Oracle Field Service Cloud Configurations for

Oracle Customer Cloud Service Integration to Oracle Field Service Cloud

(Also applicable to Oracle Utilities Customer To Meter)

V20A

Disclaimer

Oracle Field Service Cloud Configurations for Oracle Customer Cloud Service Integration to Oracle Field Service Cloud

April 2020

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Preface

Welcome to the Oracle Field Service Cloud Configuration Guide for Oracle Utilities Customer Cloud Service Integration with Oracle Field Service Cloud. This document focuses on the configuration and administration information of Oracle Field Service Cloud for the integration.

The preface includes the following:

- Audience
- Documentation and Accessibility
- Abbreviations

Audience

This document is intended for anyone implementing the Oracle Utilities Integration for Customer 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
C2M	Oracle Utilities Customer to Meter
OIC	Oracle Integration Cloud Service
SA	Service Agreement
SP	Service Point
CCS	Customer Cloud Service

Chapter 1: Accelerator Overview

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

- 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 configure and set up Oracle Field Service Cloud used in Oracle Utilities Customer Cloud Service Integration with Oracle Field Service Cloud integration as the integration package contains only Oracle Utilities Customer Cloud Service and Oracle Integration Cloud configuration files and instructions. It is used in addition to the integration package that provides a complete end-to-end set up for the integration.

The contents of the package are:

- **User Types** – Define layouts and UI screens. The new Service Point Details, New Meter Details, and Existing Meter Details UIs are linked to user types. For more details see the see the User Types section.
- **Properties** – Create layouts and mapping. For more information see the Properties section.
- **Plugins** – The Device Verification and Unrelated Pickup Query (service point query) plugins are part of the package. The Device Verification plugin takes badge number and returns the device details if a corresponding device exists. The Unrelated Pickup Query plugin gets the service points based on the search criteria. For more information see the Forms and Plugins section.

Accelerator Activity Types

In this integration release, accelerator is a sample and supports only ten Activity Types. Create UIs for additional Activity Types or customize the existing UIs for the supported Activity Types. For information about customizing the UIs see the Customization chapter.

- Install Meter
- Disconnect SP Meter and Remove Meter
- Read Meter

- Exchange Meter
- Connect SP at Device (not item)
- Disconnect SP at Device and Remove Device
- Disconnect Warning
- Item Exchange
- Turn on pilot light
- Trim Tree
- Service Investigation

Chapter 2: Installing 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. It includes the following:

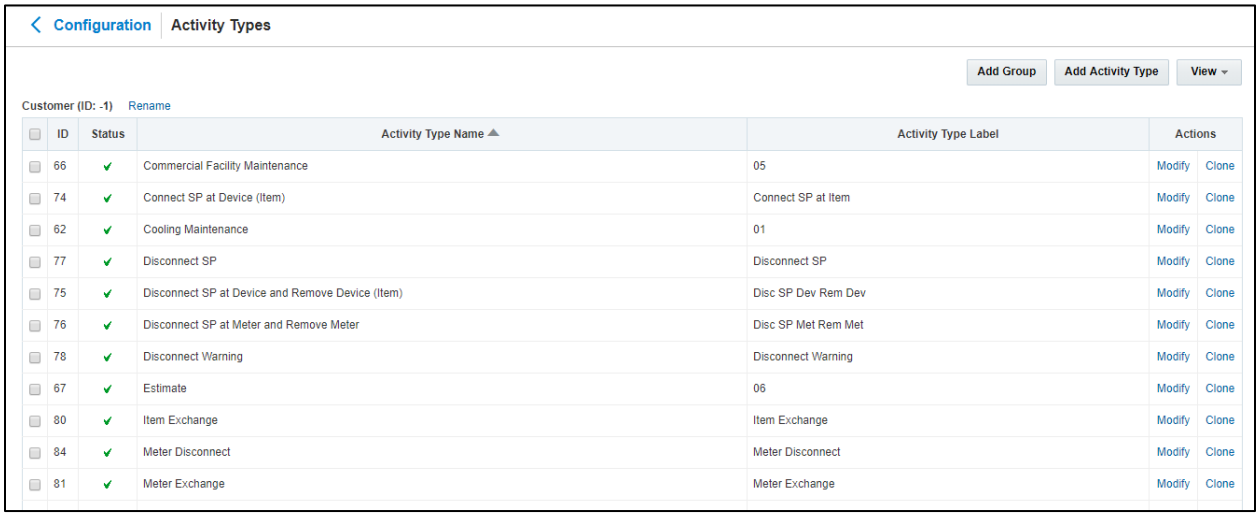
- Activity Types
- Properties
- Forms and Plugins
- User Types

Activity Types

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

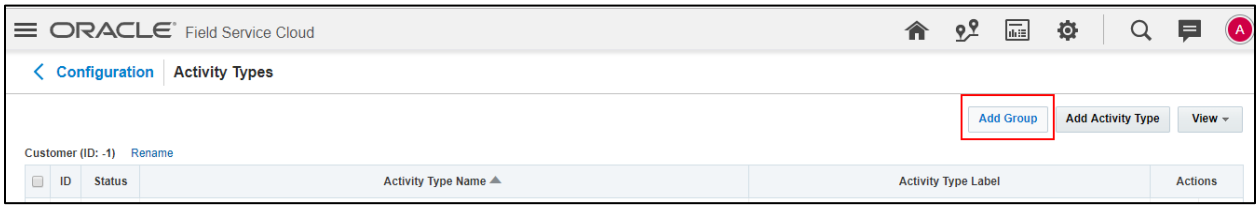
To create an activity type:

1. Navigate to the **Configuration** page.
2. Select **Activity Types** and click **Add Activity Type.**
3. Select **Customer** from the list.



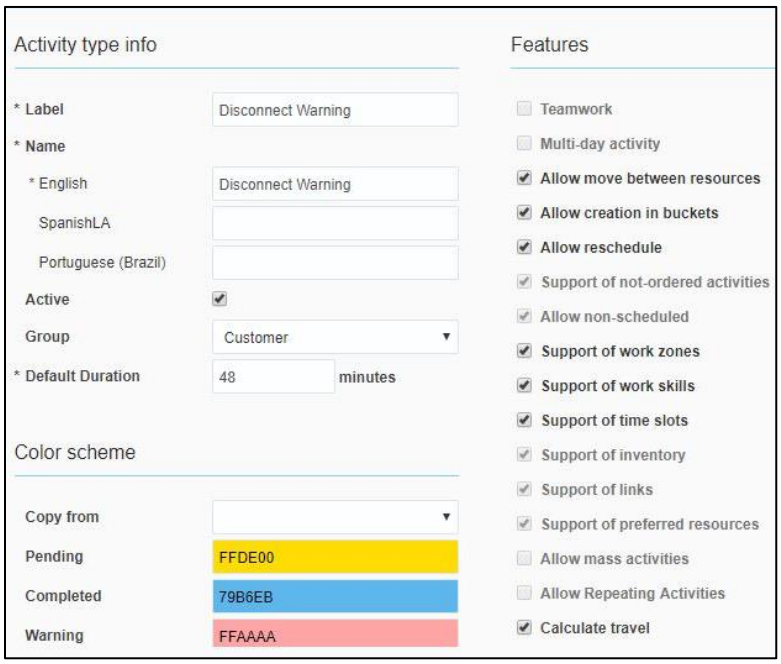
If it does not exist, create the group.

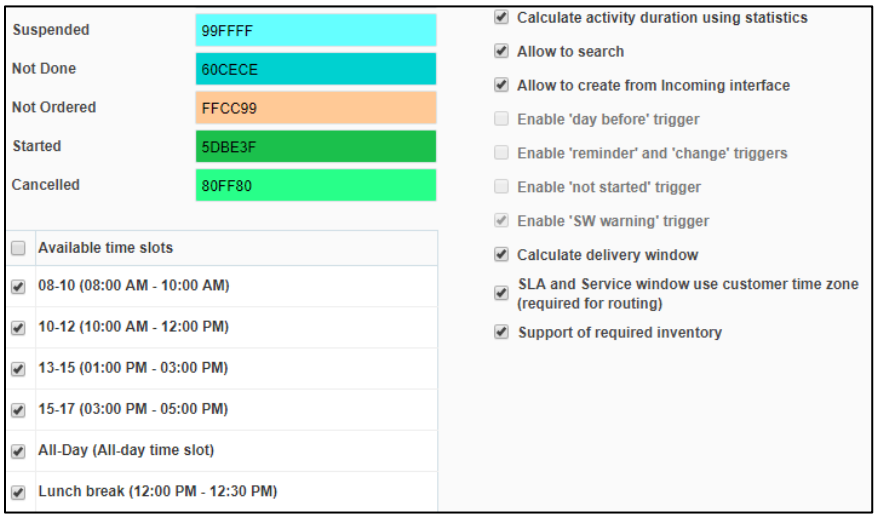
a. Click **Add Group**.

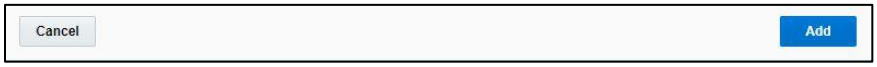


b. Enter the group name. Example: Customer

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







6. For other Activity Types listed (Install Meter, Disconnect SP Meter and Remove Meter, Meter Read, Meter Exchange, Connect SP at Item, Disconnect SP Device and Remove Device, Disconnect Warning, Item Exchange,Service Investigation,Turn on Pilot Light and Trim Tree), clone and modify the name and details as required.

   Note: Make sure the label names are exactly the same as given below. Else, the new name should be updated in the activity type lookup of Oracle Integration for Cloud.

7. Make sure to have corresponding lookup values in SOMOFSC_ActivityType lookup for all activity types in Oracle Integration for Cloud.
   For example: D1-InstallMeter (SOM Task Type) corresponding to Meter Install (OFSC Activity Type)
8. Add only those Activity Types that are needed and specific to the customers.

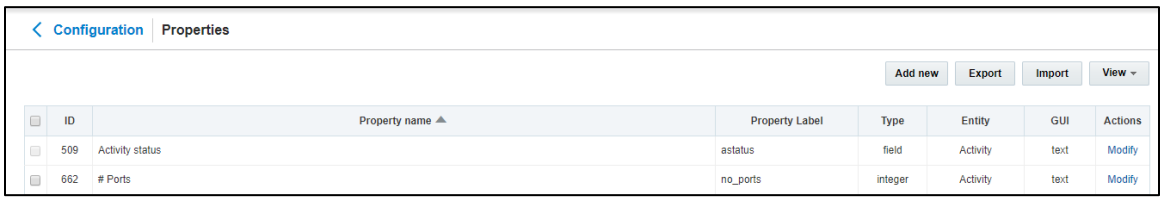
Activity Type Name	Activity Type Label
Turn on Pilot light	Turn on Pilot light
Service Investigation	Service Investigation
Trim Tree	Trim Tree
Disconnect SP at Device and Remove Device (Item)	Disc SP Dev Rem Dev
Item Exchange	Item Exchange
Connect SP at Item	Connect SP at Item
Meter Exchange	Meter Exchange
Meter Read	Meter Read
Disconnect SP at Meter and Remove Meter	Disc SP Met Rem Met
Connect SP	Connect SP
Meter Install	Meter Install
Disconnect Warning	Disconnect Warning

Properties

Properties are customs fields used to enable the Utility Integration specific UIs created and are used to map the Oracle Field Service Cloud UIs. Each property is classified into types (such as field, integer, enumeration and string) based on the requirements. They should be addressed using this property.

To import the property file that is a part of the accelerator package:

1. Navigate to the **Configuration** page.
2. Click the **Properites** icon and click **Import**.



3. Browse to select the file to be imported. Click **Import**.

4. Verify the successful import of the file. Click **Close**.

Forms and Plugins

The plugins are used to make changes to screen and data, based on their type and status of target and parent object. They invoke the response for badge number input from Oracle Utilities Customer Cloud Service in the device verification plugin and retrieve the service points from Oracle Utilities Customer Cloud Service based on the search criteria by the crew in Oracle Field Service Cloud to create unrelated pickup activity using unrelated pickup activity plugin.

The Device Verification plugin accepts badge number of the device and in response sends various parameters from Oracle Utilities Customer Cloud Service, such as unit of meter, time of use, read sequence, dials, and decimals after verifying the badge number in the Oracle Utilities Customer Cloud Service environment.

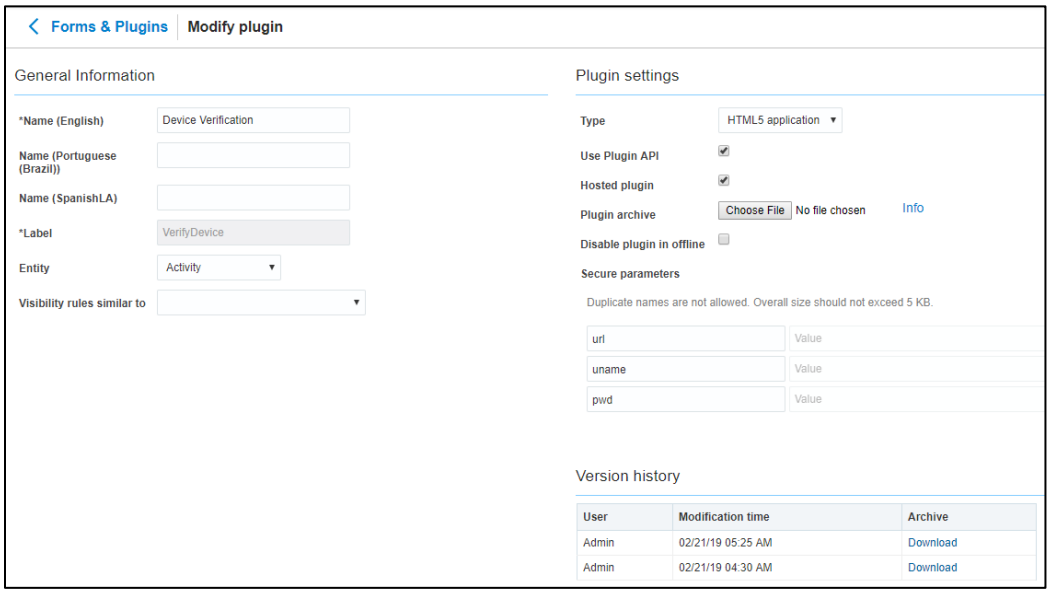
Crew populates the search criteria in the Unrelated Pickup Activity. The plugin fetches service points from Oracle Utilities Customer Cloud Service and displays this information in Oracle Field Service Cloud, crew can select the service point that needs to create an unrelated pickup activity.

Device Verification Plugin

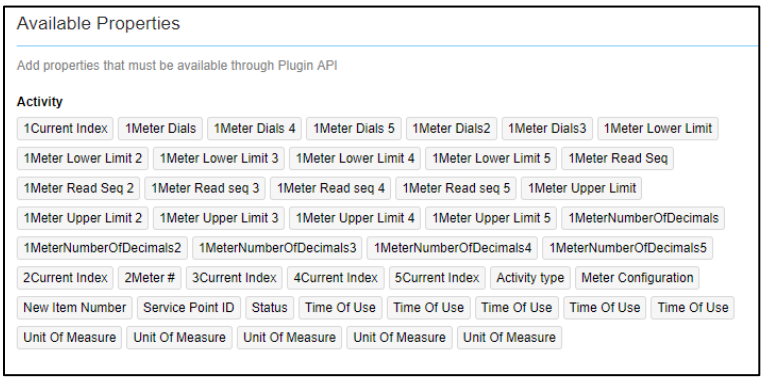
To configure a Device Verification plugin:

1. Navigate to **Configuration** > **Forms and Plugins**.
2. Click the **Import** icon to import the Device Verification plugin provided in the package.

3. In the **Plugin Settings** pane, do the following:
   a. Enter the OIC username and password.
   b. Select **VerifyDevice** in plugin XML file.
   c. Select "HTML5" from the **Type** drop-down list.

