Oracle Field Service Configurations for Oracle Utilities Customer Care and Billing Integration to Oracle Field Service

Setup Guide

Release 21B

Disclaimer

Oracle Field Service Configurations for Oracle Utilities Customer Care and Billing Integration to Oracle Field Service, Release 21B

August 2021

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Preface

Welcome to the Oracle Field Service Setup Guide for Oracle Utilities Customer Care and Billing Integration to Oracle Field Service. This document focuses on the Oracle Field Service configuration and administration information for the integration.

The preface includes the following:

- Audience
- Documentation Updates
- Documentation and Accessibility
- Abbreviations

Audience

This document is intended for anyone implementing the integration for Oracle Utilities Customer Care and Billing and Oracle Field Service.

Documentation Updates

Documentation updates are posted on the Oracle Technology Network page as they become available. Visit https://docs.oracle.com/cd/E72219_01/documentation.html.

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.

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

Term	Expanded Form
OFS	Oracle Field Service
CCB/OUCCB	Oracle Utilities Customer Care and Billing
OIC	Oracle Integration Cloud

Chapter 1: Accelerator Overview

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

- Configuration Overview
- Accelerator Package
- Accelerator Activity Types

Configuration Overview

This chapter focuses on the basic Oracle Field Service configurations, such as Activity Types, User Types, Properties and the 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 used in Oracle Utilities Customer Care and Billing with Oracle Field Service. The integration package contains only Oracle Utilities Customer Care and Billing and Oracle Integration Cloud configuration files and instructions. In addition to the integration package, this document provides a complete end-to-end setup for the integration.

The contents of package are:

- **User Types** – Define layouts and UI screens. The new UIs for Service Point Details, New Meter Details and Existing Meter Details are linked to user types. For more details, see the User Types section.
- **Properties** – Create layouts and mapping. See Properties for more information.
- **Plugins** – The Device Verification plugin is a part of the package, which takes in badge number and returns the device details if a corresponding device exists. See Forms and Plugins for more information.

Accelerator Activity Types

This accelerator is used as a starting point for customer implementation. It provides configurations for eight basic Activity Types (listed below). Customers should create UIs for additional activity types or customize the existing UIs for the supported Activity Types. Reopened activities are also supported in this integration.

- Install Meter
- Remove Meter
- Read Meter
- Replace Meter
- Install Item
- Replace Item
- Connect SP
- Disconnect SP

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 environment for the integration to run successfully. Make sure to follow the same sequence for successful configuration.

The chapter 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 (in this case, Oracle Utilities Customer Care and Billing Integration to Oracle Field Service). 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:

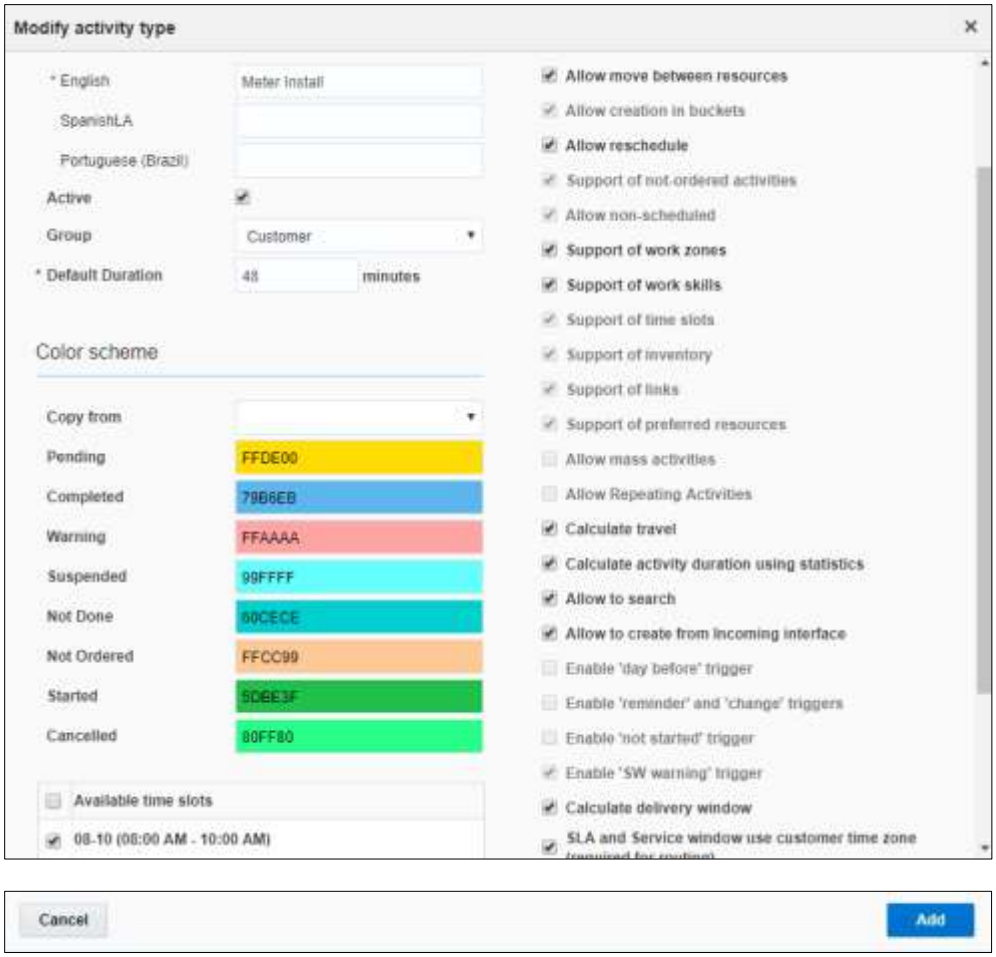
1. Navigate to the **Configuration** page.
2. Select **Activity Types** and click **Add Activity Type**.

3. Enter the name and other activity type details. Click **Add**.
4. For other Activity Types listed (Install Meter, Disconnect SP, Meter Read, Meter Replace, Connect SP, Item Replace, Disconnect SP, and Item Install), clone and modify the name and details as required.

   Make sure to have corresponding lookup values in CCBOFSC_ActivityType lookup for all activity types in Oracle Integration Cloud.

   Example: FWINSTMT (CCB Task Type) corresponding to Meter Install (OFSC Activity Type)

5. Add only those Activity Types that are needed and specific to the customers.



Properties

Properties are customs fields used to enable the Utility Integration specific UIs created and to map the 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.

For the integration, the properties to enable utility specific functionally and UIs are created in Oracle Field Service. Property includes meter read, meter, item and other completion related details.

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 section focuses on how to configure forms and plugins used in Oracle Field Service.

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

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

Device Verification Plugin

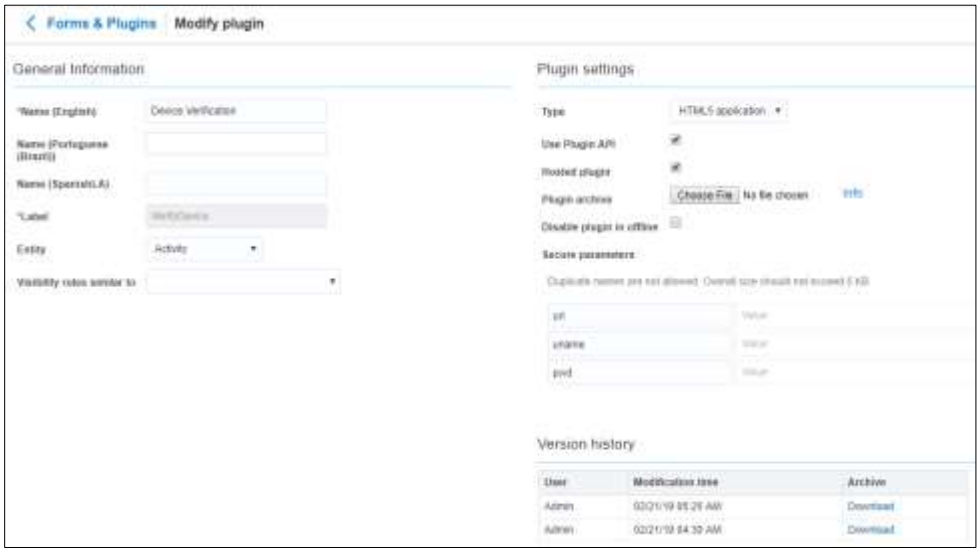
To configure forms and plugins:

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

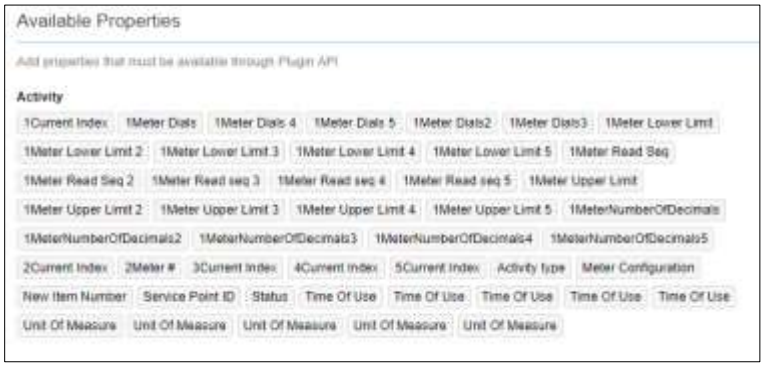
3. Enter the details as shown in the figure below.

   In the **Plugin Settings** pane, do the following:

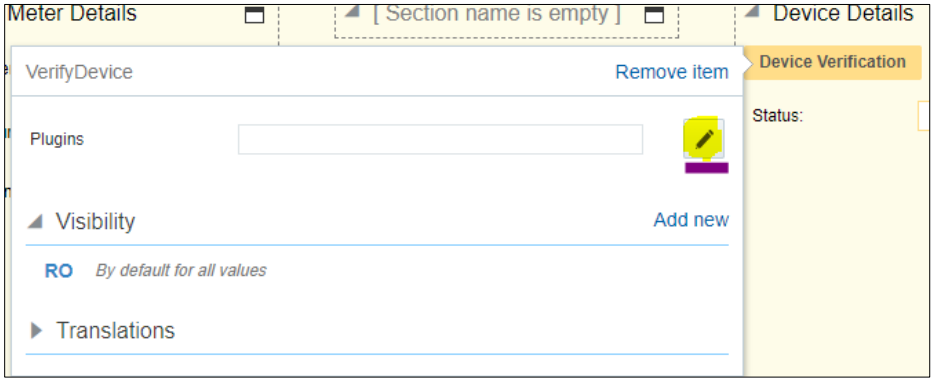
   a. Enter the OIC username and password.
   b. Select **HTML5 application** from the **Type** drop-down list.
   c. In the **Plugin archive** field, click **Choose File** to select the **VerifyDevice** plugin.

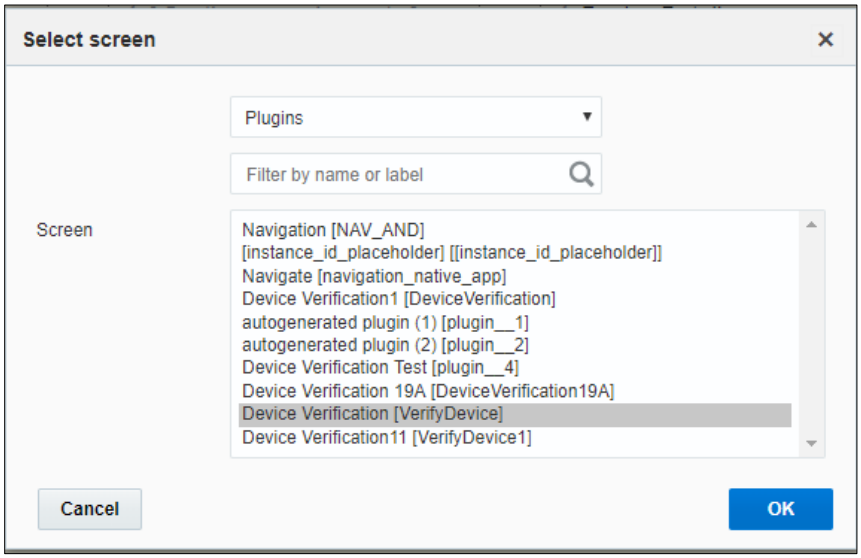


4. Make sure the **Available Properties** tab is populated with all properties.



5. After the plugin is configured, navigate to the **User Type** page and select it in the **Plugins** field to connect it to the specific field on the UI in **Mobility** page.



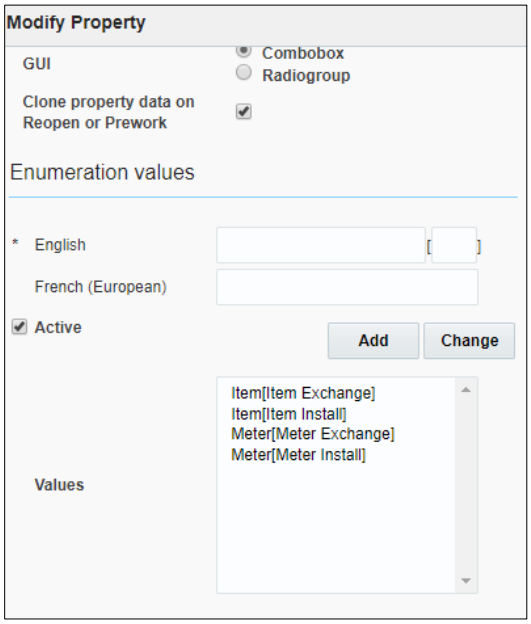


6. Click **OK**.

Custom Activity Types Support

To configure custom activity types to support Device or Item Verification plugin:

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



5. The **Values** section is a combination of **label[id]**.

   In the **English** field, enter the respective label. Enter “Meter” to verify meter as part of custom activity, and the activity as part of ID.

   Example: Meter[Custom_meter_activity_type]

6. Enter “Item” to verify an item as part of custom activity, and the activity as part of ID.

   Example: Item[Custom_item_activity_type]

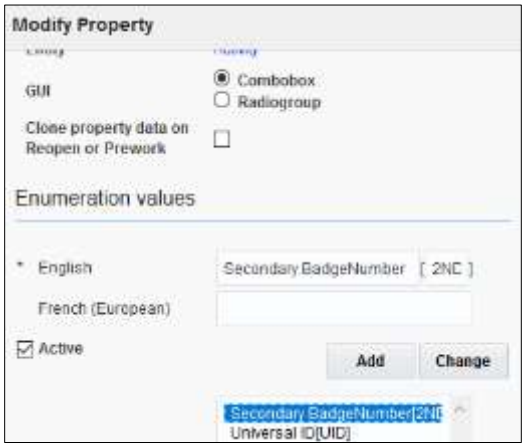
7. Click **Add** to add the values to the **Values** list.
8. Click **Update** to save the value to the property.

Custom Meter ID Types Support

The Device Verification plugin allows the crew to enter the Meter ID Type and Meter ID as part of the verification. By default, the Secondary Badge Number and Universal ID are shown as part of Meter ID Types.

To add more options to the Meter ID Type:

1. Login to Oracle Field Service.
2. Navigate to **Configuration** > **Properties**.
3. Search for the "u_meter_id_types" property.
4. Click **Modify**.



5. The value section is combination of label[id]. Enter the activity description as "Secondary BadgeNumber". Enter the Code/CCB value in the **ID** field.

   Example: Secondary BadgeNumber[2ND]
6. Click **Update** to save the value to the property.

