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Preface

This preface introduces information sources that can help you use the application and this guide.

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1 About Daily Extract

About the Daily Extract

The Daily Extract functionality extracts data from Oracle Field Service Cloud for storage, analysis and reporting of events. The extracted data contain details of the main entities such as activities, inventory, and messages and are stored as a set of XML files in the Daily Extract database.

You can configure the files that are extracted at the time of implementing the application and later modify as necessary.

Note: To access data elements that are not described here, use a different interface, such as REST APIs.

Set Permission for Daily Extract Configuration

User types that have appropriate permissions can define and modify the Daily Extract configuration. Permission is granted to user types through the Configuration tab.

To set up permissions for daily extract configuration:

1. Click Configuration.
2. In the Configuration page, select User Types.
   The User type info screen opens with a list of user types in the left column.
3. Select the user type you want to allow to configure the Daily Extract fields.
4. Click the Screen configuration tab.
5. In the Manage screen, click Configuration.
   The Configuration screen opens with a list of actions in the left panel.
6. Scroll down the Actions column and select Outbound Integration Channels.
   The screen displays a list of labels in various languages, and the bottom of the screen contains the visibility information.
7. Click Add new visibility.
   The Outbound Integration Channels visibility window displays.
8. Click Save.
9. Click Close in the lower left corner of the screen.

About Extraction Files

The Daily Extract provides a set of XML files containing data for various entities such as activities and resources.
Data on the details of different entities processed during the extraction period or available by the end of extraction period can be collected and extracted in the files. This data can be divided into data sets, that is, groups of details related to one and the same entity in the application. In some cases data related to one entity is divided in several different data sets.

**Note:** Data from several data sets cannot be extracted in one file, but data from one data set can be divided to be extracted in any number of files. For example, the file created for the Activity Fields entity cannot also include data for the Resource Fields entity. At the same time, one file can refer to several database tables according to the exported field's configuration. For example, an Activity Fields file may include data from the queue table if it has been configured to do so.

### About the Extraction Period

The Daily Extract files contain the collected and extracted data for entities that are processed:

- during the extraction period — If an entity is available in the application at any time during the extraction period, it will be extracted.
- by the end of the extraction period — Entities that were created during the extraction period but deleted before the end of the period will not be extracted.

Daily Extract files are typically generated once a day and contain all data that is processed since the previous extraction. If your company does not support overnight shifts, the extraction period covers the time since the previous extraction and until the end of the previous day. If your company supports overnight shifts, the Daily Extract data for the previous day is available for extraction after the overnight expiration, that is, at 00:00 AM + overnight. If the data is extracted before that time, the resulting files will contain data for two days before.

**Note:** A company can operate in several time zones, however, the Daily Extract functionality extracts data according to the time zone defined for the company in Business Rules. Only the following files are extracted in Greenwich Mean Time:

- General Message Details
- Message Text Details
- PAS Answer Details
- gpstracks Details

Upon the first extraction, all available data is collected.

### Create Daily Extract Files

Users who have permission to configure the Daily Extract can access the Outbound Integration Channels screen and modify the set of files for the Daily Extract and their content.

The Outbound Integration Channels screen lists the files that will be extracted. Each row shows an entity and the extraction file it is related to, for example, the GPS Track entity and (COMPANY_NAME)_gps_tracks.xml file. The icon to the far right in the row lets you display the fields associated with the entity in the extraction file, and lets you remove the file.
To create daily extract files:

1. Click the **Configuration** tab and select **Outbound Integration Channels**.
2. On the **Outbound Integration Channels** screen, click **Add new**.
   
   The **Add configuration** window opens.
3. Click Daily Extract and select the entity containing the data you want to extract.
   
   Examples for all entities can be found in the **About Extraction Data Sets** topic.
4. Type the file name in the field using the format `{COMPANY_NAME}_filename.xml`.
   
   **Note:** The file name must include the `{COMPANY_NAME}_` prefix. All Daily Extract files are created in the XML format.
5. Click **Submit**.
   
   The **Add configuration** window closes and the new configuration appears in the list on the **Daily Extract** page.

**Configure Daily Extract File Structure**

You can configure the fields associated with the Daily Extract channel.

To add or remove the fields associated with the Daily Extract files of an entity:

1. Click **Configuration** and select **Outbound Integration**.
2. Click the **Daily Extract** channel to configure fields.
3. In the **Daily Extract** screen, click the Properties icon next to the field to configure.
4. To add fields to the entity, do the following:
   a. Click the Properties icon corresponding to that row and select **Fields** from the drop down menu.
      
      This figure shows the Properties icon to configure fields:
   b. Click the **Plus** icon and select the required field that you want to add to the entity.
   c. Click **Add** and Click **OK**.
5. To delete any field from the list, select **Delete** from the drop-down menu.
   
   The fields you deleted are removed from the **Field List** immediately.

**Remove Daily Extract Files**

You can remove the Daily Extract files you no longer want to use permanently. Once removed, you cannot retrieve these files.

To remove daily extract files:

1. On the **Daily Extract** screen, click the icon to the far right in the row for the file you want to delete.
This figure shows the drop-down menu with Fields and Remove options that appear when you select Properties icon in the Daily Extract Configuration screen.

2. Select **Remove**.
3. Click **OK**.

The configuration is removed from the list on the **Daily Extract** screen.

## Download Daily Extract Files via REST Core API

You can use the Core API REST interface to access the Daily Extract files.

To access Daily Extract files using the Core API, you must install the cURL utility. You must also install the jq command-line processor if the target file list is unknown and the files are to be obtained from Oracle Field Service Cloud side.

Example files are shown below and may be modified according to your needs.

> **Note:** For simplification of the sample code, these demo scripts have omitted argument and response validation.

### credentials.sh

The credentials file must contain the company name, API user, and a valid password.

```bash
#!/bin/sh
# Credentials
export COMPANY=""
export LOGIN="api_user_name"
export PASSWORD=""

# API URL
export URL="https://api.etadirect.com"
```

### file_list.sh<DATE>

To see a list of exported files, use the sample code with the date argument in YYYY-MM-DD format.

```bash
#!/bin/sh
# Arguments
DATE="$1"

./credentials.sh

curl -u ${LOGIN}:${PASSWORD} ${URL}/rest/ofscCore/v1/folders/dailyExtract/folders/${DATE}/files/?company=${COMPANY} | jq -r '.files.items[].name'
```

### get_file.sh<DATE><FILENAME>

```bash
#!/bin/sh
# Arguments
DATE="$1"
FILENAME="$2"

./credentials.sh

curl -u ${LOGIN}:${PASSWORD} ${URL}/rest/ofscCore/v1/folders/dailyExtract/folders/${DATE}/files/?company=${COMPANY} | jq -r '.files.items[].name'
```
Create a New Outbound Channel

You can now create new channels for Oracle BI Cloud Service and Oracle Database as a Service using this configuration page. Daily extract option will be available by default in this page. After creating new channels, you can transfer data in real time to your Oracle BI Cloud Service or Oracle Database as a Service instance.

To add a new Outbound Integration channel:

1. Click Configuration and select Outbound integration.
   The Outbound Integration Channels configuration window opens

2. To create a new channel, click Add.
   The Add Channel dialog opens.

3. Select the Channel Type from the drop-down list.
   - If you select Business Intelligence Cloud Service, the Add Channel dialog displays the Name, URL and Identity Domain fields.

   The image shows the Add Channel dialog options for Oracle BI Cloud Service.
If you select **Database as a Service**, the Add Channel dialog displays the Name, Host, Port, Connect with SID and Connect with Service Name fields.

The image shows the Add Channel dialog options for Oracle Database as a Service.

4. Complete the fields and click OK to add the channel.

The newly added outbound channel will now be available in the outbound integration page. Data transmission to Oracle BI Cloud Service or Oracle Database as a Service displayed in this page will be reset every day (24 hours). The data processing and transmission depends on the volume of data stored. You may expect a delay in transferring big volumes of data. Also, the daily transmission will be initiated as per the daily extraction period. Real-time data transfer of the following entities will be initiated only from next day: Activity, inventory, ActivityLink, Resources, Users and Route entities.
2 Data sets

About Extraction Data Sets

Data sets are groups of details from extracted data that are related to the same entity.

Data from several data sets cannot be extracted in one file but data from one data set can be divided to be extracted in any number of files. For example, the file created for the Activity Fields entity cannot also include data for the Resource Fields entity. At the same time, one file can refer to several database tables according to the exported field’s configuration. For example, an Activity Fields file may include data from the Queue Fields table, when configured so.

You can configure the list of data sets you want to export. The data sets available for export is listed below. The data set name is a link that opens more details and an example:

- **Activity Fields**—Data on all fields/properties assigned by the end of extraction period to activities processed in the application during the extraction period (activities that were to be performed or were performed during the extraction period).
- **Activity Link Fields**—Details of all links between activities defined in the application by the end of extraction period.
- **Activity Work Skill Fields**—Details of work skills per activity at the time of extraction.
- **GPS Details**—Details of all GPS data gathered during the data extraction period, including gpstracks.
  - **GPS Track Fields (gpstracks)**—Data calculated on the basis of the GPS data in Oracle Field Service Cloud in fixed format native for Oracle Field Service Cloud. All GPS data collected for each resource for the extraction period is gathered.
- **Inventory Fields**—Data on all fields/properties assigned to all inventory items available in the application by the end of the extraction period.
- **Message Details**—Data on all messages generated (all messages that were sent or were to be sent by the application) during the extraction period divided into two data sets.
- **Message Fields**—Basic details of the messages excluding the actual text of the message.
- **Message Text Fields**—Parameters of the text of each message.
- **PAS Answers Fields**—Details of customer’s answers to questions asked in the Post Appointment Survey that are present in the application with status ‘Delivered’ at the time of extraction.
- **PAS Questions Fields**—Details of questions for Post Appointment Surveys at the time of extraction.
- **Property Fields**—Details of all fields and custom properties available in the application by the end of the extraction period.
- **Property File Fields**—Contents of file properties (images, etc.) available in the application by the end of the extraction period.
- **Property Lookup Fields**—Sets of values that can be used to identify a field or custom property for all fields and custom properties available in the application by the end of extraction period.
- **Queue Fields**—Data on all fields/properties assigned to the routes processed in the application during the extraction period (routes that were to be executed during the extraction period), including all fields and properties assigned to resources, to which a route is directly assigned by the end of the extraction period.
- **Resource Fields**—Details of the properties of all resources available in the application by the end of the extraction period (including inactive resources) and their position in the Resource Tree.
• Resource Location Fields—Details of the locations defined for each resource in the application by the end of the extraction period.

• Resource Property Fields—Details of all properties defined for each resource in the application by the end of the extraction period.

• Resource Work Skill Fields—Details of work skills per resource at the moment of extraction.

• Service Request Fields—Details of service requests created in the application during the extraction period.

• Time Slots Fields—Details of time slots defined in the application by the end of the extraction period.

• Type List Fields—Sets of values used to identify the type of entity by its ID for all types available in the application by the end of the extraction period.

• User List Fields—Details of all users existing in the application by the end of the extraction period.

• User-Resource Relation Fields—Details of resources visible to each user as defined in the application by the end of the extraction period.

>Note: The Daily Extract processes property labels regardless of whether any special symbols or capital letters.

About Extraction Details and Examples

Each data set has specific requirements for file extraction, but some basic rules apply to all data sets.

Details of Activity, Inventory, Resource and Service Request entities can include information on all field and properties assigned to the entity. Therefore, only some examples of available values are provided for these data sets.

For other data sets, values of only a limited list of fields is collected, and this list of fields is provided in each of the corresponding sections.

Some fields are related to different data sets, for example, resources described in Queue Details are also described with the Resource Hierarchy Position data set. In this case, a unique internal identifier of the entity is present in both data sets.

While in the examples files are provided only for several sample entities, in reality data will be provided for all entities relevant for the data set. For all examples, some sample names of the fields are taken; for activity, inventory, and resource, a random set of fields and properties is chosen.

Details and Examples: Activity Fields Data Set

The 'Activity Fields' data set contains values of the fields and custom properties assigned to activities processed in the application during the extraction period.

Activity Fields are exported in the Daily Extract file for which 'Activity Fields' is selected as the entity. Most activity properties and fields available in Oracle Field Service Cloud (for example, 'Activity ID', 'Activity status', 'Name', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.
Data can be retrieved as one or more XML files consisting of the 'appointments' root element which contains 'appointment' elements. The 'appointment' elements are sets of 'Field' elements whose attributes are names of the fields and custom properties defined for the activities and whose contents are their corresponding values.

All out-of-the-box fields and custom properties get extracted to the ‘Activity Fields’ file from Daily Extract when the `appt.properties` field is configured.

This table provides the label and description of those fields in the Activity Fields data set that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Hours</td>
<td>appt.access_hours</td>
<td>Formatted string. Contains set of hours the activity is accessible at the day it is scheduled for (including overnight)</td>
</tr>
<tr>
<td>Access Schedule</td>
<td>appt.access_schedule</td>
<td>Formatted string. Contains schedule of access hours for the place where activity should be done.</td>
</tr>
<tr>
<td>Account Number</td>
<td>appt.customer_number</td>
<td>String with name of customer account in external system</td>
</tr>
<tr>
<td>Activity Features</td>
<td>appt.afeatures</td>
<td>Bitmask field that defines active features for this activity. This value is copied from selected activity type</td>
</tr>
<tr>
<td>Activity ID</td>
<td>appt.aid</td>
<td>Unique numerical identifier of the activity</td>
</tr>
<tr>
<td>Activity Location ID</td>
<td>appt.a_locationid</td>
<td>Activity location ID</td>
</tr>
<tr>
<td>Activity Number</td>
<td>appt.number</td>
<td>Identifier of the activity (string, value of DB field &quot;number&quot;)</td>
</tr>
<tr>
<td>Activity Properties</td>
<td>appt.properties</td>
<td>List of all custom activity properties with their values</td>
</tr>
<tr>
<td>Activity Time of Assignment</td>
<td>appt.atime_of_assignment</td>
<td>Date/Time when the last move/reschedule/assign to resource operation was performed for the activity.</td>
</tr>
<tr>
<td>Activity Time of Booking</td>
<td>appt.atime_of_booking</td>
<td>Date/time when the activity was booked.</td>
</tr>
<tr>
<td>Activity Traveling Time</td>
<td>appt.continuous_traveling_time</td>
<td>Travel time between activities/locations with addresses/coordinates</td>
</tr>
<tr>
<td>Activity Type</td>
<td>appt.atype</td>
<td>Primary type of the activity (prework, reopened, regular...)</td>
</tr>
<tr>
<td>Activity Update Flag</td>
<td>appt.aupdate_flags</td>
<td>Bitmask field. Displays bit flags after updating the activity.</td>
</tr>
<tr>
<td>Activity Work Type</td>
<td>appt.aworktype</td>
<td>Identifier of the activity type defined for the activity.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Activity Work Zone</td>
<td>appt.aworkzone</td>
<td>Work zone which is defined for the activity</td>
</tr>
<tr>
<td>Activity status</td>
<td>appt.astatus</td>
<td>Status of the activity</td>
</tr>
<tr>
<td>Auto-routed to Date</td>
<td>appt.auto_routed_to_date</td>
<td>The date the activity was scheduled for during the latest Routing run.</td>
</tr>
<tr>
<td>Auto-routed to Resource</td>
<td>appt.auto_routed_to_provider_id</td>
<td>ID of resource the activity was assigned to during the latest Routing run.</td>
</tr>
<tr>
<td>Auto-routed to Resource (Name)</td>
<td>appt.auto_routed_to_provider_name</td>
<td>Name of resource the activity was assigned to during the latest Routing run.</td>
</tr>
<tr>
<td>Capacity Bucket</td>
<td>provider.pcapacity_bucket</td>
<td>ID of capacity bucket for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>City</td>
<td>appt.ccity</td>
<td>City name, part of Customer address</td>
</tr>
<tr>
<td>Coordinate X</td>
<td>appt.acoord_x</td>
<td>X coordinate received from geocoding module for the activity</td>
</tr>
<tr>
<td>Coordinate Y</td>
<td>appt.acoord_y</td>
<td>Y coordinate received from geocoding module for the activity</td>
</tr>
<tr>
<td>Coordinate accuracy</td>
<td>appt.acoord_accuracy</td>
<td>Accuracy level of coordinates for the activity</td>
</tr>
<tr>
<td>Coordinate status</td>
<td>appt.acoord_status</td>
<td>Coordinate status for the activity</td>
</tr>
<tr>
<td>Country</td>
<td>appt.country_code</td>
<td>Country code for the activity</td>
</tr>
<tr>
<td>Customer Email</td>
<td>appt.cemail</td>
<td>Email of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Language</td>
<td>appt.clanguage</td>
<td>Message language of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Name</td>
<td>appt.cname</td>
<td>Name of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Phone</td>
<td>appt.cphone</td>
<td>Phone number of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Time Zone</td>
<td>appt.c_zid</td>
<td>Time Zone ID of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Date format (Resource)</td>
<td>provider.pdate_fid</td>
<td>ID of date format for the resource for whom the activity is provided.</td>
</tr>
</tbody>
</table>
## Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day before</td>
<td>appt.cdaybefore_flag</td>
<td>Value of custom property &quot;Day before&quot;. Present in the Initial DB, but may be removed. Flag indicates if 'Day Before' Notification should be used.</td>
</tr>
<tr>
<td>Delivery Window End</td>
<td>appt.delivery_window_end</td>
<td>End time for activity Delivery Window</td>
</tr>
<tr>
<td>Delivery Window start</td>
<td>appt.delivery_window_start</td>
<td>Start time for activity Delivery Window</td>
</tr>
<tr>
<td>Delivery address</td>
<td>appt.caddress</td>
<td>Customer address (except City, Zip/Postal code, State)</td>
</tr>
<tr>
<td>Duration</td>
<td>appt.length</td>
<td>Activity length in minutes. Filled when activity is finished. Value = end time - start time.</td>
</tr>
<tr>
<td>Email address</td>
<td>provider.email</td>
<td>Email address for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Estimated time of arrival</td>
<td>appt.ETA</td>
<td>ETA date/time. Can be empty for Regular and Reopen activities if status is Pending or Suspended. For Started and Ended - time when activity is started. For Canceled can be empty or set, if set - it is time when provider started an activity before it was Canceled</td>
</tr>
<tr>
<td>First Manual Operation</td>
<td>appt.first_manual_operation</td>
<td>The name of the first manual reschedule/move/reorder operation performed after an automatic one.</td>
</tr>
<tr>
<td>First Manual Operation (Interface)</td>
<td>appt.first_manual_operation_interface</td>
<td>The interface the first manual reschedule/move/reorder operation was performed from after an automatic one.</td>
</tr>
<tr>
<td>First Manual Operation (User ID)</td>
<td>appt.first_manual_operation_user_id</td>
<td>ID of the user who performed the first manual reschedule/move/reorder operation after an automatic one.</td>
</tr>
<tr>
<td>Initial Ratio for Activity Duration</td>
<td>provider.pinitial_ratio</td>
<td>Initial ratio for activity duration for the resource the activity belongs to.</td>
</tr>
<tr>
<td>Master Activity ID</td>
<td>appt.amaster_aid</td>
<td>ID of main activity for prework, reassigned and reopened activities</td>
</tr>
<tr>
<td>Message Language</td>
<td>provider.planguage</td>
<td>Language for resource the activity is assigned to.</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>appt.ccell</td>
<td>Mobile phone number of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Organization</td>
<td>provider.organization_id</td>
<td>ID of organization for the resource the activity is assigned to.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Points</td>
<td>appt.apoints</td>
<td>Number of points that represent efforts required to perform the activity.</td>
</tr>
<tr>
<td>Position in Route</td>
<td>appt.position_in_route</td>
<td>Calculated field. Contains position of activity in the route.</td>
</tr>
<tr>
<td>Postal Code</td>
<td>appt.czip</td>
<td>ZIP/Postal code of customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Reminder</td>
<td>appt.cmessage_time</td>
<td>Number of minutes before Delivery Window/ETA when reminder notification is sent.</td>
</tr>
<tr>
<td>Reported End Time of Activity Delivery</td>
<td>appt.ctime_delivered_end</td>
<td>End date/time of activity which is delivered to the customer.</td>
</tr>
<tr>
<td>Reported Start Time of Activity Delivery</td>
<td>appt.ctime_delivered_start</td>
<td>Start date/time of activity which is delivered to the customer.</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
<td>External system identifier for the resource the activity is assigned to.</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider.pid</td>
<td>ID of resource the activity is assigned to.</td>
</tr>
<tr>
<td>Resource Name</td>
<td>provider.pname</td>
<td>Name (text identifier) of resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Resource Parent</td>
<td>provider.parent</td>
<td>ID of parent resource for the resource the activity is assigned to.</td>
</tr>
<tr>
<td>Resource Phone</td>
<td>provider.pphone</td>
<td>Phone number of the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Resource Time Zone</td>
<td>time_zone.name</td>
<td>Standard Oracle Time zone name</td>
</tr>
<tr>
<td>Resource Time Zone Name</td>
<td>time_zone.zoneinfo_name</td>
<td>Standard IANA Time zone name</td>
</tr>
<tr>
<td>Resource status</td>
<td>provider.pactive</td>
<td>Resource status (active or inactive) for whom the activity is provided.</td>
</tr>
<tr>
<td>Resource type</td>
<td>provider.ptype</td>
<td>Resource type ID for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Route Activation Time</td>
<td>queue.activated</td>
<td>Date and time of route activation for resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Route Date</td>
<td>queue.date</td>
<td>Date of the route the activity is assigned to.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Route Deactivation Time</td>
<td>queue.deactivated</td>
<td>Date and time of route deactivation (for already activated route) for resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Route ID</td>
<td>queue.qid</td>
<td>Unique internal identifier of the route the activity is assigned to.</td>
</tr>
<tr>
<td>Route Reactivation Time</td>
<td>queue.reactivated</td>
<td>Date and time of route reactivation (for already deactivated route) for resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Routing profile</td>
<td>provider.p_rprid</td>
<td>ID of routing plan assigned to the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>SLA End</td>
<td>appt.sla_window_end</td>
<td>End date and time of Service Level Agreement</td>
</tr>
<tr>
<td>SLA Start</td>
<td>appt.sla_window_start</td>
<td>Start date and time of Service Level Agreement</td>
</tr>
<tr>
<td>Service Window End</td>
<td>appt.service_window_end</td>
<td>End time of Service Window</td>
</tr>
<tr>
<td>Service Window Start</td>
<td>appt.service_window_start</td>
<td>Start time of Service Window</td>
</tr>
<tr>
<td>State</td>
<td>appt.cstate</td>
<td>State (Geographic area) of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Teamwork ID</td>
<td>appt.a_teamid</td>
<td>ID of team for teamwork activities</td>
</tr>
<tr>
<td>Template ID</td>
<td>appt.a_templateid</td>
<td>ID of activity template for mass/repeating activities</td>
</tr>
<tr>
<td>Time Slot ID</td>
<td>appt.a_tsid</td>
<td>ID of Time Slot assigned to the activity</td>
</tr>
<tr>
<td>Time Zone (Resource)</td>
<td>provider.time_zone</td>
<td>ID of time zone assigned to the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Time format (Resource)</td>
<td>provider.ptime_fid</td>
<td>ID of time format for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Travel Area</td>
<td>appt.atravelarea</td>
<td>ID of travel area the activity is belongs to.</td>
</tr>
<tr>
<td>Travel estimation method</td>
<td>appt.travel_estimation_method</td>
<td>Method that was used to make current traveling time estimation. Applicable for the activity.</td>
</tr>
<tr>
<td>Travel estimation method (final location)</td>
<td>queue.final_travel_estimation_method</td>
<td>Method that was used to make current traveling time estimation. Applicable for the final location.</td>
</tr>
<tr>
<td>Travel time adjustment: ID of previous activity</td>
<td>appt.travel_from_aid</td>
<td>ID of previous activity adjustment is entered for. Applicable for the activity.</td>
</tr>
</tbody>
</table>
### Field Sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel time adjustment: ID of previous activity (final location)</td>
<td>queue.final_travel_from_aid</td>
<td>ID of previous activity adjustment is entered for. Applicable for the final location.</td>
</tr>
<tr>
<td>Traveling Time</td>
<td>appt.travel</td>
<td>Time of travel from a previous activity/location.</td>
</tr>
<tr>
<td>Traveling time (final location)</td>
<td>queue.final_travel</td>
<td>Travel to the final location of resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Visit ID</td>
<td>appt.a_visitid</td>
<td>ID of Visit for the activity.</td>
</tr>
<tr>
<td>Work Order</td>
<td>appt.appt_number</td>
<td>Identifier of the activity (string, value of field “Work Order”)</td>
</tr>
<tr>
<td>Working Day End</td>
<td>queue.calendar_time_to</td>
<td>End of working day (Date and time) for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>Working Day Start</td>
<td>queue.calendar_time_from</td>
<td>Start of working day (Date and time) for the resource for whom the activity is provided.</td>
</tr>
<tr>
<td>appt.first_manual_operation_user_name</td>
<td>First Manual Operation (User name)</td>
<td>Name of the user performing the first manual reschedule/move/reorder operation after an automatic one.</td>
</tr>
<tr>
<td>appt.first_manual_operation_user_login</td>
<td>First Manual Operation (User login)</td>
<td>Login of the user performing the first manual reschedule/move/reorder operation after an automatic one.</td>
</tr>
<tr>
<td>appt.eta_end_time</td>
<td>Start - End</td>
<td>Real start time - end time for the activity</td>
</tr>
<tr>
<td>end_time</td>
<td>End</td>
<td>Estimated or real end time of activity. Calculated as ETA (Start time)+activity duration.</td>
</tr>
<tr>
<td>activity_workskills</td>
<td>Activity Work Skills</td>
<td>List of ID for Work Skills and Work Skill Groups for the activity</td>
</tr>
<tr>
<td>activity_capacity_categories</td>
<td>Capacity Categories</td>
<td>List of ID for Capacity Categories for the activity</td>
</tr>
<tr>
<td>position_in_route</td>
<td>Activity order</td>
<td>Order (sequence number) of the activity in the route for specified date</td>
</tr>
</tbody>
</table>