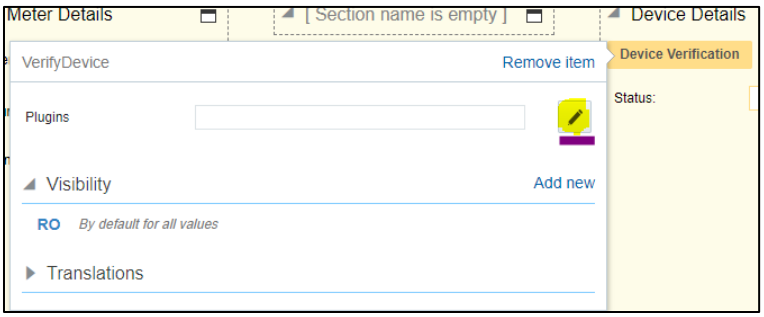


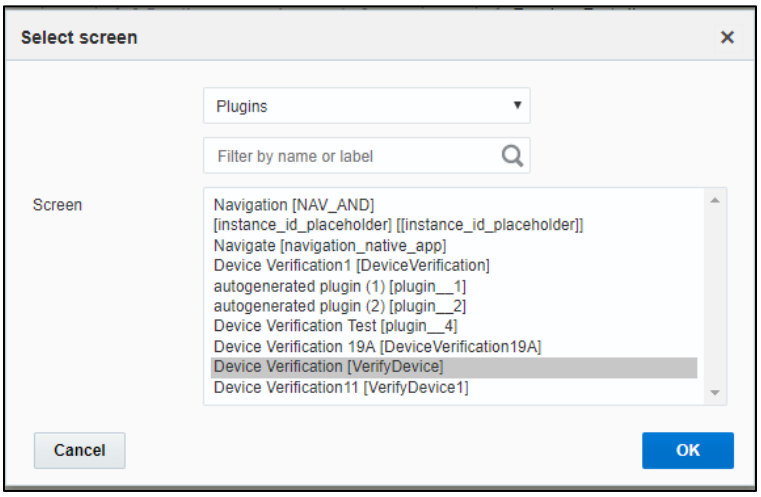
   d. Make sure the **Available Properties** tab is populated with all the properties shown below.



e. Click **Device Verification** to configure the plugin.

f. On the **User Type** screen configurations, select **Device Verification** to connect it to the specific field on the UI in the **Mobility** page.

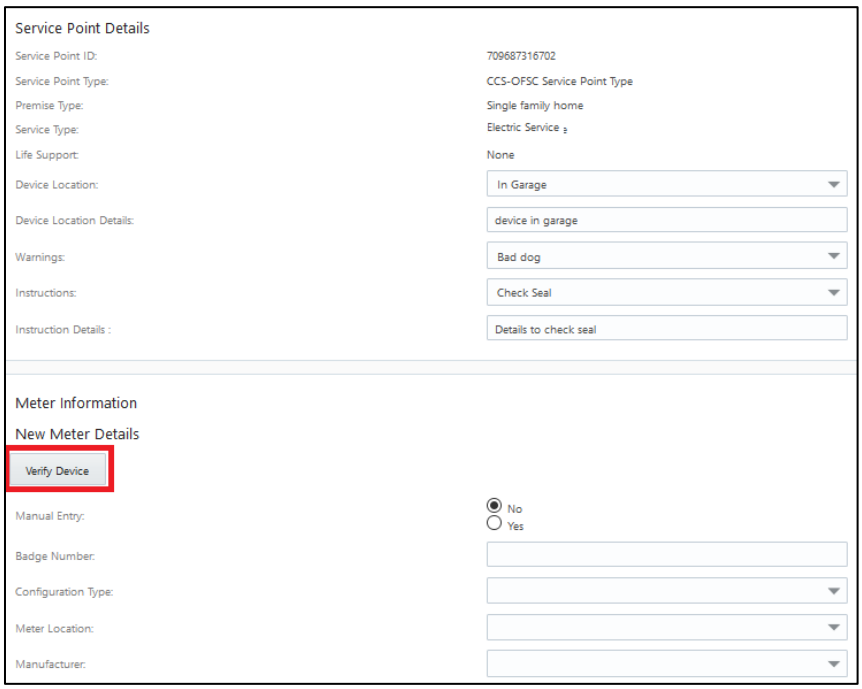




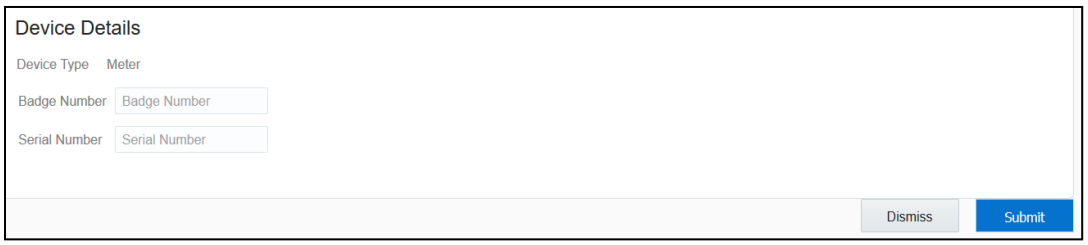
Until the previous release, crew could verify the existence of a device using the Device Verification feature where the search was based only on Badge Number. Also, the crew had to enter Manufacturer and Model details manually. In this release, Serial Number is included as one of the search criteria along with Badge Number. Manufacturer and Model are part of Device Verification response from Oracle Utilities Customer Cloud Service and gets auto-populated in the respective fields.

To use this feature:

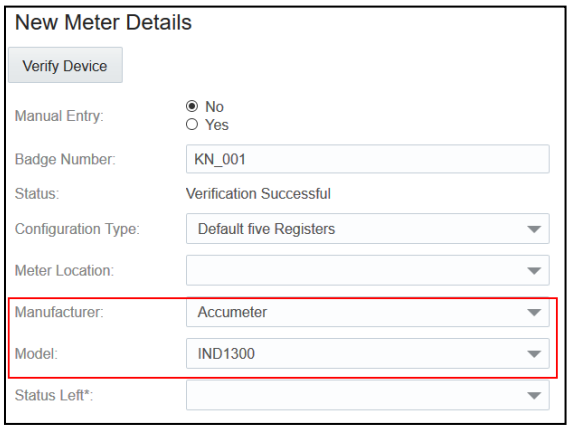
a. Select **Install Meter Activity > New Meter Details**.
b. Click **Verify Device** to view the existence of the device.



The **Device Details** page displays both Badge Number (mandatory) Serial Number (optional).



If the device exists based on the search criteria, the **New Meter Details** page is displayed with autopopulated details including the register information sent by Oracle Utilities Customer Cloud Service.



Unrelated Pickup Activity

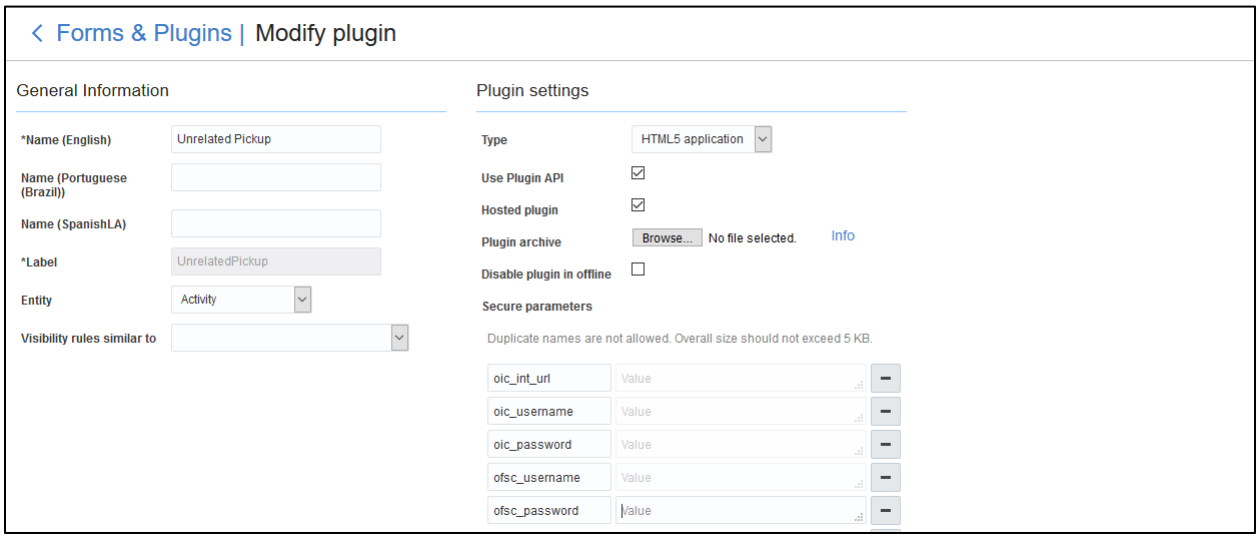
To configure an unrelated pickup activity:

1. On the **Configuration** page, navigate to **Forms & Plugins**.
2. Click the **Import** icon to import the **Unrelated Pickup** plugin provided in the package.

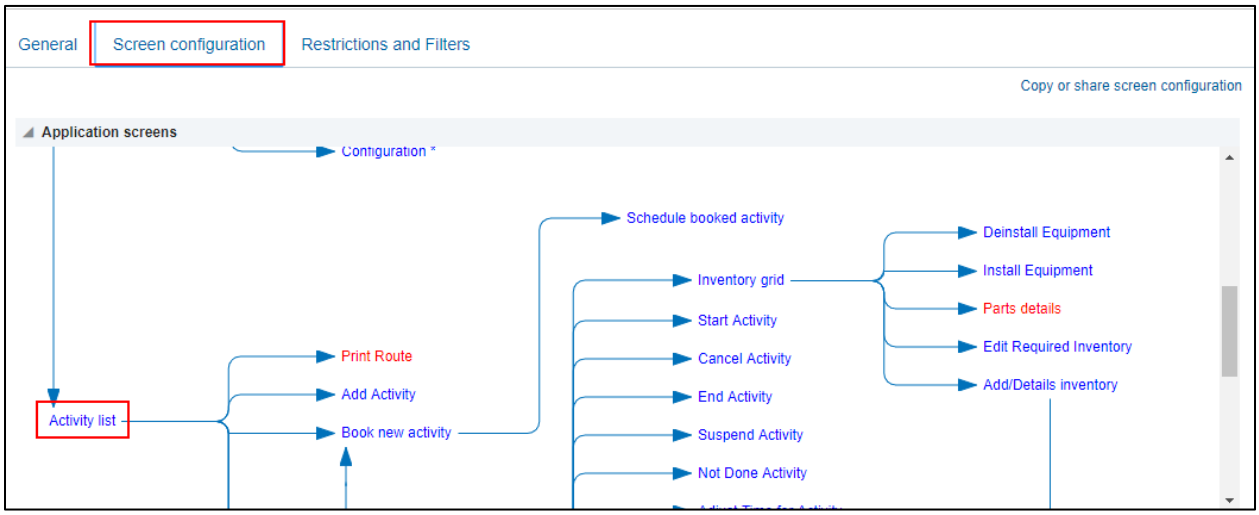
3. Select the unrelated pickup plugin and enter the following details:
    a. oic_int_url– Oracle Integration Cloud integration point URL for service point query

       Example:
       https://oichost/ic/api/integration/v1/flows/rest/QUERY_SERVICEPOINT_OFSCTOSOM/1.0/
    b. oic_username and oic_password – Oracle Integration Cloud username and password
    c. ofsc_username and ofsc_password – Oracle Field Service Cloud user name and password in the format of username@ofscinstanceid/password

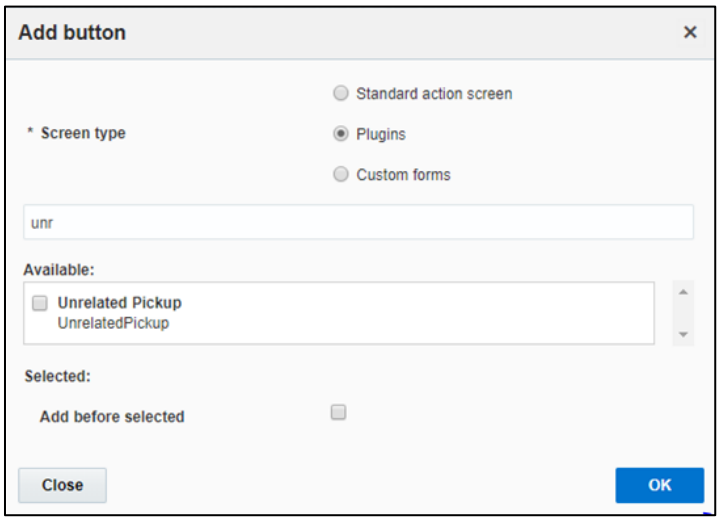
       Note: Username and password would be the client ID and client secret which can be retrieved from Oracle Field Service Cloud application.



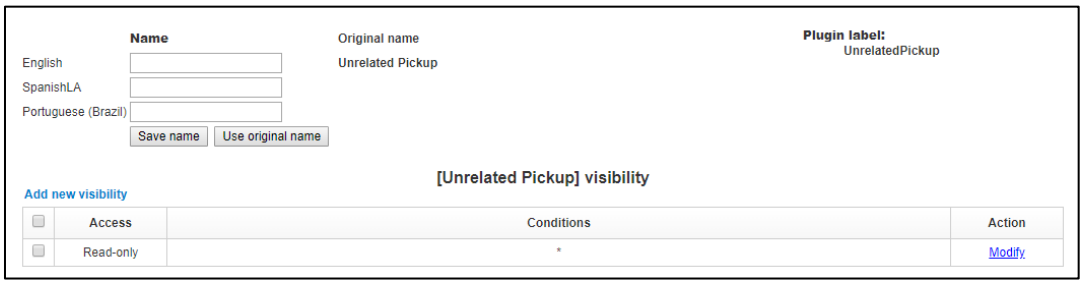
4. Click **Configuration** and select the user type.
5. Navigate to the **Screen Configuration** tab.



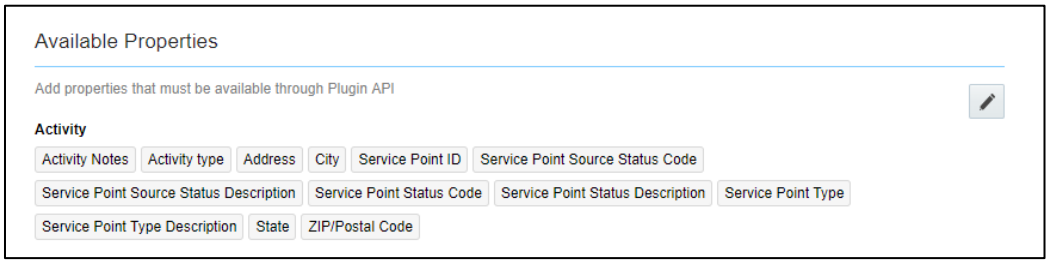
6. Click **Application screens** to display the structure. Click **Activity list**.
7. On the left pane, click **Click to add** and select the unrelated plugin.