Unrelated Pickup Plugin

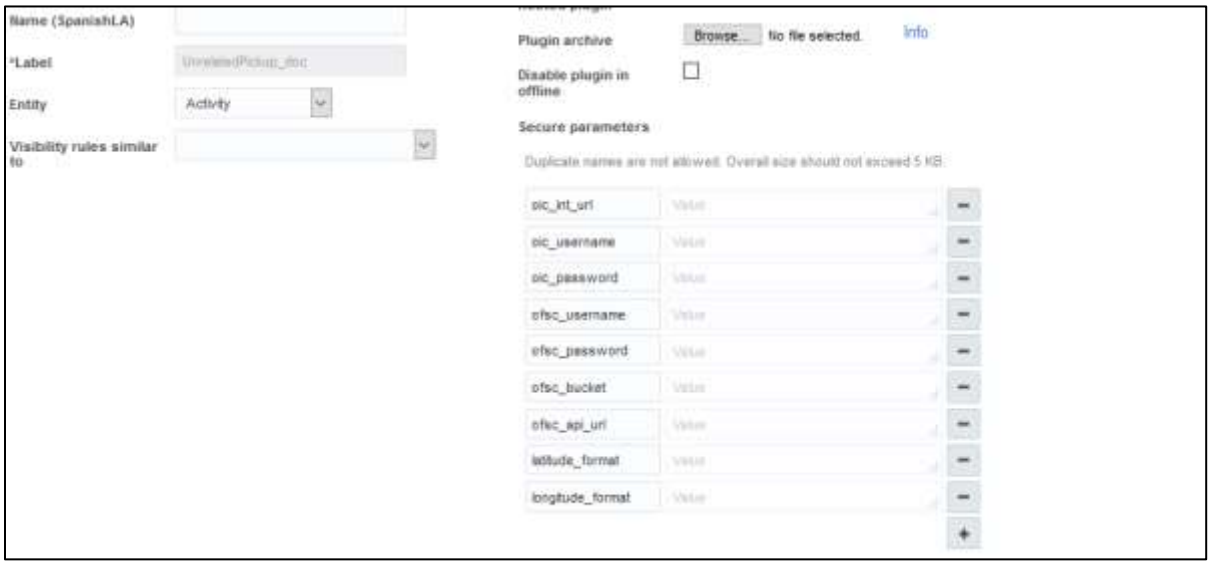
To configure an unrelated pickup activity:

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

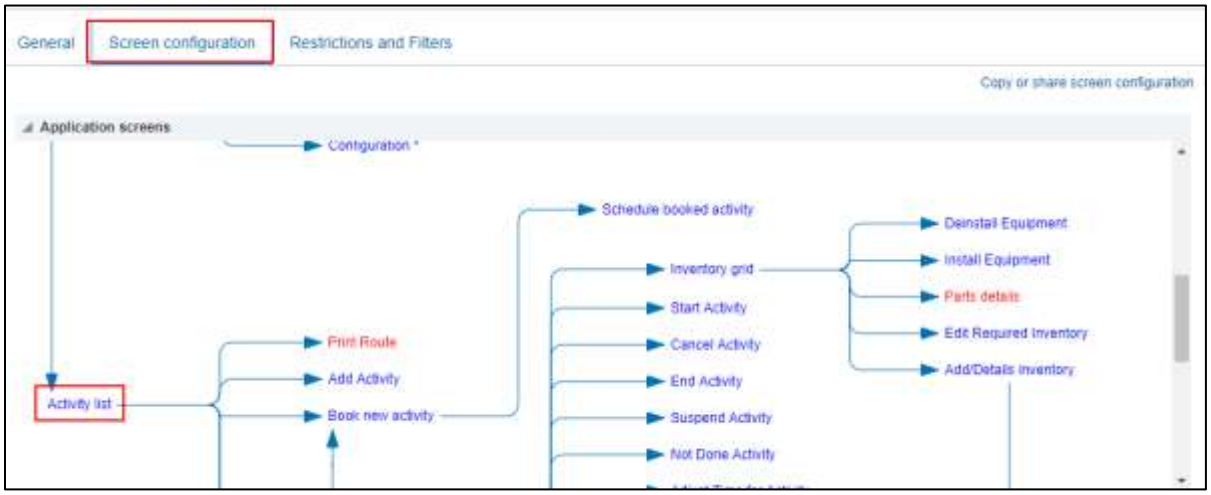
3. Select the unrelated pickup plugin and enter the following details:

Parameter Name	Value	Comments
oic_int_url	https://oichost/ic/api/integration/v1/flows/rest/ OUTL-BA-OFSC_CCB_SP_QUERY/1.0/	Configure the activated service point URL
oic_username	User Name	Configure the OIC user name
oic_password	Password	Configure the OIC password
ofsc_username	OFSC user name	Configure the OFSC user name
ofsc_password	OFSC password	Configure the OFSC Password
ofsc_bucket	OFSC Bucket External ID	Configure the OFSC Bucket
ofsc_api_url	OFSC REST API URL Example: https://api.etadirect.com	Configure the OFSC REST API URL
latitude_format	Latitude format value Example: N2.7	Configure the format of latitude
longitude_format	Longitude format value Example: N3.7	Configure the format of longitude

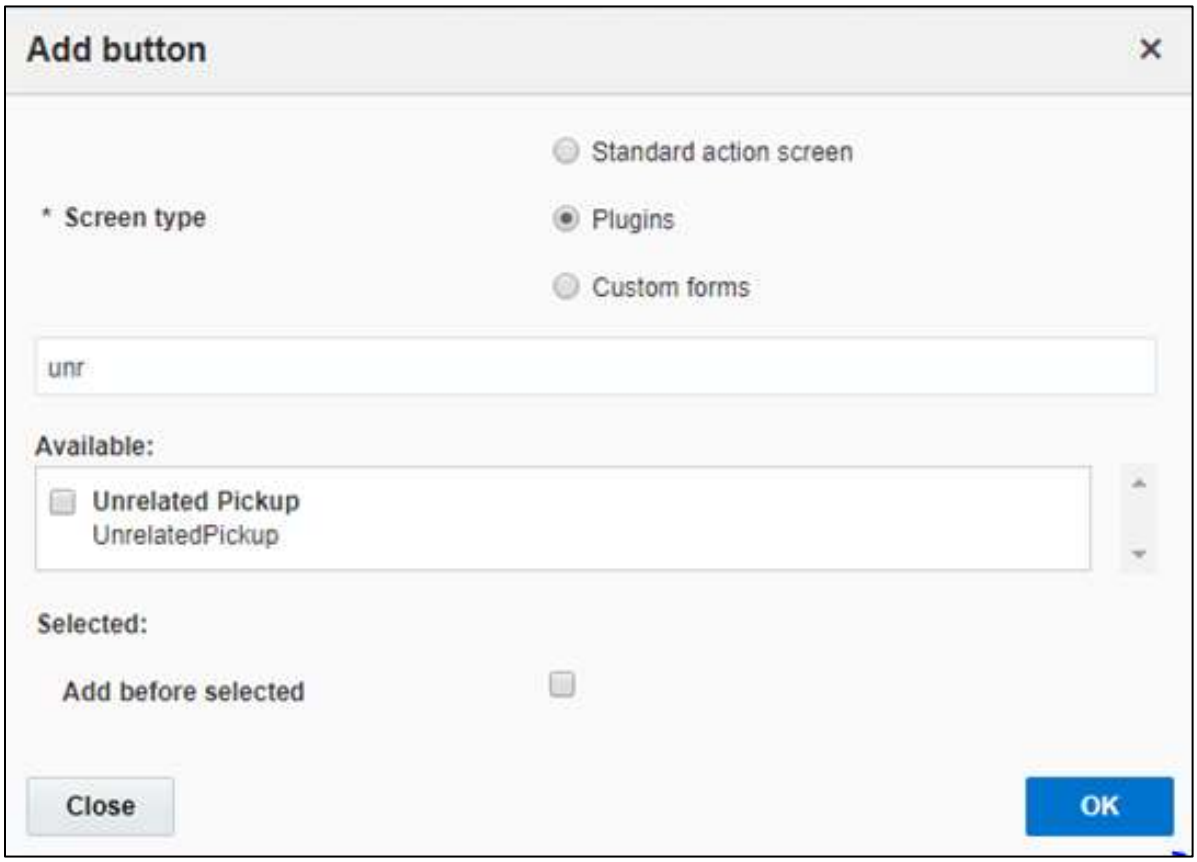
Note: Username and password are the client ID and client secret retrieved from Oracle Field Service.



