Field Service

Configuring Applications

Field Service
Configuring Applications

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Preface

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

Using Oracle Applications

To find guides for Oracle Applications, go to the *Oracle Help Center*.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the *Oracle Accessibility Program website*.

Videos included in this guide are provided as a media alternative for text-based topics also available in this guide.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we're working to remove insensitive terms from our products and documentation. We're also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Contacting Oracle

Access to Oracle Support

Customers can access electronic support through Oracle Support. For information, visit *My Oracle Support* or visit *Accessible Oracle Support* if you are hearing impaired.

Comments and Suggestions

Please give us feedback about Oracle Applications Help and guides. Please take one of the following surveys:

- For web-based user guide, *Web-based User Guide Survey*
- For tutorial feedback, *Tutorial Survey*

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1 **Daily Extract**

What's Daily Extract?

The Daily Extract functionality extracts data from Oracle Field Service for storage, analysis, and reporting of events. The extracted data contains 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.

These rules describe how the Daily Extract files are generated when fields or entities are changed:

- When you change the name of an entity in Oracle Field Service, a new table is created in the target application with the new name:
  - For daily transactions, the changes are shown in the next daily run configured for the customer
  - For entities that support both daily and realtime transactions, the changes are shown after the next daily run
  - For entities that support only realtime, changes are shown immediately
- When you change a field that is configured for an entity, a new column is created in the target table:
  - For daily transactions, the changes are shown in the next daily run configured for the customer
  - For entities that support both daily and realtime transactions, the changes are shown after the next daily run
  - For entities that support only realtime, changes are shown immediately
- When you change the data transfer mode (Real time to Daily or the reverse), the data transfer starts only from the next day.

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 page.

To set up permissions for daily extract configuration:

1. Click Configuration, **User Types**

   The **User type info** screen opens with a list of user types in the left column.

2. Select the user type you want to allow to configure the Daily Extract fields.
3. Click the **Screen configuration** tab and click Configuration.

   The **Configuration** screen opens with a list of actions in the left panel.

4. Scroll down the **Actions** column and select **Applications**.

   The screen displays a list of labels in various languages, and the bottom of the screen contains the visibility information.

5. Click **Add new visibility**.

   The visibility dialog box is displayed.

6. In the visibility dialog, set the permissions as Read-only or Read-write as needed and click **Save**.

7. Click **Close** in the lower left corner of the context layout screen.

Configure Daily Extract Start Time

Previously Oracle Field Service calculated the time of daily data extracts automatically based on overnight instance settings. By the end of their day, Technicians do not wait for the completion of data transfer from their mobile devices to the server and switch off their mobile devices. Data remains stored locally and when technicians switch on their devices the next day, the server rejects transactions, as Oracle Field Service doesn't allow updating past data.

Oracle Field Service allows you to configure the time of previous day data extract now. The configured start time applies to all configured applications. The Applications screen displays the Start Time option.

To configure daily extract start time:

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1. Click Configuration, Applications.

   This screenshot shows the Applications page.
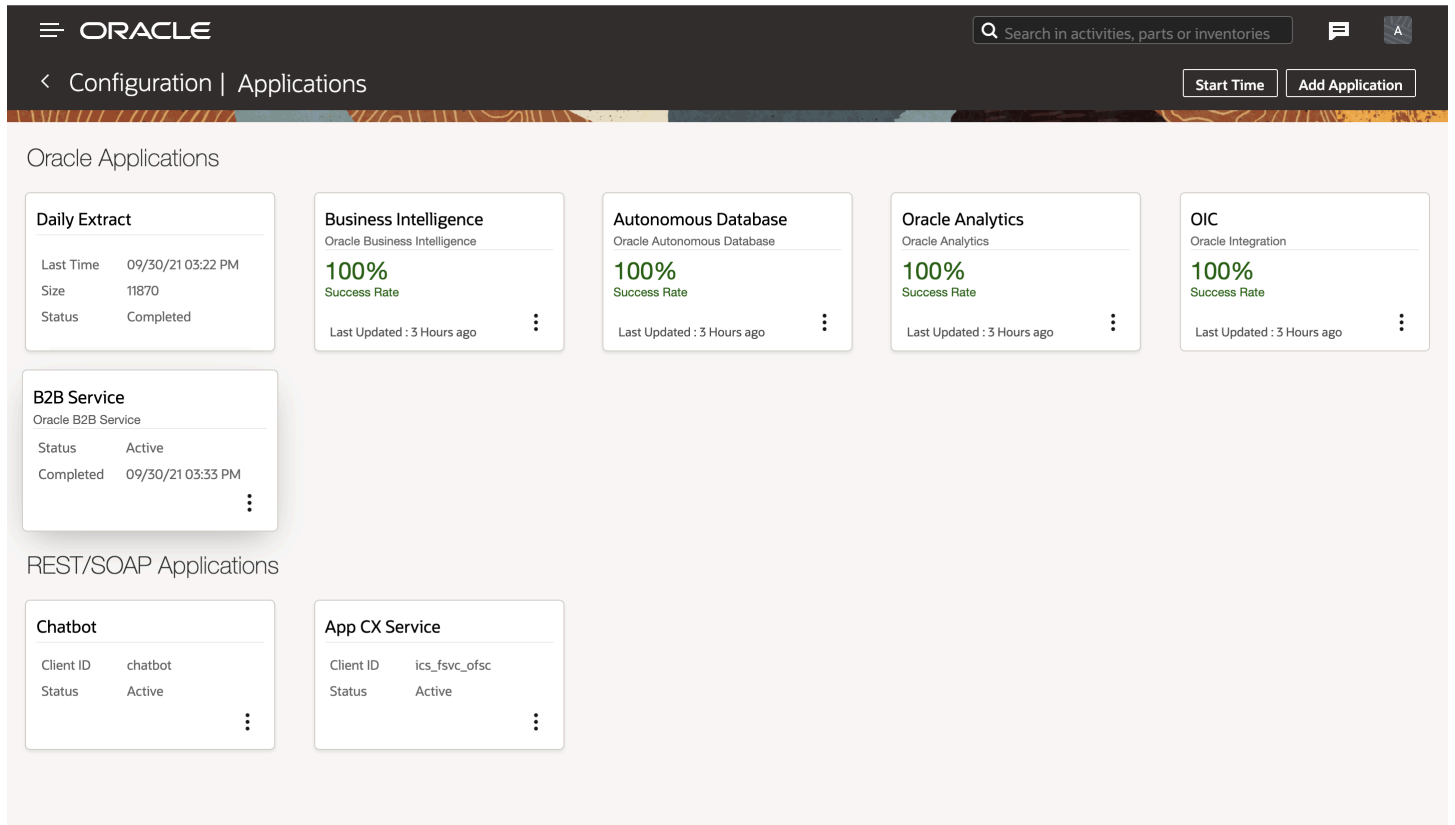
2. Click Start Time to open the Configure start time dialog box.

This image shows the Configure start time dialog box.

Configure start time

Automatic	☑
Start Time	00 ▼ : 00 ▼
Time Zone	Atlantic ▼

ⓘ Start time is the same for all configured applications.

ⓘ Due to time zone differences, Daily Extract files may not contain the whole previous day data. To get it full you must merge the data for the last two days in your system.

Dismiss   **Configure**

3. Check one of these check boxes to update the Daily Extract start time as needed:
   - Automatic: Calculates Daily Extract start time automatically as done during previous OFS versions. This is the default option.
   - Start time: Assigns the exact time when the Daily extract process should start
   - Time Zone - specific time zone when the Daily extract process should start

4. Click Save.

Results:

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The Automatic check box is enabled by default to provide compatibility with previous versions.

- Do note that all of the previous day's data will not be included into Daily Extract files when switching from automatic to configured start time. To obtain the previous day's data, you must merge the data for the previous two (2) days in your system.

- Review the **Business Rules, Overnight, Start time** value selection. Previous day activities processed after Daily Extract run are not taken into account.

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.

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> **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.

How do I create a Daily Extract file?

You can configure the Daily Extract from the **Applications** page and create or change the set of files for the Daily Extract and their content. You can export a daily extract file immediately after creating, or schedule the extraction.

The **Daily Extract** page lists the files that are extracted. Each row shows an entity and the exported file name. The menu icon 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 **Configuration** > **Application** > **Daily Extract**.
2. On the **Daily Extract** page, click **Add new** and select the entity containing the data you want to extract.

   See the Examples for all entities can be found in the topic.
3. To export the data immediately, click **Export**.

   All Daily Extract files are created in the XML format.
4. To schedule the extraction, click **Submit**.

   The new configuration appears in the list on the **Daily Extract** page. The scheduled extraction runs at the time you specify on the **Configure Start Time** page.

How can I regenerate the Daily Extract files?

If the Daily Extract process fails, you can regenerate or re-create the Daily Extract files by yourself.

1. Go to **Configuration** > **Applications**.
2. On the **Daily Extract** tile, click **Manual Run** on the actions menu.
3. Select the date for which you want to extract the file.

   Yesterday's date is populated by default. You can provide a date which is within the past 90 days (today-90). You can extract the data for one day at a time, so to extract the data for multiple days, you must submit the extraction for each day individually.
4. Click **Extract Data**.

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The application processes only one extraction request per instance at a time, which can be triggered automatically or manually. Therefore, if an extraction process is running on an instance, the **Manual Run** button is not available. The files for Manual Run are generated at the same location and in the same format as the automatic Daily Extract files. So, if you run the process manually, the existing files are overridden.

5. To view the history of extractions, click **History** on the Daily Extract tile.

   You can see the last 20 extractions, including automatic and manual runs.

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 **Applications**.
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:
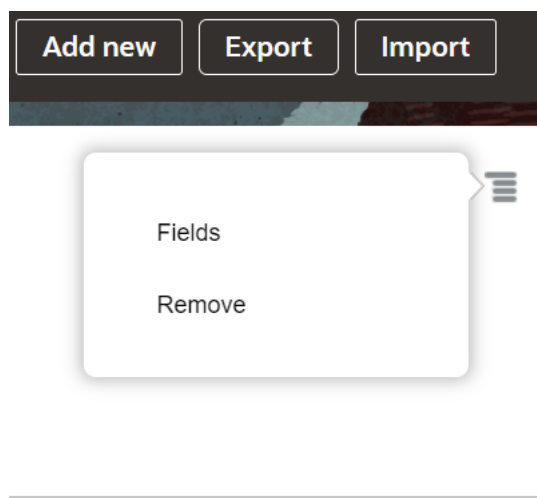
   b. Click the **Plus** icon and select the required field that you want to add to the entity.
   c. Click **Add** and Click **OK**.
5. To delete any field from the list, select **Delete** from the drop-down menu.

   The fields you deleted are removed from the **Field List** immediately.

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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 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.

```
#!/bin/sh

# Credentials
export COMPANY=""
export LOGIN="api_user_name"
export PASSWORD=""

# API URL
export URL="https://<instance_name>.fs.ocs.oraclecloud.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.

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

. ./credentials.sh
```

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```
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>

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

. ./credentials.sh

curl -u ${LOGIN}:${PASSWORD} ${URL}/rest/ofscCore/v1/folders/dailyExtract/folders/${DATE}/files/${FILENAME}?
company=${COMPANY} -o ${FILENAME}
```

all_files.sh<DATE>

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

for filename in `./file_list.sh ${DATE}`
do
 ./get_file.sh ${DATE} $filename
done
```

More information about APIs

- *About the REST APIs*
- *Information about other Oracle Field Service APIs* can be found under the Development heading on this page.

Add a New Application

You can now add new applications for Oracle BI Cloud Service and Oracle Database as a Service using the **Applications** configuration page. The Daily Extract option is available by default on this page. After creating new applications, you can transfer data in real time to your Oracle BI Cloud Service or Oracle Database as a Service instance.

To add a new application:

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.

   The **Add Application** dialog box opens.

3. In the **Add Application** dialog box, select **Application Type** from the drop-down list.
   - If you select Oracle Integration, the **Add Applications** dialog box displays the Application Name, Host, User Name, Password and Confirm Password fields.
   - If you select **Database as a Service** , the **Add Applications** dialog box displays the Application Name, Host, Port, Connect with SID and Connect with Service Name fields.
4. Complete the fields and click **Add** to add the channel.

Results:

The new application is now available on the **Applications** page. Data transmission to Oracle Integration or Oracle Database as a Service displayed on this page 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. Also, the daily transmission is initiated per the daily extraction period. Real-time data transfer of the Activity, Inventory, ActivityLink, Resources, Users, and Route entities is initiated only from the next day.

Set Applications in Read-Only Mode

You can set an application to read-only using the screen context layout for applications.

1. Navigate to **Configuration** > **User Types** > **Screen Configuration** > **Configuration**.

    The **User Types** page shows the context layout structure for Applications.
2. Click **Add**.
3. Add the visibility as read-only and click **Save**.

    This screenshot shows the visibility options for applications.
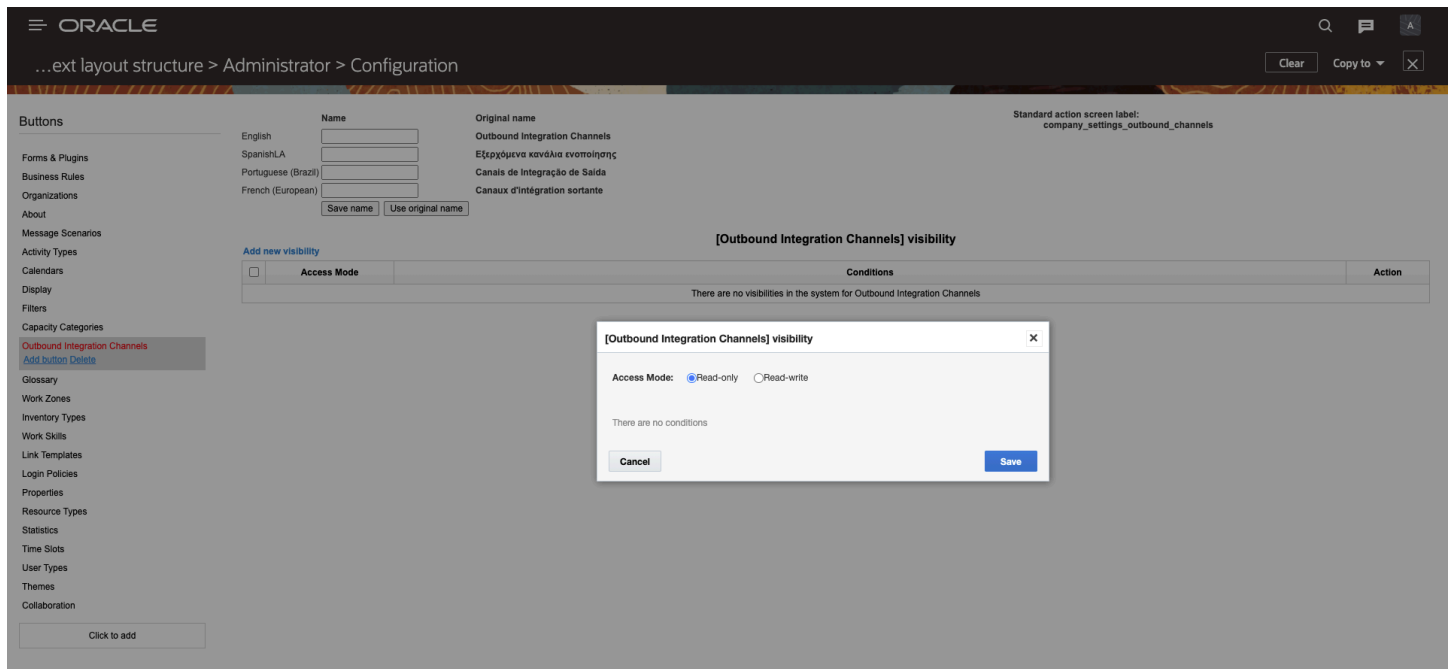
If you have read-only access to channels, the Applications page shows the applications as read-only.

Results:

You can view the applications/channels configured with the status. However, the option to add new channels or edit existing channels is not available for users with read-only privileges. This screenshot shows the Add Application dialog box:

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Add Application ✕

Application Type	Oracle Integration ⌄

You can integrate with O[...]ations with cloud and on-premise a[...]

Oracle Integration

Oracle Analytics

Oracle Autonomous Database

Oracle Business Intelligence

Applications using REST/SOAP API

Oracle CX Service

*Application Name

*Host

*User Name

*Password

*Confirm Password

Close   OK
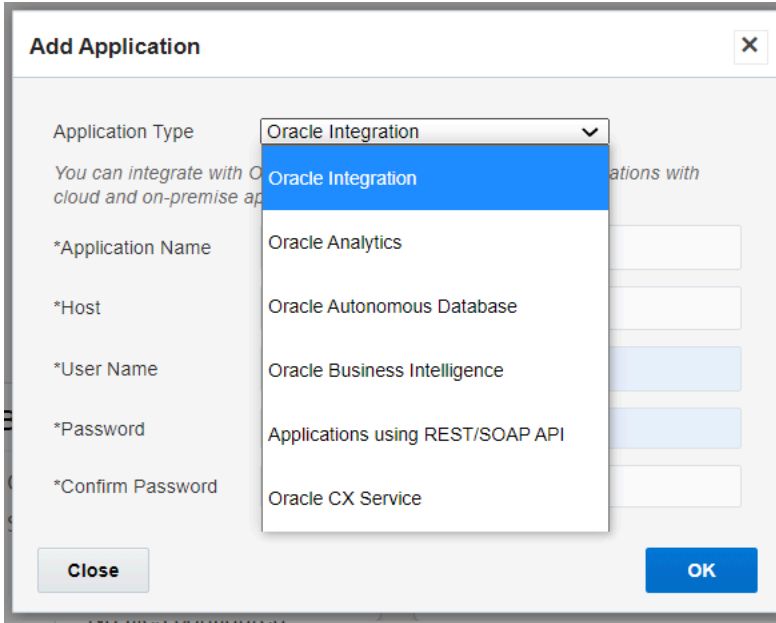
To view the daily extract time, click **Start Time** on the **Applications** page.

This screenshot shows Start Time dialog box:

Configure start time

Automatic   ☑

Start Time   00   ▾   :   00   ▾

Time Zone   Atlantic   ▾

ⓘ Start time is the same for all configured applications.

ⓘ Due to time zone differences, Daily Extract files may not contain the whole previous day data. To get it full you must merge the data for the last two days in your system.

Dismiss   Configure

You can click the configured channels to view the entity details. You can also set the visibility option as read-only so that all users can view the applications/channels in read-only mode.

Applications Page in Redwood Theme

Applications page has a new user interface based on Redwood style.

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This feature includes these improvements:

- Displays the Application type with the application name on the application card that lets you to identify the type of the application quickly.

  This screenshot shows the **Applications** page using Redwood style.
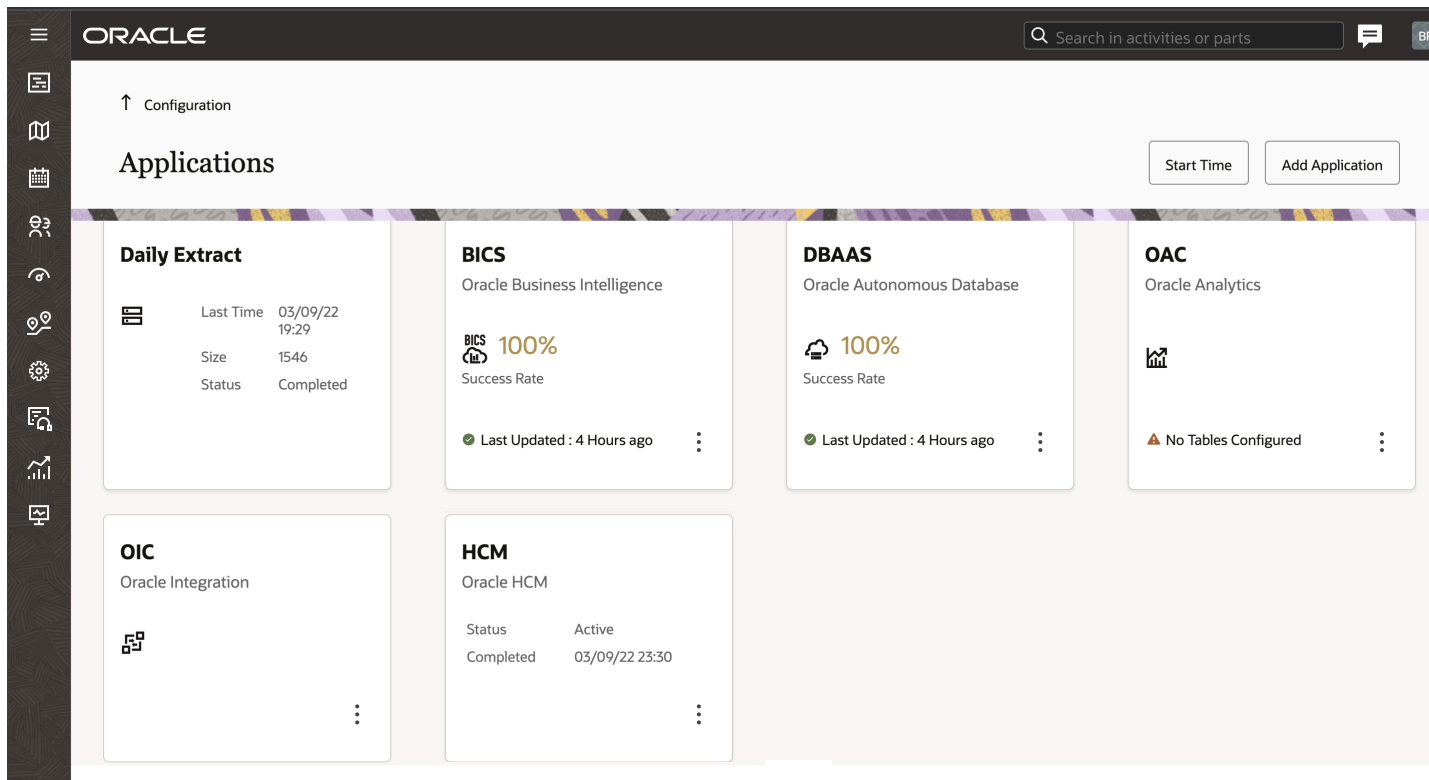
- As the Daily Extract is a predefined application in the Applications page, it does not have a separate application type description on the card.

- The application cards are updated with current status messages and icons.

- Improvements to the Knowledge application card:
  - ○ Knowledge card details

    Oracle Knowledge is configured for user types, the Knowledge application card displays the number of users and user types for which the Knowledge context is configured. This image shows the Knowledge Application Card.

    Knowledge

    Oracle Knowledge

    ◯   Configured Users   26

                 Configured User   1
                 Types

    ⋮
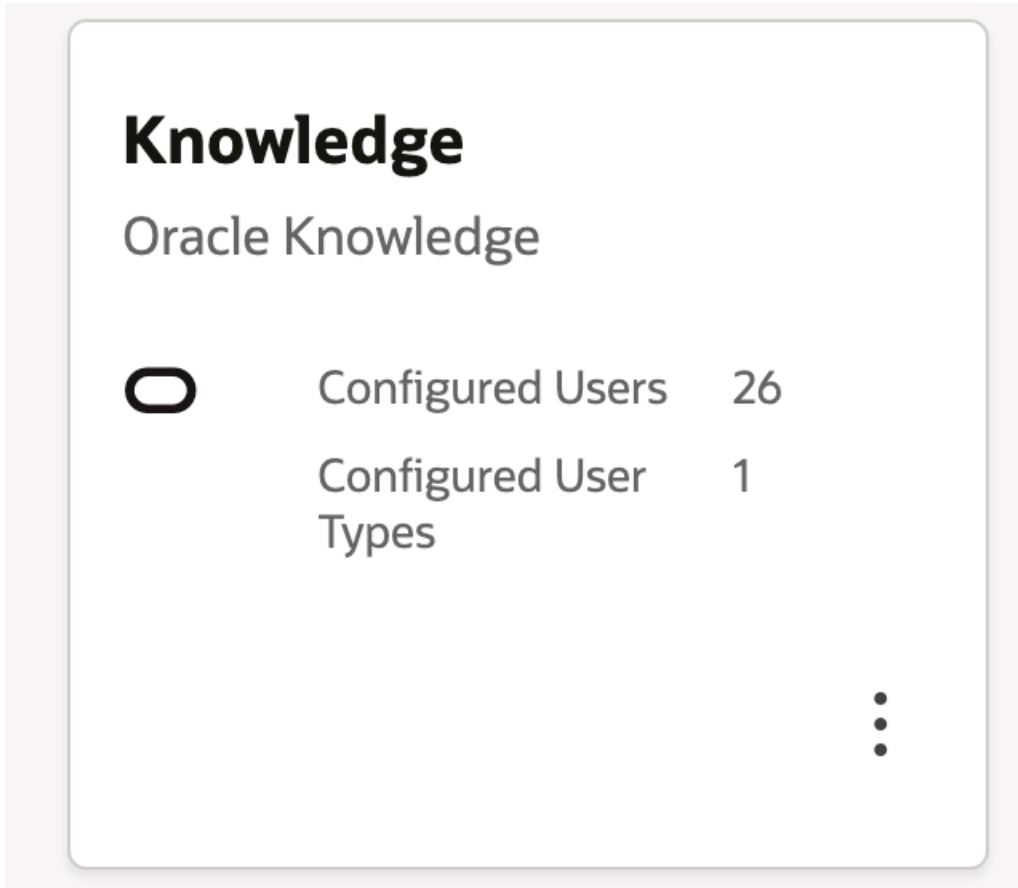
  - ○ Knowledge card options menu

    You can select the options menu and choose to Modify or Delete the application card.

    This image shows the Knowledge card options menu.

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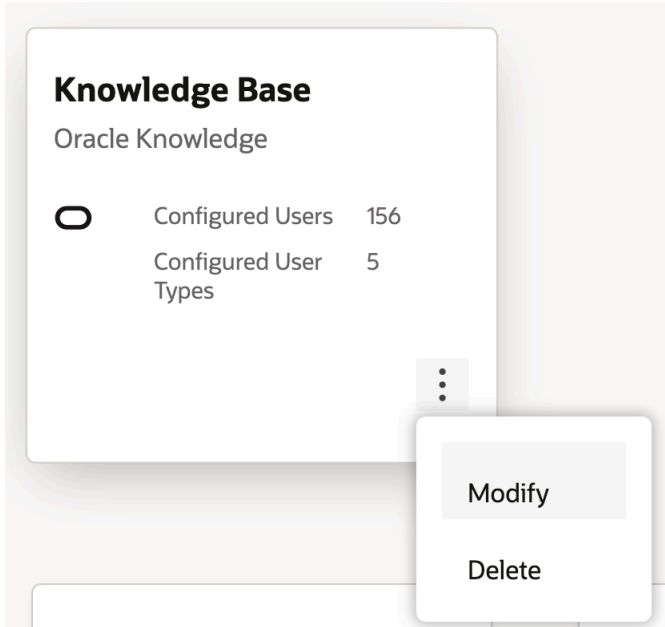
∘ When the Knowledge context is not configured for any user types, the card displays a warning message:

This image shows the warning message.
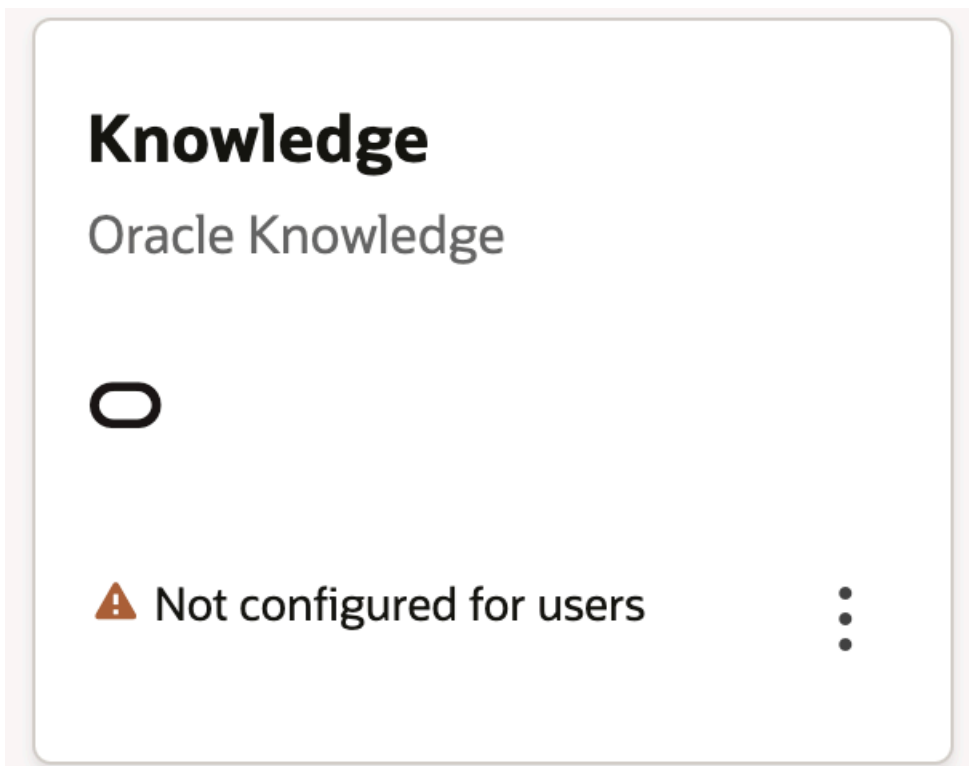
- The REST/SOAP Application page is now based on Redwood style.

  >This screenshot shows REST/API SOAP application page.

Applications Page Improvements

Starting with Update 22C, the dialog boxes, application type list view, warning messages and input fields in the Applications page have been improved with Redwood style.

This feature includes these improvements:

- **Application Type drop-down menu.** The Application type drop-down menu options are listed in alphabetical order now.

  This screenshot shows the Add Application Type dialog box displaying Application type drop-down list.

  Add Application

  Application Type
  Applications using REST/SOAP API

  Applications using REST/SOAP API

  Oracle Analytics

  Oracle Autonomous Database

  Oracle B2B Service and Service Logistics

  Oracle Business Intelligence

  Oracle HCM

  Oracle Integration

  Oracle Knowledge
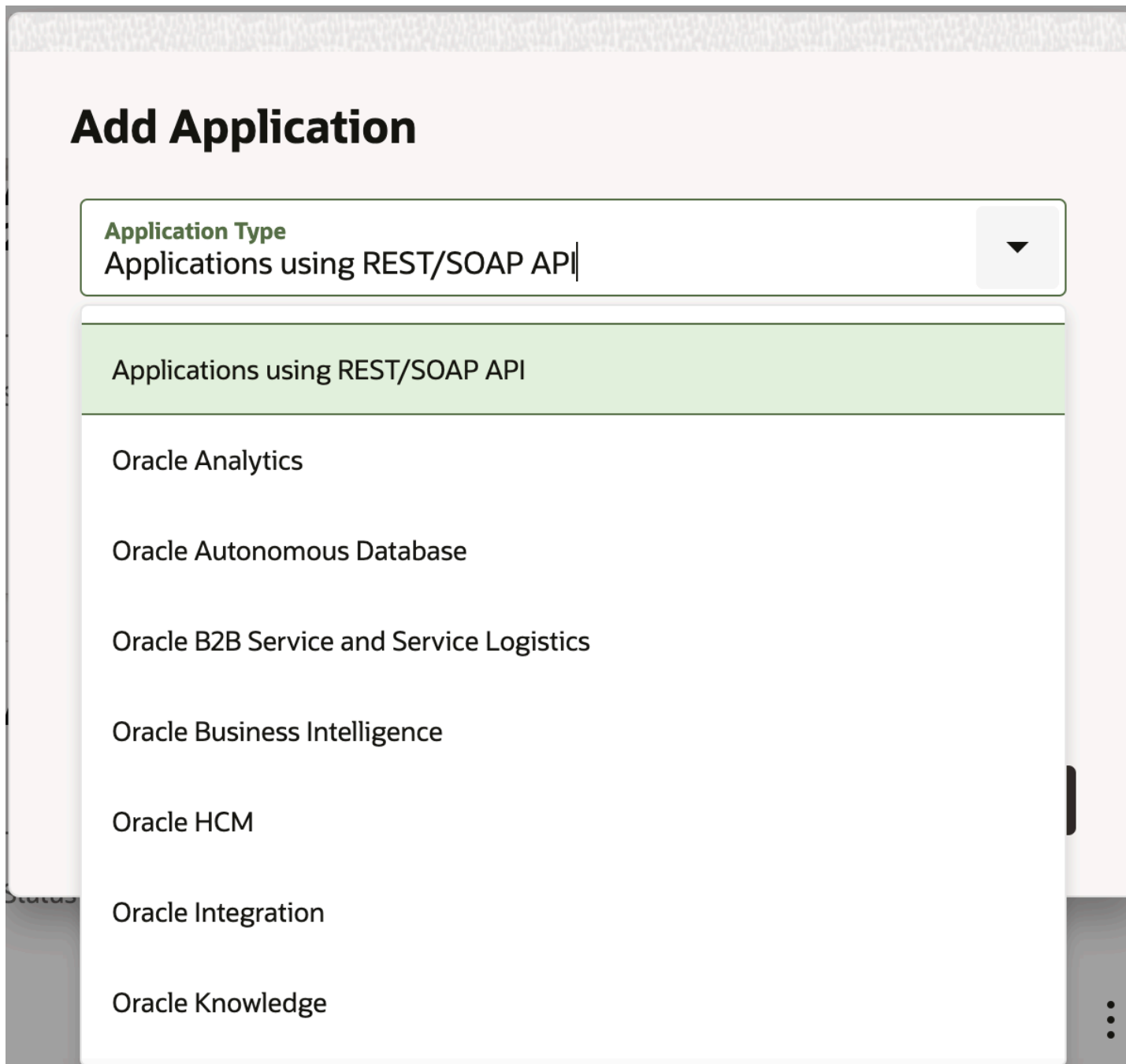
- **Deprecation of Oracle Business Intelligence Application (BICS).** The support for Oracle Business Intelligence application (BICS) is planned to stop in Update 23A version. The recommendation is that new customers must use Oracle Analytical Cloud and existing users must switch over to Oracle Analytical Cloud from BICS for a

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better analytical experience. Users are notified about the deprecation of the BICS application when they add a new BICS application or select Oracle Business Intelligence from the Application Type list.

This screenshot displays the message showing the deprecation of BICS application:
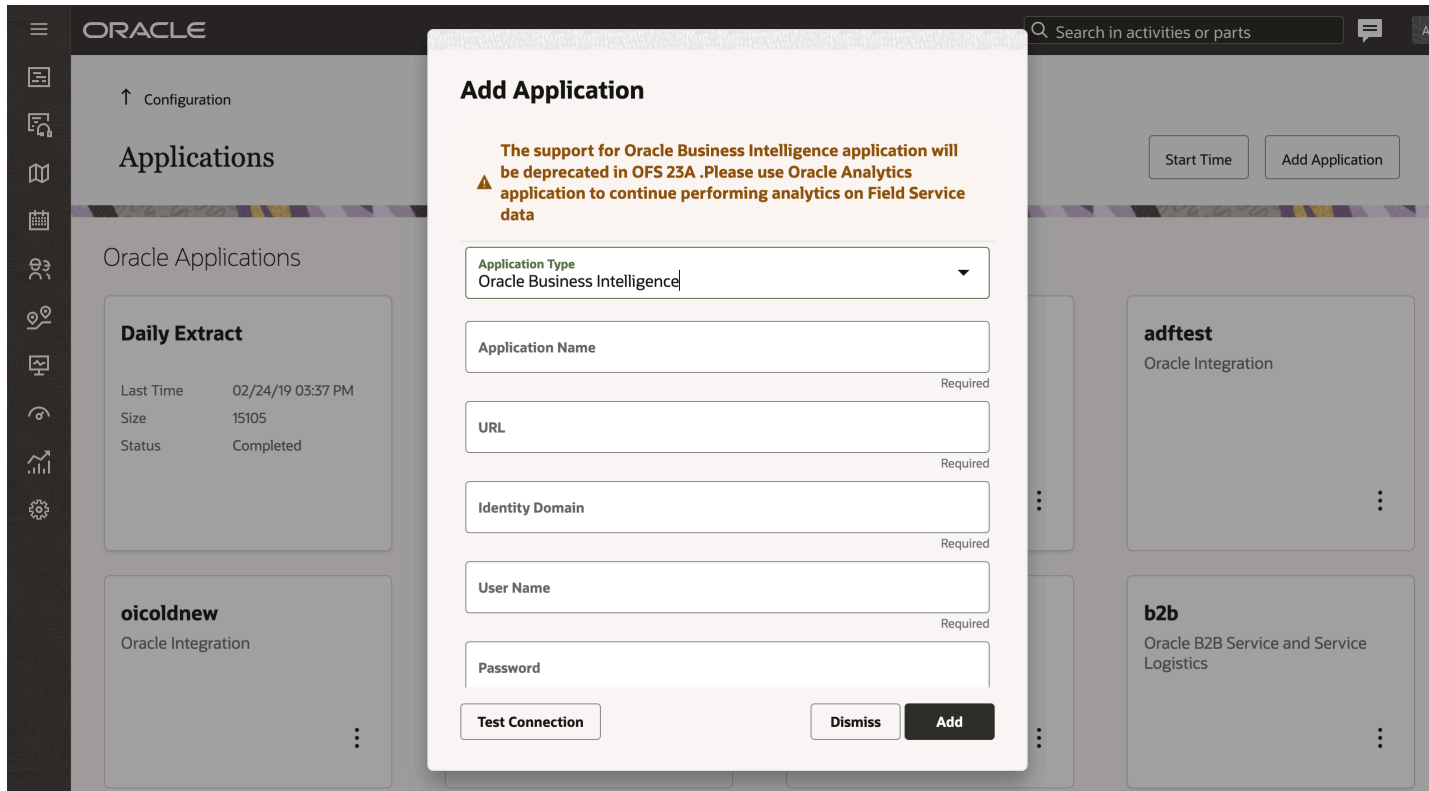
This screenshot shows the application card with warning message for existing users.

Oracle BICS

Oracle Business Intelligence

99%

Success Rate

⚠ The support for Oracle Business Intelligence application will be deprecated in OFS 23A

⋮

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- The dialog boxes for Applications configuration have a new look and feel:
  - Add Application dialog box

    This screenshot displays the Add Application dialog box:
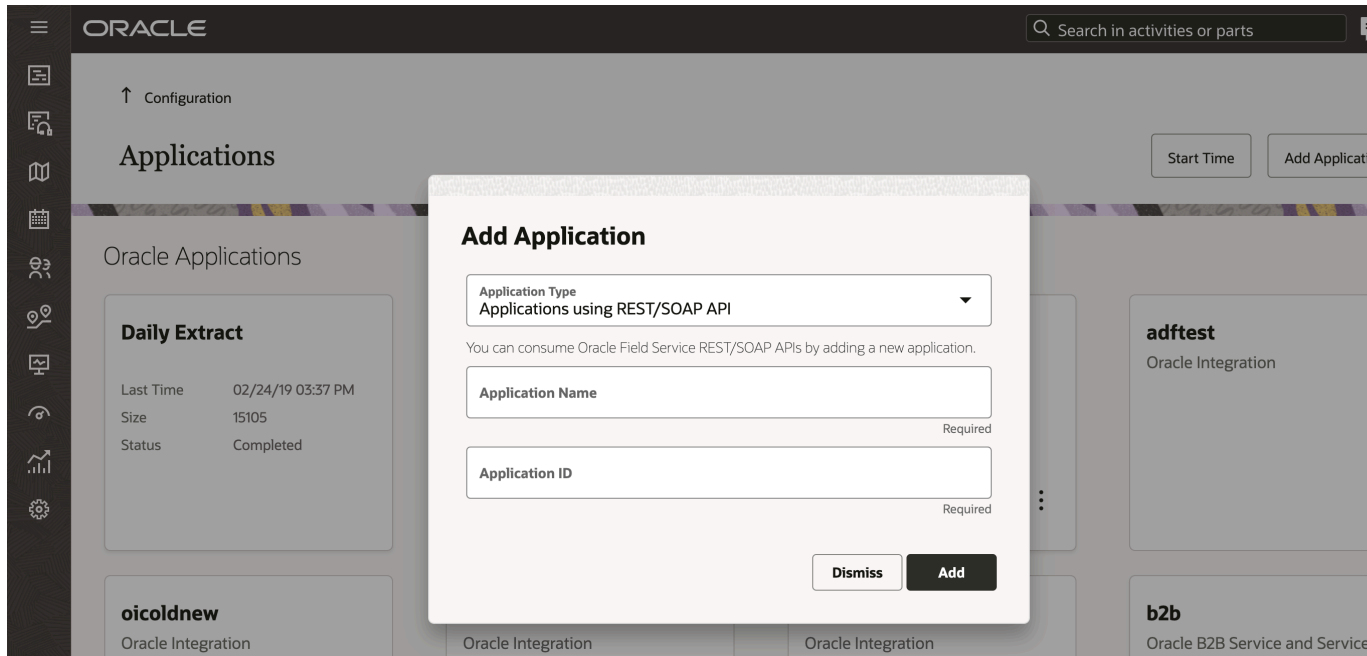
  - Modify Application dialog box for a selected application

    This screenshot displays the Modify Application dialog box:

Modify Application

Application Type

Oracle B2B Service and Service Logistics

You can integrate Oracle B2B service and Service logistics. Synchronize work order and Parts with field service activities.

Application Name
b2b

Oracle B2B Service Endpoints

URL
https://instancename.yourcompanyname.com

User Name
ALAN.HOOPERR

IT_SECURITY_MANAGER user with privileges for Setup and Maintain Applications, Setup Service and Service Work Order.