8. On the right pane, add new visibility.



9. Make sure the **Available Properties** tab displays all the properties as shown in the figure below.

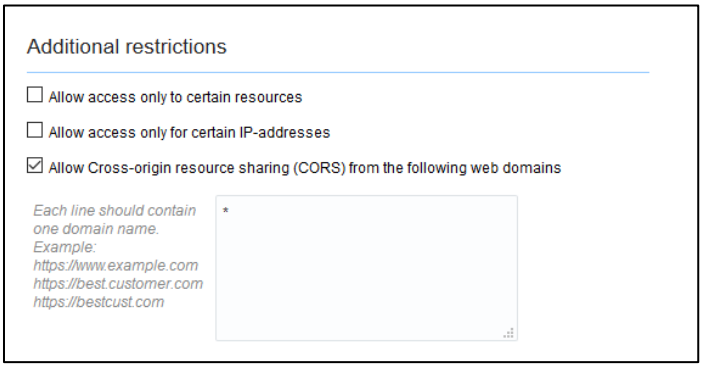


10. After the plugin is configured, select the XML file in the **User Type Screen Configurations** field to connect it to the specific field on the UI in the **Mobility** page.
11. CORS Setup

    As part of the unrelated pick up functionality, from the plugin, there is an invocation call to OFSC REST API which needs CORS setup. To call OFSC REST API from the plugin, set up cross-origin resource sharing (CORS) in Oracle Field Service Cloud as follows:

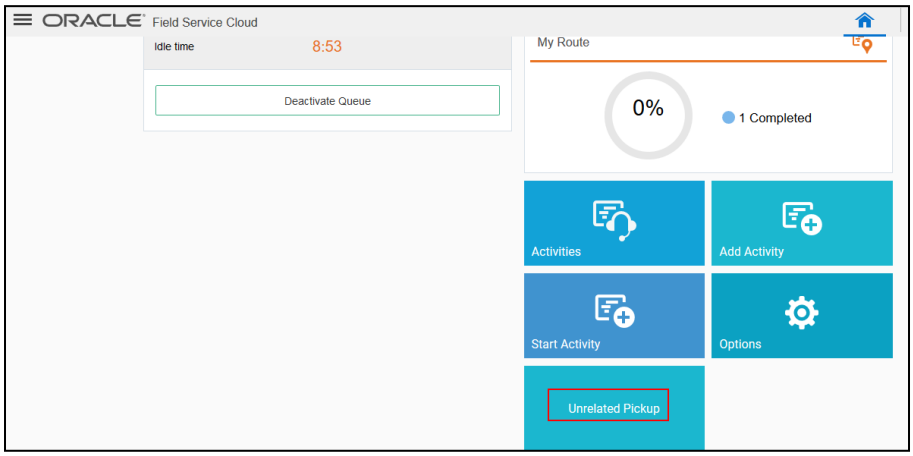
    a. Navigate to **Configuration > Application > Additional restrictions**.
    b. Select **Allow Cross-origin resource sharing (CORS)** from the following web domains and provide the Oracle Field Service Cloud domain.

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

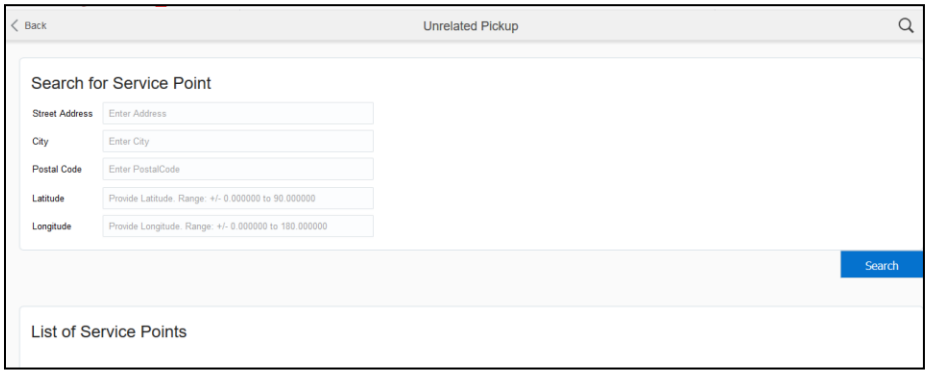


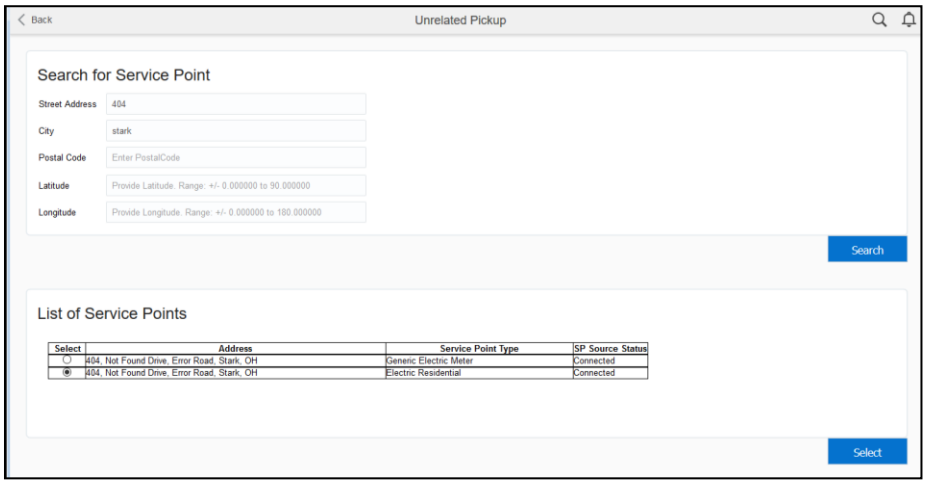
In this integration release, crew can specify search criteria and send request to Oracle Utilities Customer Cloud Service for service points. From the retrieved service points, crew can select a service point and raise a service investigation activity. The search criteria includes address, city, postal code, latitude, and longitude.

1. On the **Mobility** page, select **Unrelated Pickup** to use this feature.



2. On the **Unrelated Pickup** page search for service points.





3. Select the desired service point from the list and click **Select**.
4. Click **Add Activity** to create the activity.

   After successful creation of the activity in Oracle Field Service Cloud, the corresponding activity is created in Oracle Utilities Customer Cloud Service.

User Types

User types manage all user permissions. 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 **Screen Configuration** settings in specific user types to create custom screen context layouts for the integration.

Prerequisite! Make sure the Properties, Activity Types, and Plugins are loaded before proceeding.

To configure the user types:

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

4. On the **Choose file** field, click **Browse** to select the user type. Click **Validate**.

5. After successful validation, click **Import** to import the file.

6. Verify the successful import and click **Close**.

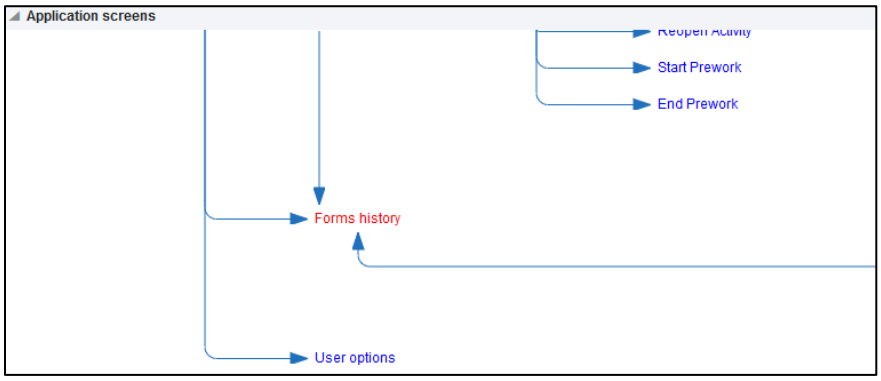
Configuring Time Format

The time format can be changed from 12 hour to 24 hour. Oracle Fields Service Cloud has the provision to configure in the user type file. The user type file is in 12 hour format by default.

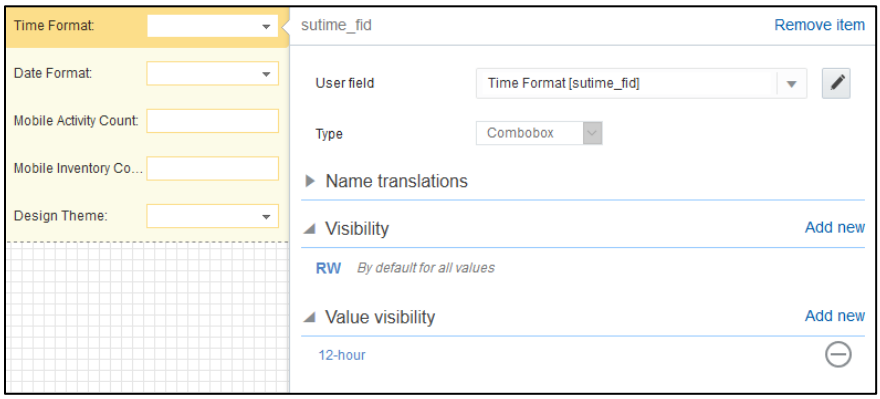
To change the time format:

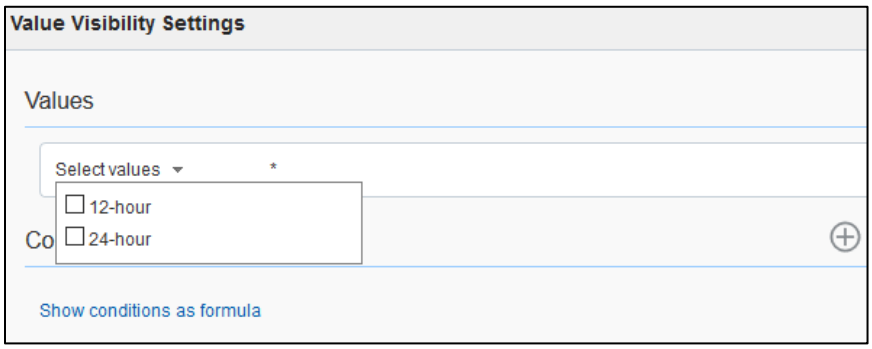
1. Login to Oracle Field Service Cloud.
2. Navigate to **Configuration > User type > C2M OFSC**.

3. Click **Screen Configuration** and select **User options**.



4. Click **Property** and click the value in the **Value visibility** section.





5. Click **Save**.

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Chapter 3: Additional OFSC Configurations

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

- Checklist
- Organization
- Work Zones
- Work Skills
- Resource and Bucket Info
- Outbound Channel
- UI Validations
- Quota

Checklist

Before getting started with Oracle Field Service Cloud configuration, verify that the following are complete.

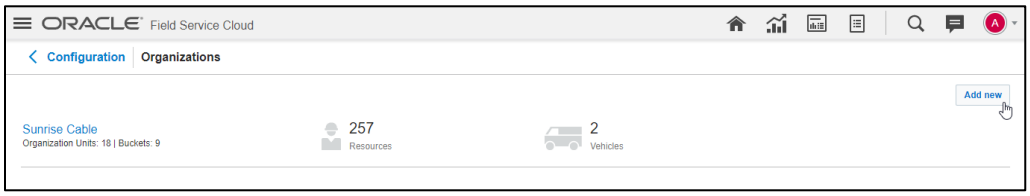
- All the Activity Types specific to customer are created
- Properties are imported
- Users and resources are configured
- User Types are imported
- Make sure the Quota has been allocated and doesn't need to be configured
- Plugin has been imported
- Name of Organization
- Work Skills to be created
- Name of the resources, work zones
- Details of Oracle Integration Cloud to create the Outbound Channel

Organization

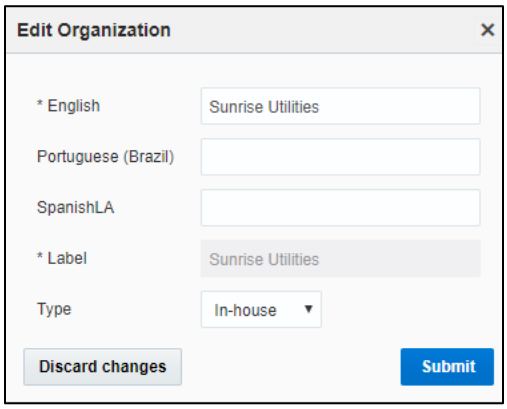
An Organization can have buckets, organization units (Org Units), field resources, tools or vehicle associations. Create an organization before adding any type of resource.

To create an organization before adding any type of resource:

1. Navigate to **Configuration > Organization**.
2. Click **Add New** to add a new Organization.



3. Enter the name of the Organization and click **Submit**.

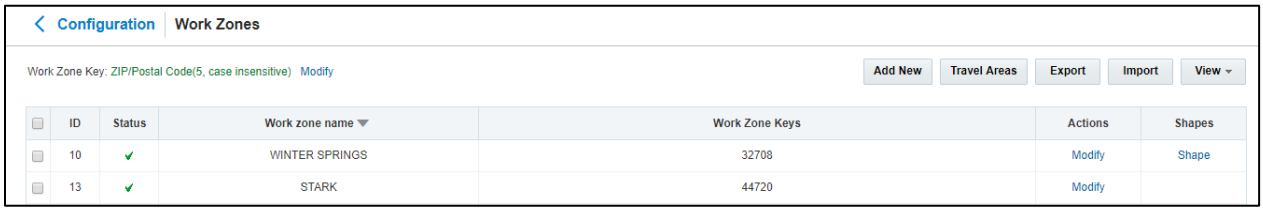


Work Zones

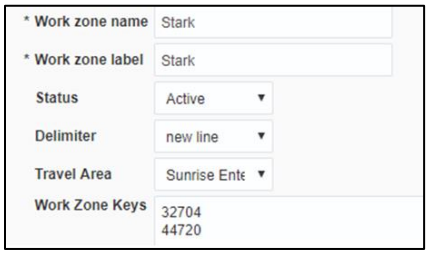
Work zones are used to divide area in different zones for better scheduling of crews. Use the work zone keys to provide the ZIP/postal code to facilitate the division through the Service Point information that comes from Oracle Utilities Customer Cloud Service.

To configure 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.



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



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

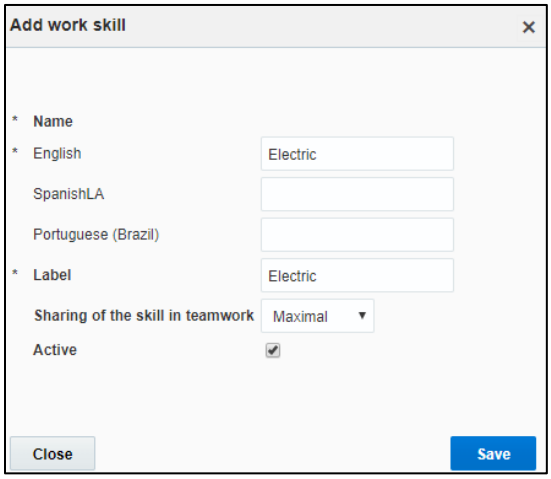
Work Skills

Use the work skills to assign activities to workers. Incoming activities are also assigned work skills based on certain conditions being met, and are attached to resources with corresponding skills during routing.

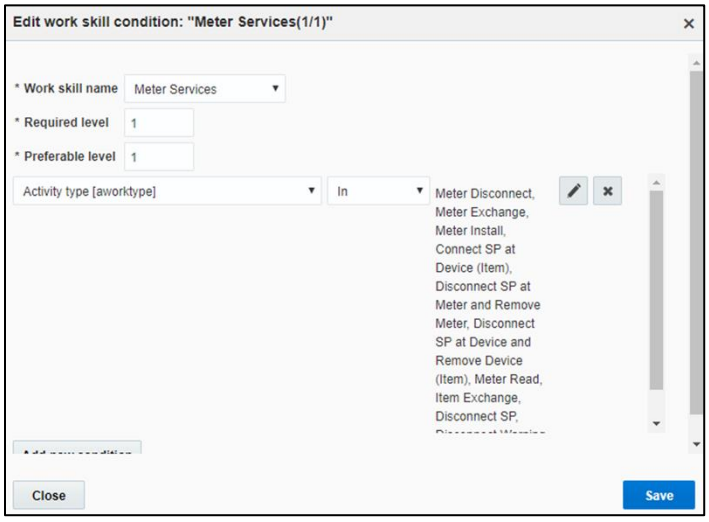
The integration supports only two work skills at this time of release: Meter Services, Ops and Maintenance.

To create work skills:

1. Navigate to **Configuration > Work Skills**.
2. Click **Add New**.
3. Enter the details of the work skill. Add two work skills: *Meter Services and Ops and Maintenance*
   Click **Save**.



4. Click **Work Skill Condition**. Make sure “Meter Services” is listed and configured with respective details. The figure below shows the necessary values.

