

ORACLE FIELD SERVICE CLOUD CONFIGURATIONS

FOR

ORACLE WORK AND ASSET CLOUD SERVICE TO ORACLE FIELD SERVICE CLOUD

(ALSO APPLICABLE TO ORACLE UTILITIES WORK
AND ASSET MANAGEMENT)

V19c



Disclaimer

Oracle Field Service Cloud Configurations for Oracle Work and Asset Cloud Service Integration to Oracle Field Service Cloud

January 2020

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Preface

Welcome to the Oracle Field Service Cloud Configuration Guide for Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Cloud v19C.

This document focuses on the Oracle Field Service Cloud configurations and administration information required for this integration. The preface includes the following:

- [Audience](#)
- [Documentation and Accessibility](#)
- [Abbreviations](#)

Audience

This document is intended for anyone implementing the Oracle Utilities Integration for Work and Asset Cloud Service and Oracle Field Service Cloud.

Documentation and Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support for the hearing impaired. Visit:

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs>

Abbreviations

Term	Expanded Form
OFSC	Oracle Field Service Cloud
WAM	Oracle Utilities Work and Asset Management
OIC	Oracle Integration Cloud Service
WACS	Work and Asset Cloud Service

Chapter 1: Accelerator Overview

This chapter focuses on the software requirements for Oracle Field Service Cloud and provides an overview of the configuration. It includes the following sections:

- [Configuration Overview](#)
- [Accelerator Package](#)
- [Accelerator Activity Types](#)

Configuration Overview

This section covers basic Oracle Field Service Cloud configurations, such as Activity Types, User Types, Properties, UI screens, validations for these UIs, plugins, and resource configurations.

Accelerator Package

The accelerator package includes various user types, properties, and plugins. This document explains the configurations for other elements such as activity types, work zones, work skills, work conditions and outbound channel.

The package helps customers to configure and set up Oracle Field Service Cloud to be used in the Oracle Utilities Work and Asset Cloud Service integration to Oracle Field Service Cloud as the package contains only Oracle Utilities Work and Asset Cloud Service and Oracle Integration Cloud configuration files and instructions. It is used in addition to the integration package which provides a complete end-to-end set up for the integration.

The contents of the package are:

- **User Types** – Define layouts and UI screens. Refer to the [User Types](#) section for more details.
- **Properties** – Create layouts and mapping. Refer to the [Properties](#) section for more information.
- **Plugins** – The plugins that are part of this integration are measurements, service history, resource usage and validate completion. Refer to the [Forms and Plugins](#) section for more information.

Accelerator Activity Types

This accelerator is a sample and supports a few Activity Types in this release. More activity types can be added based on the requirement.

Chapter 2: Installing the Basic Accelerator Package

This chapter focuses on importing the files that come as a part of the package and configuring them in the Oracle Field Service Cloud environment for the integration to run successfully. Make sure to follow the same sequence for successful configuration.

- [Order of Importing the Package](#)
- [Activity Types](#)
- [Properties](#)
- [Glossary](#)
- [Forms and Plugins](#)
- [User Types](#)

Order of Importing the Package

Make sure to follow the order mentioned below during the package import.

- Activity Types
- Properties
- Glossary
- Measurements Plugin
- ResourceUsage Plugin
- ServiceHistory Plugin
- ValidateCompletion Plugin
- WACS OFSC User Type
- WACS OFSC Dispatcher User Type

Activity Types

Activity types define the categories of the activity supported by Oracle Field Service Cloud (in this case, Oracle Utilities Work and Asset Cloud Service Integration to Oracle Field Service Cloud). In the activity type, there are various fields such as time slots, activity status denoted using colors and features that each activity type supports. They can be customized for each activity type.

To create an activity type:

1. Navigate to **Configurations**.
2. On the **Configuration** page, select **Activity Type**.
3. Select the 'WAM-OFSC' group from the list.

WAM-OFSC (ID: 90) Rename					
<input type="checkbox"/>	ID	Status	Activity Type Name ▲	Activity Type Label	Actions
<input type="checkbox"/>	93	✓	Field Inspection	Field Inspection	Modify Clone
<input type="checkbox"/>	94	✓	Hydrant Inspection	Hydrant Inspection	Modify Clone
<input type="checkbox"/>	91	✓	Major Repair	Major Repair	Modify Clone
<input type="checkbox"/>	92	✓	Preventive Maintenance	Preventive Maintenance	Modify Clone

1-4 of 4

If it does not exist, create a group.

- a. Click **Add Group**.

ORACLE Field Service Cloud

[Configuration](#) | Activity Types

[Add Group](#) [Add Activity Type](#) [View](#)

Customer (ID: -1) [Rename](#)

<input type="checkbox"/>	ID	Status	Activity Type Name ▲	Activity Type Label	Actions
--------------------------	----	--------	----------------------	---------------------	---------

- b. Enter the group name. Example: WAM-OFSC

4. Click **Add Activity Type**.
5. Enter the name and other activity type details. Click **Add**.

Activity type info

* Label

* Name

* English

SpanishLA

Portuguese (Brazil)

Active ☒

Group

* Default Duration minutes

Color scheme

Copy from

Pending

Features

☐ Teamwork

☐ Enable segmenting and extended duration

☒ Allow move between resources

☒ Allow creation in buckets

☒ Allow reschedule

☒ Support of not-ordered activities

☒ Allow non-scheduled

☒ Support of work zones

☒ Support of work skills

☒ Support of time slots

☒ Support of inventory

☒ Support of links

☒ Support of preferred resources

Suspended	99FFFF	<input checked="" type="checkbox"/> Calculate activity duration using statistics
Not Done	60CECE	<input checked="" type="checkbox"/> Allow to search
Not Ordered	FFCC99	<input checked="" type="checkbox"/> Allow to create from Incoming interface
Started	5DBE3F	<input type="checkbox"/> Enable 'day before' trigger
Cancelled	80FF80	<input type="checkbox"/> Enable 'reminder' and 'change' triggers
		<input type="checkbox"/> Enable 'not started' trigger
		<input checked="" type="checkbox"/> Enable 'SW warning' trigger
		<input checked="" type="checkbox"/> Calculate delivery window
		<input checked="" type="checkbox"/> SLA and Service window use customer time zone (required for routing)
		<input checked="" type="checkbox"/> Support of required inventory
<input type="checkbox"/> Available time slots		
<input checked="" type="checkbox"/> 08-10 (08:00 AM - 10:00 AM)		
<input checked="" type="checkbox"/> 10-12 (10:00 AM - 12:00 PM)		
<input checked="" type="checkbox"/> 13-15 (01:00 PM - 03:00 PM)		
<input checked="" type="checkbox"/> 15-17 (03:00 PM - 05:00 PM)		
<input checked="" type="checkbox"/> All-Day (All-day time slot)		
<input checked="" type="checkbox"/> Lunch break (12:00 PM - 12:30 PM)		

Cancel
Add

- Click **Clone** to create more activity types. Modify the name and details as required.

Note: Make sure the label names are exactly the same as given below. Else, update the new name in the activity type lookup of Oracle Integration for Cloud.
- Make sure the corresponding lookup values in the WAMOFSC_ActivityType lookup exist for all activity types in Oracle Integration for Cloud.
- Add only specific activity types as needed from the list below.

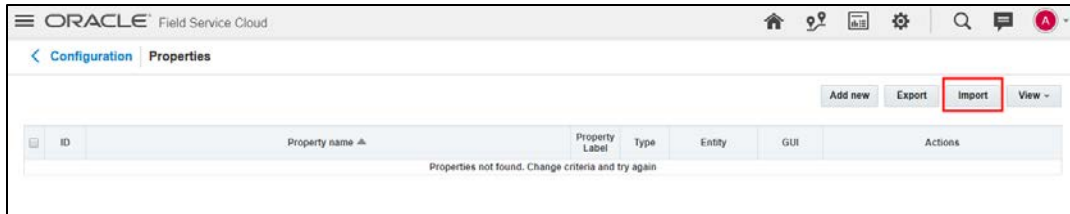
WAM_ActType	OFSC_ActType
WD-RegulatorPM	Preventive Maintenance
WD-MajorPlantRepair	Major Repair
WD-MWMHydrantInspection	Hydrant Inspection
WD-FieldInvestigation	Field Inspection

Properties

Properties enable the integration specific UIs created and map the Oracle Field Service Cloud UI element with a property. Each property is classified into types such as field, integer, enumeration, string on the basis of requirements and should be addressed using this property.