Custom activity and resource properties (except file properties) can be configured and extracted for the Activity Fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## Example: Activity Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the activity, for example, **Activity ID**
- Date of the route the activity is assigned to, for example, **Activity Date**
- Unique internal identifier of the route the activity is assigned to, for example, **Queue ID**
- Status of the activity, for example, **Activity Status**
- Name of the customer for whom the activity is provided, for example, **Customer name**

This example also includes a custom property called **Is a VIP** that has two values:

- 1: The customer for whom the activity is provided is a VIP customer
- 2: The customer for whom the activity is provided is not a VIP customer

The example files below contain data for two activities, 541118 and 56214, assigned on 2013-11-08 to the same route, 546278. Activity 541118 was provided for John Smith, who is not a VIP customer, and the activity was cancelled. Activity 56214 was provided for an unidentified VIP customer, and the activity was completed.

```xml
<?xml version="1.0" encoding="UTF-8"?><appointments>
  <appointment>
    <Field name="Activity ID">54118</Field>
    <Field name="Activity Date">2013-11-08</Field>
    <Field name="Activity Queue">546278</Field>
    <Field name="Activity Status">cancelled</Field>
    <Field name="Customer Name">John Smith</Field>
    <Field name="Is a VIP">1</Field>
  </appointment>
  <appointment>
    <Field name="Activity ID">56214</Field>
    <Field name="Activity Date">2013-11-08</Field>
    <Field name="Activity Queue">546278</Field>
    <Field name="Activity Status">completed</Field>
    <Field name="Customer Name"></Field>
    <Field name="Is a VIP">2</Field>
  </appointment>
</appointments>
```

## Details and Examples: Activity Work Skill Fields Data Set

The 'Activity Work Skill Fields' data set contains details of work skills per activity at the moment of extraction.
Activity Work Skill Fields are exported in the Daily Extract file for which 'Activity Work Skill Fields' is selected as the entity. The ‘Activity Work Skill Fields’ file can include only the following fields: 'Activity ID', 'Work Skill Preferable Level', 'Work Skill Required Level' and 'Activity Work Skill ID'.

Depending on the requirements of the company, the list of exported fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘appt_work_skills’ root element that contains ‘appt_work_skill’ elements. ‘appt_work_skill’ elements are sets of ‘Field’ elements whose attributes are names of activity work skill fields and whose contents are their corresponding values.

This table provides the label and description of fields in the Activity Work Skill Fields data set:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity ID</td>
<td>appt_work_skill.aid</td>
<td>Unique internal identifier of the activity to which the work skill was assigned</td>
</tr>
<tr>
<td>Activity Work Skill ID</td>
<td>appt_work_skill.work_skill_id</td>
<td>Identifier of the work skill defined for the activity</td>
</tr>
<tr>
<td>Work Skill Preferable Level</td>
<td>appt_work_skill.preferable_level</td>
<td>Preferable level of the skill for the activity</td>
</tr>
<tr>
<td>Work Skill Required Level</td>
<td>appt_work_skill.required_level</td>
<td>Required level of the skill for the activity</td>
</tr>
</tbody>
</table>

**Note:** No changes and custom properties for this data set.

**Example: Activity Work Skills File**

The following data is collected. Provide a meaningful name to the report.

- Identifier of the activity, for example, **aid**
- Identifier of the work skill defined for the activity, for example, **work_skill_id**
- Required level of the skill for the activity, for example, **required_level**
- Preferable level of the skill for the activity, for example, **preferable_level**

The example file extracts the details of work skills for two activities: 12345 and 23456. Activity 12345 requires two work skills – Install (identifier – 1) and Deinstall (identifier – 2). The required level for Install is 70 and preferable is 100. The required level for Deinstall is 50 and preferable is 60. Activity 23456 requires only one work skill – Update (identifier – 5), required level for Update skill is 40 and preferable is 70.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<appt_work_skills>
  <appt_work_skill>
    <Field name="aid">12345</Field>
    <Field name="work_skill_id">1</Field>
    <Field name="required_level">70</Field>
    <Field name="preferable_level">100</Field>
  </appt_work_skill>
  <appt_work_skill>
    <Field name="aid">23456</Field>
    <Field name="work_skill_id">5</Field>
    <Field name="required_level">40</Field>
    <Field name="preferable_level">70</Field>
  </appt_work_skill>
</appt_work_skills>
```
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Details and Examples: GPS Data Fields (gpstracks) Data Set

The 'GPS Track Fields' ('gpstracks') contains data calculated on the basis of the GPS data in Oracle Field Service Cloud in fixed format native for the application. All GPS data collected for each resource in the course of extraction period is gathered.

GPS Track Fields are exported in the Daily Extract file for which 'GPS Track Fields' is selected as the entity. Any GPS Track fields available in Oracle Field Service Cloud (for example, 'distance', 'idle', 'status', etc.) can be included in the Daily Extract by adding them to the file structure.

⚠️ Note: Field name editing is not allowed for this entity.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'tracks' root element that contains 'track' elements. 'track' elements are sets of 'Field' elements whose attributes are names of GPS Track fields and whose contents are their corresponding values.

This table provides the label and description of fields in the GPS Track Fields data set:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity ID</td>
<td>gps_tracks.aid</td>
<td>The ID of the activity started at the moment of the data collection or if there were no started activities at the moment of the next activity in the resource’ route</td>
</tr>
<tr>
<td>Distance</td>
<td>gps_tracks.distance</td>
<td>Distance from the resource’s location to the activity</td>
</tr>
<tr>
<td>Idle Time</td>
<td>gps_tracks.idle</td>
<td>Number of seconds the resource spent in the point.</td>
</tr>
<tr>
<td>Latitude</td>
<td>gps_tracks.latitude</td>
<td>The Y coordinate of the position.</td>
</tr>
<tr>
<td>Longitude</td>
<td>gps_tracks.longitude</td>
<td>The X coordinate of the position.</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
<td>External identifier for the resource</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>gps_tracks.status</td>
<td>Location status. Possible values are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 0 - a position without warnings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 1 - a position has the alert &quot;Started outside the location&quot; (Started at</td>
</tr>
<tr>
<td></td>
<td></td>
<td>driving)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 2 - a position has the alert &quot;Completed outside the location&quot; (Finish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>driving)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4 - a position has the alert &quot;Resource left the activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>location&quot; (Driving at working time)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 8 - an ‘idling’ position (See Business rules to understand what</td>
</tr>
<tr>
<td></td>
<td></td>
<td>position is considered as ‘Idle’)</td>
</tr>
<tr>
<td>Time</td>
<td>gps_tracks.time</td>
<td>Timestamp received along with the GPS data.</td>
</tr>
<tr>
<td>Track Route ID</td>
<td>gps_tracks.queue_id</td>
<td>The ID of the route for which the geolocation data has been received.</td>
</tr>
</tbody>
</table>

Note: No changes and custom properties for this data set.

Example: GPS Track Fields File

The following data is collected. Provide a meaningful name to the report.

- The ID of the queue for which the geolocation data has been received, for example, queue_id
- The ID of the activity started at the moment of the data collection or if there were no started activities at the moment of the next activity in the resource queue, for example, aid
- Timestamp received along with the GPS data, for example, time
- The x coordinate of the position, for example, longitude
- The y coordinate of the position, for example, latitude
- Distance from the resource’s location to the aid activity, for example, distance
- Location status, for example, status
- Number of seconds the resource spent in the point, for example, idle

The example provides details of two positions for a resource. On 10 October, 2012, which corresponds to queue 00234, at 09:08:15, 10 October, 2013 the resource was at (41° 22' 51" North; 02° 07' 22" East) performing activity 89765 and the location of the resource fully complied with the route. On the same day at 10:25:45 the resource was at (41° 25' 49" North; 02° 27' 25" East) 5230 meters away from the next activity 96754. The resource had spent 36000 seconds at this point, which exceeds the idle threshold.

<?xml version="1.0" encoding="UTF-8"?>
<tracks>
  <track>
    <Field name="queue_id">00234</Field>
    <Field name="aid">89765</Field>
    <Field name="time">2012-04-10 09:08:15</Field>
    <Field name="longitude">41.380833</Field>
    <Field name="latitude">2.122778</Field>
  </track>
  <track>
    <Field name="queue_id">00234</Field>
    <Field name="aid">89765</Field>
    <Field name="time">2012-04-10 10:25:45</Field>
    <Field name="longitude">41.380833</Field>
    <Field name="latitude">2.122778</Field>
  </track>
</tracks>
Details and Examples: Inventory Fields Data Set

The 'Inventory Fields' data set contains all fields and properties assigned to all inventory items, except inventory in resources' pools, available in the application by the end of extraction period.

Inventory Fields are exported in the Daily Extract file for which 'Inventory Fields' is selected as the entity. Any inventory properties and fields available in Oracle Field Service Cloud (for example, 'Inventory ID', 'Model', 'Quantity', etc.) can be included in the Daily Extract by adding them to the file structure. Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'inventories' root element that contains 'inventory' elements. 'inventory' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the inventory and whose contents are their corresponding values.

Example: Inventory Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the inventory item, for example, Inventory ID
- Pool to which the inventory item belongs, for example, Inventory Pool, with the following possible values
  - Customer: inventory was at the customer’s site before the activity performance
  - Install: inventory was installed in the course of the activity
  - Deinstall: inventory was deinstalled in the course of the activity
- Unique internal identifier of the activity, to which the inventory item is assigned, for example, Activity ID
- Inventory type, for example, Inventory Type
- Serial number, for example, Serial No
- Quantity of non-serialized inventory, for example, Quantity

This table provides the label and description of those fields in the Inventory Fields data set that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity ID</td>
<td>inventory.inv_aid</td>
<td>Unique internal identifier of the activity, to which the inventory item is assigned.</td>
</tr>
</tbody>
</table>
### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changed Inventory ID</td>
<td>inventory.inv_change_invID</td>
<td>Unique internal identifier of the inventory, to which the current inventory exchanged with.</td>
</tr>
<tr>
<td>Inventory ID</td>
<td>inventory.invID</td>
<td>Unique internal identifier of the inventory item.</td>
</tr>
<tr>
<td>Inventory Pool</td>
<td>inventory.invpool</td>
<td>Pool to which the inventory item belongs.</td>
</tr>
<tr>
<td>Inventory Properties</td>
<td>inventory.properties</td>
<td>List of all custom inventory properties with values</td>
</tr>
<tr>
<td>Inventory Type</td>
<td>inventory.invtype</td>
<td>Type of the inventory item; one of customer specific values.</td>
</tr>
<tr>
<td>Quantity</td>
<td>inventory.quantity</td>
<td>Quantity of non-serialized inventory</td>
</tr>
<tr>
<td>Resource ID</td>
<td>inventory.inv_pid</td>
<td>Unique internal identifier of the resource, to which the inventory item is assigned.</td>
</tr>
<tr>
<td>Serial Number</td>
<td>inventory.invsn</td>
<td>Serial number of the inventory item.</td>
</tr>
</tbody>
</table>

**Note:** No changes for this data set.

### Custom properties

Inventory custom properties (except file properties) can be configured and extracted for the Inventory Fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the custom properties of those types that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Configurable</td>
</tr>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

The example also includes a custom property, **Manufacturer Name**, which corresponds to the inventory manufacturer’s name.
The example file collects data for two inventory items: customer inventory 456890 of inventory type Cable Video, serial number PTI1234789 assigned to activity 100067 manufactured by Sample Manufacturer Ltd. and install inventory 908764, of inventory type Ethernet Cable, quantity 300 ft, used in the same activity.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<inventories>
  <inventory>
    <Field name="Inventory ID">456890</Field>
    <Field name="Inventory Pool">customer</Field>
    <Field name="Activity ID">100067</Field>
    <Field name="Inventory Type">Cable Video</Field>
    <Field name="Serial No">PTI1234789</Field>
    <Field name="Quantity">1</Field>
    <Field name="Manufacturer Name">Sample Manufacturer ltd.</Field>
  </inventory>
  <inventory>
    <Field name="Inventory ID">908764</Field>
    <Field name="Inventory Pool">install</Field>
    <Field name="Activity ID">100067</Field>
    <Field name="Inventory Type">Ethernet Cable</Field>
    <Field name="Serial No"/>
    <Field name="Quantity">300</Field>
    <Field name="Manufacturer Name"/>
  </inventory>
</inventories>
```

Details and Examples: Message Fields Data Set

Message Fields are basic details on all messages that were sent or were to be sent by the application during the extraction period, including messages that were blocked with message blocking conditions and/or firewalls.

Message Fields are exported in the Daily Extract file for which Message Fields is selected as the entity. Any message properties and fields available in Oracle Field Service Cloud (for example, 'Message ID', 'Message Address', 'Time of Message Sending', etc.) can be included in the Daily Extract by adding them to the file structure.