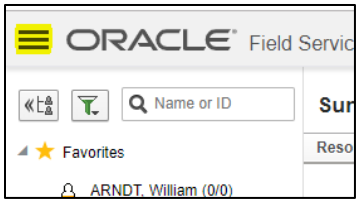


Resource and Bucket Information

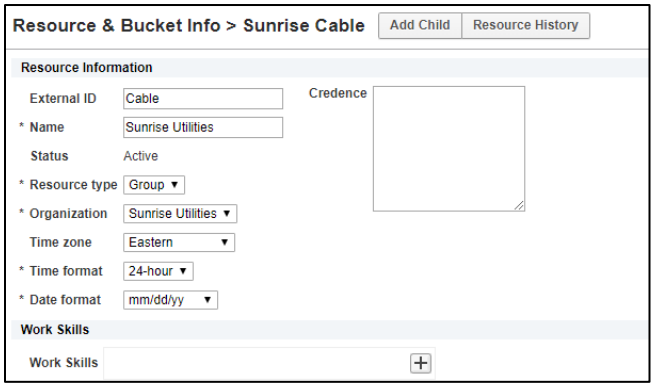
Oracle Field Service Cloud uses bucket and resources to categorize the resources. In this integration, use the bucket as a resource type to route the entire meter service tasks to workers. In the bucket, create two resources (field workers) who are assigned field activities coming from Oracle Utilities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

To configure resource and bucket information:

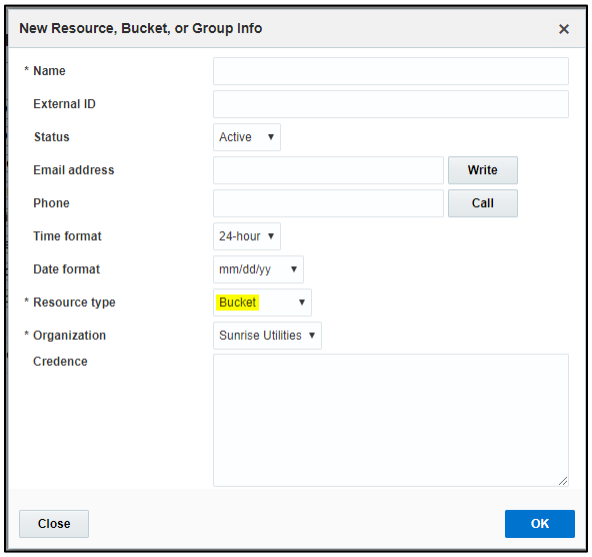
1. On the Oracle Field Service Cloud Home page, click the three lines on the top left corner.



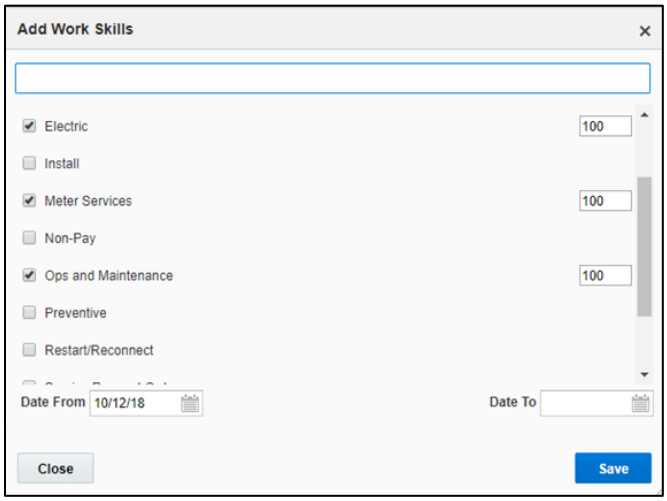
2. Click **Resource & Bucket Info** and click **Add Child**.



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



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

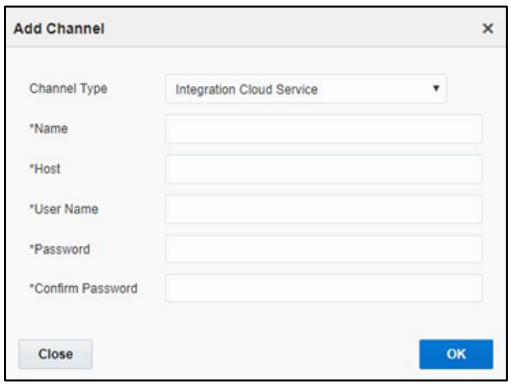


Outbound Channel

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

To configure an outbound channel:

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



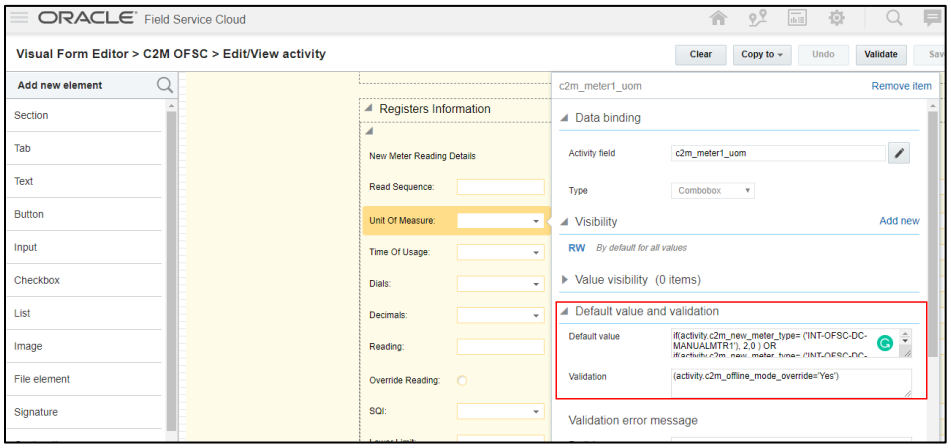
Offline Vs Online Mode

When the crew is enroute to perform an activity in the field there are chances that the location might not have network (offline mode). In such scenarios crew cannot fetch device information and cannot send a request for device verification. To overcome this crew should manually do the entry and select appropriate configuration type which auto populates all the registers information.

Offline Mode Configurations

Since different customers have different configurations to auto populate the registers information, do the following:

1. Login to Oracle Field Service Cloud.
2. Navigate to **Visual Form Editor > C2M OFSC > Edit/View activity**.
3. Click **Unit Of Measure** and expand the **Default value and validation** section.

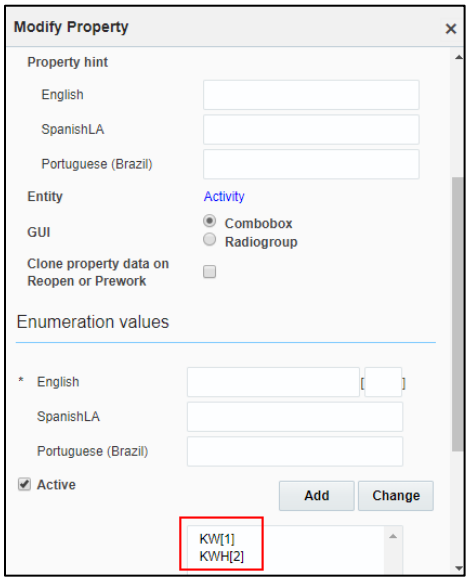


The default value code is displayed as:
if(activity.c2m_new_meter_type= ('INT-OFSC-DC-MANUALMTR1'), 2,0) OR
if(activity.c2m_new_meter_type= ('INT-OFSC-DC-MANUALMTR2'), 2,0)

In the above code, if(activity.c2m_new_meter_type= ('INT-OFSC-DC-MANUALMTR1'), 2,0) tells Oracle Field Service Cloud that if the meter type is ''INT-OFSC-DC-MANUALMTR1' the UOM value is 2; else it is 0.

4. To identify the meaning of 2, open the respective property and view the index.
   For example: 2 in the above code represents KHW.

   Note: Values in the property of type enumeration can be extended and can have values in the index based on the requirement. For example: KWH can have a KWH index.



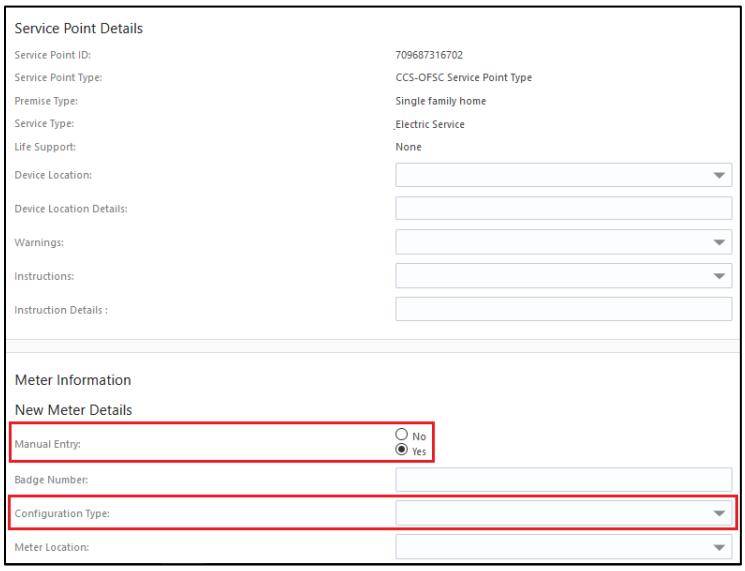
5. Follow step 4 for viewing the TOU, SQI, Dials, Decimals values for all registers.

Note that no configurations are required for online mode.

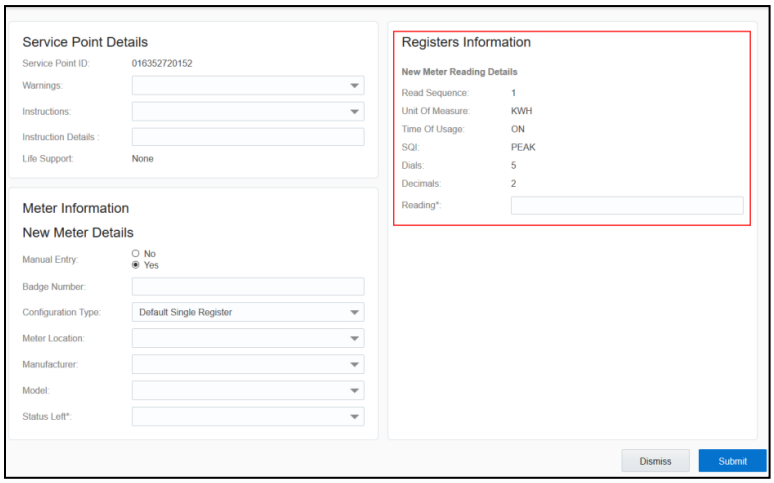
To perform the offline operations:

1. Login to the mobile application.
2. From the activities assigned to the crew, select **Install Meter**.
3. Select **Meter Details** to enter the information.

   If the device is offline, crew should select **Manual Entry** as **Yes** and select the configuration type.



4. After the respective fields are selected based on pre-configuration the registers information is displayed as below. Click **Submit**.

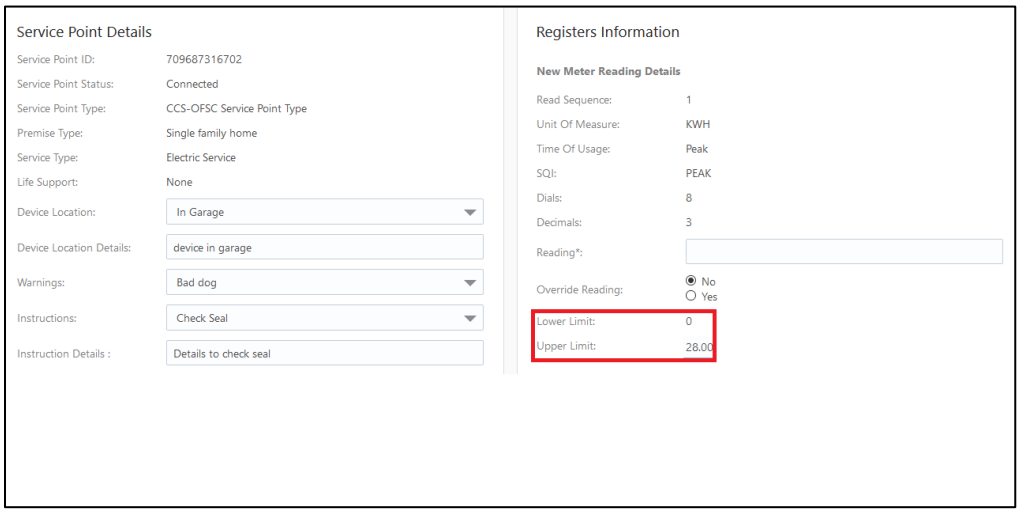


Meter Read Override

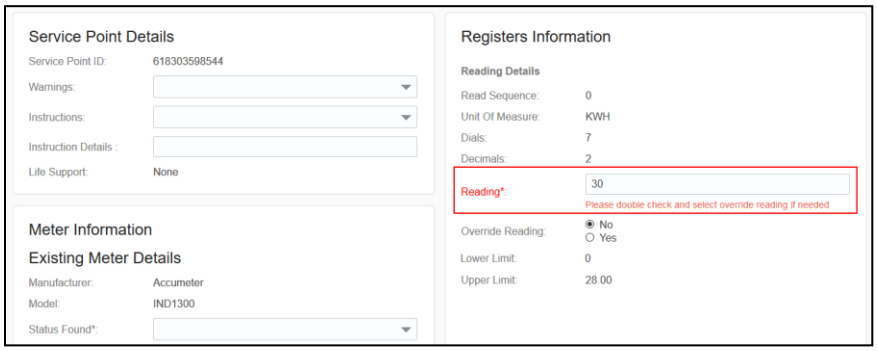
This functionality is applicable in online mode only. Based on the type of activity crew enters the meter readings. The readings should be between the high/low boundaries received by Oracle Field Service Cloud from Oracle Utilities Customer Cloud Service after device verification. If the reading is outside of these limits, Oracle Field Service Cloud displays corresponding error messages. If the meter reading is actually outside the limits, select to override the readings and submit them.

To override meter read:

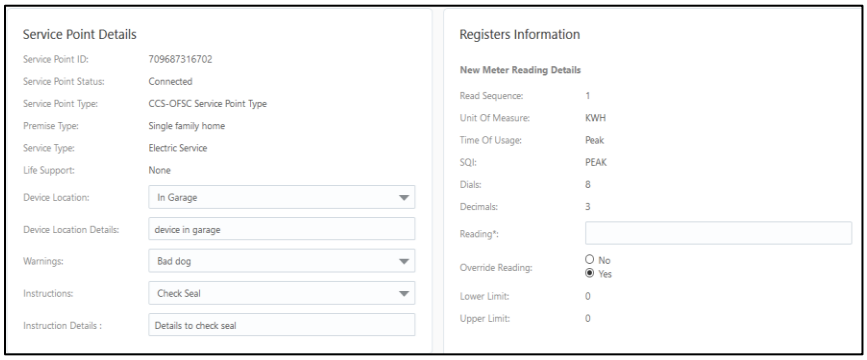
1. Login to mobile application.
2. From the activities assigned to crew select the required activity.
3. Select **Meter Details** and navigate to the user interface.



The lower and upper limit are part of message from Oracle Utilities Customer Cloud Service. It infers that reading should be ideally between these limits but a crew can always override the recommedations. If the reading is not between these limits the application displays an error.

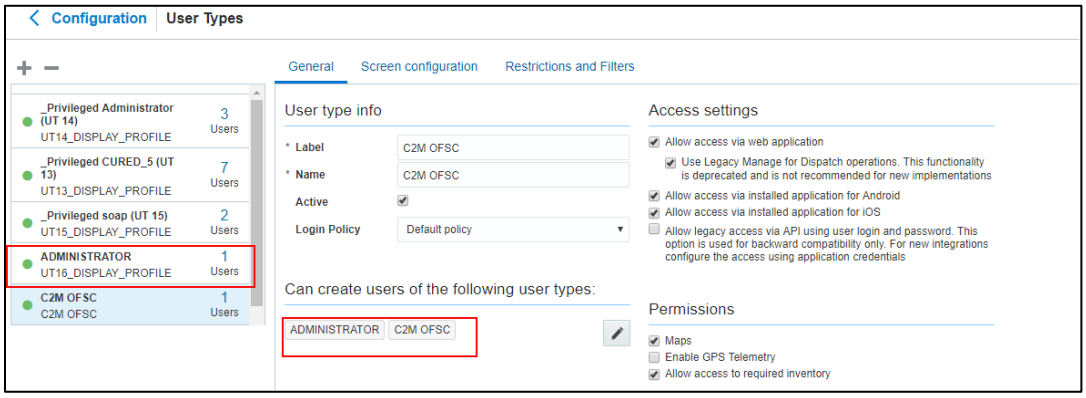


4. To submit the reading, select **Override Reading** as **Yes** and click **Submit**.



Display Profile

This section is applicable to users with display profile other than “UT16_DISPLAY_PROFILE”.