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.

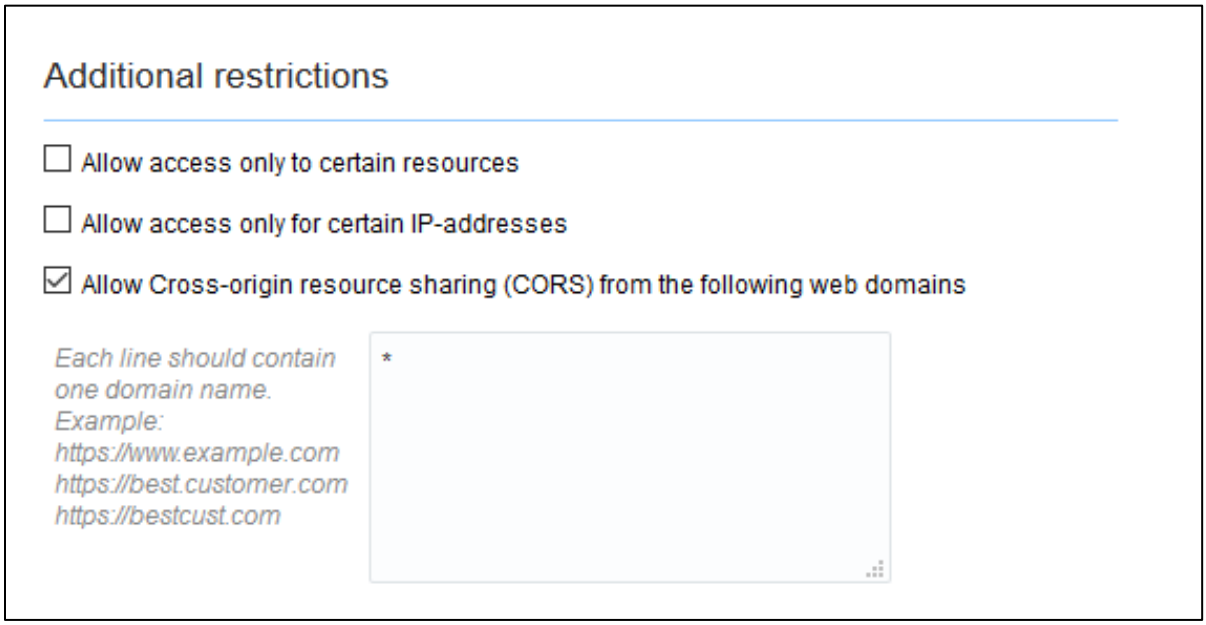


8. On the right pane, add new visibility.

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.

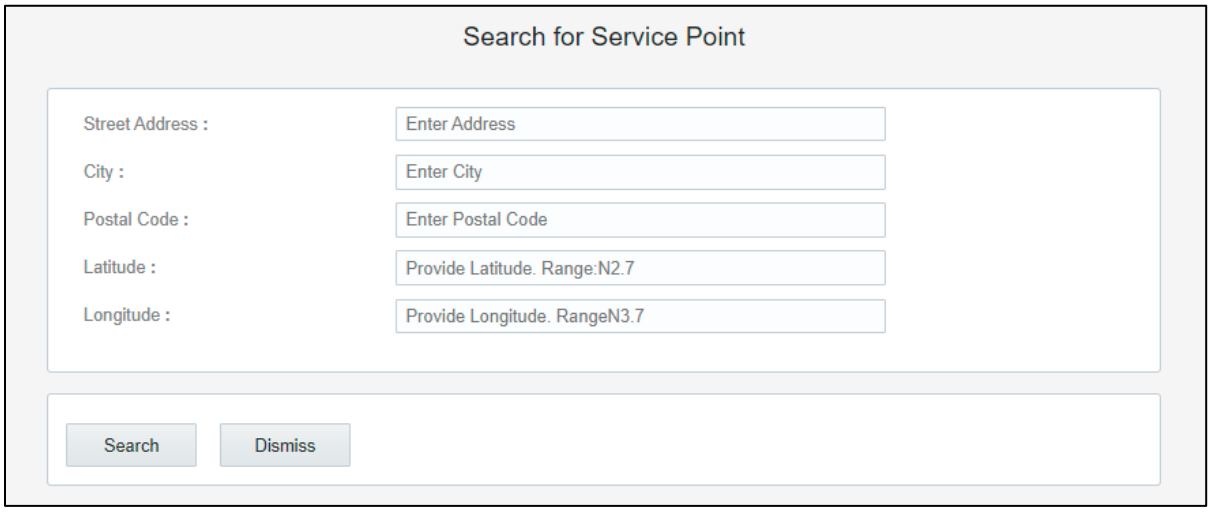
    To call OFSC REST API from the plugin, set up cross-origin resource sharing (CORS) in Oracle Field Service:
    a. Navigate to **Configuration > Application > Additional restrictions**.
    b. Select **Allow Cross-origin resource sharing (CORS)** from the following web domains and provide the Oracle Field Service domain.
    c. If the domain details are unknown, enter '*'. For the actual Oracle Field Service domain contact the Oracle Field Service support team.

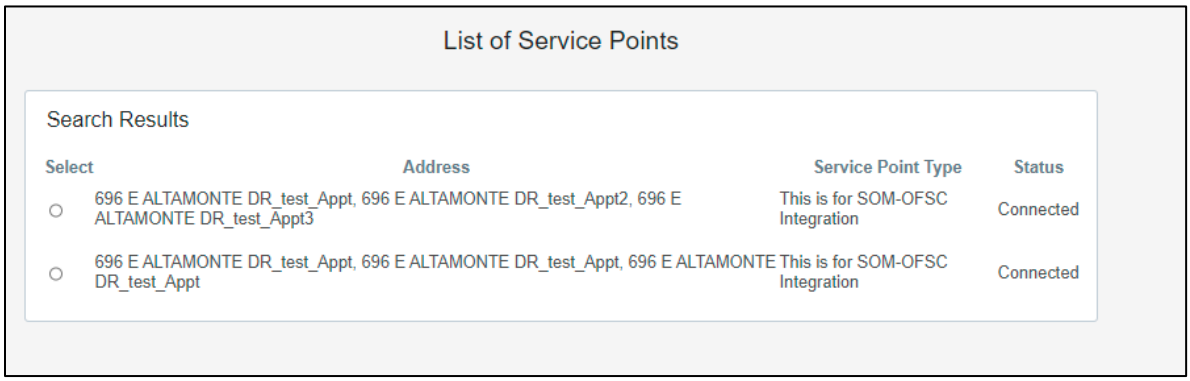


In this integration release, crew can specify search criteria and send request to Oracle Utilities Customer Cloud Service for service points. From the retrieved service points, crew can select a service point and raise a service investigation activity. The search criteria includes address, city, postal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