To import the property file included in the accelerator package:

- Navigate to the **Configuration** page and click **Properties**.
- Click **Import**.



3. Browse to the location of the file to be imported and click **Import**.



4. Verify the successful import of the file.

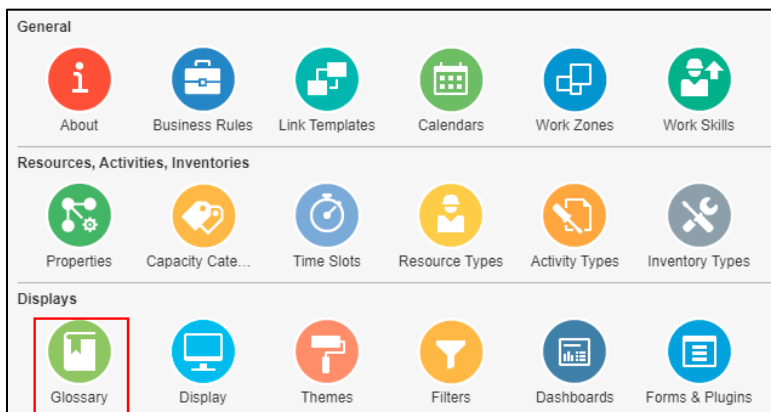


Glossary

Glossary is used for cosmetic changes in label names. This function provides the flexibility to change labels based on the business needs.

To use the glossary function:

1. On the **Configuration** page click **Glossary**.



2. Click **Import** to import the file provided as part of the package.



3. Click **Browse** and select the file. Click **Import**.



Make sure the file imports successfully.

4. As part of the package, the following labels are changed. Change the labels based on the preference.

```
"Category (ctg)", "Identifier (id)", "Type (tp)", "ID/Label (lbl)", "User Types (ut)", "English (en-US) "
"Glossary: wap_inventory", "glossary", "translation", "10111", "", "Asset"
"Glossary: mobile_shared", "glossary", "translation", "10767", "", "Asset Details"
"Glossary: mobile_shared, wap_inventory", "glossary", "translation", "10109", "", "Asset List"
"Glossary: wap_equipment", "glossary", "translation", "1002", "", "Equipment List:"
"Glossary: mobile_shared", "glossary", "translation", "10865", "", "Assets"
"Properties: Name", "0", "property", "wam_activity_asset_info", "", "Activity Asset Information"
"Properties: Name", "0", "property", "wam_asset_info", "", "Asset Information"
```

Example: To change the Asset label, change the Asset in the given file. You can add more values to the existing values.

Forms and Plugins

Plugins are used to make changes to screen and data, based on their type and status of target and parent object. They are also used to enter measurements, record time/materials/equipment used while completing an activity, populate service history information and validate completion information before actually sending the information to verify if the message is accepted by Oracle Utilities Work and Asset Cloud Service.

Plug-ins in Oracle Field Service Cloud perform actions not found in the standard solution. They appear as selectable links on the application. They open a new window, tab, or frame in a browser where an external HTML5 application is executed.

For more information on Oracle Field Service Cloud plugin framework refer to latest Oracle Field Service Cloud documentation at:

<https://docs.oracle.com/en/cloud/saas/field-service/19d/fapcf/overview-of-the-plugin-api.html#overview-of-the-plugin-api>

Each plugin contains a javascript file that has the main business logic required for functionality of the plugin. The data required for each plugin is available through the properties that are added for the plugin. XML data obtained through properties is parsed and appropriate xsl is applied to it to render each UI.

Measurement Plugin

Measurements manage the asset operational and runtime data collected and tracked for assets. Asset measurements include mileage, hours of uptime, number of start-stops, and more.

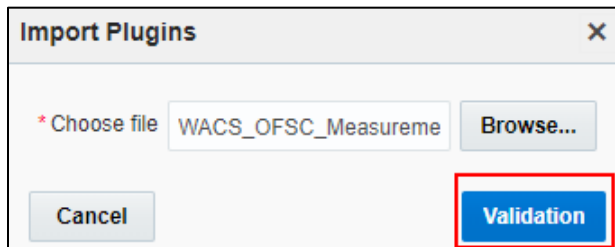
Since they almost entirely depend on the usage of the related asset, readings cannot be calculated or predicted accurately by the system. Instead, readings must be collected and entered into the system, either manually by a user or imported as the result of activity completion.

To import plugins:

1. Navigate to **Configuration > Forms and Plugins**.
2. Click **Import Plugins**.

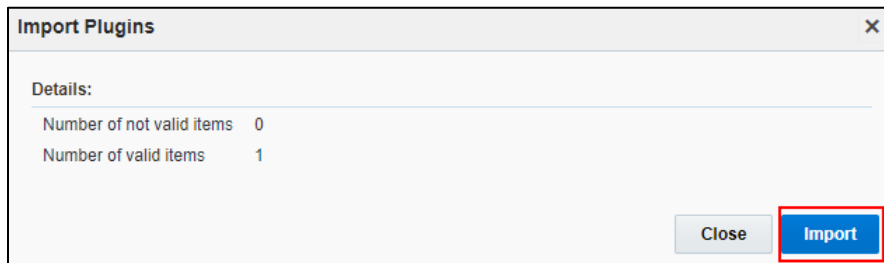


3. On the **Choose file** field, click **Browse** to select measurement plugin. Click **Validate**.



Oracle Field Service Cloud validates the plugin and the number of valid items should be 1.

4. Click **Import**.




After the successful import of plugin, Oracle Field Service Cloud displays the details as shown below.



5. Make sure the **Available Properties** tab is populated with all properties.

Available Properties

Add properties that must be available through Plugin API 

Activity

Activity Description Activity ID Activity Number

Measurement Gauge Reason

Measurement Numeric Meter Reason Work Order

Inventory

Activity Id Asset Id Asset Information Inventory Id

Location Information Measurements Output Node Id

Valid Measurement Types

Asset Details

Asset Information: Boiler, Badge Number 04AEBLXXXX, In Service @ Boiler - Facility 504

Badge Number: 04AEBLXXXX

Asset Description: Boiler

Serial Number: 500324

Asset Location

Location Information: Boiler - Facility 504

Building: Boiler

Service Area: North

Asset Worked: On

Asset Worked

Service History Measurements

Resource Usage Plugin

Timesheets are used to record the amount of time that workers (labor resources) spend on activities or work orders. Once charges are entered, processing allows employees to receive proper compensation for their work and labor charges are applied to the appropriate cost buckets.

Generally, only each individual and the person is designated as the supervisor on that individual's crew can access timesheet information for that person.

To import the plugin:

1. Navigate to **Configuration** page > **Forms and Plugins**.
2. Repeat steps 1 to 4 from [Measurement Plugin](#).
3. Click **Import Plugins** to import the resource usage plugin provided in the package.



ORACLE Field Service Cloud

Configuration Forms & Plugins

Add Form Add Plugin Export Plugins Import Plugins View

Resource Usage Resource Usage

Type: Hosted plugin

Name: ResourceUsage

No links configured

4. Select the resource plugin and enter the details:
 - URL: OIC integration point URL for the plugin
 - OIC_username/OIC_password: OIC username/password

Oracle Field Service Cloud users should to configure the following:

- ofsc_username: clientID@instance ID
- ofsc_password: client secret key
- ofsc_bucket: External ID of bucket configured in your environment

Secure parameters
Duplicate names are not allowed. Overall size should not exceed 5 KB.

oic_url	Value	-
oic_username	Value	-
oic_password	Value	-
ofsc_username	Value	-
ofsc_password	Value	-
ofsc_bucket	Value	-
		+

5. Make sure the **Available Properties** tab is populated with properties shown below.

Available Properties
Add properties that must be available through Plugin API

Activity

Activity ID Craft Crew Shift Type End Equipment Type Job Order Labor Earning Type Other Resource Type Overtime Type

Resource Unit of Measure SLA End SLA Start Start Time Slot Traveling Time WAM Resource Usage Output Work Activity Info

Work Order Work Skill

Resource

External ID Name Resource type Type

Service History Plugin

Service history is information regarding some type of service or maintenance performed on an asset. Information typically associated with service history include record inspection feedback, pass/fail details, downtime, parts failure information, maintenance or service logs, or other information regarding service on the asset.