To change the display profile:

1. Open the usertype.xml file.
2. Search for “manger” and change the label based on the Oracle Field Service Cloud configuration.
3. Make sure to change the “managed_user_type” label.

```
<user_types>
 <user_type label="C2M OFSC" status="active" login_policy="Default policy" display_profile="display5d17997f7623f">
  <translations>
   <translation lang="en" value="C2M OFSC"/>
  </translations>
  <managers>
   <manager label="UT16_DISPLAY_PROFILE"/>
   <manager label="C2M OFSC"/>
  </managers>
  <managed_user_types>
   <managed_user_type label="UT16_DISPLAY_PROFILE"/>
   <managed_user_type label="C2M OFSC"/>
```

Quota Configuration

Oracle Field Service Cloud Capacity allows to achieve an optimal resource utilization. Use this feature to plan the resource capacity in advance, forecast the resource allocation, and identify where the quota is under utilized or over utilized.

Capacity Management: Manages the volume of workforce. Capacity ensures that there are enough qualified resources to implement the expected amount and type of work.

Quota Management: Allocates work across the shifts and time slots for the available field resources.

In Oracle Field Service Cloud, quota and capacity can be managed in the capacity management matrix. The quota matrix is generated with real-time data based on the requirements. Update quota values to the business needs using either time-slot based or time-interval based (availability-based) quota management.

The capacity components are described below:

- **Work Skills**: A client-specific set of skills assigned to the resources to determine their skill sets and the qualification level within each skill set.
- **Work Skill Conditions**: A set of rules defined to assign required work skills and work skill levels to the activities.
- **Capacity Categories**: A group of activities with similar work skill requirements. These are used for the quota management purpose.
- **Time Slots**: The amount of quota reserved for a capacity category at a specific time of the day. Time slots are associated with the buckets and individual capacity categories used to manage the capacity management grid. They are also used to manage the activities.
- **Time Intervals**: Define the configured time intervals for booking activities. This value is used to show available capacity, max available resources, and the value for Booking Status time intervals.

For steps to create Work Skills and Work Skill Conditions, see the Work Skills section.

Creating Capacity Categories

To create a capacity category to configure work skills, work skill groups, and time slots:

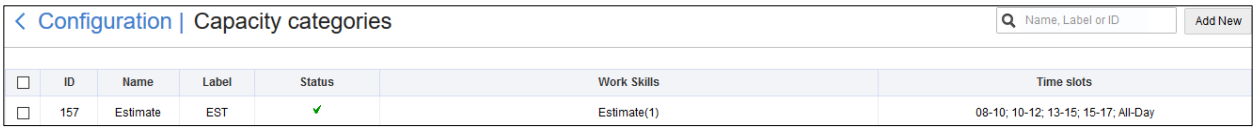
1. Navigate to the **Configuration** page and click **Capacity Categories**.
2. Click **Add New**.
3. Enter the necessary details. The table below provides the fields available and the description of each field.

Field	Description
Name	Enter the name of the capacity category. The name is displayed in the list and in the quota matrix. If the application is configured for multiple languages, input boxes will appear for each language.
Label	Specify a label. It is used in the context of APIs and it must conform to a standard naming convention.
Active	Select the Active check box to mark this capacity category as active. Only active capacity categories are used in the quota matrix.

4. Click **Save**.

After the capacity category is created, add work skills, work skill groups and time slots to it.

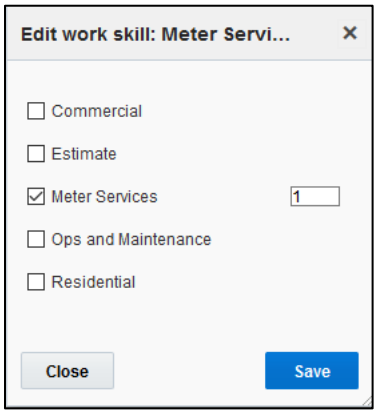
Example:



Adding Work Skill Groups to a Capacity Category

To assign work skills and work skill groups to a capacity category:

1. Navigate to the **Configuration** page and click **Capacity Categories**.
2. Click the pencil icon to edit the work skills.
3. Select the work skill group and provide the work skill condition level value.



4. Click **Save**.

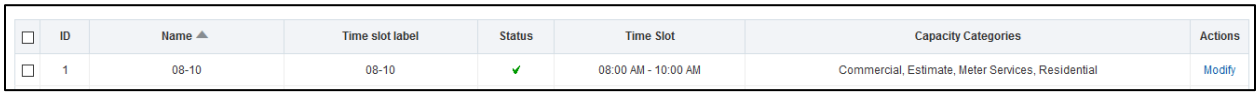
Time Slots

A time slot is a fixed time interval specified in the activity management to perform activities. It denotes the starting time and is assigned to a bucket in the capacity management.

Creating a Time Slot

To create a time slot:

1. Navigate to the **Configuration** page and click **Time Slots**.
2. Click **Add New**.
3. Enter the following details:
    - **Name**: Name the time slot in the *start time – end time* format. Example: 8-10
    - **Time slot label**: Enter the specific label name for the time slot.
    - **Status**: Select **Active** or **Inactive** from the drop-down.
      Note that Oracle Field Service Cloud assigns activities and capacity management to active time slots only.
    - **All-day time slot**: Select it for the time slot to last the entire day.
    - **Time from**: Enter the time to indicate when the time slot begins.
    - **Time to**: Enter the time when the time slot ends.
    - **Capacity Categories**: Select to add activity types and work skill types.



	ID	Name	Time slot label	Status	Time Slot	Capacity Categories	Actions
☐	1	08-10	08-10	✓	08:00 AM - 10:00 AM	Commercial, Estimate, Meter Services, Residential	Modify

4. Click **Add**.

Adding Time Slots to a Capacity Category

To add a time slot to a capacity category:

1. Navigate to the **Configuration** page and click **Capacity Categories**.
2. Hover over the **Time Slot** column to view the pencil icon.
3. Click it to edit the time slot.
4. Select the required time slots to assign to the capacity category.
5. Click **Save**.

Enabling Quota Management at Bucket Level

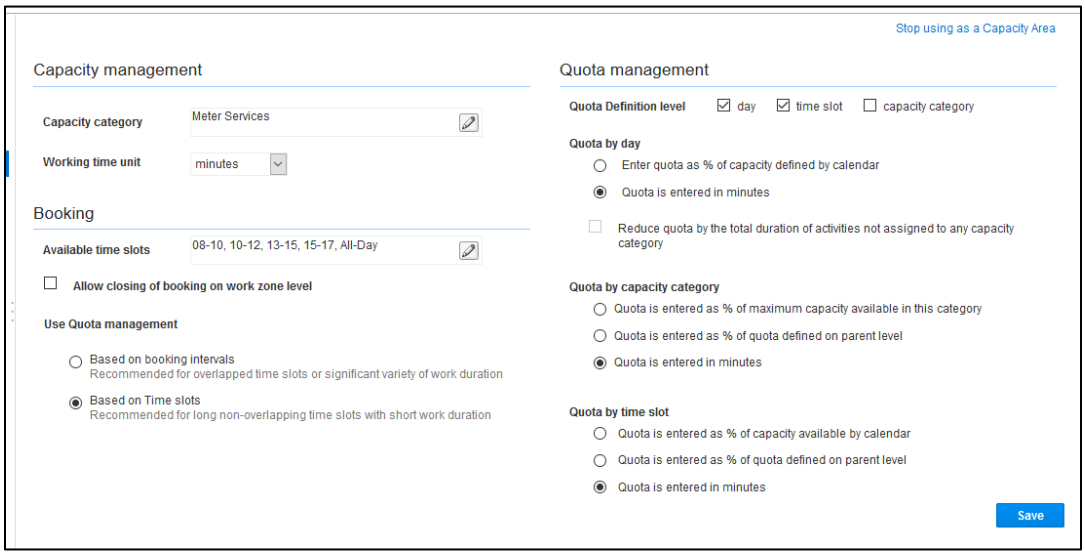
Note that quota management can only be enabled at a bucket level. To do so:

1. Navigate to the **Configuration** page and click **Quota Management.**
2. Select quota, capacity area, resource info.
3. Select the **Use as Capacity Area** check box.
   The quota Management feature is enabled for this bucket. You can now add the management information to your quota matrix.
4. In the **Quota Management** section, configure the following features:
   - **Time Slots**: Edit to add time slots to this bucket. If the time-interval (availability) based booking is configured, do not add time-slots.
   - **Capacity Categories**: Edit to define capacity category types.
5. Click **OK**.

Configuring Quota Options

To configure the quota management settings:

1. Navigate to the Configuration page.
2. Select **Time slot based quota** check box and select **Quota**.
3. Select a capacity area/bucket from the left-hand pane.
4. Click the **Configuration** icon.
5. On the **Configuration** page for the selected bucket, configure the parameters as shown in the figure below.

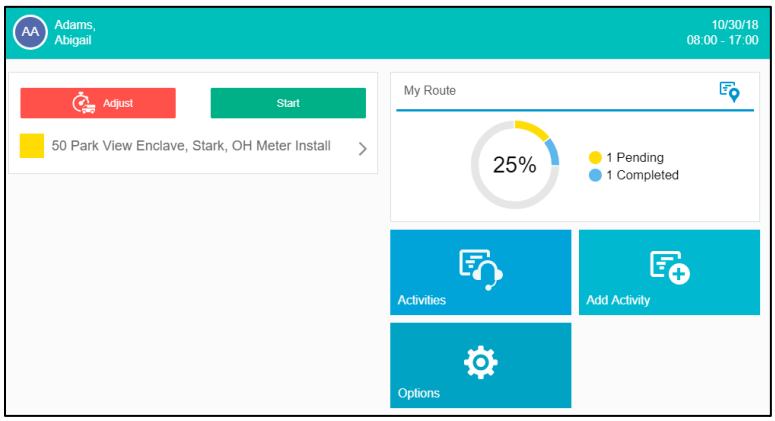

Stop using as a Capacity Area
Capacity management
Capacity category
Meter Services
Working time unit
minutes
Booking
Available time slots
08-10, 10-12, 13-15, 15-17, All-Day
Allow closing of booking on work zone level
Use Quota management
Based on booking intervals
Recommended for overlapped time slots or significant variety of work duration
Based on Time slots
Recommended for long non-overlapping time slots with short work duration
Quota management
Quota Definition level
day
time slot
capacity category
Quota by day
Enter quota as % of capacity defined by calendar
Quota is entered in minutes
Reduce quota by the total duration of activities not assigned to any capacity category
Quota by capacity category
Quota is entered as % of maximum capacity available in this category
Quota is entered as % of quota defined on parent level
Quota is entered in minutes
Quota by time slot
Quota is entered as % of capacity available by calendar
Quota is entered as % of quota defined on parent level
Quota is entered in minutes
Save

Chapter 4: User Operations

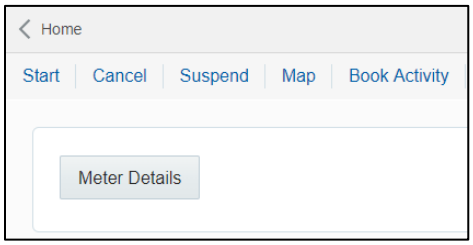
This chapter provides step by step instructions for user operations.

1. Login to Oracle Field Service Cloud Mobility application.

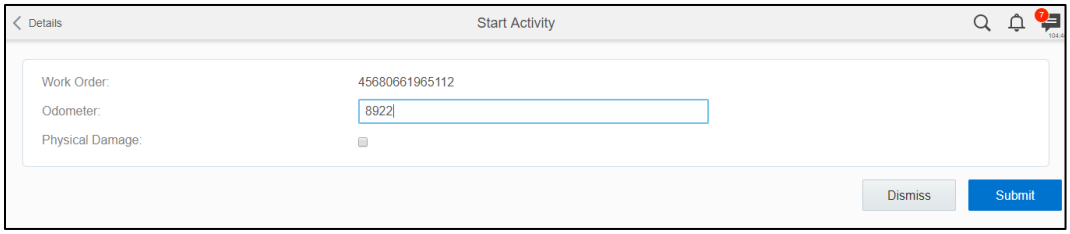
   You can access the application by adding '/m' to the Oracle Field Service Cloud URL <ofsc_link/m>.
2. Access the **Mobility** page using the worker/technician's credentials. The page shows activities in the queue of the worker.
3. Click **Start** to start the activity in the worker's queue.



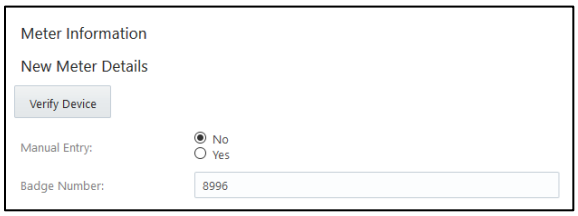
4. Click ">" against the activity. The options **Start**, **Cancel**, **Suspend**, **Map**, and **Book Activity** are displayed.

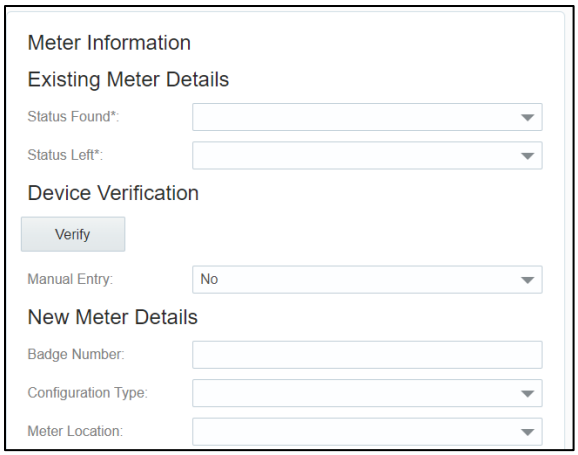


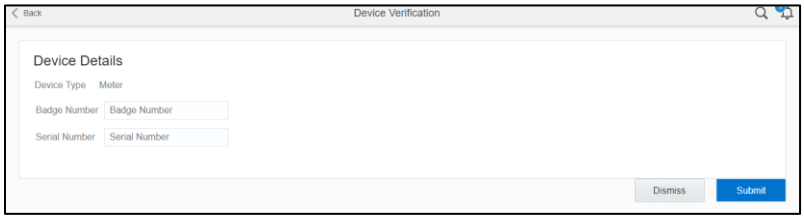
5. Click **Start** to start the activity in the worker's queue.
6. Enter the odometer details and click **Submit**.