Password

Oracle Integration

| Test Connection | | Dismiss | Modify |

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○ Retry Option

This screenshot displays the confirmation message to retry:
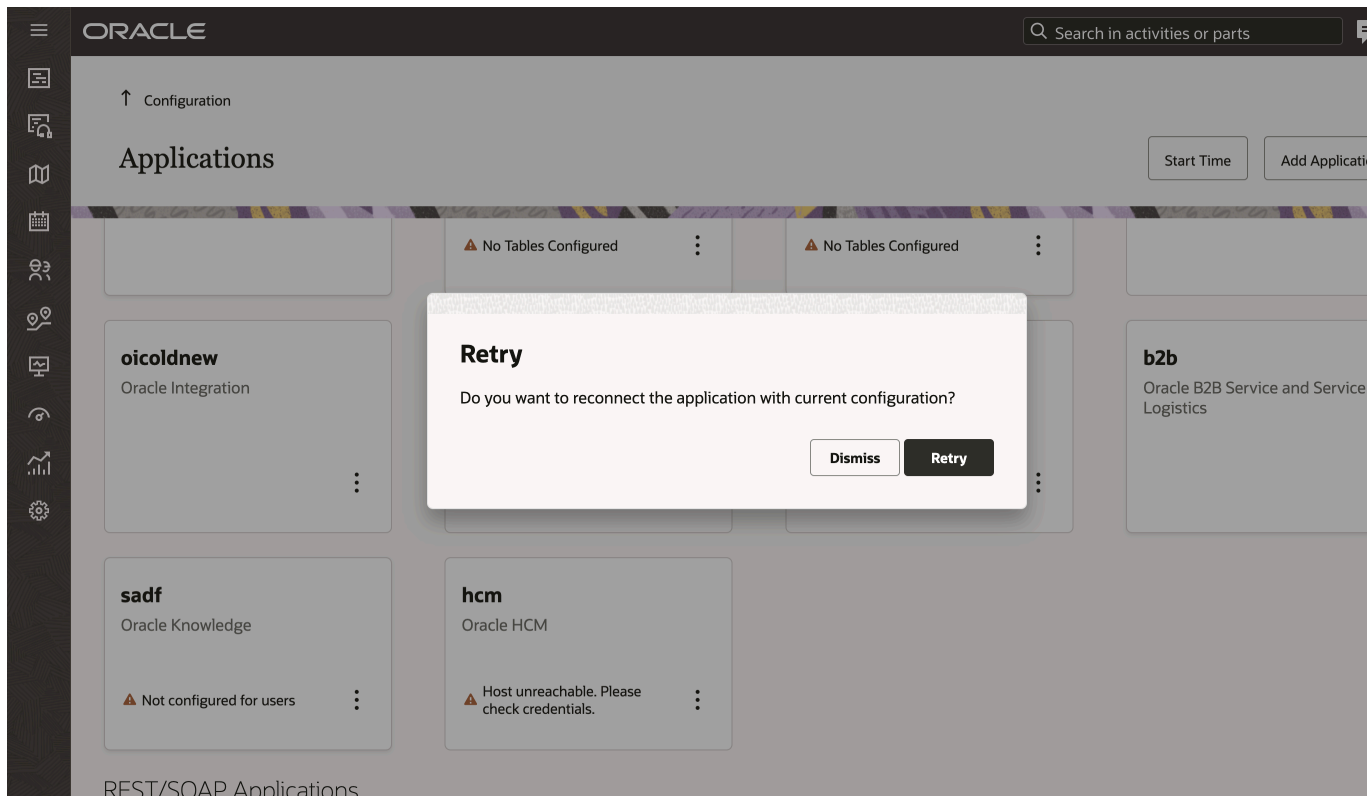
○ Delete Option

This screenshot displays the confirmation message to delete:
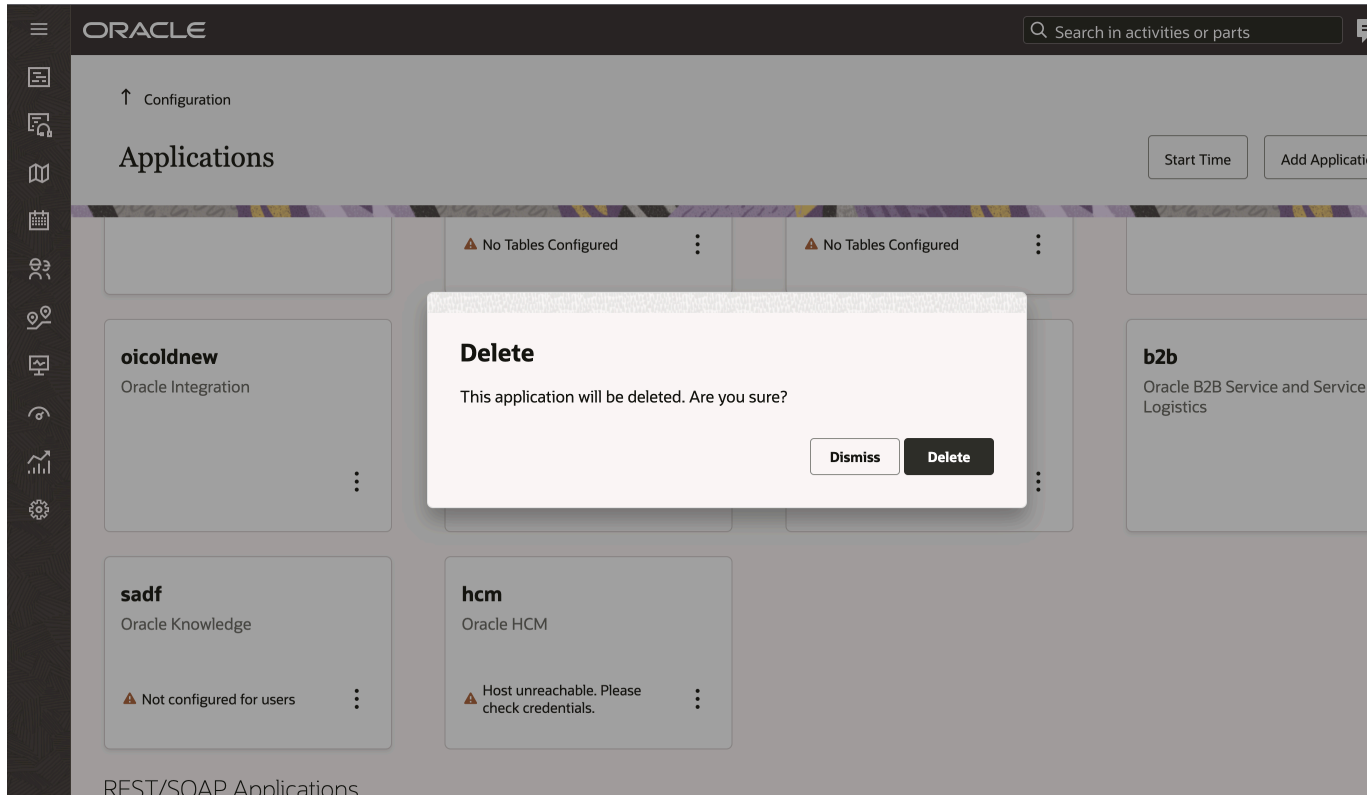
- Warning messages and error alerts are displayed in the Add or Modify Application dialog box.
  - Warning message on Add Application dialog box. This screenshot displays the warning message on the Add Application dialog box:

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Add Application

Application Type
Oracle B2B Service and Service Logistics ▼

You can integrate Oracle B2B service and Service logistics. Synchronize work order and Parts with field service activities.

Application Name

Required

Oracle B2B Service Endpoints

URL

Required

User Name

Required

IT_SECURITY_MANAGER user with privileges for Setup and Maintain Applications, Setup Service and Service Work Order.

Password

Required

✓ An application of type 'Oracle B2B Service and Service Logistics' already exists. Please delete the existing application and retry.

Test Connection   **Dismiss**   **Add**

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- ○ Warning message on Modify Application dialog box. This screenshot displays the warning message on the Modify Application dialog box:

![ORACLE]

Modify Application

Application Type
Oracle B2B Service and Service Logistics

You can integrate Oracle B2B service and Service logistics. Synchronize work order and Parts with field service activities.

Application Name
b2b

Oracle B2B Service Endpoints

URL
https://instancename.yourcompanyname.com

User Name
ALAN.HOOPERR

IT_SECURITY_MANAGER user with privileges for Setup and Maintain Applications, Setup Service and Service Work Order.

Password

Oracle Integration

✓ Oracle B2B Service: Authentication Failed. Please check credentials.

Test Connection   **Dismiss**   **Modify**

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○ Configure start time option has been improved. This screenshot displays the Configure start time dialog box:

Configure start time

Automatic	☑
Start Time	00 ▼ : 00 ▼
Time Zone	Atlantic ▼

ⓘ Start time is the same for all configured applications.

ⓘ Due to time zone differences, Daily Extract files may not contain the whole previous day data. To get it full you must merge the data for the last two days in your system.

Dismiss   **Configure**

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- Application details pages for Daily Extract/OAC/Autonomous database application have new look and feel.
    - Daily Extract configuration page. This screenshot displays the Daily Extract configuration page:
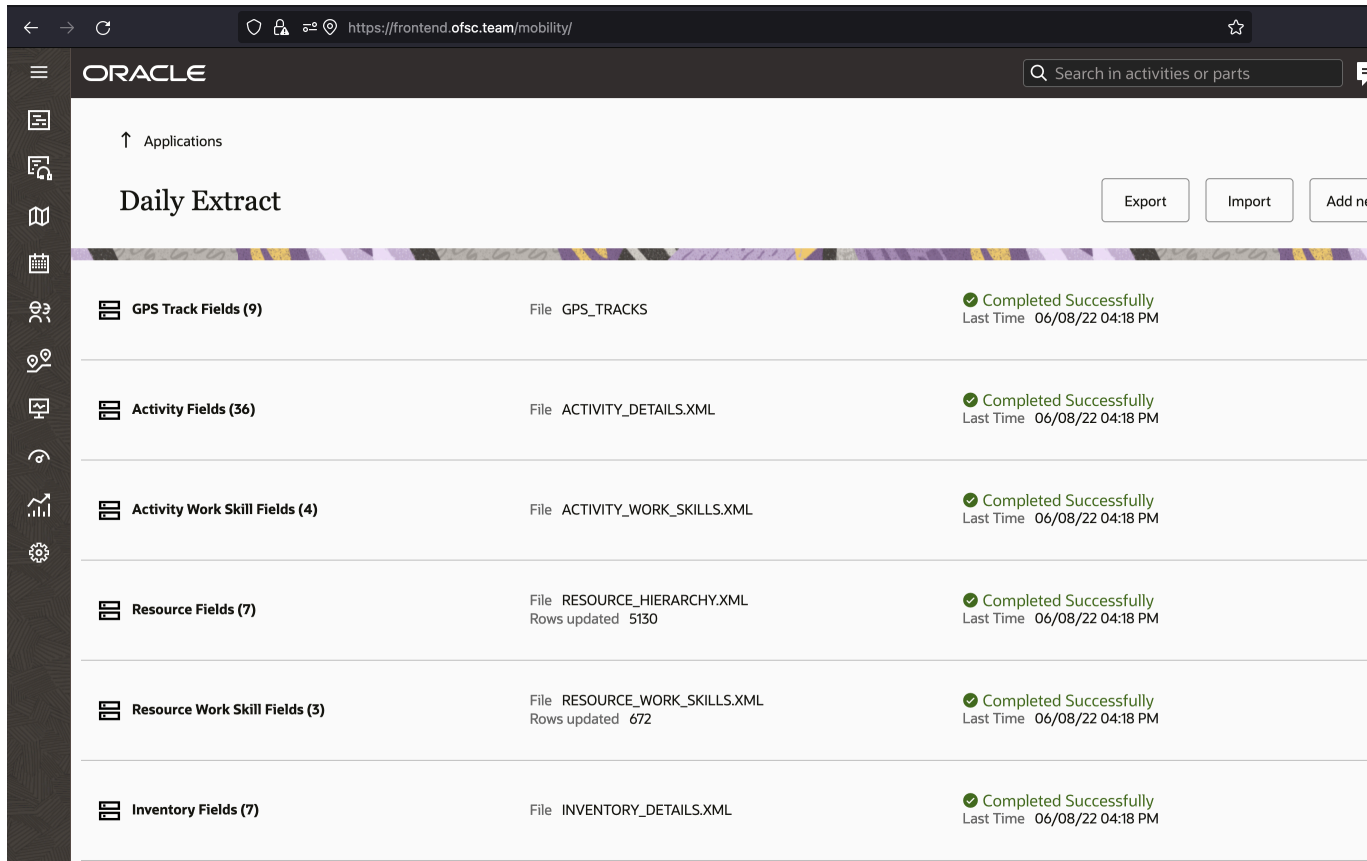
    - Add configuration details dialog box. This screenshot displays the Application details page - Add configuration dialog box:
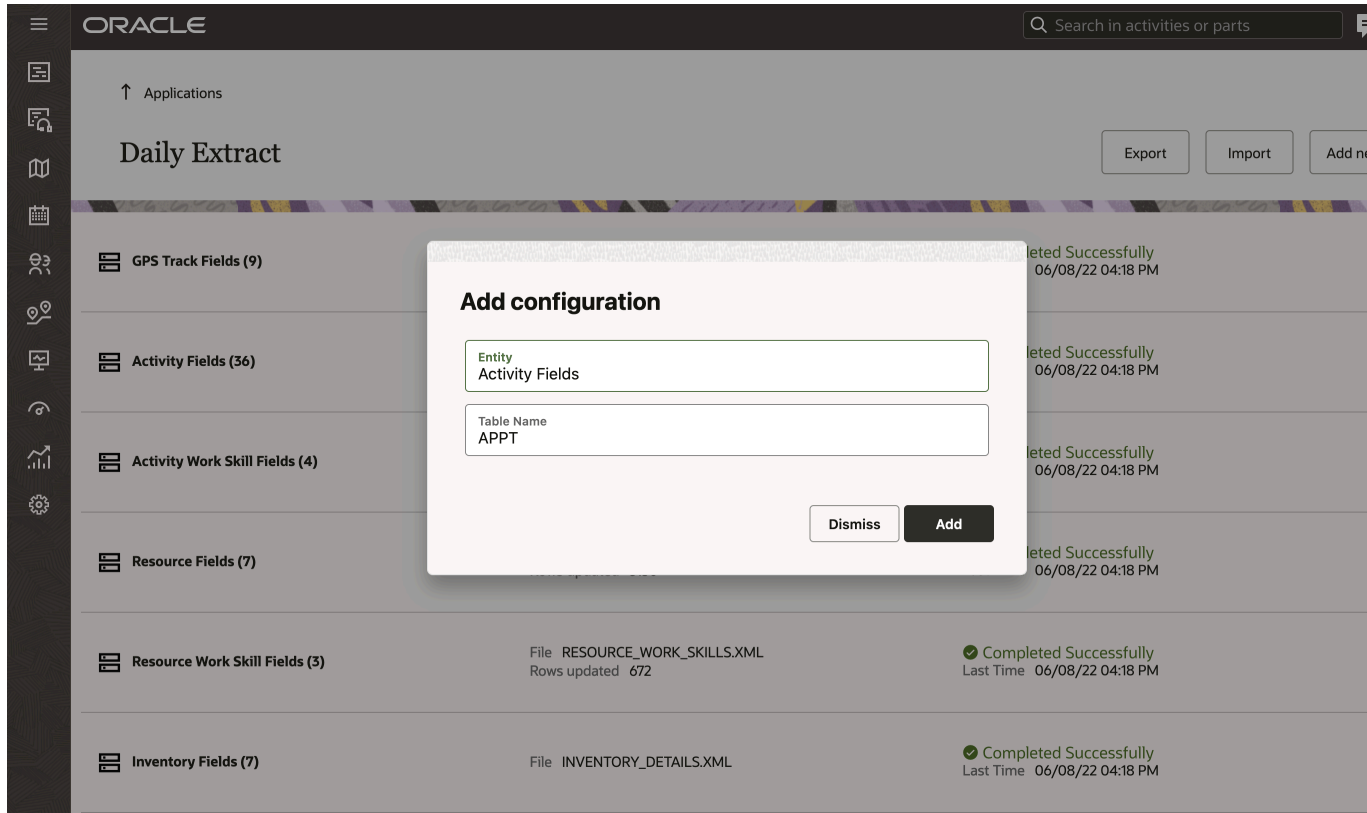
o Edit configuration details dialog box. This screenshot displays the Application details page - Edit configuration dialog box:
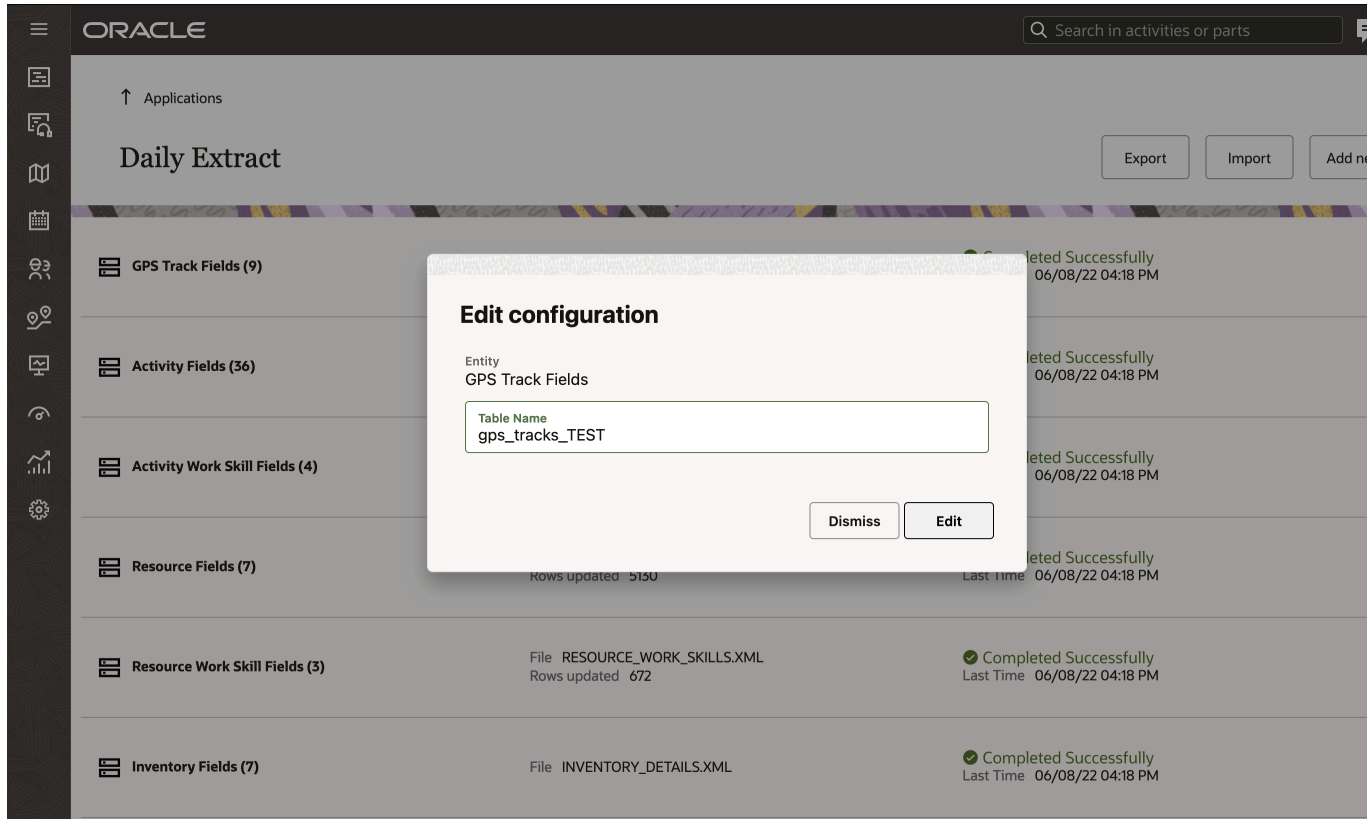
o   Add field dialog box. This screenshot displays the Add field dialog box:

Add field

⊕

ACTIVITY_ID

⊖
Name
ACTIVITY_ID
⋮⋮⋮

_PORTS

⊖
Name
_PORTS
⋮⋮⋮

ACCOUNT_NUMBER

⊖
Name
ACCOUNT_NUMBER
⋮⋮⋮

ACTIVITY_NOTES

⊖
Name
ACTIVITY_NOTES
⋮⋮⋮

Dismiss | **Add field**

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- ○ Add field dialog box showing Search fields. This screenshot displays the Add field dialog box showing Search fields:

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Add field

🔍 Search

☐ **# Ports**
appt.no_ports

☐ **Account Number**
appt.customer_number

☑ **Activity ID**
appt.aid

☐ **Activity Notes**
appt.ACTIVITY_NOTES

☐ **Activity Time of Assignment**
appt.atime_of_assignment

☐ **Activity Time of Booking**
appt.atime_of_booking

☐ **Activity Type**
appt.ACTIVITY_TYPE

☐ **Activity Type**

Dismiss   **Add field**

○ Import dialog box. This screenshot displays the Import dialog box:
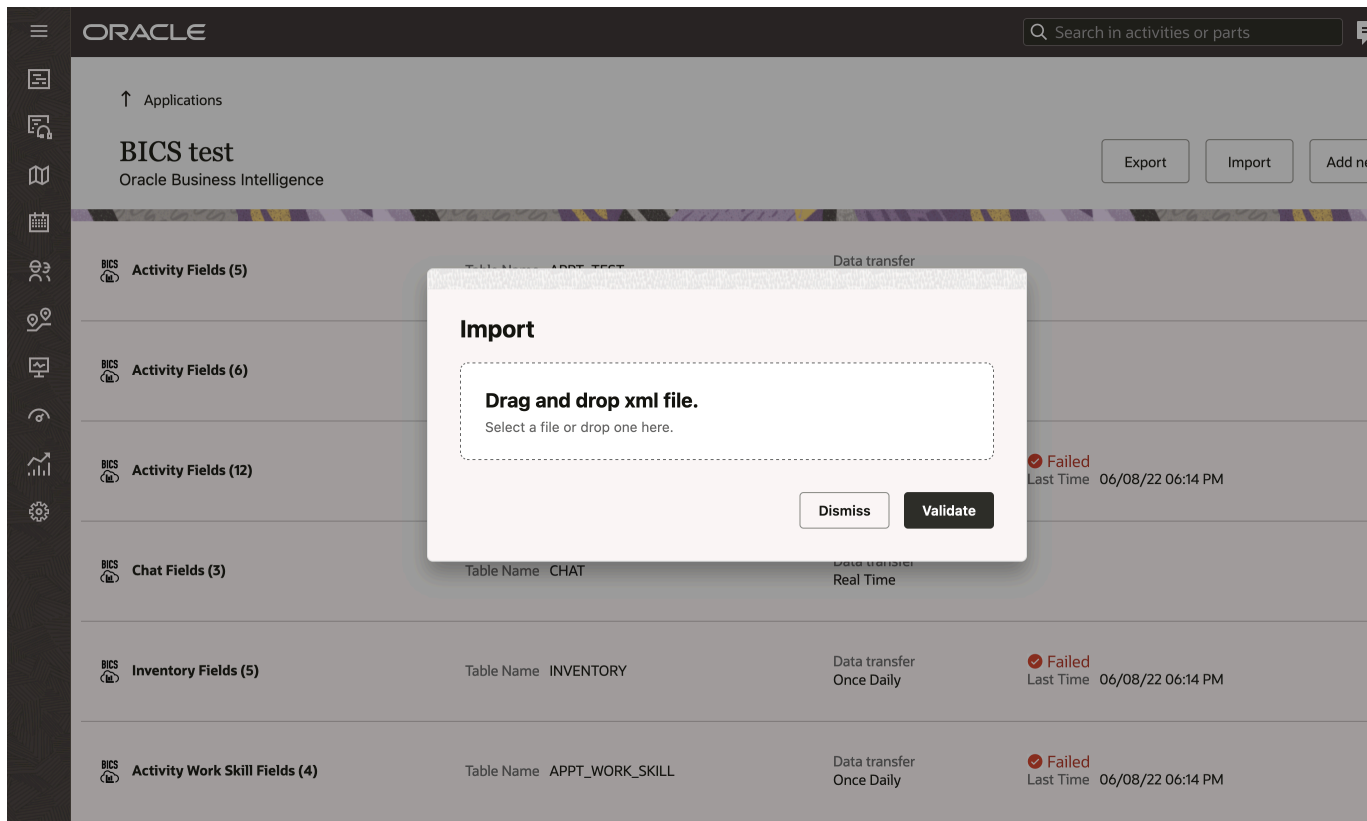
○ Import dialog box showing validation fields. This screenshot displays the Import dialog box showing validation fields:

2 Data Sets

What data sets are available for extraction?

Data sets are groups of details from extracted data that are related to the same entity. You can select the fields that you want to extract and schedule the extraction.

Data from several data sets can't be extracted in one file, but data from one data set can be divided to be extracted in several files. For example, the file created for the Activity Fields entity can't 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 might 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 based on the GPS data in Oracle Field Service in fixed format native for Oracle Field Service. All GPS data collected for each resource for the extraction period is gathered.
- Inventory Fields—Data on all fields and properties assigned to all inventory items, except inventory in resources' pools, available in the application by the end of 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 (for example, images) 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.
- Route 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.

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- 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.

- Routing Run Result Fields—Details of the routing run results, including numeric statistics on the business parameters of the routes.

- 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 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.

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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 (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:

Field	Label	Description
Access Hours	appt.access_hours	Formatted string. Contains set of hours the activity is accessible at the day it is scheduled for (including overnight)
Access Schedule	appt.access_schedule	Formatted string. Contains schedule of access hours for the place where activity must be done.
Account Number	appt.customer_number	String with name of customer account in external system
Activity Features	appt.afeatures	Bitmask field that defines active features for this activity. This value is copied from selected activity type
Activity ID	appt.aid	Unique numerical identifier of the activity
Activity Location ID	appt.a_locationid	Activity location ID
Activity Number	appt.number	Identifier of the activity (string, value of DB field "number")
Activity Properties	appt.properties	List of all custom activity properties with their values
Activity Time of Assignment	appt.atime_of_assignment	Date/Time when the last move/reschedule/assign to resource operation was performed for the activity.

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Field	Label	Description
Activity Time of Booking	appt.atime_of_booking	Date/time when the activity was booked.
Activity Traveling Time	appt.continuous_traveling_time	Travel time between activities/locations with addresses/coordinates
Activity Type	appt.atype	Primary type of the activity (prework, reopened, regular...)
Activity Update Flag	appt.aupdate_flags	Bitmask field. Displays bit flags after updating the activity.
Activity Work Type	appt.aworktype	Identifier of the activity type defined for the activity.
Activity Workflow	appt.activity_flow	Activity workflow assigned to the activity
Activity Work Zone	appt.aworkzone	Work zone which is defined for the activity
Activity status	appt.astatus	Status of the activity
Auto-routed to Date	appt.auto_routed_to_date	The date the activity was scheduled for during the latest Routing run.
Auto-routed to Resource	appt.auto_routed_to_provider_id	ID of resource the activity was assigned to during the latest Routing run.
Auto-routed to Resource (Name)	appt.auto_routed_to_provider_name	Name of resource the activity was assigned to during the latest Routing run.
Capacity Bucket	provider.pcapacity_bucket	ID of capacity bucket for the resource for whom the activity is provided.
City	appt.ccity	City name, part of Customer address
Coordinate X	appt.acoord_x	X coordinate received from geocoding module for the activity
Coordinate Y	appt.acoord_y	Y coordinate received from geocoding module for the activity

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Field	Label	Description
Coordinate accuracy	appt.acoord_accuracy	Accuracy level of coordinates for the activity
Coordinate status	appt.acoord_status	Coordinate status for the activity
Country	appt.country_code	Country code for the activity
Customer Email	appt.cemail	Email of the customer for whom the activity is provided.
Customer Language	appt.clanguage	Message language of the customer for whom the activity is provided.
Customer Name	appt.cname	Name of the customer for whom the activity is provided.
Customer Phone	appt.cphone	Phone number of the customer for whom the activity is provided.
Customer Time Zone	appt.c_zid	Time Zone ID of the customer for whom the activity is provided.
Date format (Resource)	provider.pdate_fid	ID of date format for the resource for whom the activity is provided.
Day before	appt.cdaybefore_flag	Value of custom property "Day before". Present in the Initial DB, but may be removed. Flag indicates if 'Day Before' Notification must be used.
Delivery Window End	appt.delivery_window_end	End time for activity Delivery Window in 'HH:MM' format
Delivery Window start	appt.delivery_window_start	Start time for activity Delivery Window in 'HH:MM' format
Delivery address	appt.caddress	Customer address (except City, Zip/Postal code, State)
Duration	appt.length	Activity length in minutes. Filled when activity is finished. Value = end time - start time.

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Field	Label	Description
Email address	provider.email	Email address for the resource for whom the activity is provided.
Estimated time of arrival	appt.ETA	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
First Manual Operation	appt.first_manual_operation	The code of the first manual reschedule/move/ reorder operation performed after an automatic one. The list of possible codes: • 0 - Not Defined • 1 - Assigned • 2 - Bucket Changed • 3 - Reordered • 4 - Unscheduled • 5 - Unassigned • 6 - Rescheduled • 7 - Reassigned • 8 - Assigned by resource • 9 - Bucket changed by resource • 10- Unscheduled by resource • 11- Unassigned by resource • 12- Rescheduled by resource • 13- Reassigned by resource Points to note: • Difference between values 'Assigned & Assigned by resource' • Difference between values 'Bucket changed & Bucket changed by resource' • Difference between values 'Reordered & Reordered by resource' and so on: If a resource/technician has permission to move activities between resources/buckets or reorder within the route, thus such actions will be logged as by resource, for example,

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Field	Label	Description
		"Assigned by resource" means that the resources assigned the activity by themselves.
First Manual Operation (Interface)	appt.first_manual_operation_interface	The interface in which the code for the first manual reschedule/move/reorder operation was performed from after an automatic one. The list of possible interfaces: • 1 - Legacy Manage • 2 - API • 3 - Core Application • 5 - Inbound API • 7 - Configuration Interface Differences between values 'API' and 'Inbound Interface': • API corresponds to API SOAP + REST APIs. • Inbound interface corresponds to 'file_upload' and Inbound API uploads data from external system to Oracle Field Service.
First Manual Operation (User ID)	appt.first_manual_operation_user_id	ID of the user who performed the first manual reschedule/move/reorder operation after an automatic one.
Initial Ratio for Activity Duration	provider.pinitial_ratio	Initial ratio for activity duration for the resource the activity belongs to.
Master Activity ID	appt.amaster_aid	ID of main activity for prework, reassigned and reopened activities
Message Language	provider.planguage	Language for resource the activity is assigned to.
Mobile Phone	appt.ccell	Mobile phone number of the customer for whom the activity is provided.
Organization	provider.organization_id	ID of organization for the resource the activity is assigned to.
Points	appt.apoints	Number of points that represent efforts required to perform the activity.

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Field	Label	Description
Position in Route	appt.position_in_route	Calculated field. Contains position of activity in the route.
Postal Code	appt.czip	ZIP/Postal code of customer for whom the activity is provided.
Reminder	appt.cmessagetime	Number of minutes before Delivery Window/ETA when reminder notification is sent.
Reported End Time of Activity Delivery	appt.ctime_delivered_end	End date/time of activity which is delivered to the customer.
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	Start date/time of activity which is delivered to the customer.
Resource External ID	provider.external_id	External system identifier for the resource the activity is assigned to.
Resource ID	provider.pid	ID of resource the activity is assigned to.
Resource Name	provider.pname	Name (text identifier) of resource for whom the activity is provided..
Resource Parent	provider.parent	ID of parent resource for the resource the activity is assigned to.
Resource Phone	provider.pphone	Phone number of the resource for whom the activity is provided.
Resource Time Zone	time_zone.name	Standard Oracle Time zone name
Resource Time Zone Name	time_zone.zoneinfo_name	Standard IANA Time zone name
Resource status	provider.pactive	Resource status (active or inactive) for whom the activity is provided.
Resource type	provider.ptype	Resource type ID for the resource for whom the activity is provided.

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Field	Label	Description
Route Activation Time	queue.activated	Date and time of route activation for resource for whom the activity is provided.
Route Date	queue.date	Date of the route the activity is assigned to.
Route Deactivation Time	queue.deactivated	Date and time of route deactivation (for already activated route) for resource for whom the activity is provided.
Route ID	queue.qid	Unique internal identifier of the route the activity is assigned to.
Route Reactivation Time	queue.reactivated	Date and time of route reactivation (for already deactivated route) for resource for whom the activity is provided.
Routing profile	provider.p_rprid	ID of routing plan assigned to the resource for whom the activity is provided.
SLA End	appt.sla_window_end	End date and time of Service Level Agreement in 'YYYY-MM-DD HH:MM:SS' format
SLA Start	appt.sla_window_start	Start date and time of Service Level Agreement in 'YYYY-MM-DD HH:MM:SS' format
Service Window End	appt.service_window_end	End time of Service Window in 'HH:MM' format
Service Window Start	appt.service_window_start	Start time of Service Window in 'HH:MM' format
State	appt.cstate	State (Geographic area) of the customer for whom the activity is provided.
Teamwork ID	appt.a_teamid	ID of team for teamwork activities
Template ID	appt.a_templateid	ID of activity template for mass/repeating activities
Time Slot ID	appt.a_tsid	ID of Time Slot assigned to the activity

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Field	Label	Description
Time Zone (Resource)	provider.time_zone	ID of time zone assigned to the resource for whom the activity is provided.
Time format (Resource)	provider.ptime_fid	ID of time format for the resource for whom the activity is provided.
Travel Area	appt.atravelarea	ID of travel area the activity is belongs to.
Travel estimation method	appt.travel_estimation_method	Method that was used to make current traveling time estimation.Applicable for the activity.
Travel estimation method (final location)	queue.final_travel_estimation_method	Method that was used to make current traveling time estimation. Applicable for the final location.
Travel time adjustment: ID of previous activity	appt.travel_from_aid	ID of previous activity adjustment is entered for. Applicable for the activity.
Travel time adjustment: ID of previous activity (final location)	queue.final_travel_from_aid	ID of previous activity adjustment is entered for. Applicable for the final location.
Traveling Time	appt.travel	Time of travel from a previous activity/location.
Traveling time (final location)	queue.final_travel	Travel to the final location of resource for whom the activity is provided.
Visit ID	appt.a_visitid	ID of Visit for the activity.
Work Order	appt.appt_number	Identifier of the activity (string, value of field "Work Order")
Working Day End	queue.calendar_time_to	End of working day (Date and time) for the resource for whom the activity is provided.
Working Day Start	queue.calendar_time_from	Start of working day (Date and time) for the resource for whom the activity is provided.

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Field	Label	Description
appt.first_manual_operation_user_name	First Manual Operation (User name)	Name of the user performing the first manual reschedule/move/reorder operation after an automatic one.
appt.first_manual_operation_user_login	First Manual Operation (User login)	Login of the user performing the first manual reschedule/move/reorder operation after an automatic one.
appt.eta_end_time	Start - End	Real start time - end time for the activity
end_time	End	Estimated or real end time of activity. Calculated as ETA (Start time)+activity duration.
activity_workskills	Activity Work Skills	List of ID for Work Skills and Work Skill Groups for the activity
activity_capacity_categories	Capacity Categories	List of ID for Capacity Categories for the activity
position_in_route	Activity order	Order (sequence number) of the activity in the route for specified date

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.

Custom Properties

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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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 54118 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 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.

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

Field	Label	Description
Activity ID	appt_work_skill.aid	Unique internal identifier of the activity to which the work skill was assigned
Activity Work Skill ID	appt_work_skill.work_skill_id	Identifier of the work skill defined for the activity
Work Skill Preferable Level	appt_work_skill.preferable_level	Preferable level of the skill for the activity
Work Skill Required Level	appt_work_skill.required_level	Required level of the skill for the activity