1. Click **Import Service History Plugin** to import. Navigate to Configuration page > Forms and Plugins.
2. Repeat steps 1 to 4 from [Measurement Plugin](#).
3. Click **Import Plugins** to import the service history plugin provided in the package.



4. Make sure the **Available Properties** tab is populated with the properties shown below.

Available Properties

Add properties that must be available through Plugin API

Activity

Activity Description Service History BO Service History Types Service History Types Service History Types Service History Types

Service History Types Service History Types Service History Types Service History Types Service History Types

Service History Types WAM Downtime Reason Work Order

Inventory

Activity Id Asset - Valid Service History Types Asset Id Asset Info Asset Location Information Failure Information Inventory Id

Node Id Service History Output Upload Attachment 1 Upload Attachment 2 Upload Attachment 3 Upload Attachment 4

Upload Attachment 5 Upload Attachment Output

Validate Completion Plugin

This plugin helps crew to validate the eligibility to the activity to complete. If the activity is not yet eligible, the plugin displays corresponding error message if the eligibility is success so the crew can complete the activity.

1. Navigate to **Configuration** page > **Forms and Plugins**.
2. Repeat steps 1 to 4 from [Measurement Plugin](#).
3. Click **Import Validate Completion Plugin** to import the service history plugin provided in the package.



4. Ensure that the **Available Properties** tab is populated with the properties shown below.

Available Properties

Add properties that must be available through Plugin API

Activity

Activity ID validate flag wam consolidated inventories

Inventory

Activity Id Asset Id Inventory Id Inventory pool Measurements Ouput Node Id Service History Output

User Types

The user types are used to manage permissions for all the users. Each user type has a profile that defines security and display permissions, such as the user's login method, the ability to use certain functions, and access to menu items and properties. Screen-configuration settings define the screens, windows, pop-up windows and other elements visible to a certain user type. They also support the context layout editor, in which the content, arrangement, and visibilities of each context are set.

Use the user types to create custom screen context layouts for Oracle Work and Asset Cloud Service integration to Oracle Field Service Cloud for utilities by accessing the screen configuration settings in specific user types created.

The user types that are part of this integration are:

- WACS_OFSC_Dispatcher_User_Type
- WACS_OFSC_User_Type

To setup user types:

Important! Make sure to load the Properties, Activity Types, and Plugins before proceeding.

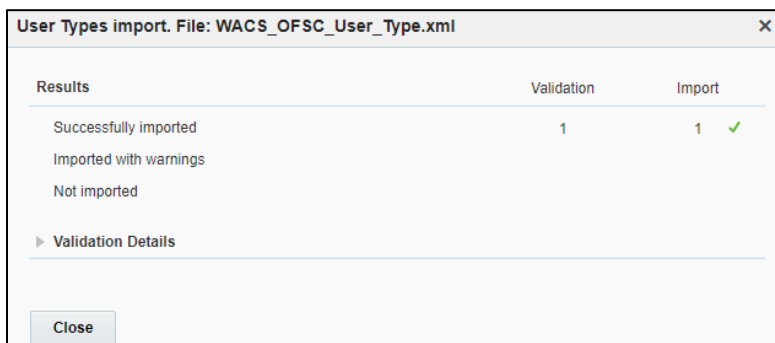
1. Navigate to **Configuration** page > **User Types**.
2. Click **Import** to import the user types.



3. On the **Choose file** field, click **Browse** to select measurement plugin. Click **Validate**.



4. Click **Import** and verify the import is successful.



5. Import 'WACS_OFSC_Dispatcher_User_Type'.



The dialog box titled 'User Types import. File: WACS_OFSC_Dispatcher_User_Type.xml' displays the following table:

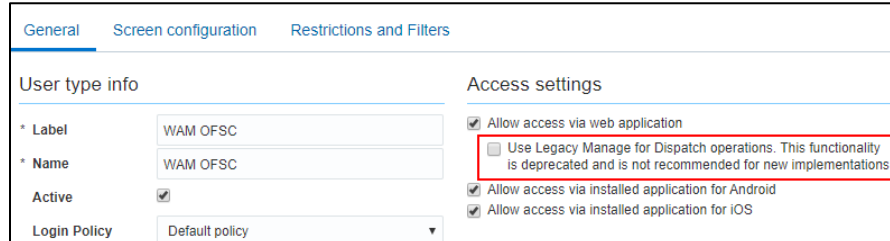
Results	Validation	Import
Successfully imported	1	1 ✓
Imported with warnings		
Not imported		

Below the table is a link for 'Validation Details' and a 'Close' button at the bottom left.

After the Dispatcher user type is set up, perform the following:

1. Make sure the Dispatcher user type import is successful without warnings.
2. Navigate to resources search for admin user. Note the user type configured in your environment.
3. Navigate to **Configuration > User types > WAM OFSC Dispatch Administrator**.
4. On the **General** tab, configure the display profile as 'WAM OFSC Dispatch Administrator' and the profile that was configured to admin user.
5. Navigate to **Resources search** for admin and click **Edit**.
6. Set the user type as 'WAM OFSC Dispatch Administrator'.
7. Enter the password and click **Submit**.

Make sure that the Access settings are selected for both the user types.

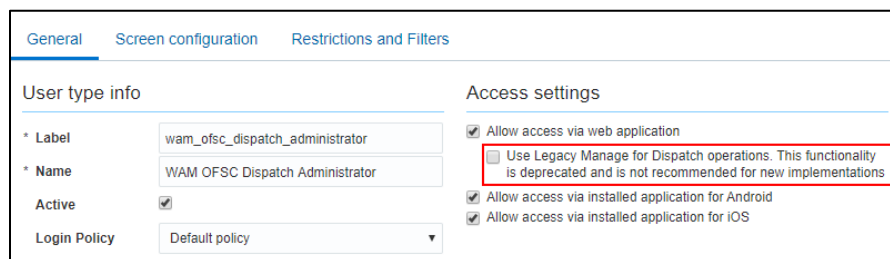


The 'General' tab of the 'User type info' configuration shows the following details:

- Label:** WAM OFSC
- Name:** WAM OFSC
- Active:** ☒
- Login Policy:** Default policy

The 'Access settings' section on the right includes:

- ☒ Allow access via web application
- ☐ Use Legacy Manage for Dispatch operations. This functionality is deprecated and is not recommended for new implementations
- ☒ Allow access via installed application for Android
- ☒ Allow access via installed application for iOS



The 'General' tab of the 'User type info' configuration shows the following details:

- Label:** wam_ofsc_dispatcher_administrator
- Name:** WAM OFSC Dispatch Administrator
- Active:** ☒
- Login Policy:** Default policy

The 'Access settings' section on the right includes:

- ☒ Allow access via web application
- ☐ Use Legacy Manage for Dispatch operations. This functionality is deprecated and is not recommended for new implementations
- ☒ Allow access via installed application for Android
- ☒ Allow access via installed application for iOS

Chapter 3: Additional OFSC Configurations

This chapter elaborates on the additional configuration of organization, work zones, outbound channel and UI validations in user types. It includes the following:

- [Sync Mobile Control Data Information from WACS to OFSC](#)
- [Organization](#)
- [Work Zones](#)
- [Resource and Bucket Info](#)
- [Outbound Channel](#)
- [UI Validations](#)
- [Checklist](#)

Sync Mobile Control Data Information from WACS to OFSC

Information from Oracle Utilities Work and Asset Cloud Service has to be replicated to Oracle Field Service Cloud to provide the drop-down information used in the Oracle Field Service Cloud mobile application. Create work skills, work skill properties, and work skill conditions in Oracle Field Service Cloud to match activities with resources and for crew tracking.

As part of this accelerator, Sync_MobileControlData_WAMToOFSC deployed on Oracle Integration Cloud (OIC) is provided to create these configurations automatically making migration of data easier and get rid of tedious manual work.

Sync_MobileControlData_WAMToOFSC needs to be run on initial installation or on a need to basis when new control data from Oracle Utilities Work and Asset Cloud Service or work skill related configurations needs to be created or updated in Oracle Field Service Cloud.

This sync integration process is manually run in OIC by scheduling the integration process to run on a scheduled date or selecting **Submit Now** from the menu of the activated sync integration process to initiate an instance of the integration. An optional language parameter can be entered, it should be an ISO 2 letter language code, to determine the description to retrieve from Oracle Utilities Work and Asset Cloud Service and in what language code the property name should be created in Oracle Field Service Cloud. If the language is not populated or blank, it is defaulted to English (en).