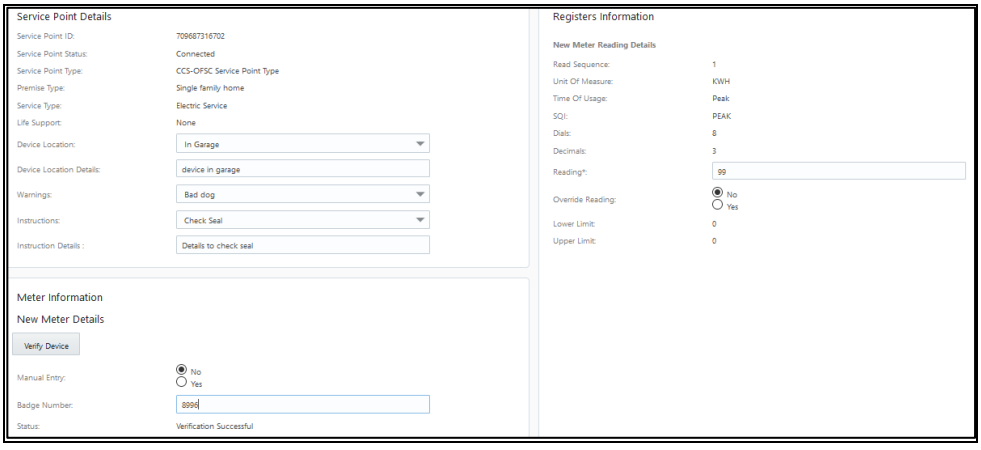
7. Click **Meter Details**. Enter the **Badge Number** and click **Submit**



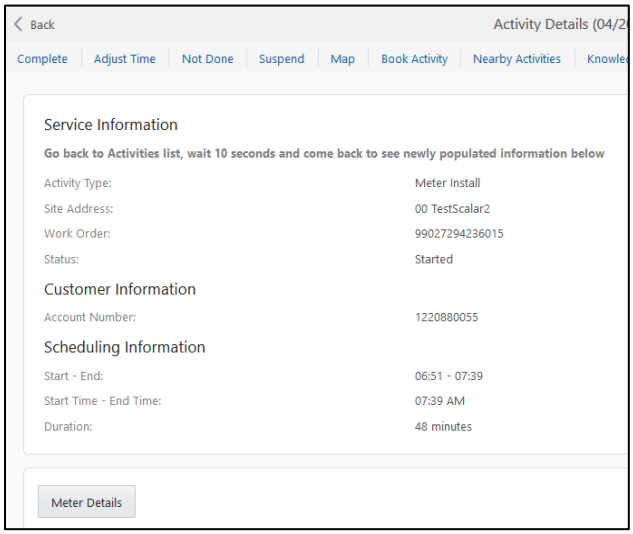




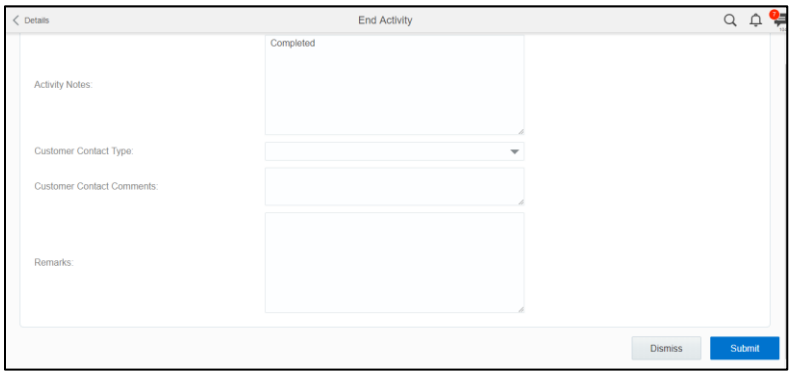
8. Click **Meter Details** and click **Verify**. After the verification is successful, the meter reading information is displayed in the **Registers Information** section.



9. Enter the respective details in the **Meter Information** and **Registers Information** sections. Click **Submit**.
10. Click **Complete.**



11. On the **End Activity** page, enter the required details. Click **Submit**.



Chapter 5: Customizations

Property additions and customizations help customers using this integration to enhance the functionality of the integration and increase the usability too. 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 their availability.

This chapter focusses on the following customizations:

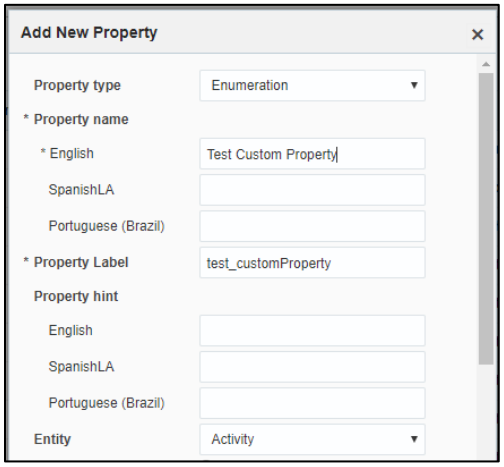
- Adding New Fields to Field Activity
- Adding New Fields and Lookup to Field Activity
- Adding New/Custom Activity Type
- Adding Enumeration values to OFSC Properties
- Adding fields to UI Screen in OFSC

Adding New Fields to Field Activity

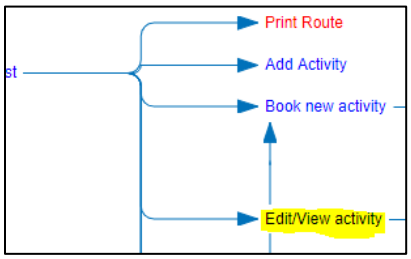
This section includes steps to add new fields to Field Activity. These fields are available but not present in Field Activity.

Oracle Field Service Cloud Configurations

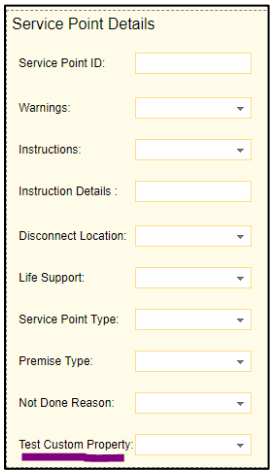
1. Login to Oracle Field Service Cloud.
2. Navigate to **Configuration > Properties > Add New Property**.
3. Select the **Entity** and **Type of GUI**. Enter the enumeration values (example: customprop1 and customprop2).



4. Click **Save**.
5. Navigate to **User Types** and select the required user type.
6. Navigate to **Screen Configurations** of the selected user type and open the **Edit/View activity** section.



7. In the **Add New Element** section, drag and drop a new 'Input' to add a new element.
8. Map the element to **Test Custom Property**. Save this screen configuration after mapping the field.

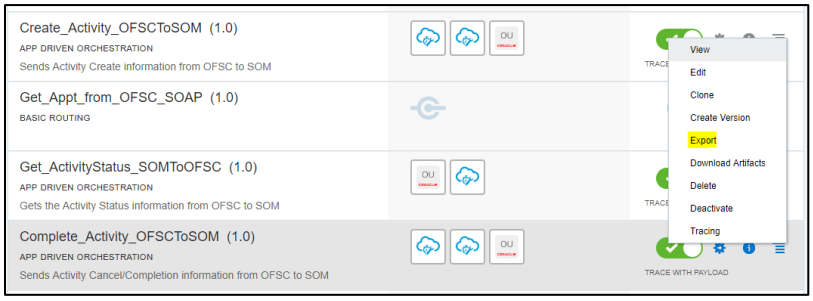


Oracle Integration Cloud Configurations

In Oracle Integration Cloud configurations use xsl files and not graphical mapper to include new properties. Since the changes are made in Oracle Field Service Cloud and the flow is from Oracle Field Service Cloud to Oracle Utilities Customer Cloud Service, modify the .iar file for *Complete Activity*.

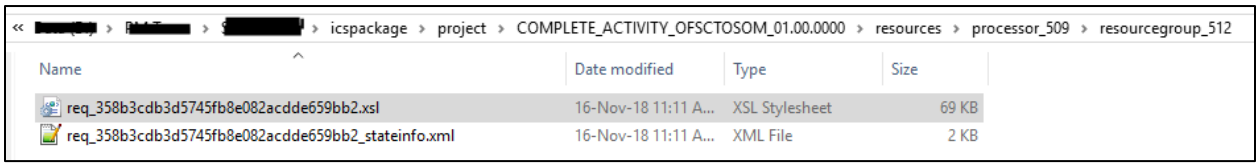
For xsl files to include the new field mappings as properties in Oracle Field Service Cloud:

1. Login to Oracle Integration Cloud.
2. Extract the .iar file.
3. Navigate to **Integrations** and export ***Complete_Activity_OFSCToSOM***.



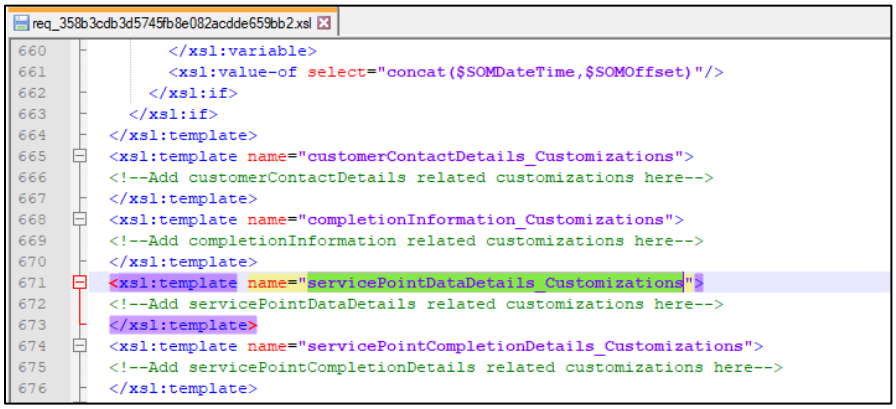
4. For Oracle Field Service Cloud response use the following xsl file. Navigate to the file location and select it.
   COMPLETE_ACTIVITY_OFSCTOSOM_01.00.0000\icspackage\project\COMPLETE_ACTIVITY_OFSCTOSOM_01.00.0000\resources\processor_509\resourcegroup_512\req_358b3cdb3d5745fb8e082acdde65

   For detailed information see *Oracle Customer Cloud Service Integration to Oracle Field Service Cloud Configuration Guide v20A*.



5. Navigate to <xsl: template..> tags towards the end of the file.
6. Select the appropriate template tag based on where the new UI property has to be added in Oracle Field Service Cloud UI.

   For example: To add a new field on the **Service Point Details** screen, choose the following xsl tag:
   <xsl:template name="servicePointDataDetails_Customizations">

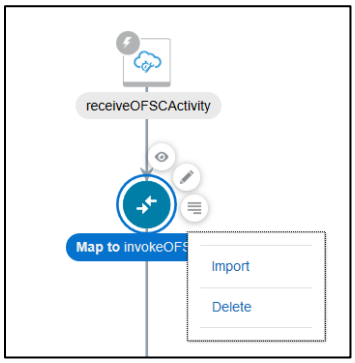


7. Add the new customized property in this tag. The sample custom property named u_custom is as below:
   <tns:custom1>
   <xsl:value-of
   select="$invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_custom"/>
   </tns:custom1>

```
<xsl:template name="servicePointDataDetails_Customizations">
  <tns:custom1>
      <xsl:value-of select="$invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_custom"/>
  </tns:custom1>
</xsl:template>
```

8. Once done editing, save the xsl and test the syntax by opening it in a web browser. It should open as shown without any errors.

9. To upload the xsl file in the OIC, deactivate the integration, open the flow and select the mapping icon. Click on the *More Actions* option and then on the *Import* option as shown below. Browse the .xsl file and import it.



Adding New Fields and Lookup to Field Activity

This section focuses on adding new fields that are not available.

Oracle Field Service Cloud Configurations

For instructions see the Oracle Field Service Cloud Configurations section in Adding New Fields to Field Activity. Add the property, drag and drop it on the UI screen where it is needed and save the UI screen in the user types.

Oracle Integration Cloud Configurations

1. For a customized lookup in Oracle Field Service Cloud, follow the steps in the Oracle Integration Cloud Configurations section in in Adding New Fields to Field Activity.

   Extract .iar and navigate to the required xsl tag (based on the location of the new lookup) in the xsl file you are editing as per the process flow.

2. Instead of adding the custom property, modify the following:

<tns:customLookup>
<xsl:value-of select="nsmpr2:lookupValue('tenant/resources/dvms/OFSCSOM_customLookup', 'OFSC_customLookup', $invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_Remarktypes, 'SOM_customLookup', $invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_Remarktypes)"/>
</tns:customLookup>

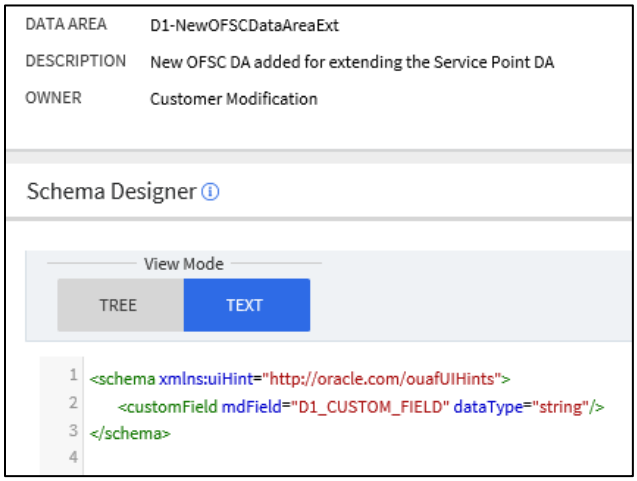
```
<xsl:template name="servicePointDataDetails_Customizations">
   <tns:customLookup>
      <xsl:value-of select="nsmpr2:lookupValue('tenant/resources/dvms/OFSCSOM_customLookup','OFSC_customLookup',
      $invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_Remarktypes, 'SOM_customLookup',
      $invokeOFSCGetActivity/nsmpr0:canonical_GETResponse/nsmpr0:activities.definitions.getActivitySchema/nsmpr1:u_Remarktypes)"/>
   </tns:customLookup>
</xsl:template>
```

3. Upload the xsl file in Oracle Integration Cloud after verification in a browser.

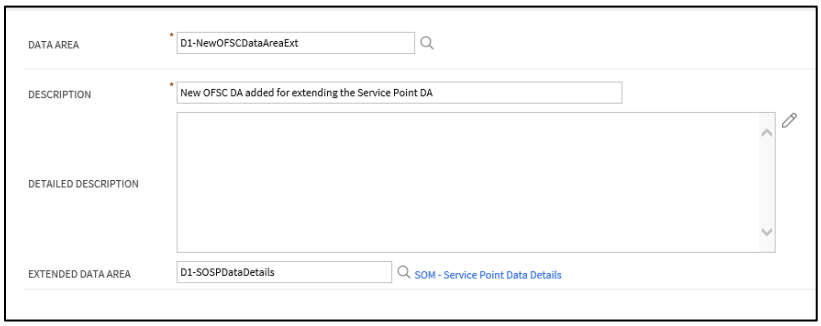
Oracle Utilities Customer Cloud Service Configurations

To configure Oracle Utilities Customer Cloud Service with a new schema element:

1. Navigate to the *D1-FieldActivityOBComm* business object and identify the data area to add the new schema element.
   For example: To make changes to the **Service Point Details** section, the data area to be modified is a custom data area created for Oracle Field Service Cloud.



2. Extend the data area by adding the Service Point Details DA in the extended DA sections.



3. New schema element should now be displayed in BO schema.

```
<servicePointDataDetails mdField="D1_SO_SP_DATA_DET_LBL" t
<disconnectLocation mdField="D1_DISCONNECT_LOCATION_CD" da
<serviceWarnings mdField="D1_SERVICE_WARNINGS_CD" dataType
<serviceInstructions mdField="D1_SERVICE_INSTRUCTIONS_CD"
<instructionDetails mdField="D1_INSTRUCTION_DETAILS"/>
<serviceAgreementStatus mdField="D1_SA_STATUS_FLG"/>
<servicePointId mdField="D1_SERVICE_POINT_ID"/>
<serviceAgreementId mdField="D1_SA_ID"/>
<premiseId mdField="D1_PREMISE_ID"/>
</servicePointDataDetails>
<customField mdField="D1_CUSTOM_FIELD" dataType="string"/>
```

Adding New/Custom Activity Types:

The OFSC allows the users to create/update or Clone the activity types.