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

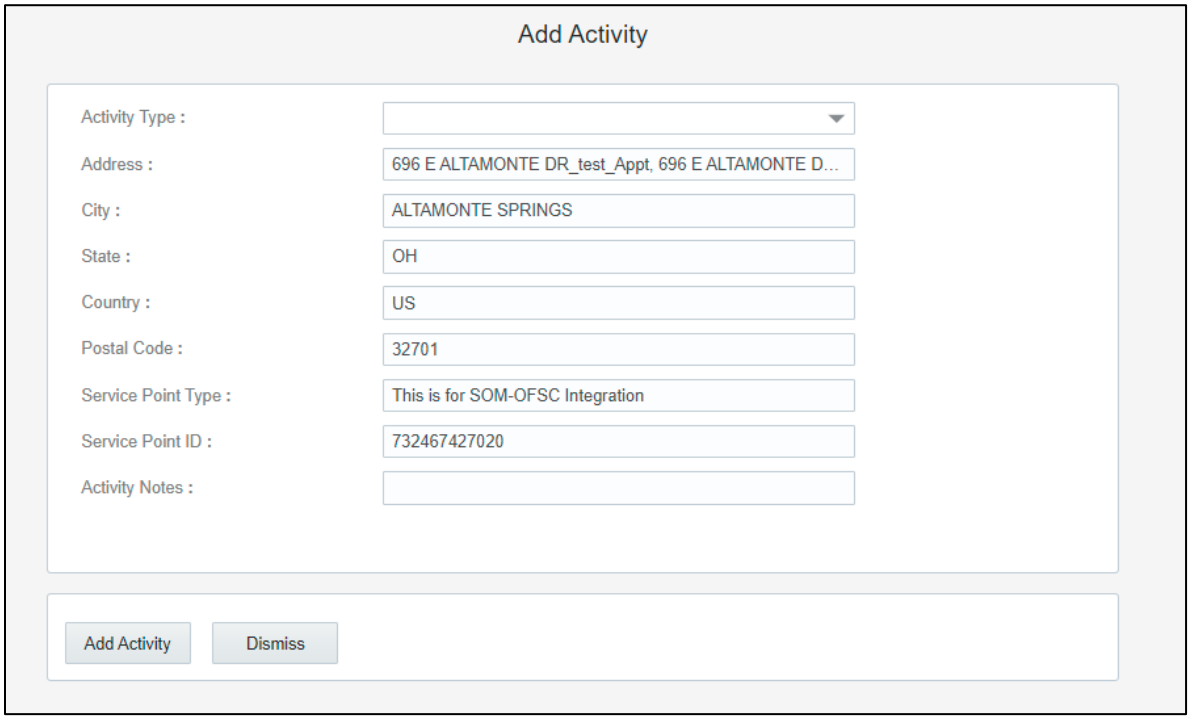
2. On the **Unrelated Pickup** page search for service points.





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, 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**.

Assign a user to the user type imported and access the Mobility Screen through the user to view the user type configurations.

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:

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

Checklist

Before configuring Oracle Field Service, verify that the following are complete.

- All the Activity Types specific to customer have been 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

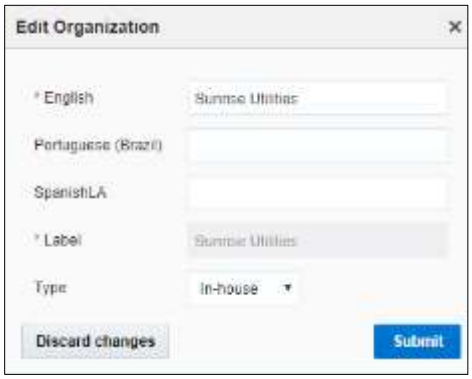
Organization

An Organization can have buckets, organization units (Org Units), field resources, tools or vehicle associations.

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 organization name and click Submit.



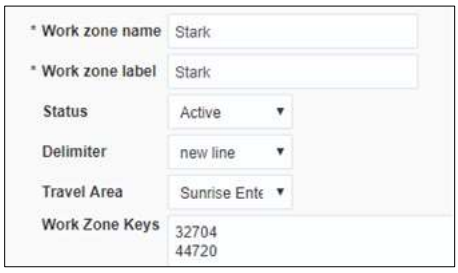
Work Zones

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 Care and Billing.

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 Zone** 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.

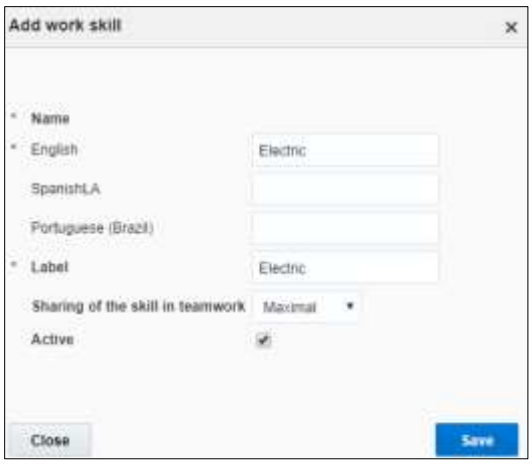
Work Skills

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.

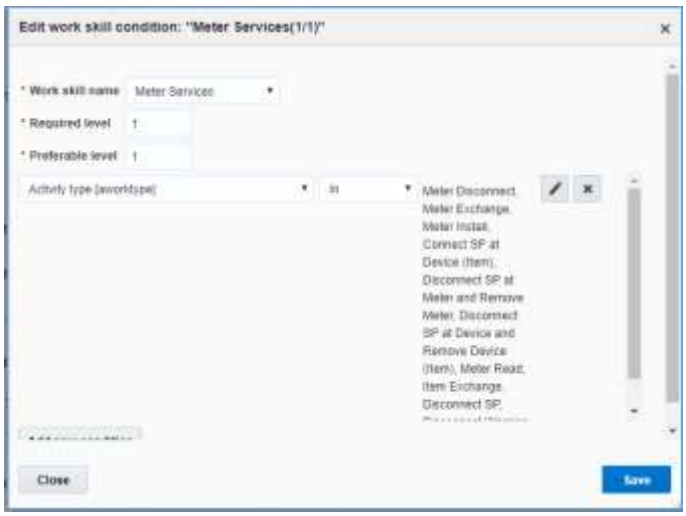
The integration supports only two work skills at this time of release: Meter Services, Ops and Maintenance.

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 the respective details. The figure below shows the necessary values.

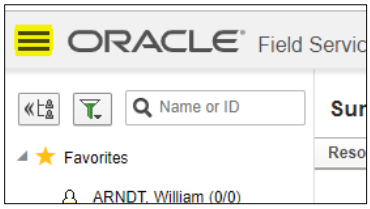


Resource and Bucket Info

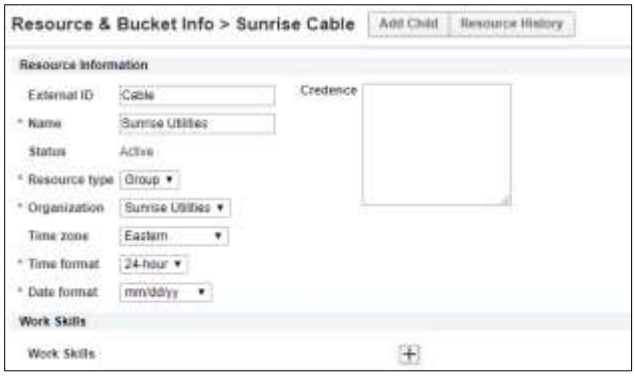
Oracle Field Service uses bucket and resources to categorize the resources. In this integration, use the bucket as a resource type to route the entire meter service tasks to workers. In the bucket, create two resources (field workers) who are assigned field activities coming from Oracle Utilities Customer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

To create resources in the bucket:

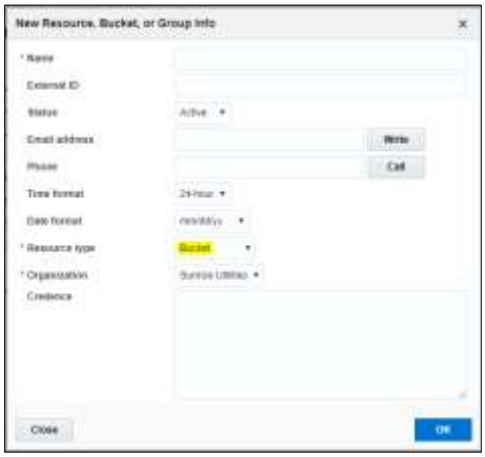
1. On the Oracle Field Service Home page, click the three lines on the top left corner.



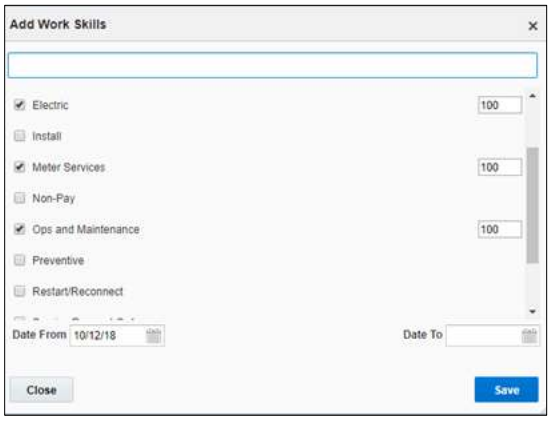
2. Click **Resource & Bucket Info**.
3. Click **Add Child**.