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 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">12345</Field>
 <Field name="work_skill_id">2</Field>
 <Field name="required_level">50</Field>
 <Field name="preferable_level">60</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>
```

What does the GPS data fields (gpstracks) data set contain?

The 'GPS Track Fields' ('gpstracks') contains data calculated based on the GPS data in Oracle Field Service 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 (for example, 'distance', 'idle', 'status', etc.) can be included in the Daily Extract by adding them to the file structure.

> **Note:** You can't edit the Field name 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:

Field	Label	Description
Activity ID	gps_tracks.aid	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
Distance	gps_tracks.distance	Distance from the resource's location to the activity
Idle Time	gps_tracks.idle	Number of seconds the resource spent in the point.
Latitude	gps_tracks.latitude	The Y coordinate of the position.
Longitude	gps_tracks.longitude	The X coordinate of the position.
Resource External ID	provider.external_id	External identifier for the resource
Status	gps_tracks.status	Location status. Possible values are:

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Field	Label	Description
		• 0 - a position without warnings • 1 - a position has the alert "Started outside the location" (Started at driving) • 2 - a position has the alert "Completed outside the location" (Finish at driving) • 4 - a position has the alert "Resource left the activity location" (Driving at working time) • 8 - an 'idling' position (See Business rules to understand what position is considered as 'Idle') Sometimes you may see values such as 5, 7, 9, which refer to a combination of two or more bits set: 5 = 1+4 7 = 1+2+4 9 = 1+8 For example, a status value = 5 means that both values 1 and 4 are set as follows: 1 - a position has the alert "Started outside the location" (Started at driving) AND 4 - a position has the alert "Resource left the activity location" (Driving at working time)
Time	gps_tracks.time	Timestamp received along with the GPS data.
Track Route ID	gps_tracks.queue_id	The ID of the route for which the geolocation data has been received.

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**

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- 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
<?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>
 <Field name="distance">0</Field>
 <Field name="status">0</Field>
 <Field name="latitude" />
 </track>
 <track>
 <Field name="queue_id">00234</Field>
 <Field name="aid">96754</Field>
 <Field name="time">2012-04-10 10:25:45</Field>
 <Field name="longitude">41.430278</Field>
 <Field name="latitude">2.456944</Field>
 <Field name="distance">5230</Field>
 <Field name="status">8</Field>
 <Field name="latitude">36000</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 (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

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- o   Customer: inventory was at the customer's site before the activity performance
  - o   Install: inventory was installed in the course of the activity
  - o   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:

Field	Label	Description
Activity ID	inventory.inv_aid	Unique internal identifier of the activity, to which the inventory item is assigned.
Changed Inventory ID	inventory.inv_change_invid	Unique internal identifier of the inventory, to which the current inventory exchanged with.
Inventory ID	inventory.invid	Unique internal identifier of the inventory item.
Inventory Pool	inventory.invpool	Pool to which the inventory item belongs.
Inventory Properties	inventory.properties	List of all custom inventory properties with values
Inventory Type	inventory.invtype	Type of the inventory item; one of customer specific values.
Quantity	inventory.quantity	Quantity of non-serialized inventory
Resource ID	inventory.inv_pid	Unique internal identifier of the resource, to which the inventory item is assigned.
Serial Number	inventory.invsn	Serial number of the inventory item.

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.

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

Type	Configurable
Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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 (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:

Field	Label	Description
Access Schedule	appt.access_schedule	Formatted string. Contains schedule of access hours for the place where activity must be done.
Account Number	appt.customer_number	String with name of customer account in external system
Activity Features	appt.afeatures	Bitmask field that defines active features for this activity. This value is copied from selected activity type
Message Activity ID	message_log.mq_aid	Unique internal identifier of the activity for which the message was created.
Activity ID	appt.aid	Unique numerical identifier of the activity
Activity Location ID	appt.a_locationid	Activity location ID
Activity Properties	appt.properties	List of all custom activity properties with their values
Activity Time of Assignment	appt.atime_of_assignment	Date/Time when the last move/reschedule/assign to resource operation was performed for the activity.
Activity Time of Booking	appt.atime_of_booking	Date/time when the activity was booked.
Activity Traveling Time	appt.continuous_traveling_time	Travel time between activities/locations with addresses/coordinates
Activity Type	appt.atype	Primary type of the activity (prework, reopened, regular...)
Activity Update Flag	appt.aupdate_flags	Bitmask field. Displays bit flags after updating the activity.
Activity Work Type	appt.aworktype	Identifier of the activity type defined for the activity.
Activity Work Zone	appt.aworkzone	Work zone which is defined for the activity

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Field	Label	Description
Activity status	appt.astatus	Status of the activity
Auto-routed to Date	appt.auto_routed_to_date	The date the activity was scheduled for during the latest Routing run.
Auto-routed to Resource	appt.auto_routed_to_provider_id	ID of resource the activity was assigned to during the latest Routing run.
Auto-routed to Resource (Name)	appt.auto_routed_to_provider_name	Name of resource the activity was assigned to during the latest Routing run.
City	appt.ccity	City name, part of Customer address
Coordinate X	appt.acoord_x	X coordinate received from geocoding module for the activity
Coordinate Y	appt.acoord_y	Y coordinate received from geocoding module for the activity
Coordinate accuracy	appt.acoord_accuracy	Accuracy level of coordinates for the activity
Coordinate status	appt.acoord_status	Coordinate status for the activity
Customer Email	appt.cemail	Email of the customer for whom the activity is provided.
Customer Language	appt.clanguage	Message language of the customer for whom the activity is provided.
Customer Name	appt.cname	Name of the customer for whom the activity is provided.
Customer Phone	appt.cphone	Phone number of the customer for whom the activity is provided.
Customer Time Zone	appt.c_zid	Time Zone ID of the customer for whom the activity is provided.
Delivery Window End	appt.delivery_window_end	End time for activity Delivery Window in 'HH:MM' format
Delivery Window start	appt.delivery_window_start	Start time for activity Delivery Window in 'HH:MM' format
Delivery address	appt.caddress	Customer address (except City, Zip/Postal code, State)

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Field	Label	Description
Duration	appt.length	Activity length in minutes. Filled when activity is finished. Value = end time - start time.
Estimated time of arrival	appt.ETA	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
First Manual Operation	appt.first_manual_operation	The code of the first manual reschedule/move/reorder operation performed after an automatic one. The list of possible codes: • 0 - Not Defined • 1 - Assigned • 2 - Bucket Changed • 3 - Reordered • 4 - Unscheduled • 5 - Unassigned • 6 - Rescheduled • 7 - Reassigned • 8 - Assigned by resource • 9 - Bucket changed by resource • 10- Unscheduled by resource • 11- Unassigned by resource • 12- Rescheduled by resource • 13- Reassigned by resource Points to note: • Difference between values 'Assigned & Assigned by resource' • Difference between values 'Bucket changed & Bucket changed by resource' • Difference between values 'Reordered & Reordered by resource' and so on: If a resource/technician has permission to move activities between resources/buckets or reorder within the route, thus such actions will be logged as by resource, for example, "Assigned by resource" means that the resources assigned the activity by themselves.
First Manual Operation (Interface)	appt.first_manual_operation_interface	The interface in which the code for the first manual reschedule/move/reorder operation was performed from after an automatic one. The list of possible interfaces:

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Field	Label	Description
		• 1 - Legacy Manage • 2 - API • 3 - Core Application • 5 - Inbound API • 7 - Configuration Interface Differences between values 'API' and 'Inbound Interface': • API corresponds to API SOAP + REST APIs. • Inbound interface corresponds to 'file_upload' and Inbound API uploads data from external system to Oracle Field Service.
First Manual Operation (User ID)	appt.first_manual_operation_user_id	ID of the user who performed the first manual reschedule/move/ reorder operation after an automatic one.
Free-Format Message Notes	message_log.mqdata	Notes for the message (for example filled by the external message system)
Local Time of Message Sending	message_log.mqsent_local	Date/time when the message was sent to customer (Local time zone)
Master Activity ID	appt.amaster_aid	ID of main activity for prework, reassigned and reopened activities
Message Address	message_log.mqaddress	Message notification address.
Message External ID	message_log.mqexternalid	Identifier of the message in the external system
Message ID	message_log.mqid	Internal unique identifier of the message,
Message Route ID	message_log.mq_qid	Internal unique identifier of the route for which the message was created.
Message Recipient	message_step.msrecipient	Recipient of the message.
Message Scenario ID	message_flow.mfid	Unique internal identifier of the message scenario
Message Scenario Name	message_flow.mfname	Name of the message scenario.

Field	Label	Description
Message Scenario Step: Duration	message_log.mqduration	Time spent on message sending until receiving the final message status for the message scenario step.
Message Scenario Step: ID	message_log.mq_msid	Internal unique identifier of the message scenario.
Message Scenario Step: Name	message_step.msname	Name of the scenario step
Message Scenario Step: Type	message_step.mstype	Type of the message scenario step ("start" or "inner")
Message Sending Method	message_log.mqmethod	Method of notification
Start of Message Sending Interval	message_log.mqsendfrom	Planned start date/time of message sending range (UTC)
End of Message Sending Interval	message_log.mqsendto	Planned end date/time of message sending range (UTC)
Message Sending Result	message_log.mqstatus	Final status of the message
Description of Message Sending Result	message_log.mqdesc	Description, complementing the message final status
Message Step Purpose	message_step.msfunction	Message step type: "PAS" (survey message) or "regular" (regular message)
Mobile Phone	appt.ccell	Mobile phone number of the customer for whom the activity is provided.
Launch Condition Name	message_log.mqtrigger	Message launch condition
Points	appt.apoints	Number of points that represent efforts required to perform the activity.
Postal Code	appt.czip	ZIP/Postal code of customer for whom the activity is provided.

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Field	Label	Description
Reminder	appt.cmessagetime	Number of minutes before Delivery Window/ETA when reminder notification is sent.
Reported End Time of Activity Delivery	appt.ctime_delivered_end	End date/time of activity which is delivered to the customer.
Start Time of Activity Reported in Message	message_log.mqtime_delivered_start	Start date/time of activity which is delivered to the customer with the message.
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	Start date/time of activity which is delivered to the customer.
SLA End	appt.sla_window_end	End date and time of Service Level Agreement in 'YYYY-MM-DD HH:MM:SS' format
SLA Start	appt.sla_window_start	Start date and time of Service Level Agreement in 'YYYY-MM-DD HH:MM:SS' format
Service Window End	appt.service_window_end	End time of Service Window in 'HH:MM' format
Service Window Start	appt.service_window_start	Start time of Service Window in 'HH:MM' format
State	appt.cstate	State (Geographic area) of the customer for whom the activity is provided.
Teamwork ID	appt.a_teamid	ID of team for teamwork activities
Template ID	appt.a_templateid	ID of activity template for mass/repeating activities
Time Slot ID	appt.a_tsid	ID of Time Slot assigned to the activity
Time of Message Sending	message_log.mqsent	Date/time when the message was sent to recipient (UTC)
Travel estimation method	appt.travel_estimation_method	Method that was used to make current traveling time estimation.Applicable for the activity.
Travel time adjustment: ID of previous activity	appt.travel_from_aid	ID of previous activity adjustment is entered for. Applicable for the activity.

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Field	Label	Description
Traveling Time	appt.travel	Time of travel from a previous activity/location.
Visit ID	appt.a_visitid	ID of Visit for the activity.
Work Order	appt.appt_number	Identifier of the activity (string, value of field "Work Order")
appt.properties	Activity Properties	List of all custom activity properties with their values
message_log.mq_invid	Message Inventory ID	Unique internal identifier of the inventory item for which the message was created.
message_log.mqtime_ delivered_end	End Time of Activity Reported in Message	End date/time of activity which is delivered to the customer with the message.
message_log.mq_uid	Message User ID	Internal unique identifier of the user who sent the message.
appt.access_hours	Access Hours	Formatted string. Contains set of hours the activity is accessible at the day it is scheduled for (including overnight)
appt.country_code	Country	Country code for the activity
appt.cdaybefore_flag	Day before	Value of custom property "Day before". Present in the Initial DB, but may be removed. Flag indicates if 'Day Before' Notification must be used.
provider.planguage	Message Language	Language of the resource.
appt.first_manual_ operation_user_name	First Manual Operation (User name)	Name of the user performing the first manual reschedule/move/ reorder operation after an automatic one.
appt.first_manual_ operation_user_login	First Manual Operation (User login)	Login of the user performing the first manual reschedule/move/ reorder operation after an automatic one.
appt.eta_end_time	Start - End	Real start time - end time for the activity
appt.end_time	End	Estimated or real end time of activity. Calculated as ETA (Start time)+activity duration.

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Field	Label	Description
appt.activity_workskills	Activity Work Skills	List of ID for Work Skills and Work Skill Groups for the activity
appt.activity_capacity_categories	Capacity Categories	List of ID for Capacity Categories for the activity
message_log.mq_pid	Resource ID	Unique internal identifier of the resource for which the message was created.
message_log.mq_srid	Service Request ID	Unique internal identifier of the service request for which the message was created.

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:

Type	Can configure?
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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.

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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: Manual Move Fields Data Set

The Manual Move Fields data set contains values of the fields related to activities that were manually moved in the application during the extraction period.

If Move Reason is populated while activity was manually moved then the data set contains the Move Reason ID and Name. Otherwise, move action details are exported with empty Move Reason ID and Name.

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> **Note:** If an activity is manually moved in a future period then the data set contains the Activity ID that might be absent in Activity Fields data set.

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

This table provides the label and description of those fields that you can configure in the Manual Move data set:

Field	Label	Description
Action ID	appt_move_log.action_id	Unique numerical identifier of the move action
Action time	appt_move_log.action_time	Date/time of the move action.
Activity ID	appt_move_log.aid	Unique numerical identifier of the activity
Auto-routed to Date	appt_move_log.autorouted	The date the activity was scheduled for during the latest Routing run.
Move Reason ID	appt_move_log.move_reason_id	ID of move reason which the activity was moved.
Move Reason Label	appt_move_log.move_reason_label	Label of the move reason for which the activity was moved.
Move Reason Name	appt_move_log.move_reason_name	Name of move reason which the activity was moved.
Move from Date	appt_move_log.move_from_date	Date/time when the activity was moved from.
Move from Provider ID	appt_move_log.move_from_provider	Provider ID that activity was moved from.
Move to Date	appt_move_log.move_to_date	Date/time when the activity was moved to.
Move to Provider ID	appt_move_log.move_to_provider	Provider ID that activity was moved to.
Move Condition	appt_move_log.move_reason_condition	Name of move reason condition of the move action
User Name	appt_move_log.uname	Name of the user who performed manual move
User ID	appt_move_log.uid	Unique user ID
Work Skill Mismatch	appt_move_log.ws_mismatch	Status of Work Skill Mismatch violation
Work Zone Mismatch	appt_move_log.wz_mismatch	Status of Work Zone Mismatch violation

Benefits - Use Cases

You can adopt this functionality to achieve these goals (examples):

- Measure dispatchers work - available without Move Reasons configuration

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- Analyze manual assignment patterns and define required education for dispatchers

- Improve routing results

- Reduce travel time by tuning Work Zones configuration

- Monitor proper Work Zones/Work Skills configuration

- Improve time window compliance

- Improve capacity management

Measure dispatchers work - available without Move Reasons configuration

Now you can quantitatively measure a dispatchers work. By analyzing the number of manual activity assignments made by dispatchers you can:

- measure jeopardy management

- analyze a dispatchers workload by days/hours

- compare dispatchers, departments, and geographical areas

- understand how often activities are moved after Routing runs

- understand how often activities are moved with work zones/work skills violations

- understand how often activities are rescheduled

- understand how often activities are moved from resource to resource and from bucket to resource,

- Move reason examples: any move reason available without enabling the feature

Follow these steps to use this functionality:

1. Run Manual Assignment by User report for different resource areas.
2. If the feature is not enabled, manual moves are displayed as **No move reason selected**.
3. Check Daily Extract data for move attributes like work zone violations, type of move etc.

Analyze manual assignment patterns and define required education for dispatchers

Now you can break down why dispatchers are performing manual interventions. By comparing dispatchers behaviors, you can understand who requires additional education.

Move reason examples: any reasons applicable for your business

Follow these steps to use this functionality:

1. Run Manual Assignment by Users report or use Daily Extract data to compare the number of moved activities by reasons for different dispatchers.
2. You can estimate the average number of moved activities for department/geographical area/line of business.
3. Dispatchers that exceed the average manual moves by specific reasons may require attention.

Improve routing results

With this functionality you can improve the percentage of auto-routed activities. Use move reasons to understand which routing plans require configuration review.

Move reason examples: Not Assigned by Routing, Activity Emerged During Working Day, Assigned to Incorrect Technician, Several Technicians on the Same Address, Zigzagging, Assigned with SLA Overdue and Assigned with Late Arrival.

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Follow these steps to use this functionality:

1. Check Daily Extract data for buckets with large numbers of activities not assigned by Routing.
2. Select activities moved from this bucket.
3. Check if the activity is present in routing plan activity and resource filters, cost of not assigning an activity.
4. Review travel limitation, Home Zone center configuration, Home Zone radius overstep weight parameters.
5. Check the bundling keys.

Reduce travel time by tuning Work Zones configuration

It is possible that an activity located nearby a resources route is not auto-routed to this resource since it relates to another work zone.

Now you can track those cases and respond accordingly.

Move reason examples: Assist in Nearby Area, Resource in Nearby Location

Follow these steps to use this functionality:

1. Monitor corresponding Move Reasons in the Manual Assignment Trends report.
2. This area requires attention if the number of moved activities is relatively large or growing.

Here are the action items:

Increase the area where a technician operates; configure Home Zone center parameters with smaller ratio to resources

Monitor proper Work Zones/Work Skills configuration

Activities are not getting auto-routed when resource work zones or work skills are configured improperly.

Move reason examples: Resource has Required Skills, Incorrect Work Zone.

Follow these steps to use this functionality:

1. Monitor corresponding Move Reasons in reports or exported data.
2. From exported data define which resource requires Work Zones or Work Skills review.

Improve time window compliance

An activity that takes longer than expected to perform might jeopardize next activities along the route. This might cause multiple activities move trying to fit time window. Now you can measure the impact - how many other activities are moved and how many routes are affected by this action.

Move reason examples: Resource off Shift, Call-in Sick, Vehicle Issues, SLA Overdue, Time Slot Overdue, Incorrect Work Type Requested, Work Took Longer, Extra Work on Site, Requested by Field Manager, Requested by Technician , Requested by Technician - missing inventory.

Follow these steps to use this functionality:

1. Lets consider Move Reasons that might be applied in your business.
2. When the number of moved activities with these reasons is increasing or relatively high (e.g. 10% of total manual moves), you can adopt the suggested improvements:
   o Resource off Shift/Call-in Sick

   This shows how many activities were moved because the technician reported that he/she is off-shift. If the resources calendar is updated frequently throughout the day, it'd be beneficial to explore running the routing plan(s) multiple times during the day.

   o Vehicle Issues

   High occurrence of this reason shows that the vehicle fleet requires better maintenance. You can
   measure the impact of implemented improvements by comparing the number of activities with this
   Move Reason before and after.

   o Work Took Longer

   If this reason is common in the Move Reason reports, perhaps some aspects are not being considered for
   activity duration estimations. You can configure additional properties to activity duration keys.

   For example adding a new field such as Numbers of TV installed will let you have different durations for the
   same activity type, potentially resulting in future routes planning being more precise.

Improve capacity management

Move reason examples: Overloaded Area/Overbooking, Assist in Other Area.

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 (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:

Field	Label	Description
Message ID	survey_take.mqid	Identifier of the message with which the question is asked.
PAS Question ID	survey_result.question_id	Identifier of the question, to which the answer is given.
ID	translation.tid	Identifier of the answer which is selected for the question
PAS Question Language	translation.t_lid	Identifier of language for the PAS question.
PAS Question Number	survey_question.qorder	Number of the question, to which the answer is given

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Field	Label	Description
Text	translation.ttext	PAS answer name.
PAS-Related Activity Date	survey_result.date	Date and time of the activity on which the questions were asked.
PAS-Related Activity ID	survey_take.aid	Identifier of the activity at which the answer is given.

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>
```

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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:

Field	Label	Description
ID	translation.tid	Identifier of the question
PAS Question Language	translation.t_lid	Identifier of language for the PAS question.
Text	translation.ttext	Text of the question

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 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 (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:

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

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> **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:

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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 version="1.0" encoding="UTF-8"?>
<properties>
 <property>
```

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```
    <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 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:

Field	Label	Description
File Property	property_file.property_file	If configured file properties available in the system by the end of the extraction period can be stored.

- **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

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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
- propertyID is the numeric ID of the file property in Oracle Field Service
- 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:

Field	Label	Description
Property ID	property_name.pn_propertyid	Unique internal identifier of the property in the system.
Property Language	property_name.pn_lid	Integer that corresponds to the language defined for the property name.

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Field	Label	Description
Property Name	property_name.pntext	Name of the property.
Text Entry Identifier	property_name.pnindex	Internal property name identifier (0-property name, -1 = property hint, other integer of string value - identifier of enumeration value)

> **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:

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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.

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```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>
 <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>
</properties>
```

Details and Examples: Route Fields Data Set

The 'Route 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.

Route Fields are exported in the Daily Extract file for which 'Route Fields' is selected as the entity. Any route properties and fields available in Oracle Field Service (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 'Route Fields' file are exported in the resource time zone.

Example: Route 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 version="1.0" encoding="UTF-8"?>
<queues>
 <queue>
 <Field name="Queue Date">2013-11-08</Field>
```

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```
    <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 (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:

Field	Label	Description
Capacity Bucket	provider.pcapacity_bucket	ID of capacity bucket for the resource.
Child Resource ID	provider_children.child_id	ID of subordinated (child) resource (from resource tree)
Date format (Resource)	provider.pdate_fid	ID of date format for the resource
Email address	provider.email	Email address for the resource

Field	Label	Description
Initial Ratio for Activity Duration	provider.pinitial_ratio	Initial ratio for activity duration for the resource the activity belongs to.
Message Language	provider.planguage	Language for the resource.
Organization	provider.organization_id	ID of organization for the resource
Parent Resource ID	provider_children.parent_id	ID of parent resource for the resource (from resource tree)
Resource External ID	provider.external_id	External system identifier for the resource
Resource ID	provider.pid	Unique internal identifier of the resource.
Resource Name	provider.pname	Name (text identifier) of the resource
Resource Owner Name	provider_owner.pname	Parent resource name for the resource
Resource Parent	provider.parent	ID of parent resource for the resource
Resource Phone	provider.pphone	Phone number of the resource
Resource status	provider.pactive	Resource status (active or inactive).
Resource type	provider.ptype	Resource type ID for the resource
Routing profile	provider.p_rprid	ID of routing plan assigned to the resource
Subordination Level	provider_children.distance	Depth of parent-child resource relations (from resource tree)
Time Zone (Resource)	provider.time_zone	ID of time zone assigned to the resource
Time format (Resource)	provider.ptime_fid	ID of time format for the resource
Working days to start impacting duration estimations	provider.skip_days_for_stats	Integer number of days which must be skipped for natural learning statistics

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> **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:

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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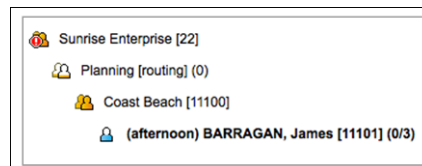
The following data is collected. Provide a meaningful name to the report.

- 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
  - 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

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- 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>
 <Field name="Owner Name">Sunrise Enterprise</Field>
 <Field name="Subordination">2</Field>
 </provider>
 <provider>
 <Field name="Resource ID">10001</Field>
 <Field name="Resource Name">BARRAGAN, James</Field>
 <Field name="Resource Type">1</Field>
 <Field name="Is Resource Active">1</Field>
 <Field name="Owner ID">11000</Field>
 <Field name="Owner Name">Coast Beach</Field>
```

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```
        <Field name="Subordination">1</Field>
    </provider>
    <provider>
    <Field name="Resource ID">10001</Field>
    <Field name="Resource Name">BARRAGAN, James</Field>
    <Field name="Resource Type">1</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">10000</Field>
    <Field name="Owner Name">Planning</Field>
    <Field name="Subordination">2</Field>
    </provider>
   <provider>
    <Field name="Resource ID">10001</Field>
    <Field name="Resource Name">BARRAGAN, James</Field>
    <Field name="Resource Type">1</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
    <Field name="Owner Name">Sunrise Enterprise</Field>
    <Field name="Subordination">2</Field>
    </provider>
</providers>Resource Location Fields
```

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:

Field	Label	Description
Latitude	location.lcoord_y	Geographic coordinate Y resolved for the location
Location Address	location.laddress	Address resolved for the location
Location City	location.lcity	City resolved for the location
Location Label	location.llabel	Label of the location which is assigned to the resource

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

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**

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- 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
  - 7: Su

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
<?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">338.28359 </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 (for example, 'Resource External ID', 'Email address', 'Status', etc.) can be included in the Daily Extract by adding them to the file structure.

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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:

Field	Label	Description
Capacity Bucket	provider.pcapacity_bucket	ID of capacity bucket for the resource.
Date format (Resource)	provider.pdate_fid	ID of date format for the resource
Email address	provider.email	Email address for the resource
Initial Ratio for Activity Duration	provider.pinitial_ratio	Initial ratio for activity duration for the resource the activity belongs to.
Message Language	provider.planguage	Language for the resource.
Organization	provider.organization_id	ID of organization for the resource
Resource External ID	provider.external_id	External system identifier for the resource
Resource ID	provider.pid	Unique internal identifier of the resource.
Resource Name	provider.pname	Name (text identifier) of the resource
Resource Parent	provider.parent	ID of parent resource for the resource
Resource Phone	provider.pphone	Phone number of the resource
Resource status	provider.pactive	Resource status (active or inactive).
Resource type	provider.ptype	Resource type ID for the resource
Routing profile	provider.p_rprid	ID of routing plan assigned to the resource

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Field	Label	Description
Time Zone (Resource)	provider.time_zone	ID of time zone assigned to the resource
Time format (Resource)	provider.ptime_fid	ID of time format for the resource
Working days to start impacting duration estimations	provider.skip_days_for_stats	Integer number of days which must be skipped for natural learning statistics

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:

Type	Can be configured?
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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_active**
- Resource's status, for example, provider_active, where the following values are allowed
    - 0: Inactive
    - 1: Active

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

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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:

Field	Label	Description
Resource ID	provider_work_skill.provider_id	Unique internal identifier of the resource to which the work skill was assigned
Resource Work Skill: Start Date	provider_work_skill.start_date	Work skill for resource is active starting from this date.

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Field	Label	Description
Resource Work Skill: ID	provider_work_skill.work_skill_id	Identifier of the work skill defined for the activity
Resource Work Skill: Level	provider_work_skill.ratio	The level of resource experience for the Work Skill
Resource Work Skill: End Date	provider_work_skill.end_date	Work skill for resource is expired after this date.

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>
 <provider_work_skill>
 <Field name="pid">120345</Field>
 <Field name="work_skill_id">1</Field>
 <Field name="ratio">80</Field>
 </provider_work_skill>
 <provider_work_skill>
 <Field name="pid">120345</Field>
 <Field name="work_skill_id">2</Field>
 <Field name="ration">60</Field>
 </provider_work_skill>
 <provider_work_skill>
 <Field name="pid">300001</Field>
 <Field name="work_skill_id">5</Field>
 <Field name="ratio">100</Field>
 </provider_work_skill>
</provider_work_skills>
```

Details and Examples: Routing Run Result Fields Data Set

You can extract the details of the fields for all the routing runs and rollbacks in the application for an extraction period.

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Routing Run Result Fields are exported in the Daily Extract file for which you must select 'Routing Run Result Fields' as the entity.

You can change the list of exported properties and fields any time by removing or adding fields, according to your requirements.

You can retrieve data as one or more XML files consisting of 'routing_run_results' root element, which contains the 'routing_run_result' elements. 'routing_run_result' elements are sets of 'Field' elements, whose attributes are the names of the fields defined for the description of the routing run and whose contents are their corresponding values.

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

Sl. No.	Name	Label	Description
1	Routing Run Id	routing_run_result.routingRunId	The unique ID of the specific routing run.
2	Routing Plan Name	routing_run_result.routingPlan	The name of the routing plan that was run. This is not unique.
3	Routing Plan Id	routing_run_result.routingPlanId	The unique ID of the routing plan that was run.
4	Routing Plan Label	routing_run_result.routingPlanLabel	The label of the routing plan.
5	Routing Profile Name	routing_run_result.routingProfile	The name of the routing profile that the routing plan belongs to. Is not unique.
6	Routing Profile Id	routing_run_result.routingProfileId	The unique ID of the routing profile that the routing plan belongs to.
7	Routing Profile Label	routing_run_result.routingProfileLabel	The label of the routing profile.
8	Start Type	routing_run_result.startType	Type of routing start: • When routing is started automatically on schedule, the value is 'automatic'. • When routing is started manually by user, the value is 'manual'.
9	Resource Id	provider.pid	The internal ID of the routing bucket.
10	Target Date	routing_run_result.targetDate	The date for which the activities are routed. The format is 'YYYY-MM-DD'.
11	Number Of Days	routing_run_result.numberOfDays	For a single day routing, the value is 1. For multi-day routing, the value is the number of days routed,

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Sl. No.	Name	Label	Description
			starting from 'targetDate' and going into the future.
12	Result	routing_run_result.result	• When the routing is executed successfully, and some activities are moved as a result, the value is 'succeeded'. • When the routing execution is stopped by the user, the value is 'stopped'. • When the routing execution fails, the value is 'failed'.
13	Message	routing_run_result.message	The field contains the error description when 'result' is 'failed' or 'skipped'.
14	Routing Run Duration	routing_run_result.routingRunDuration	The duration (in seconds) of the routing run.
15	Activities Matched	routing_run_result.activitiesMatched	The number of activities and pre-existing activity segments matching the routing plan filters.
16	Activities In Routes Before Routing	routing_run_result..activitiesInRoutesBeforeRouting	The number of activities and pre-existing activity segments that were in routes of resources before the routing run.
17	Activities Routed	routing_run_result.activitiesRouted	The number of activities scheduled and assigned by the routing run.
18	Activities Not Routed	routing_run_result.activitiesNotRouted	The number of activities matching the routing plan filters but not routed.
19	Resources Matched	routing_run_result.resourcesMatched	The number of resources matching the routing plan filters.
20	Resources Used	routing_run_result.resourcesUsed	The number of resources with assigned or removed activities by the routing run.
21	Average Working Time	routing_run_result.averageWorkingTime	The average working time of the resources (in minutes).
22	Average Overtime	routing_run_result.averageOvertime	The average overtime time of the resources (in minutes).
23	Average Travel Time	routing_run_result.averageTravelTime	The average travel time of the resources (in minutes).

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Sl. No.	Name	Label	Description
24	Average Downtime	routing_run_result.averageDowntime	The average downtime time of the resources (in minutes).
25	Extended Status	routing_run_result.extendedStatus	The additional information on the type and result of the routing run. The field includes: 1. The type of this routing execution. Can be one of the following values: o 'routing', o 'routing_rollback', 2. If type is 'routing', then next position in the field shows routingAlgorithmType The filed may take values: o bulk o urgent o immediate 3. If type is 'bulk' 'routing', then next position in the field shows result if it differs from possible values of the field result: When there are no activities found, the value is 'skipped'. 4. The next position in the field is set to notAccepted and points at the case when it is 'bulk' 'routing', 'result' is 'succeeded' but was not applied. Allowed combinations: o routing-rollback o routing-bulk o routing-urgent o routing-immediate o routing-bulk-skipped o routing-bulk-notAccepted o routing-immediate-skipped o routing-broadcast
26	Average Mileage	routing_run_result.averageMileage	The average travel mileage of the resources (in miles or km).
27	Reoptimized Activities	routing_run_result.reoptimizedActivities	The number of activities re-optimized by the routing run.

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Sl. No.	Name	Label	Description
28	Created Activities	routing_run_result.createdActivities	The number of activities were created automatically for the routing run.
29	Removed Activities routing_run_result.removedActivities The number of removed activities (which may be warehouse visits or activity segments)	Removed Activities routing_run_result.removedActivities The number of removed activities (which may be warehouse visits or activity segments)	The number of removed activities (which may be warehouse visits or activity segments)
30	Start Time	routing_run_result.startTime	The time when the routing run started in UTC time zone. The time format is YYYY-MM-DD HH:MM:SS.
31	Assurance Percentage	routing_run_result.assurancePercentage	The assurance of routing result, from 0 to 100. The lesser assurance is, the less confident is the result, which, in most cases, may be connected to sub-optimal results. Typically, for good results one may expect assurance 85 or more.
32	Consumed Time	routing_run_result.consumedTime	Actual time (in seconds) that was consumed by SLR and routing engine during the routing run.
33	Routing Plan Time Limit	routing_run_result.routingPlanTimeLimit	Time limit for the routing plan (in seconds).
34	Routing Plan Optimization Goal	routing_run_result.routingPlanOptimizationGoal	If there is an optimization goal at the routing run, the field shows the goal. May be one of the following: • balanced • minimize_travel • maximize_jobs • maximize_jobs_density • reduce_overdue
35	Routing Plan Time Limit SLR Percentage	routing_run_result.routingPlanTimeLimitSlrPercentage	Part of total time limit which is time limit for SLR service
36	Not Assigned Due To Validation Issues Count	routing_run_result.notAssignedDueToValidationIssuesCount	Configuration / Data validation errors
37	Not Assigned Due To Changes While Routing Was Running Count	routing_run_result.notAssignedDueToChangesWhileRoutingWasRunningC	The assignment is impossible due to changes that happened while routing was running.

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Sl. No.	Name	Label	Description
38	Not Assigned Due To Activity Configuration Count	routing_run_ result.notAssignedDueToActivityConfigurationCount	Not-assignment reason: configuration of an activity.
39	Not Assigned Due To Resources Configuration Count	routing_run_ result.notAssignedDueToResourcesConfigurationCount	Not-assignment reason: configuration of resources
40	Not Assigned Needs Manual Assignment Count	routing_run_ result.notAssignedNeedsManualAssignmentCount	Not-assignment reason: the constraint violation. Try to assign the activity manually
41	Not Assigned Other Issues Count	routing_run_result.notAssignedOtherIssuesCount	Other Not-Assignment Reasons.
42	Partially Assigned Segmentable Activities Count	routing_run_ result.partiallyAssignedSegmentableActivitiesCount	Partially assigned segmentable activities.
43	Not Assigned Due To Dynamic Mode Restrictions Count	routing_run_ result.notAssignedDueToDynamicModeRestrictionsCount	Activities were not assigned in accordance with the routing plan dynamic mode settings.
44	Not Assigned Due To Cost Settings Count	routing_run_result.notAssignedDueToCostSettingsCount	Not-assignment reason: routing plan and/or resource type cost settings may be suboptimal.
45	Not Assigned Due To Travel Restrictions Count	routing_run_ result.notAssignedDueToTravelRestrictionsCount	Not-assignment reason: activity locations and routing plan travel settings prohibits assignment.
46	Not Assigned Due To Optimization Criteria Count	routing_run_ result.notAssignedDueToOptimizationCriteriaCount	Activities were not assigned in accordance with the optimization criteria chosen.
47	Resource Blocked Due To Routing Schedule Count	routing_run_ result.resourceBlockedDueToRoutingScheduleCount	Resources are blocked by another run because of sub-optimal routing plan schedule.
48	Not Assigned Needs Overtime Overdue Rules Relaxation Count	routing_run_ result.notAssignedNeedsOvertimeOverdueRulesRelaxationCo	Not-assignment reason: the overtime/overdue constraint violation. Try to assign manually with relaxed constrains or just relax business rules on overdue/ overtime for the routing plan.
49	Subcategory	routing_run_result.subcategory	Reserved for future needs
50	Resource External Id	provider.external_id	The external ID of the routing bucket.
51	Routing Rollback Run Id	routing_run_result.routingRollbackRunId	The unique ID of the routing run which were rolled back.

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Sl. No.	Name	Label	Description
52	Type of Routing Run	Run routing_run_result.type	The type of the routing run. The field is obsolete.

Example: Routing Run Result Fields file

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

- The number of activities and pre-existing activity segments that were in routes of resources before the routing run, for example, ACTIVITIES_IN_ROUTES_BEFORE
- The number of activities and pre-existing activity segments matching the routing plan filters, for example, ACTIVITIES_MATCHED_FILTERS
- The assurance of routing result, for example, ASSURANCE_OF_ROUTING_RESULT
- The average downtime time of the resources (in minutes), for example, AVERAGE_IDLE_TIME
- The average travel mileage of the resources, for example, AVERAGE_MILEAGE
- The average overtime time of the resources (in minutes), for example, AVERAGE_OVERTIME
- The average travel time of the resources (in minutes), for example, AVERAGE_TRAVEL_TIME
- The average working time of the resources (in minutes), for example, AVERAGE_WORKING_TIME"
- The number of cases when resource are blocked by another run as of sub-optimal routing plan schedule, for example, BLOCKED_RESOURCES
- Actual time (in seconds) that was consumed by SLR and routing engine during the routing run, for example, CONSUMED_TIME
- The number of activities were created automatically for the routing run, for example, CREATED_ACTIVITIES
- The additional information on type and result of the routing run, for example, EXTENDED_STATUS
- The error description when 'result' is 'failed' or 'skipped'., for example, FAILURE_MESSAGE
- The number of not-assignment reasons: configuration of an activity, for example, NOT_ASSIGNED_ACTIVITY_CONFIG
- The number of not-assignment reasons: the constraint violation when manual assignment is possible, for example, NOT_ASSIGNED_ASSIGN_MANUAL
- The number of not-assignment reasons: routing plan and/or resource type cost settings may be suboptimal, for example, NOT_ASSIGNED_COSTS_SETTINGS
- The number of cases when activities were not assigned in accordance with routing plan dynamic mode settings, for example, NOT_ASSIGNED_DYNAMIC_MODE
- The number of other not-assignment reasons, for example, NOT_ASSIGNED_OTHER
- The number of not-assignment reasons: the overtime/overdue constraint violation, for example, NOT_ASSIGNED_OVERTIME_OVERDUE
- The number of not-assignment reasons: configuration of resources, for example, NOT_ASSIGNED_RESOURCES_CONFIG
- The number of not-assigned activities when the assignment is impossible due to changes that happened while routing was running, for example, NOT_ASSIGNED_ROUTING_RUNNING
- The number of cases when activities were not assigned in accordance with the optimization criteria, for example, NOT_ASSIGNED_THRESHOLDS

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- The number of not-assignment reasons: travel settings prohibits assignment, for example, NOT_ASSIGNED_TRAVEL_SETTINGS

- The number of not-assigned activities due to the Configuration / Data validation errors, for example, NOT_ASSIGNED_VALIDATION

- The number of activities matching the routing plan filters but not routed, for example, NOT_ROUTED_ACTIVITIES

- The number of days routed, for example, NUMBER_OF_DAYS_ROUTED

- The optimization goal at the routing run, for example, OPTIMIZATION_GOAL

- The number of cases when segmentable activities were partially assigned, for example, PARTIALLY_ASSIGNED

- Part of total time limit which is time limit for SLR service, for example, PERCENTS_OF_TIME_LIMIT_FOR_SLR

- The number of removed activities (which may be warehouse visits or activity segments), for example, REMOVED_ACTIVITIES

- The number of activities re-optimized by the routing run, for example, REOPTIMIZED_ACTIVITIES

- The number of resources matching the routing plan filters, for example, RESOURCES_MATCHED_FILTERS

- The number of resources with assigned or removed activities by the routing run, for example, RESOURCES_WITH_CHANGES

- The external ID of the routing bucket, for example, RESOURCE_EXTERNAL_ID

- The internal identifier of the routing bucket, for example, RESOURCE_INTERNAL_ID

- The number of activities scheduled and assigned by the routing run, for example, ROUTED_ACTIVITIES

- The unique identifier of the routing plan that was run, for example, ROUTING_PLAN_ID

- The label of the routing plan, for example, ROUTING_PLAN_LABEL

- The name of the routing plan that was run, for example, ROUTING_PLAN_NAME

- The unique identifier of the routing profile that the routing plan belongs to, for example, ROUTING_PROFILE_ID

- The label of the routing profile, for example, ROUTING_PROFILE_LABEL

- The name of the routing profile that the routing plan belongs to, for example, ROUTING_PROFILE_NAME

- The result of the routing run (succeeded, stopped or failed), for example, ROUTING_RESULT

- The duration (in seconds) of the routing run, for example, ROUTING_RUN_DURATION

- The unique identifier of the specific routing run, for example, ROUTING_RUN_ID

- The time when the routing run started in UTC time zone, for example, ROUTING_RUN_START_TIME

- The date for which the activities are routed, for example, ROUTING_TARGET_DATE

- The unique ID of the routing run which were rolled back if any, for example, RUN_ID_ROLLED_BACK

- The field that currently is reserved for future needs, for example, SUBCATEGORY

- Time limit for the routing plan (in seconds), for example, TIME_LIMIT

- The type of routing start (manual or automatic), for example, TYPE_OF_ROUTING_START

- The type of the routing run, for example, TYPE_OF_THE_RUN

```xml
<?xml version="1.0" encoding="UTF-8"?>
<routing_run_results>
 <routing_run_result>
 <Field name="CONSUMED_TIME">0</Field>
 <Field name="EXTENDED_STATUS">routing-bulk</Field>
 <Field name="ASSURANCE_OF_ROUTING_RESULT">99.900000000000006</Field>
 <Field name="AVERAGE_IDLE_TIME">0</Field>
```

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```
<Field name="AVERAGE_OVERTIME">0</Field>
<Field name="AVERAGE_MILEAGE">0</Field>
<Field name="AVERAGE_TRAVEL_TIME">0</Field>
<Field name="AVERAGE_WORKING_TIME">45</Field>
<Field name="NOT_ASSIGNED_ROUTING_RUNNING">0</Field>
<Field name="NOT_ASSIGNED_DYNAMIC_MODE">0</Field>
<Field name="NOT_ASSIGNED_THRESHOLDS">0</Field>
<Field name="BLOCKED_RESOURCES">0</Field>
<Field name="ROUTING_TARGET_DATE">2023-01-11</Field>
<Field name="ROUTING_RUN_DURATION">0</Field>
<Field name="RESOURCE_EXTERNAL_ID">RollbackBucketOAC</Field>
<Field name="RESOURCE_INTERNAL_ID">RollbackBucketOAC</Field>
<Field name="ROUTING_PLAN_LABEL"/>
<Field name="ROUTING_PROFILE_LABEL"/>
<Field name="FAILURE_MESSAGE"/>
<Field name="ROUTING_PLAN_NAME">RoutingEventOACplan</Field>
<Field name="ROUTING_PROFILE_NAME">RoutingEventOACprofile</Field>
<Field name="CREATED_ACTIVITIES">0</Field>
<Field name="REOPTIMIZED_ACTIVITIES">0</Field>
<Field name="ROUTED_ACTIVITIES">1</Field>
<Field name="NOT_ROUTED_ACTIVITIES">1</Field>
<Field name="ACTIVITIES_MATCHED_FILTERS">1</Field>
<Field name="ACTIVITIES_IN_ROUTES_BEFORE">0</Field>
<Field name="NOT_ASSIGNED_VALIDATION">0</Field>
<Field name="NUMBER_OF_DAYS_ROUTED">1</Field>
<Field name="NOT_ASSIGNED_ACTIVITY_CONFIG">0</Field>
<Field name="NOT_ASSIGNED_RESOURCES_CONFIG">0</Field>
<Field name="NOT_ASSIGNED_ASSIGN_MANUAL">0</Field>
<Field name="NOT_ASSIGNED_OVERTIME_OVERDUE">0</Field>
<Field name="NOT_ASSIGNED_COSTS_SETTINGS">0</Field>
<Field name="NOT_ASSIGNED_TRAVEL_SETTINGS">0</Field>
<Field name="NOT_ASSIGNED_OTHER">0</Field>
<Field name="PARTIALLY_ASSIGNED">0</Field>
<Field name="REMOVED_ACTIVITIES">0</Field>
<Field name="RESOURCES_MATCHED_FILTERS">1</Field>
<Field name="RESOURCES_WITH_CHANGES">1</Field>
<Field name="OPTIMIZATION_GOAL">balanced</Field>
<Field name="PERCENTS_OF_TIME_LIMIT_FOR_SLR">50</Field>
<Field name="SUBCATEGORY">0</Field>
<Field name="ROUTING_RESULT">succeeded</Field>
<Field name="TIME_LIMIT">30</Field>
<Field name="TYPE_OF_THE_RUN">manual</Field>
<Field name="TYPE_OF_ROUTING_START">manual</Field>
<Field name="ROUTING_RUN_START_TIME">2023-01-11 12:34:54</Field>
<Field name="ROUTING_PLAN_ID">174</Field>
<Field name="ROUTING_PROFILE_ID">115</Field>
<Field name="ROUTING_RUN_ID">1018809</Field>
<Field name="RUN_ID_ROLLED_BACK"/>
</routing_run_result>
<routing_run_result>
<Field name="CONSUMED_TIME">0</Field>
<Field name="EXTENDED_STATUS">routingRollback</Field>
<Field name="ASSURANCE_OF_ROUTING_RESULT">0</Field>
<Field name="AVERAGE_IDLE_TIME">0</Field>
<Field name="AVERAGE_OVERTIME">0</Field>
<Field name="AVERAGE_MILEAGE">0</Field>
<Field name="AVERAGE_TRAVEL_TIME">0</Field>
<Field name="AVERAGE_WORKING_TIME">0</Field>
<Field name="NOT_ASSIGNED_ROUTING_RUNNING">0</Field>
<Field name="NOT_ASSIGNED_DYNAMIC_MODE">0</Field>
<Field name="NOT_ASSIGNED_THRESHOLDS">0</Field>
<Field name="BLOCKED_RESOURCES">0</Field>
<Field name="ROUTING_TARGET_DATE">2023-01-11</Field>
<Field name="ROUTING_RUN_DURATION">0</Field>
<Field name="RESOURCE_EXTERNAL_ID">RollbackBucketOAC</Field>
<Field name="RESOURCE_INTERNAL_ID">RollbackBucketOAC</Field>
```

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```
    <Field name="ROUTING_PLAN_LABEL"/>
    <Field name="ROUTING_PROFILE_LABEL"/>
    <Field name="FAILURE_MESSAGE"/>
    <Field name="ROUTING_PLAN_NAME">RoutingEventOACplan</Field>
    <Field name="ROUTING_PROFILE_NAME">RoutingEventOACprofile</Field>
    <Field name="CREATED_ACTIVITIES">0</Field>
    <Field name="REOPTIMIZED_ACTIVITIES">0</Field>
    <Field name="ROUTED_ACTIVITIES">0</Field>
    <Field name="NOT_ROUTED_ACTIVITIES">0</Field>
    <Field name="ACTIVITIES_MATCHED_FILTERS">1</Field>
    <Field name="ACTIVITIES_IN_ROUTES_BEFORE">0</Field>
    <Field name="NOT_ASSIGNED_VALIDATION">0</Field>
    <Field name="NUMBER_OF_DAYS_ROUTED">1</Field>
    <Field name="NOT_ASSIGNED_ACTIVITY_CONFIG">0</Field>
    <Field name="NOT_ASSIGNED_RESOURCES_CONFIG">0</Field>
    <Field name="NOT_ASSIGNED_ASSIGN_MANUAL">0</Field>
    <Field name="NOT_ASSIGNED_OVERTIME_OVERDUE">0</Field>
    <Field name="NOT_ASSIGNED_COSTS_SETTINGS">0</Field>
    <Field name="NOT_ASSIGNED_TRAVEL_SETTINGS">0</Field>
    <Field name="NOT_ASSIGNED_OTHER">0</Field>
    <Field name="PARTIALLY_ASSIGNED">0</Field>
    <Field name="REMOVED_ACTIVITIES">0</Field>
    <Field name="RESOURCES_MATCHED_FILTERS">1</Field>
    <Field name="RESOURCES_WITH_CHANGES">1</Field>
    <Field name="OPTIMIZATION_GOAL">balanced</Field>
    <Field name="PERCENTS_OF_TIME_LIMIT_FOR_SLR">50</Field>
    <Field name="SUBCATEGORY">0</Field>
    <Field name="ROUTING_RESULT">succeeded</Field>
    <Field name="TIME_LIMIT">30</Field>
    <Field name="TYPE_OF_THE_RUN">manual</Field>
    <Field name="TYPE_OF_ROUTING_START">manual</Field>
    <Field name="ROUTING_RUN_START_TIME">2023-01-11 12:35:30</Field>
    <Field name="ROUTING_PLAN_ID">174</Field>
    <Field name="ROUTING_PROFILE_ID">115</Field>
    <Field name="ROUTING_RUN_ID">1018810</Field>
    <Field name="RUN_ID_ROLLED_BACK"/>
  </routing_run_result>
</routing_run_results>
```

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 (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:

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Field	Label	Description
Activity ID	support_request.sr_aid	Unique internal identifier of the activity to which the service request was assigned.
Created	support_request.srcreated	Date and time when the service request was created.
Inventory ID	support_request.sr_invid	Unique internal identifier of the inventory to which the service request was assigned.
Resource ID	support_request.sr_pid	Unique internal identifier of the resource to which the service request was assigned.
Service Request Date	support_request.srdate	Date of the service request.
Service Request ID	support_request.srid	Unique internal identifier of the service request.
Service Request Properties	support_request.properties	List of custom service request properties with values.
Service Request Type	support_request.srtype	Type of service request.
User ID	support_request.sr_uid	Unique internal identifier of the user who initiated the service request.