Refer to the Business Flows chapter in *Oracle Utilities Work and Asset Management Integration to Oracle Field Service Cloud Configuration Guide* at https://docs.oracle.com/cd/F25987_01/index.htm.

The following configurations are created/updated by the Sync Process:

- Create/update the enumeration values of the Oracle Field Service Cloud properties.

OFSC Property label	Synced WACS Information
wam_craft	Craft
wam_crew_shift_type	Crew Shift Type
wam_downtime_reason	Downtime Reason

OFSC Property label	Synced WACS Information
wam_equipment_type	Equipment Type
wam_labor_earning_type	Labor Earning Type
wam_measurement_gauge_reason	Measurement Gauge Reason
wam_measurement_meter_reason	Measurement Meter Reason
wam_other_resource_type	Other Resource Type
wam_overtime_type	Overtime Type
wam_resource_uom	Unit of Measure-Resource

To verify the information synced from Oracle Utilities Work and Asset Cloud Service to Oracle Field Service Cloud, navigate to the respective property and check the enumeration values. Click **Modify**.

NOTE:

- After a resource is created in Oracle Utilities Work and Asset Cloud Service, the resource code (craft code, equipment code and other resource code) cannot be changed. The sync integration process uses these resource codes to create the enumeration values for equipment type, craft and other resource type property in Oracle Field Service Cloud. Slash (/) should not be included in the resource code.
- The sync integration process cannot delete enumeration values added to a property in Oracle Field Service Cloud; the OFSC REST API that updates the enumeration values of a property does not allow it. The only way to delete an enumeration value(s) in a property is by deleting the property, recreate the property and run the sync to get the latest values.

- Work Skill Related Configurations
 - A work skill is created in Oracle Field Service Cloud for each craft synced from Oracle Utilities Work and Asset Cloud Service. Work skill is a job-specific skill and is used as a criteria to match activities with the resources. The label format for Work Skill created in Oracle Field Service Cloud is:
 - **W_** + WACS craftcode
 - Example: Work Skill created in Oracle Field Service Cloud

Edit work skill: "Carpenter"

* **Name**

* English

SpanishLA

Portuguese (Brazil)

* **Label**

Sharing of the skill in teamwork ▼

Active ☒

- A work skill property on the activity level is created in Oracle Field Service Cloud for each craft synced from Oracle Utilities Work and Asset Cloud Service. This property will contain information about how many people with the particular work skill is needed for the activity. The label format for Work Skill property created in Oracle Field Service Cloud is:
 - **W_ + WAM craftcode + _Nd**
Example: Work Skill Property created in OFSC

Modify Property

Property type ▼

* **Property name**

* English

SpanishLA

Portuguese (Brazil)

* **Property Label**

Property hint

English

SpanishLA

Portuguese (Brazil)

Entity

Regular expression

* **Lines count**

GUI ▼

Clone property data on Reopen or Prewrite ☐

- Work Skill Conditions are created in Oracle Field Service Cloud based on the craft and the configuration property value of workSkillCond.actvtySameSkillMaxWorker.default obtained from WAMOFSC_ConfigProps lookup defined in Oracle Integration Cloud. This configuration

property value contains the maximum number of people with the same work skill allowed to work simultaneously in an activity.

- In this example: For work skill = Carpenter and workSkillCond.actvtySameSkillMaxWorker.default = 3, these are the work skill conditions created.

Example: Work Skill Conditions created for Work Skill Carpenter in OFSC

< Work Skills		Work skill conditions			
		Add New		Q Carpenter	
<input type="checkbox"/>	ID	Name	Status	Work skill conditions	Actions
<input type="checkbox"/>	10880	Carpenter(1/1)	✓	Carpenter needed In 1	Modify
<input type="checkbox"/>	10881	Carpenter(2/2)	✓	Carpenter needed In 2	Modify
<input type="checkbox"/>	10882	Carpenter(3/3)	✓	Carpenter needed In 3	Modify

These configuration are used to track teams (crews) consisting of people with different work skills and make sure that activities that require several people simultaneously is assigned to the right team.

Organization

An organization can have buckets, organization units (Org Units), field resources, tools or vehicle associations. Create an organization before adding any type of resource.

To create an organization:

1. Navigate to the **Configuration** page and click **Organization**.
2. Click **Add New** to add a new organization.



3. Enter the name of the organization and click **Submit** to save the details.

Edit Organization

* English

Sunrise Utilities

Portuguese (Brazil)

SpanishLA

* Label

Sunrise Utilities

Type

In-house

Discard changes

Submit

Work Zones

Work zones are used to divide area in different zones for better scheduling of crews. Use the work zone keys to provide the ZIP/postal code to facilitate the division through the Service Point information that comes from Oracle Utilities Work and Asset Cloud Service.

To add a work zone:

1. Navigate to the **Configuration** page and click **Work Zone**.
2. Make sure the **Work Zone Key** (top left corner) is ZIP/Postal Code.

Configuration

Work Zones

Work Zone Key: ZIP/Postal Code(5, case insensitive) [Modify](#)

Add New

Travel Areas

Export

Import

View -

	ID	Status	Work zone name	Work Zone Keys	Actions	Shapes
	10	✓	WINTER SPRINGS	32700	Modify	Shape
	13	✓	STARK	44720	Modify	

3. On the **Work Zone** page, click **Add new** to add the required postal codes in the Work Zone Keys field.

* Work zone name

Stark

* Work zone label

Stark

Status

Active

Delimiter

new line

Travel Area

Sunrise Ente

Work Zone Keys

32704
44720

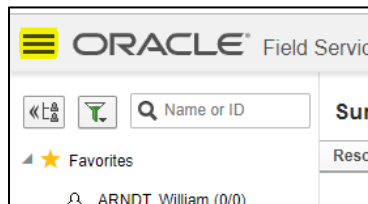
4. Click **Add** to save the new work zone.

Resource and Bucket Info

Oracle Field Service Cloud uses bucket and resources to categorize the resources. In this integration, use the bucket as a resource type to route the entire meter service tasks to workers. In the bucket, create two resources (field workers) who are assigned field activities coming from Oracle Utilities Work and Asset Cloud Service.

To create resources in the bucket:

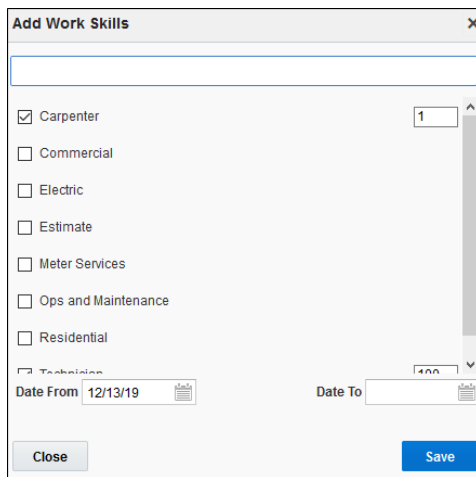
1. On the Oracle Field Service Cloud Home page, click the three lines on the top left corner.



2. Click **Resource & Bucket Info**.
3. Click **Add Child**.

4. Select **Bucket** to add a new bucket in the **Resource type**.
5. Enter the required details and click **OK**.
6. Click **Add Child** and select **Technician** from the **Resource type** drop-down list. Click **OK**.

7. Select the required work skills to this Technician. Click **Save**.



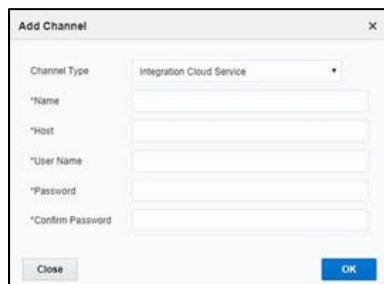
The 'Add Work Skills' dialog box features a search bar at the top. Below it is a list of skills with checkboxes: ☒ Carpenter, ☐ Commercial, ☐ Electric, ☐ Estimate, ☐ Meter Services, ☐ Ops and Maintenance, and ☐ Residential. A 'Technician' dropdown menu is positioned below the list. At the bottom left, there are 'Date From' and 'Date To' fields, with '12/13/19' entered in the 'Date From' field. The dialog includes 'Close' and 'Save' buttons at the bottom.