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**.

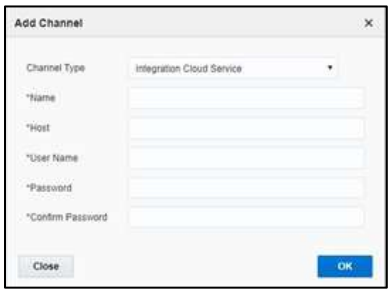


Outbound Channel

This element creates a channel to communicate with Oracle Utilities Customer Care and Billing Oracle Integration Cloud. Various channel types can be considered, but since Oracle Utilities Customer Care and Billing integration to Oracle Field Service 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**.



UI Validation Rules

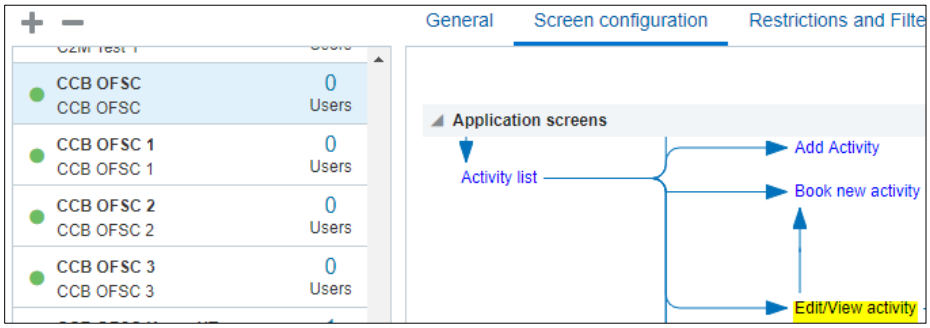
Use the validation rules for activity types to various UI screens to restrict visibility. These rules are imported and enabled after the accelerator is installed. Make sure to verify the validation rules exist.

As mentioned in User Types and Properties, the screens are mapped and made visible to various users using their types. These validations add a new visibility clause to restrict screens to specific activity types.

This section focuses on creating/configuring validation UIs, such as the Meter Information, Existing Meter Details, New Meter Details, and Service Point.

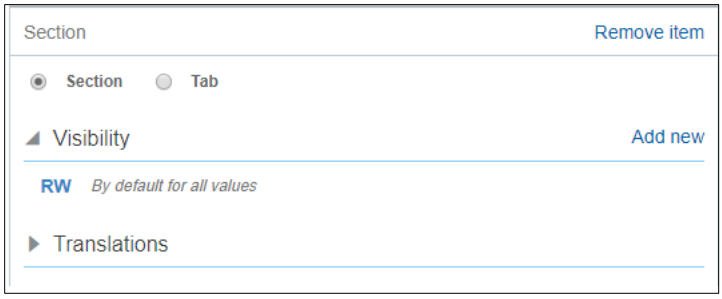
To create/configure a validation UI:

1. Navigate to **Configuration > User Types**.
2. Select the respective User Type.
3. On the **Screen Configuration** tab, scroll down to the **Edit/View Activity** link.

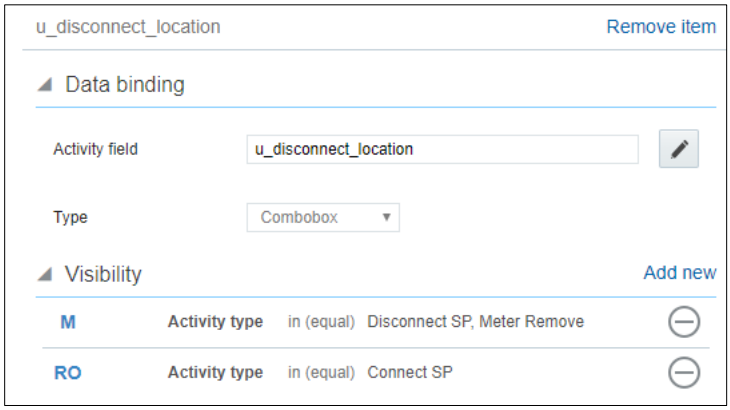


4. Click **Details**. Verify that "RW" in the **Visibility** section has activity type.

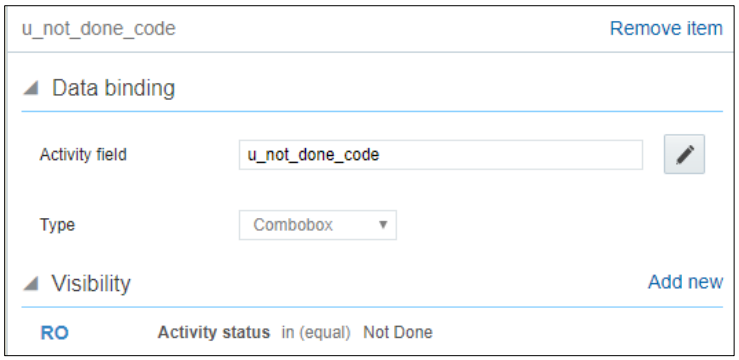
5. Click **Service Point Details** and verify the values are displayed.



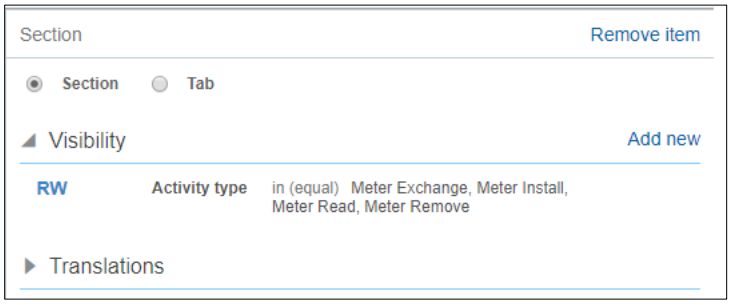
6. In the *disconnect location* section verify that the RW configuration is as shown.



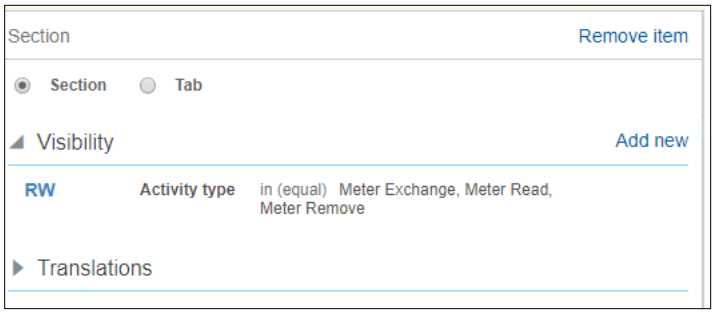
7. In the *Not Done Reason* section, verify that the RW configuration is as shown.



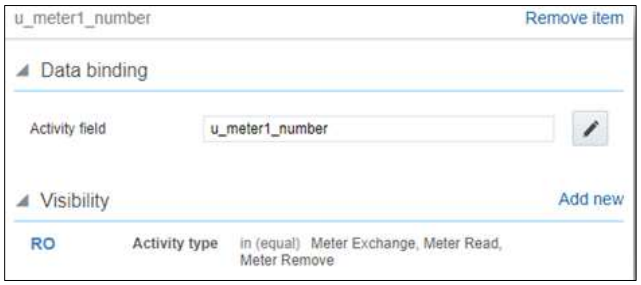
8. In the *Meter Information* section, verify that the RW values is as shown.