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

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

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes

Type	Configurable
File	No

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.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<support_requests>
 <support_request>
 <Field name="SR Date&Time;">14:29:15 20-11-2013</Field>
 <Field name="SR Activity ID"/>
 <Field name="SR Resource ID">56879</Field>
 <Field name="SR Inventory ID"/>
 <Field name="Importance">1</Field>
 </support_request>
 <support_request>
 <Field name="SR Date&Time;">17:35:23 20-11-2013</Field>
 <Field name="SR Activity ID"/>
 <Field name="SR Resource ID"/>
 <Field name="SR Inventory ID">45687</Field>
 <Field name="Importance">3</Field>
 </support_request>
</support_requests>
```

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.

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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 (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:

Field	Label	Description
Time Slot End	time_slot.tstime_to	Time, at which the times slot ends
Time Slot ID	time_slot.tsid	Unique internal identifier of the time slot
Time Slot Label	time_slot.tslabel	Unique label of the time slot
Time Slot Name	time_slot.tsname	Name of the time slot
Time Slot Start	time_slot.tstime_from	Time, at which the times slot starts
Time Slot Status	time_slot.tsstatus	Time slot status

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**

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- 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 (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:

Field	Label	Description
Activity Type Group ID	activity_type.group_id	Unique internal identifier of Activity Group
Lookup Type	lookup.llookup_type	Internal name of the lookup type

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Field	Label	Description
Text	translation.ttext	Name of the type
Type ID	lookup.lid	Unique internal identifier of the type
Type Label	lookup.llabel	Unique label of the type
Type Language	language.lcode	2-letter language code of the type
Add new type	type=user	Company User Types has been added and can be processed as all other types.

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 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 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:

Field	Label	Description
End of blocking	security_user.login_blocked_to	User login is blocked until the specified date and time.
Capacity Bucket	provider.pcapacity_bucket	ID of capacity bucket for the resource for which the user is assigned to.
Date format (Resource)	provider.pdate_fid	ID of date format for the resource for which the user is assigned to.
Date format (User)	security_user.sudate_fid	ID of date format for the user.
Email address	provider.email	Email address for the resource for which the user is assigned to.
Failed login attempts	security_user.login_attempts	Number of consecutive login attempts for the user.
Initial Ratio for Activity Duration	provider.pinitial_ratio	Initial ratio for activity duration for the resource for which the user is assigned to.
Last login	security_user.last_login	Date and time when the user last logged in.
Last password change	security_user.last_password_change	Date and time when the user has changed the password last time
Long Date Format	security_user.sulong_date_fid	ID of full date format (with weekday) for the resource for which the user is assigned to.
Message Language	provider.planguage	Language for the resource for which the user is assigned to.
Name	security_user.uname	Name of the user.
Registered	security_user.sucreated	Date and time when the user was created.
Resource External ID	provider.external_id	External system identifier for the resource, which is set as the Visible Resource for the user. If multiple providers are set in the Visible Resource list, then one resource from the list is exported.

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Field	Label	Description
Resource ID	provider.pid	Unique internal identifier for the resource, which is set as the Visible Resource for the user. If multiple providers are set in the Visible Resource list, then one resource from the list is exported.
Resource Name	provider.pname	Name (text identifier) of the resource for which the user is assigned to.
Resource Parent	provider.parent	ID of parent resource for the resource for which the user is assigned to.
Resource Phone	provider.pphone	Phone number of the resource for which the user is assigned to.
Resource Start Time	provider.time_from	Working time start for the resource for which the user is assigned to.
Resource End Time	provider.time_to	Working time end for the resource for which the user is assigned to.
Resource Time Zone	time_zone.name	Standard Oracle Time zone name
Resource Time Zone Name	time_zone.zoneinfo_name	Standard IANA Time zone name
Resource status	provider.pactive	Status of the resource for which the user is assigned to.
Resource type	provider.ptype	Type of the resource for which the user is assigned to.
Routing profile	provider.p_rprid	ID of routing plan assigned to the resource for which the user is assigned to.
Status	security_user.sustatus	Status of the user (active, inactive or deleted)
Time Zone (Resource)	provider.time_zone	ID of time zone assigned to the resource for which the user is assigned to.
Time Zone (User)	security_user.su_zid	ID of time zone assigned to the user.
Time format (Resource)	provider.ptime_fid	ID of time format for the resource for which the user is assigned to.

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Field	Label	Description
Time format (User)	security_user.sutime_fid	ID of time format for the user.
Updated	security_user.suupdated	Date and time when the user was updated last time.
User ID	security_user.uid	Unique user ID
User Language	security_user.ulanguage	User's language
User Login	security_user.ulogin	User's login
User Type Comment	user_type.comment	Description of User Type for which the user is assigned to.
User Type ID	user_type.type_id	ID of User Type for which the user is assigned to.
User Type Label	user_type.label	Label of User Type for which the user is assigned to.
User Type Status	user_type.status	Status of User Type for which the user is assigned to
Week Start	security_user.suweek_start	Starting day of the week for the user
Working days to start impacting duration estimations	provider.skip_days_for_stats	Integer number of days which must be skipped for natural learning statistics
Main resource	main_resource_id	Unique internal identifier for the resource, which is set as the main resource for the user. The field can be empty, if the main resource is not set for the user.

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:

Type	Configurable
String	Yes
Integer	Yes

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Type	Configurable
Enumeration	Yes
File	No

Example: User List Fields file

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

- User's identifier in Oracle Field Service, 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**
- 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 Page 58 of 65 Confidential || Oracle Example of User List Fields File Daily Extract Description 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
<?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="provider_id"/>
 <Field name="provider_name"/>
 <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>
 <Field name="updated">2013-05-15 11:53:13</Field>
 <Field name="force_reset_next_login">1</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 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.

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

Field	Label	Description
Blocked To	security_user.login_blocked_to	User login is blocked until the specified date and time.
Capacity Bucket	provider.pcapacity_bucket	ID of capacity bucket for the resource for which the user is assigned to.
Date format (Resource)	provider.pdate_fid	ID of date format for the resource for which the user is assigned to.
Date format (User)	security_user.sudate_fid	ID of date format for the user.
Email address	provider.email	Email address for the resource for which the user is assigned to.
Failed login attempts	security_user.login_attempts	Number of consecutive login attempts for the user.
Initial Ratio for Activity Duration	provider.pinitial_ratio	Initial ratio for activity duration for the resource for which the user is assigned to.
Last login	security_user.last_login	Date and time when the user last logged in.
Last password change	security_user.last_password_change	Date and time when the user has changed the password last time
Long Date Format	security_user.sulong_date_fid	ID of full date format (with weekday) for the resource for which the user is assigned to.
Message Language	provider.planguage	Language for the resource for which the user is assigned to.
Name	security_user.uname	Name of the user.
Registered	security_user.sucreated	Date and time when the user was created.
Resource External ID	provider.external_id	External system identifier for the resource for which the user is assigned to.
Resource ID	provider.pid	Unique internal identifier of the resource for which the user is assigned to.
Resource Name	provider.pname	Name (text identifier) of the resource for which the user is assigned to.

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Field	Label	Description
Resource Parent	provider.parent	ID of parent resource for the resource for which the user is assigned to.
Resource Phone	provider.pphone	Phone number of the resource for which the user is assigned to.
Resource status	provider.pactive	Status of the resource for which the user is assigned to.
Resource type	provider.ptype	Type of the resource for which the user is assigned to.
Routing profile	provider.p_rprid	ID of routing plan assigned to the resource for which the user is assigned to.
Status	security_user.sustatus	Status of the user (active, inactive or deleted)
Time Zone (Resource)	provider.time_zone	ID of time zone assigned to the resource for which the user is assigned to.
Time Zone (User)	security_user.su_zid	ID of time zone assigned to the user.
Time format (Resource)	provider.ptime_fid	ID of time format for the resource for which the user is assigned to.
Time format (User)	security_user.sutime_fid	ID of time format for the user.
Updated	security_user.suupdated	Date and time when the user was updated last time.
User ID	security_user.uid	Unique user ID
User Language	security_user.ulanguage	User's language
User Login	security_user.ulogin	User's login
Week Start	security_user.suweek_start	Starting day of the week for the user
Working days to start impacting duration estimations	provider.skip_days_for_stats	Integer number of days which must be skipped for natural learning statistics
main_resource_id	Main resource	ID of main resource assigned to the user.

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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:

Type	Configurable
String	Yes
Integer	Yes
Enumeration	Yes
File	No

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, for example, **user_id**

- User's login in Oracle Field Service, 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>
```

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3 Integration With Oracle Analytics

About Oracle Analytics

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

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

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

Data Fields and Structure

This section lists all the supported fields and entities. It also provides the description of each field with relevant details.

Entity	Daily Once	Real Time
Activity Fields	✅	✅
Activity Link Fields	✅	✅
Activity Work Skill Fields	✅	
Broadcast Status Fields		✅
Chat Fields		✅

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Entity	Daily Once	Real Time
Chat Message Fields		✅
Chat Participant Fields		✅
GPS Track Fields	✅	
Inventory Fields	✅	✅
Message Fields	✅	
Message Text Fields	✅	
PAS Answer Fields	✅	
PAS Question Fields	✅	
Property Fields	✅	
Property Lookup Fields	✅	
Required Inventory Fields		✅
Resource Fields	✅	✅

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Entity	Daily Once	Real Time
Resource Location Fields	✓	
Resource Preference Fields		✓
Resource Property Fields	✓	
Resource Work Skill Fields	✓	
Route Fields	✓	✓
Routing Run Result Fields	✓	✓
Service Request Fields	✓	✓
Time Slot Fields	✓	
Type List Fields	✓	
User List Fields	✓	✓
User Resource Relation Fields	✓	

Which activity fields are available while integrating with external applications?

This section provides the activity fields that you can use while integrating Oracle Field Service with other applications.

Field	Label	Data Type	Mandatory	Description
Account Number	appt.customer_number	VARCHAR2		String with name of customer account i
Activity ID	appt.aid	INTEGER	true	Unique numeric identifier of the activity
Activity Time of Assignment	appt.atime_of_assignment	DATE		Date/Time when the last move/resched
Activity Time of Booking	appt.atime_of_booking	DATE		Date/time when the activity was booke
Activity Type	appt.atype	VARCHAR2		Primary type of the activity (prework, re
Activity Work Type	appt.aworktype	VARCHAR2		Identifier of the activity type defined fo
Activity Workflow	appt.activity_flow	VARCHAR2		Activity workflow assigned to the activit
Activity Work Zone	appt.aworkzone	VARCHAR2		Work zone which is defined for the activ
Activity status	appt.astatus	VARCHAR2		Status of the activity.
City	appt.ccity	VARCHAR2		City name, part of Customer address
Coordinate X	appt.acoord_x	FLOAT		X coordinate received from geocoding r
Coordinate Y	appt.acoord_y	FLOAT		Y coordinate received from geocoding r
Customer Email	appt.cemail	VARCHAR2		Email of the customer for whom the act
Customer Language	appt.clanguage	VARCHAR2		Message language of the customer for v
Customer Name	appt.cname	VARCHAR2		Name of the customer for whom the act

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Field	Label	Data Type	Mandatory	Description
Customer Phone	appt.cphone	VARCHAR2		Phone number of the customer for who
Customer Time Zone	appt.c_zid	VARCHAR2		Time Zone ID of the customer for whom
Delivery Window End	appt.delivery_window_end	DATE		End time for activity Delivery Window
Delivery Window start	appt.delivery_window_start	DATE		Start time for activity Delivery Window
Delivery address	appt.caddress	VARCHAR2		Customer address (except City, Zip/Pos
Duration	appt.length	INTEGER		Activity length in minutes. Filled when a
Estimated Time of arrival	appt.ETA	DATE		ETA date/time. Can be empty for Regula time when activity is started. For Cance was Canceled
First Manual Operation	appt.first_manual_operation	VARCHAR2		The name of the first manual reschedul
First Manual Operation (User ID)	appt.first_manual_operation_user_id	VARCHAR2		The interface the first manual reschedu
Master Activity ID	appt.amaster_aid	INTEGER		ID of main activity for prework, reassign
Mobile Phone	appt.ccell	VARCHAR2		Mobile phone number of the customer f
Points	appt.apoints	INTEGER		Number of points that represent efforts
Postal Code	appt.czip	VARCHAR2		ZIP/Postal code of customer for whom t
Reminder	appt.cmessagetime	INTEGER		Number of minutes before Delivery Win
Reported End Time of Activity Delivery	appt.time_delivered_end	DATE		End date/time of activity which is delive
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	DATE		Start date/time of activity which is deliv

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Field	Label	Data Type	Mandatory	Description
Resource External ID	provider.external_id	VARCHAR2		External system identifier for the resour
Resource ID	provider.pid	INTEGER		ID of resource the activity is assigned to
Route Date	queue.date	DATE		Date of the route the activity is assigned
SLA End	appt.sla_window_end	DATE		End date and time of Service Level Agre
SLA Start	appt.sla_window_start	DATE		Start date and time of Service Level Agr
Service Window End	appt.service_window_end	VARCHAR2		End time of Service Window
Service Window Start	appt.service_window_start	VARCHAR2		Start time of Service Window
State	appt.cstate	VARCHAR2		State (Geographic area) of the customer
Teamwork ID	appt.a_teamid	VARCHAR2		ID of team for teamwork activities
Time Slot ID	appt.a_tsid	VARCHAR2		Time Slot assigned to the activity
Traveling Time	appt.travel	INTEGER		Time of travel from a previous activity/l
Work Order	appt.appt_number	VARCHAR2		Identifier of the activity (string, value of
*	Activity Custom Fields			

Activity Link Fields

This section lists the activity link fields.

Name	Label	Data Type	Mandatory	Description
First Activity: Date	from_queue.date	DATE		Date of the route for which the first

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Name	Label	Data Type	Mandatory	Description
First Activity: ID	from_appt.aid	INTEGER	True	ID of the first linked activity.
Second Activity: Date	to_queue.date	DATE		Date of the route for which the seco
Second Activity: ID	to_appt.aid	INTEGER	True	ID of the second linked activity
Second Activity: Link label	appt_link_type.regular_label	VARCHAR2		Label for the activity link related to t

Activity Work Skill Fields

This section provides a list of activity work skill fields.

This table lists the activity work skill fields with their label, data type, and whether they are mandatory or not.

Name	Label	Data Type	Description
Activity ID	appt_work_skill.aid	INTEGER	Unique internal identifier of the work skill was assigned
Activity Work Skill ID	appt_work_skill.work_skill_id	INTEGER	Identifier of the work skill define
Work Skill Preferable Level	appt_work_skill.preferable_level	INTEGER	Preferable level of the skill for th
Work Skill Required Level	appt_work_skill.required_level	INTEGER	Required level of the skill for the

Broadcast Status Fields

The broadcast status fields are listed in this section.

Field	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The unique identifier of the broadcast in the collaboration
login	login	VARCHAR2	True	Login of the user whose status is changed

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Field	Label	Data Type	Mandatory	Description
messageId	messageId	INTEGER	True	The identifier of this message for which the status is changed (long).
status	status	VARCHAR2		The status change (string). The values are UNDELIVERED, DELIVERED, READ, ACKNOW
user	user	VARCHAR2	True	The user who triggered this event (string).

Chat Fields

This section provides a list of chat fields.

Name	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The unique identifier of the chat in Oracle Field Service Cloud.
endedTime	endedTime	DATE		Time (in UTC time standard) when the chat or broadcast was ended (string). The field isn't available if the chat has not ended.
expireTime	expireTime	DATE		The time when the broadcast expires (string). The time format is YYYY-MM-broadcasts. The value isn't available for broadcasts without an expiry time.
helpdeskName	helpdeskName	VARCHAR2		The name of the help desk (string). The field is available only for help desk ch
startedBy	startedBy	VARCHAR2		The user who started the chat or broadcast (string). This field will be present
startedTime	startedTime	DATE		Time (in UTC time standard) when the chat or broadcast was started (string).
type	type	VARCHAR2		The type of broadcast (string). The values are group:broadcast, location:broa only for broadcast

Chat Message Fields

The chat message fields are listed in this section.

Name	Label	Data Type	Mandatory	Description
activityId	activityId	INTEGER		The identifier of the activity with which the shared entity is related (integer). This field is available only for inventory and activity sharing or transferring. The value is zero if the entity isn't related to any activity.
attachmentId	attachmentId	INTEGER		The identifier of the attachment (integer) that is used to store this attachment in the field collaboration .
author	author	VARCHAR2		The user login of the user who started this transaction (string). This field will be present only for transactions started by a user.
chatId	chatId	INTEGER	True	The identifier of the chat or broadcast (string). This is the unique ID for each chat or broadcast in the collaboration server.
date	date	DATE		The date of the activity shared or transferred (string). This field is available only for activity sharing or transferring. The date format is YYYY-MM-DD.
desc	desc	VARCHAR2		The description of the entity shared (string)

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Name	Label	Data Type	Mandatory	Description
downloadUrl	downloadUrl	VARCHAR2		The URL used to download the shared image (string). A GET request to this URL with the authentication of a user with read access to collaboration events will get the image. This field is available only for image sharing.
filename	filename	VARCHAR2		The name of the image file shared (string). This field is available only for image sharing
inventoryId	inventoryId	INTEGER		The identifier of the inventory shared or transferred (integer). This field is available only for inventory sharing or transferring.
inventoryType	inventoryType	VARCHAR2		The type of inventory (string). This field is available only for inventory sharing or transferring.
lastUpdatedBy	lastUpdatedBy	VARCHAR2		The user login of the user who last updated the transaction (string). The value is SYSTEM when the server makes an update.
latitude	latitude	VARCHAR2		The latitude of the shared location (string). This field is available only for location sharing.
longitude	longitude	VARCHAR2		The longitude of the shared location (string). This field is available

Name	Label	Data Type	Mandatory	Description
				only for location sharing.
messageId*	messageId	INTEGER	True	The identifier of the message in the collaboration server (long).
needAcknowledgement	needAcknowledgement	VARCHAR2		The field indicating whether the acknowledgement option is enabled for this message (Boolean). The field is available only for broadcasts. It isn't available for messages without an acknowledgment.
operationStatus	operationStatus	VARCHAR2		The latest action that was performed on this transaction (string). The values are accepted, rejected, failed, cancelled, and transferred.
quantity	quantity	VARCHAR2		The quantity of non serialized inventory transferred (integer). This field is available only for non-serialized inventory transfer.
resourceId	resourceId	VARCHAR2		The external identifier of the resource (string). This field isn't available for location and image sharing. The value is an empty string if the entity isn't related to any resource.
resourceInternalId	resourceInternalId	INTEGER		The internal identifier of the resource (integer).

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Name	Label	Data Type	Mandatory	Description
				This field isn't available for location and image sharing. The value is zero if the entity isn't related to any resource.
sequenceNumber	sequenceNumber	INTEGER		The sequence number of the message in the chat or broadcast (long).
startTime	startTime	DATE		The time when this transaction was started (string). The time format is YYYY-MM-DD HH:MM:SS.
status	status	VARCHAR2		The status of the transaction (string). The values are started, timed out, and finished
text		VARCHAR2		The text content of the message
Time	time	DATE		The time when this participant was invited to chat (string). The time format is YYYY-MM-DD HH:MM:SS.
Timeoutime	Timeouttime	DATE		The time after which the transaction will be timed out (string). The time format is YYYY-MM-DD HH:MM:SS.
toAddress	toAddress	VARCHAR2		The address of the user to whom this transaction is sent (string). The value is the user who accepted the activity for activity broadcasts. The value is empty if no user accepts

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Name	Label	Data Type	Mandatory	Description
				the activity in an activity broadcast
transactionId	transactionId	INTEGER		The identifier of the transaction (integer) that is used to store the transaction in the field collaboration server.
type	type	VARCHAR2		The type of broadcast (string). The values are group:broadcast, location:broadcast, and activity:broadcast. The field is available only for broadcasts.
user*	user	VARCHAR2	True	The user who triggered this event (string).

Chat Participant Fields

This section provides a list of chat participant fields.

Name	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The identifier of the chat or broadcast. This is the unique ID for each chat or broadc
invitedBy	invitedBy	VARCHAR2		The user login of the user who invited this participant to chat or broadcast. This field
invitedTime	invitedTime	DATE		The time when this participant was invited to chat or broadcast. The time format is Y
leftTime	leftTime	DATE		The time when this user left chat or broadcast. The time format is YYYY-MM-DD HH
login	login	VARCHAR2	True	The user login of the participant.
name	name	VARCHAR2		The name of the participant.

GPS Track Fields

This section provides a list of Global Positioning System (GPS) track fields.

Field	Label	Data Type	Description
Activity ID	gps_tracks.aid	INTEGER	The ID of the activity started at the moment of the data collection or if there were
Distance	gps_tracks.distance	INTEGER	Distance from the resource's location to the activity
Idle Time	gps_tracks.idle	INTEGER	Number of seconds the resource spent in the point.
Latitude	gps_tracks.latitude	FLOAT	The Y coordinate of the position.
Longitude	gps_tracks.longitude	FLOAT	The X coordinate of the position.
Resource External ID	provider.external_id	VARCHAR2	External identifier for the resource.
Status	gps_tracks.status	INTEGER	Location status. Possible values are:0 - a position without warnings
			1 - a position has the alert "Started outside the location" (Started at driving)
			2 - a position has the alert "Completed outside the location" (Finish at driving)
			4 - a position has the alert "Resource left the activity location" (Driving at working
			8 - an 'idling' position (See Business rules to understand what position is consider
TIme	gps_tracks.time	DATE	Timestamp received along with the GPS data.
Track Route ID	gps_tracks.queue_id	INTEGER	The ID of the route for which the geolocation data has been received.

Inventory Fields

This section provides a list of inventory fields.

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Field	Label	Data Type	Mandatory	Description
Activity ID	inventory.inv_aid	INTEGER		Unique internal identifier of the activity, to which
Changed Inventory ID	inventory.inv_change_invid	INTEGER		Unique internal identifier of the inventory, to whi
Inventory ID	inventory.invid	INTEGER	True	Unique internal identifier of the inventory item.
Inventory Pool	inventory.invpool	VARCHAR2		Pool to which the inventory item belongs.
Inventory Type	inventory.invtype	VARCHAR2		Type of the inventory item; one of customer spec
Quantity	inventory.quantity	INTEGER		Quantity of non-serialized inventory
Resource External ID	provider.external_id	VARCHAR2		Unique internal identifier of the resource, to whic
Serial Number	inventory.invsn	VARCHAR2		Serial number of the inventory item.
*	Inventory Custom Fields			

Message Fields

This section provides a list of message text fields.

Field	Label	Data Type	Description
Access Hours	appt.access_hours	VARCHAR2	Formatted string. Contains set of l
Access Schedule	appt.access_schedule	VARCHAR2	Formatted string. Contains schedu
Account Number	appt.customer_number	VARCHAR2	String with name of customer acc
Activity Features	appt.afeatures	INTEGER	Bitmask field that defines active fe
Activity ID	appt.aid	INTEGER	Unique numerical identifier of the

Field	Label	Data Type	Description
Activity Location ID	appt.a_locationid	INTEGER	Activity location ID
Activity Properties	appt.properties	INTERNAL/PROP/LIST	List of all custom activity properti
Activity Time of Assignment	appt.atime_of_assignment	DATE	Date/Time when the last move/re
Activity Time of Booking	appt.atime_of_booking	DATE	Date/time when the activity was b
Activity Traveling Time	appt.continuous_traveling_time	INTEGER	Travel time between activities/loc
Activity Type	appt.atype	VARCHAR2	Primary type of the activity (prew
Activity Update Flag	appt.aupdate_flags	INTEGER	Bitmask field. Displays bit flags aft
Activity Work Skills	appt.activity_workskills	VARCHAR2	List of ID for Work Skills and Work
Activity Work Type	appt.aworktype	VARCHAR2	label of the activity type defined fo
Activity Work Zone	appt.aworkzone	VARCHAR2	Work zone which is defined for the
Activity status	appt.astatus	VARCHAR2	Status of the activity
Auto-routed to Date	appt.auto_routed_to_date	DATE	The date the activity was schedule
Auto-routed to Resource	appt.auto_routed_to_provider_id	INTEGER	The date the activity was schedule
Auto-routed to Resource (Name)	appt.auto_routed_to_provider_name	VARCHAR2	Name of resource the activity was
Capacity Categories	appt.activity_capacity_categories	VARCHAR2	List of ID for Capacity Categories f
City	appt.ccity	VARCHAR2	City name, part of Customer addre
Coordinate X	appt.acoord_x	FLOAT	X coordinate received from geoco

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Field	Label	Data Type	Description
Coordinate Y	appt.acoord_y	FLOAT	Y coordinate received from geoco
Coordinate accuracy	appt.acoord_accuracy	INTEGER	Accuracy level of coordinates for t
Coordinate status	appt.acoord_status	VARCHAR2	Coordinate status for the activity
Customer Email	appt.cemail	VARCHAR2	Email of the customer for whom tl
Customer Language	appt.clanguage	VARCHAR2	Message language of the custome
Customer Name	appt.cname	VARCHAR2	Name of the customer for whom t
Customer Phone	appt.cphone	VARCHAR2	Phone number of the customer fo
Customer Time Zone	appt.c_zid	VARCHAR2	Time Zone Label of the customer
Delivery Window End	appt.delivery_window_end	DATE	End time for activity Delivery Win
Delivery Window start	appt.delivery_window_start	DATE	Start time for activity Delivery Wir
Delivery address	appt.caddress	VARCHAR2	Customer address (except City, Zip
Description of Message Sending Result	message_log.mqdesc	VARCHAR2	Description, complementing the n
Duration	appt.length	INTEGER	Activity length in minutes. Filled w
End	appt.end_time	VARCHAR2	Estimated or real end time of activ
End Time of Activity Reported in Message	message_log.mqtime_delivered_end	VARCHAR2	End date/time of activity which is
End of Message Sending Interval	message_log.mqsendto	DATE	Planned end date/time of messag

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Field	Label	Data Type	Description
Estimated Time of arrival	appt.ETA	DATE	ETA date/time. Can be empty for l time when activity is started. For C Canceled
First Manual Operation	appt.first_manual_operation	VARCHAR2	The name of the first manual reso
First Manual Operation (User name)	appt.first_manual_operation_user_name	VARCHAR2	Name of the user performing the f
First Manual Operation (Interface)	appt.first_manual_operation_interface	INTEGER	The interface the first manual reso
First Manual Operation (User ID)	appt.first_manual_operation_user_id	VARCHAR2	ID of the user who performed the
First Manual Operation (User login)	appt.first_manual_operation_user_login	VARCHAR2	Login of the user performing the f
Free-Format Message Notes	message_log.mqdata	VARCHAR2	Notes for the message (for examp
Launch Condition Name	message_log.mqtrigger	VARCHAR2	Message launch condition
Local Time of Message Sending	message_log.mqsent_local	DATE	Date/time when the message was
Master Activity ID	appt.amaster_aid	INTEGER	ID of main activity for prework, rea
Message Activity ID	message_log.mq_aid	INTEGER	Unique internal identifier of the a
Message Address	message_log.mqaddress	VARCHAR2	Message notification address.
Message External ID	message_log.mqexternalid	VARCHAR2	Identifier of the message in the ex
Message ID	message_log.mqid	INTEGER	Internal unique identifier of the m
Message Inventory ID	message_log.mq_invid	INTEGER	Unique internal identifier of the in

Field	Label	Data Type	Description
Message Language	provider.planguage	VARCHAR2	Language of the resource.
Message Recipient	message_step.msrecipient	VARCHAR2	Recipient of the message.
Message Route ID	message_log.mq_qid	INTEGER	Internal unique identifier of the ro
Message Scenario Step: Duration	message_log.mqduration	INTEGER	Time spent on message sending u
Message Scenario Step: ID	message_log.mq_msid	INTEGER	Internal unique identifier of the m
Message Scenario Step: Name	message_step.msname	VARCHAR2	Name of the scenario step
Message Scenario Step: Type	message_step.mstype	VARCHAR2	Type of the message scenario step
Message Sending Method	message_log.mqmethod	VARCHAR2	Method of notification
Message Sending Result	message_log.mqstatus	VARCHAR2	Final status of the message
Message Step Purpose	message_step.msfunction	VARCHAR2	Message step type: "PAS" (survey
Message User ID	message_log.mq_uid	INTEGER	Internal unique identifier of the us
Mobile Phone	appt.ccell	VARCHAR2	Mobile phone number of the custo
Points	appt.apoints	INTEGER	Number of points that represent e
Postal Code	appt.czip	VARCHAR2	ZIP/Postal code of customer for w
Reminder	appt.cmessageTime	INTEGER	Number of minutes before Deliver
Reported End Time of Activity Delivery	appt.ctime_delivered_end	DATE	End date/time of activity which is
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	DATE	Start date/time of activity which is

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Field	Label	Data Type	Description
Resource ID	message_log.mq_pid	INTEGER	ID of resource the activity is assign
SLA End	appt.sla_window_end	DATE	End date and time of Service Leve
SLA Start	appt.sla_window_start	DATE	Start date and time of Service Lev
Service Request ID	message_log.mq_srid	INTEGER	Unique internal identifier of the se
Service Window End	appt.service_window_end	DATE	End time of Service Window
Service Window Start	appt.service_window_start	DATE	Start time of Service Window
Start - End	appt.eta_end_time	VARCHAR2	Real start time - end time for the a
Start Time of Activity Reported in Message	message_log.mqtime_delivered_start	VARCHAR2	Start date/time of activity which is
Start of Message Sending Interval	message_log.mqsendfrom	DATE	Planned start date/time of messa
State	appt.cstate	VARCHAR2	State (Geographic area) of the cus
Teamwork ID	appt.a_teamid	INTEGER	ID of team for teamwork activities
Template ID	appt.a_templateid	INTEGER	ID of activity template for mass/re
Time Slot ID	appt.a_tsid	VARCHAR2	ID of Time Slot assigned to the act
Time of Message Sending	message_log.mqsent	DATE	Date/time when the message was
Travel estimation method	appt.travel_estimation_method	INTEGER	Method that was used to make cu
Travel Time adjustment: ID of previous activity	appt.travel_from_aid	INTEGER	ID of previous activity adjustment

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Field	Label	Data Type	Description
Traveling Time	appt.travel	INTEGER	Time of travel from a previous acti
Visit ID	appt.a_visitid	INTEGER	ID of Visit for the activity.
Work Order	appt.appt_number	VARCHAR2	Identifier of the activity (string, va
Message Scenario Name	message_flow.mfname	VARCHAR2	Name of the message scenario.
Message Scenario ID	message_flow.mfid	VARCHAR2	Unique internal identifier of the m
*	Activity Custom Fields		

Message Text Fields

This section provides a list of message text fields.

Name	Label	Data Type	Mandatory	Description
Message Body	message_content.mcbody	VARCHAR2		Body (content) of the message
Message ID	message_content.mc_mqid	INTEGER		Unique internal identifier of the message.
Message Subject	message_content.mcsubject	VARCHAR2		Subject of the message.

PAS Answer Fields

This section provides a list of PAS answer fields.

Field	Label	Data Type	Description
ID	translation.tid	VARCHAR2	Identifier of the answer which is selected for the question

Field	Label	Data Type	Description
PAS Question Language	translation.t_lid	INTEGER	Identifier of language for the PAS question.
Text	translation.ttext	VARCHAR2	PAS answer name.
PAS-Related Activity ID	survey_take.aid	VARCHAR2	Identifier of the activity at which the answer is given.
PAS-Related Activity Date	survey_result.date	VARCHAR2	Date and time of the activity on which the questions were asked
Message ID	survey_take.mqid	VARCHAR2	Identifier of the message with which the question is asked.
PAS Question Number	survey_question.qorder	VARCHAR2	Number of the question, to which the answer is given
PAS Question ID	survey_result.question_id	VARCHAR2	Identifier of the question, to which the answer is given.

PAS Question Fields

This section provides a list of PAS question fields.

Name	Label	Data Type	Description
ID	translation.tid	VARCHAR2	Identifier of the answer which is selected for the question
PAS Question Language	translation.t_lid	INTEGER	Identifier of language for the PAS question.
Text	translation.ttext	VARCHAR2	PAS answer name

Property Fields

This section provides a list of property fields.

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Name	Label	Data Type	Description
Entity Type to Which Property Refers	property_desc.pdentity	INTEGER	Integer value that corresponds to the type of entity
ID	property_desc.propertyid	INTEGER	Unique internal identifier of the property in the sys
Property ID	property_name.pn_propertyid	INTEGER	Unique internal identifier that corresponds to the p
Property Label	property_desc.pdlabel	VARCHAR2	Unique external identifier of the property
Property Language	property_name.pn_lid	INTEGER	Integer that corresponds to the language defined f
Property Name	property_name.pntext	VARCHAR2	Name of the property
Text Entry Identifier	property_name.pnindex	VARCHAR2	Internal property name identifier (0-property name

Property Lookup Fields

This section provides a list of property lookup fields.

Name	Label	Data Type	Description
Entity Type to Which Property Refers	property_desc.pdentity	INTEGER	Integer value that corresponds to the type of entity
ID	property_desc.propertyid	INTEGER	Unique internal identifier of the property in the sys
Property ID	property_name.pn_propertyid	INTEGER	Unique internal identifier that corresponds to the p
Property Label	property_desc.pdlabel	VARCHAR2	Unique external identifier of the property
Property Language	property_name.pn_lid	INTEGER	Integer that corresponds to the language defined f
Property Name	property_name.pntext	VARCHAR2	Name of the property
Text Entry Identifier	property_name.pnindex	VARCHAR2	Internal property name identifier (0-property name

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Name	Label	Data Type	Description

Required Inventory Fields

This section provides a list of required inventory fields.

Field	Label	Data Type	Mandatory	Description
activityId	activityId	DATE	True	The unique identifier of the activity in Oracle Field Service.
inventoryType	inventoryType	VARCHAR2	True	The inventory types defined in the Configuration > Inventory types page in th
model	model	VARCHAR2	True	The inventory model
quantity	quantity	VARCHAR2		The required quantity

Resource Fields

This section provides a list of resource fields.

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Field	Label	Data Type	Description
Email address	provider.email	VARCHAR2	Email address for the resource
Message Language	provider.planguage	VARCHAR2	Language for the resource.
Resource External ID	provider.external_id	VARCHAR2	External system identifier for the resource
Resource Name	provider.pname	VARCHAR2	Unique internal identifier of the resource.
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for the resource

Field	Label	Data Type	Description
Resource Phone	provider.pphone	VARCHAR2	Phone number of the resource for which the user is assigned to.
Resource status	provider.pactive	VARCHAR2	Resource status (active or inactive) for whom the activity is provid
Resource type	provider.ptype	VARCHAR2	Resource type for the resource for whom the activity is provided
Time Zone (Resource)	provider.time_zone	VARCHAR2	ID of time zone assigned to the resource for whom the activity is
ID	provider.pid	INTEGER	Unique internal identifier of the resource.
*	Provider Custom Fields		

Resource Location Fields

This section provides a list of resource location fields.

Field	Label	Data Type	Description
Latitude	location.lcoord_y	FLOAT	Geographic coordinate Y resolved for the location
Location Address	location.laddress	VARCHAR2	Address resolved for the location
Location City	location.lcity	VARCHAR2	City resolved for the location
Location ID	location.lid	INTEGER	Internal identifier for the location
Location Label	location.llabel	VARCHAR2	Label of the location which is assigned to the resource
Location Postal Code	location.lzip	VARCHAR2	ZIP/Postal code resolved for the location
Location State	location.lstate	VARCHAR2	State/Area resolved for the location
Location Type	provider_location.pltype	VARCHAR2	Type of the location which is assigned to the resource

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Field	Label	Data Type	Description
Location by days	provider_location.plweekdays	INTEGER	Days of the week on which the location is assigned to the resourc
Longitude	location.lcoord_x	FLOAT	Longitude
Resource External ID	provider.external_id	VARCHAR2	External identifier for resource with the location
Resource ID	provider_location.pl_pid	INTEGER	Identifier of the resource to which the location is assigned

Resource Preference Fields

This section provides a list of resource preference fields.

Field	Label	Data Type	Mandatory	Description
activityId	activityId	INTEGER	True	The identifier of the activity (integer). This is a mandatory field.
preferenceType	preferenceType	VARCHAR2		The type of preference (enumeration, such as preferred, required, and, forb
resourceId	resourceId	VARCHAR2	True	The identifier of the resource to which the activity is assigned (string). This

Resource Property Fields

This section provides a list of resource property fields.

Field	Label	Data Type	Description
Capacity Area	provider.pcapacity_bucket	INTEGER	ID of capacity bucket for the resour
Date format (Resource)	provider.pdate_fid	INTEGER	ID of date format for the resource
Email address	provider.email	VARCHAR2	Email address for the resource

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Field	Label	Data Type	Description
Initial Ratio for Activity Duration	provider.pinitial_ratio	FLOAT	Initial ratio for activity duration for
Message Language	provider.planguage	VARCHAR2	Language for the resource.
Organization	provider.organization_id	INTEGER	ID of organization for the resource
Resource External ID	provider.external_id	VARCHAR2	External system identifier for the re
Resource ID	provider.pid	INTEGER	Unique internal identifier of the res
Resource Name	provider.pname	VARCHAR2	Name (text identifier) of the resour
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for the resour
Resource Phone	provider.pphone	VARCHAR2	Phone number of the resource
Resource status	provider.pactive	VARCHAR2	Resource status (active or inactive)
Resource type	provider.ptype	VARCHAR2	Resource type for the resource
Routing profile	provider.p_rprid	INTEGER	ID of routing plan assigned to the r
Time Zone (Resource)	provider.time_zone	VARCHAR2	Time zone assigned to the resourc
Time format (Resource)	provider.ptime_fid	INTEGER	ID of time format for the resource
Working days to start impacting duration estimations	provider.skip_days_for_stats	INTEGER	Integer number of days which mus
*	Resource Custom Properties		

Resource Work Skill Fields

This section provides a list of resource work skill fields.

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Name	Label	Data Type	Mandatory	Description
Resource ID	provider_work_skill.provider_id	INTEGER		Unique internal identifier of t
Resource Work Skill: End Date	provider_work_skill.end_date	DATE		Work skill for resource is expi
Resource Work Skill: ID	provider_work_skill.work_skill_id	INTEGER		Identifier of the work skill def
Resource Work Skill: Level	provider_work_skill.ratio	INTEGER		The level of resource experier
Resource Work Skill: Start Date	provider_work_skill.start_date	DATE		Work skill for resource is activ

Route Fields

This section provides a list of route fields.

Field	Label	Data Type	Mandatory	Description
Resource External ID	provider.external_id	VARCHAR2	True	External system identifier for the resourc
Resource TIme Zone	time_zone.name	VARCHAR2		Standard Oracle Time zone name
Route Activation Time	queue.activated	DATE		Date and time of route activation for reso
Route Date	queue.date	DATE	True	Date of the route the activity is assigned t
Route Deactivation Time	queue.deactivated	DATE		Date and time of route deactivation (for a
Route Reactivation Time	queue.reactivated	DATE		Date and time of route reactivation (for al
Traveling Time (final location)	queue.final_travel	INTEGER		Travel to the final location of resource for
Working Day End	queue.calendar_time_to	DATE		End of working day (Date and time) for th
Working Day Start	queue.calendar_time_from	DATE		Start of working day (Date and time) for t

Field	Label	Data Type	Mandatory	Description

Routing Run Result Fields

This section provides a list of routing run result fields.

Sl. No.	Name	Label	Data Type	Mandatory	Description
1	Routing Run Id	routing_run_result.routingRunId	INTEGER	True	The unique ID of the specific routing run.
2	Routing Plan Name	routing_run_result.routingPlan	VARCHAR2		The name of the routing plan that was run. This is not unique.
3	Routing Plan Id	routing_run_result.routingPlanId	INTEGER		The unique ID of the routing plan that was run.
4	Routing Plan Label	routing_run_result.routingPlanLabel	VARCHAR2		The label of the routing plan.
5	Routing Profile Name	routing_run_result.routingProfile	VARCHAR2		The name of the routing profile that the routing plan belongs to. Is not unique.
6	Routing Profile Id	routing_run_result.routingProfileId	INTEGER		The unique ID of the routing profile that the routing plan belongs to.
7	Routing Profile Label	routing_run_result.routingProfileLabel	VARCHAR2		The label of the routing profile.
8	Start Type	routing_run_result.startType	VARCHAR2		Type of routing start: • When routing is started automatically on schedule, the value is 'automatic'. • When routing is started manually by user, the value is 'manual'.
9	Resource Id	provider.pid	INTEGER		The internal ID of the routing bucket.

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Sl. No.	Name	Label	Data Type	Mandatory	Description
10	Target Date	routing_run_result.targetDate	DATE		The date for which the activities are routed. The format is 'YYYY-MM-DD'.
11	Number Of Days	routing_run_result.numberOfDays	INTEGER		For a single day routing, the value is 1. For multi-day routing, the value is the number of days routed, starting from 'targetDate' and going into the future.
12	Result	routing_run_result.result	VARCHAR2		• When the routing is executed successfully, and some activities are moved as a result, the value is 'succeeded'. • When the routing execution is stopped by the user, the value is 'stopped'. • When the routing execution fails, the value is 'failed'.
13	Message	routing_run_result.message	VARCHAR2		The field contains the error description when 'result' is 'failed' or 'skipped'.
14	Routing Run Duration	routing_run_result.routingRunDuration	INTEGER		The duration (in seconds) of the routing run.
15	Activities Matched	routing_run_result.activitiesMatched	INTEGER		The number of activities and pre-existing activity segments matching the routing plan filters.
16	Activities In Routes Before Routing	routing_run_ result..activitiesInRoutesBeforeRouting	INTEGER		The number of activities and pre-existing activity segments that were in routes of resources before the routing run.
17	Activities Routed	routing_run_result.activitiesRouted	INTEGER		The number of activities scheduled and assigned by the routing run.
18	Activities Not Routed	routing_run_result.activitiesNotRouted	INTEGER		The number of activities matching the routing plan filters but not routed.

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Sl. No.	Name	Label	Data Type	Mandatory	Description
19	Resources Matched	routing_run_result.resourcesMatched	INTEGER		The number of resources matching the routing plan filters.
20	Resources Used	routing_run_result.resourcesUsed	INTEGER		The number of resources with assigned or removed activities by the routing run.
21	Average Working Time	routing_run_result.averageWorkingTime	INTEGER		The average working time of the resources (in minutes).
22	Average Overtime	routing_run_result.averageOvertime	INTEGER		The average overtime time of the resources (in minutes).
23	Average Travel Time	routing_run_result.averageTravelTime	INTEGER		The average travel time of the resources (in minutes).
24	Average Downtime	routing_run_result.averageDowntime	INTEGER		The average downtime time of the resources (in minutes).
25	Extended Status	routing_run_result.extendedStatus	VARCHAR2		The additional information on the type and result of the routing run. The field includes: 1. The type of this routing execution. Can be one of the following values: ○ 'routing', ○ 'routing_rollback', 2. If type is 'routing', then next position in the field shows routingAlgorithmType The filed may take values: ○ bulk ○ urgent ○ immediate 3. If type is 'bulk' 'routing', then next position in the field shows result if it differs from possible values of the field result: When there are no activities found, the value is 'skipped'. 4. The next position in the field is set to notAccepted and points at the case when it is 'bulk' 'routing', 'result' is

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Sl. No.	Name	Label	Data Type	Mandatory	Description
					'succeeded' but was not applied.
					Allowed combinations:
					o routing-rollback
					o routing-bulk
					o routing-urgent
					o routing-immediate
					o routing-bulk-skipped
					o routing-bulk-notAccepted
					o routing-immediate-skipped
					o routing-broadcast
26	Average Mileage	routing_run_result.averageMileage	INTEGER		The average travel mileage of the resources (in miles or km).
27	Reoptimized Activities	routing_run_result.reoptimizedActivities	INTEGER		The number of activities re-optimized by the routing run.
28	Created Activities	routing_run_result.createdActivities	INTEGER		The number of activities were created automatically for the routing run.
29	Removed Activities routing_run_ result.removedActivities The number of removed activities (which may be warehouse visits or activity segments)	Removed Activities routing_run_ result.removedActivities The number of removed activities (which may be warehouse visits or activity segments)	INTEGER		The number of removed activities (which may be warehouse visits or activity segments)
30	Start Time	routing_run_result.startTime	DATE		The time when the routing run started in UTC time zone. The time format is YYYY-MM-DD HH:MM:SS.
31	Assurance Percentage	routing_run_result.assurancePercentage	NUMBER		The assurance of routing result, from 0 to 100. The lesser assurance is, the less confident is the result, which, in most cases, may be connected to sub-optimal results. Typically, for good results one may expect assurance 85 or more.

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Sl. No.	Name	Label	Data Type	Mandatory	Description
32	Consumed Time	routing_run_result.consumedTime	INTEGER		Actual time (in seconds) that was consumed by SLR and routing engine during the routing run.
33	Routing Plan Time Limit	routing_run_result.routingPlanTimeLimit	INTEGER		Time limit for the routing plan (in seconds).
34	Routing Plan Optimization Goal	routing_run_result.routingPlanOptimizationGoal	VARCHAR2		If there is an optimization goal at the routing run, the field shows the goal. May be one of the following: • balanced • minimize_travel • maximize_jobs • maximize_jobs_density • reduce_overdue
35	Routing Plan Time Limit SLR Percentage	routing_run_result.routingPlanTimeLimitSlrPercentage	INTEGER		Part of total time limit which is time limit for SLR service
36	Not Assigned Due To Validation Issues Count	routing_run_result.notAssignedDueToValidationIssuesCount	INTEGER		Configuration / Data validation errors
37	Not Assigned Due To Changes While Routing Was Running Count	routing_run_result.notAssignedDueToChangesWhileRoutingWas	INTEGER		The assignment is impossible due to changes that happened while routing was running.
38	Not Assigned Due To Activity Configuration Count	routing_run_result.notAssignedDueToActivityConfigurationCour	INTEGER		Not-assignment reason: configuration of an activity.
39	Not Assigned Due To Resources Configuration Count	routing_run_result.notAssignedDueToResourcesConfigurationC	INTEGER		Not-assignment reason: configuration of resources
40	Not Assigned Needs Manual Assignment Count	routing_run_result.notAssignedNeedsManualAssignmentCount	INTEGER		Not-assignment reason: the constraint violation. Try to assign the activity manually
41	Not Assigned Other Issues Count	routing_run_result.notAssignedOtherIssuesCount	INTEGER		Other Not-Assignment Reasons.
42	Partially Assigned Segmentable Activities Count	routing_run_result.partiallyAssignedSegmentableActivitiesCoun	INTEGER		Partially assigned segmentable activities.