This table provides the label and description of fields in the Message Fields data set:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Schedule</td>
<td>appt.access_schedule</td>
<td>Formatted string. Contains schedule of access hours for the place where activity should be done.</td>
</tr>
<tr>
<td>Account Number</td>
<td>appt.customer_number</td>
<td>String with name of customer account in external system</td>
</tr>
<tr>
<td>Activity Features</td>
<td>appt.afeatures</td>
<td>Bitmask field that defines active features for this activity. This value is copied from selected activity type</td>
</tr>
<tr>
<td>Message Activity ID</td>
<td>message_log.mq_aid</td>
<td>Unique internal identifier of the activity for which the message was created.</td>
</tr>
<tr>
<td>Activity ID</td>
<td>appt.aid</td>
<td>Unique numerical identifier of the activity</td>
</tr>
<tr>
<td>Activity Location ID</td>
<td>appt.a_locationid</td>
<td>Activity location ID</td>
</tr>
</tbody>
</table>
## Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Properties</td>
<td>appt.properties</td>
<td>List of all custom activity properties with their values</td>
</tr>
<tr>
<td>Activity Time of Assignment</td>
<td>appt.atime_of_assignment</td>
<td>Date/Time when the last move/reschedule/assign to resource operation was performed for the activity.</td>
</tr>
<tr>
<td>Activity Time of Booking</td>
<td>appt.atime_of_booking</td>
<td>Date/time when the activity was booked.</td>
</tr>
<tr>
<td>Activity Traveling Time</td>
<td>appt.continuous_traveling_time</td>
<td>Travel time between activities/locations with addresses/coordinates</td>
</tr>
<tr>
<td>Activity Type</td>
<td>appt.atype</td>
<td>Primary type of the activity (prework, reopened, regular...)</td>
</tr>
<tr>
<td>Activity Update Flag</td>
<td>appt.aupdate_flags</td>
<td>Bitmask field. Displays bit flags after updating the activity.</td>
</tr>
<tr>
<td>Activity Work Type</td>
<td>appt.aworktype</td>
<td>Identifier of the activity type defined for the activity.</td>
</tr>
<tr>
<td>Activity Work Zone</td>
<td>appt.aworkzone</td>
<td>Work zone which is defined for the activity</td>
</tr>
<tr>
<td>Activity status</td>
<td>appt.astatus</td>
<td>Status of the activity</td>
</tr>
<tr>
<td>Auto-routed to Date</td>
<td>appt.auto_routed_to_date</td>
<td>The date the activity was scheduled for during the latest Routing run.</td>
</tr>
<tr>
<td>Auto-routed to Resource</td>
<td>appt.auto_routed_to_provider_id</td>
<td>ID of resource the activity was assigned to during the latest Routing run.</td>
</tr>
<tr>
<td>Auto-routed to Resource (Name)</td>
<td>appt.auto_routed_to_provider_name</td>
<td>Name of resource the activity was assigned to during the latest Routing run.</td>
</tr>
<tr>
<td>City</td>
<td>appt.ccity</td>
<td>City name, part of Customer address</td>
</tr>
<tr>
<td>Coordinate X</td>
<td>appt.acoord_x</td>
<td>X coordinate received from geocoding module for the activity</td>
</tr>
<tr>
<td>Coordinate Y</td>
<td>appt.acoord_y</td>
<td>Y coordinate received from geocoding module for the activity</td>
</tr>
<tr>
<td>Coordinate accuracy</td>
<td>appt.acoord_accuracy</td>
<td>Accuracy level of coordinates for the activity</td>
</tr>
<tr>
<td>Coordinate status</td>
<td>appt.acoord_status</td>
<td>Coordinate status for the activity</td>
</tr>
<tr>
<td>Customer Email</td>
<td>appt.cemail</td>
<td>Email of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Language</td>
<td>appt.clanguage</td>
<td>Message language of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Name</td>
<td>appt.cname</td>
<td>Name of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Customer Phone</td>
<td>appt.cphone</td>
<td>Phone number of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Customer Time Zone</td>
<td>appt.c_zid</td>
<td>Time Zone ID of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Delivery Window End</td>
<td>appt.delivery_window_end</td>
<td>End time for activity Delivery Window</td>
</tr>
<tr>
<td>Delivery Window start</td>
<td>appt.delivery_window_start</td>
<td>Start time for activity Delivery Window</td>
</tr>
<tr>
<td>Delivery address</td>
<td>appt.caddress</td>
<td>Customer address (except City, Zip/Postal code, State)</td>
</tr>
<tr>
<td>Duration</td>
<td>appt.length</td>
<td>Activity length in minutes. Filled when activity is finished. Value = end time - start time.</td>
</tr>
<tr>
<td>Estimated time of arrival</td>
<td>appt.ETA</td>
<td>ETA date/time. Can be empty for Regular and Reopen activities if status is Pending or Suspended. For Started and Ended - time when activity is started. For Canceled can be empty or set, if set - it is time when provider started an activity before it was Canceled</td>
</tr>
<tr>
<td>First Manual Operation</td>
<td>appt.first_manual_operation</td>
<td>The name of the first manual reschedule/move/reorder operation performed after an automatic one.</td>
</tr>
<tr>
<td>First Manual Operation (Interface)</td>
<td>appt.first_manual_operation_interface</td>
<td>The interface the first manual reschedule/move/reorder operation was performed from after an automatic one.</td>
</tr>
<tr>
<td>First Manual Operation (User ID)</td>
<td>appt.first_manual_operation_user_id</td>
<td>ID of the user who performed the first manual reschedule/move/reorder operation after an automatic one.</td>
</tr>
<tr>
<td>Free-Format Message Notes</td>
<td>message_log.mqdata</td>
<td>Notes for the message (for example filled by the external message system)</td>
</tr>
<tr>
<td>Local Time of Message Sending</td>
<td>message_log.mqsent_local</td>
<td>Date/time when the message was sent to customer (Local time zone)</td>
</tr>
<tr>
<td>Master Activity ID</td>
<td>appt.amaster_aid</td>
<td>ID of main activity for prework, reassigned and reopened activities</td>
</tr>
<tr>
<td>Message Address</td>
<td>message_log.mqaddress</td>
<td>Message notification address.</td>
</tr>
<tr>
<td>Message External ID</td>
<td>message_log.mqexternalid</td>
<td>Identifier of the message in the external system</td>
</tr>
<tr>
<td>Message ID</td>
<td>message_log.mqid</td>
<td>Internal unique identifier of the message,</td>
</tr>
<tr>
<td>Message Route ID</td>
<td>message_log.mq_qid</td>
<td>Internal unique identifier of the route for which the message was created.</td>
</tr>
<tr>
<td>Message Recipient</td>
<td>message_step.msrecipient</td>
<td>Recipient of the message.</td>
</tr>
<tr>
<td>Message Scenario ID</td>
<td>message_flow.mfid</td>
<td>Unique internal identifier of the message scenario</td>
</tr>
<tr>
<td>Message Scenario Name</td>
<td>message_flow.mfname</td>
<td>Name of the message scenario.</td>
</tr>
</tbody>
</table>
### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Scenario Step: Duration</td>
<td>message_log.mqduration</td>
<td>Time spent on message sending until receiving the final message status for the message scenario step.</td>
</tr>
<tr>
<td>Message Scenario Step: ID</td>
<td>message_log.mq_msid</td>
<td>Internal unique identifier of the message scenario.</td>
</tr>
<tr>
<td>Message Scenario Step: Name</td>
<td>message_step.msname</td>
<td>Name of the scenario step</td>
</tr>
<tr>
<td>Message Scenario Step: Type</td>
<td>message_step.mstype</td>
<td>Type of the message scenario step (“start” or “inner”)</td>
</tr>
<tr>
<td>Message Sending Method</td>
<td>message_log.mqmethod</td>
<td>Method of notification</td>
</tr>
<tr>
<td>Start of Message Sending Interval</td>
<td>message_log.mqsendfrom</td>
<td>Planned start date/time of message sending range (UTC)</td>
</tr>
<tr>
<td>End of Message Sending Interval</td>
<td>message_log.mqsendto</td>
<td>Planned end date/time of message sending range (UTC)</td>
</tr>
<tr>
<td>Message Sending Result</td>
<td>message_log.mqstatus</td>
<td>Final status of the message</td>
</tr>
<tr>
<td>Description of Message Sending Result</td>
<td>message_log.mqdesc</td>
<td>Description, complementing the message final status</td>
</tr>
<tr>
<td>Message Step Purpose</td>
<td>message_step.msfunction</td>
<td>Message step type: “PAS” (survey message) or “regular” (regular message)</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>appt.ccell</td>
<td>Mobile phone number of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Launch Condition Name</td>
<td>message_log.mqtrigger</td>
<td>Message launch condition</td>
</tr>
<tr>
<td>Points</td>
<td>appt.apoints</td>
<td>Number of points that represent efforts required to perform the activity.</td>
</tr>
<tr>
<td>Postal Code</td>
<td>appt.czip</td>
<td>ZIP/Postal code of customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Reminder</td>
<td>appt.cmessagetime</td>
<td>Number of minutes before Delivery Window/ETA when reminder notification is sent.</td>
</tr>
<tr>
<td>Reported End Time of Activity Delivery</td>
<td>appt.ctime_delivered_end</td>
<td>End date/time of activity which is delivered to the customer.</td>
</tr>
<tr>
<td>Start Time of Activity Reported in Message</td>
<td>message_log.mqtime_delivered_start</td>
<td>Start date/time of activity which is delivered to the customer with the message.</td>
</tr>
<tr>
<td>Reported Start Time of Activity Delivery</td>
<td>appt.ctime_delivered_start</td>
<td>Start date/time of activity which is delivered to the customer.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SLA End</td>
<td>appt.sla_window_end</td>
<td>End date and time of Service Level Agreement</td>
</tr>
<tr>
<td>SLA Start</td>
<td>appt.sla_window_start</td>
<td>Start date and time of Service Level Agreement</td>
</tr>
<tr>
<td>Service Window End</td>
<td>appt.service_window_end</td>
<td>End time of Service Window</td>
</tr>
<tr>
<td>Service Window Start</td>
<td>appt.service_window_start</td>
<td>Start time of Service Window</td>
</tr>
<tr>
<td>State</td>
<td>appt.cstate</td>
<td>State (Geographic area) of the customer for whom the activity is provided.</td>
</tr>
<tr>
<td>Teamwork ID</td>
<td>appt.a_teamid</td>
<td>ID of team for teamwork activities</td>
</tr>
<tr>
<td>Template ID</td>
<td>appt.a_templateid</td>
<td>ID of activity template for mass/repeating activities</td>
</tr>
<tr>
<td>Time Slot ID</td>
<td>appt.a_tsid</td>
<td>ID of Time Slot assigned to the activity</td>
</tr>
<tr>
<td>Time of Message</td>
<td>message_log.mqsent</td>
<td>Date/time when the message was sent to recipient (UTC)</td>
</tr>
<tr>
<td>Sending</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel estimation</td>
<td>appt.travel_estimation_method</td>
<td>Method that was used to make current traveling time estimation. Applicable for the activity.</td>
</tr>
<tr>
<td>method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel time</td>
<td>appt.travel_from_aid</td>
<td>ID of previous activity adjustment is entered for. Applicable for the activity.</td>
</tr>
<tr>
<td>adjustment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID of previous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traveling Time</td>
<td>appt.travel</td>
<td>Time of travel from a previous activity/location.</td>
</tr>
<tr>
<td>Visit ID</td>
<td>appt.a_visitid</td>
<td>ID of Visit for the activity.</td>
</tr>
<tr>
<td>Work Order</td>
<td>appt.appt_number</td>
<td>Identifier of the activity (string, value of field “Work Order”)</td>
</tr>
<tr>
<td>appt.properties</td>
<td>Activity Properties</td>
<td>List of all custom activity properties with their values</td>
</tr>
<tr>
<td>message_log.mq_invid</td>
<td>Message Inventory ID</td>
<td>Unique internal identifier of the inventory item for which the message was created.</td>
</tr>
<tr>
<td>message_log.mqtime_deliver</td>
<td>End Time of Activity Reported in Message</td>
<td>End date/time of activity which is delivered to the customer with the message.</td>
</tr>
<tr>
<td>message_log.mq_uid</td>
<td>Message User ID</td>
<td>Internal unique identifier of the user who sent the message.</td>
</tr>
<tr>
<td>appt.access_hours</td>
<td>Access Hours</td>
<td>Formatted string. Contains set of hours the activity is accessible at the day it is scheduled for (including overnight)</td>
</tr>
</tbody>
</table>
### Chapter 2

### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>appt.country_code</code></td>
<td>Country</td>
<td>Country code for the activity</td>
</tr>
<tr>
<td><code>appt.cdaybefore_flag</code></td>
<td>Day before</td>
<td>Value of custom property &quot;Day before&quot;. Present in the Initial DB, but may be removed. Flag indicates if &quot;Day Before&quot; Notification should be used.</td>
</tr>
<tr>
<td><code>provider.planguage</code></td>
<td>Message Language</td>
<td>Language of the resource.</td>
</tr>
<tr>
<td><code>appt.first_manual_operation_.First Manual Operation (User name)</code></td>
<td>Name of the user performing the first manual reschedule/move/reorder operation after an automatic one.</td>
<td></td>
</tr>
<tr>
<td><code>appt.first_manual_operation_.First Manual Operation (User login)</code></td>
<td>Login of the user performing the first manual reschedule/move/reorder operation after an automatic one.</td>
<td></td>
</tr>
<tr>
<td><code>appt.eta_end_time</code></td>
<td>Start - End</td>
<td>Real start time - end time for the activity</td>
</tr>
<tr>
<td><code>appt.end_time</code></td>
<td>End</td>
<td>Estimated or real end time of activity. Calculated as ETA (Start time)+activity duration.</td>
</tr>
<tr>
<td><code>appt.activity_workskills</code></td>
<td>Activity Work Skills</td>
<td>List of ID for Work Skills and Work Skill Groups for the activity</td>
</tr>
<tr>
<td><code>appt.activity_capacity_categories</code></td>
<td>Capacity Categories</td>
<td>List of ID for Capacity Categories for the activity</td>
</tr>
<tr>
<td><code>message_log.mq_pid</code></td>
<td>Resource ID</td>
<td>Unique internal identifier of the resource for which the message was created.</td>
</tr>
<tr>
<td><code>message_log.mq_srid</code></td>
<td>Service Request ID</td>
<td>Unique internal identifier of the service request for which the message was created.</td>
</tr>
</tbody>
</table>

Custom activity properties (except file properties) can be configured and extracted for the Message Fields data set. File properties are extracted according to configuration defined in the Property File Fields data set. Custom properties of the following types can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Can configure?</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.
Data can be retrieved as one or more XML files consisting of 'messages' root element that contains 'message' elements. 'message' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the message and whose contents are their corresponding values.

*Note:* Date and time values in the 'Message Fields' file are exported in GMT time zone.

Example: Message Fields file

The following data is collected, but because the message detail fields are extensive, only some of the fields are used in the example files. Provide a meaningful name to the report.

- Internal unique string identifier of the message, for example, `Message ID`
- Unique internal identifier of the queue, for example, `Queue ID`
- Unique internal identifier of the activity, for example, `Activity ID`
- Unique internal identifier of the inventory item, for example, `Inventory ID`
- Recipient of the message, for example, `Message Recipient`
- Unique identifier of the customer, for example, `Customer ID`
- UTC date and time when the message was sent, for example, `Date Time (UTC)`
- Name of the message scenario, for example, `Message Scenario`
- Name of the scenario step, for example, `Scenario Step`
- Method of notification, for example, `Notification Method`
- Final status of the message, for example, `Final Status`
- Description, complementing the final status, for example, `Status Description`

In the example data is provided for message 7224. The message was created within the queue with ID 5352 for activity with ID 3949. The message is not related to inventory and had to be sent to customer with external ID 019980. The message was attempted to be sent on 08-11-2013 at 17:09:24 and was created with the 'Day_before' message scenario at its start step – 'day_before'. Method of notification was an outbound voice call (voice). The message could not be delivered (falsemethod) as customer phone was not available.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<messages>
  <message>
    <Field name="Int Message ID">7224</Field>
    <Field name="Queue ID">5352</Field>
    <Field name="Activity ID">3949</Field>
    <Field name="Inventory ID"/>
    <Field name="Message Recipient">customer</Field>
    <Field name="Customer ID">019980</Field>
    <Field name="Date Time (UTC)">08-11-2013 17:09:24</Field>
    <Field name="Message Scenario">Day_before</Field>
    <Field name="Scenario Step">day_before</Field>
    <Field name="Notification Method">voice</Field>
    <Field name="Final Status">falsemethod</Field>
    <Field name="Status Description">'CUSTOMER_PHONE_IS_NOT_AVAILABLE'</Field>
  </message>
</messages>
```
Details and Examples: Message Text Fields Data Set

The 'Message Text Fields' data set contains the details of texts of all messages that were sent or were to be sent by the application during the extraction period.

Message Text Fields are exported in the daily Extract file for which 'Message Text Fields' is selected as the entity. The 'Message Text Fields' file can include only the following fields: 'Message Body', 'Message ID' and 'Message Subject'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'message_texts' root element that contains 'message_text' elements. 'message_text' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the message and whose contents are their corresponding values.

This table provides the label and description of fields in the Message Text Fields data set:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Body</td>
<td>message_content.mcbody</td>
<td>Body (content) of the message</td>
</tr>
<tr>
<td>Message ID</td>
<td>message_content.mc_mqid</td>
<td>Unique internal identifier of the message.</td>
</tr>
<tr>
<td>Message Subject</td>
<td>message_content.mcssubject</td>
<td>Subject of the message.</td>
</tr>
</tbody>
</table>

**Note:** No changes for this data set.

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the message, for example, **Message ID**
- Subject of the message, for example, **Message Subject**
- Body of the message, for example, **Message Body**

In the example text details for message with ID 7224595 are provided. The message is an XML file.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<message_texts>
  <message_text>
    <Field name="Message ID">7224595</Field>
    <Field name="Message Subject"><![CDATA[<set> <servers host="http://BestCable.etadirect.com:8080/outbound?mapname=BestCable&timeout=350" prefix=555</prefix> </servers></set>]]></Field>
    <Field name="Message Body"><![CDATA[<envelope company="BestCable" file="day_before.tpl.vxml" from="08:00" to="10:00"> <add work_order_class="*" work_order_type="IN" cphone="555310218001" /> </envelope>]]></Field>
  </message_text>
</message_texts>
```
Details and Examples: PAS Answer Fields Data Set

The ‘PAS Answer Fields’ data set contains details of customer’s answers to questions asked in the Post Appointment Survey that are present in the application with status ‘delivered’ by the moment of extraction.

PAS Answer Fields are exported in the Daily Extract file for which ‘PAS Answer Fields’ is selected as the entity. Any PAS answer properties and fields available in Oracle Field Service Cloud (for example, ‘PAS Question Number’, ‘Message ID’, ‘PAS-Related Activity ID’, etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘pas_answers’ root element that contains ‘pas_answer’ elements. ‘pas_answer’ elements are sets of ‘Field’ elements whose attributes are names of PAS question fields and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message ID</td>
<td>survey_take.mqid</td>
<td>Identifier of the message with which the question is asked.</td>
</tr>
<tr>
<td>PAS Question ID</td>
<td>survey_result.question_id</td>
<td>Identifier of the question, to which the answer is given.</td>
</tr>
<tr>
<td>ID</td>
<td>translation.tid</td>
<td>Identifier of the answer which is selected for the question</td>
</tr>
<tr>
<td>PAS Question Language</td>
<td>translation.t_lid</td>
<td>Identifier of language for the PAS question.</td>
</tr>
<tr>
<td>PAS Question Number</td>
<td>survey_question.qorder</td>
<td>Number of the question, to which the answer is given</td>
</tr>
<tr>
<td>Text</td>
<td>translation.ttext</td>
<td>PAS answer name.</td>
</tr>
<tr>
<td>PAS-Related Activity Date</td>
<td>survey_result.date</td>
<td>Date and time of the activity on which the questions were asked.</td>
</tr>
<tr>
<td>PAS-Related Activity ID</td>
<td>survey_take.aid</td>
<td>Identifier of the activity at which the answer is given.</td>
</tr>
</tbody>
</table>

**Note:** No changes and custom properties for this data set.

**Note:** Date and time values in the ‘PAS Answer Fields’ file are exported in GMT time zone.
Example: PAS Answer Fields File

The following data is collected. Provide a meaningful name to the report.

- Identifier of the question, to which the answer is given, for example, qid
- Date and time of the activity on which the questions were asked, for example, date
- Identifier of the activity at which the answer is given, for example, aid
- Identifier of the message with which the question is asked, for example, mid
- Number of the question, to which the answer is given, for example, qnum
- Customer’s answer, for example, answ

Details for answers to questions 101 and 102 are extracted for activity 34567 performed on November 8, 2013, the questions were asked within message 567. Answer to both questions was ‘Yes’.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<pas_answers>
  <pas_answer>
    <Field name="qid">101</Field>
    <Field name="date">08-03-2011</Field>
    <Field name="aid">34567</Field>
    <Field name="mid">567</Field>
    <Field name="qnum">01</Field>
    <Field name="answ">Y</Field>
  </pas_answer>
  <pas_answer>
    <Field name="qid">102</Field>
    <Field name="date">08-03-2011</Field>
    <Field name="aid">34567</Field>
    <Field name="mid">567</Field>
    <Field name="qnum">02</Field>
    <Field name="answ">Y</Field>
  </pas_answer>
</pas_answers>
```

Details and Examples: PAS Question Fields Data Set

The ‘PAS Question Fields’ data set contains details of questions for Post Appointment Surveys by the moment of extraction.

PAS Question Fields are exported in the Daily Extract file for which ‘PAS Question Fields’ is selected as the entity. The ‘PAS Question Fields’ file can include only the following fields: ‘PAS Question Language’, ‘PAS Question ID’ and ‘PAS Question Text’.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘pas_questions’ root element that contains ‘pas_question’ elements. ‘pas_question’ elements are sets of ‘Field’ elements whose attributes are names of PAS question fields and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:
### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>translation.tid</td>
<td>Identifier of the question</td>
</tr>
<tr>
<td>PAS Question Language</td>
<td>translation.t_lid</td>
<td>Identifier of language for the PAS question.</td>
</tr>
<tr>
<td>Text</td>
<td>translation.ttext</td>
<td>Text of the question</td>
</tr>
</tbody>
</table>

> **Note:** No changes and custom properties for this data set.

### Example: PAS Question Fields file

The following data is collected. Provide a meaningful name to the report.

- Identifier of the question, for example, `qid`
- Identifier of the language used for the question, for example, `lid`
- Text of the questions, for example, `text`

Details for two questions are extracted: Question 101 – 'Are you satisfied with the service provided?' and Question 102 – 'Was the service provided on time?'