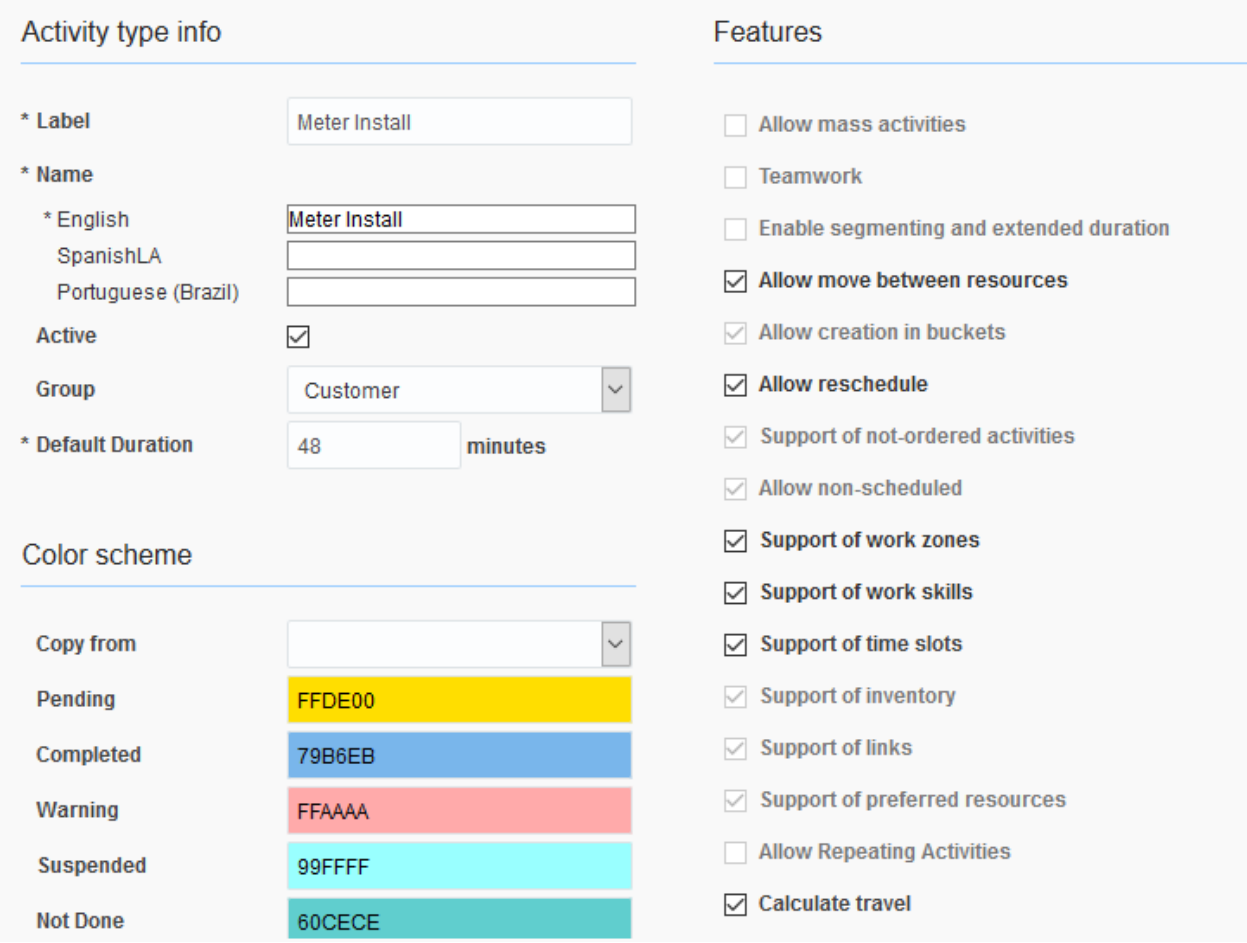
Create an Activity Type:

Please follow below steps to create an Activity.

1.Configuration→ Resources, Activities, Inventories section→Activity Types.

2.The Activity types window will open click on Add Activity Type.

3.



4.Provide the lable of activity in the activity label tab and also give the name of the activity in the Name field.

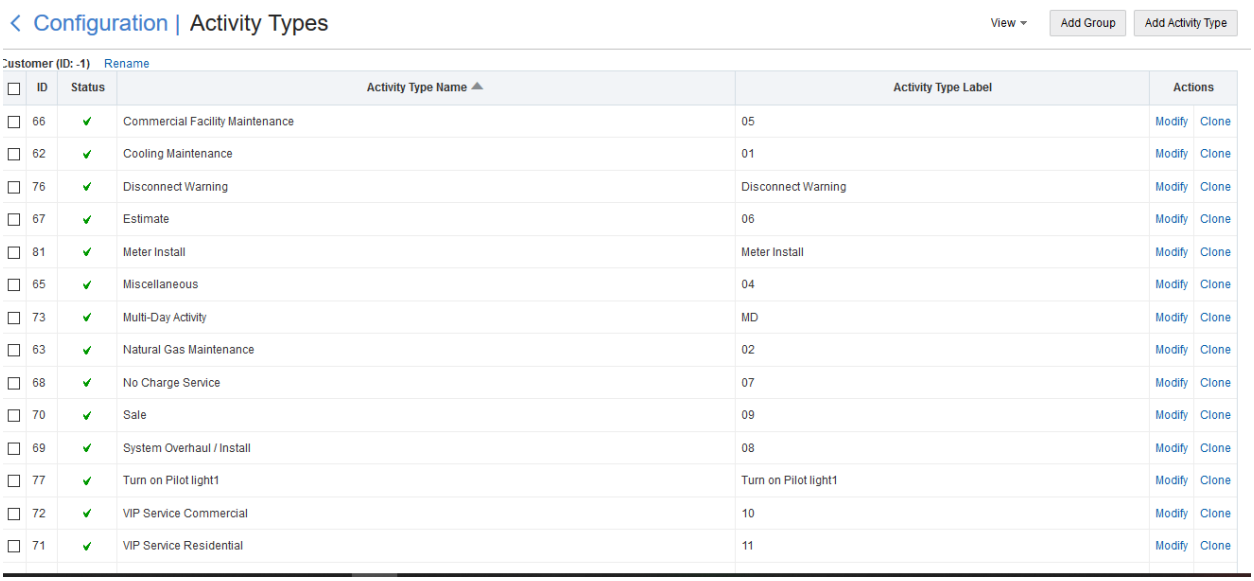
5.Activate the activity type by checking the check box beside the activate option.

6.Check the respective features as needed in right side check boxes.

Cloning Of an Activity Type:

1.Configuration→ Resources, Activities, Inventories section→Activity Types.

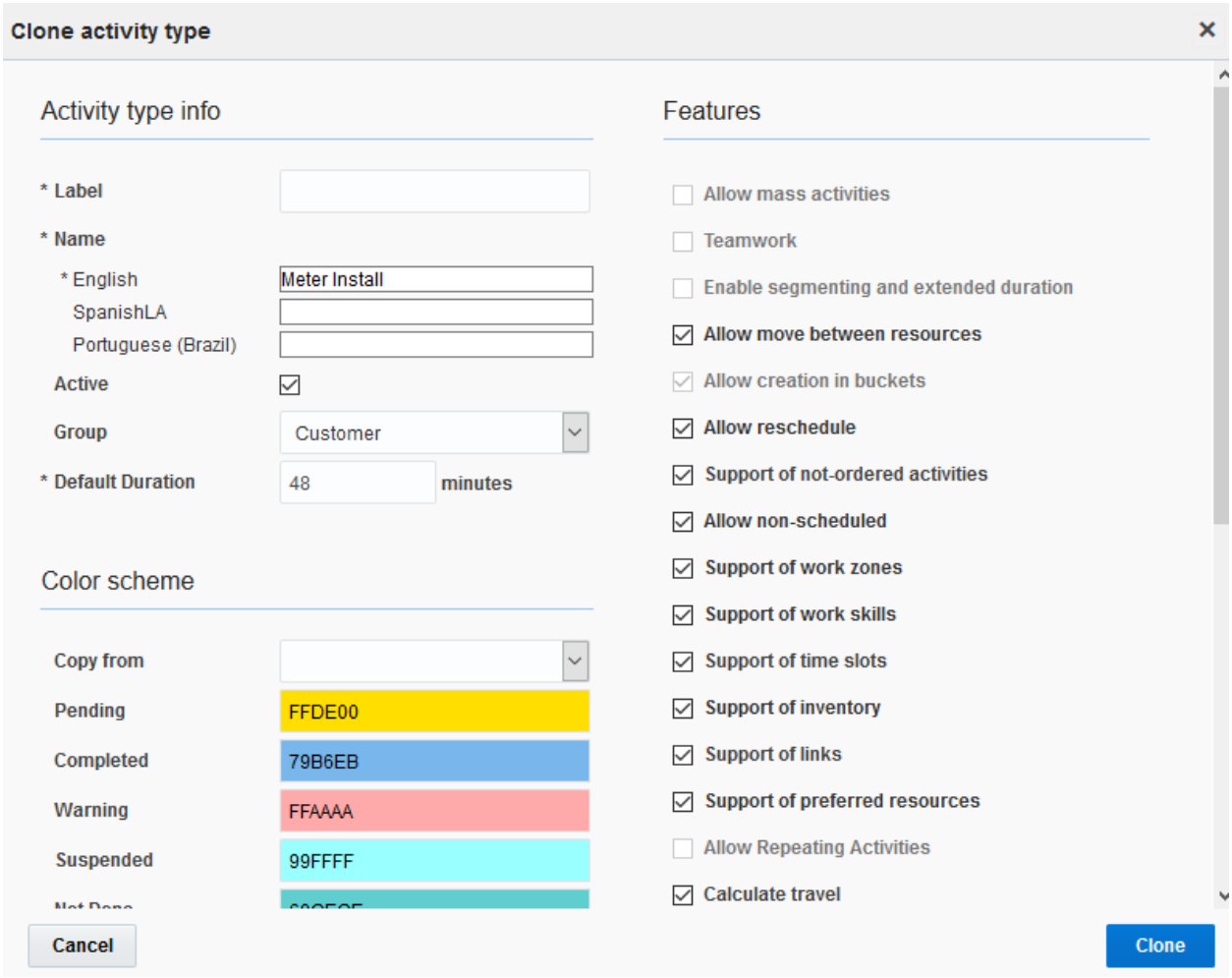
2.The list of Activity types window open as show below.



3.Click on Clone option available for the activity type that you want to clone.

4.Once you done clone of the activity, all the features of existing activity will come as part of new activity type.

5.change the activity label as which you want to create and add name and click on Clone option.



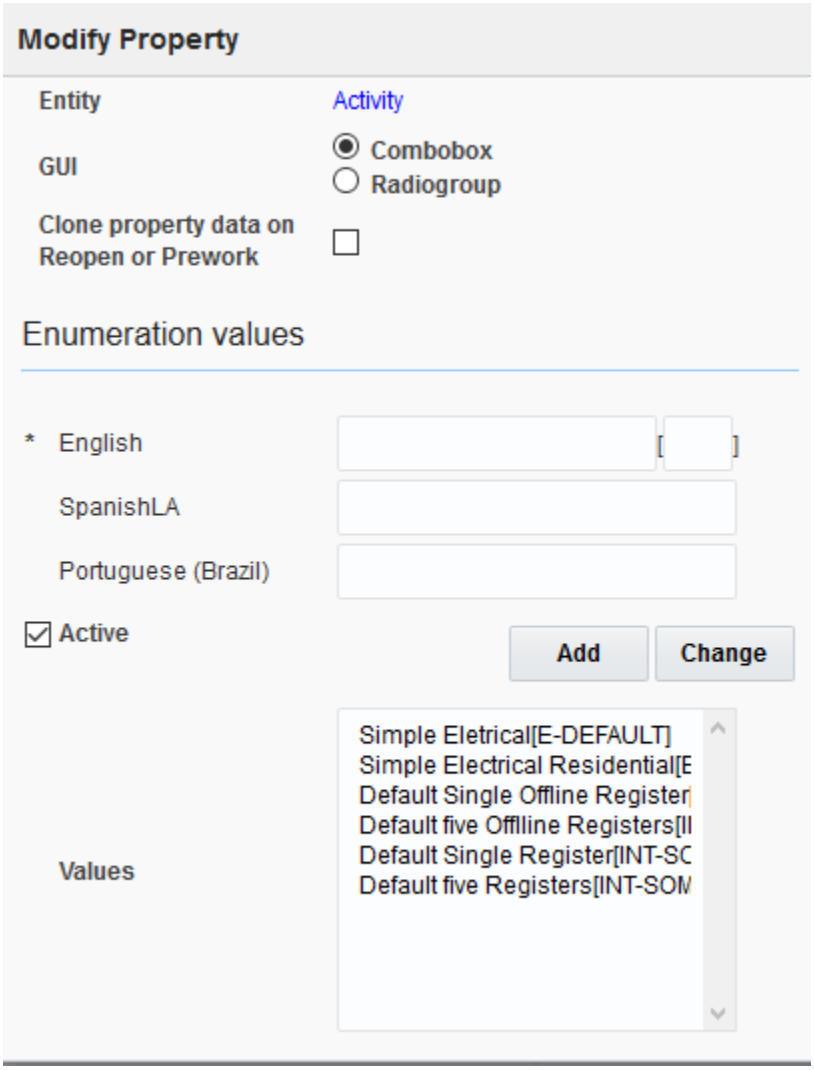
Adding Enumeration Values to OFSC Property:

There are some enum properties in OFSC which needs to add values with CCS data like SQI,TOU,UOM,Meter configuration type etc…

To add the values to the property please follow below steps:

1. Login to Oracle Field Service Cloud.
2. Navigate to **Configuration** > **Properties**.
3. Search for the property with label.
4. Click **Modify Property**.

The property modify dialog box opens.



4. The **Values** section is a combination of **Description[id]**. In the **English** field, enter the Description in the Description and enter the code in the id section.

    Example: Simple Eletrical[E-DEFAULT]

5. Enter “Item” to verify an item as part of custom activity, and the activity as part of ID. Example: Item[Custom_item_activity_type]

6. Click **Add** to add the values to the **Values** list.
7. Click **Update** to save the value to the property.

Below are the properties which needs to update if you want to add custom values apart of the demo values which comes as part of accerlator.

OFSC Property	CCS Admin Table
Service Point Status Code	Service Point Status
New Item Type	Device Type
New Meter TOU	Time Of Use
Customer Contact Type	Customer Contact Type
New Meter SQI	Service Quantity Identifier
Disconnect Location	Disconnect Location
Service Point Instructions	Service Instructions
Service Point Warnings	Service Point Warnings
New Item Model	Model
New Meter Model	Model
New Item Manufacturer	Manufacturer
New Meter Manufacturer	Manufacturer
New Meter UOM	Unit Of Measure
Item Configuration Type	Device Configuration Type
Unit Of Measure	Unit Of Measure
Time Of Use	Time Of Use
Premise Type	Premise Type
Service Point Type	Service Point Type
Meter Configuration Type	Device Configuration Type
Remark Type	Remark Type
Premise Warning	Service Point Warnings
Cancellation Reason	FA Cancel Reason
Customer Contact Type	Customer Contact Type
Meter ID Types	Meter ID Type
Read Type	Read Type

8.Once you add the values in the property and you also needs to add entry to corresponding OIC look up.

For example you have added the value to the Manufacturer properties, you need to add the entry to the SOMOFSC_Manufacturer OIC look up.

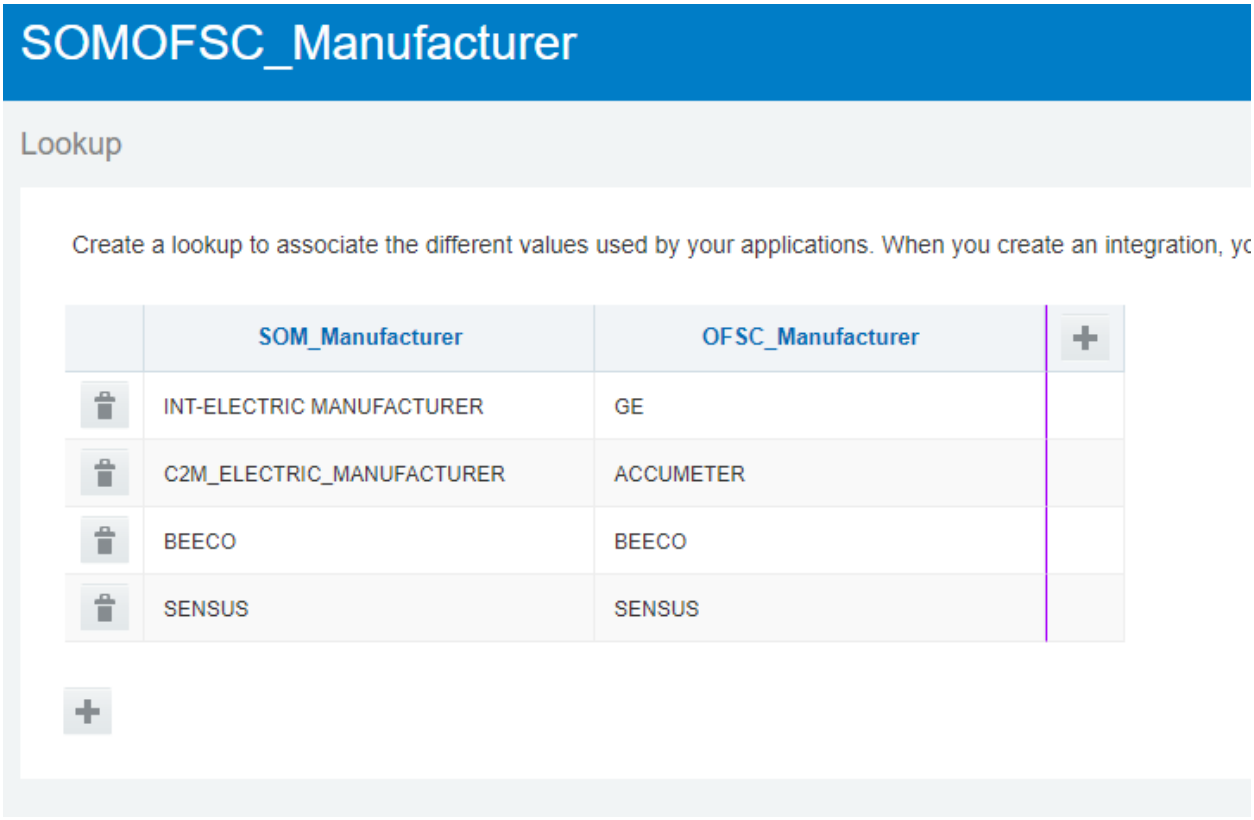
Please follow below steps to add entry to the look up.