9. In the *Existing Meter Details* section, verify that the configuration matches as shown.



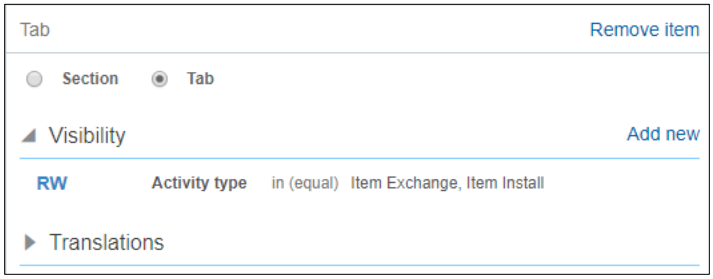
10. Make sure the *Badge Number* field has configuration as shown.



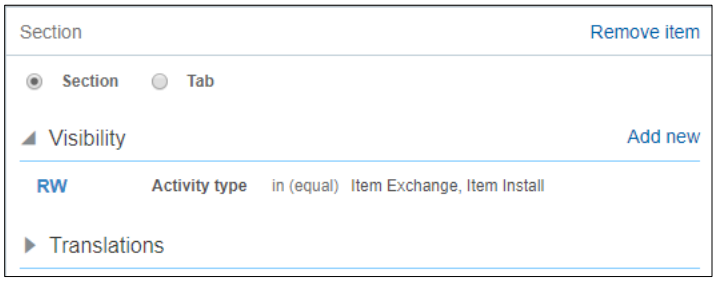
11. Make sure the *Device Details* section is configured as shown.

12. The *New Meter* section should be configured as below.

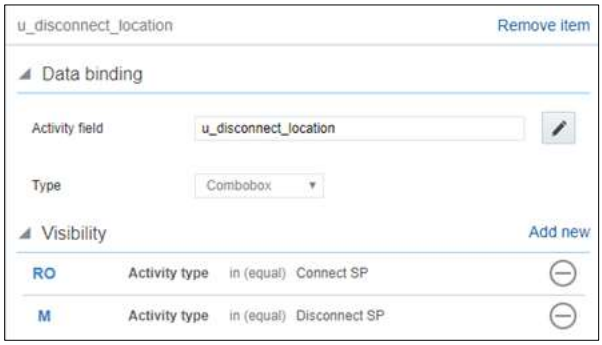
13. The *Item Details* section should be configured as below.



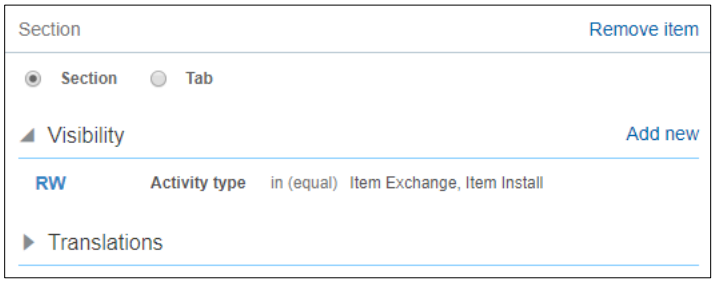
14. In the *Service Point Details* section, the configuration for visibility should be as shown.



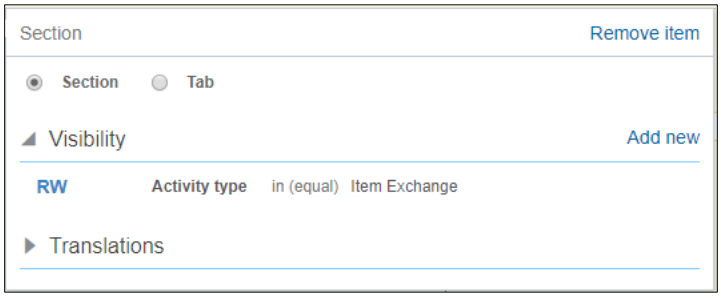
15. In the *Disconnect Location* section, the configuration for visibility should be as shown.



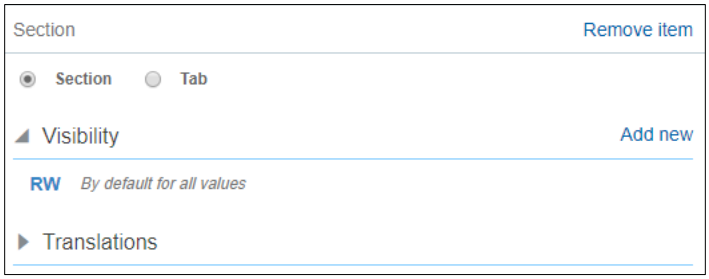
16. The *Item Information* section configuration needs to match as shown.



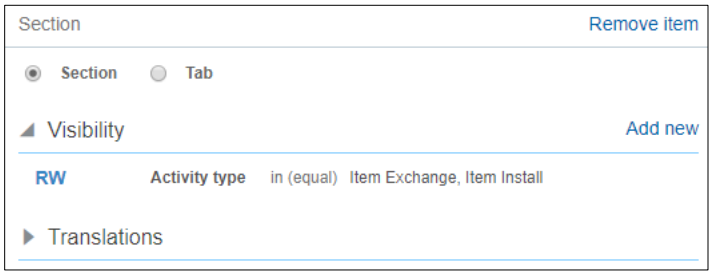
17. The *Exchange Item Details* configuration should be as shown.



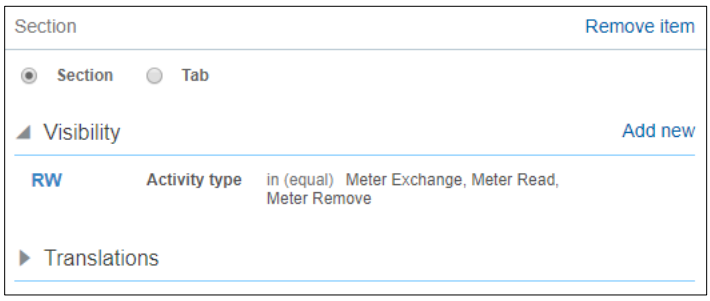
18. For *Device Details,* there is no special configuration needed. It should be set to default.



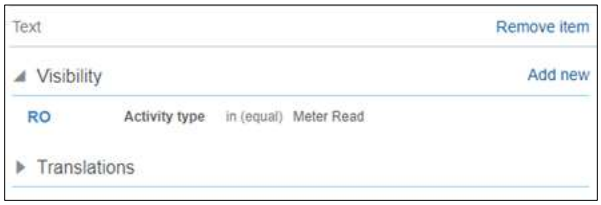
19. The *New Item Details* configuration should match as shown.



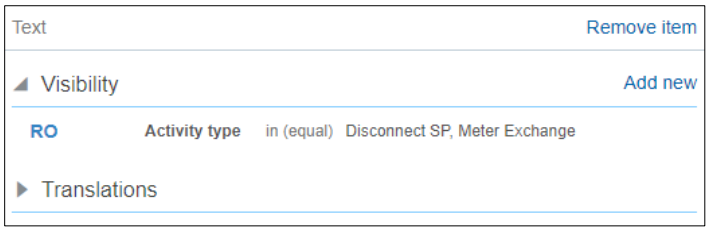
20. The *Registers Information* section should include configuration as shown.