Outbound Channel

This element is used to create a channel to communicate with Oracle Utilities Work and Asset Cloud Service through Oracle Integration Cloud. Various channel types can be chosen, but since Oracle Work and Asset Cloud Service integration to Oracle Field Service Cloud is through Oracle Integration Cloud, it is used as the channel type.

To add a communication channel:

1. Navigate to the **Configuration** page and click the **Outbound Integration** icon.
2. Click **Add channel**. Enter the required details and click **OK**.

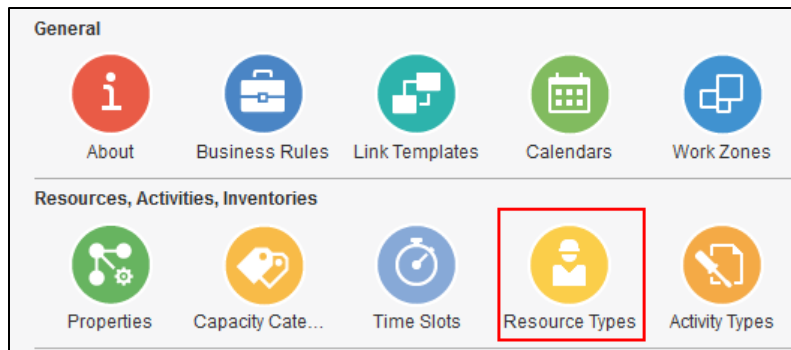


The 'Add Channel' dialog box contains a 'Channel Type' dropdown menu set to 'Integration Cloud Service'. Below this are five required fields, each with an asterisk: '*Name', '*Host', '*User Name', '*Password', and '*Confirm Password'. The dialog has 'Close' and 'OK' buttons at the bottom.

Crew Configuration

To configure a crew:

1. Navigate to **Configuration** page and click **Resource Types**.



2. Click **Add Resource Type**.

ID	Resource type name	Status	Label	Role	Icons	Actions
3	Bucket	✓	BK	Bucket		Modify
2	Group	✓	GR	Organization unit		Modify
5	Network Tech	✓	EG	Field resource		Modify

3. Enter the required details and make sure the crew has 'PR' as the label. Save the record.

Edit Resource Type

Resource Type Info

Name

* English: Technician

SpanishLA:

Portuguese (Brazil): Técnico

* Label: PR

Active: ☒

Features

Role: Field resource

☐ Resource is a Contingent Worker

☒ Resource can participate in team

☒ Resource can be a teamholder

☐ Share inventory in teamwork

☐ Share geolocation in teamwork

☐ Share work skills in teamwork (team-member only)

☒ Used for Quota management

☒ Routing can assign activities

☒ Enable 'Not activated in time' alert and trigger

Load threshold

Units of measurement: number of activities

Full load: If resource has 10 or more activities

Empty: If resource has 0 or less activities

Adding Crew and Crew Member

To create resources for the crew member and crew itself:

1. Navigate to the **Configuration** page and click **Resources Types**.
2. Click on **Add Resource Type**.

3. Populate the required information and click **Add**.

Add Resource Type

Resource Type Info

Name

* English

Crew

SpanishLA

Portuguese (Brazil)

* Label





Crew

Active

☒

Features

Role

Field resource    

☐ Resource is a Contingent Worker

☒ Resource can participate in team

☒ Resource can be a teamholder

☐ Share inventory in teamwork

☐ Share geolocation in teamwork

☐ Share work skills in teamwork (team-member only)


☐ Used for Quota management

☒ Routing can assign activities

☐ Enable 'Not activated in time' alert and trigger

Load threshold

Units of measurement

number of activities 

Full load

If resource has

10

or more activities

Empty


If resource has

10

or less activities


Cost of time

Working hours cost

Normal 

Overtime cost


Resource time cost is increased by

50% 

 for the first

60

 overtime minutes and by

100% 

 afterward

Travel time cost

☐ Company does not pay for travel (Contractors, for example)

☒ Company partially pays for travel (gas reimbursement, for example)

☐ Company provides vehicle (recommended default choice for in-house employees)

☐ Travel is unusually expensive (difficult driving conditions, for example)
travel time will be optimized but work time and on-time arrival will not

Travel Allowance

Start of Day Travel

☐ Working Time does not include the Travel Time to the first activity

☐ Working Time includes the Travel Time to the first activity

☐ Working Time includes up to minutes of the Travel Time to the first activity

Oracle Field Service Cloud Configuration Guide for Oracle Work and Asset Cloud Service Integration to Oracle Field Service Cloud v19C

Travel Allowance

Start of Day Travel

☐ Working Time does not include the Travel Time to the first activity
☐ Working Time includes the Travel Time to the first activity
☐ Working Time includes up to minutes of the Travel Time to the first activity

End of Day Travel

☐ Working Time does not include the Travel Time from the last activity to the Resources End Location
☒ Working Time includes the Travel Time from the last activity to the Resources End Location
☐ Working Time includes up to minutes of the Travel Time from the last activity to the Resources End Location

Statistic Parameters

Personalize the estimation of activity duration

☒

Use data reported to enhance company-wide estimations

☒

Do not consider reported data of the first

working days, for statistic estimations

Cancel

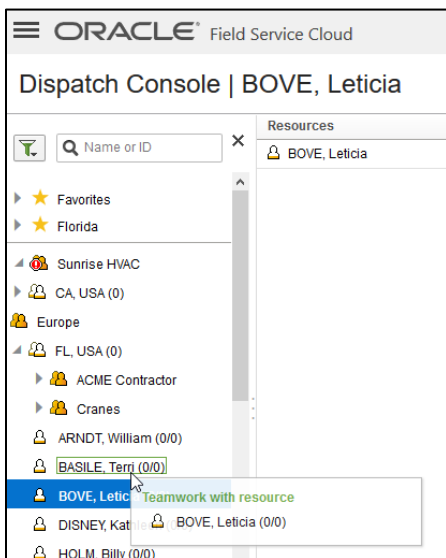
Add

- Repeat steps 2 and 3 to create resource types for crew members.

Assigning Resources

To add multiple resources to a crew so that they can assist it in the completion of work:

- Navigate to the **Activities** page and observe various resources.
- Drag and drop the resources to the crew so as they can assist.



- Upon successful drag and drop, add activities to the crew.

Dispatch Console Add Activity

Assign: BOVE, Leticia

Add Activity?

Activity Type*: Assisting

Duration: 0 hours 00 minutes

Time Slot: hh:mm AM

Time Slot: hh:mm AM

Position in Route: Ordered

4. Populate the required information and click **Submit**.

Offline vs Online Mode

When the crew is enroute to perform an activity in the field there is a possibility that the location does not have network (offline mode); if the network exists, the mode is online. When online, crew can perform the work, validate the completion of the activity, and submit the activity for completion. But, when offline, though the crew can validate and complete the activity, this completion information will be synched to server and message is sent out of Oracle Field Service Cloud only when it comes online.

Note: No offline support is currently provided when adding attachments to a service history. If crew time is entered offline, supervisor has to open the **Resource Usage** page when online before going offline. This ensures all relevant crew member information needed is available on local storage before going offline. Timesheets can then be entered in offline mode as well.

Crew Time

As part of the crew time sheet functionality, from the plugin, there is an invocation call to OFSC REST API to configure the crew members under Crew. To call OFSC REST API from the plugin, set up cross-origin resource sharing (CORS) in Oracle Field Service Cloud as follows:

1. Navigate to **Configuration > Application > Additional Resources**.
2. Select **Allow Cross-origin resource sharing (CORS) from the following web domains** and provide the Oracle Field Service Cloud domain.

If the domain details are unknown, enter '*'. For the actual Oracle Field Service Cloud domain contact the Oracle Field Service Cloud support team.

Additional restrictions

- ☐ Allow access only to certain resources
- ☐ Allow access only for certain IP-addresses
- ☒ Allow Cross-origin resource sharing (CORS) from the following web domains

Each line should contain
one domain name.
Example:
`https://www.example.com`
`https://best.customer.com`
`https://bestcust.com`

*

Inventory Types

The inventory types (such as asset, material, etc) are stored in Oracle Field Service Cloud.