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Sl. No.	Name	Label	Data Type	Mandatory	Description
43	Not Assigned Due To Dynamic Mode Restrictions Count	routing_run_result.notAssignedDueToDynamicModeRestrictions	INTEGER		Activities were not assigned in accordance with the routing plan dynamic mode settings.
44	Not Assigned Due To Cost Settings Count	routing_run_result.notAssignedDueToCostSettingsCount	INTEGER		Not-assignment reason: routing plan and/or resource type cost settings may be suboptimal.
45	Not Assigned Due To Travel Restrictions Count	routing_run_result.notAssignedDueToTravelRestrictionsCount	INTEGER		Not-assignment reason: activity locations and routing plan travel settings prohibits assignment.
46	Not Assigned Due To Optimization Criteria Count	routing_run_result.notAssignedDueToOptimizationCriteriaCount	INTEGER		Activities were not assigned in accordance with the optimization criteria chosen.
47	Resource Blocked Due To Routing Schedule Count	routing_run_result.resourceBlockedDueToRoutingScheduleCount	INTEGER		Resources are blocked by another run because of sub-optimal routing plan schedule.
48	Not Assigned Needs Overtime Overdue Rules Relaxation Count	routing_run_result.notAssignedNeedsOvertimeOverdueRulesRe	INTEGER		Not-assignment reason: the overtime/overdue constraint violation. Try to assign manually with relaxed constrains or just relax business rules on overdue/overtime for the routing plan.
49	Subcategory	routing_run_result.subcategory	VARCHAR2		Reserved for future needs
50	Resource External Id	provider.external_id	VARCHAR2		The external ID of the routing bucket.
51	Routing Rollback Run Id	routing_run_result.routingRollbackRunId	INTEGER		The unique ID of the routing run which were rolled back.
52	Type of Routing Run	Run routing_run_result.type	VARCHAR2		The type of the routing run. The field is obsolete.

Service Request Fields

This section provides a list of service request fields.

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Field	Label	Data Type	Mandatory	Description
Activity ID	support_request.sr_aid	INTEGER		Unique internal identifier of the activity to which the servi
Created	support_request.srcreated	DATE		Date and time when the service request was created.
Inventory ID	support_request.sr_invid	INTEGER		Unique internal identifier of the inventory to which the ser assigned.
Service Request Date	support_request.srdate	DATE		Date of the service request.
Service Request ID	support_request.srid	INTEGER	True	Unique internal identifier of the service request.
Service Request Type	support_request.srtype	VARCHAR2		Type of service request.
*	Service Request Custom Properties			

Time Slot Fields

This section provides a list of time slot fields.

Field	Label	Data Type	Description
Time Slot End	time_slot.tstime_to	VARCHAR2	Time, at which the times slot ends
Time Slot ID	time_slot.tsid	INTEGER	Unique internal identifier of the time slot
Time Slot Label	time_slot.tslabel	VARCHAR2	Unique label of the time slot
Time Slot Name	time_slot.tsname	VARCHAR2	Name of the time slot
Time Slot Start	time_slot.tstime_from	VARCHAR2	Time, at which the times slot starts
Time Slot Status	time_slot.tsstatus	VARCHAR2	Time slot status

Type List Fields

This section provides a list of type list fields.

Name	Label	Data Type	Description
Activity Type Group ID	activity_type.group_id	VARCHAR2	Unique internal identifier of Activity Group
Text	translation.ttext	VARCHAR2	Name of the type
Type Language	language.lcode	VARCHAR2	2-letter language code of the type
Type Label	lookup.llabel	VARCHAR2	Unique label of the type
Lookup Type	lookup.llookup_type	VARCHAR2	Internal name of the lookup type
Type ID	lookup.lid	VARCHAR2	Unique internal identifier of the type

User List Fields

This section provides a list of user list fields.

Name	Label	Data Type	Mandatory	Description
End of blocking	security_user.login_blocked_to	DATE		User login is blocked until the specifie
Failed login attempts	security_user.login_attempts	INTEGER		Number of consecutive login attempts
Last login	security_user.last_login	DATE		Date and time when the user last logg
Last password change	security_user.last_password_change	DATE		Date and time when the user has char
Name	security_user.uname	VARCHAR2		Name of the user.

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Name	Label	Data Type	Mandatory	Description
Registered	security_user.sucreated	DATE		Date and time when the user was crea
Resource External ID	provider.external_id	VARCHAR2		External system identifier for the resou can be empty, if the main resource is r
Resource ID	provider.pid	INTEGER		Unique internal identifier for the resou can be empty, if the main resource is r
Resource Time Zone	time_zone.name	VARCHAR2		Standard Oracle Time zone name
Status	security_user.sustatus	VARCHAR2		Status of the user (active, inactive or d
Updated	security_user.suupdated	DATE		Date and time when the user was upda
User Login	security_user.ulogin	VARCHAR2	True	User's login
User Type Label	user_type.label	VARCHAR2		Label of User Type for which the user i
Week Start	security_user.suweek_start	VARCHAR2		Starting day of the week for the user
*	User custom properties			

User Resource Relation Fields

This section provides a list of user resource relation fields.

Name	Label	Data Type	Description
Capacity Area	provider.pcapacity_bucket	INTEGER	ID of capacity bucket for tl
Date format (Resource)	provider.pdate_fid	INTEGER	ID of date format for the re
Date format (User)	security_user.sudate_fid	INTEGER	ID of date format for the u

Name	Label	Data Type	Description
Email address	provider.email	VARCHAR2	Email address for the reso
End of blocking	security_user.login_blocked_to	DATE	Email address for the reso
Failed login attempts	security_user.login_attempts	INTEGER	Number of consecutive lo
Initial Ratio for Activity Duration	provider.pinitial_ratio	FLOAT	Initial ratio for activity dur
Last login	security_user.last_login	DATE	Date and time when the u
Last password change	security_user.last_password_change	DATE	Date and time when the u
Long Date Format	security_user.sulong_date_fid	INTEGER	ID of full date format (with
Main Resource	security_user.main_resource_id	INTEGER	ID of Main resource assign
Message Language	provider.planguage	VARCHAR2	Language for the resource
Name	security_user.uname	VARCHAR2	Name of the user.
Org Unit/Bucket	security_user.organization_unit_id	INTEGER	
Organization	provider.organization_id	INTEGER	ID of organization for the
Registered	security_user.sucreated	DATE	Date and time when the u
Resource External ID	provider.external_id	VARCHAR2	External system identifier
Resource ID	provider.pid	INTEGER	Unique internal identifier
Resource Name	provider.pname	VARCHAR2	Name (text identifier) of t
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for t
Resource Phone	provider.pphone	VARCHAR2	Phone number of the reso

Name	Label	Data Type	Description
Resource status	provider.pactive	VARCHAR2	Status of the resource for
Resource type	provider.ptype	VARCHAR2	Type of the resource for w
Routing profile	provider.p_rprid	INTEGER	ID of routing plan assigne
Status	security_user.sustatus	VARCHAR2	Status of the user (active,
Time Zone (Resource)	provider.time_zone	VARCHAR2	ID of time zone assigned t
Time Zone (User)	security_user.su_zid	INTEGER	ID of time zone assigned t
Time format (Resource)	provider.ptime_fid	INTEGER	ID of time format for the r
Time format (User)	security_user.sutime_fid	INTEGER	ID of time format for the u
Updated	security_user.suupdated	DATE	Date and time when the u
User ID	security_user.uid	INTEGER	Unique user ID
User Language	security_user.ulanguage	VARCHAR2	User's language
User Login	security_user.ulogin	VARCHAR2	User's login
Week Start	security_user.suweek_start	VARCHAR2	Starting day of the week f
Working days to start impacting duration estimations	provider.skip_days_for_stats	INTEGER	Integer number of days wh
*	User Custom Properties		

Add an Oracle Analytics Channel

You can add Oracle Analytics (OAC) channels using the Applications page.

To add an OAC channel:

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.
3. In the Add Application dialog box, select **Oracle Analytical Cloud Service** from the **Application Type** drop-down list.
4. In the **Application Name** field, enter the channel name to be displayed.
5. In the **URL** field, specify your Oracle Analytical Cloud URL without the /analytics or /va URL extension. For example https://My OAC.oraclecloud.com.
6. In the **Connection Name** field, provide the data source connection name defined in OAC.

   Note: Check the data source connection name defined at the path, Console/Connections/Connection name of the data source in OAC.

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.

Results:

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.

Configure SSO in Oracle Analytics

You must configure SSO in Oracle Analytics after adding an OAC channel in Oracle Field Service.

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

To configure SSO:

1. Log onto the application as an administrator–enter username and password.

   Note: Ensure that the username in Oracle Field Service matches the username in Oracle Analytics.

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

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5. In **SSO protocol** field, enter HTTP POST/

6. In **User Identifier, custom attribute** field, enter uid.

7. Export Oracle Analytics Provider metadata and update the SAML IDP provider in Oracle Field Service.

8. Click **Test** and then select **Start SSO**.

   When you enter the administrator user name and password, the message indicating a successful login session appears.

9. Click Enable SSO.

   > **Note:** Oracle Analytics instance must be active while accessing the embedded reports in Oracle Field Service. If not, a blank page will be displayed with error details.

Add Parameter Values in Embedded Reports

Users can add any parameter values to the reports/dashboards embedded into Oracle Field Service. 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. p0 represents the no of parameters included in the URL
   b. p1 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;=PROVIDE*

   - 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 and Oracle BI Cloud Service to avoid multiple login sessions.

New Sample Data Models and Reports For Oracle Analytical Cloud

Oracle Field Service-Oracle Analytical Cloud integration offers new sample reports , DV projects and dashboards as reference. These reports and dashboards help you learn how to use Oracle Field Service Cloud raw data in Oracle Analytical Cloud.

You can generate reports using Oracle Analytical Cloud analytics and data visualization tools to get different insights about your business.

Oracle Field Service offers these objects:

- Sample data models including daily and real-time fields

- XML file configuration that defines those configurations that you require to work with the sample data models and reports in Oracle Field Service Cloud

- Sample reports and dashboards generated using Oracle Analytical Cloud analytical data and data visualization tools

- Sample DV projects

You can download these objects from Oracle Technology Network and use them as reference. You can download and use these reports and dashboards in Oracle Analytical Cloud using Oracle Field Service data. You can also leverage the sample data set to create and consume models on your own.

New Reports in Oracle Analytical Cloud

As part of Oracle Field Service-Oracle Analytical Cloud integration, new reports and DV projects are available as a reference in Oracle Analytical Cloud.

Activities Scheduled Versus Activities Completed Report

This example report shows how activity attributes such as Status can be presented with different analytical perspectives in Oracle Analytical Cloud. The Activities Scheduled versus Completed report displays the comparison of activities with status Completed against activities with status Scheduled in Oracle Field Service Cloud.

The image displays Activities Scheduled versus Completed report.

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Activities scheduled vs completion
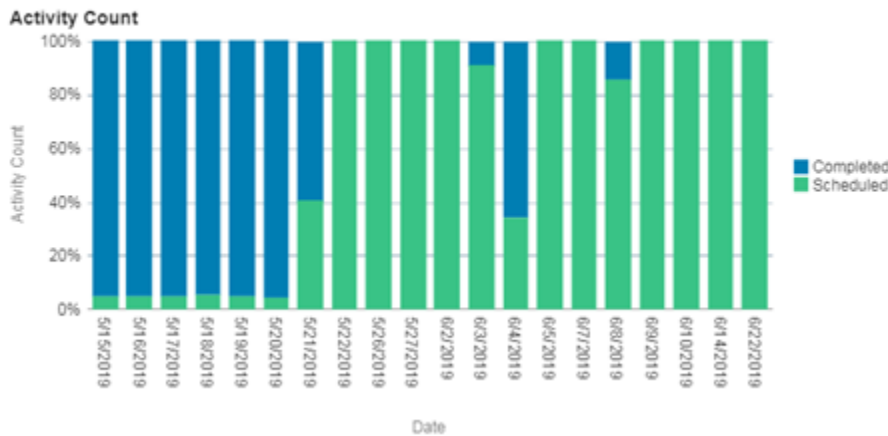
Collaboration Charts

In Oracle Field Service Cloud-Oracle Analytical Cloud integration, Collaboration is a real time entity. You can use Collaboration charts to understand how to use real-time entities in Oracle Analytical Cloud to get different analytics on Collaboration.

Average Waiting Time in Help Desks Chart

This chart is an example displaying the analysis to determine the waiting time for chats- how long technicians/users have to wait at a help desk for operator assistance.

The image displays the Average waiting time in a help desk report.
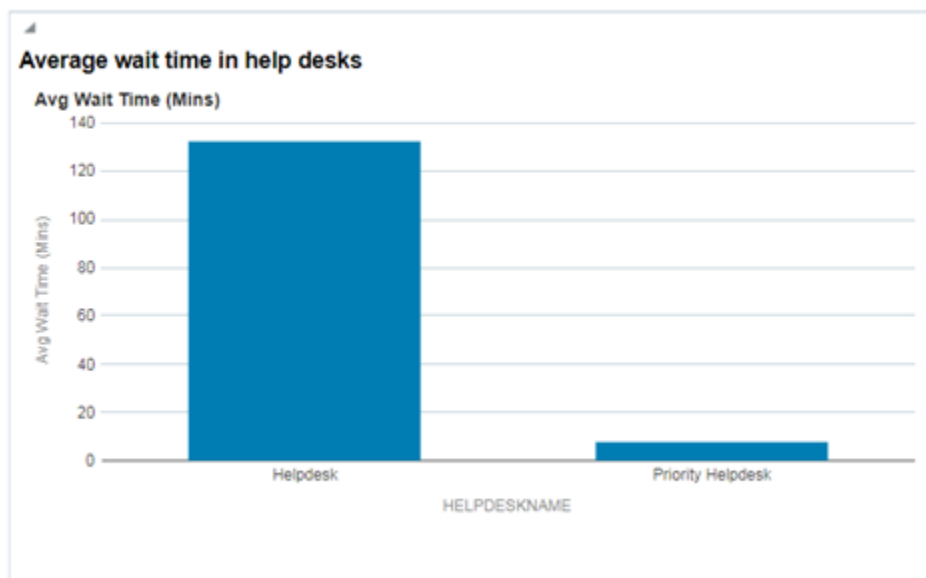
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Data Visualization Graphics

As part of Oracle Field Service-Oracle Analytical Cloud integration, data visualization graphs are available as a reference in Oracle Analytical Cloud. Oracle Data visualization is an advanced visualization tool that helps you gain new insights through visual analysis.

DVCS provides an easy and automatic data blending technique that allows you to combine data from a variety of sources — Oracle and other SaaS applications, on-premises systems, external sources, and personal files.

Average Travel Time By Location

Here is an example about how you can perform geospatial analysis in Oracle Analytical Cloud using Oracle Field Service data. This visualization provides an insight about average travel time in selected regions. You can see the activity locations (city and states) and the average travel time in each location from the Map view.

The image displays Map view showing Average travel time by location.
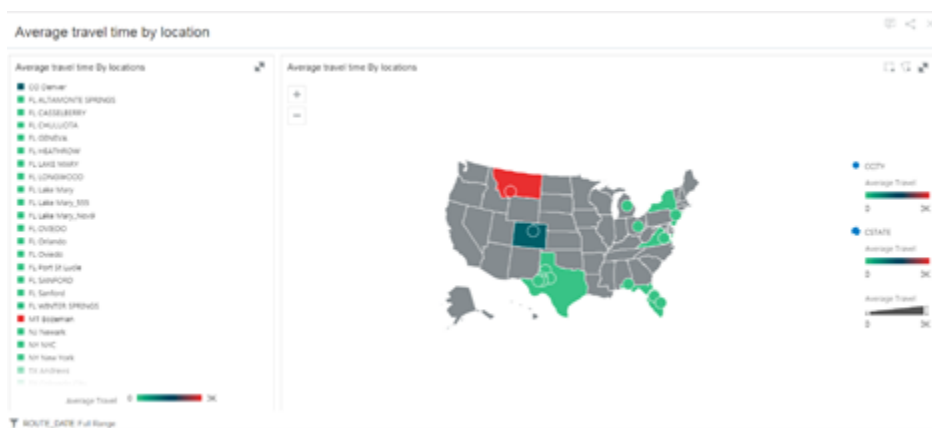
Compliance Analysis

This report provides a comparison of the activities completed late versus the total activities scheduled in a region. You can use such analysis to measure activity time performance of different business regions of your organization.

The image displays the Map view showing compliance analysis.
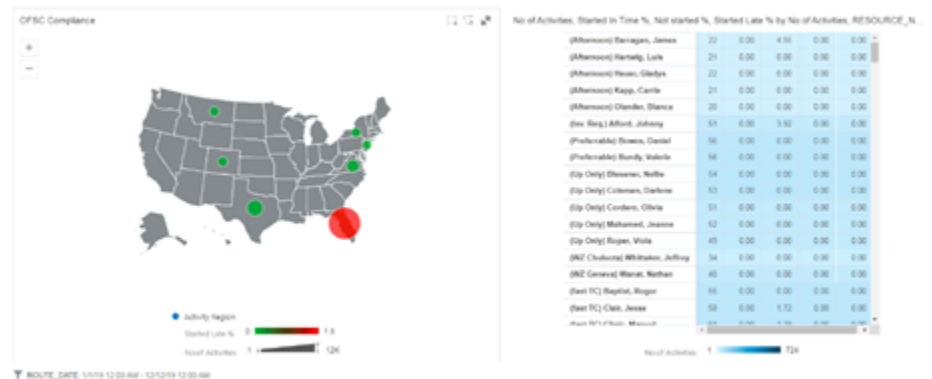
Who is Chatting With Whom More Chart

This chart is an example displaying information about top 5 users with whom a specific collaboration user is interacting with in terms of number of chats initiated with another user.

The image displays the Who is chatting with whom more report.
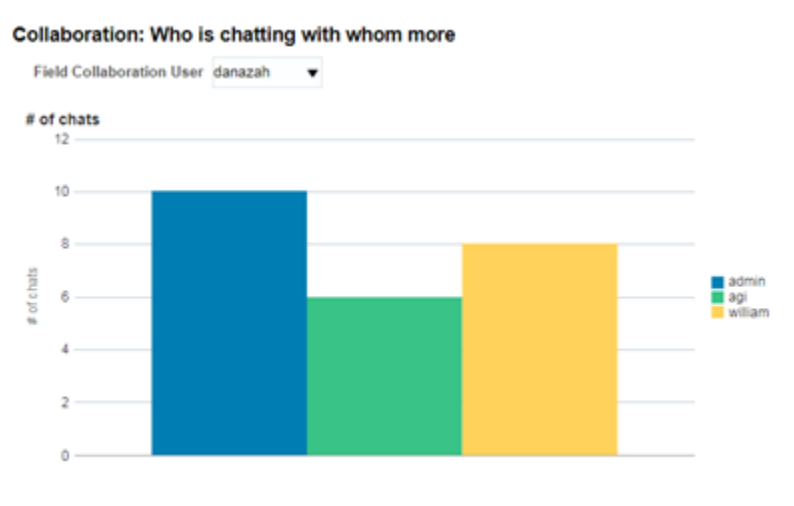
Such analysis helps organizations to take decisions on how to optimize collaboration usage within the organization

Import Fields and Entities in Oracle Field Service

You can download configuration XML file Demo_Daily Extract Configuration.xml file and validate the the tables and fields in Oracle Field Service Cloud.

The configuration XML contains the following details:

Entity Name	Table	Data Transfer Mode
Activity Fields	DEMO_ACTIVITY	Real TIme
Activity Fields	DEMO_GEOGRAPHY	Real TIme
Chat Fields	DEMO_CHAT	Real TIme
Chat Message Fields	DEMO_CHAT_MESSAGE	Real TIme
Chat Participant Fields	DEMO_CHAT_PARTICIPANT	Real TIme

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Entity Name	Table	Data Transfer Mode
Message Fields	DEMO_MESSAGES	Daily Once
Message Fields	DEMO_MESSAGE_SCENARIO	Daily Once
Message Fields	DEMO_MESSAGES_ACTIVITY	Daily Once
Resource Fields	DEMO_PROVIDER	Real TIme
Route Fields	DEMO_QUEUE	Real TIme
Type List Fields	DEMO_TYPE_LIST	Daily Once
User List FIelds	DEMO_USER_LIST	Real TIme
User List FIelds	DEMO_USER_STATUS	Real TIme

To Import configuration XML:

1. Download the configuration XML file Demo_Daily Extract Configuration.xml file.
2. Navigate to the Applications page and click the already created OAC application.
3. Click **Import**.
4. In the Import dialog box, browse and select Demo_Daily_Extract_Configuration.xml file and then click **Validate**.
5. Click Yes to confirm the validation summary and click **Import**.

   The imported sample file is updated to the Oracle Analytical Cloud application.

Import and Use Sample Reports in Oracle Analytical Cloud

You can import the sample reports using the sample data model OFSC_DataModel_Snapshot.bar file in Oracle Analytical Cloud.

1. Download the sample data model,OFSC_DataModel_Snapshot.bar file.
2. Open the console in Oracle Analytical Cloud instance and select **Service Administration**, and click **Manage Snapshots**.

   A new form opens.
3. Choose the downloaded file data_model.bar. Type *Admin123* in the password field and click OK.

4. Click **manage snapshot** in the right corner of the newly uploaded data model.

5. Select Restore from the drop-down menu.

6. Select **Catalog and Data Model** in the Restore Snapshot form and click **Restore**.

   A warning message is displayed. Click Yes.

7. Click **Page** menu on the Home Page, and select **Open Data Modeler**.

8. Click **Lock to Edit** on the right corner for updating the modeler.

9. From the Database menu in the left pane, click Actions, then click Create View.

10. In the View editor, specify the name of the view - ACTIVITY_TYPE

11. From the SQL Query tab, paste the below SQL query for the source view.

```
SELECTDISTINCT
DEMO_TYPE_LIST.ACTIVITY_GROUP,
TO_NUMBER(DEMO_TYPE_LIST.TYPE_ID) ASTYPE_ID,
DEMO_TYPE_LIST.TYPE_LABEL,
DEMO_TYPE_LIST.TYPE_LANG,
DEMO_TYPE_LIST.TYPE_NAME,
DEMO_TYPE_LIST.TYPE_TEXT
FROM
DEMO_TYPE_LIST
WHERE
DEMO_TYPE_LIST.TYPE_NAME= 'activity'
```

12. Click Save and Close.

13. Create another view with Name - PROVIDER_TYPE by following the above steps. From the SQL Query tab, paste the below SQL query for the source view.

```
SELECTDISTINCT
 DEMO_TYPE_LIST.ACTIVITY_GROUP,
 TO_NUMBER(DEMO_TYPE_LIST.TYPE_ID) ASTYPE_ID,
 DEMO_TYPE_LIST.TYPE_LABEL,
 DEMO_TYPE_LIST.TYPE_LANG,
 DEMO_TYPE_LIST.TYPE_NAME,
 DEMO_TYPE_LIST.TYPE_TEXT
 FROM
 DEMO_TYPE_LIST
 WHERE
 DEMO_TYPE_LIST.TYPE_NAME= 'provider'
```

14. Click **Publish model** to save the changes permanently.

15. Here you can see all the fact tables and dimension tables of the sample data model.

16. Go to Catalog and choose the OFSC-DEMO folder to see all the sample reports created with the data model.

Sample Data Model For Oracle Analytical Cloud

You can use the Data Modeler in Oracle Analytical Cloud to model Oracle Field Service data in a way that reflects the structure of your business. You can use the sample data model as a quick start reference to build complex business data models in Oracle Analytical Cloud.

You can download the sample data model from Oracle Technology Network (OTN) and use it directly in Oracle Analytical Cloud, or extend it further based on your business requirements. You can also use the sample data model as a reference to build your own data models as required by your business

Here are the components of sample data model:

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Data Model	Use this Data Model to:	Fact and Dimension Tables:

Activity data model
This image shows activity data model and its components:
 	
	Represent Activity related business data in reports and dashboards.	• Fact table:
		  o Activities
		• Dimensions:
		  o Time [Total, Year, Quarter, Month, Day.]
		  o Activity Type [Total]
		  o Work Zone [Total]
		  o Provider [Total]
		  o Geography [Total, State, City, Zip]
		  o Status [Total]

Message data model	Represent Messages business entity and its related business analysis.	• Fact table:
		  o Messages
		• Dimensions:
		  o Time [Total, Year, Quarter, Month, Day.]
		  o Message Type [Total]
		  o Activities [Total, Activities, Provider]
		  o Result [Total]

User data model
This image shows activity data model and its components:
 	
	Represent the User business entity and its related business analysis.	• Fact table:
		  o User
		• Dimensions:
		  o Time [Total, Year, Quarter, Month, Day.]
		  o Provider [Total]

Collaboration Data Model	Represent Collaboration related data in Oracle Analytical Cloud.	• Fact table: o Chat

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Data Model	Use this Data Model to:	Fact and Dimension Tables:

		• Dimensions:
		
		   o Chat Participant
		
		   o Chat Message

Note: Starting with Update 22C, Oracle Business Intelligence Cloud Service (BICS) is deprecated from Oracle Field Service.

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4 Integration With Oracle Fusion Service and Service Logistics

Oracle Fusion Service to Oracle Field Service Integration OIC Recipe

You can enable 'Oracle Fusion Service to Oracle Field Service Integration in Oracle Integration.

This feature includes these improvements:

- Unify the configuration of the Applications and Outbound Integration Channels pages.
- New look and feel for the Applications page (previously Outbound Channel Configuration).
- Ability to configure Oracle Fusion Service from Oracle Field Service.

Configure Oracle Fusion Service

You can use the 'Oracle Fusion Service to Oracle Field Service Integration OIC Recipe' for real-time data updates between Oracle Fusion Service and Oracle Field Service. You can enable this recipe by configuring a new Application Type namely 'Fusion Service' from within the Oracle Field Service **Applications** page.

To enable the integration flow from Oracle Field Service:

1. Configure the Oracle Integration Cloud (OIC) application from within the **Applications** page.

   This is used as the integration channel between Oracle Fusion Service and Oracle Field Service, follow these steps:

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2. Configure a new application of type 'Oracle Fusion Service'.

    a. Navigate to the **Configuration** page.

    b. Click **Applications**.

       This screenshot shows the **Applications** page.
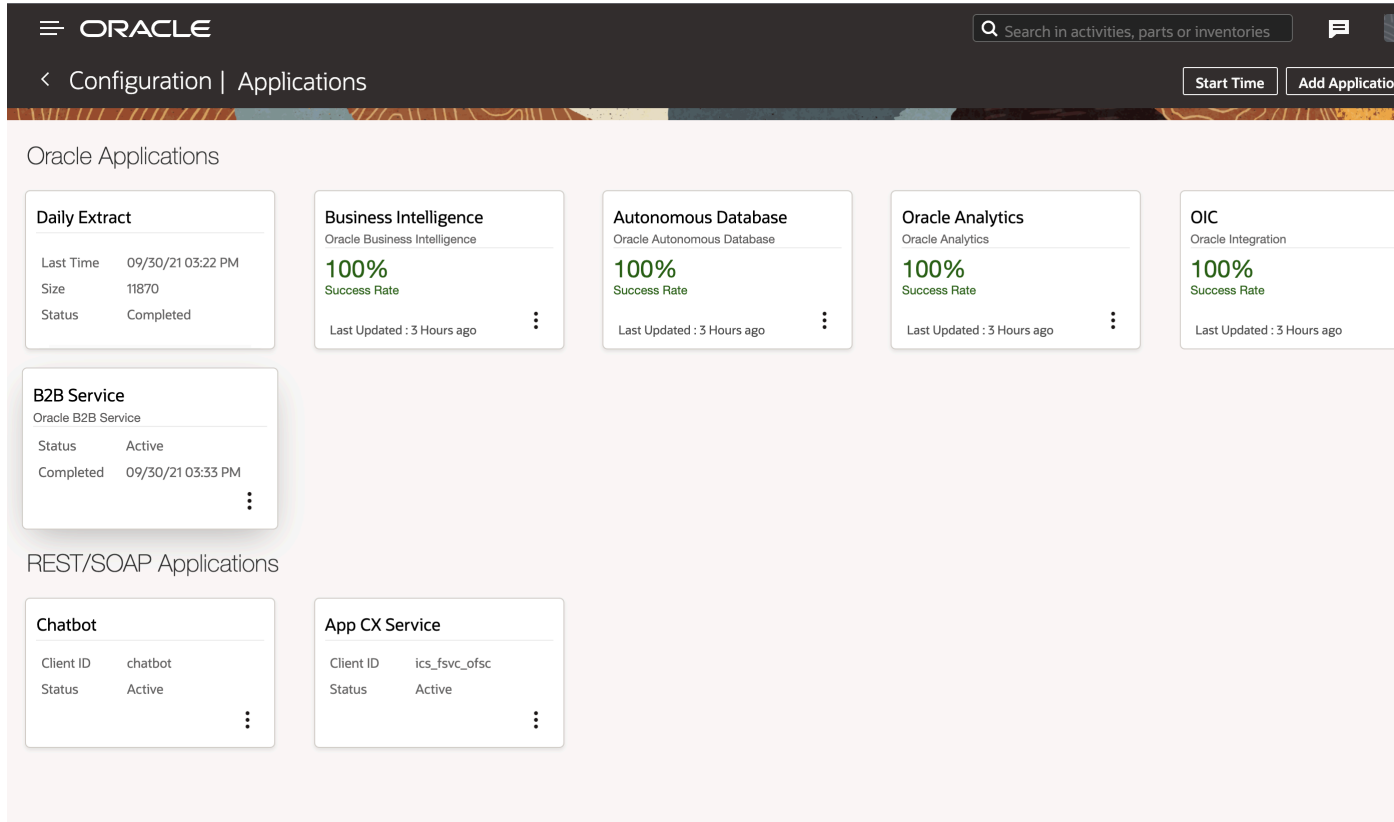
    c. In the Applications page, click **Add Application** on the header.

       The **Add Application** dialog box is displayed.

    d. Select **Oracle Fusion Service and Service Logistics** as the Application Type.

    e. Configure the end point details of Oracle Fusion Service.

       This table lists the end point details to be provided on the **Add Application** dialog box.

Field	Description
Application Name	Name of the application to be displayed on the Applications page.
URL	Oracle Fusion Service application URL . Note: This field supports URL of the format 'https://<host>' only.
User Name	Oracle Fusion Service user with '*IT Security Manager*' job role.

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Field	Description
	With privileges for: ○ Setup and Maintain Applications ○ Setup Service ○ Setup Service Work Order
Password	Password for this user.

3. Select an existing Oracle Integration Channel.
4. Check the connectivity using the test connection button and make sure that the end points configured are valid.

   If the host is invalid, the message 'Host unreachable'. Please check credentials' is displayed.

What to do next

This table lists the validations and warnings:

Warnings	Description
Host unreachable. Please check credentials	"Endpoints for configuring CX Service is not reachable."
The service is temporarily unavailable. Please try again later	"CX Service is temporarily down."
Configuration is in progress.	"CX Service configuration is in progress"
Unable to configure the service. Please retry	"CX Service configuration failed. You can retry the configuration by clicking the option menu or by clicking the retry button inside the application details page."
Configured successfully	"CX Service configuration completed"

Enable Integration Flow From Oracle Field Service

Now the system will perform the below setups automatically to enable the integration flow between Oracle Fusion Service and Oracle Field Service.

1. Set up configurations on the Oracle Field Service side:
   a. Create a new OFS REST API application that will be used by Oracle Fusion Service integration recipe to use OFS REST APIs.
   b. In order to run the Oracle Integration recipe, a set of resource, activity and inventory properties have to be configured in Oracle Field Service. The Application will automatically create these administrator-defined properties in Oracle Field Service.
   c. The details of the predefined properties are available at *docs.oracle.com/en/cloud/saas/b2b-service/21c/faefs/oracle-field-service-configuration.html#FAEFS2421200*.

2. Set up Oracle Fusion Service configurations:

    a. Expose the work order setup, details are available at *docs.oracle.com/en/cloud/saas/b2b-service/21c/ faefs/oracle-b2b-service-configuration.html#FAEFS2415183*.

    b. Set up an Oracle Integration user and access privileges that is used in Oracle Fusion Service to connect with Oracle Field Service. The details about the user account and access privileges are mentioned *docs.oracle.com/en/cloud/saas/b2b-service/21b/faefs/oracle-b2b-service-configuration.html#FAEFS2415285*.

3. Set up Oracle Integration:

    a. Set up recipe in Oracle Integration.

    b. Configure connection to Oracle Fusion Service

    c. Configure connection to Oracle Field Service

    d. Activate the integration test flow.

4. You can view the progress of these steps from the Applications details screen.

> **Note:** In case any of these steps fail, a corresponding step will be displayed with 'Failed' status. You can retry these steps by clicking the Retry option from the Applications detail screen.

5. After successfully completing the configuration setup steps, the status will be shown as 'Completed'.

Results:

On completion of these setup steps, the integration flow will become activated. You can now perform these steps:

1. Create a work order record in Oracle Fusion Service. An activity will be automatically created in Oracle Field Service.

2. Move the activity in Oracle Field Service to a different date and time slot. It will automatically synchronize the scheduled time of the corresponding work order in Oracle Fusion Service.

3. Reschedule the work order in Oracle Fusion Service to a different date and time slot. It will automatically synchronize the scheduled time of the corresponding activity in Oracle Field Service.

4. Cancel the work order in Oracle Fusion Service. It will automatically cancel the corresponding activity in Oracle Field Service.

How do I enable Service Logistics to Oracle Field Service synchronization?

The Service Logistics to Oracle Field Service Oracle Integration recipe enables you to synchronize field service technicians, their stock locations and corresponding inventory balances from Service Inventory and Logistics Management with Oracle Field Service.

This feature includes these improvements:

- Synchronize technician inventory and parts catalog data from Service Logistics to Oracle Field Service.

- Allow technicians to order parts that are required for an activity from Service Logistics.

- Order parts to replenish their trunk stock.

- Transfer a debrief transaction to Service Logistics and manage charges and estimates upon completion of an activity. This can further generate a customer invoice for billing, adjust inventory balances, update a customers asset configuration, and capture costs of service.

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You can connect Service Logistics natively to Oracle Field Service with minimal configuration. The Oracle Fusion Service application configuration has been enhanced to incorporate the service logistics-related configurations as well.

You must configure these profile options in the Fusion application to enable this recipe:

- INV_DEFAULT_ORG
- RCL_DEF_PARENT_RESOURCE

To enable this recipe, follow these steps:

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.
3. In the Add Application dialog box, select **Oracle Fusion Service and Service Logistics Integration** from the **Application Type** drop-down list.
4. In the **Application Name** field, enter the name of the application to be displayed.
5. Provide the Oracle Fusion Service endpoint details for the application in the URL, User Name and password for the application.
6. Select the integration channel that is used for this integration from the **Integration Channel** drop-down list.
7. Check **Connect with Service Logistics** to enable the service logistics connectivity.
8. Specify the password in **Integration Password**.

   An integration user is a must-have prerequisite setup configuration for accessing Oracle Fusion Service and Service Logistics APIs from Oracle Integration (OIC). When you create a new Oracle B2B and Service Logistics Integration application, the integration users "SERVICE_APP_ICS" and "SERVICE_LOG_ID" will be created within Fusion to access the Oracle Fusion Service and Service Logistics API from Oracle Integration.

9. Click OK.

   A new application for Oracle Fusion Service and Service Logistics Integration is created. It can be used to connect Service Logistics to Oracle Field Service with the Oracle Fusion Service application.

Results:

When the configurations are successful, you can click the card to see the status of the integrations. The status is also available on the details page.

This screenshot displays the Add Application dialog box for Oracle Fusion Service and Service Logistics application type:
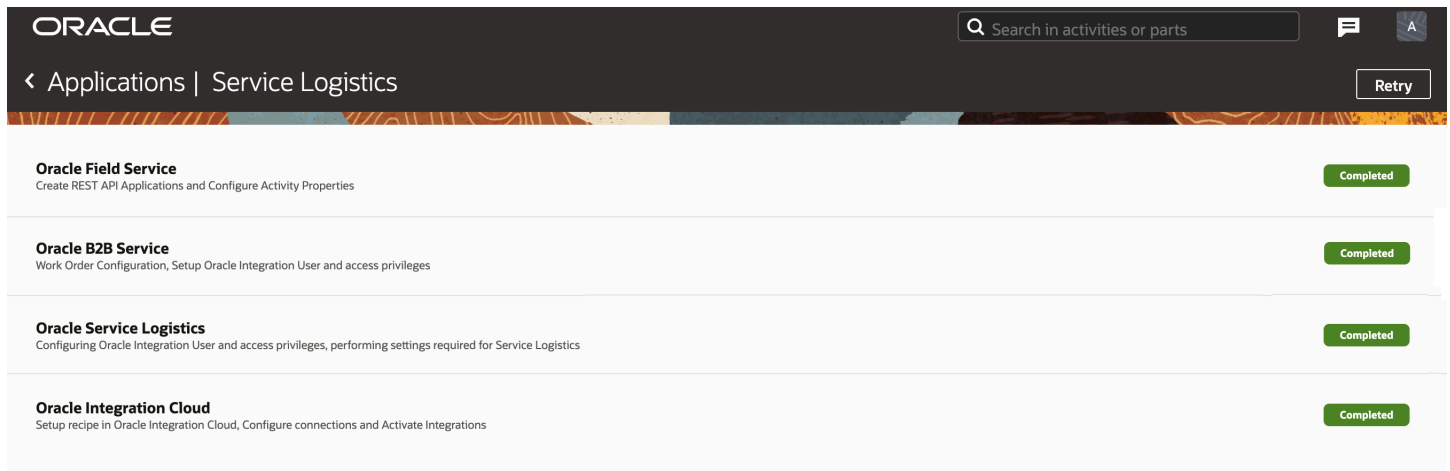
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This OIC recipe is now active and the data flow between Oracle Field Service and Service Logistics will start according to the configurations in Oracle Integration. The application status in Oracle Field Service becomes active, along with date and time of activation.

This screenshot displays the Oracle Fusion Service and Service Logistics application knowledge card:
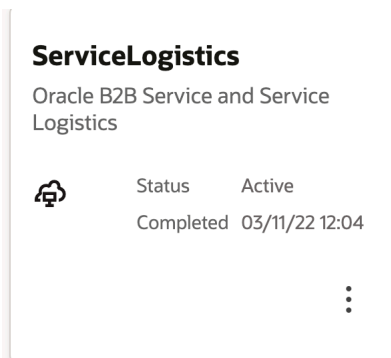
5 Integration With Oracle B2B Knowledge Service

Set Up Oracle B2B Knowledge Management

Starting with Update 22A, you can enable Oracle B2B Knowledge Management (OKM) and Oracle Content Management (OCM) from within Oracle Field Service.

Before you start

You must have a valid license for either or both Oracle B2B Knowledge Management and Oracle Content Management.

Here's what to do

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.
3. In the Add Application dialog box, select **Oracle Knowledge** from the **Application Type** drop-down list.
4. Enter the Application Name and Application Label values.
5. Click **OK**. The Oracle Knowledge application is created and the status is Inactive by default.

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6. Select Oracle Knowledge from the **Applications** page.

This screenshot shows the Oracle Knowledge application edit page.
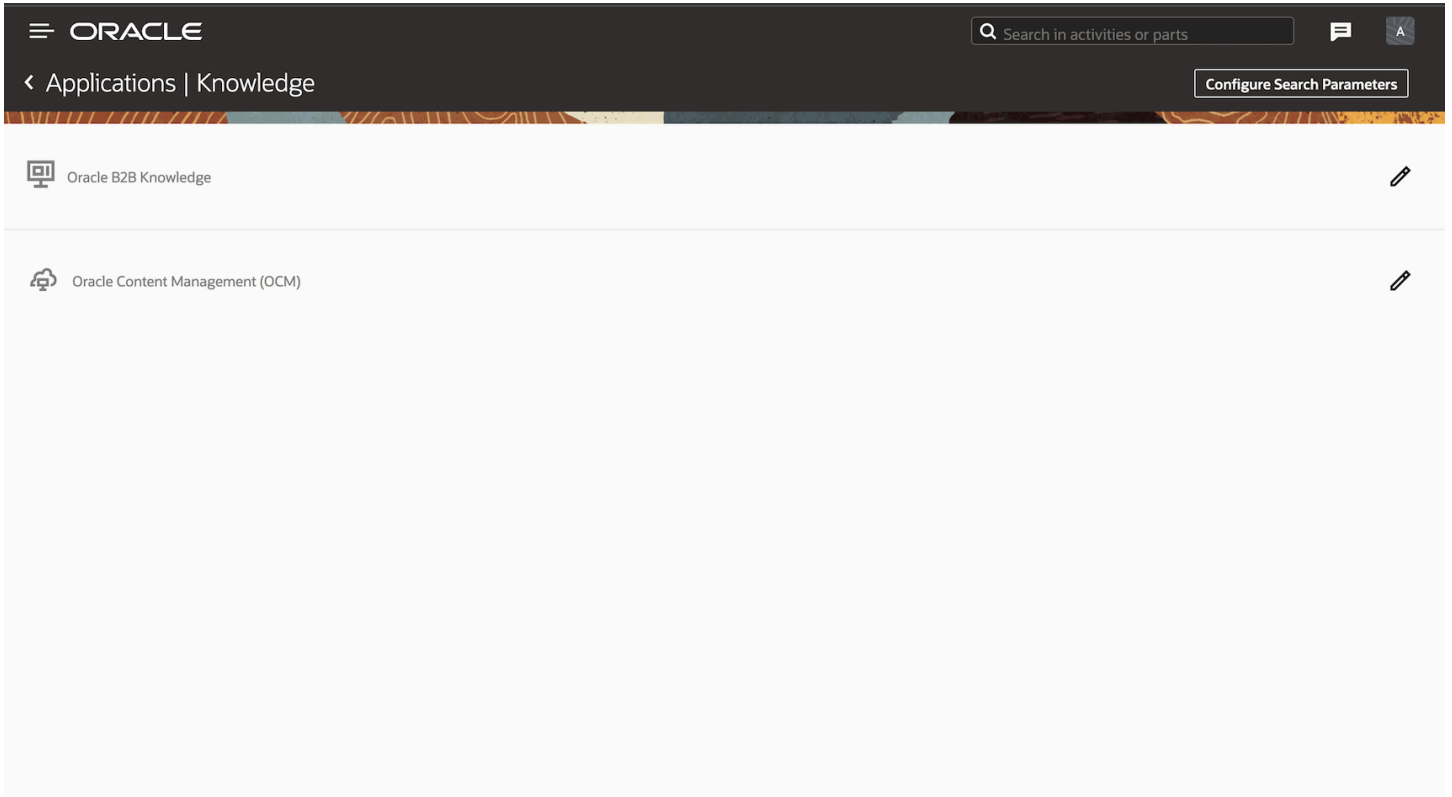
7. Select the Edit option (pencil icon) and configure the endpoint details of the Knowledge application to connect.