```xml
<?xml version="1.0" encoding="UTF-8"?>
<pas_questions>
  <pas_question>
    <Field name="qid">101</Field>
    <Field name="lid">1</Field>
    <Field name="text">"Are you satisfied with the service provided?"</Field>
  </pas_question>
  <pas_question>
    <Field name="qid">102</Field>
    <Field name="lid">1</Field>
    <Field name="text">"Was the service provided on time?"</Field>
  </pas_question>
</pas_questions>
```

### Details and Examples: Property Fields Data Set

The ‘Property Fields’ data set contains details of all fields and custom properties available in the application by the end of extraction period.

Property Fields are exported in the Daily Extract file for which 'Property Fields' is selected as the entity. Any property fields available in Oracle Field Service Cloud (for example, 'Property ID', 'Property Name', 'Property Label', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.
Data can be retrieved as one or more XML files consisting of ‘properties’ root element that contains ‘property’ elements. ‘property’ elements are sets of ‘Field’ elements whose attributes are names of fields and custom properties defined for the property and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity Type to Which Property Refers</td>
<td>property_desc.pentity</td>
<td>Integer value that corresponds to the type of entity to which the property belongs to.</td>
</tr>
<tr>
<td>ID</td>
<td>property_desc.propertyid</td>
<td>Unique internal identifier of the property in the system</td>
</tr>
<tr>
<td>Property ID</td>
<td>property_name.pn_propertyid</td>
<td>Unique internal identifier that corresponds to the property identifier</td>
</tr>
<tr>
<td>Property Label</td>
<td>property_desc.pdlabel</td>
<td>Unique external identifier of the property</td>
</tr>
<tr>
<td>Property Language</td>
<td>property_name.pn_lid</td>
<td>Integer that corresponds to the language defined for the property name.</td>
</tr>
<tr>
<td>Property Name</td>
<td>property_name.pntext</td>
<td>Name of the property</td>
</tr>
<tr>
<td>Text Entry Identifier</td>
<td>property_name.pnindex</td>
<td>Internal property name identifier (0=property name, -1 = property hint, other integer of string value = identifier of enumeration value)</td>
</tr>
</tbody>
</table>

**Note:** No changes for this data set.

Custom activity, inventory, resource, user and service request properties (except file properties) can be configured and extracted for the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the custom properties of Property Fields that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>
Example: Property Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the property, for example, **Property ID**
- Name of the property, for example, **Property Name**
- Unique external identifier of the field/property, for example, **Property label**
- Integer that corresponds to the type of entity to which the property belongs, for example, **Property Type**, with the following possible values
  - 1: Activity
  - 2: Inventory
  - 3: Resource
  - 5: Service request
  - 9: User
  - 10: Required inventory

Details for Properties 154897, 248961, 356894, 568743, 657456 are exported. 154897 is 'Activity ID' labeled as 'a_id' and related to an activity. 248961 is 'Credence' labeled as 'credence' and related to a resource. 356894 is 'Inventory Pool' labeled as 'i_pool' and related to inventory and 568743 is 'Request Date' labeled 'sreq_date' and related to a service request. 657456 is 'Logged-in Last', labeled as 'last_login_date' and related to a user.

```xml
<xml version="1.0" encoding="UTF-8">
<properties>
  <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Name">Activity ID</Field>
    <Field name="Property Label">a_id</Field>
    <Field name="Property Type">1</Field>
  </property>
  <property>
    <Field name="Property ID">248961</Field>
    <Field name="Property Name">Credence</Field>
    <Field name="Property Label">credence</Field>
    <Field name="Property Type">3</Field>
  </property>
  <property>
    <Field name="Property ID">356894</Field>
    <Field name="Property Name">Inventory Pool</Field>
    <Field name="Property Label">i_pool</Field>
    <Field name="Property Type">2</Field>
  </property>
  <property>
    <Field name="Property ID">568743</Field>
    <Field name="Property Name">Request Date</Field>
    <Field name="Property Label">sreq_date</Field>
    <Field name="Property Type">5</Field>
  </property>
  <property>
    <Field name="Property ID">657456</Field>
    <Field name="Property Name">Logged-in Last</Field>
    <Field name="Property Label">last_login_date</Field>
    <Field name="Property Type">9</Field>
  </property>
</properties>
```
Details and Examples: Property File Fields Data Set

Daily Extract supports export of the contents of the file properties (images, files in pdf-format, etc.) available in the application by the end of the extraction period.

Property File Fields are exported in the Daily Extract file for which ‘Property File Fields’ is selected as the entity. The only property file field available in Oracle Field Service Cloud is ‘property_file’.

> Note: Field name editing is not allowed for this entity.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Property</td>
<td>property_file.property_file</td>
<td>If configured file properties available in the system by the end of the extraction period can be stored.</td>
</tr>
</tbody>
</table>

- Changes: It is possible to configure specific set of file properties for the Property File Fields data set. Only those properties that are configured on the Daily extract screen in Manage will be extracted by the end of extraction period. If the File property field is configured on the screen, all product file fields and custom file properties available in the system will be automatically added to the daily extraction regardless of configurations that are done for the Property File Fields data set.

- Custom Properties: Any custom file property (except inventory file properties) can be configured and extracted for the Property File Fields data set.

File properties are exported in their original format or added to the archive, if archives are used. File properties are exported under names created according to the following pattern:

**companyName_propertyID_entityID_filename**

where:

- companyName is the name of the company in Oracle Field Service Cloud
- propertyID is the numeric ID of the file property in Oracle Field Service Cloud
- entityID is the numeric ID of the entity (activity, inventory, resource, support request) to which the file property is attached. The ‘entityID’ is obtained from the corresponding tables in the database.
- filename is the name of the file attached to the file property

For example, image file 06082013036.png attached to file property with ID 563 being a property of activity 23244105 in company Sunrise will be exported under the following name:

**sunrise_563_23244105_06082013036.png**
Details and examples: Property Lookup Fields data set

The ‘Property Lookup Fields’ data set contains the values that can be used to identify properties available in the application by the end of extraction period can be collected. Such details are fixed sets of fields.

Property Lookup Fields are exported in the Daily Extract file for which ‘Property Lookup Fields’ is selected as the entity. The ‘Property Lookup Fields’ file can include only the following fields: ‘Property ID’, ‘Property Language’, ‘Property Name’ and ‘Text Entry Identifier.’

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘properties’ root element that contains ‘property’ elements. ‘property’ elements are sets of ‘Field’ elements whose attributes are names of fields used to identify the property and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property ID</td>
<td>property_name.pn_propertyid</td>
<td>Unique internal identifier of the property in the system.</td>
</tr>
<tr>
<td>Property Language</td>
<td>property_name.pn_lid</td>
<td>Integer that corresponds to the language defined for the property name.</td>
</tr>
<tr>
<td>Property Name</td>
<td>property_name.pntext</td>
<td>Name of the property.</td>
</tr>
<tr>
<td>Text Entry Identifier</td>
<td>property_name.pnindex</td>
<td>Internal property name identifier (0=property name, -1 = property hint, other integer of string value - identifier of enumeration value)</td>
</tr>
</tbody>
</table>

Note: No changes for this data set.

Custom activity, inventory, resource, user and service request lookup properties (except file properties) which is available by the end of the extraction period can be processed. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the custom properties that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Example: Property Lookup Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the property, for example, **Property ID**
- Integer that corresponds to the language of property, for example, **Property Language**, with the following options
  - 1: English
  - 2: Spanish
- Number of the default value, for example, **Property Index**
- Name of the property or its default value, for example, **Property Text**

Details for Properties 154897, 356850 are exported. 154897 is 'Activity ID', two languages can be used for the property and there are no values to choose from. 356850 is 'Resource Type', two languages can be used for the property and there are three values the resource type can be chosen from.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<properties>
  <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Activity ID</Field>
  </property>
  <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">ID de Actividad</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Resource Type</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Tipo de Recurso</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">1</Field>
    <Field name="Property Text">Technician</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">1</Field>
    <Field name="Property Text">Tecnico</Field>
  </property>
</properties>
```
<property>
  <Field name="Property ID">356850</Field>
  <Field name="Property Language">1</Field>
  <Field name="Property Index">2</Field>
  <Field name="Property Text">Bucket</Field>
</property>

<property>
  <Field name="Property ID">356850</Field>
  <Field name="Property Language">2</Field>
  <Field name="Property Index">2</Field>
  <Field name="Property Text">Cubo</Field>
</property>

<property>
  <Field name="Property ID">356850</Field>
  <Field name="Property Language">1</Field>
  <Field name="Property Index">3</Field>
  <Field name="Property Text">Group</Field>
</property>

<property>
  <Field name="Property ID">356850</Field>
  <Field name="Property Language">2</Field>
  <Field name="Property Index">3</Field>
  <Field name="Property Text">Grupo</Field>
</property>

Details and Examples: Queue Fields Data Set

The ‘Queue Fields’ data set contains values of the fields and properties assigned by the end of the extraction period to routes processed in the application during the extraction period, as well as fields and properties of the resources, to which each route is directly assigned by the end of the extraction period.

Queue Fields are exported in the Daily Extract file for which ‘Queue Fields’ is selected as the entity. Any route properties and fields available in Oracle Field Service Cloud (for example, ‘Queue ID’, ‘Resource ID’, ‘Status’, etc.) can be included in the Daily Extract by adding them to the file structure.

Note: Route identifiers are unique within the single extraction, except identifier ‘0’ which can be used more than once. Route identifier ‘0’ is used to extract properties of buckets and organizations that is, resources having no own queues. In this case, the resource is identified by its ID, and the same file can have multiple ‘queue’ elements containing queue identifier ‘0’. In all cases, the ‘queue identifier’ + ‘resource identifier’ combination is unique per extraction.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘queues’ root element that contains ‘queue’ elements. ‘queue’ elements are sets of ‘Field’ elements whose attributes are names of fields and custom properties defined for the route and resource executing the route and whose contents are their corresponding values.

Note: Date and time values in the ‘Queue Fields’ file are exported in the resource time zone.
Example: Queue Fields file

The following data is collected. Provide a meaningful name to the report.

- Date of the route, for example **Queue Date**
- Unique internal identifier of the route, for example **Queue ID**
- Unique internal identifier of the resource executing the route, for example **Resource ID**
- Name of the resource executing the route, for example **Resource Name**
- Scheduled work day start for the resource executing the route, for example **Day Start**
- Scheduled work day end for the resource executing the route, for example **Day End**

This example also includes a custom property called **Credence** that corresponds to credence of the resource executing the route.

The data is collected for two routes of November 8, 2013; Route 546279 is assigned to resource 500001, Walter Ambriz, whose working day by the calendar is from 1 to 8 pm, and Route 535788 is assigned to resource 500123, Jennifer White, whose working day is actually an overnight from 10 pm to 8 am of the next day. No credence is provided for Jennifer.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<queues>
  <queue>
    <Field name="Queue Date">2013-11-08</Field>
    <Field name="Queue ID">546279</Field>
    <Field name="Resource ID">500001</Field>
    <Field name="Resource Name">Walter Ambriz</Field>
    <Field name="Day Start">13:00</Field>
    <Field name="Day End">20:00</Field>
    <Field name="Credence">Walter Ambriz, an install technician with our company, will be arriving at your requested location to meet your digital cable and internet needs. Walter has successfully completed our extensive certification program and has passed all given motor vehicle, drug and background screenings.</Field>
  </queue>
  <queue>
    <Field name="Queue Date">2013-11-08</Field>
    <Field name="Queue ID">535788</Field>
    <Field name="Resource ID">500123</Field>
    <Field name="Resource Name">Jennifer White</Field>
    <Field name="Day Start">22:00</Field>
    <Field name="Day End">08:00</Field>
    <Field name="Credence"/>
  </queue>
</queues>
```

Details and Examples: Resource Fields Data Set

The 'Resource Fields' data set contains all fields and properties assigned to the resource, and its position in the Resource Tree available in the application by the end of extraction period.

Resource Fields are exported in the Daily Extract file for which 'Resource Fields' is selected as the entity. Any resource properties and fields available in Oracle Field Service Cloud (for example, 'Resource ID', 'Status', 'Resource Parent', etc.) can be included in the Daily Extract by adding them to the file structure.
Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘providers’ root element that contains ‘provider’ elements. ‘provider’ elements are sets of ‘Field’ elements whose attributes are names of fields and custom properties defined for the resource and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Bucket</td>
<td>provider.pcapacity_bucket</td>
<td>ID of capacity bucket for the resource.</td>
</tr>
<tr>
<td>Child Resource ID</td>
<td>provider_children.child_id</td>
<td>ID of subordinated (child) resource (from resource tree)</td>
</tr>
<tr>
<td>Date format (Resource)</td>
<td>provider.pdate_fid</td>
<td>ID of date format for the resource</td>
</tr>
<tr>
<td>Email address</td>
<td>provider.email</td>
<td>Email address for the resource</td>
</tr>
<tr>
<td>Initial Ratio for Activity Duration</td>
<td>provider.pininitial_ratio</td>
<td>Initial ratio for activity duration for the resource the activity belongs to.</td>
</tr>
<tr>
<td>Message Language</td>
<td>provider.planguage</td>
<td>Language for the resource</td>
</tr>
<tr>
<td>Organization</td>
<td>provider.organization_id</td>
<td>ID of organization for the resource</td>
</tr>
<tr>
<td>Parent Resource ID</td>
<td>provider_children.parent_id</td>
<td>ID of parent resource for the resource (from resource tree)</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
<td>External system identifier for the resource</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider.pid</td>
<td>Unique internal identifier of the resource</td>
</tr>
<tr>
<td>Resource Name</td>
<td>provider.pname</td>
<td>Name (text identifier) of the resource</td>
</tr>
<tr>
<td>Resource Owner Name</td>
<td>provider_owner.pname</td>
<td>Parent resource name for the resource</td>
</tr>
<tr>
<td>Resource Parent</td>
<td>provider.parent</td>
<td>ID of parent resource for the resource</td>
</tr>
<tr>
<td>Resource Phone</td>
<td>provider.pphone</td>
<td>Phone number of the resource</td>
</tr>
<tr>
<td>Resource status</td>
<td>provider.pactive</td>
<td>Resource status (active or inactive).</td>
</tr>
<tr>
<td>Resource type</td>
<td>provider.ptype</td>
<td>Resource type ID for the resource</td>
</tr>
<tr>
<td>Routing profile</td>
<td>provider.p_rprid</td>
<td>ID of routing plan assigned to the resource</td>
</tr>
<tr>
<td>Subordination Level</td>
<td>provider_children.distance</td>
<td>Depth of parent-child resource relations (from resource tree)</td>
</tr>
</tbody>
</table>
### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Zone (Resource)</td>
<td>provider.time_zone</td>
<td>ID of time zone assigned to the resource</td>
</tr>
<tr>
<td>Time format (Resource)</td>
<td>provider.ptime_fid</td>
<td>ID of time format for the resource</td>
</tr>
<tr>
<td>Working days to start impacting duration</td>
<td>provider.skip_days_for_stats</td>
<td>Integer number of days which must be skipped for natural learning statistics</td>
</tr>
</tbody>
</table>

> **Note:** No changes to this data set.

Resource custom properties (except file properties) can be configured and extracted to the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the Resource custom properties that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

In this example, data is extracted in a file for the following Resource Tree:

This figure shows an expanded list of resources in the Resource Tree.

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the resource, for example, **Resource ID**
- Name of the resource, for example, **Resource Name**
- Type of the resource, for example, **Resource Type**, with the following values
  - 1: Technician
Data sets

- **2: Organization**
  - 3: Bucket

- Flag of the resource status, for example, **Is Resource Active**, with the following values
  - 1: Resource is active
  - 0: Resource is inactive

- Unique identifier of the bucket or organization to which the resource belongs, for example, **Owner ID**

- Name of the bucket or organization to which the resource belongs, for example, **Owner Name**

- Integer that defines the subordination level, for example, **Subordination**

Data in the ResourcePosition is collected for the following resources:

- Resource 1 named Sunrise Enterprise, of organization type (in our example the type corresponds to 3)
- Resource 10000 named Planning, of organization type (in our example the type corresponds to 3)
- Resource 11000 named Coast Beach, of a 'Bucket type' (in our example the type corresponds to 2)
- Resource 10001 named BARRAGAN, James of a 'Technician' type (in our example the type corresponds to 1)

In our example BARRAGAN, James belongs to Coast Beach, Coast Beach is a child resource of Planning and Planning belongs to Sunrise Enterprise.

This way all resources are active and:

- Resource 10000 (Planning) belong to Resource 1 (Sunrise Enterprise) only and the subordination level is 1
- Resource 11000 (Coast Beach) belongs to Resource 10000 (Planning) with subordination level 1 and belongs to Resource 1 (Sunrise Enterprise) with subordination level 2
- Resource 10001 (BARRAGAN, James) belongs to Resource 11000 (Coast Beach) with subordination level 1, belongs to Resource 10000 (Planning) with subordination level 2 and belongs to Resource 1 (Sunrise Enterprise) with subordination level 3

```xml
<?xml version="1.0" encoding="UTF-8"?>
<providers>
  <provider>
    <Field name="Resource ID">10000</Field>
    <Field name="Resource Name">Planning</Field>
    <Field name="Resource Type">3</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
    <Field name="Owner Name">Sunrise Enterprise</Field>
    <Field name="Subordination">1</Field>
  </provider>
  <provider>
    <Field name="Resource ID">11000</Field>
    <Field name="Resource Name">Coast Beach</Field>
    <Field name="Resource Type">2</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">10000</Field>
    <Field name="Owner Name">Planning</Field>
    <Field name="Subordination">1</Field>
  </provider>
  <provider>
    <Field name="Resource ID">11000</Field>
    <Field name="Resource Name">Coast Beach</Field>
    <Field name="Resource Type">2</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
  </provider>
</providers>
"
Details and Examples: Resource Location Fields Data Set

Details for all resource locations existing in the application by the end of the extraction period can be extracted.

Resource Location Fields are exported in the Daily Extract file for which 'Resource Location Fields' is selected as the entity. The 'Resource Location Fields' file can include only the following fields: 'Latitude', 'Longitude', 'Location label', 'Location Type' and 'Resource ID'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'locations' root element that contains 'location' elements. 'location' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>location.lcoord_y</td>
<td>Geographic coordinate Y resolved for the location</td>
</tr>
<tr>
<td>Location Address</td>
<td>location.laddress</td>
<td>Address resolved for the location</td>
</tr>
<tr>
<td>Location City</td>
<td>location.lcity</td>
<td>City resolved for the location</td>
</tr>
</tbody>
</table>
## Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Label</td>
<td>location.llabel</td>
<td>Label of the location which is assigned to the resource</td>
</tr>
<tr>
<td>Location Postal Code</td>
<td>location.lzip</td>
<td>ZIP/Postal code resolved for the location</td>
</tr>
<tr>
<td>Location State</td>
<td>location.lstate</td>
<td>State/Area resolved for the location</td>
</tr>
<tr>
<td>Location Type</td>
<td>provider_location.pltype</td>
<td>Type of the location which is assigned to the resource</td>
</tr>
<tr>
<td>Location by days</td>
<td>provider_location.plweekdays</td>
<td>Days of the week on which the location is assigned to the resource</td>
</tr>
<tr>
<td>Longitude</td>
<td>location.lcoord_x</td>
<td>Geographic coordinate X resolved for the location</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider_location.pl_pid</td>
<td>Identifier of the resource to which the location is assigned, location.pid</td>
</tr>
<tr>
<td>location.lid</td>
<td>Location ID</td>
<td>Internal identifier for the location</td>
</tr>
<tr>
<td>provider.external_id</td>
<td>Resource External ID</td>
<td>External identifier for resource with the location</td>
</tr>
</tbody>
</table>

**Note:** Custom properties are not supported for this data set.

### Example: Resource Location Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the resource to which the location is assigned, for example, `system_pid`
- External identifier of the resource to which the location is assigned, for example, `provider_id`
- Location type, for example, `location_type`
- Location label, for example, `location_label`
- geographic coordinates resolved for the location, for example, `coord_x, coord_y`
- days of the week on which the location is assigned to the resource, for example, `weekdays`, where the following values:
  - 0: No
  - 1: Mo
  - 2: Tu
  - 3: We
  - 4: Th
  - 5: Fr
  - 6: Sa
Details of two resource locations are provided in the examples: Location of type 'start', labeled 'warehouse', assigned to resource with internal identifier Basile Terry, external identifier 33035, geographic coordinates of the location are -106.03448 and 39.64311, the location is assigned to the resource on Mondays, Wednesdays and Saturdays.

Location of type 'end', labelled 'garage', assigned to the same resource geographic coordinates of the location are -104.59838 and 38.28359, the location is assigned to the resource on Mondays, Wednesdays and Saturdays.

<?xml version="1.0" encoding="UTF-8"?>
<locations>
  <location>
    <Field name="system_pid">Basile Terry</Field>
    <Field name="provider_id">33035</Field>
    <Field name="location_type">start</Field>
    <Field name="location_label">warehouse</Field>
    <Field name="coord_x">-106.03448</Field>
    <Field name="coord_y">39.64311</Field>
    <Field name="weekdays">137</Field>
  </location>
  <location>
    <Field name="system_pid">Basile Terry</Field>
    <Field name="provider_id">33035</Field>
    <Field name="location_type">end</Field>
    <Field name="location_label">garage</Field>
    <Field name="coord_x">-104.59838</Field>
    <Field name="coord_y">38.28359</Field>
    <Field name="weekdays">137</Field>
  </location>
</locations>

Details and Examples: Resource Property Fields Data Set

The ‘Resource Property Fields’ data set contains details of work skills per resource at the moment of extraction.