To add an inventory type:

5. Navigate to **Configuration > Inventory Types**. Click **Add New**.

< Configuration

Inventory Types

Add New

Q Name, Label or ID

ID	Name	Label	Unit	Model Property	Status	Non-serialized
1	2T Trane A/C	NT		Model	✓	
2	Rheem RTE13 4.0 Tankless WH	DT		Model	✓	
3	Goodman 46,000 BTU Furnace	AT		Model	✓	
4	40 Gal Rheem H/W Heater	TV		Model	✓	

*** Label**

Active ☒

Non Serialized ☐

Model Property

*** Name**

*** English**

SpanishLA

Portuguese (Brazil)

Close **Save**

*** Label**

Active ☒

Non Serialized ☒

Model Property

*** Name** **Unit of Measurement**

*** English** *** English**

SpanishLA SpanishLA

Portuguese (Brazil) Portuguese (Brazil)

Close **Save**

Checklist

Before proceeding to chapter 4, verify if the following activities are complete.

- All the Activity Types specific to customer are created
- Properties are imported
- User Types are imported
- Plugins are configured
- Make sure the quota is allocated and need not be configured
- Name of the organization
- Sync information from Oracle Utilities Work and Asset Cloud Service to Oracle Field Service Cloud
- Work Skills are created
- Name of the resources, work zones
- Inventory Types are created
- Details of Oracle Integration Cloud used to create the outbound channel

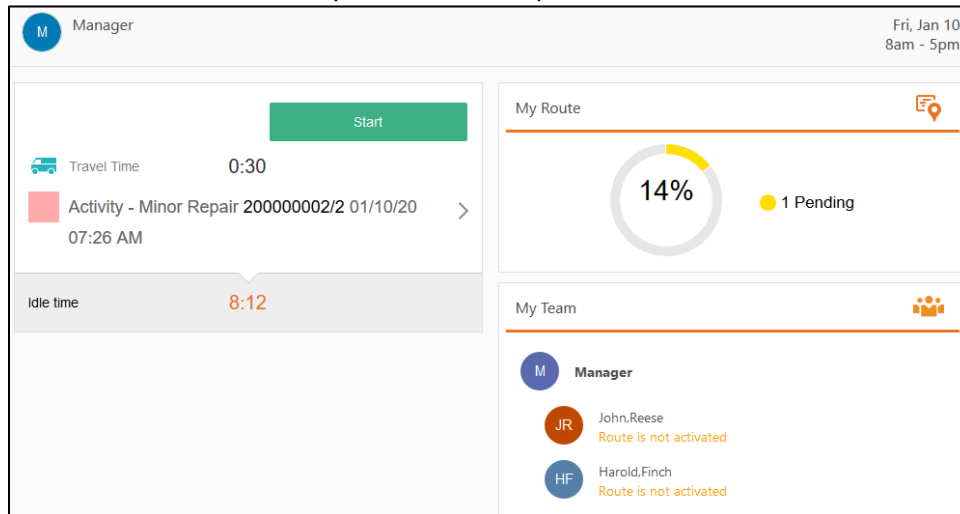
Chapter 4: User Operations

This chapter provides step by step instructions for user operations.

1. Login to Oracle Field Service Cloud Mobility application.

You can access the application by adding '/m' to the Oracle Field Service Cloud URL <ofsc_link/m>.

2. Access the Mobility page using the worker/technician's credentials. The page shows the activities in the queue of the worker.
3. Click **Start** to start the activity in the worker's queue.



4. Enter the **Work Activity Number** and click **Submit**.

The screenshot shows a form for entering a 'Work Activity Number'. The input field contains the number '36246904142514'. At the bottom right of the form are two buttons: 'Dismiss' and 'Submit'.

5. To enter the activity details:
 - a. Click the activity. On the **Activity Details** page, click **Assets**.

Activity Details (01/10/20)

Validate Completion Resource Usage Adjust Time Not Done Suspend Map Book Activity Nearby Activities Materials Tracking Knowledge

Activity Details

Work Order Description: PP_WO2

Activity Number: 200000002/2

Activity Type: Activity - Inspection/Repair (External)

Description: PP_WO2

Detailed Description: PP_WO2

Location Information: Pump 2, RAS, Middle

Asset Information: Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Emergency Indicator: No

Requestor information: Herrala 'WAM v2206 DEMO', Kimberley

Total Risk Priority: 42

Required By Date: 2020-01-27

Duration: 48 minutes

Traveling Time: 1 minutes

Location Information

Address: -

Assets Resources

- b. Oracle Field Service Cloud displays all assets attached to this activity. Select the required asset to view the asset information.

Asset List

Asset 1

Asset Information	Asset Location Information	Quantity
Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle	Pump 2, RAS, Middle	1

Assets Asset Details

Asset Details

Asset Information: Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Badge Number: PP002

Asset Description: Pump - Singlestage, Centrifugal

Serial Number: PP002

Asset Location

Location Information: Pump 2, RAS, Middle

Building: RAS Pumping

Service Area: North

Asset Worked: On

Asset Worked

Service History Measurements

6. To enter the service history details:
- Click **Service History** on the **Assets** page.

Asset Details

Asset Information: Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Badge Number: PP002

Asset Description: Pump - Singlestage, Centrifugal

Serial Number: PP002

Asset Location

Location Information: Pump 2, RAS, Middle

Building: RAS Pumping

Service Area: North

Asset Worked: On

Asset Worked

Service History Measurements

- From the list of service histories that are part of the activity, select '+' next to the specific service history to add the required details.

Activity Information 200000002/2 - PP_WO2

Asset Information Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Asset Location Information Pump 2, RAS, Middle

Service History List

General SH
Required: Yes
Entered: 0

Downtime
Required: No
Entered: 0

Failure
Required: No
Entered: 0

Entered

No items to display.

- Click **Complete**. The service histories are displayed in the **Entered** pane.

Activity Information 200000002/2 - PP_WO2

Asset Information Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Asset Location Information Pump 2, RAS, Middle

Service History List

General SH
Required: Yes
Entered: 2

Entered

General SH
Status :COMPLETED

Note: Crew can also save the service history in 'pending' state. Click **Save**. The pending service histories are displayed in the **Entered** pane with the 'pending' status.

General SH

Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle
Effective Date/Time	<input type="text" value="2020-01-10T18:00:20"/>

Service History Comments

Save

Complete

Dismiss

Activity Information	200000002/2 - PP_WO2
Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle

Service History List

General SH Required: Yes Entered: 2	+
Downtime Required: No Entered: 0	+

Entered

General SH Status :COMPLETED	
General SH Status :PENDING	

d. To complete a service history in 'pending' status:

i. Click **Edit** to edit a specific service history.

Activity Information	200000002/2 - PP_WO2
Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle

Service History List

General SH Required: Yes Entered: 2	+
Downtime Required: No Entered: 0	+

Entered

General SH Status :COMPLETED	
General SH Status :PENDING	

ii. Click **Attach** to attach images of various artifacts.

Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle
Effective Date/Time	2020-01-10T17:57:23
<div>Service History Comments</div> <div></div>	
<div>Save</div> <div>Complete</div> <div>Delete</div> <div>Attach</div> <div>Dismiss</div>	

iii. Browse and select the file to attach. Click **Upload**.

Attach	<div>Browse... OIC.JPG</div>
Comments	
<div>Upload</div> <div>Dismiss</div>	

iv. Click **Complete**.

General SH	
Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle
Effective Date/Time	2020-01-10T17:26:12
<div>Service History Comments</div> <div>Repaired</div>	
<div>Save</div> <div>Complete</div> <div>Dismiss</div>	

The completed service histories are displayed in the **Entered** pane. The number of times the service history was edited is also shown.

Activity Information	200000002/2 - PP_WO2
Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle

Service History List

General SH

Required: Yes

Entered: 2

Downtime

Required: No

Entered: 0

+

+

Entered

General SH

Status :COMPLETED

General SH

Status :COMPLETED

- e. Populate the details for required service histories.
 - f. Make sure the service histories that are marked as 'Required: Yes' have at least one entry.
 - g. Click **Asset Details** to navigate back to the **Asset Details** page.
7. To enter measurement details:
- a. Click **Measurement**.

Assets

Asset Details

Asset Details

Asset Information:

Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Badge Number:

PP002

Asset Description:

Pump - Singlestage, Centrifugal

Serial Number:

PP002

Asset Location

Location Information:

Pump 2, RAS, Middle

Building:

RAS Pumping

Service Area:

North

Asset Worked:

On

Asset Worked

Service History

Measurements

- b. Click + on the measurement mobility page.