This screenshot shows the Oracle B2B Knowledge endpoint configuration edit screen.

This table shows the list of parameter names and their descriptions.

Parameter Name	Parameter Descriptions
B2B Knowledge URL	URL of the Oracle B2B Knowledge application in the format: https://servername.oraclecloud.com
Password	Password of the Oracle B2B Service user.
Username	Oracle B2B Service user name

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8. Enable the Active check box and click Submit. Now Oracle B2B Knowledge is displayed as active.

The Oracle Knowledge application shows Active status even if at least one of the Knowledge sources - Oracle Content Management or Oracle B2B Knowledge is active. This screenshot shows the Oracle B2B Knowledge endpoint configuration edit page.
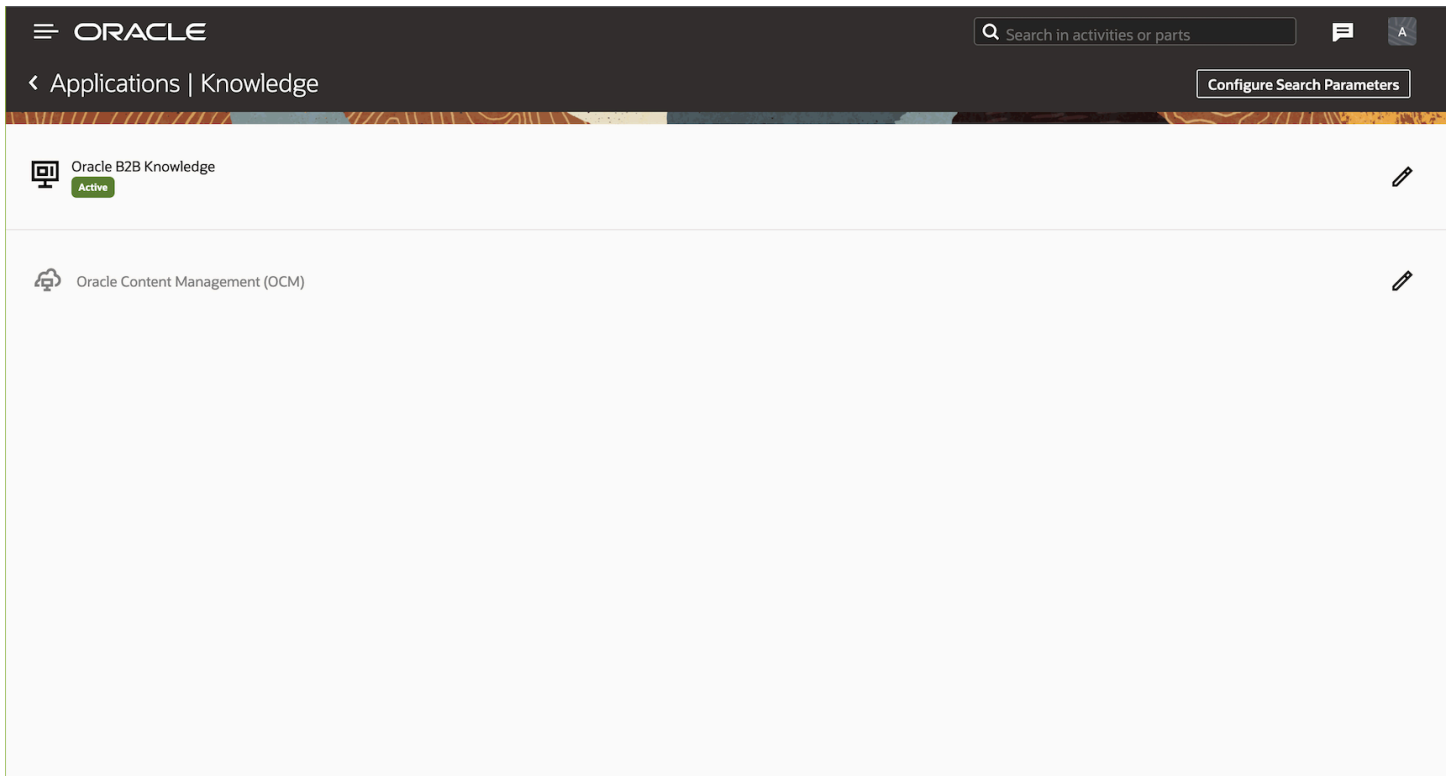
Configure Search Parameters

The Search Parameters enable the system to perform a default search for Oracle Knowledge Management or Oracle Content Management or from both, depending on the configuration. A default configuration makes sure that the search results page is not empty when it is initially opened.

This screenshot shows the Configure Search Parameters dialog box.

The system performs an initial search based on the value of a selected field or custom property that can be configured from the Search field. If there is no value available for the property, the system uses the default keyword to perform the initial search.

For example, let us assume that Search Parameters is configured with the Activity Notes (activity property) and the default keyword is Test.

- When a technician searches Knowledge from within the context of an activity, the default search results are based on the Activity Notes property.

- If the Activity Notes value is empty, the search uses the default keyword configured (in this example: Test).

A technician can perform a search with any other keyword from within the Knowledge page as applicable.

This screenshot shows the Search drop-down list options in the Configure Search Parameters dialog box.

Set up the Context for Knowledge search

After you have successfully configured the Knowledge endpoints, a new standard action screen Oracle Knowledge is available. You can enable the Knowledge search for a user type by adding the Oracle Knowledge button to the appropriate context layout.

Follow these steps:

1. Click Configuration, User Types.
2. On the User Types page, select the Screen Configuration tab and open the appropriate context to access Knowledge.
3. Once configured, the Oracle Knowledge option is available for the users of that type to start searching Knowledge articles from within the context.
4. Click Oracle Knowledge from the Activity Details page to display the search results relevant to the context.

Results:

This screenshot shows the Oracle Knowledge page with Search results:

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You can search relevant articles or contents by providing appropriate search keywords:

- The search provides results from Oracle Content Management and/or Oracle Knowledge Management, depending on the configuration.
- You can filter the contents of the search results using the filter criteria defined within the left hand sidebar. This criteria is generated dynamically based on the search results from Oracle Content Management or Oracle Knowledge Management.
- The number of results returned from Oracle Content Management or Oracle Knowledge Management is set at 10 per page.
- Knowledge content can be of different types like articles, images, video or even a custom type.
- You can drill down the Knowledge results to view more details.
- After you scroll down within the results, click Load More to get the content from the next page.
- You can preview the content or download the content to your local storage for future reference.

Error Information And Messages

This section discusses the error and information messages.

This table lists the error or information messages displayed based on the description conditions:

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Message	Message Type	Description
Failed to load results from Oracle Content. Please contact your system administrator.	Error	The error message shown when the request to get search results from the Oracle Content endpoint failed. Additional information will be found in console logs.
Failed to load results from Oracle Knowledge. Please contact your system administrator.	Error	The error message shown when the request to get search results from the OKM endpoint failed. Additional information will be found in console logs.
Failed to load results. Please contact your system administrator.	Error	The error message shown when requests to both OKM and Oracle Content endpoints failed.
Please enter a valid search criteria	Information	Message shown when there is no search result based on search parameter provided by the user.
No results found	Information	Message shown when no search results are returned from both Oracle Content and OKM endpoints.
Failed to load plugin as the plugin parameters are setup incorrectly. Please contact your system administrator.	Error	Error message shown when the plugin load failed. This is most likely due to the secure parameters used by the plugins being incorrect. Additional information can be found in console logs.

CORS Configuration

- **Configuring CORS:**

  You can prevent the browser from throwing CORS errors while accessing Oracle Content Management (OCM) or Oracle Knowledge Management (OKM) endpoints from Oracle Field Service. To do this, you must configure the necessary CORS policies at OCM or OKM respectively.

- **Configuring CORS for Oracle Content:**

  For Oracle Content, configure CORS by adding the OFS domain <*.fs.ocs.oraclecloud.com> the list of allowed origins by navigating to System, Security from, Oracle Content-Base-URL, /documents/administration/security. For more details, see the OCM documentation.

- **Configuring CORS for Oracle Knowledge Management (OKM):**

  For Oracle Knowledge Management, make the necessary changes by navigating to Oracle B2B knowledge user interface, Setup and Maintenance, search Manage Administrator Profile Values. You can search for the CORS profile values and add the necessary profile values. You may add the origin of Oracle Field Service as one of the accepted ones by searching for ORA_CORS_ORIGINS. For more details, see the Knowledge Management documentation.

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6 Integration With Oracle Content

Oracle Content

With Oracle Content Management (OCM) in Oracle Field Service, a technician can access the most relevant information related to the job they are working on and complete the job in an efficient manner.

This feature includes these improvements:

- Provides the right information to field technicians to solve the problems quickly in critical conditions.

- Presents a system to collect, organize and share information to improve the knowledge base of the field technicians

Configure Search Parameters

The Search Parameters enable the system to perform a default search for Oracle Knowledge Management or Oracle Content Management or from both, depending on the configuration. A default configuration makes sure that the search results page is not empty when it is initially opened.

This screenshot shows the Configure Search Parameters dialog box.

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The system performs an initial search based on the value of a selected field or custom property that can be configured from the Search field. If there is no value available for the property, the system uses the default keyword to perform the initial search.

For example, let us assume that Search Parameters is configured with the Activity Notes (activity property) and the default keyword is Test.

- When a technician searches Knowledge from within the context of an activity, the default search results are based on the Activity Notes property.

- If the Activity Notes value is empty, the search uses the default keyword configured (in this example: Test).

A technician can perform a search with any other keyword from within the Knowledge page as applicable.

This screenshot shows the Search drop-down list options in the Configure Search Parameters dialog box.

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After you have successfully configured the Knowledge endpoints, a new standard action screen Oracle Knowledge is available. You can enable the Knowledge search for a user type by adding the Oracle Knowledge button to the appropriate context layout.

Follow these steps:

1. Click Configuration, User Types.
2. In the User Types page, select the Screen Configuration tab and open the appropriate context to access Knowledge.
3. Once configured, the Oracle Knowledge option is available for the users of that type to start searching Knowledge articles from within the context.
4. Click Oracle Knowledge from the Activity Details page to display the search results relevant to the context.

Results:

This screenshot shows the Oracle Knowledge page with Search results:

You can search relevant articles or contents by providing appropriate search keywords:

- The search provides results from Oracle Content Management and/or Oracle Knowledge Management, depending on the configuration.

- You can filter the contents of the search results using the filter criteria defined within the left hand sidebar. This criteria is generated dynamically based on the search results from Oracle Content Management or Oracle Knowledge Management.

- The number of results returned from Oracle Content Management or Oracle Knowledge Management is set at 10 per page.

- Knowledge content can be of different types like articles, images, video or even a custom type.

- You can drill down the Knowledge results to view more details.

- After you scroll down within the results, click Load More to get the content from the next page.

- You can preview the content or download the content to your local storage for future reference.

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Failed to load results from Oracle Knowledge. Please contact your system administrator.	Error	The error message shown when the request to get search results from the OKM endpoint failed. Additional information will be found in console logs.
Failed to load results. Please contact your system administrator.	Error	The error message shown when requests to both OKM and Oracle Content endpoints failed.
Please enter a valid search criteria	Information	Message shown when there is no search result based on search parameter provided by the user.
No results found	Information	Message shown when no search results are returned from both Oracle Content and OKM endpoints.
Failed to load plugin as the plugin parameters are setup incorrectly. Please contact your system administrator.	Error	Error message shown when the plugin load failed. This is most likely due to the secure parameters used by the plugins being incorrect. Additional information can be found in console logs.

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- **Configuring CORS for Oracle Knowledge Management (OKM):**

  For Oracle Knowledge Management, make the necessary changes by navigating to Oracle B2B knowledge user interface, Setup and Maintenance, search Manage Administrator Profile Values. You can search for the CORS profile values and add the necessary profile values. You may add the origin of Oracle Field Service as one of the accepted ones by searching for ORACLE.ADF.VIEW.ALLOWED_ORIGINS. For more details, see the Knowledge Management documentation.

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7 Integration With Oracle Autonomous Database

Using Oracle REST Data Service (ORDS) for Integration

Oracle Autononous Database integration has been standardized by using Oracle Rest Data Services (ORDS) for data transfer. You can now connect using ORDS. The names and descriptions for applications have been improved. Oracle Autonomous Database appears as the application name instead of Databases as a Service.

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

The connectivity to Oracle Autonomous Database is through Oracle REST Data Service (ORDS). The DBaaS REST API used by Oracle Field Service supports both Autonomous Data Warehouse (ADW) and Autonomous Transaction Processing (ATP) in addition to Oracle Database as a service (DBaaS). These application names have been updated as per Oracle standard naming conventions:

- Business Intelligence cloud service to Oracle Business Intelligence
- Integration Cloud Services to Oracle Integration
- Oracle Analytics Cloud Service to Oracle Analytics

Data Fields and Structure

This section lists all the supported fields and entities. It also provides the description of each field with relevant details.

Entity	Daily Once	Real Time
Activity Fields	✅	✅
Activity Link Fields	✅	✅
Activity Work Skill Fields	✅	

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Entity	Daily Once	Real Time
Broadcast Status Fields		✅
Chat Fields		✅
Chat Message Fields		✅
Chat Participant Fields		✅
GPS Track Fields	✅	
Inventory Fields	✅	✅
Message Fields	✅	
Message Text Fields	✅	
PAS Answer Fields	✅	
PAS Question Fields	✅	
Property Fields	✅	
Property Lookup Fields	✅	

Entity	Daily Once	Real Time
Required Inventory Fields		✅
Resource Fields	✅	✅
Resource Location Fields	✅	
Resource Preference Fields		✅
Resource Property Fields	✅	
Resource Work Skill Fields	✅	
Route Fields	✅	✅
Routing Run Result Fields	✅	✅
Service Request Fields	✅	✅
Time Slot Fields	✅	
Type List Fields	✅	
User List Fields	✅	✅
User Resource Relation Fields	✅	

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Entity	Daily Once	Real Time

Which activity fields are available while integrating with external applications?

This section provides the activity fields that you can use while integrating Oracle Field Service with other applications.

Field	Label	Data Type	Mandatory	Description
Account Number	appt.customer_number	VARCHAR2		String with name of customer account i
Activity ID	appt.aid	INTEGER	true	Unique numeric identifier of the activity
Activity Time of Assignment	appt.atime_of_assignment	DATE		Date/Time when the last move/resched
Activity Time of Booking	appt.atime_of_booking	DATE		Date/time when the activity was booked
Activity Type	appt.atype	VARCHAR2		Primary type of the activity (prework, re
Activity Work Type	appt.aworktype	VARCHAR2		Identifier of the activity type defined fo
Activity Workflow	appt.activity_flow	VARCHAR2		Activity workflow assigned to the activit
Activity Work Zone	appt.aworkzone	VARCHAR2		Work zone which is defined for the activ
Activity status	appt.astatus	VARCHAR2		Status of the activity.
City	appt.ccity	VARCHAR2		City name, part of Customer address
Coordinate X	appt.acoord_x	FLOAT		X coordinate received from geocoding r
Coordinate Y	appt.acoord_y	FLOAT		Y coordinate received from geocoding r
Customer Email	appt.cemail	VARCHAR2		Email of the customer for whom the act

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Field	Label	Data Type	Mandatory	Description
Customer Language	appt.clanguage	VARCHAR2		Message language of the customer for v
Customer Name	appt.cname	VARCHAR2		Name of the customer for whom the ac
Customer Phone	appt.cphone	VARCHAR2		Phone number of the customer for who
Customer Time Zone	appt.c_zid	VARCHAR2		Time Zone ID of the customer for whom
Delivery Window End	appt.delivery_window_end	DATE		End time for activity Delivery Window
Delivery Window start	appt.delivery_window_start	DATE		Start time for activity Delivery Window
Delivery address	appt.caddress	VARCHAR2		Customer address (except City, Zip/Pos
Duration	appt.length	INTEGER		Activity length in minutes. Filled when a
Estimated Time of arrival	appt.ETA	DATE		ETA date/time. Can be empty for Regula time when activity is started. For Cance was Canceled
First Manual Operation	appt.first_manual_operation	VARCHAR2		The name of the first manual reschedul
First Manual Operation (User ID)	appt.first_manual_operation_user_id	VARCHAR2		The interface the first manual reschedu
Master Activity ID	appt.amaster_aid	INTEGER		ID of main activity for prework, reassign
Mobile Phone	appt.ccell	VARCHAR2		Mobile phone number of the customer
Points	appt.apoints	INTEGER		Number of points that represent efforts
Postal Code	appt.czip	VARCHAR2		ZIP/Postal code of customer for whom t
Reminder	appt.cmessagetime	INTEGER		Number of minutes before Delivery Win

Field	Label	Data Type	Mandatory	Description
Reported End Time of Activity Delivery	appt.time_delivered_end	DATE		End date/time of activity which is delive
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	DATE		Start date/time of activity which is deliv
Resource External ID	provider.external_id	VARCHAR2		External system identifier for the resour
Resource ID	provider.pid	INTEGER		ID of resource the activity is assigned to
Route Date	queue.date	DATE		Date of the route the activity is assigned
SLA End	appt.sla_window_end	DATE		End date and time of Service Level Agre
SLA Start	appt.sla_window_start	DATE		Start date and time of Service Level Agr
Service Window End	appt.service_window_end	VARCHAR2		End time of Service Window
Service Window Start	appt.service_window_start	VARCHAR2		Start time of Service Window
State	appt.cstate	VARCHAR2		State (Geographic area) of the customer
Teamwork ID	appt.a_teamid	VARCHAR2		ID of team for teamwork activities
Time Slot ID	appt.a_tsid	VARCHAR2		Time Slot assigned to the activity
Traveling Time	appt.travel	INTEGER		Time of travel from a previous activity/l
Work Order	appt.appt_number	VARCHAR2		Identifier of the activity (string, value of
*	Activity Custom Fields			

Activity Link Fields

This section lists the activity link fields.

Name	Label	Data Type	Mandatory	Description
First Activity: Date	from_queue.date	DATE		Date of the route for which the first l
First Activity: ID	from_appt.aid	INTEGER	True	ID of the first linked activity.
Second Activity: Date	to_queue.date	DATE		Date of the route for which the seco
Second Activity: ID	to_appt.aid	INTEGER	True	ID of the second linked activity
Second Activity: Link label	appt_link_type.regular_label	VARCHAR2		Label for the activity link related to t

Activity Work Skill Fields

This section provides a list of activity work skill fields.

This table lists the activity work skill fields with their label, data type, and whether they are mandatory or not.

Name	Label	Data Type	Description
Activity ID	appt_work_skill.aid	INTEGER	Unique internal identifier of the work skill was assigned
Activity Work Skill ID	appt_work_skill.work_skill_id	INTEGER	Identifier of the work skill define
Work Skill Preferable Level	appt_work_skill.preferable_level	INTEGER	Preferable level of the skill for th
Work Skill Required Level	appt_work_skill.required_level	INTEGER	Required level of the skill for the

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Broadcast Status Fields

The broadcast status fields are listed in this section.

Field	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The unique identifier of the broadcast in the collaboration
login	login	VARCHAR2	True	Login of the user whose status is changed
messageId	messageId	INTEGER	True	The identifier of this message for which the status is changed (long).
status	status	VARCHAR2		The status change (string). The values are UNDELIVERED, DELIVERED, READ, ACKNOW
user	user	VARCHAR2	True	The user who triggered this event (string).

Chat Fields

This section provides a list of chat fields.

Name	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The unique identifier of the chat in Oracle Field Service Cloud.
endedTime	endedTime	DATE		Time (in UTC time standard) when the chat or broadcast was ended (string). The field isn't available if the chat has not ended.
expireTime	expireTime	DATE		The time when the broadcast expires (string). The time format is YYYY-MM-broadcasts. The value isn't available for broadcasts without an expiry time.
helpdeskName	helpdeskName	VARCHAR2		The name of the help desk (string). The field is available only for help desk ch
startedBy	startedBy	VARCHAR2		The user who started the chat or broadcast (string). This field will be present
startedTime	startedTime	DATE		Time (in UTC time standard) when the chat or broadcast was started (string).

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Name	Label	Data Type	Mandatory	Description
type	type	VARCHAR2		The type of broadcast (string). The values are group:broadcast, location:broa only for broadcast

Chat Message Fields

The chat message fields are listed in this section.

Name	Label	Data Type	Mandatory	Description
activityId	activityId	INTEGER		The identifier of the activity with which the shared entity is related (integer). This field is available only for inventory and activity sharing or transferring. The value is zero if the entity isn't related to any activity.
attachmentId	attachmentId	INTEGER		The identifier of the attachment (integer) that is used to store this attachment in the field collaboration .
author	author	VARCHAR2		The user login of the user who started this transaction (string). This field will be present only for transactions started by a user.
chatId	chatId	INTEGER	True	The identifier of the chat or broadcast (string). This is the unique ID for each chat or broadcast in the collaboration server.
date	date	DATE		The date of the activity shared or transferred

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Name	Label	Data Type	Mandatory	Description
				(string). This field is available only for activity sharing or transferring. The date format is YYYY-MM-DD.
desc	desc	VARCHAR2		The description of the entity shared (string)
downloadUrl	downloadUrl	VARCHAR2		The URL used to download the shared image (string). A GET request to this URL with the authentication of a user with read access to collaboration events will get the image. This field is available only for image sharing.
filename	filename	VARCHAR2		The name of the image file shared (string). This field is available only for image sharing
inventoryId	inventoryId	INTEGER		The identifier of the inventory shared or transferred (integer). This field is available only for inventory sharing or transferring.
inventoryType	inventoryType	VARCHAR2		The type of inventory (string). This field is available only for inventory sharing or transferring.
lastUpdatedBy	lastUpdatedBy	VARCHAR2		The user login of the user who last updated the transaction (string). The value is SYSTEM when the server makes an update.

Name	Label	Data Type	Mandatory	Description
latitude	latitude	VARCHAR2		The latitude of the shared location (string). This field is available only for location sharing.
longitude	longitude	VARCHAR2		The longitude of the shared location (string). This field is available only for location sharing.
messageId*	messageId	INTEGER	True	The identifier of the message in the collaboration server (long).
needAcknowledgement	needAcknowledgement	VARCHAR2		The field indicating whether the acknowledgement option is enabled for this message (Boolean). The field is available only for broadcasts. It isn't available for messages without an acknowledgment.
operationStatus	operationStatus	VARCHAR2		The latest action that was performed on this transaction (string). The values are accepted, rejected, failed, cancelled, and transferred.
quantity	quantity	VARCHAR2		The quantity of non serialized inventory transferred (integer). This field is available only for non-serialized inventory transfer.
resourceId	resourceId	VARCHAR2		The external identifier of the resource (string).

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Name	Label	Data Type	Mandatory	Description
				This field isn't available for location and image sharing. The value is an empty string if the entity isn't related to any resource.
resourceInternalId	resourceInternalId	INTEGER		The internal identifier of the resource (integer). This field isn't available for location and image sharing. The value is zero if the entity isn't related to any resource.
sequenceNumber	sequenceNumber	INTEGER		The sequence number of the message in the chat or broadcast (long).
startTime	startTime	DATE		The time when this transaction was started (string). The time format is YYYY-MM-DD HH:MM:SS.
status	status	VARCHAR2		The status of the transaction (string). The values are started, timed out, and finished
text		VARCHAR2		The text content of the message
Time	time	DATE		The time when this participant was invited to chat (string). The time format is YYYY-MM-DD HH:MM:SS.
Timeoutime	Timeouttime	DATE		The time after which the transaction will be timed out (string). The time format is YYYY-MM-DD HH:MM:SS.

Name	Label	Data Type	Mandatory	Description
toAddress	toAddress	VARCHAR2		The address of the user to whom this transaction is sent (string). The value is the user who accepted the activity for activity broadcasts. The value is empty if no user accepts the activity in an activity broadcast
transactionId	transactionId	INTEGER		The identifier of the transaction (integer) that is used to store the transaction in the field collaboration server.
type	type	VARCHAR2		The type of broadcast (string). The values are group:broadcast, location:broadcast, and activity:broadcast. The field is available only for broadcasts.
user*	user	VARCHAR2	True	The user who triggered this event (string).

Chat Participant Fields

This section provides a list of chat participant fields.

Name	Label	Data Type	Mandatory	Description
chatId	chatId	INTEGER	True	The identifier of the chat or broadcast. This is the unique ID for each chat or broadca
invitedBy	invitedBy	VARCHAR2		The user login of the user who invited this participant to chat or broadcast. This field

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Name	Label	Data Type	Mandatory	Description
invitedTime	invitedTime	DATE		The time when this participant was invited to chat or broadcast. The time format is Y
leftTime	leftTime	DATE		The time when this user left chat or broadcast. The time format is YYYY-MM-DD HH
login	login	VARCHAR2	True	The user login of the participant.
name	name	VARCHAR2		The name of the participant.

GPS Track Fields

This section provides a list of Global Positioning System (GPS) track fields.

Field	Label	Data Type	Description
Activity ID	gps_tracks.aid	INTEGER	The ID of the activity started at the moment of the data collection or if there were
Distance	gps_tracks.distance	INTEGER	Distance from the resource's location to the activity
Idle Time	gps_tracks.idle	INTEGER	Number of seconds the resource spent in the point.
Latitude	gps_tracks.latitude	FLOAT	The Y coordinate of the position.
Longitude	gps_tracks.longitude	FLOAT	The X coordinate of the position.
Resource External ID	provider.external_id	VARCHAR2	External identifier for the resource.
Status	gps_tracks.status	INTEGER	Location status. Possible values are:0 - a position without warnings 1 - a position has the alert "Started outside the location" (Started at driving) 2 - a position has the alert "Completed outside the location" (Finish at driving) 4 - a position has the alert "Resource left the activity location" (Driving at working 8 - an 'idling' position (See Business rules to understand what position is consider

Field	Label	Data Type	Description
TIme	gps_tracks.time	DATE	Timestamp received along with the GPS data.
Track Route ID	gps_tracks.queue_id	INTEGER	The ID of the route for which the geolocation data has been received.

Inventory Fields

This section provides a list of inventory fields.

Field	Label	Data Type	Mandatory	Description
Activity ID	inventory.inv_aid	INTEGER		Unique internal identifier of the activity, to which
Changed Inventory ID	inventory.inv_change_invid	INTEGER		Unique internal identifier of the inventory, to whi
Inventory ID	inventory.invid	INTEGER	True	Unique internal identifier of the inventory item.
Inventory Pool	inventory.invpool	VARCHAR2		Pool to which the inventory item belongs.
Inventory Type	inventory.invtype	VARCHAR2		Type of the inventory item; one of customer spec
Quantity	inventory.quantity	INTEGER		Quantity of non-serialized inventory
Resource External ID	provider.external_id	VARCHAR2		Unique internal identifier of the resource, to whic
Serial Number	inventory.invsn	VARCHAR2		Serial number of the inventory item.
*	Inventory Custom Fields			

Message Fields

This section provides a list of message text fields.

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Field	Label	Data Type	Description
Access Hours	appt.access_hours	VARCHAR2	Formatted string. Contains set of
Access Schedule	appt.access_schedule	VARCHAR2	Formatted string. Contains schedu
Account Number	appt.customer_number	VARCHAR2	String with name of customer acc
Activity Features	appt.afeatures	INTEGER	Bitmask field that defines active fe
Activity ID	appt.aid	INTEGER	Unique numerical identifier of the
Activity Location ID	appt.a_locationid	INTEGER	Activity location ID
Activity Properties	appt.properties	INTERNAL/PROP/LIST	List of all custom activity properti
Activity Time of Assignment	appt.atime_of_assignment	DATE	Date/Time when the last move/re
Activity Time of Booking	appt.atime_of_booking	DATE	Date/time when the activity was b
Activity Traveling Time	appt.continuous_traveling_time	INTEGER	Travel time between activities/loc
Activity Type	appt.atype	VARCHAR2	Primary type of the activity (prewo
Activity Update Flag	appt.aupdate_flags	INTEGER	Bitmask field. Displays bit flags aft
Activity Work Skills	appt.activity_workskills	VARCHAR2	List of ID for Work Skills and Work
Activity Work Type	appt.aworktype	VARCHAR2	label of the activity type defined fo
Activity Work Zone	appt.aworkzone	VARCHAR2	Work zone which is defined for the
Activity status	appt.astatus	VARCHAR2	Status of the activity
Auto-routed to Date	appt.auto_routed_to_date	DATE	The date the activity was schedule

Field	Label	Data Type	Description
Auto-routed to Resource	appt.auto_routed_to_provider_id	INTEGER	The date the activity was schedule
Auto-routed to Resource (Name)	appt.auto_routed_to_provider_name	VARCHAR2	Name of resource the activity was
Capacity Categories	appt.activity_capacity_categories	VARCHAR2	List of ID for Capacity Categories f
City	appt.ccity	VARCHAR2	City name, part of Customer addre
Coordinate X	appt.acoord_x	FLOAT	X coordinate received from geoco
Coordinate Y	appt.acoord_y	FLOAT	Y coordinate received from geoco
Coordinate accuracy	appt.acoord_accuracy	INTEGER	Accuracy level of coordinates for t
Coordinate status	appt.acoord_status	VARCHAR2	Coordinate status for the activity
Customer Email	appt.cemail	VARCHAR2	Email of the customer for whom th
Customer Language	appt.clanguage	VARCHAR2	Message language of the custome
Customer Name	appt.cname	VARCHAR2	Name of the customer for whom t
Customer Phone	appt.cphone	VARCHAR2	Phone number of the customer fo
Customer Time Zone	appt.c_zid	VARCHAR2	Time Zone Label of the customer
Delivery Window End	appt.delivery_window_end	DATE	End time for activity Delivery Win
Delivery Window start	appt.delivery_window_start	DATE	Start time for activity Delivery Win
Delivery address	appt.caddress	VARCHAR2	Customer address (except City, Zip
Description of Message Sending Result	message_log.mqdesc	VARCHAR2	Description, complementing the n

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Field	Label	Data Type	Description
Duration	appt.length	INTEGER	Activity length in minutes. Filled w
End	appt.end_time	VARCHAR2	Estimated or real end time of activ
End Time of Activity Reported in Message	message_log.mqtime_delivered_end	VARCHAR2	End date/time of activity which is
End of Message Sending Interval	message_log.mqsendto	DATE	Planned end date/time of messag
Estimated Time of arrival	appt.ETA	DATE	ETA date/time. Can be empty for l time when activity is started. For C Canceled
First Manual Operation	appt.first_manual_operation	VARCHAR2	The name of the first manual reso
First Manual Operation (User name)	appt.first_manual_operation_user_name	VARCHAR2	Name of the user performing the f
First Manual Operation (Interface)	appt.first_manual_operation_interface	INTEGER	The interface the first manual reso
First Manual Operation (User ID)	appt.first_manual_operation_user_id	VARCHAR2	ID of the user who performed the
First Manual Operation (User login)	appt.first_manual_operation_user_login	VARCHAR2	Login of the user performing the f
Free-Format Message Notes	message_log.mqdata	VARCHAR2	Notes for the message (for examp
Launch Condition Name	message_log.mqtrigger	VARCHAR2	Message launch condition
Local Time of Message Sending	message_log.mqsent_local	DATE	Date/time when the message was
Master Activity ID	appt.amaster_aid	INTEGER	ID of main activity for prework, rea
Message Activity ID	message_log.mq_aid	INTEGER	Unique internal identifier of the ac

Field	Label	Data Type	Description
Message Address	message_log.mqaddress	VARCHAR2	Message notification address.
Message External ID	message_log.mqexternalid	VARCHAR2	Identifier of the message in the ex
Message ID	message_log.mqid	INTEGER	Internal unique identifier of the m
Message Inventory ID	message_log.mq_invid	INTEGER	Unique internal identifier of the in
Message Language	provider.planguage	VARCHAR2	Language of the resource.
Message Recipient	message_step.msrecipient	VARCHAR2	Recipient of the message.
Message Route ID	message_log.mq_qid	INTEGER	Internal unique identifier of the ro
Message Scenario Step: Duration	message_log.mqduration	INTEGER	Time spent on message sending u
Message Scenario Step: ID	message_log.mq_msid	INTEGER	Internal unique identifier of the m
Message Scenario Step: Name	message_step.msname	VARCHAR2	Name of the scenario step
Message Scenario Step: Type	message_step.mstype	VARCHAR2	Type of the message scenario step
Message Sending Method	message_log.mqmethod	VARCHAR2	Method of notification
Message Sending Result	message_log.mqstatus	VARCHAR2	Final status of the message
Message Step Purpose	message_step.msfunction	VARCHAR2	Message step type: "PAS" (survey
Message User ID	message_log.mq_uid	INTEGER	Internal unique identifier of the us
Mobile Phone	appt.ccell	VARCHAR2	Mobile phone number of the custo
Points	appt.apoints	INTEGER	Number of points that represent e

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Field	Label	Data Type	Description
Postal Code	appt.czip	VARCHAR2	ZIP/Postal code of customer for w
Reminder	appt.cmessageTime	INTEGER	Number of minutes before Deliver
Reported End Time of Activity Delivery	appt.ctime_delivered_end	DATE	End date/time of activity which is
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	DATE	Start date/time of activity which is
Resource ID	message_log.mq_pid	INTEGER	ID of resource the activity is assign
SLA End	appt.sla_window_end	DATE	End date and time of Service Leve
SLA Start	appt.sla_window_start	DATE	Start date and time of Service Lev
Service Request ID	message_log.mq_srid	INTEGER	Unique internal identifier of the se
Service Window End	appt.service_window_end	DATE	End time of Service Window
Service Window Start	appt.service_window_start	DATE	Start time of Service Window
Start - End	appt.eta_end_time	VARCHAR2	Real start time - end time for the a
Start Time of Activity Reported in Message	message_log.mqtime_delivered_start	VARCHAR2	Start date/time of activity which is
Start of Message Sending Interval	message_log.mqsendfrom	DATE	Planned start date/time of messag
State	appt.cstate	VARCHAR2	State (Geographic area) of the cus
Teamwork ID	appt.a_teamid	INTEGER	ID of team for teamwork activities
Template ID	appt.a_templateid	INTEGER	ID of activity template for mass/re

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Field	Label	Data Type	Description
Time Slot ID	appt.a_tsid	VARCHAR2	ID of Time Slot assigned to the act
Time of Message Sending	message_log.mqsent	DATE	Date/time when the message was
Travel estimation method	appt.travel_estimation_method	INTEGER	Method that was used to make cu
Travel Time adjustment: ID of previous activity	appt.travel_from_aid	INTEGER	ID of previous activity adjustment
Traveling Time	appt.travel	INTEGER	Time of travel from a previous acti
Visit ID	appt.a_visitid	INTEGER	ID of Visit for the activity.
Work Order	appt.appt_number	VARCHAR2	Identifier of the activity (string, va
Message Scenario Name	message_flow.mfname	VARCHAR2	Name of the message scenario.
Message Scenario ID	message_flow.mfid	VARCHAR2	Unique internal identifier of the m
*	Activity Custom Fields		

Message Text Fields

This section provides a list of message text fields.

Name	Label	Data Type	Mandatory	Description
Message Body	message_content.mcbody	VARCHAR2		Body (content) of the message
Message ID	message_content.mc_mqid	INTEGER		Unique internal identifier of the message.
Message Subject	message_content.mcsubject	VARCHAR2		Subject of the message.

PAS Answer Fields

This section provides a list of PAS answer fields.

Field	Label	Data Type	Description
ID	translation.tid	VARCHAR2	Identifier of the answer which is selected for the question
PAS Question Language	translation.t_lid	INTEGER	Identifier of language for the PAS question.
Text	translation.ttext	VARCHAR2	PAS answer name.
PAS-Related Activity ID	survey_take.aid	VARCHAR2	Identifier of the activity at which the answer is given.
PAS-Related Activity Date	survey_result.date	VARCHAR2	Date and time of the activity on which the questions were asked
Message ID	survey_take.mqid	VARCHAR2	Identifier of the message with which the question is asked.
PAS Question Number	survey_question.qorder	VARCHAR2	Number of the question, to which the answer is given
PAS Question ID	survey_result.question_id	VARCHAR2	Identifier of the question, to which the answer is given.

PAS Question Fields

This section provides a list of PAS question fields.

Name	Label	Data Type	Description
ID	translation.tid	VARCHAR2	Identifier of the answer which is selected for the question
PAS Question Language	translation.t_lid	INTEGER	Identifier of language for the PAS question.
Text	translation.ttext	VARCHAR2	PAS answer name

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Property Fields

This section provides a list of property fields.

Name	Label	Data Type	Description
Entity Type to Which Property Refers	property_desc.pdentity	INTEGER	Integer value that corresponds to the type of entity
ID	property_desc.propertyid	INTEGER	Unique internal identifier of the property in the sys
Property ID	property_name.pn_propertyid	INTEGER	Unique internal identifier that corresponds to the p
Property Label	property_desc.pdlabel	VARCHAR2	Unique external identifier of the property
Property Language	property_name.pn_lid	INTEGER	Integer that corresponds to the language defined fc
Property Name	property_name.pntext	VARCHAR2	Name of the property
Text Entry Identifier	property_name.pnindex	VARCHAR2	Internal property name identifier (0-property name

Property Lookup Fields

This section provides a list of property lookup fields.

Name	Label	Data Type	Description
Entity Type to Which Property Refers	property_desc.pdentity	INTEGER	Integer value that corresponds to the type of entity
ID	property_desc.propertyid	INTEGER	Unique internal identifier of the property in the sys
Property ID	property_name.pn_propertyid	INTEGER	Unique internal identifier that corresponds to the p
Property Label	property_desc.pdlabel	VARCHAR2	Unique external identifier of the property

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Name	Label	Data Type	Description
Property Language	property_name.pn_lid	INTEGER	Integer that corresponds to the language defined f
Property Name	property_name.pntext	VARCHAR2	Name of the property
Text Entry Identifier	property_name.pnindex	VARCHAR2	Internal property name identifier (0-property name

Required Inventory Fields

This section provides a list of required inventory fields.

Field	Label	Data Type	Mandatory	Description
activityId	activityId	DATE	True	The unique identifier of the activity in Oracle Field Service.
inventoryType	inventoryType	VARCHAR2	True	The inventory types defined in the Configuration > Inventory types page in th
model	model	VARCHAR2	True	The inventory model
quantity	quantity	VARCHAR2		The required quantity

Resource Fields

This section provides a list of resource fields.

.

Field	Label	Data Type	Description
Email address	provider.email	VARCHAR2	Email address for the resource
Message Language	provider.planguage	VARCHAR2	Language for the resource.
Resource External ID	provider.external_id	VARCHAR2	External system identifier for the resource

Field	Label	Data Type	Description
Resource Name	provider.pname	VARCHAR2	Unique internal identifier of the resource.
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for the resource
Resource Phone	provider.pphone	VARCHAR2	Phone number of the resource for which the user is assigned to.
Resource status	provider.pactive	VARCHAR2	Resource status (active or inactive) for whom the activity is provic
Resource type	provider.ptype	VARCHAR2	Resource type for the resource for whom the activity is provided
Time Zone (Resource)	provider.time_zone	VARCHAR2	ID of time zone assigned to the resource for whom the activity is
ID	provider.pid	INTEGER	Unique internal identifier of the resource.
*	Provider Custom Fields		

Resource Location Fields

This section provides a list of resource location fields.

Field	Label	Data Type	Description
Latitude	location.lcoord_y	FLOAT	Geographic coordinate Y resolved for the location
Location Address	location.laddress	VARCHAR2	Address resolved for the location
Location City	location.lcity	VARCHAR2	City resolved for the location
Location ID	location.lid	INTEGER	Internal identifier for the location
Location Label	location.llabel	VARCHAR2	Label of the location which is assigned to the resource
Location Postal Code	location.lzip	VARCHAR2	ZIP/Postal code resolved for the location

Field	Label	Data Type	Description
Location State	location.lstate	VARCHAR2	State/Area resolved for the location
Location Type	provider_location.pltype	VARCHAR2	Type of the location which is assigned to the resource
Location by days	provider_location.plweekdays	INTEGER	Days of the week on which the location is assigned to the resourc
Longitude	location.lcoord_x	FLOAT	Longitude
Resource External ID	provider.external_id	VARCHAR2	External identifier for resource with the location
Resource ID	provider_location.pl_pid	INTEGER	Identifier of the resource to which the location is assigned

Resource Preference Fields

This section provides a list of resource preference fields.

Field	Label	Data Type	Mandatory	Description
activityId	activityId	INTEGER	True	The identifier of the activity (integer). This is a mandatory field.
preferenceType	preferenceType	VARCHAR2		The type of preference (enumeration, such as preferred, required, and, forb
resourceId	resourceId	VARCHAR2	True	The identifier of the resource to which the activity is assigned (string). This

Resource Property Fields

This section provides a list of resource property fields.

Field	Label	Data Type	Description
Capacity Area	provider.pcapacity_bucket	INTEGER	ID of capacity bucket for the resour

Field	Label	Data Type	Description
Date format (Resource)	provider.pdate_fid	INTEGER	ID of date format for the resource
Email address	provider.email	VARCHAR2	Email address for the resource
Initial Ratio for Activity Duration	provider.pinitial_ratio	FLOAT	Initial ratio for activity duration for
Message Language	provider.planguage	VARCHAR2	Language for the resource.
Organization	provider.organization_id	INTEGER	ID of organization for the resource
Resource External ID	provider.external_id	VARCHAR2	External system identifier for the re
Resource ID	provider.pid	INTEGER	Unique internal identifier of the res
Resource Name	provider.pname	VARCHAR2	Name (text identifier) of the resour
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for the resou
Resource Phone	provider.pphone	VARCHAR2	Phone number of the resource
Resource status	provider.pactive	VARCHAR2	Resource status (active or inactive)
Resource type	provider.ptype	VARCHAR2	Resource type for the resource
Routing profile	provider.p_rprid	INTEGER	ID of routing plan assigned to the r
Time Zone (Resource)	provider.time_zone	VARCHAR2	Time zone assigned to the resourc
Time format (Resource)	provider.ptime_fid	INTEGER	ID of time format for the resource
Working days to start impacting duration estimations	provider.skip_days_for_stats	INTEGER	Integer number of days which mus
*	Resource Custom Properties		

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Resource Work Skill Fields

This section provides a list of resource work skill fields.

Name	Label	Data Type	Mandatory	Description
Resource ID	provider_work_skill.provider_id	INTEGER		Unique internal identifier of t
Resource Work Skill: End Date	provider_work_skill.end_date	DATE		Work skill for resource is expi
Resource Work Skill: ID	provider_work_skill.work_skill_id	INTEGER		Identifier of the work skill def
Resource Work Skill: Level	provider_work_skill.ratio	INTEGER		The level of resource experier
Resource Work Skill: Start Date	provider_work_skill.start_date	DATE		Work skill for resource is activ

Route Fields

This section provides a list of route fields.