Resource Property Fields are exported in the Daily Extract file for which ‘Resource Property Fields’ is selected as the entity. Any resource properties and fields available in Oracle Field Service Cloud (for example, ‘Resource External ID’, ‘Email address’, ‘Status’, etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘provider_properties’ root element that contains ‘provider_property’ elements. ‘provider_property’ elements are sets of ‘Field’ elements whose attributes are names of resource properties and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Bucket</td>
<td>provider.pcapacity_bucket</td>
<td>ID of capacity bucket for the resource.</td>
</tr>
<tr>
<td>Date format (Resource)</td>
<td>provider.pdate_fid</td>
<td>ID of date format for the resource</td>
</tr>
<tr>
<td>Email address</td>
<td>provider.email</td>
<td>Email address for the resource</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>Initial Ratio for Activity Duration</td>
<td>provider.pinitial_ratio</td>
<td>Initial ratio for activity duration for the resource the activity belongs to.</td>
</tr>
<tr>
<td>Message Language</td>
<td>provider.planguage</td>
<td>Language for the resource.</td>
</tr>
<tr>
<td>Organization</td>
<td>provider.organization_id</td>
<td>ID of organization for the resource</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
<td>External system identifier for the resource</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider.pid</td>
<td>Unique internal identifier of the resource.</td>
</tr>
<tr>
<td>Resource Name</td>
<td>provider.pname</td>
<td>Name (text identifier) of the resource</td>
</tr>
<tr>
<td>Resource Parent</td>
<td>provider.parent</td>
<td>ID of parent resource for the resource</td>
</tr>
<tr>
<td>Resource Phone</td>
<td>provider.pphone</td>
<td>Phone number of the resource</td>
</tr>
<tr>
<td>Resource status</td>
<td>provider.pactive</td>
<td>Resource status (active or inactive).</td>
</tr>
<tr>
<td>Resource type</td>
<td>provider.ptype</td>
<td>Resource type ID for the resource</td>
</tr>
<tr>
<td>Routing profile</td>
<td>provider.p_rprid</td>
<td>ID of routing plan assigned to the resource</td>
</tr>
<tr>
<td>Time Zone (Resource)</td>
<td>provider.time_zone</td>
<td>ID of time zone assigned to the resource</td>
</tr>
<tr>
<td>Time format (Resource)</td>
<td>provider.ptime_fid</td>
<td>ID of time format for the resource</td>
</tr>
<tr>
<td>Working days to start impacting duration estimations</td>
<td>provider.skip_days_for_stats</td>
<td>Integer number of days which must be skipped for natural learning statistics</td>
</tr>
</tbody>
</table>

**Note:** No changes for this data set.

Resource custom properties (except file properties) can be configured and extracted to the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the Resource custom properties that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Can be configured?</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Data sets

<table>
<thead>
<tr>
<th>Type</th>
<th>Can be configured?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

Example: Resource Property Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the resource, for example, `provider_id`
- Resource name, for example, `provider_name`
- Resource type, for example, `provider_type`
- Resource’s status, for example, `provider_active`
  - 0: Inactive
  - 1: Active

This example also includes a custom property, `custom_property_1` that allows a value of 1, 2, 3, or 4.

Details of properties of two resources are provided in the examples – resource Norman Kilburn, with ID 33037, of type 2, having the status ‘active’, located at the address: 120 Willow Dr., Lake Mary, FL, 32746; resource Deanna Bohn, with ID 55102, of type 4, having the status ‘inactive’, located at the address: 500 Pine Way, Sanford, 32771.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<provider_properties>
    <provider_property>
        <Field name="provider_id">33037</Field>
        <Field name="provider_name">Norman Kilburn</Field>
        <Field name="provider_type">2</Field>
        <Field name="provider_active">1</Field>
        <Field name="custom_property_1">120 Willow Dr.</Field>
        <Field name="custom_property_2">Lake Mary</Field>
        <Field name="custom_property_3">FL</Field>
        <Field name="custom_property_4">32746</Field>
    </provider_property>
    <provider_property>
        <Field name="provider_id">55102</Field>
        <Field name="provider_name">Deanna Bohn</Field>
        <Field name="provider_type">4</Field>
        <Field name="provider_active">0</Field>
        <Field name="custom_property_1">500 Pine Way</Field>
        <Field name="custom_property_2">Sanford</Field>
        <Field name="custom_property_3">FL</Field>
        <Field name="custom_property_4">32771</Field>
    </provider_property>
</provider_properties>
```
Details and Examples: Resource Work Skill Fields Data Set

The ‘Resource Work Skill Fields’ data set contains details of work skills per resource at the moment of extraction.

Resource Work Skill Fields are exported in the Daily Extract file for which ‘Resource Work Skill Fields’ is selected as the entity. The ‘Resource Work Skill Fields’ file can include only the following fields: ‘provider_id’, ‘Resource Work Skill Level’, ‘Resource Work Skill ID’, ‘Resource Work Skill From’ and ‘Resource Work Skill To’.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of ‘provider_work_skills’ root element that contains ‘provider_work_skill’ elements, ‘provider_work_skill’ elements are sets of 'Field' elements whose attributes are names of resource work skill fields and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource ID</td>
<td>provider_work_skill.provider_id</td>
<td>Unique internal identifier of the resource to which the work skill was assigned</td>
</tr>
<tr>
<td>Resource Work Skill: Start Date</td>
<td>provider_work_skill.start_date</td>
<td>Work skill for resource is active starting from this date.</td>
</tr>
<tr>
<td>Resource Work Skill: ID</td>
<td>provider_work_skill.work_skill_id</td>
<td>Identifier of the work skill defined for the activity</td>
</tr>
<tr>
<td>Resource Work Skill: Level</td>
<td>provider_work_skill.ratio</td>
<td>The level of resource experience for the Work Skill</td>
</tr>
<tr>
<td>Resource Work Skill: End Date</td>
<td>provider_work_skill.end_date</td>
<td>Work skill for resource is expired after this date.</td>
</tr>
</tbody>
</table>

> Note: There are no changes for this data set and custom properties are not supported for this data set.

Example: Resource Work Skill Fields File

The following data is collected. Provide a meaningful name to the report.

- Identifier of the resource, for example, pid
- Identifier of the work skill defined for the resource, for example, work_skill_id
- The level of experience for the skill, for example, ratio

Resource 300001 has only one work skill – Update (identifier – 5) with 100 per cent ratio.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<provider_work_skills>
```
Details and Examples: Service Request Fields Data Set

Details of fields and custom properties for all service requests created in the application during the extraction period can be extracted.

Service Request Fields are exported in the Daily Extract file for which ‘Service Request Fields’ is selected as the entity. Any properties and fields used to define service requests in Oracle Field Service Cloud (for example, ‘Request type’, ‘Text’, ‘User ID’, etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'service_requests' root element which contains 'service_request' elements. 'service_request' elements are sets of 'Field' elements whose attributes are names of the fields and custom properties defined for service requests and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity ID</td>
<td>support_request.sr_aid</td>
<td>Unique internal identifier of the activity to which the service request was assigned.</td>
</tr>
<tr>
<td>Created</td>
<td>support_request.srcreated</td>
<td>Date and time when the service request was created.</td>
</tr>
<tr>
<td>Inventory ID</td>
<td>support_request.sr_invid</td>
<td>Unique internal identifier of the inventory to which the service request was assigned.</td>
</tr>
<tr>
<td>Resource ID</td>
<td>support_request.sr_pid</td>
<td>Unique internal identifier of the resource to which the service request was assigned.</td>
</tr>
<tr>
<td>Service Request Date</td>
<td>support_request.srdate</td>
<td>Date of the service request.</td>
</tr>
<tr>
<td>Service Request ID</td>
<td>support_request.srid</td>
<td>Unique internal identifier of the service request.</td>
</tr>
</tbody>
</table>
Service request custom properties (except file properties) can be configured and extracted to the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

Custom properties

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

Example: Service Request Fields file

The following data is collected. Provide a meaningful name to the report.

- Date and time of the service request, for example, **SR Date&Time**
- Unique internal identifier of the resource to which the service request was assigned, for example, **SR Resource ID**
- Unique internal identifier of the activity to which the service request was assigned, for example, **SR Activity ID**
- Unique internal identifier of the inventory to which the service request was assigned, for example, **SR Inventory ID**

In the example, a custom property, **Importance**, corresponds to the importance of the request and has the following values.

- 1: Critical
- 2: Average
- 3: Minor

Details for two service requests: critical request generated at 14:29:15 of November 20, 2013 on Resource 56879 and minor request generated at 17:35:23 of the same date on Inventory 45687.
Details and Examples: Time Slot Fields Data Set

Details of fields and custom properties for all time slots existing in the application by the end of the extraction period can be extracted.

Time Slot Fields are exported in the Daily Extract file for which 'Time Slot Fields' is selected as the entity. Any time slot properties and fields available in Oracle Field Service Cloud (for example, 'Time Slot Label', 'Time Slot Status', 'Time Slot Name', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'time_slots' root element which contains 'time_slot' elements. 'time_slot' elements are sets of 'Field' elements whose attributes are names of time slot fields and custom properties and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Slot End</td>
<td>time_slot.tstime_to</td>
<td>Time, at which the times slot ends</td>
</tr>
<tr>
<td>Time Slot ID</td>
<td>time_slot.tsid</td>
<td>Unique internal identifier of the time slot</td>
</tr>
<tr>
<td>Time Slot Label</td>
<td>time_slot.tlabel</td>
<td>Unique label of the time slot</td>
</tr>
<tr>
<td>Time Slot Name</td>
<td>time_slot.tsname</td>
<td>Name of the time slot</td>
</tr>
<tr>
<td>Time Slot Start</td>
<td>time_slot.tstime_from</td>
<td>Time, at which the times slot starts</td>
</tr>
<tr>
<td>Time Slot Status</td>
<td>time_slot.tsstatus</td>
<td>Time slot status</td>
</tr>
</tbody>
</table>

**Note:** There are no changes for this data set and custom properties are not supported.
Example: Time Slot Fields file

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the time slot, for example, **TSlot ID**
- Unique label of the time slot, for example, **TSlot Label**
- Name of the time slot (value displayed at the screen), for example, **TSlot Name**
- Field that identifies if the time slot is active (used by the application), for example, **Is TSlot Active**, with the following values
  - 1: Time slot is active
  - 0: Time slot is not active
- Time, at which the times slot starts, for example, **TSlot Start**
- Time, at which the times slot ends, for example, **TSlot End**

In this example, details for two active time slots are extracted: Time Slot 01, labelled '08-10', named '08-10' which starts at 08:00 and ends at 10:00 and Time Slot 03, labelled 'lun' and named 'Lunch' that starts at 12:00 and ends at 13:00.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<time_slots>
  <time_slot>
    <Field name="TSlot ID">01</Field>
    <Field name="TSlot Label">08-10</Field>
    <Field name="TSlot Name">08-10</Field>
    <Field name="Is TSlot Active">1</Field>
    <Field name="TSlot Start">08:00</Field>
    <Field name="TSlot End">10:00</Field>
  </time_slot>
  <time_slot>
    <Field name="TSlot ID">03</Field>
    <Field name="TSlot Label">lun</Field>
    <Field name="TSlot Name">Lunch</Field>
    <Field name="Is TSlot Active">1</Field>
    <Field name="TSlot Start">12:00</Field>
    <Field name="TSlot End">13:00</Field>
  </time_slot>
</time_slots>
```

Details and Examples: Type List Fields Data Set

The ‘Type List Fields’ data set contains the values identifying the type of entity used in the application. Details of all entity types available in the application by the end of extraction period can be collected.

Type List Fields are exported in the Daily Extract file for which ‘Type List Fields’ is selected as the entity. Any properties and fields used to identify entity types in Oracle Field Service Cloud (for example, ‘type_id’, ‘type_label’, ‘type_name’, etc.) can be included in the Daily Extract by adding them to the file structure.

⚠️ **Note:** Field name editing is not allowed for this entity.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.
Data can be retrieved as one or more XML files consisting of the 'types' root element which contains 'type' elements. 'type' elements are sets of 'Field' elements whose attributes are names of the properties and fields used to identify entity types and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Type Group ID</td>
<td>activity_type.group_id</td>
<td>Unique internal identifier of Activity Group</td>
</tr>
<tr>
<td>Lookup Type</td>
<td>lookup.lookup_type</td>
<td>Internal name of the lookup type</td>
</tr>
<tr>
<td>Text</td>
<td>translation.text</td>
<td>Name of the type</td>
</tr>
<tr>
<td>Type ID</td>
<td>lookup.id</td>
<td>Unique internal identifier of the type</td>
</tr>
<tr>
<td>Type Label</td>
<td>lookup.label</td>
<td>Unique label of the type</td>
</tr>
<tr>
<td>Type Language</td>
<td>language.lcode</td>
<td>2-letter language code of the type</td>
</tr>
<tr>
<td>Add new type</td>
<td>type=user</td>
<td>Company User Types has been added and can be processed as all other types.</td>
</tr>
</tbody>
</table>

**Note:** Custom properties are not supported for this data set.

**Example: Type List Fields file**

The following data is collected. Provide a meaningful name to the report.

- Unique internal identifier of the type, for example, **Type ID**
- Unique label of the type, for example, **Type Label**
- Language available for the type, for example, **Type Language**, which can have the following values.
  - en: English
  - sp: Spanish
- Name that corresponds to the type and language, for example,
- Entity, type of which is defined, for example, , which can have the following values:
  - Resource
  - Activity
  - Inventory
  - Service request
  - Work skill
  - Non-working reason
Launch Condition Name

In this example, details for types 028, 029 and 035 are exported. 028 and 029 are related to a resource, 028 is labelled 'gr' and in English corresponds to Group and in Spanish corresponds to Grupo, 029 is labelled 'buc' and corresponds to Bucket in English and to Cubo in Spanish. Type 035 is related to Activity and labelled 'in', it correspond to 'Installation' in English and 'Instalación' in Spanish.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<types>
  <type>
    <Field name="Type ID">028</Field>
    <Field name="Type Label">gr</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Group</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">028</Field>
    <Field name="Type Label">gr</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Grupo</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">029</Field>
    <Field name="Type Label">buc</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Bucket</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">029</Field>
    <Field name="Type Label">buc</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Cubo</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">035</Field>
    <Field name="Type Label">in</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Installation</Field>
    <Field name="Type Entity">activity</Field>
  </type>
  <type>
    <Field name="Type ID">035</Field>
    <Field name="Type Label">in</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Instalación</Field>
    <Field name="Type Entity">activity</Field>
  </type>
</types>
```

Details and Examples: User List Fields Data Set

Details of all users existing in the application and resources assigned to such users by the end of the extraction period can be extracted.
User List Fields are exported in the Daily Extract file for which 'User List Fields' is selected as the entity. User properties and fields available in Oracle Field Service Cloud and the properties of resources assigned to such users (for example, 'User ID', 'User Login', 'Resource ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'users' root element that contains 'user' elements. 'user' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

This table provides the label and description for those fields that can be configured:

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of blocking</td>
<td>security_user.login_blocked_to</td>
<td>User login is blocked until the specified date and time.</td>
</tr>
<tr>
<td>Capacity Bucket</td>
<td>provider.pcapacity_bucket</td>
<td>ID of capacity bucket for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Date format (Resource)</td>
<td>provider.pdate_fid</td>
<td>ID of date format for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Date format (User)</td>
<td>security_user.sudate_fid</td>
<td>ID of date format for the user.</td>
</tr>
<tr>
<td>Email address</td>
<td>provider.email</td>
<td>Email address for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Failed login attempts</td>
<td>security_user.login_attempts</td>
<td>Number of consecutive login attempts for the user.</td>
</tr>
<tr>
<td>Initial Ratio for Activity Duration</td>
<td>provider.pinitial_ratio</td>
<td>Initial ratio for activity duration for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Last login</td>
<td>security_user.last_login</td>
<td>Date and time when the user last logged in.</td>
</tr>
<tr>
<td>Last password change</td>
<td>security_user.last_password_change</td>
<td>Date and time when the user has changed the password last time</td>
</tr>
<tr>
<td>Long Date Format</td>
<td>security_user.sulong_date_fid</td>
<td>ID of full date format (with weekday) for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Message Language</td>
<td>provider.planguage</td>
<td>Language for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Name</td>
<td>security_user.uname</td>
<td>Name of the user.</td>
</tr>
<tr>
<td>Registered</td>
<td>security_user.sucreated</td>
<td>Date and time when the user was created.</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
<td>External system identifier for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider.pid</td>
<td>Unique internal identifier of the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Resource Name</td>
<td>provider.pname</td>
<td>Name (text identifier) of the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource Parent</td>
<td>provider.parent</td>
<td>ID of parent resource for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource Phone</td>
<td>provider.pphone</td>
<td>Phone number of the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource Start Time</td>
<td>provider.time_from</td>
<td>Working time start for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource End Time</td>
<td>provider.time_to</td>
<td>Working time end for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource Time Zone</td>
<td>time_zone.name</td>
<td>Standard Oracle Time zone name.</td>
</tr>
<tr>
<td>Resource Time Zone Name</td>
<td>time_zone.zoneinfo_name</td>
<td>Standard IANA Time zone name.</td>
</tr>
<tr>
<td>Resource status</td>
<td>provider.pactive</td>
<td>Status of the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Resource type</td>
<td>provider.ptype</td>
<td>Type of the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Routing profile</td>
<td>provider.p_rprid</td>
<td>ID of routing plan assigned to the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Status</td>
<td>security_user.sustatus</td>
<td>Status of the user (active, inactive or deleted)</td>
</tr>
<tr>
<td>Time Zone (Resource)</td>
<td>provider.time_zone</td>
<td>ID of time zone assigned to the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Time Zone (User)</td>
<td>security_user.su_zid</td>
<td>ID of time zone assigned to the user.</td>
</tr>
<tr>
<td>Time format (Resource)</td>
<td>provider.ptime_fid</td>
<td>ID of time format for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Time format (User)</td>
<td>security_user.sutime_fid</td>
<td>ID of time format for the user.</td>
</tr>
<tr>
<td>Updated</td>
<td>security_user.suupdated</td>
<td>Date and time when the user was updated last time.</td>
</tr>
<tr>
<td>User ID</td>
<td>security_user.uid</td>
<td>Unique user ID</td>
</tr>
<tr>
<td>User Language</td>
<td>security_user.ulanguage</td>
<td>User’s language</td>
</tr>
<tr>
<td>User Login</td>
<td>security_user.ulogin</td>
<td>User’s login</td>
</tr>
<tr>
<td>User Type Comment</td>
<td>user_type.comment</td>
<td>Description of User Type for which the user is assigned to.</td>
</tr>
</tbody>
</table>
User custom properties (except file properties) can be configured and extracted to the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the user custom properties that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

Example: User List Fields file

The following data is collected. Provide a meaningful name to the report.

- User’s identifier in Oracle Field Service Cloud, for example, **user_id**
- Name of the user, for example, **user_name**
- User’s login, for example, **login**
- User’s status, for example, **status**, where the options include
  - 0: Inactive
  - 1: Active
- Unique internal identifier of the resource assigned to the user, for example, **provider_id**
- Name of the resource assigned to the user, for example, **provider_name**
Oracle Field Service Cloud
Configuring Outbound Integration Channels

Chapter 2
Data sets

- Login policy selected for the user, for example, login_policy
- Display profile assigned to the user, for example, display_profile
- Time of the user's last login, for example, last_login
- Time of last password reset for the user, for example, last_password_reset
- User's time zone, for example, time_zone_name
- Time of user creation, for example, registered
- Time of user last update, for example, updated
- Indicator of whether the forced password change at next login is enabled for the user, for example, force_reset_next_login, where the options include
  - 0: No
  - 1: Yes

Details of properties of two users are provided in the examples:

User with ID 2324, name Admin, login 'admin', status 'active', with no resources assigned, the user's login policy is 2, display profile 7, the user logged in last on 19 July, 2013, at 07:30:09, the password was reset last on 27 September, 2011, at 18:00:56, the user's time zone is Eastern, the user was registered on 03 February, 2006 at 09:20:08 and updated on 15 May, 2013, at 12:28:04. No forced password change has been enabled for this user.