Activity Information:

200000002/2 - PP_WO2

Asset Information:

Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle

Asset Location Information:

Pump 2, RAS, Middle

Measurements

+

No items to display.

Asset Details

Activity Details

- c. Enter the required measurement details and click **Save**.

Asset Information	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information	Pump 2, RAS, Middle

Measurement Type	Gallons Flow
Reading Date/Time	2020-01-10T18:24:26
Reading	1
Reason	Planned

Save Dismiss

The measurement is displayed in the list.

Activity Information:	200000002/2 - PP_WO2
Asset Information:	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Asset Location Information:	Pump 2, RAS, Middle

Measurements

Gallons Flow	
Reading Date/Time: Jan 10, 2020 at 6:24 PM	
Reading: 1	

Asset Details Activity Details

- d. Click the edit icon to edit the measurement. You can enter multiple measurements.
- e. Click **Activity Details** to navigate back to the **Activity Details** page.
8. To enter resource usage details:
- a. Click **Resource Usage** on the **Activity Details** page.

Validate Completion **Resource Usage** Adjust Time Not Done Suspend Map Book Activity Nearby Activities Materials Tracking Knowledge

Activity Details

Work Order Description:	PP_WO2
Activity Number:	200000002/2
Activity Type:	Activity - Inspection/Repair (External)
Description:	PP_WO2
Detailed Description:	PP_WO2
Location Information:	Pump 2, RAS, Middle
Asset Information:	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Emergency Indicator:	No
Requestor information:	Herrala "WAM v2206 DEMO", Kimberley
Total Risk Priority:	42
Required By Date:	2020-01-27
Duration:	48 minutes
Traveling Time:	1 minutes

- b. Enter time sheets, equipment, and other details.

Crew can enter individual timesheets (highlighted in purple) or for team (highlighted in yellow).

Activity Information

200000002/2 - PP_WO2

TimeSheet

No items to display.

Equipment

+

No items to display.

Other

+

No items to display.

Activity Details

- c. Click the '+' icon of multiple crew timesheet (highlighted in yellow above).
- d. Enter the required information and click **Save**.

Activity Information

200000002/2

Employee Information

Manager

Date

01 / 10 / 2020

Regular/Overtime

Regular

Crew Shift Type

Day Shift

Labor Earning Type

Regular

Hours

1

Work Started

2020-01-10T07:26:00

Work Stopped

2020-01-10T08:26:00

Travel Time

HH: 0 MM: 1

Employee

Craft

-

Add

Manager

Carpenter

✓

John, Reese

Electrician

✓

Harold, Finch

Inspector

✓

Chandra Perni

Save

Dismiss

The timesheets for each crew member are created in 'pending' status.

Activity Information

200000002/2 - PP_WO2

TimeSheet

1 Hours , Jan 10,2020
User: Manager
Status: Pending

1 Hours , Jan 10,2020
User: John,Reese
Status: Pending

1 Hours , Jan 10,2020
User: Harold,Finch
Status: Pending

1 Hours , Jan 10,2020
User: Chandra Perni
Status: Pending

1 Hours , Jan 10,2020
User: Chandra Perni
Status: Pending

Equipment

No items to display.

- e. Click the *edit* icon and complete the timesheet.

Activity Information

200000002/2

Employee Information

John,Reese

Date

01 / 10 / 2020

Regular/Overtime

Regular

Crew Shift Type

Day Shift

Labor Earning Type

Regular

Craft

Hours

1

Work Started

2020-01-10T07:26:00

Work Stopped

2020-01-10T08:26:00

Travel Time

HH: 0 MM: 1








Save

Complete

Delete

Dismiss

- f. Complete the timesheets for all other crew members.

Activity Information		200000002/2 - PP_WO2
TimeSheet		 
Electrician , 1 Hours , Jan 10,2020	User: Manager	Status: Completed 
Carpenter , 1 Hours , Jan 10,2020	User: John,Reese	Status: Completed 
Carpenter , 1 Hours , Jan 10,2020	User: Harold,Finch	Status: Completed 
Electrician , 1 Hours , Jan 10,2020	User: Chandra Perni	Status: Completed 
Electrician , 1 Hours , Jan 10,2020	User: Chandra Perni	Status: Completed 

- g. Populate entries for equipment and other.
- h. Navigate back to the **Activity Details** page after populating all the required resource details.
- i. Click **Validate Completion** to verify the eligibility of the activity to complete.

Validate Completion Resource Usage Adjust Time Not Done Suspend Map Book Activity Nearby Activities Materials Tracking Knowledge	
Activity Details Work Order Description: PP_WO2 Activity Number: 200000002/2 Activity Type: Activity - Inspection/Repair (External) Description: PP_WO2 Detailed Description: PP_WO2 Location Information: Pump 2, RAS, Middle Asset Information: Pump 2, Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle Emergency Indicator: No Requestor information: Herrala 'WAM v2206 DEMO', Kimberley Total Risk Priority: 42 Required By Date: 2020-01-27 Duration: 48 minutes Traveling Time: 1 minutes	
Location Information Address: -	
Assets Resources	

- j. If all activities are eligible for activity completion, the following message is displayed. Click **OK**.

<div style="background-color: #d4edda; border: 1px solid #c3e6cb; padding: 10px; margin-bottom: 10px;"> Validations are successful </div> <div style="text-align: right;"> <input type="button" value="OK"/> </div>	
---	--

- k. On the **Activity Details** page, click **Complete**.

Complete

Validate Completion

Resource Usage

Adjust Time

Not Done

Suspend

Map

Book Activity

Nearby Activities

Materials Tracking

Knowledge

Activity Details

Work Order Description:	PP_WO2
Activity Number:	200000002/2
Activity Type:	Activity - Inspection/Repair (External)
Description:	PP_WO2
Detailed Description:	PP_WO2
Location Information:	Pump 2, RAS, Middle
Asset Information:	Pump - Singlestage, Centrifugal, Badge Number PP002, In Service @ Pump 2, RAS, Middle
Emergency Indicator:	No
Requestor Information:	Herrala 'WAM v2206 DEMO', Kimberley
Total Risk Priority:	42
Required By Date:	2020-01-27
Duration:	48 minutes
Traveling Time:	1 minutes

The completion information is sent to Oracle Utilities Work and Asset Cloud Service and the activity is completed.

Chapter 5: Customizations

Adding new properties according to the requirement and customizations help customers to enhance the functionality of the integration and increase the usability. The customizations are done in Oracle Integration Cloud, Oracle Field Service Cloud, and Oracle Utilities Customer Cloud Service depending on the fields, elements, or properties to be added and whether they are available.

This chapter focuses on a few cases about customizations.

- [Adding New Fields to Field Activity](#)
- [Adding Custom Business Objects](#)
- [Plugins Rendering Data](#)
- [Validation for Completion](#)

Adding New Fields to Field Activity

This section provides the steps to add a new field to the field activity already available but not present in the field activity.

Oracle Field Service Cloud Configurations

1. Login to Oracle Field Service Cloud.
2. Navigate to **Configuration > Properties**.
3. Enter the **Property name** and **Property Label**.
4. Select the entity, type of GUI, and add the enumeration values “customprop1” and “customprop2”.

Modify Property

Property type: Enumeration

* Property name

* English: Test Custom Property

SpanishLA:

Portuguese (Brazil):

* Property Label: test_customproperty

Property hint

English:

SpanishLA:

Portuguese (Brazil):

Entity: ☒ Entity ☐ Activity

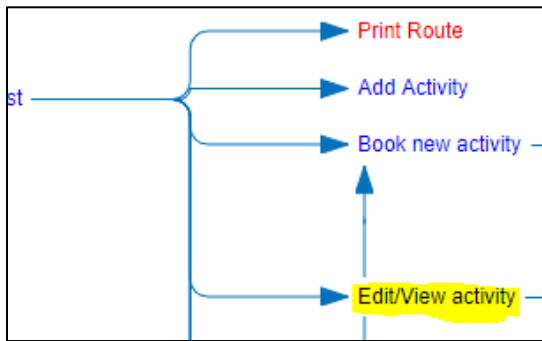
GUI: ☒ Combobox ☐ Radiogroup

Clone property data on Reopen or Prewrite: ☐

Enumeration values

5. Navigate to **User Types** and select the required user type.

6. Navigate to the configurations for the select user type and open the **Edit/View activity** section.



7. Add a new element by dragging and dropping a new 'Input' from the **Add New Element** section.
8. Map the element to the **Test Custom Property**. Save this configuration after mapping the field.