9.Login into OIC.

10.Go to Designer→Lookups.

11.Search for look up with name.let's say SOMOFSC_Manufacturer.

12.



13.Click on Icon.

14.Enter the SOM code in SOM_Manufacturer column and enter the id of ofsc enum field in the OFSC_Manufacturer column.

14.Click on Save.

15.Deactivate and activate the integration which is using the look up.

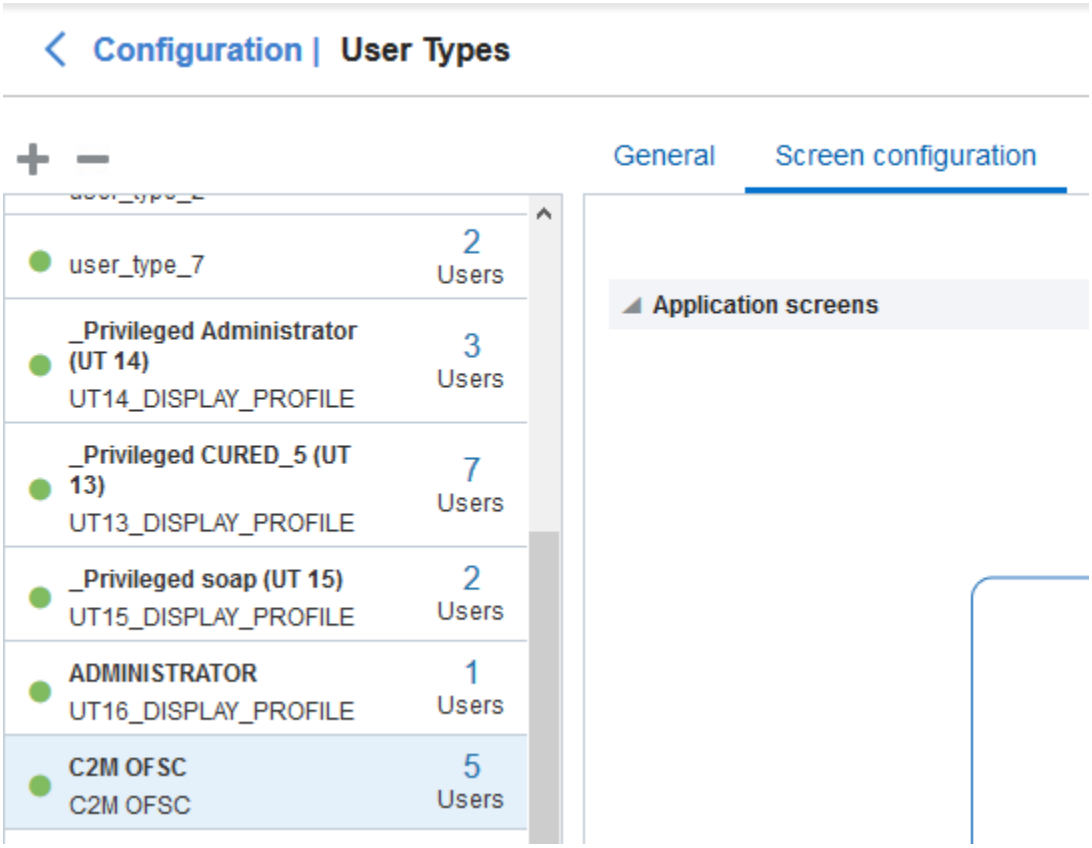
Adding Fields to UI screen in OFSC:

If you want to add the newly created properties to the Mobility screen/UI Screen please follow below Steps.

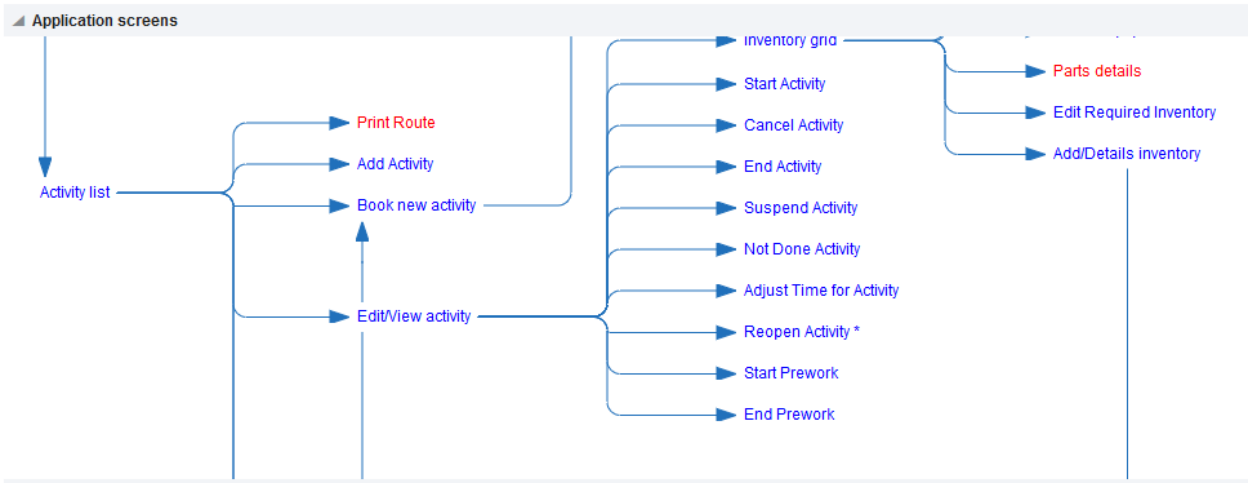
1.Log in to OFSC→Configuration

2.Go to→User types

3.Click on C2M OFSC User type and then Screen Configuration.



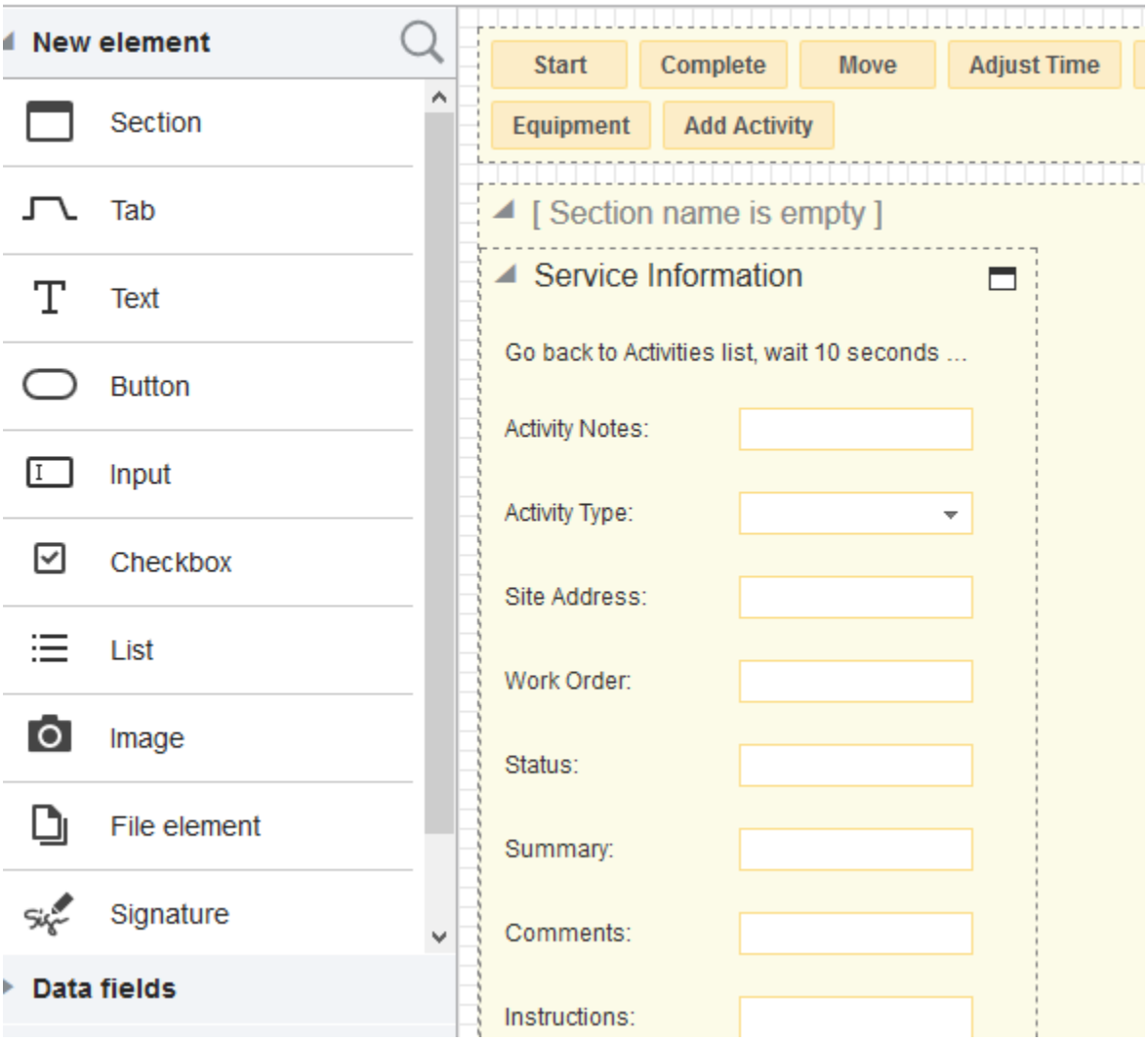
4.Now you can see different screens under Application screens tab.



5.if you want to add the field to the activity level,Click on Edit/View Activity.

6.The Edit/View Activity Visual builder screen appears as below.

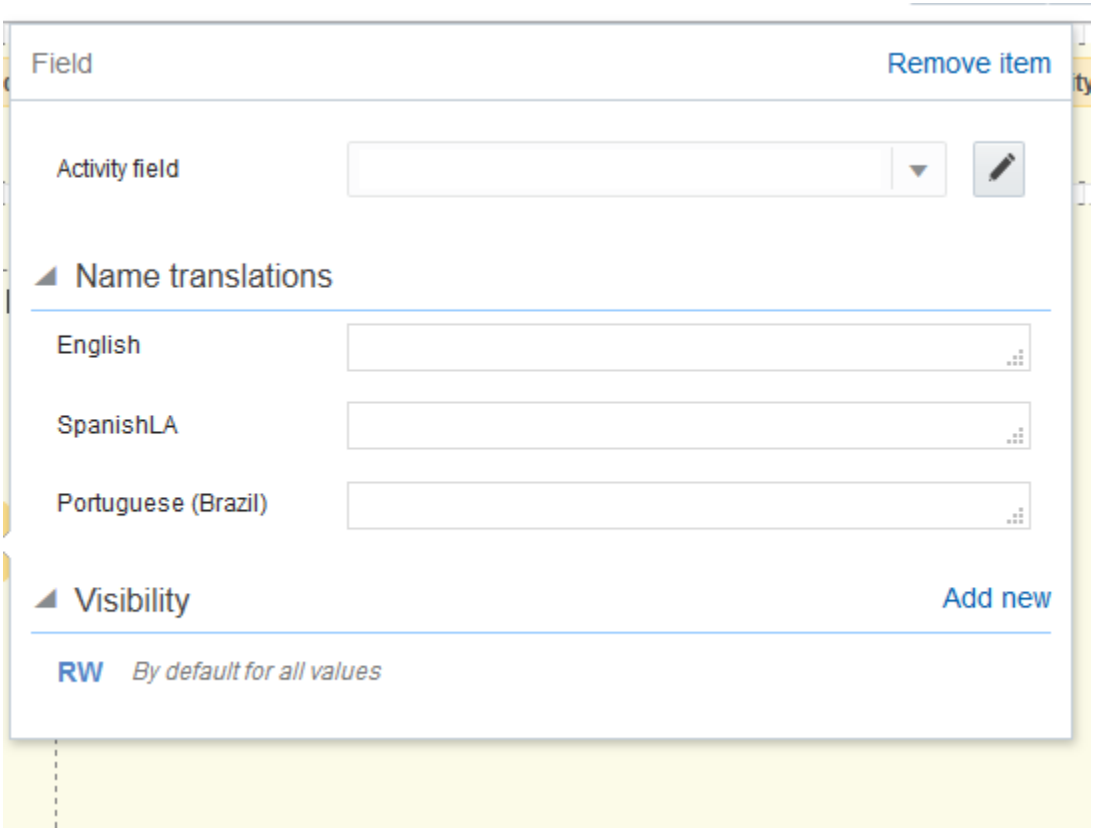
Visual Form Editor > C2M OFSC > Edit/View activity



6.You can drag and drop the section,tab, available on left side of the visual builder.

7.if you want to add the field,Drag and drop the input icon to the visual builder area where you want to display.

8.The input window displays as below.



9.Select the property from the Activity field section drop down.

10.Give the label name in the Name translation sections by choosing your language.

11.Give the visibility to the property whether it can be read or read-write in the Visibility Section.

12.Click on Save.

Chapter 6: Hosting Plug-Ins in OFSC

Plug-Ins can be hosted within Oracle Field Service or externally.

Oracle Field Service cloud has a limit of up 10 plug Ins that can be hosted within Oracle Field Service cloud.

The steps to host a Plug-In within Oracle Field Service cloud is documented in https://docs.oracle.com/en/cloud/saas/field-service/20a/fapcf/configure-and-use-plug-ins.html#c_hostingPlugins

The plugins can be hosted externally on

- Any webserver (example: Tomcat) running on a virtual machine either on premise or on cloud
- It can be stored In Object Storage on a cloud instance by uploading the files either in a public bucket

Additionally, if the plugins are hosted externally:

1. Navigate to **Configuration** > **Application** > **Additional Resources**.
2. Select **Allow Cross-origin resource sharing (CORS) from the following web domains** and provide the domain of the server on which the plugins are hosted.

Hosting files on a webserver

Plugins can be hosted on a webserver running on a virtual machine either on premise or on cloud. The mobile device or browser needs to be able to reach and communicate with the server hosting the plugin files.

Please refer to the documentation of the webserver of choice on how setup and host the static content. The unzipped files of the plugin is then hosted on the webserver. The path to the index.html or the directory containing the index.html is configured in the URL field of the plugin screen as defined in https://docs.oracle.com/en/cloud/saas/field-service/20a/fapcf/configure-and-use-plug-ins.html#configure-and-use-plug-ins

The externally hosted plugin can be secured and Oracle Field Service Cloud supports authentication mechanism as defined in https://docs.oracle.com/en/cloud/saas/field-service/20a/fapcf/configure-and-use-plug-ins.html#c_authentication

Storing files on Object Storage

Before storing files in Object Storage please ensure that the basic administration tasks in Oracle Cloud Infrastructure related to Object Storage have been completed properly, and that the compartments and buckets where the plugin files are stored have been setup.

For more information on Oracle Cloud Object Storage setup for Oracle Utilities Cloud Services, please see the latest Oracle Utilities Cloud Services Object Storage Setup Guide.
https://docs.oracle.com/cd/F27772_01/PDF/UGBU_Cloud_Services_Object_Storage_Setup_20A.pdf

Using public bucket

The unzipped plugin files can be uploaded into a public bucket in which case the files are not protected and is open to public. The URL to index.html in the public bucket is configured in URL field in Oracle Field Service Cloud.