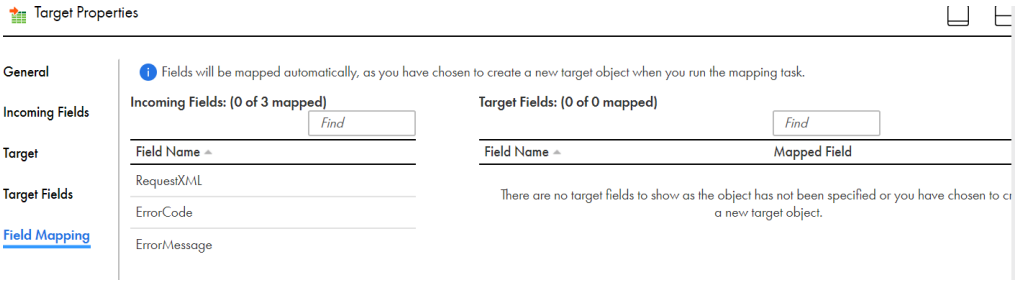


7. On the **Advanced** tab, you can specify the cache size details.

   The fields that you select from the **Response Structure** of the Web Service transformation appear as incoming fields for the target object.

8. If required, map the incoming fields to the flat file fields.

   The following image shows the mapped fields between the source field and the target field:



9. Click **Task Wizards** > **Mapping Task**, and select the mapping for the task.
10. When you save and run the mapping, the Secure Agent reads the data that you map on the **Request Mapping** tab from the Oracle CRM Cloud application and writes the data to the corresponding flat files.

INDEX

C

Cloud Application Integration community
  URL 4
Cloud Developer community
  URL 4
connections
  Oracle CRM Cloud V1 9

D

Data Integration community
  URL 4

G

Generate JJWT ID
  prerequisite tasks 7

I

Informatica Global Customer Support
  contact information 5
Informatica Intelligent Cloud Services
  web site 4
Input Settings Properties 14

M

maintenance outages 5
midstream transformation
  advanced properties 17
  example 17
  properties 16

O

Oracle CRM Cloud V1
  assets 6
Oracle CRM Cloud V1 *(continued)*
  connection properties 9
  supported object types 6
Oracle CRM Cloud V1 Connector
  administration 6
  overview 6
Oracle CRM Cloud V1 mapping
  advanced source properties 11
  advanced target properties 14
  midstream transformation 16
  source transformation 10
  target transformation 14

S

source transformation
  mapping example 11
  properties 10
status
  Informatica Intelligent Cloud Services 5
system status 5

T

target transformation
  mapping example 15
  properties 14
trust site
  description 5

U

upgrade notifications 5

W

web site 4