Field	Label	Data Type	Mandatory	Description
Resource External ID	provider.external_id	VARCHAR2	True	External system identifier for the resourc
Resource TIme Zone	time_zone.name	VARCHAR2		Standard Oracle Time zone name
Route Activation Time	queue.activated	DATE		Date and time of route activation for reso
Route Date	queue.date	DATE	True	Date of the route the activity is assigned t
Route Deactivation Time	queue.deactivated	DATE		Date and time of route deactivation (for a
Route Reactivation Time	queue.reactivated	DATE		Date and time of route reactivation (for al

Field	Label	Data Type	Mandatory	Description
Traveling Time (final location)	queue.final_travel	INTEGER		Travel to the final location of resource for
Working Day End	queue.calendar_time_to	DATE		End of working day (Date and time) for th
Working Day Start	queue.calendar_time_from	DATE		Start of working day (Date and time) for t

Service Request Fields

This section provides a list of service request fields.

Field	Label	Data Type	Mandatory	Description
Activity ID	support_request.sr_aid	INTEGER		Unique internal identifier of the activity to which the servi
Created	support_request.srcreated	DATE		Date and time when the service request was created.
Inventory ID	support_request.sr_invid	INTEGER		Unique internal identifier of the inventory to which the ser assigned.
Service Request Date	support_request.srdate	DATE		Date of the service request.
Service Request ID	support_request.srid	INTEGER	True	Unique internal identifier of the service request.
Service Request Type	support_request.srtype	VARCHAR2		Type of service request.
*	Service Request Custom Properties			

Time Slot Fields

This section provides a list of time slot fields.

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Field	Label	Data Type	Description
Time Slot End	time_slot.tstime_to	VARCHAR2	Time, at which the times slot ends
Time Slot ID	time_slot.tsid	INTEGER	Unique internal identifier of the time slot
Time Slot Label	time_slot.tslabel	VARCHAR2	Unique label of the time slot
Time Slot Name	time_slot.tsname	VARCHAR2	Name of the time slot
Time Slot Start	time_slot.tstime_from	VARCHAR2	Time, at which the times slot starts
Time Slot Status	time_slot.tsstatus	VARCHAR2	Time slot status

Type List Fields

This section provides a list of type list fields.

Name	Label	Data Type	Description
Activity Type Group ID	activity_type.group_id	VARCHAR2	Unique internal identifier of Activity Group
Text	translation.ttext	VARCHAR2	Name of the type
Type Language	language.lcode	VARCHAR2	2-letter language code of the type
Type Label	lookup.llabel	VARCHAR2	Unique label of the type
Lookup Type	lookup.llookup_type	VARCHAR2	Internal name of the lookup type
Type ID	lookup.lid	VARCHAR2	Unique internal identifier of the type

User List Fields

This section provides a list of user list fields.

Name	Label	Data Type	Mandatory	Description
End of blocking	security_user.login_blocked_to	DATE		User login is blocked until the specifie
Failed login attempts	security_user.login_attempts	INTEGER		Number of consecutive login attempts
Last login	security_user.last_login	DATE		Date and time when the user last logg
Last password change	security_user.last_password_change	DATE		Date and time when the user has char
Name	security_user.uname	VARCHAR2		Name of the user.
Registered	security_user.sucreated	DATE		Date and time when the user was crea
Resource External ID	provider.external_id	VARCHAR2		External system identifier for the resou can be empty, if the main resource is r
Resource ID	provider.pid	INTEGER		Unique internal identifier for the resou can be empty, if the main resource is r
Resource Time Zone	time_zone.name	VARCHAR2		Standard Oracle Time zone name
Status	security_user.sustatus	VARCHAR2		Status of the user (active, inactive or c
Updated	security_user.suupdated	DATE		Date and time when the user was upda
User Login	security_user.ulogin	VARCHAR2	True	User's login
User Type Label	user_type.label	VARCHAR2		Label of User Type for which the user i
Week Start	security_user.suweek_start	VARCHAR2		Starting day of the week for the user
*	User custom properties			

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Name	Label	Data Type	Mandatory	Description

User Resource Relation Fields

This section provides a list of user resource relation fields.

Name	Label	Data Type	Description
Capacity Area	provider.pcapacity_bucket	INTEGER	ID of capacity bucket for th
Date format (Resource)	provider.pdate_fid	INTEGER	ID of date format for the re
Date format (User)	security_user.sudate_fid	INTEGER	ID of date format for the u
Email address	provider.email	VARCHAR2	Email address for the reso
End of blocking	security_user.login_blocked_to	DATE	Email address for the reso
Failed login attempts	security_user.login_attempts	INTEGER	Number of consecutive lo
Initial Ratio for Activity Duration	provider.pinitial_ratio	FLOAT	Initial ratio for activity dur
Last login	security_user.last_login	DATE	Date and time when the u
Last password change	security_user.last_password_change	DATE	Date and time when the u
Long Date Format	security_user.sulong_date_fid	INTEGER	ID of full date format (with
Main Resource	security_user.main_resource_id	INTEGER	ID of Main resource assign
Message Language	provider.planguage	VARCHAR2	Language for the resource
Name	security_user.uname	VARCHAR2	Name of the user.
Org Unit/Bucket	security_user.organization_unit_id	INTEGER	

Name	Label	Data Type	Description
Organization	provider.organization_id	INTEGER	ID of organization for the
Registered	security_user.sucreated	DATE	Date and time when the u
Resource External ID	provider.external_id	VARCHAR2	External system identifier
Resource ID	provider.pid	INTEGER	Unique internal identifier
Resource Name	provider.pname	VARCHAR2	Name (text identifier) of t
Resource Parent	provider.parent	VARCHAR2	ID of parent resource for t
Resource Phone	provider.pphone	VARCHAR2	Phone number of the reso
Resource status	provider.pactive	VARCHAR2	Status of the resource for
Resource type	provider.ptype	VARCHAR2	Type of the resource for w
Routing profile	provider.p_rprid	INTEGER	ID of routing plan assigne
Status	security_user.sustatus	VARCHAR2	Status of the user (active,
Time Zone (Resource)	provider.time_zone	VARCHAR2	ID of time zone assigned t
Time Zone (User)	security_user.su_zid	INTEGER	ID of time zone assigned t
Time format (Resource)	provider.ptime_fid	INTEGER	ID of time format for the r
Time format (User)	security_user.sutime_fid	INTEGER	ID of time format for the u
Updated	security_user.suupdated	DATE	Date and time when the u
User ID	security_user.uid	INTEGER	Unique user ID

Name	Label	Data Type	Description
User Language	security_user.ulanguage	VARCHAR2	User's language
User Login	security_user.ulogin	VARCHAR2	User's login
Week Start	security_user.suweek_start	VARCHAR2	Starting day of the week fo
Working days to start impacting duration estimations	provider.skip_days_for_stats	INTEGER	Integer number of days wl
*	User Custom Properties		

How do I configure real-time data integration With Oracle Autonomous Database?

The Applications page acts as a single page to configure and view all applications in Oracle Field Service.

Users can use the Applications page to create new applications to transfer data to their Oracle Autonomous Database instances. Also, users can configure real-time data transmission for Oracle Field Service entities. The data is transferred to the Oracle Autonomous Database instances when the events corresponding to the entities are triggered in the Oracle Field Service system.

> **Note:** By default, the Daily Extract option is available in the Applications page and you can click the option to view the daily extract configurations.

To complete real-time data integration:

1. Log in to Oracle Field Service Manage interface.
2. Click Configuration, **Applications**.

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3. In the Applications page, click **Add Application** to configure a new application.

The Add Application dialog box for an Oracle Autonomous Database application is displayed.

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Add Application

Application Type
Oracle Autonomous Database

You can integrate with Oracle Database Cloud Services like Autonomous Data
Warehouse (ADW), Autonomous Transaction Processing (ATP) and Database as a
service (DBaaS).

Application Name
AIS DBaaS

URL
https://198.51.100.1

Schema Alias
AIS_DB.example.com

User Name
sys

Password
••••••••

Confirm Password
••••••••

Test Connection   **Dismiss**   **Modify**

4. Select **Oracle Autonomous Database** from the **Application Type** drop-down list and enter the details in the following fields:

    a. **Application Name**: Type a name for the Oracle Autonomous Database application.

    b. **URL**: Type the URL of the ORDS endpoint in the following format: https://<node-ip-address>. Make sure that the access rule ora_p2_httpssl is enabled in Oracle Autonomous Database. For more information, see the Oracle Database Cloud Service documentation.

    c. **Alias**: Type the schema alias for the ORDS-enabled schema.

       If you are connecting to a Pluggable Database (PDB), use the format: <PDB_Name>/<schema_name>.

       If you are not connecting to a PDB, use the format: <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.

    d. **User Name**: Type the name of the ORDS 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 ORDS with the SQL Developer role. This ORDS user will be able to run SQL for any Oracle database schema that is REST-enabled.
        - Schema Authentication: For this authentication, use the Oracle database schema name in uppercase and the Oracle database schema password (for example, HR and HRPassword). This user type wiill be able to run SQL for the specified schema.

    e. **Password**: Type the ORDS user's password with SQL Developer role or the Oracle database schema password

    f. **Confirm Password**: Retype the password.

5. Click **Add**.

   After a successful channel is created using ORDS, the Applications page shows the Oracle Autonomous Database application. You can add, delete and modify application configurations from the Applications page provided, you must have the permission to access such applications.

6. Click the Oracle Autonomous Database application to configure it:

    a. Click **Add New** to create a new entity.

    b. In the Add configuration dialog box, specify the required details:

    c. **Entity**: Select a list of Oracle Field Service fields that you want to view.

    d. **Table Name**: Enter the table name that you want to create in the new application.

    e. **Data Transfer**: Select one of the following options:

       - **Once Daily**: Data is transferred to the Oracle Autonomous Database instance once in a day as per the daily extraction period configured in the system.
       - **Real-time**: Data transfer from Oracle Field Service to Oracle Autonomous Database occurs in near real time.

    f. Click **Submit**.

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

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

This image shows the Properties icon drop-down menu option to configure fields:
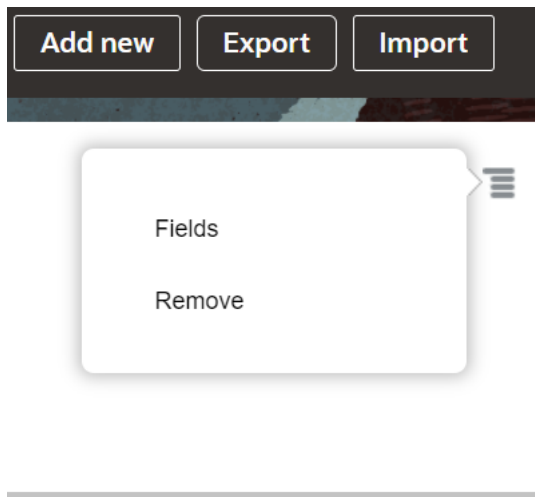
8. Click the **Plus** icon and select the required field that you want to add to the entity.

9. Click **Add** and Click **OK**.

The selected fields are added as columns to the corresponding tables in the Oracle Autonomous Database instance.

Results:

After you add a new application:

- The Applications page displays the updated list of applications.

- Monitoring data or information displayed in the Applications page 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 new application:

- Chat Fields and Chat Message Fields entities are configured.

- Real-time data transfer method is selected.

- The Oracle Field Service instance is connected to the application instance.

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

Configuration Statuses For Applications

This section lists the different configuration statuses available for applications:

Message displayed on the Channel	Configuration Status	User Interface Behavior	Action Item for the User
No tables configured	User created a new channel	The 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 Database as a Service (DBaaS) instances.	Click the pencil icon to edit the channel details.
Data Transfer has not been started	Entities or tables configured but Daily Job or Real-time transfer has not started	The 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 to DBaaS is not initiated. Real-time data transfer is initiated when the configured event is triggered in Oracle Field Service. Daily data transfer is initiated when the daily job is triggered in Oracle Field Service.	N/A
Success Rate displays	Data Migration via Daily Job or Real-time completed for the selected channel	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) A message displays the last updated time. All the monitoring data or information is reset every 24 hours.	N/A

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Message displayed on the Channel	Configuration Status	User Interface Behavior	Action Item for the User
An error message displays.	Daily Job or Real time communication error with the Endpoint	The DBaaS icon is in disabled state. This 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 DBaaS. • Account Locked: The "Account locked. Please reset your credentials" message is displayed. The user has to reset the 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 DBaaS icon is in enabled state. A message is displayed with This details: • Last time: Time of the last update. • Size: Size of the Daily Extract file. • Status: Status of the daily extraction process. • Values: New or Completed or Failed.	

This screenshot shows the different items displayed for fields or entities:

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Item	Details
Table Name	Name of the table created in DBaaS.
Data Transfer	Mode of data transfer selected for DBaaS.
Status	Status of the data transfer. Values: New, Completed, In Progress, Failed.
Last Time	Indicates the last updated time.
Rows Updated	Number of rows updated in last 24 hours.
Rows Skipped	Number of rows failed to transfer.
	Indicates that the data transfer is successfully completed.
	Indicates that the data transfer failed to complete. The system will retry to transfer the missed data.

Fields not Available for BICS/Oracle Autonomous Database data Transmission

This section lists those fields that are removed from BICS/Oracle Autonomous Database transmission.

This table provides the fields that are not available for data transmission:

Field	Type
appt.travel_estimation_method	INTEGER
appt.a_locationid	INTEGER
appt.aupdate_flags	INTEGER
appt.auto_routed_to_date	DATE
appt.auto_routed_to_provider_id	INTEGER
appt.auto_routed_to_provider_name	STRING
appt.continuous_traveling_time	INTEGER
appt.number	STRING
appt.first_manual_operation_interface	INTEGER
appt.a_visitid	INTEGER
appt.access_schedule	STRING
appt.acoord_accuracy	INTEGER
appt.acoord_status	STRING
appt.afeatures	INTEGER

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Field	Type
appt.a_templateid	INTEGER
provider.pcapacity_bucket	INTEGER
provider.pdate_fid	INTEGER
provider.pinitial_ratio	FLOAT
provider.p_rprid	INTEGER
provider.ptime_fid	INTEGER
provider.skip_days_for_stats	INTEGER
queue.final_travel_estimation_method	INTEGER
queue.final_travel_from_aid	INTEGER
queue.qid	INTEGER
time_zone.zoneinfo_name	STRING
appt.travel_from_aid	INTEGER

Note: Starting with Update 22C, Business Intelligence Cloud Service (BICS) is deprecated from Oracle Field Service.

Supported Fields for Data Transmission

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

Fields	Daily Once Data Transfer	Real Time Synchronization
Activity Fields	Yes	Yes

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Fields	Daily Once Data Transfer	Real Time Synchronization
Activity Link Fields	Yes	Yes
Activity Work Skill Fields	Yes	
Chat		Yes
Chat Broadcast Delivery Status		Yes
Chat Message		Yes
Chat Participant		Yes
GPS Track Fields	Yes	
Inventory Fields	Yes	Yes
Message Fields	Yes	
Message Text Fields	Yes	
PAS Answer Fields	Yes	
PAS Question Fields	Yes	
Property Fields	Yes	
Property Lookup Fields	Yes	
Required Inventory		Yes
Resource Fields	Yes	Yes
Resource Location Fields	Yes	
Resource Preference		Yes

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Fields	Daily Once Data Transfer	Real Time Synchronization
Resource Property Fields	Yes	
Resource Work Skill Fields	Yes	
Route Fields	Yes	Yes
Service Request Fields	Yes	Yes
Time Slot Fields	Yes	
Type List Fields	Yes	
User List Fields	Yes	Yes
User Resource Relation Fields	Yes	

Export and Import DBaaS/Daily Extract Configurations

Daily extract/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 in the Import dialog box while importing files.

To export or import configurations:

1. Click Configuration, **Applications**.
2. On the Applications page, click Daily Extract or the application.
3. On the Application's page, for example Daily Extract page, click **Import**, browse and select the XML file to be imported.

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4. Click **Validate**.

The selected file is validated and the errors and warnings (if any) are shown on the Import window. This image shows the Import window:
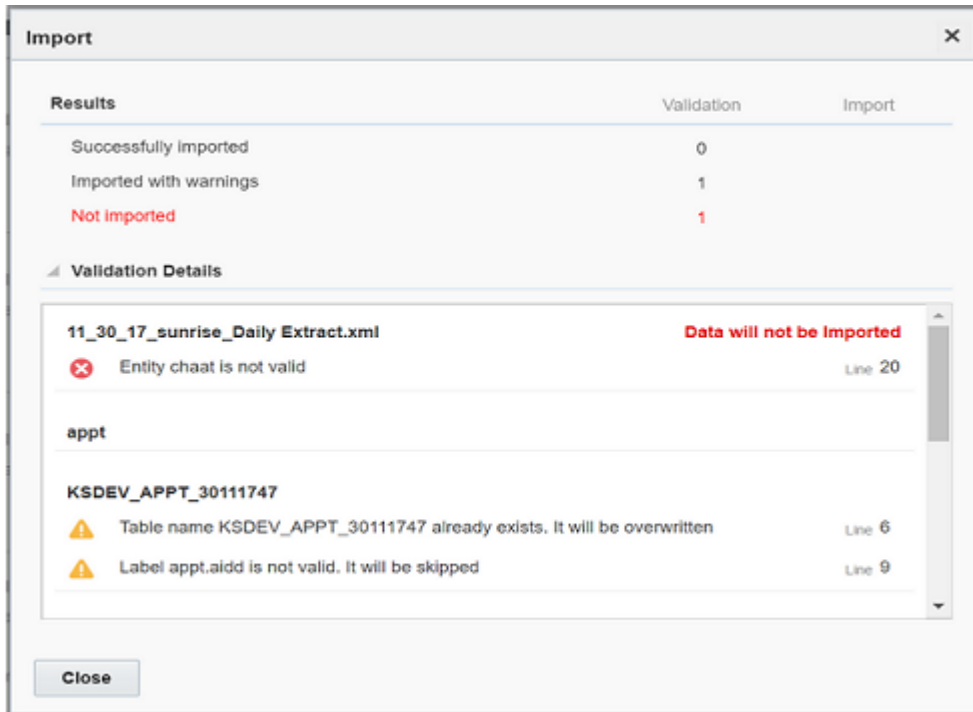
5. To export any configuration excluding Daily Extract, click **Export**.

The configuration is exported as an XML file.

Configure SSO

You can configure single sign-on (SSO) login credentials in bothOracle Field Service and Oracle Autonomous Database.

To configure SSO:

1. In Oracle Field Service, follow these steps:

    a. Log into Oracle Field Service as an administrator–enter username and password.

        Note: Ensure that the username in Oracle Field Service matches the username in Oracle Autonomous Database.

    b. Click **Configuration**.
    c. Click **Login Policies**.
    d. Click **Add New**.

        The **Add Policy** dialog box 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 Autonomous Database, follow these steps:

    a. Log into Oracle Autonomous Database as an administrator–enter the username and the password.

        Note: Ensure that the username in Oracle Autonomous Database matches the username in Oracle Field Service.

    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 from SAML IDP Provider.
    e. In the **SSO protocol** field, enter HTTP POST.
    f. Export Oracle Autonomous Database Provider metadata and update the SAML IDP provider in Oracle Field Service.
    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: Oracle Autonomous Database instance must be active while accessing the embedded reports in Oracle Field Service. If not, a blank page is displayed with error details.

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8 Integration With Oracle Digital Assistant

Enable Helpdesk with Oracle Digital Assistant

Helpdesks can enable Oracle Digital Assistant (ODA). Once enabled, ODA can act as a virtual operator in the helpdesk and can answer technicians' queries.

You can train the Oracle Digital Assistant based on your business requirements and can equip ODA by adding skills to learn, engage, suggest and recommend resolutions for technician's key problems.

> **Note:** You must have a valid subscription to the Oracle Digital Assistant service, for example Oracle Digital Assistant Platform for SaaS.

To do this, the application uses ODA web hook channel for connecting with ODA. Below steps detail on how to set up connectivity between Collaboration helpdesk & ODA.

1. Navigate to Configuration, Collaboration.
2. In the Collaboration page, select Helpdesks in the left pane.
3. In the Helpdesk configuration page, click the Enable Oracle Digital Assistant check box.
4. Once enabled, the Oracle Digital Assistant field shows a set of related fields.

   Complete these webhook endpoint details:

   - Webhook secret key
   - Webhook URL

   > **Note:** These endpoints are available in Oracle digital assistant, customer should configure these endpoints from ODA.

Results:

The Collaboration page shows the outgoing Webhook URL in ODA so that this endpoint can be used for all ODA communication with field collaboration. This screenshot shows the Collaboration page with Webhook endpoint fields.
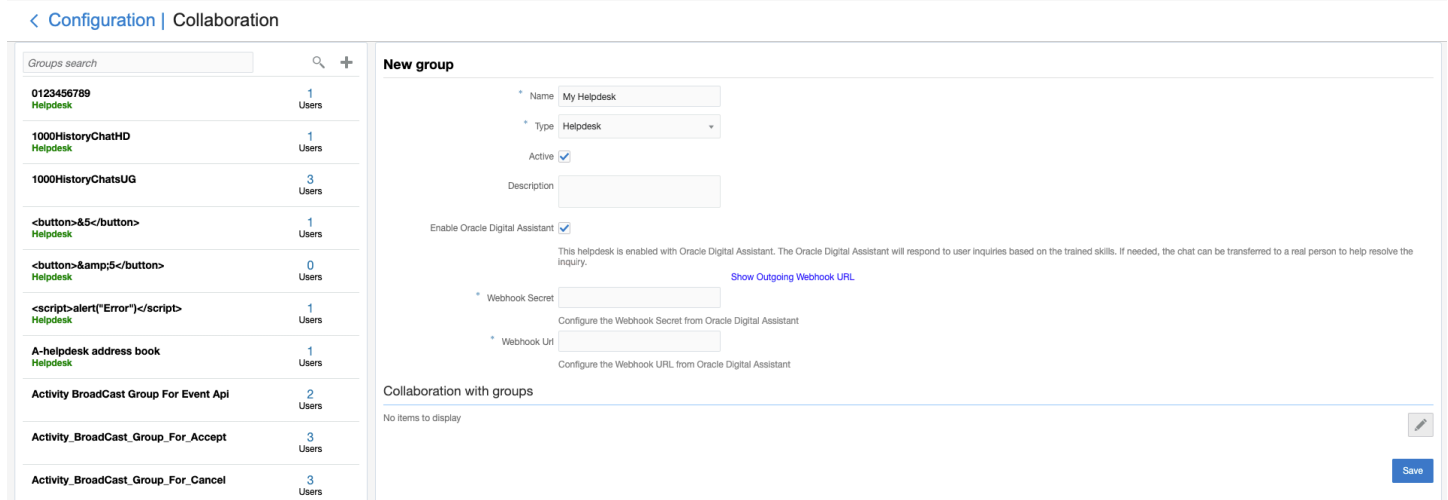
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The Enable Oracle Digital Assistant check box is available for all the existing helpdesk and if the check box can be enabled to configure the endpoint details to enable that helpdesk with ODA.

Configure Oracle Digital Assistant for Connecting With Helpdesk

This section discusses how to configure Oracle Digital Assistant (ODA) for connecting with helpdesk.

Review these requirements before you create a webhook-based channel:

- Channel has to route to specific skill/DA
- Channel has to be in enabled state

1. Navigate to the ODA dashboard.
2. Select Development, Channels to open the Channels page.
3. Create new channel type as Webhook
4. Use Outgoing webhook URI obtained from the Oracle Field Service help desk configuration screen.
5. After successful creation of the channel, use the ODA webhook URL and Webhook secret to complete the Oracle Field Service help desk configuration.
6. Update the Oracle Field Service help desk configuration with the generated secret key and Webhook URL from ODA.

Conversation Between Field Technician and ODA

Field Technician can search for a helpdesk (Enabled with ODA) in field collaboration and can initiate a conversation with that helpdesk, on receiving a new chat message ODA can proactively address the question and keep the technician

engaged by initiating interaction based on the skills defined in the ODA. Skills are treated as individual chatbots in ODA and each chatbot is designed to interact with users and fulfill the specific type of task such as rescheduling a job for field tech or sharing service history of the job. For more details about skills, see Using Oracle Digital Assistant documentation.

For this, you must follow these steps:

- Request payload from field collaboration
- Sharing of inventory, activity or resource details as an attachment

Request Payload from Field Collaboration

This is a sample payload from OFS to ODA skill.

While developing skills at ODA side, you can expect a similar request format from field collaboration.

Payload Schema:

```
{
 "userId": (String | mandatory | unique conversation id to maintain the session),
 "messagePayload": {
 "type": (String | mandatory | type of message from ODA),
 "text": (String | mandatory | response message from ODA)
 },
 "userLoginName": (String | mandatory | unique user login identifier)
}
```

The above code includes:

- userLoginName will share the current chat user, which can be used to query OFS REST APIs from the custom component level.
- User information: OFS Collaboration payload sends only the user login name to ODA. Customer can make use of OFS REST endpoints /rest/ofscCore/v1/users/{login} to get the resource ID and more information about the resource.
- Custom Component: Field Collaboration expects these components in the response from skill/DA:
- System.Output
- System.Text

  Field collaboration will not process responses from components other than these custom components. You must use them while developing skills for connecting with field collaboration.

- Helpcard: Collaboration will not process DA-level help card, hence, you must use custom skills to manage use cases with help cards.

Sharing of Inventory, Activity or Resource Details as an Attachment

You can develop skills to share activity/inventory/resource information as an attachment in collaboration.

Sending attachment from the skill. You can send attachments by using custom components within the skill. Here is a Sample custom component invocation:

Sample Custom Component for Inventor, activity or Image:

```
ShowMyActivity:
 component: "OFS.Collaboration"
 properties:
 action: "share"
```

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```
    metaData:
    type: "activity"
    id: "4545454"
    desc: "Upgrade"
```

Field Collaboration expects a payload in the below format for attachments (Inventory / Activity/ User). This table displays the properties of the payload:

Properties

Key	Value	Description	Required
Action	Share	tell what kind of action should be done at collaboration. supported values: **share, helpDeskTransfer**	Mandatory
metaData	Object	only required for share action	Optional

This table displays the metadata of the payload:
metaData

metaData

Key	Value	Description	Required
type	Activity	type of attachments supported values: **activity, inventory, resource**	Mandatory
id	ID of the activity, resource OR inventory	unique ID of the respective entity	Mandatory
desc	description or note	description or note	Mandatory

Field Collaboration expects a payload in below format for attachments (Inventory / Activity/ User)

Payload for Inventory , activity or resource share:

```
{"messagePayload":{"payload": { "action": "share", "metaData": {
 "type": "activity" "id": 4545454, "desc": "Upgrade", } }, "type": "raw" }, "userId":
 "ad3jgo7s79dddgadffdasf9"
```

Transfer of Conversation from ODA to Helpdesk Operator

When ODA is not trained to answer any specific quires, the conversation can be transferred to a human helpdesk operator. This will be shared as a new chat in that helpdesk. When a helpdesk operator accepts this chat ODA will leave

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the conversation, the operator can view previous chat messages between field tech and ODA to get the context of the conversation and can continue the conversation.

While defining the skill, you should make sure that the logic of transfer is implemented in the skill-based on the business requirement.

Transfer chat sample custom component:

```
TransferChat:
 component: "OFS.Collaboration"
 properties:
 action: "helpDeskTransfer"
```

Field Collaboration expects a payload in below format in case of the transfer request from a custom component

Sample Payload for Transfer chat to helpdesk

```
{ "messagePayload": { "payload": { "action": "helpDeskTransfer" }, "type": "raw" }, "userId":
 "ad3jgo7s79dddgadffdasf9"}
```

Sample Custom Component for attachment and transfer of conversation

Sample Custom Component