User with ID 4395, name Billy Holm, login 'billy', status 'inactive', assigned resource is Billy Holm, ID 33003, the user's login policy is 2, display profile 8, the user logged in last on 12 May, 2013, at 11:03:33, the password was reset last on 09 May, 2013, at 11:04:13, the user's time zone is Eastern, the user was registered on 15 September, 2010 at 14:27:50 and updated on 15 May, 2013, at 11:53:13. Forced password change has been enabled for this user.

<?xml version="1.0" encoding="UTF-8"?>
<users>
  <user>
    <Field name="user_id">2324</Field>
    <Field name="user_name">Admin</Field>
    <Field name="login">admin</Field>
    <Field name="status">active</Field>
    <Field name="login_policy">2</Field>
    <Field name="display_profile">7</Field>
    <Field name="last_login">2013-07-19 07:30:09</Field>
    <Field name="last_password_reset">2011-09-27 18:00:56</Field>
    <Field name="time_zone_name">Eastern</Field>
    <Field name="registered">2006-02-03 09:20:08</Field>
    <Field name="updated">2013-05-15 12:28:04</Field>
    <Field name="force_reset_next_login">0</Field>
  </user>
  <user>
    <Field name="user_id">4395</Field>
    <Field name="user_name">Billy Holm</Field>
    <Field name="login">billy</Field>
    <Field name="status">inactive</Field>
    <Field name="provider_id">33033</Field>
    <Field name="provider_name">Billy Holm</Field>
    <Field name="login_policy">2</Field>
    <Field name="display_profile">8</Field>
    <Field name="last_login">2013-05-12 11:03:33</Field>
    <Field name="last_password_reset">2013-05-09 11:04:13</Field>
    <Field name="time_zone_name">Eastern</Field>
    <Field name="registered">2011-09-15 14:27:50</Field>
  </user>
</users>
Details and Examples: User-Resource Relation Fields Data Set

Details of all users existing in the application and resources visible to such users by the end of the extraction period can be extracted.

User-Resource Relation Fields are exported in the Daily Extract file for which 'User-Resource Relation Fields' is selected as the entity. User properties and fields available in Oracle Field Service Cloud and the properties of resources assigned to such users (for example, 'User ID', 'User Login', 'Resource ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'users' root element that contains 'user' elements. 'user' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

This table provides the label and description of fields in the Message Text Fields data set:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blocked To</td>
<td>User login is blocked until the specified date and time.</td>
</tr>
<tr>
<td>Capacity Bucket</td>
<td>ID of capacity bucket for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Date format (Resource)</td>
<td>ID of date format for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Date format (User)</td>
<td>ID of date format for the user.</td>
</tr>
<tr>
<td>Email address</td>
<td>Email address for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Failed login attempts</td>
<td>Number of consecutive login attempts for the user.</td>
</tr>
<tr>
<td>Initial Ratio for Activity Duration</td>
<td>Initial ratio for activity duration for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Last login</td>
<td>Date and time when the user last logged in.</td>
</tr>
<tr>
<td>Last password change</td>
<td>Date and time when the user has changed the password last time</td>
</tr>
<tr>
<td>Long Date Format</td>
<td>ID of full date format (with weekday) for the resource for which the user is assigned to.</td>
</tr>
<tr>
<td>Field</td>
<td>Label</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Message Language</td>
<td>provider.planguage</td>
</tr>
<tr>
<td>Name</td>
<td>security_user.uname</td>
</tr>
<tr>
<td>Registered</td>
<td>security_user.sucreated</td>
</tr>
<tr>
<td>Resource External ID</td>
<td>provider.external_id</td>
</tr>
<tr>
<td>Resource ID</td>
<td>provider.pid</td>
</tr>
<tr>
<td>Resource Name</td>
<td>provider.pname</td>
</tr>
<tr>
<td>Resource Parent</td>
<td>provider.parent</td>
</tr>
<tr>
<td>Resource Phone</td>
<td>provider.pphone</td>
</tr>
<tr>
<td>Resource status</td>
<td>provider.pactive</td>
</tr>
<tr>
<td>Resource type</td>
<td>provider.ptype</td>
</tr>
<tr>
<td>Routing profile</td>
<td>provider.p_rprid</td>
</tr>
<tr>
<td>Status</td>
<td>security_user.sustatus</td>
</tr>
<tr>
<td>Time Zone (Resource)</td>
<td>provider.time_zone</td>
</tr>
<tr>
<td>Time Zone (User)</td>
<td>security_user.su_zid</td>
</tr>
<tr>
<td>Time format (Resource)</td>
<td>provider.ptime_fid</td>
</tr>
<tr>
<td>Time format (User)</td>
<td>security_user.sutime_fid</td>
</tr>
<tr>
<td>Updated</td>
<td>security_user.suupdated</td>
</tr>
<tr>
<td>User ID</td>
<td>security_user.uid</td>
</tr>
<tr>
<td>User Language</td>
<td>security_user.ulanguage</td>
</tr>
<tr>
<td>User Login</td>
<td>security_user.ulogin</td>
</tr>
<tr>
<td>Week Start</td>
<td>security_user.suweek_start</td>
</tr>
</tbody>
</table>
### Data sets

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working days to start</td>
<td>provider.skip_days_for_stats</td>
<td>Integer number of days which must be skipped for natural learning statistics</td>
</tr>
<tr>
<td>impacting duration estimations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>main_resource_id</td>
<td>Main resource</td>
<td>ID of main resource assigned to the user.</td>
</tr>
</tbody>
</table>

Custom user properties (except file properties) can be configured and extracted to the Property fields data set. File properties are extracted according to configuration defined in the Property File Fields data set.

This table provides the custom user properties that can be configured:

<table>
<thead>
<tr>
<th>Type</th>
<th>Configurable</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>Yes</td>
</tr>
<tr>
<td>Integer</td>
<td>Yes</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Yes</td>
</tr>
<tr>
<td>File</td>
<td>No</td>
</tr>
</tbody>
</table>

### Example: User-Resource Relation Fields file

The following data is collected. Provide a meaningful name to the report.

- User’s identifier in Oracle Field Service Cloud, for example, **user_id**
- User’s login in Oracle Field Service Cloud, for example, **login**
- Unique internal identifier of the resource visible to the user, for example, **user_visibility_id**
- External identifier of the resource visible to the user, for example, **user_visibility_external_id**