Oracle Utilities Work and Asset Cloud Service Configurations

1. Login to Oracle Utilities Work and Asset Cloud Service.
2. To configure with a new schema element:
 - a. Navigate to the W1-ActivityComplInboundComm business object.
 - b. Identify the data area to add the new schema element.

Example: To make changes to the Completion Event Details section, the data area to be changed is the custom data area created for Oracle Field Service Cloud.

- c. Extend the data area. Add the completion event details data area in the **Extended Data Area** field.

Data Area Bookmark

Main Schema

DATA AREA

DESCRIPTION

DETAILED DESCRIPTION

EXTENDED DATA AREA [Completion Event Common](#)

Data Area

Main Schema

General Information

DATA AREA CM_OFSCDA

DESCRIPTION CM_OFSCDA

OWNER Customer Modification

Schema Designer

View Mode

TREE TEXT

```

1 <schema>
2   <custom mdField="CM_NOTES" mapXML="BO_DATA_AREA"/>
3 </schema>
4

```

d. The new schema element is displayed in the business object schema.

```

<creationDateTime suppress="true" required="true" dataType="dateTime" default="<currentDate>"/>
<statusDateTime suppress="true" dataType="dateTime" mapField="STATUS_UPD_DTTM"/>
<version suppress="true" dataType="number" mapField="VERSION"/>
<exceptionInformation type="group" mapXML="BO_DATA_AREA">
  <messageCategory suppress="true" mdField="MESSAGE_CAT_NBR" dataType="number"/>
  <messageNumber suppress="true" mdField="MESSAGE_NBR" dataType="number"/>
  <longDescription suppress="true" mdField="DESCRLONG"/>
  <expandedMessage suppress="input" mdField="ACT_ERROR_MESSAGE"/>
  <messageParameters suppress="true" type="list">
    <parameterSequence mdField="PARAM_SEQ" dataType="number" isPrimeKey="true"/>
    <messageParameterType mdField="MSG_PARAM_TYP_FLG" dataType="lookup" lookup="MSG_PARAM_TYP_FLG_LOOKUP"/>
    <messageParameterValue mdField="F1_MSG_PARAM_VLONG"/>
  </messageParameters>
</exceptionInformation>
<accessControl type="group">
  <owningAccessGroup fkRef="F1-ACCGP" mapField="OWNING_ACCESS_GRP_CD"/>
</accessControl>
<eventInformation type="group">
  <completionDateTime dataType="dateTime" mapField="W1_EVT_DTTM"/>
  <comments mdField="COMMENTS" mapXML="BO_DATA_AREA"/>
  <crewName mdField="CREW_NAME" mapXML="BO_DATA_AREA"/>
  <custom mdField="CM_NOTES" mapXML="BO_DATA_AREA"/>
</eventInformation>

```

Adding Custom Business Objects

After a custom business object for a service history is added in Oracle Utilities Work and Asset Management, the information is available to Service History plugin along with all other service histories as part of “wam_asset_valid_service_history_types” property.

In Oracle Field Service Cloud the new business object value is added as an enumeration value in “wam_service_history_bo” property.

If the new business object belongs to one of the predefined service history categories of Questionnaire, Inspection, Failure, Downtime and General, it is defined as such in the property. For example: A custom business object “CM_Downtime” is entered in the “wam_service_history_bo” property as shown below. The service history plugin will automatically handle the new business object.

The screenshot shows the 'Modify Property' dialog box for the property 'wam_service_history_bo'. The dialog has a title bar with a close button. Inside, there are several sections:

- Language Labels:** Three text input fields for 'English', 'SpanishLA', and 'Portuguese (Brazil)'.
- Entity:** A dropdown menu showing 'Activity'.
- GUI:** Two radio buttons: 'Combobox' (selected) and 'Radiogroup'.
- Clone property data on Reopen or Prework:** An unchecked checkbox.
- Enumeration values:** A section with a list of values. The first value is 'Downtime' with a dropdown menu showing 'CM-' and 'CM-'. Below it are 'SpanishLA' and 'Portuguese (Brazil)'.
- Active:** A checked checkbox.
- Buttons:** 'Add' and 'Change' buttons.
- Footer:** A list of values: 'Downtime[W1-AssetDownTim', 'Failure[W1-FailureServiceHist', 'Inspection[W1-InspectionDefic', 'Inspection[W1-InspectionGenn', 'Inspection[W1-InspectionPerc'.

If the new business object entered does not fall into any of the predefined service history categories, after the “wam_service_history_bo” property is updated, the service history plugin javascript should be updated to handle the new service history category. Create a new XSL that needed for the UI of the new service history category to be added.

Plugins Rendering Data

This section explains how each plugin renders the data.

Measurements

- Valid measurement types received from Oracle Utilities Work and Asset Clod Service are assigned to “wam_valid_measurement_types” property and are obtained in runtime as XML string and displayed in plugin.
- The individualMeasurementType-to-form.xml and individualMeasurementTypeEdit-to-form.xml are used to style the UI forms to add and update measurement information.

- The measurement information is consolidated into “wam_measurements_output” property and made available for validateCompletion plugin.
- Measurement reason types (wam_measurement_meter_reason, wam_measurement_gauge_reason) are populated based on the measurement type selected.

Resource Usage

- resourceUsage-to-form.xml provides the summary of **Resource Usage Details** page from where crew can add timesheets, equipment, and other resource usage. It also displays the resource usage details entered.
- individualTimeUsage-to-form.xml used to display add/update time sheet screens whereas crewTimeUsage-to-form.xml is used to enter and update individual and crew timesheets.
- individualEquipmentUsage-to-form.xml and individualOtherUsage-to-form.xml are used to enter equipment and other resource usages.
- Upon completion of resource usage which calls Oracle Integration Cloud (Send_ResourceUsageDetails_OFSCToWAM integration flow) and update the details in Oracle Utilities Work and Asset Cloud Service.

Service History

- The below XSL are applied to render the UI:
 - serviceHistoryTypes-to-form.xml to show Service History List and the Entered Service histories
 - downtime-to-form.xml for Downtime Service History form
 - failure-to-form.xml for Failure Service History form
 - questionnaire-to-form.xml for Questionnaire and Inspection Service History form
 - sh-to-form.xml for General Service History form
 - entered-sht-count.xml is used to count the entered service histories per each service history type
 - shAttachment-to-form.xml to enter attachments
- The valid service histories are displayed based on the service histories hold by “wam_asset_valid_service_history_types” property.
- The asset failure information are displayed based on the values holds in “wam_failure_info” property.
- The asset downtime reason are displayed based on the values holds in “wam_downtime_reason” property.
- The following BO categories are supported. (Questionnaire and Inspection are handled similarly)
 - Questionnaire
 - Inspection
 - Failure
 - Downtime
 - General
- Refer to [Chapter 5: Customizations](#) for information about adding a custom business object.
 - If the completion message for service histories is greater than 655360, the message is split into multiple wam_service_history_output(i) where i values ranges from 1 to 20 (ie size upto 640KB) properties and made available for validateCompletion plugin.

Validate Completion

- This plugin is used to validate and construct the final completion message obtained from individual plugins that is sent out by Oracle Field Service Cloud to Oracle Utilities Work and Asset Management. Click **Complete**.
- The plugin validates to check if there are any pending service histories and all the required service histories are completed.

If the validations are successful, click **OK** to write the completion message to a temporary file. If the validations are successful, click **Complete** to send the completion message to Oracle Utilities Work and Asset Management.

- The plugin populates the “participation” node in the completion message with either "W1AW" or "W1AS" based on if the “Asset worked” was selected (checkbox selected) or not.

Validation for Completion

Validation Rules

- Basic validation is to ensure that the activity has all the necessary information to be completed.
- All pending service histories must be completed when completing the activity (mandatory).
- Required service histories must be entered for worked assets.
- For each asset that worked, loop through the list of required service history types defined on the activity.
- Find all service histories in the list of activity service histories that its service history type = current service history type being processed and either asset ID = empty or equal current asset being processed.
- If not found, issue an error that "A service history of type %1 is missing for asset %2".