```
'use strict';
const { MessageModel } = require('@oracle/bots-node-sdk/lib');
module.exports = {
 metadata: () => ({
 name: "OFS.Collaboration",
 properties: {
 action: { required: true, type: 'string' },
 metaData: { required: false, type: 'object' }
 },
 supportedActions: []
 }),
 invoke: (conversation, done) => {
 conversation.logger().debug("OFS.Collaboration component invoked");
 conversation.logger().debug(this.conversation.properties());
 const message = MessageModel.rawConversationMessage(this.conversation.properties());
 conversation.reply(message);
 done();
 conversation.logger().debug("OFS.Collaboration action finished");
 }
}
```

Use Custom Components

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

Things to consider while writing custom components.

To access Daily Extract files using the Core API, you must install:

- Create application within Oracle Field Service with the relevant API permissions.
- Use the application credentials within the custom component to make REST API calls.
- Use skill configuration for sharing credentials to custom component.

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9 Integration With Oracle HCM Cloud

About Oracle HCM Cloud

You can create the resources in Oracle Field Service through the resource management user interface or through REST APIs. You can now extract the employee details from Oracle HCM Cloud and update the details in Oracle Field Service automatically using Oracle Integration. The integration is available as a sample recipe in Oracle Integration. You can download and use the 'Oracle HCM - Oracle Field Service I Create and manage OFS resources' recipe as a quick start reference for your integrations. You can also extend this recipe based on your specific business requirements.

> **Note:** To integrate Oracle Field Service with Oracle HCM Cloud, you must have a valid license for Oracle Integration, Oracle HCM Cloud Release 13 or later, and Oracle Field Service Update 21A. The integration is only from Oracle HCM Cloud to Oracle Field Service. This means, you can only extract the details from Oracle HCM Cloud and update it in Oracle Field Service. If you change the resource details in Oracle Field Service, it will not be updated in Oracle HCM Cloud automatically.

The 'Oracle HCM - Oracle Field Service I Create and manage OFS resources' recipe provides these key capabilities:

- Bulk-extract the field technician employee details from Oracle HCM Cloud to Oracle Field Service.
- Extract employee work schedule details from Oracle HCM Cloud and update them in Oracle Field Service in a scheduled manner.
- Create a new resource in Oracle Field Service when a new employee is created in Oracle HCM Cloud.
- Update a resource in Oracle Field Service when an existing employee details are updated in Oracle HCM Cloud.
- Suspend a resource in Oracle Field Service when an employee is deleted in Oracle HCM Cloud.
- Fetch employee login details from Oracle HCM Cloud and update the details in Oracle Field Service. The integration fetches only the user's login name and not the password.

To install the recipe from Oracle Integration, see the Integrating with Oracle HCM Cloud Using an Oracle Integration Recipe guide.

Configure Oracle HCM Cloud

You can add Oracle Human Capital Management Cloud (HCM) as a native application in Oracle Field Service (OFS) and thereby, updating employee details from Oracle HCM Cloud within Oracle Field Service automatically. .

The application uses Oracle Integration to extract and update the data between the two applications. Once the HCM application is added in Oracle Field Service, the application activates the Oracle HCM - Oracle Field Service recipe within Oracle Integration automatically.

To configure Oracle HCM Application, follow these steps.

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.
3. In the Add Application dialog box, select **Oracle HCM** from the **Application Type** drop-down list.

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4. You can add a new HCM application by providing the endpoint configuration details.

This screenshot shows the Add Application dialog box allowing new endpoint configuration.

5. In the **Application Name** field, enter the name of the application to be displayed.

6. In the **URL** field, specify your URL of the Oracle HCM endpoints.

7. In the **User Name** field, provide the Oracle HCM user name for accessing HCM Cloud.

8. In the **Password** field, provide the password of the Oracle HCM user

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9. Alternatively, check the Use B2B Service Application check box if you want to reuse a previously-configured B2B Service application.

This screenshot shows the Add Application dialog box for existing endpoint configuration.

10. Select a value from the **Integration Channel** drop-down list to specify the OIC channel.

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11. Check the connectivity using the test connection button and make sure that the end points configured are valid.

- If the endpoints are incorrect, the 'Host unreachable'. Please check credentials warning message is displayed.

  This screenshot shows the warning message.
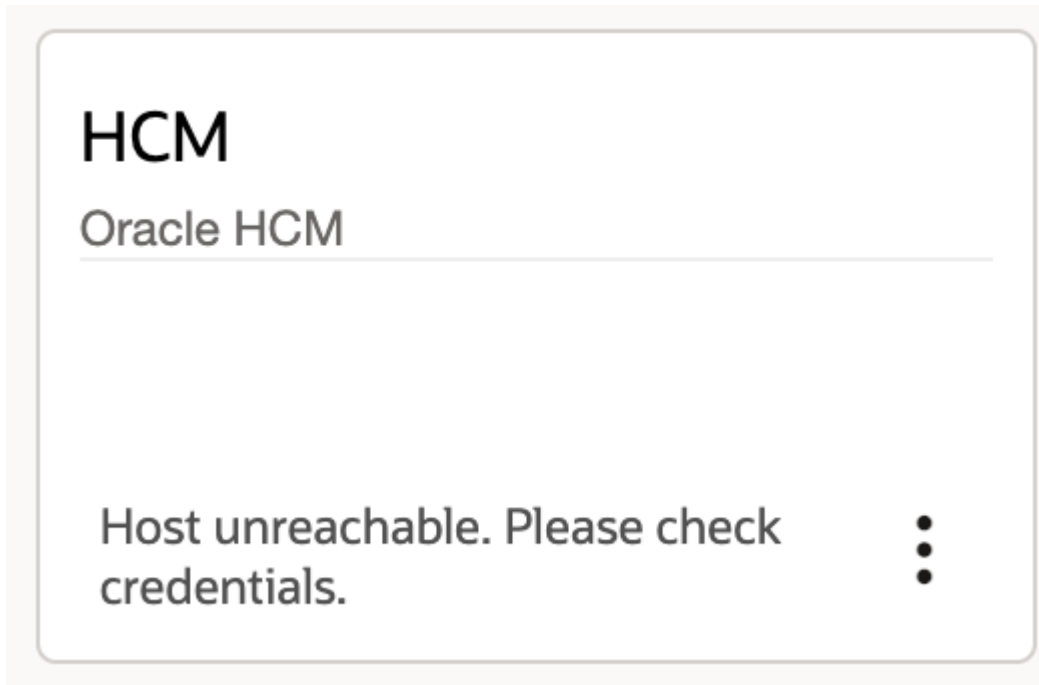
- If the endpoints are correct then the status appears as 'Pending' and the 'Mapping Parameters are not configured' message is displayed.

  This screenshot shows the integration status message.

HCM

Oracle HCM

Status   Pending

Mapping Parameters are not
configured   ⋮
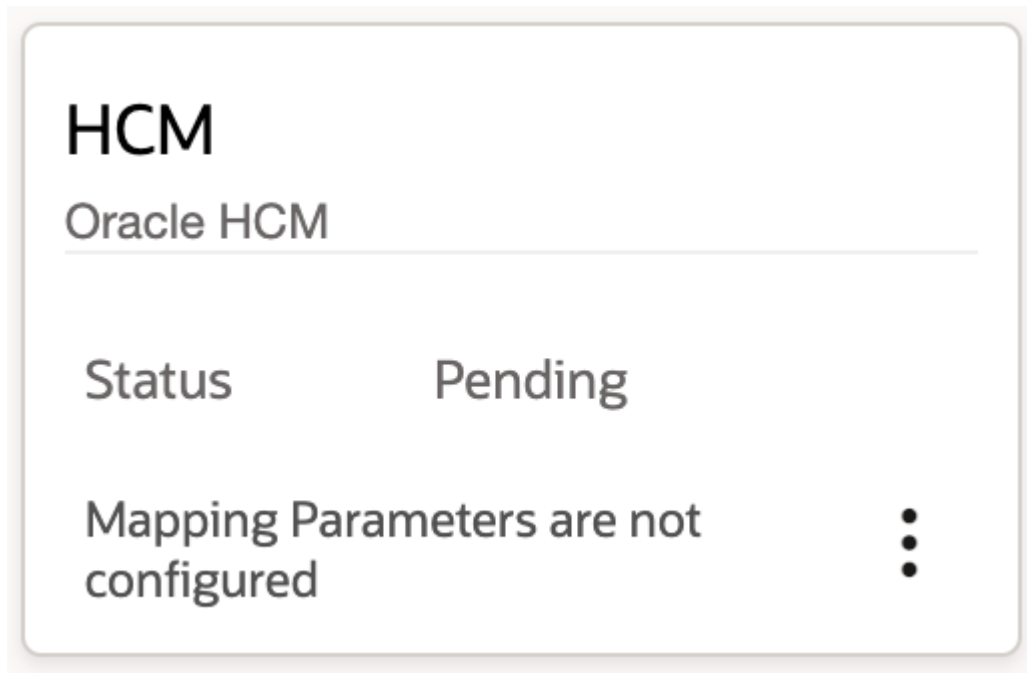
12. Click **OK**.

Oracle Field Service and Oracle HCM Cloud Mapping

Once the application is created, you can map Oracle Field Service and Oracle HCM Cloud entities that have similar functional roles.

For example, a 'Business unit' in Oracle HCM Cloud can be considered as an 'Organization unit' in Oracle Field Service, as both are designed to manage the resource reporting structure.

You can map Oracle Field Service and Oracle HCM Cloud entities using one of these mappings:

- Oracle Field Service and Oracle HCM Business unit mapping

  You can select the field service Organization Unit type, based on the organization units that are created in Oracle Field Service. Business Units are values populated from HCM, and you can choose multiple business units from HCM. Based on the selection, Organization Units with same name are created in Oracle Field Service.

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Also employees mapped under these business units in HCM is updated under the corresponding Organization Units in Oracle Field Service.

This screenshot displays the Applications page showing OFS Organization Unit - HCM Business Unit Mapping:

- Resource Job mapping

  The Resource Job Mapping table enables you to associates values of the Oracle HCM job codes with Oracle Field Service resource types and you types.

  This screenshot displays the Resource - Job Mapping on the Applications page:
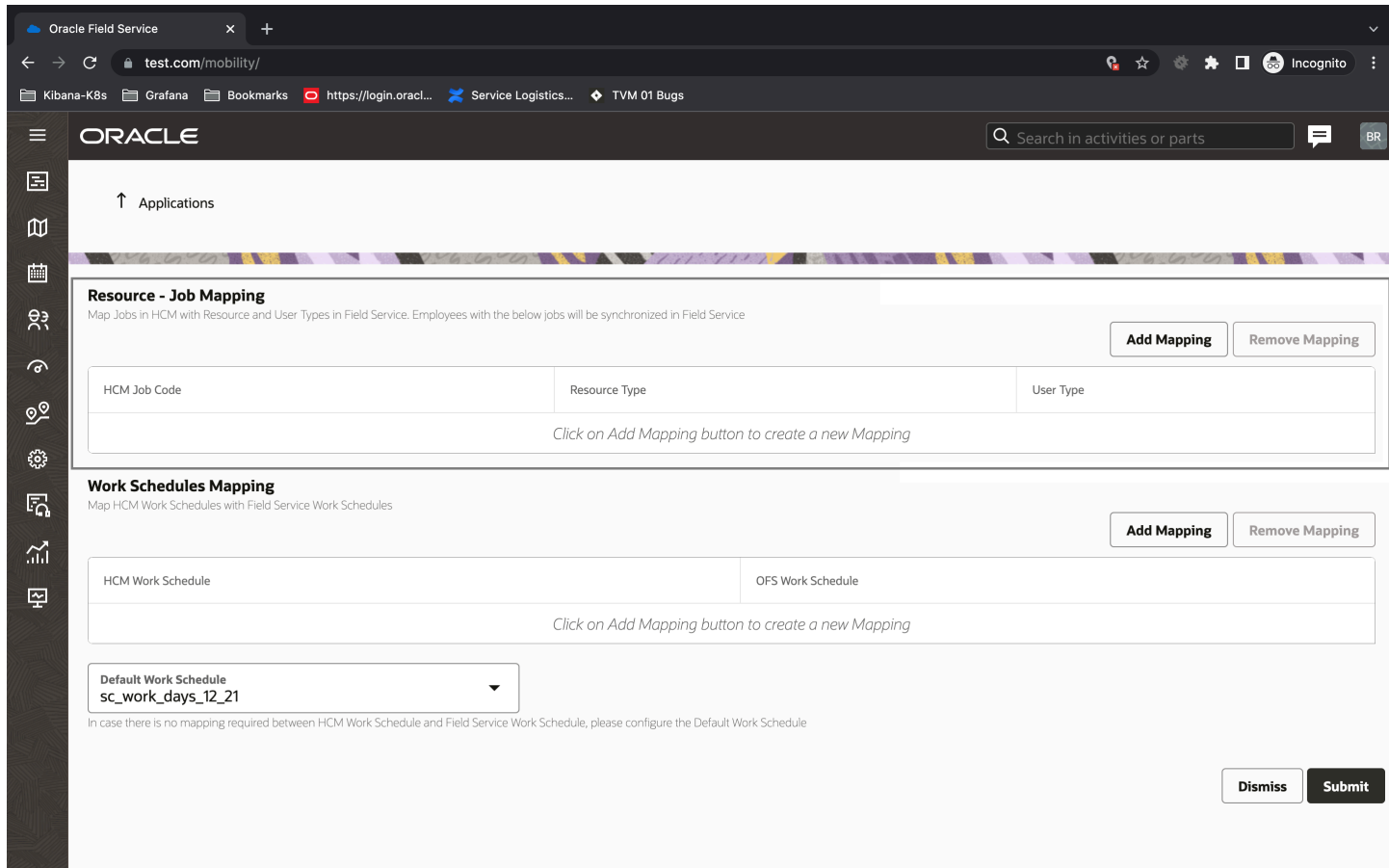
- Work schedules mapping

    This configuration enables you to map HCM work schedules with Oracle Field Service work schedules. In cases where there's a work schedule present in HCM that's not mapped to an Oracle Field Service work schedule, the Default Work Schedule is used as the work schedule for the employee.

    This screenshot displays the Work Schedules Mapping on the Applications page:
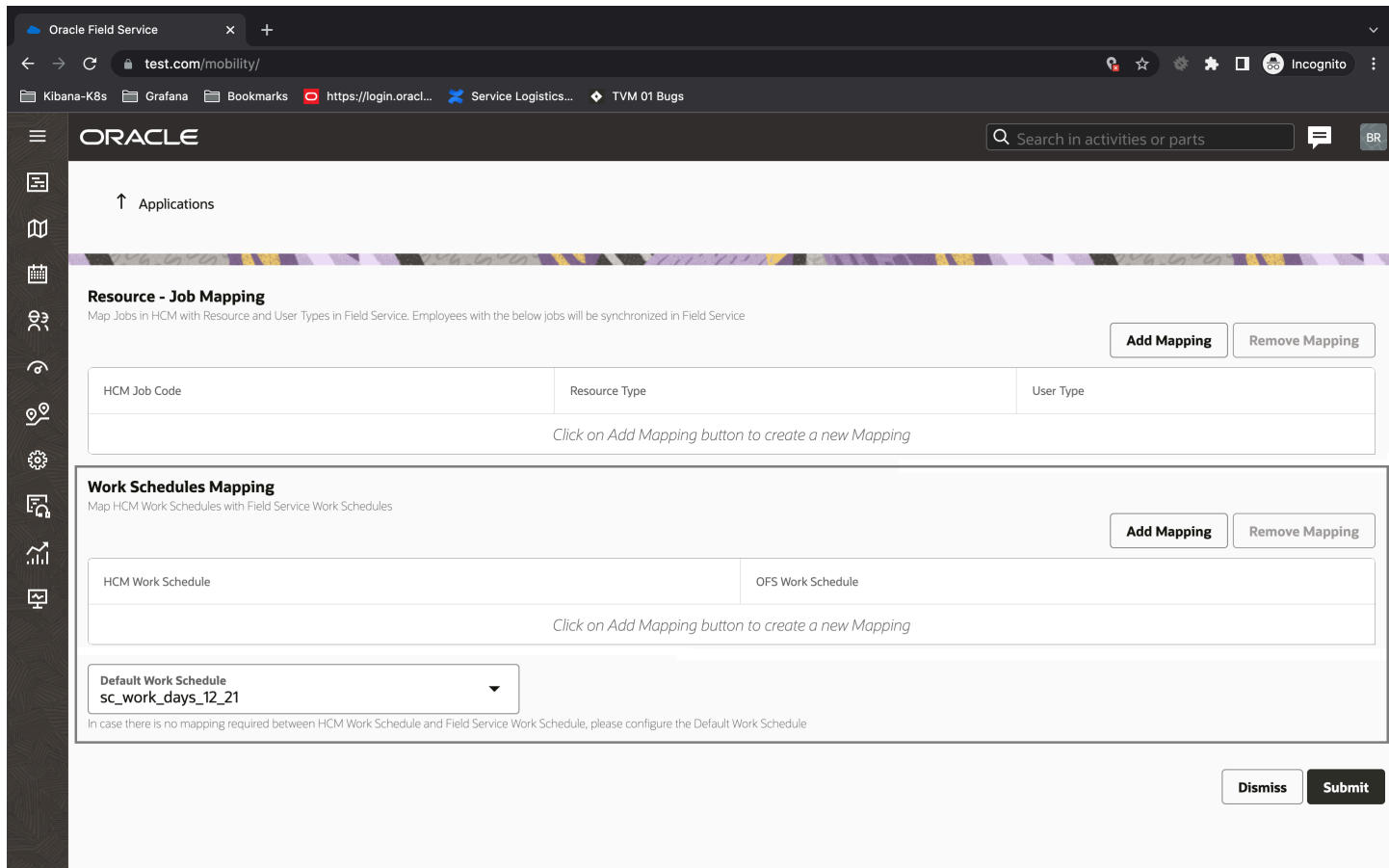
Once all of the required mappings are configured, you can submit the configuration. The system starts setting up all of the initial configurations in Oracle Field Service, Oracle HCM and Oracle Integration automatically and activates the 'Oracle HCM - Oracle Field Service' recipe. At that point, the data flow between the two applications becomes active.

You can also view the status of each stage of the integration:

In Progress Status

This screenshot displays the in progress status of a mapping on the Applications page:

Potential Failure Message

You may receive messages about potential failures.

This screenshot displays a potential failure message:

Completed Status

This screenshot displays the Active Status for an application:

Once all of the steps are completed, the application status changes to Active with the date and time of activation.

This screenshot displays the Active Status for an application:

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Search in activities or parts

BR

↑ Configuration

Applications

Start Time   Add Application

Daily Extract

Last Time   03/09/22
             19:29
Size   1546
Status   Completed

BICS
Oracle Business Intelligence

100%
Success Rate

● Last Updated : 4 Hours ago

DBAAS
Oracle Autonomous Database

100%
Success Rate

● Last Updated : 4 Hours ago

OAC
Oracle Analytics

⚠ No Tables Configured

OIC
Oracle Integration

HCM
Oracle HCM

Status   Active
Completed   03/09/22 23:30

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10 Integration With Oracle Integration

Oracle B2B Service to Oracle Field Service Integration OIC Recipe

Oracle Integration is available as an application on the Applications page.

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

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

Oracle Integration Adapter

You must configure Oracle Field Service Adapter as a connection in an integration in Oracle Integration.

For information about Oracle Integration connections, and integrations, see Using the Oracle Field Service Adapter guide in Oracle Integration documentation.

Add an Oracle Integration Application

You can add an Oracle Integration application to integrate Oracle Field Service with other applications such as Oracle Service Logistics.

Before you start

Make sure you have configured all the Prerequisites for **JWT User Assertion** based authentication as per this documentation *Prerequisites for JWT User Assertion* (Visit https://docs.oracle.com/en/cloud/paas/integration-cloud/rest-adapter/authentication-support.html#GUID-33BDEC15-CEC5-4535-8C71-FBA1A37BD7A3).

If you have an application that is configured with the Basic auth fields, you can change it to an OAuth based authentication. However, be aware that after you change an application from Basic authentication to OAuth, you cannot change it back to Basic authentication.

Here's what to do

1. Click **Configuration** > **Applications**.

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2. On the **Applications** page, click **Add Application**.

The image shows the **Add Application** dialog box.
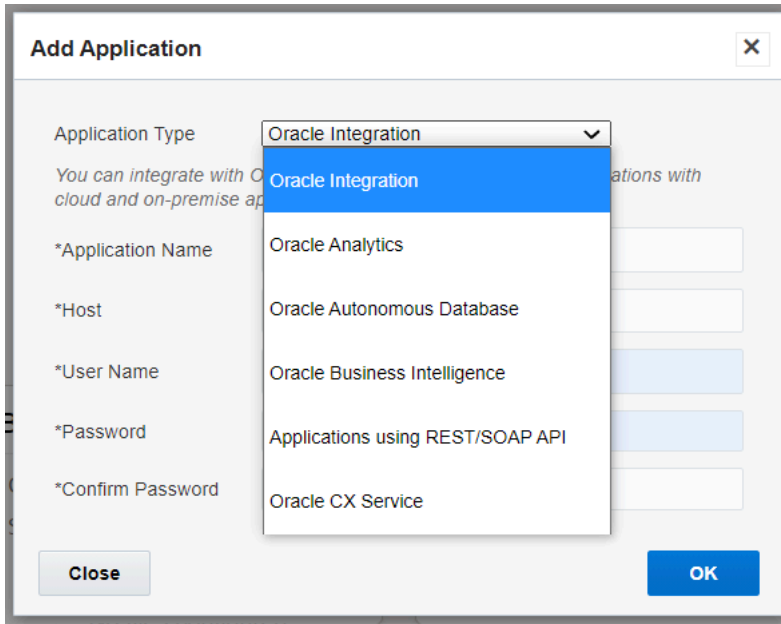
3. Complete these fields:

> **Note:** To update the values in this dialog box, contact the Oracle Integration administrator.

Field Name	Action
Application Type	Select Oracle Integration from the drop-down list.
Application Name	Enter the name of the application you are integrating. This name will be displayed on the **Applications** page.
Host	Enter the host name of the Oracle Integration instance in the format `servername.oraclecloud.com`.
User Name	Enter the user name which is used to log in to the Oracle Integration instance that has read/write permissions.
IDCS URL	Enter the base URL of the Oracle Identity Cloud Service Admin console in the format `https://example.identity.oraclecloud.com`.
Client ID	Enter the Client ID of the client application you have created in Oracle Identity Cloud Service.
Client Secret	Enter the Client Secret of the client application you have created in Oracle Identity Cloud Service.
Key ID	Enter the key that is used to verify the signature in Oracle Identity Cloud Service. It must match with the certificate alias uploaded in Oracle Identity Cloud Service.
Scope	Enter the scope of the Client Application that you have created in Oracle Identity Cloud Service. It must be in the format: `https://applicationid.integration.ocp.oraclecloud.com:443urn:opc:resource:consumer::all`

4. Drag and drop the private key file.

   This private key is used to configure the Oracle Identity Cloud Service application. The maximum file size is 32KB.

5. Click **Test Connection**.

   The connection is tested and errors, if any, are displayed. Fix the errors and test the connection again.

6. Click **Add**.

   The new application is added to the **Applications** page.

Modify an Oracle Integration Application

You can modify the existing endpoint configurations for an Oracle Integration application.

1. Click **Configuration** > **Applications**.
2. On the **Applications** page, select the application to edit

3. Click the Properties icon and select **Modify**.

The screenshot shows the Properties menu options for a selected application.
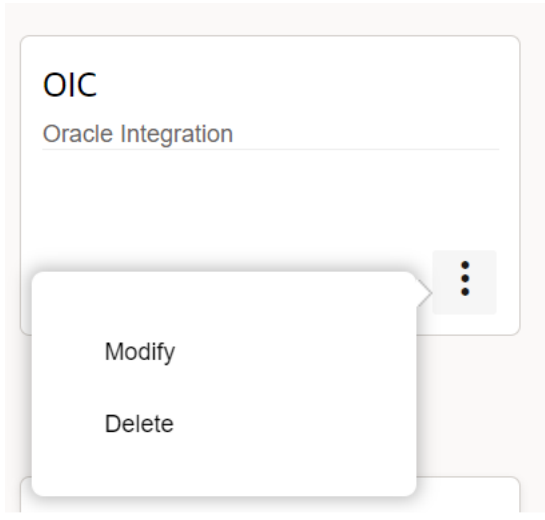
4. The **Modify Application** dialog box displays the options to edit the selected application.

This screenshot shows the **Modify Application** dialog box.

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5. Edit the following details as necessary:

> **Note:** To update the values in this dialog box, contact the Oracle Integration administrator.

Application Type	Select Oracle Integration from the drop-down list.
Application Name	Enter the name of the application you are integrating. This name will be displayed on the **Applications** page.
Host	Enter the host name of the Oracle Integration instance in the format `servername.oraclecloud.com`.
User Name	Enter the user name which is used to log in to the Oracle Integration instance that has read/write permissions.
IDCS URL	Enter the base URL of the Oracle Identity Cloud Service Admin console in the format `https://example.identity.oraclecloud.com`.
Client ID	Enter the Client ID of the client application you have created in Oracle Identity Cloud Service.
Client Secret	Enter the Client Secret of the client application you have created in Oracle Identity Cloud Service.
Key ID	Enter the key that is used to verify the signature in Oracle Identity Cloud Service. It must match with the certificate alias uploaded in Oracle Identity Cloud Service.
Scope	Enter the scope of the Client Application that you have created in Oracle Identity Cloud Service. It must be in the format: `https://applicationid.integration.ocp.oraclecloud.com:443urn:opc:resource:consumer::all`
Field Name	**Action**

6. Click **OK**.

Delete an Oracle Integration Application

You can delete an Oracle Integration application that you no longer need from the **Applications** page.

1. On the **Applications** page, select the Oracle Integration application to delete.
2. Click the properties icon and then click **Delete**.

> **Note:** Deleting an Oracle Integration application deletes the Oracle Integration configurations from Oracle Field Service.

3. In the delete confirmation dialog box, click **OK**.

View an Oracle Integration Application Details

You can view an Oracle Integration application on the **Applications** page to know its status and the data transfer success rate, if applicable.

Click **Configuration** > **Applications**.

The screenshot shows a newly added Oracle Integration application.
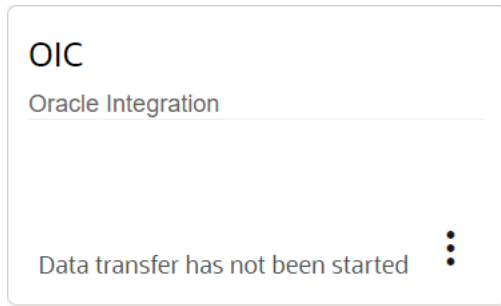
The application status indicates that the data transfer has not yet started. After the data transfer starts, the status displays the time when the last update occurred. Here is an example of an application with an active data transfer.
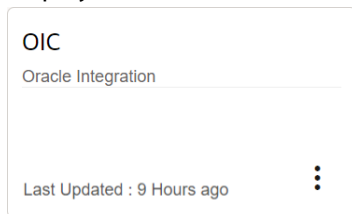
> **Tip:** Sometimes, the integration may not work and the events may not be transferred. One of the reasons for this could be the invalid characters in your custom properties. The best practice is to review the properties and remove such characters, if any.

Data Transmission Success Rate is the percentage of successfully transferred data. Data transmission success rate = (total.number of events successfully transferred / total.events selected). If an event fails, an error message is displayed on the application card. Here are some of the errors you may see:

- o HTTP STATUS 401: Authentication Failed. Please check credentials.
- o HTTP STATUS 403: Provided user is not authorized.
- o HTTP STATUS 404: Host unreachable. Please check your credentials.
- o HTTP STATUS 500: Connection failed. Please try again later.

Support for Decimal Values

After enabling the decimal quantity for an inventory type, the application starts delivering decimal quantity values to corresponding inventories to the external application (OAC/DBaaS/OIC).

In DBAAS/OAC, the decimal value shows in its database only when the data type of the corresponding column is changed to Float.

You can change this column using these ways:

- OAC/DBaaS admin user can access the database and change the data type of quantity column from Number to Float. After making this change data received from next data transfer will be saved as a decimal value. There

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is no change in any of the existing values, All the existing values in the column with Number type remain as number.

- Oracle Field Service admin user can rename the Quantity field so that it creates a new column on the OAC/ DBaaS database. After this change, new quantity values with decimal points are delivered to the new column. The OAC/DBaaS data source has two columns one with number values (existing column) and one with decimal values (new column).

Note: In case of OIC, when you enable the decimal value for inventory quantity, Oracle Field Service transfers only the decimal values. No other configuration changes are required.

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11 Integration With Oracle Internet of Things

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.

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

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 is 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 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 and IOT integration.

These 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 must come).
2. The application sends the alert to Oracle Field Service 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:
    - **Asset Name** –Displays the name of the Asset as available in IoTCS
    - **Asset Description**–Displays the description of the Asset as available in IoTCS
    - **Summary**–Displays the summary of the Alert as available in IoTCS
    - **Severity**–Displays the priority of the Activity. For a Maintenance activity, this is set to 'Low'. For an Outage, it will be 'Critical'
    - **Address**–Displays the address of the Activity

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- City–Displays the city name as in the Activity address

- Zip/Postal Code–Displays the postal code

- State–Displays the state name as in the Activity address

- SLA End–Displays the SLA end value calculated based on the current date and the value received from IoTCS

- Activity Type–Specifies the Activity type. The default value is Asset Maintenance. You may modify this value if needed

- Resource ID–Specifies the Bucket where the Activity will be created. This is set to the Bucket 'Routing' for this integration; it can be modified as per customer preference.

- Appt Number -Specifies the external Id of the Activity

- Customer Number –Displays the customer number as received from IoTCS

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 through OIC.
3. Oracle Field Service 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.

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5. The severity of this activity is set as 'CRITICAL'.

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

This screenshot shows the activity with CRITICAL severity as pending.
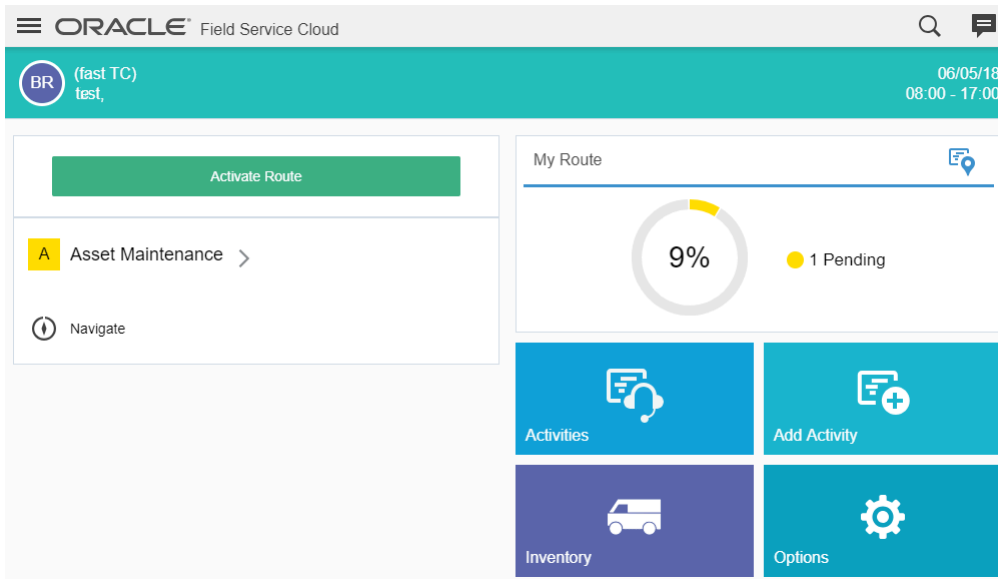
View the Asset Details Screen

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. This information will also be available in the Dispatcher view of Activity details in Oracle Field Service.

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

This screenshot shows the Asset Details screen in IoTCS.

Configure Oracle Integration for IoT Integration

Integration between IoT and Oracle Field Service can be achieved through Oracle Integration (OIC) configuration. This section discusses the process flow during the IoT - Oracle Field Service 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:
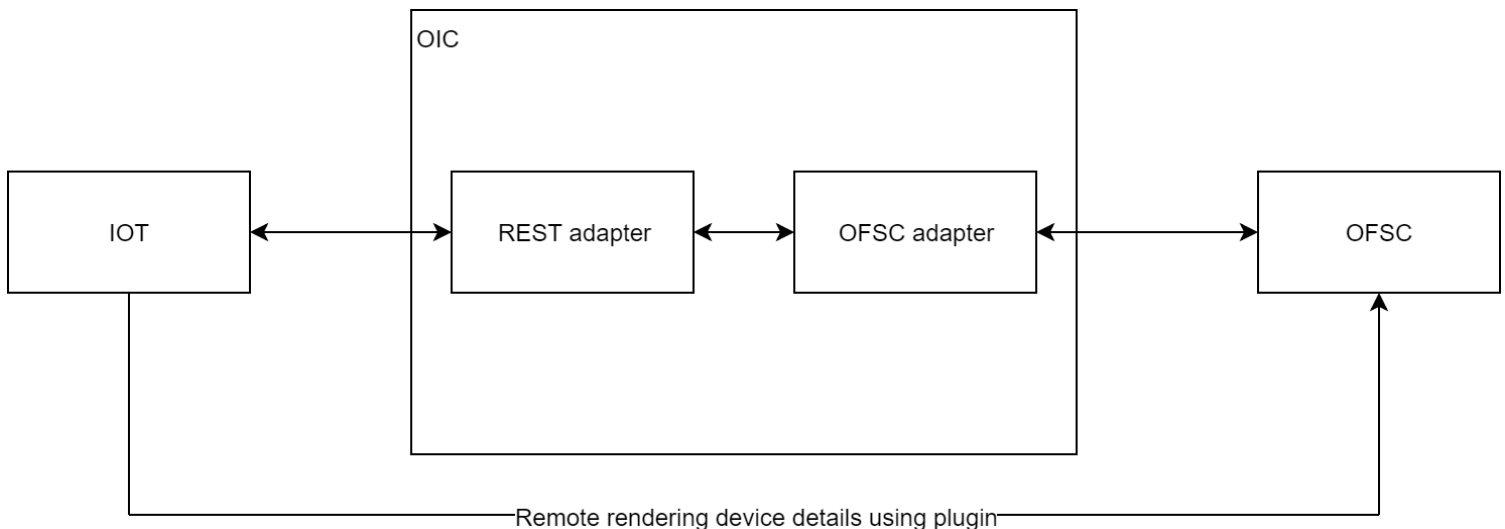
The process flow during IoT and - Oracle Field Service integration involves the following steps:

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

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

   > **Note:** You must configure this field based on the unassigned bucket in Oracle Field Service

   ○ 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

   ○ bulkUpdate.activities.asset_description = description

Configure IOTCS Integration

You can configure Oracle Field Service 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.
4. Configure rules.
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 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.

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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
6. Navigate to Application, , Device Models.
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 with the help of "Alert" object.
9. Navigate to Application, , 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:
    o 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)
    o 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:
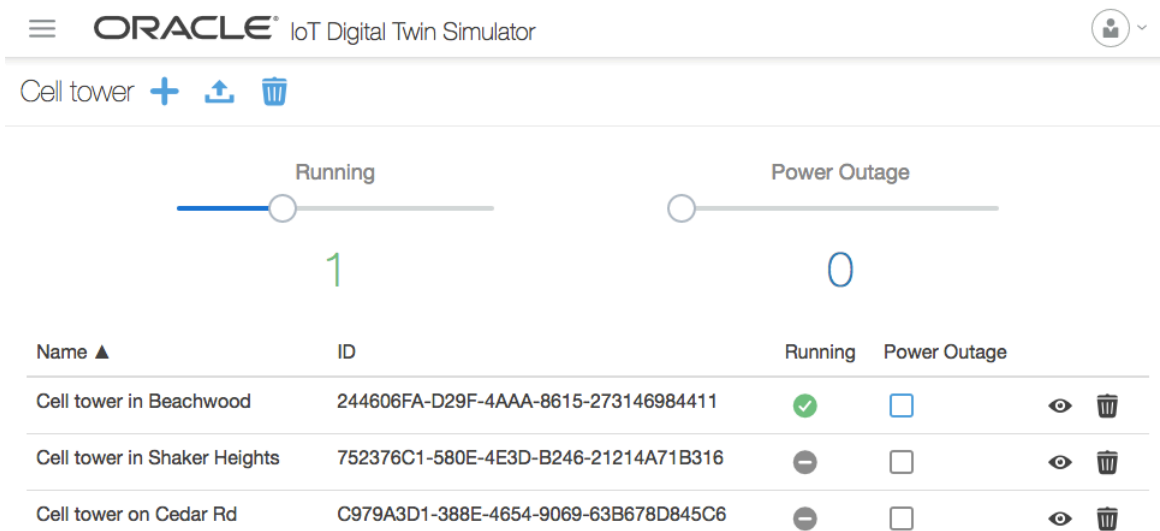
6. After devices are created, switch them on.

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 must configure the asset to set up the IoT data simulator. Navigate to the URL for example your_host/am/, configure the asset type and create several assets.

Before you start

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

To configure the asset:

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Here's what to do

1. Navigate to the .
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 Activity when the maintenance is required or an outage occurred. The service_delta attribute is used to calculate the Service Level Agreement (SLA) for Oracle Field Service activity. SLA will be set to timeofbooking of the activity created + service_delta

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 box, , specify the following options:
      - Name of the device: cell_tower.
      - Device model: Cell Tower
   b. Specify that there must 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 box.
   b. In the Edit Asset dialog box, 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 must 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 requires credentials for Oracle Analytical Cloud Service in order to access the application and update the database.

To complete configuring rules:

1. Navigate to (URL: your_host/am/).

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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 it sends a system alert to the integrated system. This resulting alert is generated by a system built-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

  ○ Suppression (minutes): 1

  ○ Severity: Low

  ○ Inclusions:

  - Source attributes: unchecked
  - Context information: unchecked
  - Message payload: unchecked

- 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

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Results:

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 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.

   Note: This value is mandatory to connect from IoT to OIC and you must provide it to configure the integration.

Create a New Integration Cloud Service Integration in the IoT Platform

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

Before you start

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

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

Here's what to do

1. Navigate to the IoT platform (URL: <your_host>/ui/).

2. Open Applications, , 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:

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- 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 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 to Enable the Integration

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

Follow these steps to set up Oracle Field Service for this integration:

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

Create Activity Type

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 box, enter the following values:

- **Label**: asset_gr
- **Name**: Asset

The Add group dialog box shows the values for the new group Asset.
This screenshot shows the Add group dialog box:

Add group ✕

* Label   asset_gr

* Name

  * English   Asset

    Spanish

    French (European)

    German

    Portuguese (Brazil)

    Japanese

Cancel   Add

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

- **Group:** Asset

- **Default duration**: 48

- **Color scheme** - copy from other activity

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, Enable segmenting and extended duration, Allow non-scheduled, Allow mass activities and Allow repeating activities must be unchecked.

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

This screenshot shows the Add activity type dialog box:

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7. Click **Add** to create the new activity type.

Configure Core Application for the New Activity Type

You can configure how new activity types can be used.

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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 screenshot shows the Edit Action Link dialog box with General tab options.

Set your options in the Plugin details tab.

This screenshot shows the Edit Action Link dialog box 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**.

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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**.

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.

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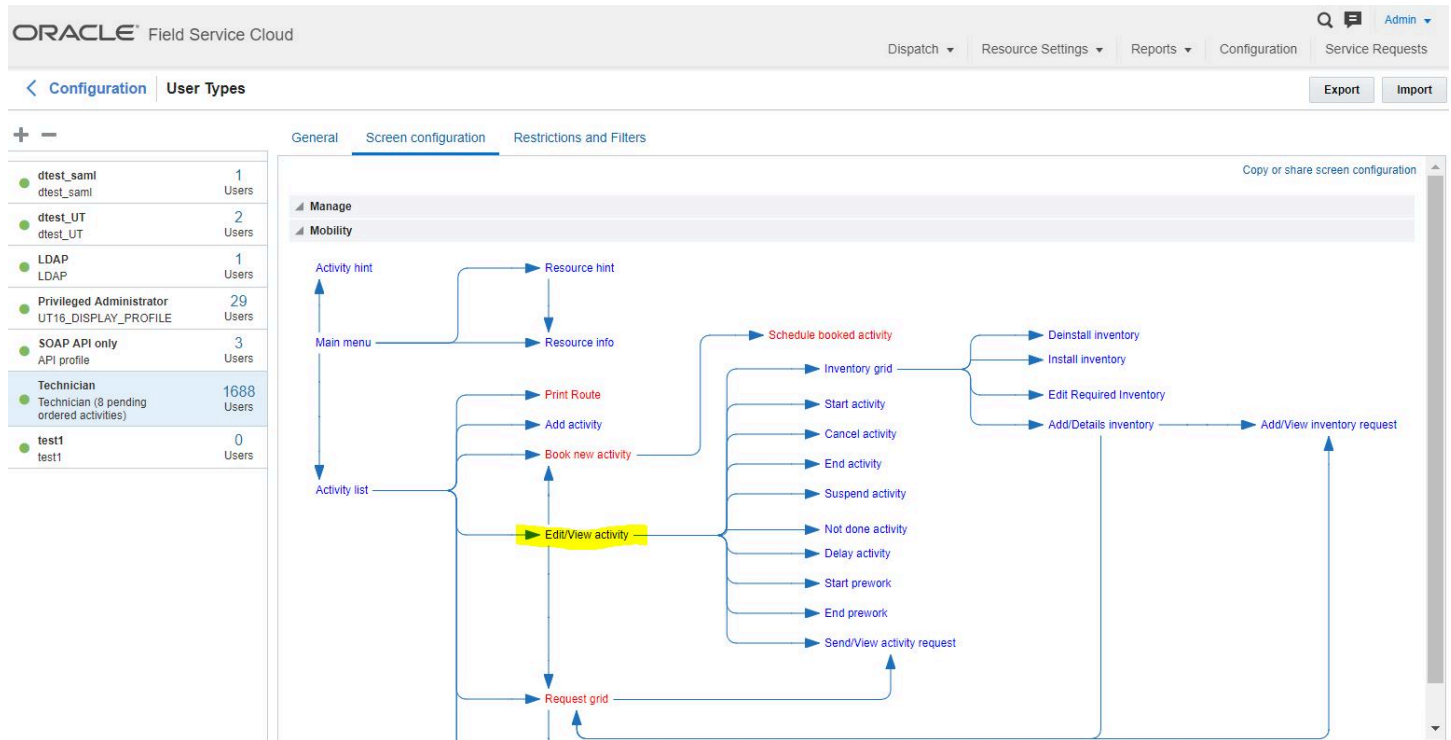
Click the **Edit/View Activity Action Link** to define the urgent activity condition.

This screenshot shows the Edit/View Activity action link details screen:

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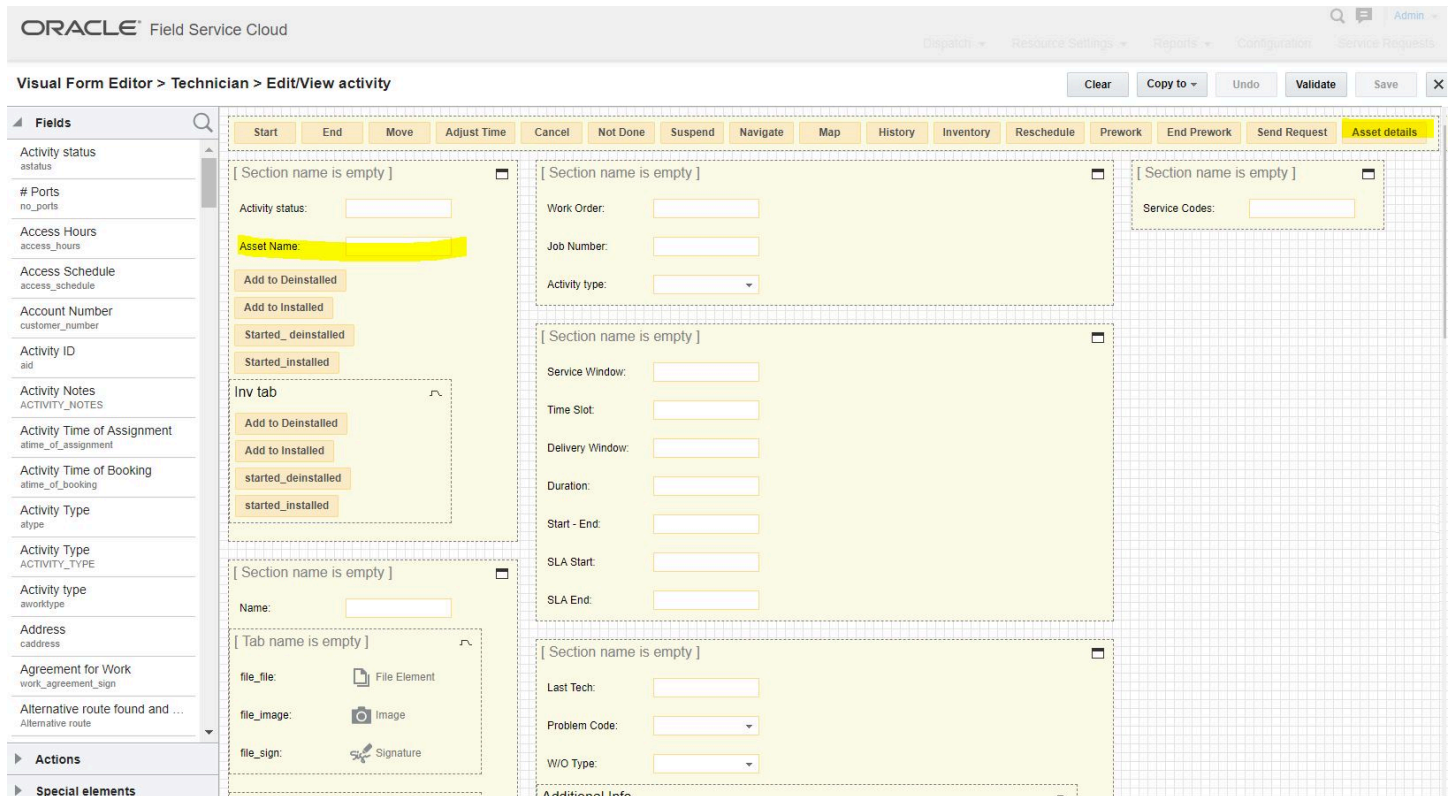
8. Define the urgent activity condition as required.

9. In the Configuration page, click **Business Rules**.

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**

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13. Select the **Apply for Urgent Activities** option. (Routing will assign the activities matching the 'property+value' combination defined in the **Activity Priority** field).

This screenshot shows the Add Routing Plan screen with Apply for Urgent Activities field selected:

14. Activate the Routing plan.

Set Up the Properties for Activity Types

You can set up properties for the new activity type you created in Oracle Field Service.

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.

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12 Integration With Oracle Knowledge Advanced

About This Integration

You can now integrate Knowledge Advanced for B2C Service (OKA) with Oracle Field Service using Pass-through authentication (PTA).

> **Note:**   Knowledge Advanced for B2C Service is a separate Oracle product distinct from Oracle Field Service. You must have a valid subscription to the Knowledge Advanced for B2C Service to use the integration between the two applications.

A single user account was used to authenticate the Oracle Field Service - Knowledge Advanced for B2C Service integration previously. OKA reports always showed this single user and thereby, made it difficult to identify the actual users who accessed the Knowledge Advanced for B2C Service service from Oracle Field Service. Oracle Field Service offers Pass-Through Authentication (PTA) mechanism in Oracle Field Service- Knowledge Advanced for B2C Service integration now. With this mechanism, OKA reports display the actual users' login details.

Pass-through authentication lets you integrate the Oracle B2C Service Customer Portal with an external customer validation source, such as your organization's website, so your customers can automatically log in to your customer portal from an external web page.

How do I configure Pass-Through authentication?

The pass-through authentication (PTA) option helps track the actual usage of users accessing Knowledge Advanced for B2C Service from Oracle Field Service. When you select PTA as the security policy in Oracle Field Service, Oracle B2C Service acts as an IDP. This security policy uses PTA in Oracle B2C Service to create the contact and provide access to Knowledge Advanced for B2C Service.

Follow these steps:

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1. Click **Configuration** > **Oracle Knowledge**.

   Oracle Knowledge is displayed on the **Configuration** page, only if you've a license for it:

   This screenshot shows the Configure PTA dialog box.

Knowledge access

Security Policy	Pass-Through Authentication
URL	https://test.local
Secret Key	●●●●●●●●●●●●●●

Knowledge fields mapping

Search	Activity Type [ACTIVITY_TYPE]
Category	W/O Type [WO_TYPE]
Product	W/O Type [WO_TYPE]

Save

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2. Complete these fields:

Field	Description
Security policy	The security policy that you want to use to connect to Knowledge Advanced for B2C Service. Select Pass-Through Authentication.
URL	The URL to access the knowledge base.
User Name	User name is a concatenation of your Oracle Field Service user name and the string &p_li_passwd followed by the value of PTA_SECRET_KEY. For example, 'john.smith&p_li_passwd=ThisIsASecret'.
Password	Your Oracle Field Service password.
Knowledge fields mapping	Provides the possibility to configure the parameters of the context search and filtering, based on activity properties. Select the desired search, category, and product properties from the drop-down lists.

3. Click **Save**.

See the PTA guide for more information about the configuration settings.

What to do next

PTA Fields and Values

> **Note:** Connectivity must be available to integrate Oracle Field Service with Knowledge Advanced for B2C Service. Oracle Field Service must be able to reach the Knowledge Advanced for B2C Service URL.

Name	Value	Description
PTA_ENABLED	Yes	Enables the use of PTA login integration.
PTA_ENCRYPTION_KEYGEN	3	Specifies the type of keygen method to use for PTA encryption. 3 ? RSSL_KEYGEN_NONE
PTA_ENCRYPTION_METHOD	aes256	Specifies the encryption scheme PTA logins should use. aes256 ? 256 bit AES in CBC mode
PTA_ENCRYPTION_PADDING	1	Specifies the type of padding method to use for PTA encryption. 1 ? RSSL_PAD_PKCS7
PTA_IGNORE_CONTACT_PASSWORD	Yes	Specifies whether contact passwords are honored during PTA logins. If enabled, contact

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		passwords are ignored and users can log in through PTA with just a user name.
PTA_SECRET_KEY	< User defined value >	Specifies the secret key used to validate login integration parameters, when encryption is disabled, or to decode the PTA string when encryption is enabled. If encryption is disabled, you must pass this value as a p_li_passwd parameter encoded within the PTA login string. If encryption is enabled, you must not include this value within the PTA string and use only to encrypt the value sent. Requests that send an invalid value are rejected. This key used as the "Secret Key" in the new configuration page of Oracle Knowledge.

NOTE: As part of the new user authentication process, Oracle B2C Service expects an email address as a required field. Oracle Field Service uses the user email address configured in a custom property selected as "Email for password reset" on the "Display" screen for this purpose. If you haven't enabled this email address, or you've provided an invalid email address, Oracle Field Service generates a dummy email address in the format " <Oracle Field Service_login>@<Oracle Field Service_instance_id >. invalid". If a domain isn't available in the email address field, the application doesn't create a contact. So, make sure that you've configured a valid email id in Oracle Field Service.

Security Policy as a Basic Authentication

This policy supports the existing single user-based access to Knowledge Advanced for B2C Service.

Name	Value	Description
PTA_ENABLED	Yes	Enables the use of PTA login integration.
PTA_ENCRYPTION_KEYGEN	Empty value	Specifies the keygen method used for PTA encryption.
PTA_ENCRYPTION_METHOD	Empty value	Specifies the encryption method you want to use.
PTA_ENCRYPTION_PADDING	Empty value	Specifies the padding method used for PTA encryption.
PTA_IGNORE_CONTACT_PASSWORD	No	Specifies whether contact passwords are honored during PTA logins. If enabled, contact passwords are ignored and users can log in through PTA with just a username.

Name	Value	Description
PTA_SECRET_KEY	Empty value	Specifies the secret key used to validate login integration parameters when encryption is disabled, or to decode the PTA string when encryption is enabled.

Oracle Field Service - Knowledge Advanced for B2C Service Authentication Workflow

1. When a user opens Knowledge Advanced for B2C Service pages from Oracle Field Service, Oracle Field Service initiates a request to Oracle B2C Service for authentication.
2. It validates whether a user that's present in Oracle B2C Service is using the user id.
3. If a valid user id is present in Oracle B2C Service, the user is authorized to access the Knowledge Advanced for B2C Service pages.
4. If there's no user present in Oracle B2C Service, Oracle Field Service creates a new contact in Oracle B2C Service with User login, user last name, and email. The user login and user last name are taken from the Oracle Field Service login details. The email is taken from restore password (if email id is defined there) and updated in Oracle B2C Service.
5. If there's no valid email available in Oracle Field Service, a dummy email is created in Oracle B2C Service with the format, <Oracle Field Service_login>@<Oracle Field Service_instance_id>.invalid. Make sure that you've a valid email id in Oracle Field Service, before you create a new request in Knowledge Advanced for B2C Service, so that the contact in Oracle B2C Service is created with a valid email id.

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13 Troubleshooting

Troubleshooting Applications

The Applications page has been enhanced now. The application displays new error messages or warning messages related to application integration.

Connection Failure

Symptom

The system displays a warning message to indicate that it is a test connection failure. This screenshot displays the Test Connection Failure warning message:

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Such warning message occurs due to the following reasons:

- the Database as a service connection is invalid or not configured in OAC
- the user name for Database as a service configuration contains Uppercase characters.
- OAC returns 500 HTTP status code.

Solution

Change the current configuration and then try to establish the connection again.

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Configuration Issue Exists Between ORDS and DBaaS

Symptom

The system displays a warning message due to configuration issue between Oracle REST Data Services (ORDS)and DBaaS.
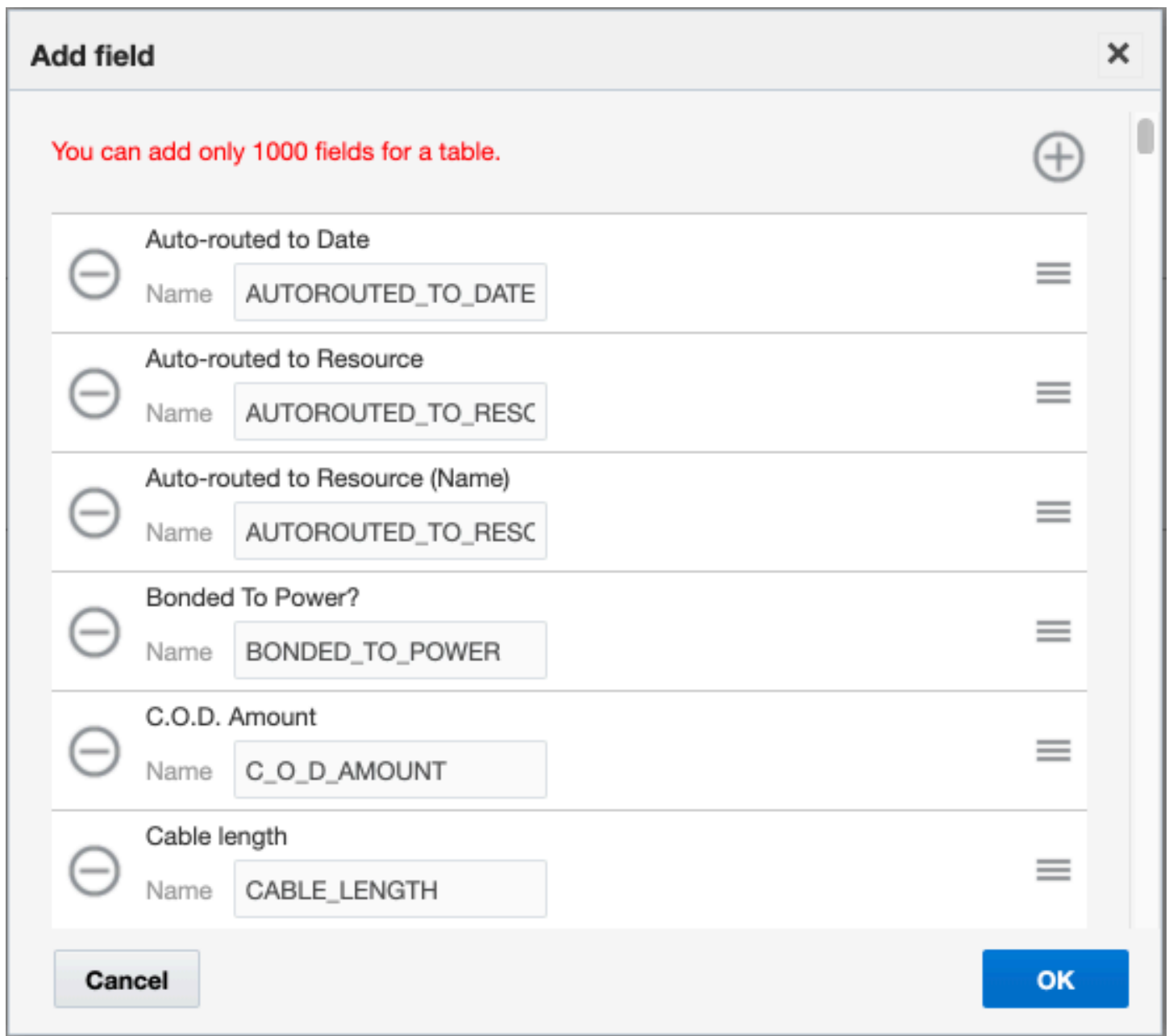
Solution

Change the current configuration and then try to establish the connection again.

Number of Columns Exceed 1000 Warning Message

Symptom

In case of BICS/OACS/DBaaS configurations, the maximum fields you can add for an entity is limited to 1000. If you try to add more fields, the system displays a warning message.

This screenshot displays the warning message indicating that the number of columns cannot exceed 1000.

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Solution

Try to keep the number of fields within the maximum limit.

Host Unreachable Message

Symptom

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In BICS, OAC, and DBaaS channels, the host must be reachable within seven days. If the host is not reachable for more than seven days, the system displays an error message.

Solution

Make sure that the host is reachable within 7 days.

Integration Not Working

Symptom

The integration doesn't work. In other words, the Daily Extract files are not generated.

Solution

Review whether you have changed a label or type of a property that is configured for an application. Review whether you have changed a table or column that is created as part of an integration. The integration fails if any of these is true.

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Revision History

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

Date	What's Changed	Notes
November 2022	These topics are updated: • Add an Oracle Integration Application • View an Oracle Integration Application Details	
August 2022	This topic is added: • Configure Daily Extract Start Time • Applications Page Improvements This chapter and its subsections are removed • Integration With Oracle Business Intelligence Cloud Service	
May 2022	These topics are added: • Applications Page in Redwood Theme • Configure Oracle HCM Cloud • Oracle Field Service and Oracle HCM Cloud Mapping • Enable Oracle Service Logistics Cloud to Oracle Field Service Cloud OIC Recipe	
February 2022	These topics are added: • Integrate with Oracle Content Management • Integrate with Oracle B2B Knowledge Management	

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