In this example, details for two users are provided. User with ID 4374 and login engineer, able to view resource with internal identifier Arndt William and external identifier 33001. User with ID 2318 and login dispatcher, able to view resource with internal identifier Sunrise Enterprise and external identifier 22.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<users>
  <user>
    <Field name="user_id">4374</Field>
    <Field name="login">engineer</Field>
    <Field name="user_visibility_id">Arndt William</Field>
    <Field name="user_visibility_external_id">33001</Field>
  </user>
  <user>
    <Field name="user_id">2318</Field>
    <Field name="login">dispatcher</Field>
    <Field name="user_visibility_id">Sunrise Enterprise</Field>
    <Field name="user_visibility_external_id">22</Field>
  </user>
</users>
```
3 Integration With Oracle Business Intelligence Cloud Service

About Oracle Field Service Cloud – Oracle Business Intelligence Cloud Service Integration

Integrating Oracle Field Service Cloud and Oracle Business Intelligence Cloud Service (Oracle BI Cloud Service) allows you to use Oracle Field Service Cloud data in Oracle BI Cloud Service. As a result, you get powerful reporting and dashboard capabilities.

This integration lets you use the comprehensive analytic tools and intuitive interface of Oracle BI Cloud Service to process Oracle Field Service Cloud data to present information and analyze your business. The integration supports the following features:

- Data synchronization with Oracle BI Cloud Service generates Oracle Field Service Cloud reports in Oracle BI Cloud Service.
- A total of 50 GB is available for data storage for data migrated from Oracle Field Service Cloud to Oracle BI Cloud Service schema as a service.
- Data can be pushed from Oracle Field Service Cloud to Oracle BI Cloud Service once in a day or in real-time based on the configuration.
- Example Data models and reports are provided as a quick reference to the user. Oracle Field Service Cloud sample reports, code and documentation is available for download at http://www.oracle.com/technetwork/middleware/bi-foundation/bics-sample-2283629.html.

Embed Oracle Business Intelligence Cloud Service Reports in Oracle Field Service Cloud

You can embed Oracle BI Cloud Service reports into Oracle Field Service Cloud through the Action Management screen. The prerequisite is to log in again to view the embedded Oracle BI Cloud Service screen. You can use Oracle Field Service Cloud as the single location to view complex reports without the need to navigate between applications to access data. Embedding also helps share content and data between Oracle Field Service Cloud and Oracle BI Cloud Service.

High level process to embed reports is as follows:

1. Whitelist the Oracle Field Service Cloud domain in Oracle BI Cloud Service.
2. Find the Business Intelligence Cloud Services URL of the object you want to embed.
3. Sign in to Oracle Field Service Cloud. Embed the Oracle BI Cloud Service content inside an action link and use the copied URL.
To embed Oracle Oracle BI Cloud Service reports in Oracle Field Service Cloud:

1. In Oracle BI Cloud Service, add the domain name associated with Oracle Field Service Cloud to the Allow embedding in whitelist for Oracle BI Cloud Service. For example adding *.etadirect.com in this field indicates that the access to etadirect.com specific content is approved.

   \textbf{Note:} Only administrators have the privilege to add safe domains to the whitelist. For information about safe domains, refer to Whitelisting Safe Domains section in the Using Oracle BI Cloud Service guide in the Oracle BI Cloud Service documentation.

2. Get the Oracle BI Cloud Service URL you want to embed.
   a. Open the Catalog screen.
   b. Open the Object (Analysis/ Dashboard/ Visual Analyzer)
   c. Copy the URL displayed in the new opened window.

3. In Oracle Field Service Cloud, perform the following steps:
   a. Click \textbf{Configuration}.
   b. In the Configuration screen, click \textbf{Action Management}.
   c. In the Action Management screen, click the \textbf{Add action} link.
   d. In the Add action link window, complete the fields in the \textbf{General} tab to add the Oracle BI Cloud Service dashboard link as an action link. For instructions on how to create an action link, see the Action Management section in the Administering Oracle Field Service Cloud
   e. Complete the following fields in the \textbf{Plug-in detail} tab:
      - TYPE—the HTML5 application
      - Use Plugin API—False
      - Main menu items—default value, True
      - Tab or Iframe layout—default value, True
   f. Click \textbf{Configuration}.
   g. In the Configuration screen, click \textbf{User Types}.
   h. In the User Types screen, click \textbf{Screen Configuration}.
   i. In the Action Management screen, click the \textbf{Add action} link.
   j. Set the visibility to Read only for the appropriate user.

\section*{Add Parameter Values in Embedded Reports}

Users can add any parameter values to the reports/dashboards embedded into Oracle Field Service Cloud. The reports / dashboards are refreshed based on these parameter values. To add parameter values in embedded reports, users can create corresponding filter in Oracle BI Cloud Service reports/dashboards.

To add parameter values:

1. Add resource tree parameters \{pid\} in the Oracle BI Cloud Service URL:
   a. \(p_0\) represents the no of parameters included in the URL
   b. \(p_1\) indicates the operators, for example eq.
c. p2 stands for the column name in Oracle BI Cloud Service
d. p3 indicates the value of the attribute to be passed.

2. Create a filter in the Oracle BI Cloud Service report / dashboard with PID. Add resource tree parameters {pid} in the URL as follows:
   o https://businessintellt-identity-domain.analytics.oraclecloud.com/analytics/saw.dll?Go&Path;=%2Fcompany_shared%2FOFSCDEMO%2F_portal%2FOFSC%20Sample%20Dashboard&p0=1&p1;=eq&p2="provider".pid"&p3;="{pid}"

   Note: For displaying the dashboard for both parent and leaf nodes, the URI requires two PID placeholders.
   o https://businessintellt-identity-domain.analytics.oraclecloud.com/analytics/saw.dll?Dashboard&PortalPath;=%2Fcompany_shared%2FOFSC-DEMO%2F_portal%2FOFSC%20DEMO%20Dashboard&Action;=Navigate&P0;=2&P1;=eq&P2;=PROVIDER.RESOURCE_ID&P3;={pid}&P4;=eq&P5;=PROVIDER.PARENT_RESOURCE_ID&P6;={pid}

   - P1: Operation btw first parameter set, "eq" stands for equal to
   - P2: Column name in the format of table name column name, PROVIDER.RESOURCE_ID - for considering resource owned activity in reports
   - P3: Value, the placeholder {pid}
   - P4: Operation between second parameter set
   - P5: PROVIDER.PARENT_RESOURCE_ID - for aggregating child resources owned activities in reports
   - P6: Value, the placeholder {pid}

3. Configure SSO in both Oracle Field Service Cloud and Oracle BI Cloud Service to avoid multiple login sessions.

Configure Real-Time Data Integration With BICS and DBaaS

The Outbound Integration icon in the Configuration, Subsystems page acts as a single page to configure and view all outbound delivery channels in Oracle Field Service Cloud.

Users can use the Outbound Integration icon to create new channels for Business Intelligence Cloud Service (BICS) and DBaaS to transfer data to their BICS and DBaaS instances. Also, users can configure real-time data transmission for Oracle Field Service Cloud entities. The data is transferred to the BICS or DBaaS instances when the events corresponding to the entities are triggered in the Oracle Field Service Cloud system.

   Note: By default, the Daily Extract option is available in the Outbound Integration Channels page and you can click the option to view the daily extract configurations.

To complete real-time data integration with BICS and DBaaS:

1. Log in to Oracle Field Service Cloud Manage interface.
2. Select the Navigation button.
3. Click Configuration.
   The configuration page of the user displays.
4. Click Outbound Integration.
   The Outbound Integration Channels page displays.
5. Click Add Channel to configure a new channel.
The Add Channel page displays.

6. Select **Business Intelligence Cloud Service Access** from the **Channel Type** drop-down list to configure a BICS channel and enter the details in the following fields:
   a. **Name**: Enter a name for the channel.
   b. **URL**: Enter the URL of the BICS instance.
   c. **Identity Domain**: Enter the identity domain of the BICS instance.
   d. **User Name**: Enter the BICS user name.
   e. **Password**: Enter the BICS password.
   f. **Confirm Password**: Re-enter the BICS password.

7. Click **OK** to create the BICS channel.

8. Select **Database as a Service Access** from the **Channel Type** drop-down list to configure a DBaaS channel and enter the details in the following fields:
   a. **Name**: Enter a name for the channel.
   b. **URL**: Enter the URL of the DBaaS instance.
   c. **Host**: Enter the address of the database server or the host name.
   d. **Port**: Enter the port number on which the database server listens for incoming connections.
   e. Select the **Connect with SID** option and enter the name of the Oracle database instance in the **SID** field.
      OR
   f. Select the **Connect with Service Name** option and enter the network service name of the database.
   g. **User Name**: Enter the database user name.
   h. **Password**: Enter the password to access the database.
   i. **Confirm Password**: Re-enter the database password.

A new BICS or DBaaS channel is created.

9. Click the BICS or DBaaS channel and click **Add New** to create a new entity.

10. Specify the required details in the following fields:
    a. **Entity**: Select a list of Oracle Field Service Cloud fields that you want to view in the BICS or DBaaS instance.
    b. **Table Name**: Enter the table name that you want to create in the BICS or DBaaS instance.
    c. **Data Transfer**: Select one of the following options:
        - **Once Daily**: Data is transferred to the BICS or DBaaS instance once in a day as per the daily extraction period configured in the system.
        - **Real-time**: Data transfer from Oracle Field Service Cloud to BICS or DBaaS occurs in near real time.

11. Click **Submit**.

   The entity is added to the channel with the specified details.

12. To add fields to the entity, click the Properties icon corresponding to that row and select **Fields** from the drop down menu.

   This figure shows the Properties icon to configure fields:

13. Click the **Plus** icon and select the required field that you want to add to the entity.

14. Click **Add** and Click **OK**.

   The selected fields are added as columns to the corresponding tables in the BICS or DBaaS instance.

After you add a new outbound channel:

- The Outbound Integration Channels configuration window displays the updated list of channels.
• Monitoring data or information displayed in the Outbound Integration Channels screen is reset every day (24 hours).
• The data processing and transmission depends on the volume of data stored. You may expect a delay in transferring big volumes of data for real-time data transfer. Also, the daily transmission is initiated as per the daily extraction period.
• The data transfer for the entities, namely, Activity, Inventory, ActivityLink, Resources, Users, and Route entities is not started immediately when the user opts for real-time data transfer.

The real-time data transfer for the entities is initiated only from the next day after the first run of the daily extraction process is completed.

Consider the following configurations for the BICS channel:
• Chat Fields and Chat Message Fields entities are configured.
• Real-time data transfer method is selected.
• The Oracle Field Service Cloud instance is connected to a BICS instance.

Note that the total number of chat messages and total number of helpdesk messages are displayed in the BICS instance. If a user logs in to the Oracle Field Service Cloud instance and sends a helpdesk chat request, then the total number of chat messages and total number of helpdesk messages are incremented in the BICS instance. However, if a one-to-one chat is initiated between the users, then only the total number of chat messages is incremented in the BICS instance.

Configuration Statuses For Outbound Channels

The following table lists the different configuration statuses available for outbound channels:

<table>
<thead>
<tr>
<th>Message displayed on the Channel</th>
<th>Configuration Status</th>
<th>User Interface Behavior</th>
<th>Action Item for the User</th>
</tr>
</thead>
<tbody>
<tr>
<td>No tables configured</td>
<td>User created a new channel</td>
<td>The BICS or DBaaS icon is in enabled state. Message is displayed in Grey color. Indicates that you should configure entity or tables that you want to create in Oracle Business Intelligence Cloud Services (BICS) or Oracle Database as a Service (DBaaS) instances.</td>
<td>Click the pencil icon to edit the channel details.</td>
</tr>
<tr>
<td>Data Transfer has not been started</td>
<td>Entities or tables configured but Daily Job or Real-time transfer has not started</td>
<td>The BICS or DBaaS icon is in enabled state. Message is displayed in Grey color. Tables have been created in the system but data transfer from Oracle Field Service Cloud to BICS/ DBaaS is not initiated. Real-time data transfer is initiated when the configured event is triggered in Oracle Field Service Cloud.</td>
<td>N/A</td>
</tr>
<tr>
<td>Message displayed on the Channel</td>
<td>Configuration Status</td>
<td>User Interface Behavior</td>
<td>Action Item for the User</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------</td>
<td>-------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Daily data transfer is initiated when the daily job is triggered in Oracle Field Service Cloud.</td>
<td>Data Migration via Daily Job or Real-time completed for the selected channel</td>
<td>Data Transmission Success Rate is displayed. Percentage of successfully transferred data = (Total number of events successfully transferred in Event API + Total number of successful row migrated in daily) / (Total number of rows in daily + Total number of events in real time)</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| A message displays the last updated time. All the monitoring data or information is reset every 24 hours. | Daily Job or Real time communication error with the Endpoint | The BICS or DBaaS icon is in disabled state. The following scenarios can occur:  
- User configured an invalid host: The “Host unreachable. Please check your credentials” message is displayed. The user must configure the correct host ID.  
- Authentication error: The “Authentication Failed. Please check credentials.” message is displayed. The user must configure the correct user name and password.  
- Authorisation error: The “Provided user is not authorized” message is displayed. You need to configure access permission for the user in BICS or DBaaS.  
- Account Locked: The “Account locked. Please reset your credentials” message is displayed. The user has to reset the BICS or DBaaS credentials. | User has to update the channel credentials based on the error message. |
| Complete | Daily Extract Configurations. Available by default to the user. | The BICS or DBaaS icon is in enabled state. A message is displayed with the following details:  
- Last time: Time of the last update. | |
The following screen shows the different items displayed for fields or entities:

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table Name</td>
<td>Name of the table created in BICS or DBaaS.</td>
</tr>
<tr>
<td>Data Transfer</td>
<td>Mode of data transfer selected for BICS or DBaaS.</td>
</tr>
<tr>
<td>Last Time</td>
<td>Indicates the last updated time.</td>
</tr>
<tr>
<td>Rows Updated</td>
<td>Number of rows updated in last 24 hours.</td>
</tr>
<tr>
<td>Rows Skipped</td>
<td>Number of rows failed to transfer.</td>
</tr>
</tbody>
</table>
Fields not Available for BICS/DBaaS data Transmission

This section lists those fields that are removed from BICS/DBaaS transmission.

This table provides the fields that are not available for BICS/DBaaS transmission:

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>appt.travel_estimation_method</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.a_locationid</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.aupdate_flags</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.auto_routed_to_date</td>
<td>DATE</td>
</tr>
<tr>
<td>appt.auto_routed_to_provider_id</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.auto_routed_to_provider_name</td>
<td>STRING</td>
</tr>
<tr>
<td>appt.continuous_traveling_time</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.number</td>
<td>STRING</td>
</tr>
<tr>
<td>appt.first_manual_operation_interface</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.a_visitid</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.access_schedule</td>
<td>STRING</td>
</tr>
<tr>
<td>appt.acoord_accuracy</td>
<td>INTEGER</td>
</tr>
<tr>
<td>appt.acoord_status</td>
<td>STRING</td>
</tr>
</tbody>
</table>
### Supported Fields for Data Transmission

The following table describes the list of entities and the supported data transmission method for the entities.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Daily Once Data Transfer</th>
<th>Real Time Synchronization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Activity Link Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Activity Work Skill Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Chat</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Fields</td>
<td>Daily Once Data Transfer</td>
<td>Real Time Synchronization</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Chat Broadcast Delivery Status</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Chat Message</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Chat Participant</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>GPS Track Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Inventory Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Message Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Message Text Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>PAS Answer Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>PAS Question Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Property Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Property Lookup Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Required Inventory</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Resource Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Resource Location Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Resource Preference</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Resource Property Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Resource Work Skill Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Route Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Request Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Time Slot Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Type List Fields</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>User List Fields</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Export and Import BICS/DBaaS/Daily Extract Configurations

Daily extract/BICS/DBaaS configurations can be created or updated by importing the configuration from an external source. Daily extract configuration is imported as an XML file containing data of individual daily extract files. If the configuration to be imported contains the same filename as the existing daily extract configuration, the file is overwritten in the process of import. Also, field level validations are performed and errors and warnings are shown on the Import window while importing files.

To export or import configurations:

1. Click Configuration
2. Click Outbound Integration.
   The Outbound Integration Channels page displays.
3. Click Import, browse and select the XML file to be imported.
4. Click Validate.
   The selected file is validated and the errors and warnings (if any) are shown on the Import window. The figure shows the Import window:

5. To export daily extract configuration, click Export.
Configure SSO

You can configure single sign-on (SSO) login credentials in both Oracle Field Service Cloud and Oracle BI Cloud Service.

To configure SSO:

1. In Oracle Field Service Cloud, follow these steps:
   
   a. Log into Oracle Field Service Cloud as an administrator—enter username and password.
   
      ![Note](image)
      
      Ensure that the username in Oracle Field Service Cloud matches the username in Oracle BI Cloud Service.
   
   b. Click **Configuration**.
   
   c. Click **Login Policies**.
   
   d. Click **Add New**.
   
      The **Add Policy** dialog is displayed. The values for SAML identity provider Encryption and Signing Certificates and SAML identity provider login/logout URLs are automatically populated from the Metadata xml.
   
   e. In the **Authenticate using** field, enter the SAML value.
   
   f. In the **IdP Metadata XML** field, enter the name of the Metadata file provided by IdP.
   
   g. In the label field, enter the unique identifier label. This is used for the SSO login screen.
   
   h. In the **OFSC Metadata XML** field, download and update the SAML Idp metadata file.
   
   i. Enter the **Policy name** assigned to this policy.
   
   j. In the **Specify SAML IdP** field, select Upload metadata XML.
   
   k. Click **Add**.

2. In Oracle BI Cloud Service, follow these steps:

   a. Log into Oracle BI Cloud Service as an administrator—enter the username and the password.

      ![Note](image)
      
      Ensure that the username in Oracle BI Cloud Service matches the username in Oracle Field Service Cloud.

   b. To enable SSO, click **SSO Configuration**.
   
   c. Click **Configure SSO**.
   
   d. Select **Import IP metadata**. Browse and select the same SSO file that you used for Oracle Field Service Cloud from SAML IDP Provider.
   
   e. In the **SSO protocol** field, enter HTTP POST.
   
   f. Export Oracle BI Cloud Service Provider metadata and update the SAML IDP provider in Oracle Field Service Cloud.
   
   g. Click **Test** and then select **Start SSO**.
   
   h. When you enter the administrator user name and password, a message indicating a successful login session is displayed.
   
   i. Click **Enable SSO**.

      ![Note](image)
      
      Oracle BI Cloud Service instance should be active while accessing the embedded reports in Oracle Field Service Cloud. If not, a blank page is displayed with error details.
Oracle Business Intelligence Cloud Service Data Models

Data models in Oracle Field Service Cloud provide data for business analysis purposes.

A data model structures business information in such a way that it can be used to analyze and report on the business. Oracle Field Service Cloud provides example data models for use with Oracle BI Cloud Service. The data models use fact tables, which contain numeric data for measuring business performance, and dimension tables, which contain values that represent the business entities you measure. The data from Oracle Field Service Cloud populates both kinds of tables in Oracle BI Cloud Service.

The example data models include the following:

- Activity data model—Refer to Activity Data Model.
- Message data model—Refer to Message Data Model.
- User data model—Refer to User Data Model.

Activity Data Model

The Activity data model represents activity-related business data in Oracle BI Cloud Service reports and dashboards.

The following tables are associated with the Activity data model.

- Fact table
  - Activities
- Dimension tables
  - Time [Total, Year, Quarter, Month, Day]
  - Activity Type [Total]
  - Work Zone [Total]
  - Provider [Total]
  - Geography [Total, State, City, Zip]
  - Status [Total]

This figure shows the data model diagram for Activity showing Activity type, date, address, work zone and provider details.
Message Data Model

The Message data model represents message-related business data in Oracle BI Cloud Service reports.

The following tables are associated with the Message data model.

- Fact table
  - Messages
- Dimension tables
  - Time [Total, Year, Quarter, Month, Day]
  - Message Type [Total]
  - Activities [Total, Activities, Provider]
  - Result [Total]

This figure shows the message data model diagram for message-related business data in Oracle BI Cloud Service reports.
User Data Model

The User data model represents user-related business data in Oracle BI Cloud Service reports. The following tables are associated with the User data model.

- Fact table
  - User
- Dimension tables
  - Time [Total, Year, Quarter, Month, Day]
  - Provider [Total]

This figure shows the data model diagram for the User with provider and date details.
Oracle Business Intelligence Cloud Service Reports

Reports in Oracle BI Cloud Service answer your business questions by querying your organization’s data, including the data that is migrated from Oracle Field Service Cloud.

Oracle Field Service Cloud provides example reports that can be accessed through Oracle BI Cloud Service. Following example reports are available:

- Activity by Activity Type/Job Count by Type—Displays the total number of activities by work type per resource for the month so you can quickly see the most active job types.

  This figure shows the Activity by Activity Type/Job Count by Type report with the most active job types.

- Activity/Region-wise JobDistribution—Displays a representation of how jobs are distributed across regions for the month.

  This figure shows the Activity/Region-wise Job Distribution report indicating how jobs are distributed across regions.
• Technician Overview—Lists route date, start time, stop time, job duration, and travel time data for each technician.

This figure shows the overview of a technician’s route.

• OFSC Tiles— Displays the company-wide total number of resources, work orders, completed jobs, cancelled jobs, and work orders per technician.

This figure shows Tiles report displaying total number of resources, work orders, completed and cancelled jobs for each technician.

• OFSC Dashboard—Displays the previous four reports in a single dashboard.

This figure shows the reports dashboard combining all BICS reports into a single report.
Understand Database Update Strategy

Oracle Field Service Cloud requires credentials for Oracle Business Intelligence Cloud Service to access the application and update the database. Before updating the database on Oracle Business Intelligence Cloud Service side, the structure of the tables should be synchronized. Oracle Business Intelligence Cloud Service REST API methods are called to update the database and push data to Oracle Business Intelligence Cloud Service.

Use the following table to understand Oracle Business Intelligence Cloud Service database update strategy.

This figure shows Daily Extract entities, table names and update types during synchronization for Oracle Business Intelligence Cloud Service database update strategy.
### Daily Extract Entity | Table Name | Update type during synchronization
--- | --- | ---
Activity Fields | appt | APPEND
Activity Link Fields | appt_link | APPEND
Activity Work Skill Fields | appt_work_skill | APPEND
GPS Track Fields | gps_tracks | APPEND
Inventory Fields | inventory | APPEND
Message Fields | messages | APPEND
Message Text Fields | message_text | APPEND
PAS Answer Fields | pas_answer | APPEND
PAS Question Fields | pas_question | APPEND
Property Fields | property | RECREATE
Property Lookup Fields | property_lookup | RECREATE
Provider Property Fields | provider_properties | RECREATE
Resource Fields | provider | RECREATE
Resource Location Fields | provider_location | RECREATE
Resource Work Skill Fields | provider_work_skill | APPEND
Route Fields | queue | APPEND
Service Request Fields | service_request | APPEND
Time Slot Fields | time_slot | RECREATE
Type List Fields | type_list | RECREATE
User List Fields | user_list | RECREATE
User Resource Relation Fields | user_provider | RECREATE
4 Integration With Oracle Integration Cloud Service

About Oracle Integration Cloud Service

As part of the 18C release, Oracle Integration Cloud Service is now added as an outbound channel on the Outbound integration page.

The Oracle Field Service Cloud — Oracle Integration Cloud Service accelerator provides a point-to-point reference integration between Oracle Field Service Cloud and Oracle Integration Cloud Service (ICS).

About Oracle Integration Cloud Service Reports

Reports in Oracle Integration Cloud Service answer your business questions by querying your organization’s data, including the data that is migrated from Oracle Field Service Cloud.

Oracle Field Service Cloud provides example reports for use with Oracle Integration Cloud Service. These reports can be accessed through Oracle Integration Cloud Service. The available example reports are:

- Activity by Activity Type/Job Count by Type—Displays the total number of activities by work type per resource for the month so you can quickly see the most active job types.

  This figure shows the Activity by Activity Type/Job Count by Type report with the most active job types.

- Activity/Region-wise Job Distribution—Displays a representation of how jobs are distributed across regions for the month.

  This figure shows the Activity/Region-wise Job Distribution report indicating how jobs are distributed across regions.
• Technician Overview—Lists route date, start time, stop time, job duration, and travel time data for each technician.

This figure shows the overview of a technician’s route.

• OFSC Tiles—Displays the company-wide total number of resources, work orders, completed jobs, cancelled jobs, and work orders per technician.

This figure shows Tiles report displaying total number of resources, work orders, completed and cancelled jobs for each technician.

• OFSC Dashboard—Combines the previous four reports into a single dashboard.

This figure shows the reports dashboard combining all DBAAS reports into a single report.
Add an Oracle Integration Cloud Service Channel

You can add Oracle Integration Cloud Service (ICS) channel using the Outbound Integration Channels configuration page.

To add an ICS channel:

1. Navigate to the Configuration page.
2. Click **Outbound Integration**.
   - The image shows the Configuration page.
3. In the Outbound Integration Channels page, click **Add Channel**.
The image shows the Outbound Integration Channels page before adding an ICS channel.
4. The Add Channels dialog displays the options to add a new ICS channel. The image shows the Add Channels dialog.
5. In the Add Channels dialog, provide the following details to create an ICS channel:

![Add Channel dialog]

- **Note:** To update the values in this dialog, contact the Oracle Integration Cloud Service administrator.
  - Channel Type — Select Integration Cloud Service from the drop down list.
  - **Name** — Enter the channel name to be displayed
  - **Host** — Enter the host name or the address of the Oracle Integration Cloud Service database server.
  - **User** — Enter the user name to access the Oracle Integration Cloud Service database. The user must have permissions such as CREATE TABLE, ALTER TABLE, DROP TABLE, and INSERT records.
  - **Password** — Provide the password to access Oracle Integration Cloud Service database.
  - **Confirm Password** — Retype the password.

6. Click OK. The new channel is updated to the Outbound Integration Channels page.

The image shows the ICS channel updated to the Outbound Integration Channels page.
Modify Oracle Integration Cloud Service Channel Details

You can modify the existing endpoint configurations for the Oracle Integration Cloud Services (ICS) channel.

To modify an ICS channel:

1. Navigate to the Configuration page.
2. Click *Outbound Integration*.
3. In the Outbound Integration Channels page, select the ICS channel to edit.
4. Click the Properties icon and select *Modify*.

The image shows the Properties menu options for a selected channel.
5. The Edit Channel dialog displays the options to edit the selected channel. The image shows the edit dialog for the ICS channel.
6. Edit the following details as necessary:

   - **Note:** To update the values in this dialog, contact the Oracle Integration Cloud Service administrator.
   - In the **Name** field, type the channel name.
   - In the **Host** field, enter the host name or the address of the Oracle Integration Cloud Service database server.
   - In the **User** field, enter the user name to access the Oracle Integration Cloud Service database. The user must have permissions such as CREATE TABLE, ALTER TABLE, DROP TABLE, and INSERT records.
   - In the **Password** field, enter the password to access Oracle Integration Cloud Service database.
   - In the **Confirm Password** field, retype the password.

7. Click OK.

**Delete an Existing Oracle Integration Cloud Service Channel**

You can delete Integration Cloud Service (ICS) channels from the Outbound Integration Channels page.

To delete an ICS channel:

1. In the Outbound Integration Channels page, select the Integration Cloud Service (ICS) channel to delete.
2. Click the properties icon and then click **Delete**.

   ✠ **Note:** Deleting an ICS channel will delete the ICS configurations from Oracle Field Service Cloud.

3. In the delete confirmation dialog, click OK.

### Oracle Integration Cloud Service Channel Details

You can view the Oracle Integration Cloud Services channels using the Outbound Integration Channels page.

To view the details of an Oracle Integration Cloud Services channel:

1. In the Outbound Integration Channels page, a newly created Integration Cloud Service (ICS) channel appears as follows:
   - The image shows the newly added ICS channel.
   - The ICS channel status indicates that the data transfer has not yet started.
   - After data transfer starts for the selected channel, the status displays the time when the last update occurred.
   - Following is an example of the ICS channel with an active data transfer.
     - The image shows the data transmission details of the selected ICS channel.
5. Data Transmission Success Rate is the Percentage of successfully transferred data. Data transmission success rate = (total.number of events successfully transferred / total.events selected).
5 Integration With Oracle Internet of Things Cloud Service

About Oracle Internet of Things Cloud Service

You can now automate the process of dispatching a Technician to a job that needs the attention for an IOT enabled device. Oracle Internet of Things Cloud Service enables secure and reliable bidirectional communication between IOT devices and the cloud. The devices can connect to the cloud directly, or indirectly through a gateway. Oracle Internet of Things Cloud Service assigns a unique digital identity to each device to establish trust relationships among devices and applications. It also enforces authentication and authorization for end-to-end communication security to ensure proof of origin of data. It uses a cross protocol functionality that lets you directly address any device connected to the cloud, regardless of network protocol and firewall restrictions. It also provides reliable communication between the cloud and your devices, even over unreliable networks or with devices that connect intermittently.

Wherever a Technician has to attend to the asset, the IOT integration feature enables capturing the alerts triggered by the asset and creates an Oracle Field Service Cloud (OFSC) activity automatically with the appropriate details. Therefore, the process of scheduling a Technician appointment can be completed with little or no user interference.

Preventive Maintenance

This section discusses how about preventive maintenance during Oracle Field Service Cloud and IOT integration.

The following steps occur when the asset triggers an alert that will be captured to create an activity:

1. The monitored Asset triggers an alert that it needs to be serviced (for example, regular annual maintenance). The asset also stores information about the SLA (the amount of days after the alert is triggered by which the technician should come).
2. The application sends the alert to Oracle Field Service Cloud via OIC.
3. The application creates a new activity with asset related information received from IoTCS. It assigns the activity to a predefined “bucket” from where it can be routed to a suitable Technician as and when required.
4. The created Activity will have the following fields populated from IoTCS:
   a. Asset Name – Displays the name of the Asset as available in IoTCS
   b. Asset Description – Displays the description of the Asset as available in IoTCS
   c. Summary – Displays the summary of the Alert as available in IoTCS
   d. Severity – Displays the priority of the Activity. For a Maintenance activity, this is set to ‘Low’. For an Outage, it will be ‘Critical’
   e. Address – Displays the address of the Activity
   f. City – Displays the city name as in the Activity address
   g. Zip/Postal Code – Displays the postal code
   h. State – Displays the state name as in the Activity address
Outage

This section discusses the scenario of how this integration responds when a critical event for example, an outage occurs.

The following steps occur during an outage:

1. If a critical event occurs (for example, an outage), the monitored Asset triggers an alert that it needs to be serviced immediately.
2. IoTCS sends the critical alert to Oracle Field Service Cloud through OIC.
3. Oracle Field Service Cloud creates an activity with high severity and asset related information received from IoTCS. It routes the activity to the most appropriate technician immediately. The technician receives notification that there is a critical activity.
4. The created activity will have the fields populated from IoTCS in similar manner as it would be for Preventive Maintenance.
5. The severity of this activity is set as 'CRITICAL'.

Within Oracle Field Service Cloud, such activities with CRITICAL severity will be routed immediately to a suitable Technician on priority.

The image shows the activity with CRITICAL severity as pending.
View the Asset Details Screen

Whenever the application assigns an activity, based on alert received from IoTCS, to a Technician, the Technician can view the device information and key indicators in real time data in Mobility. This information will also be available in the Dispatcher view of Activity details in Oracle Field Service Cloud.

This is a point to point integration between IoTCS and Oracle Field Service Cloud. This integration does not involve OIC.

This image shows the Asset Details screen in IoTCS.

Configure Oracle Integrated Cloud for IoT Integration

Integration between IoT and Oracle Field Service Cloud can be achieved through Oracle Integrated Cloud (OIC) configuration. This section discusses the process flow during the IoT - Oracle Field Service Cloud integration. You can import the integration package for OIC from the OFSC-OSvC par file.

The image shows a flow diagram of how OIC achieves the integration between IoT and Oracle Field Service Cloud:
The process flow during IoT and Oracle Field Service Cloud integration involves the following steps:

1. IoT invokes OIC and sends the alert message with the array of alerts.
2. For each alert the information about the asset is retrieved from IoT.
3. Using alert and asset information, OIC creates or updates activity in Oracle Field Service Cloud.
4. You can import the integration package for OIC from the OFSC-OSvC par file.
5. The list of fields mapped in the integration are as follows:
   - bulkUpdate.updateParameters.identifyActivityBy = apptNumberPlusCustomerNumber
   - bulkUpdate.updateParameters.ifInFinalStatusThen = createNew
   - bulkUpdate.updateParameters.ifExistsThenDoNotUpdateFields = slaWindowEnd
   - bulkUpdate.activities.resourceId = routing
   - bulkUpdate.activities.apptNumber = ruleId
   - bulkUpdate.activities.activityType = asset
   - bulkUpdate.activities.customerNumber = affectedObjectId
   - bulkUpdate.activities.streetAddress = street
   - bulkUpdate.activities.city = city
   - bulkUpdate.activities.postalCode = zip
   - bulkUpdate.activities.stateProvince = state
   - bulkUpdate.activities.slaWindowEnd = newly created activity’s timeOfBooking + amount of days stored in asset’s service_delta
   - bulkUpdate.activities.severity = severity
   - bulkUpdate.activities.summary = description
   - bulkUpdate.activities.asset_name = name

**Note:** You must configure this field based on the unassigned bucket in Oracle Field Service Cloud.
Configure IOTCS Integration

You can configure Oracle Field Service Cloud and IOTCS integration using the following procedure. To enable this integration, you must first set up IOT.

Following are the steps required to set up IOT for this integration:

1. Create the device model in the IOT platform.
2. Set Up the IOT data simulator.
3. Create and configure the asset.
5. Set up the application settings in the IOT platform.
6. Create a new integration cloud service integration in the IOT platform.
7. Show asset details in Oracle Field Service Cloud by enabling widgets in IOT.

Create the Device Model in the IoT Platform:

This section discusses an example scenario to create the device model in the IoT platform.

To create a device model:
1. Log into IoT.
2. Navigate to Devices, Model.
3. Create a new Model named "Cell tower" with the following details:
   a. Name–Enter the value, Cell tower.
   b. Description–Enter the value “Cell tower model”
   c. URN–Enter the value “urn:com:oracle:iot:cellTower”
4. Define the attributes for the model:
   a. signalLevel–Indicates the level of the GSM signal produced by the cell tower. Set the following values:
      - Type: Number
      - Range: -120.0, -30.0
      - Access: No
   b. Voltage–Specifies the voltage in the power network to which the tower is connected. Set the following values:
      - Type: Number
      - Range: 0.0, 160.0
      - Access: No
5. Provide the details for the alert "serviceNeeded". Set the following values:
   o Name: serviceNeeded
   o Description: Routine service is needed
   o Type: Alert
   o URN: urn:com:oracle:iot:cellTower:serviceNeeded
   o Fields:
      - Name: service_needed
      - Type: Boolean
7. Select **Cell tower** by clicking Hand button to use it with the assets.
8. Select **Device Model for System Alerts** by clicking the Hand button to perform the integration between IoT and Oracle Field Service Cloud with the help of "Alert" object.
9. Navigate to Application, Oracle IoT Asset Monitoring Cloud Service, Device Selection and select **Include All**.

Set Up the IOT Data Simulator

You need the required permissions to set up the IOT data simulator.

To set up the IOT data simulator:

1. Obtain the IOT Data Simulator URL, for example: your_host/ds/.
2. Define the attributes for the Cell tower simulation model based on the Cell tower device model as follows:
   - signalLevel – Indicates the level of the GSM signal produced by the cell tower. The initial value is -70 dB. The function to automatically change signalLevel is: randomInRange(-80.0,-60.0)
   - Voltage – Indicates the voltage in the power network to which the tower is connected. The initial value is 110 V. The function to automatically change Voltage is: sinInRange(108.0,112.0)
3. Define the configuration for the alert "urn:com:oracle:iot:cellTower:serviceNeeded" supported by a simulation model as follows:
   - Name: SEND:serviceNeeded
   - Time: 0 ms
   - Field "service_needed" = true
4. Add one event to the configuration of the simulation model. When the event is triggered, it changes the behavior of the attributes of the virtual device:
   - Event name: "EVENT:powerOutage"
   - Description: Power Outage
   - Voltage = 0.0
   - signalLevel = -120.00
5. Create three instances of the virtual device based on the simulation model.
   The figure shows three sample instances of the virtual device based on the simulation model:
6. After devices are created, switch them on.
7. Open the IOT platform (URL: your_host/ui/) in a Web Browser.
8. Navigate to the Devices page, Management and enter the values of Name, Description and GPS coordinates for each of three devices you have created.

Create and Configure Assets

You should configure the asset to set up the IoT data simulator. Navigate to the IoT Asset Monitoring CS service URL for example your_host/am/, configure the asset type and create several assets.

You should have created three instances of the virtual device based on the simulation model in IoT platform.

To configure the asset:
1. Navigate to the IoT Asset Monitoring CS service.
2. Open the Assets screen and select the Asset types tab.
3. In the Asset types tab, add a new asset type:
   a. Create a new asset type with the name: cell_tower_type
   b. Set the default value or specify the allowed values in the following attributes:

Define the attributes in the following format- `<NAME> <TYPE>`

- city: Text
- state: Text
- street: Text
- zip: Text
- service_delta: Number

Address related fields are automatically populated into the Oracle Field Service Cloud Activity when the maintenance is required or an outage occurred. The service_delta attribute is used to calculate the Service
4. To edit an asset type, select the asset type with the name: cell_tower_type and select Modify.
   a. In the Edit Asset Type dialog, specify the following options:
      - Name of the device: cell_tower.
      - Device model: Cell Tower
   b. Specify that there should be at least one device attached to the asset of this type.

5. Create three assets based on the *cell_tower_type — one for each virtual device you created previously. For each asset, do the following.
   a. Navigate to the Edit Asset dialog.
   b. In the Edit Asset dialog, specify the arbitrary Name and Description. Example for a serial number would be CT90380927098.

   Note: The Name field cannot contain any spaces.
   c. Select one device from the menu. The selected device will be linked with the asset.
   d. Specify the address details for example street, city, state and zip. The address should be located in the same GPS coordinate as the device linked to the asset.

6. Navigate to the Map screen and check if you can see the assets on the Map.
7. The coordinates of each asset are taken from the coordinates of the corresponding device and not from the asset address.

Configure Rules

Before you proceed to configure rules, Oracle Field Service Cloud requires credentials for Oracle Analytical Cloud Service in order to access the application and update the database.

To complete configuring rules:

1. Navigate to the IoT Asset Monitoring CS service (URL: your_host/am/).
2. Open the Assets screen.
3. Create two rules as follows:
   a. Create RULE 1: The first rule will trigger an alert with low severity when an asset notifies that it needs service. When the device that is linked with the asset generates Alert message with urn:com:oracle:iot:cellTower:serviceNeeded then a system alert should be send to the integrated system. This resulting alert is generated by a system build-in device of model "Device Model for System Alerts".

   Set the following values to complete the configuration of the first rule:
   - Name: Service needed
   - Apply to: Asset Type is cell_tower_type
   - Condition: Alert = "service Needed - urn:com:oracle:iot:cellTower:serviceNeeded"
   - Fulfill when: "All condition apply"
   - Generate: "Alert"
   - Alert Details:
     - Summary: Service is needed for the tower
To summarize, Rule 1 specifies that when a device linked with the asset generates an alert message with urn:com:oracle:iot:cellTower:serviceNeeded then the Device Model for System Alerts model generates an alert and sends it to the integrated system.

b. Create RULE 2: The second rule will trigger and alert with critical severity when an outage is identified. For example the outage is reported when the "Voltage" reported by the cell tower is less than 90 Volts. It is possible to set more complex rules.

To configure this rule, use the following attributes:

- Name: Outage
- Apply to: Asset Type is cell_tower_type
- Condition: "sensor/cell_tower/Voltage" Less Than 90
- Fulfill when: "All condition apply"
- Generate: "Alert"
- Alert Details:
  - Summary: Power outage on cell tower
  - Suppression (minutes): 1
  - Severity: Critical
  - Inclusions:
    - Source attributes: unchecked
    - Context information: unchecked
    - Message payload: unchecked

After you configure rules, remember:

- Rules set conditions on asset sensor or KPI values.
- When a rule condition is met, the associated alert, warning, or incident is triggered.
- Only alerts can be sent to the integrated system. Hence, alerts are triggered.

Set up the Application Settings in the IoT Platform

This section discusses how to set up the IoT platform.

To set up the IoT Platform, you must complete the following steps:

1. Set up the application settings in the IoT platform
2. Create a new integration cloud service integration in the IoT platform
3. Show asset details in Oracle Field Service Cloud by enabling widgets in IoT
To set up the application settings in the IoT platform:

1. Navigate to the IoT platform (URL: your_host/ui/).
2. Open the Settings page.
3. In the **Trusted CN** field, enter the domain of the Oracle Integrated Cloud Services that you use.

   \[\textbf{Note:}\] This value is mandatory to connect from IoT to OIC and you should provide it to configure the integration.

Create a New Integration Cloud Service Integration in the IoT Platform

Oracle Field Service Cloud requires credentials for Oracle Integration Cloud Service in order to access the application and update the database.

You have completed setting up the application settings in the IoT platform.

To create a new integration cloud service integration in the IoT platform:

1. Navigate to the IoT platform (URL: <your_host>/ui/).
2. Open Applications, Oracle IoT Asset Monitoring Cloud Service, Integration.
3. In the Create new Integration Cloud Service Integration page, complete the following fields
   a. Select the Overview tab and enter OFSC in the Name field.
   b. Select the Connection tab and enter the following values:
      - **URL** — OIC_host/integration/flowapi/rest
      - **Authentication** — BASIC
      - **Username** — Your user name from OIC
      - **Password** — Your password from OIC
   c. Select the **Streams** tab and enter the following values:
      - Message Format: RESystemAlert
      - Integration resource URL: /IOT_TO_OFSC_ORCHESTR/v01/createActivity

Show Asset Details by Enabling Widgets in IoT

You can show asset details in Oracle Field Service Cloud by enabling widgets in IoT.

To enable widgets in IoT:

1. Navigate to the IoT platform (URL: your_host/ui/).
2. Open the Settings page.
3. Under Security section, fill the following fields:
   a. **Allowed Hosts for Syndicated Widgets** — Enter the name of your OFSC host in https format.
   b. **Allowed Hosts for Cross-Origin Resource Sharing** — Enter the same OFSC host as provided in the **Allowed Hosts for Syndicated Widgets** field.
4. Save your settings.
Set Up Oracle Field Service Cloud to Enable the Integration

You can configure Oracle Field Service Cloud — IOTCS integration using the following procedure. To enable this integration, you must first configure IOT and then set up Oracle Field Service Cloud.

Following are the steps required to set up Oracle Field Service Cloud for this integration:

- Create new activity type for this integration.
- Create properties for the new activity type.
- Configure Mobility for new activity.

Add or Delete Field Entities

You can define the fields associated with an entity for integration with Oracle Database as a Service.

To add or delete field entities:

1. Navigate to the Configuration page and select Activity Types.
2. In the Activity Types page, click Add Group to add a new group.
3. In the Add Group dialog, enter the following values:
   - Label: asset_gr
   - Name: Asset

   The Add group dialog shows the values for the new group Asset.
   The figure shows the Add group dialog:

   ![Add group dialog](image)

4. Click Add.
5. Click Add Activity Type to create a new activity type with the following parameters:
   - Label: asset
   - Name: Asset Maintenance
   - Active: checked
6. Under Features, enable the check boxes next to the following fields:
   - Allow move between resources: checked
   - Allow creation in buckets: checked
   - Allow reschedule: checked
   - Support of not-ordered activities: checked
   - Allow non-scheduled: checked

The Teamwork, Multi-day activity, Allow non-scheduled, Allow mass activities and Allow repeating activities should be unchecked.

The Add activity dialog shows the values for the new activity type Asset Maintenance.

The figure shows the Add activity type dialog:

7. Click Add to create the new activity type.
Configure Mobility for the New Activity Type

You can remove any Daily Extract files you no longer want to use.

1. Navigate to the Configuration page and click **Action Management**.
2. In the Action Management page, create an action link with the following details:
   - Set your options in the General tab.

   This figure shows the Edit Action Link dialog with General tab options.

   ![Edit Action Link Dialog](image)

   Set your options in the Plugin details tab.

   This figure shows the Edit Action Link dialog with Plugin details tab options.
Make sure the URL show the details of your IOT host, for example https://your_iot_host/commonui/indexWidget.html?app=AM&root=assetDetail&assetDetail={asset_name}.

3. In the Configuration page, click User Types.
4. In the User Types page, select the Screen Configuration tab:
5. Add the above created action link Asset details to the context Edit/View Activity in Mobility section.
6. Drag and drop the actions named Asset details to the palette and give visibility condition as Activity type[aworktype] equals to Asset Maintenance.
7. Drag and drop the field Asset Name to the palette. This is a mandatory field. The plug-in will work only if this field has a value.

Other fields like Asset ID, Asset Description, Summary, Severity are also can be added to this context with visibility flag as Activity type[aworktype] equals to Asset Maintenance.

The figure shows the Screen Configuration tab with the Edit/View Activity action link:
Click the **Edit/View Activity Action Link** to define the urgent activity condition.

The figure shows the Edit/View Activity action link details screen:

8. Define the urgent activity condition as required.
10. In the Business Rules page, locate the Activity priority field.
11. In the Activity priority field, enter the following field values:
   - Property to define priority: Severity[severity]
   - Urgent activities have the following values for the property: Critical
   - Normal activities have the following values for the property:
     - Low
     - Normal
     - Significant
12. Create a routing plan with Run schedule Immediately for Urgent activities. This is used to assign the activities meeting the defined criteria as they appear in the bucket.
    Once you select Immediately, two options of activity selection appear: Apply for Urgent Activities and Apply for Activities that correspond to
13. Select the Apply for Urgent Activities option. (Routing will assign the activities matching the 'property+value' combination defined in the Activity Priority field).
The figure shows the Add Routing Plan screen with Apply for Urgent Activities field selected:


Set Up the Properties for Activity Types
You can set up properties for the new activity type you created in Oracle Field Service Cloud.
To set up properties for an activity type:

1. Navigate to the Configuration page and click Properties.
2. In the Properties page, add the following properties:
   a. Properties that hold asset information:
      - Asset Name
        - Property type: String
        - Property name: Asset Name
        - Property label: asset_name
        - Lines count: 1
        - GUI: Text
      - Asset Description
        - Property type: String
        - Property name: Asset Description
        - Property label: asset_description
        - Lines count: 1
        - GUI: Text
   b. Properties that hold information about the alert:
      - Summary
        - Property type: String
        - Property name: Summary
        - Property label: summary
        - Lines count: 1
        - GUI: Text
      - Severity
        - Property type: Enumeration
        - Property name: Severity
        - Property label: severity
        - GUI: Combobox
        - Enumeration values:-
          - Critical, CRITICAL
          - Low, LOW
          - Normal, NORMAL
          - Significant, SIGNIFICANT
3. After you create all the required properties, you may close the Properties page.
6 Integration With Oracle Analytical Cloud Service

About Oracle Analytical Cloud Service

You can now perform collaborative analytics for users and their enterprises, built on a high-performance platform with flexible data storage with Oracle Analytical Cloud Service.

With Oracle Field Service Cloud and Oracle Analytical Cloud Service integration, you need not navigate between applications to access data; you can use Oracle Field Service Cloud as the single location to make use of Oracle Field Service Cloud data and create analytical reports in Oracle Analytical Cloud Service. You can also embed any Oracle Analytical Cloud Service report or dashboard in Oracle Field Service Cloud pages so that users who have access privileges can see such reports/dashboards in Oracle Field Service Cloud directly.

Note: Oracle Analytical Cloud Service is a separate Oracle product distinct from Oracle Field Service Cloud. You must have a valid subscription to Oracle Analytical Cloud Service to use the integration between the two applications.

About Oracle Analytical Cloud Service Reports

Reports in Oracle Database as a Service answer your business questions by querying your organization’s data, including the data that is migrated from Oracle Field Service Cloud.

Add an Oracle Analytical Cloud Service Channel

You can add Oracle Analytical Cloud Service (OAC) channels using the Outbound Integration Channels configuration page.

To add an OAC channel:

1. Navigate to the Configuration page and select Outbound Integration.
2. In the Outbound Integration Channels page, click Add Channel.
3. In the Add Channel dialog, select Oracle Analytical Cloud Service from the Channel Type drop-down list.
4. In the Name field, enter the channel name to be displayed.
5. In the URL field, specify your Oracle Analytics Cloud URL without the /analytics or /va URL extension. For example https://My OAC.oraclecloud.com.
6. In the Service Name field, provide the network service name of the database.
7. In the User Name field, enter the name of the OAC User.
8. In the Password field, provide the password associated with the OAC User.
9. In the Confirm Password field, retype the same password.
10. Click OK.
The new channel is added to the Outbound Integration Channels page.
The image shows the newly added OAC channel.

![OAC Channel Image]

You can transfer data in near real-time/daily once based on the configuration for an entity. All supported fields for BICS transmission will be available for OAC data transfer. Steps to add fields into the OAC channel is same as that of BICS or DBaaS channel.

Related Topics
- Configure Real-Time Data Integration With BICS and DBaaS

Configure SSO in Oracle Analytical Cloud Service

Oracle Field Service Cloud requires credentials for Oracle Integration Cloud Service in order to access the application and update the database.

Note: Oracle Integration Cloud Service is a separate Oracle product distinct from Oracle Field Service Cloud. You must have a valid subscription to access Oracle Integration Cloud Service.

Oracle Field Service Cloud encrypts and stores the credentials to access Oracle Integration Cloud Service as part of the Daily Extract configuration. After the Daily Extract script generates and saves the extract file, it runs the Oracle Integration Cloud Service agent script to validate the access credentials, gets the existing database schema, and calls the REST API to update the database schema and push the files to Oracle Integration Cloud Service. After the data is migrated, the Outbound Integration Channels page shows information about the migration, including the table name, time of update, and status.

To configure SSO:
1. Log onto Oracle Analytical Cloud Service as an administrator—enter username and password.

Note: Ensure that the username in Oracle Field Service Cloud matches the username in Oracle Analytical Cloud Service.
2. To enable SSO, Click **SSO Configuration**.
3. Click **Configure SSO**.
4. Select **Import IP metadata** option. Browse and select the same SSO file that was used for Oracle Field Service Cloud from SAML IDP Provider.
5. In **SSO protocol** field, enter HTTP POST/.
6. In **User Identifier, custom attribute** field, enter uid.
7. Export Oracle Analytical Cloud Service Provider metadata and update the SAML IDP provider in Oracle Field Service Cloud.
8. Click **Test** and then select **Start SSO**.
   When you enter the administrator user name and password, you should see the message indicating a successful login session.
9. Click Enable SSO.

**Note:** Oracle Analytical Cloud Service instance should be active while accessing the embedded reports in Oracle Field Service Cloud. If not, a blank page will be displayed with error details.
Using Oracle REST Data Service (ORDS) for DBaaS Integration

With release 18D, you can now connect to Oracle Database as a Service (DBaaS) through the Oracle Rest Data Service (ORDS). By release 18D, the Oracle Net Listener option to connect DBaaS will be deprecated. You can switch connection from Oracle Net Listener to ORDS.

The Outbound Integration Channels page shows DBaaS channel status as follows:

- For the DBaaS channel with Oracle Net Listener connection, the application displays a warning message that the connection needs to be updated. You can switch the connection from Oracle Net Listener to ORDS.

The image shows the DBaaS channel with a warning message for existing users:

- For all new users, the connectivity to DBaaS will be through Oracle REST Data Service (ORDS):

The image shows the DBaaS channel with ORDS.
Add DBaaS Cloud Service Channel

For all new users, the connection to Oracle Database as a Service (DBaaS) will be through Oracle REST Data Service (ORDS); only exiting users will have the option to modify the existing channel from Oracle Net Listener to ORDS. When you add a new DBaaS channel, you should provide the ORDS endpoint details in the Add channel dialog in the Outbound Integration page.

✏️ Note: Users who have permission to access Outbound delivery channel should also have access to DBaaS.

To add a new DBaaS channel:

1. Navigate to the Configuration page and select **Outbound Integration**.
2. In the Outbound Integration Channels page, click **Add Channel**.
3. In the Add Channel dialog, select **Database as a Service** from the **Channel Type** drop-down list.

   The image shows the Add Channel dialog with Database as a Service selected.
4. In the **Name** field, enter the channel name to be displayed.

5. In the **Host** field, specify the URL of the DBaaS Oracle REST data service endpoint in the following format: https://<node-ip-address>

   **Note:** Make sure that the access rule ora_p2_httpssl is enabled in DBaaS. For more information, see the Oracle Database Cloud Service documentation.

6. In the **Schema** field, provide the schema alias for the Oracle REST Data Service enabled schema.
   If you are connecting to a Pluggable Database (PDB), the format should be `<PDB_Name>/<schema_name>`.
   
   If you are not connecting to a PDB, the format will be `<schema_name>`

   Prerequisite: You must REST-enable the Oracle database schema on which you want to use the REST-Enabled SQL service. To REST-enable the Oracle Database schema, you can use SQL Developer or the PL/SQL API.

   For more information, see the Oracle Database Cloud Service documentation.

7. In the **User Name** field, enter the name of the Oracle REST Data service user with roles: SQL Developer or Oracle database schema name. For more information, see the Oracle Database Cloud Service documentation.

   Before using the REST-Enabled SQL service, you must authenticate against the Oracle Database schema on which you want to run the SQL statements. Following types of authentications are available:

   - **First Party Authentication (Basic Authentication)**: For this authentication, create a user in Oracle REST Data Services with the SQL Developer role. This Oracle REST Data Services user will be able to run SQL for any Oracle database schema that is REST-enabled.
8. In the **Password** field, provide the Oracle REST Data service user’s password with SQL Developer role or the Oracle database schema password.

9. In the **Confirm Password** field, retype the same password.

10. Click OK.

After a successful channel is created using ORDS, the Outbound Integration page shows the DBaaS channel. You can add, delete and modify DBaaS channel configurations from Outbound Integration page.

 blindly: To add, delete and modify DBaaS configurations, you should have the permission to access Outbound Integration.

**Modify Oracle Rest Data Service for DBaaS Integration**

This section provides the steps to enable Oracle REST Data Service (ORDS) for an existing DBaaS channel. You can provide the Oracle REST Data Service (ORDS) endpoint details in the Modify Channel dialog.

 blindly: Users who have permission to access Outbound delivery channels should also have access to DBaaS

To modify a DBaaS channel:

1. In the Outbound Integration Channels page, select the Database as a Service (DBaaS) channel to edit.
2. Click the Properties icon and select **Modify** from the drop-down list.
3. In the **Connection Method** field, select Oracle REST Data Service from the drop-down list.

   When you select this option, existing DBaaS endpoint details will be automatically populated in the Modify Channel dialog.

   The image shows the edit dialog for the DBaaS channel.
You can validate the endpoint details by adding the Schema Alias and testing the connection.

4. In the **Schema Alias** field, provide the Oracle REST Data Service enabled schema and click OK.

5. Once saved, you cannot change the connection method. Click **Test Connection** to validate the connection before you save the channel.

6. After validating the connection, click OK.

Once enabled, the Outbound Integration Channels page shows the data transfer success rate and last updated details for DBaaS channel.

The image shows the DBaaS channel with data transfer success rate.
Oracle Field Service Cloud
Configuring Outbound Integration Channels

Chapter 7
Integration With Oracle Database as a Service Through Oracle Rest Data Service (ORDS)

DBaaS

100%
Success Rate

Last Updated: 54 Minutes ago
Revision History

This document will continue to evolve as existing sections change and new information is added.

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