21. The *Reading Details* section should have the configuration as shown.

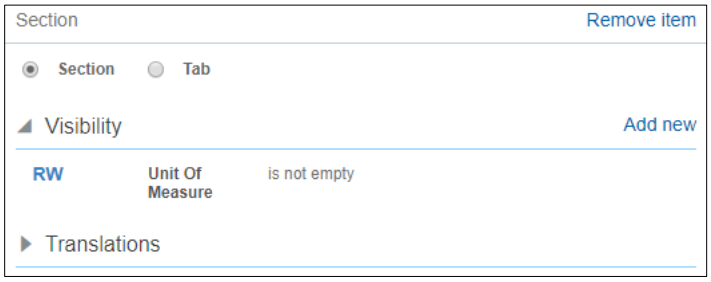


22. Configure the *Existing Meter Reading Details* section as shown.

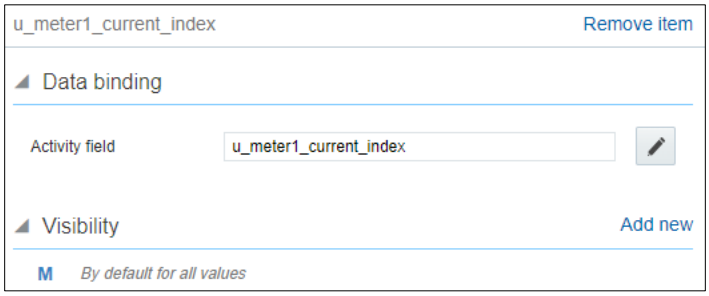


23. Configure the *Registers Information* section as shown.

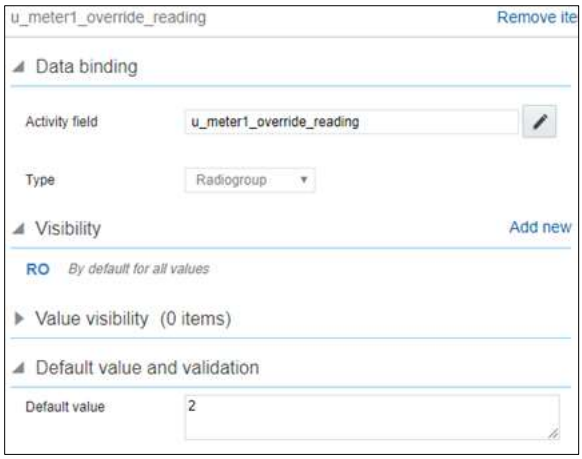
24. Configure each of the Register with title *New Meter Reading Details* as shown.



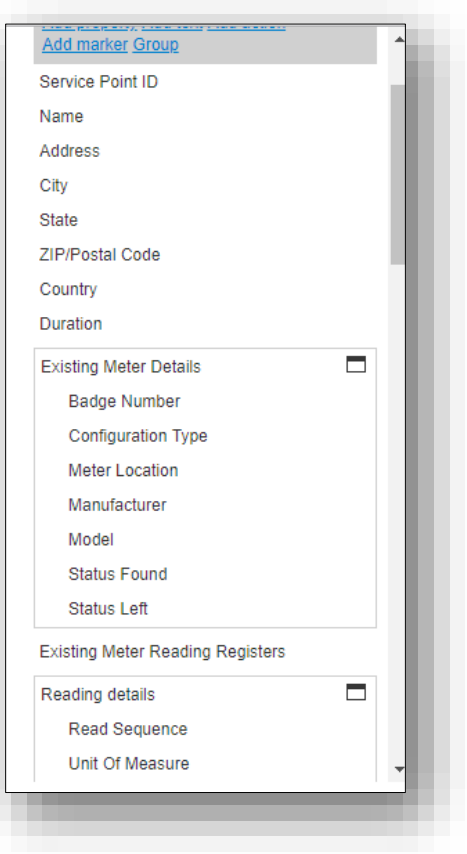
25. Configure the *Reading* section as shown.



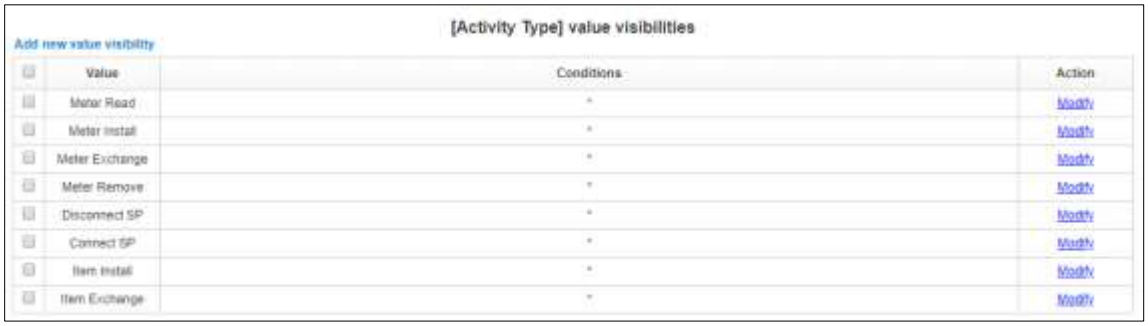
26. After this navigate to *Override Reading* field and verify that the default value and visibility is set as follows



27. Navigate to the *Screen Configuration* tab of the respective user type. Scroll down to Book Activity.
28. Verify if the layout structure is as shown.



29. Click **Activity Type** in the layout and verify that all activity types are listed in the **value visibilities** section.

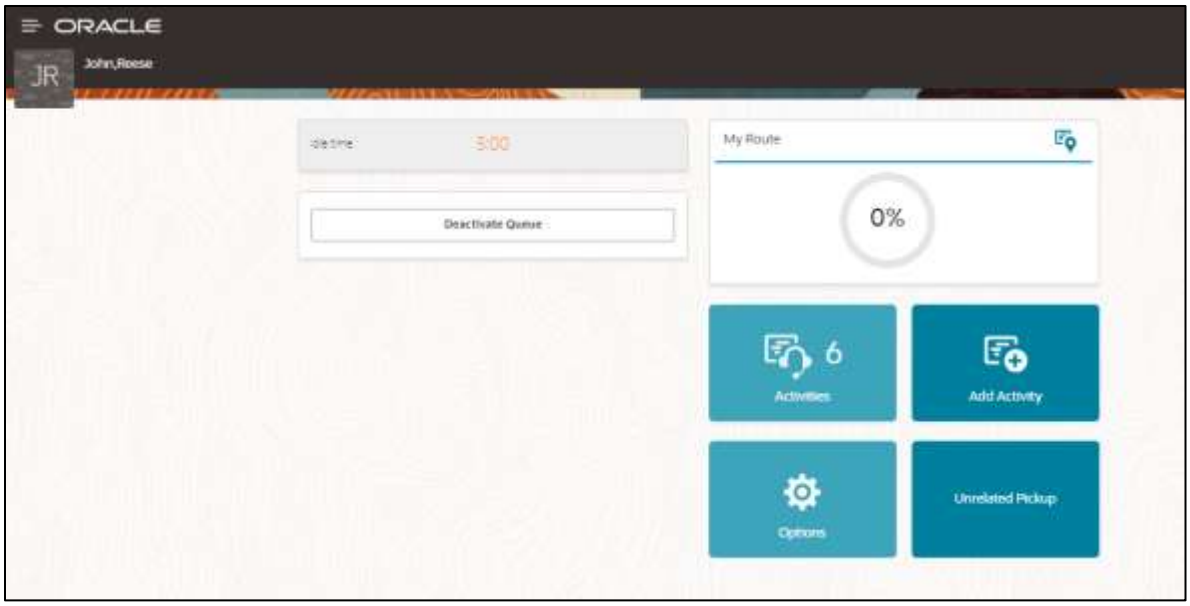


Chapter 4: User Operations

This chapter provides step-by-step instructions for user operations.

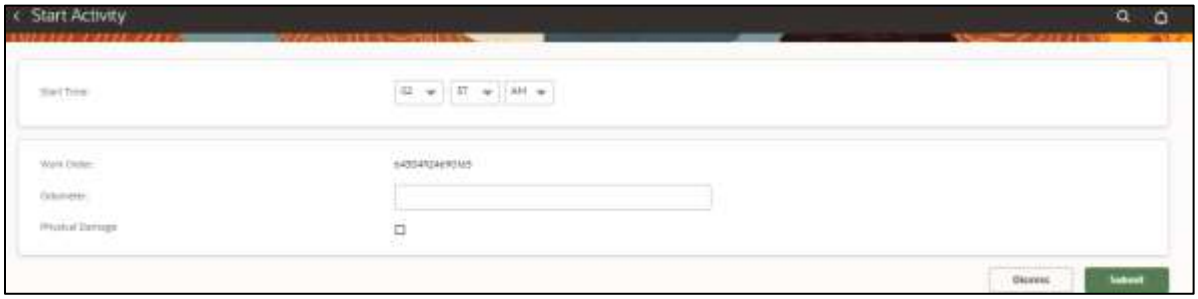
1. Login to Oracle Field Service Mobility application.

   You can access the application by adding '/m' to the Oracle Field Service 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.

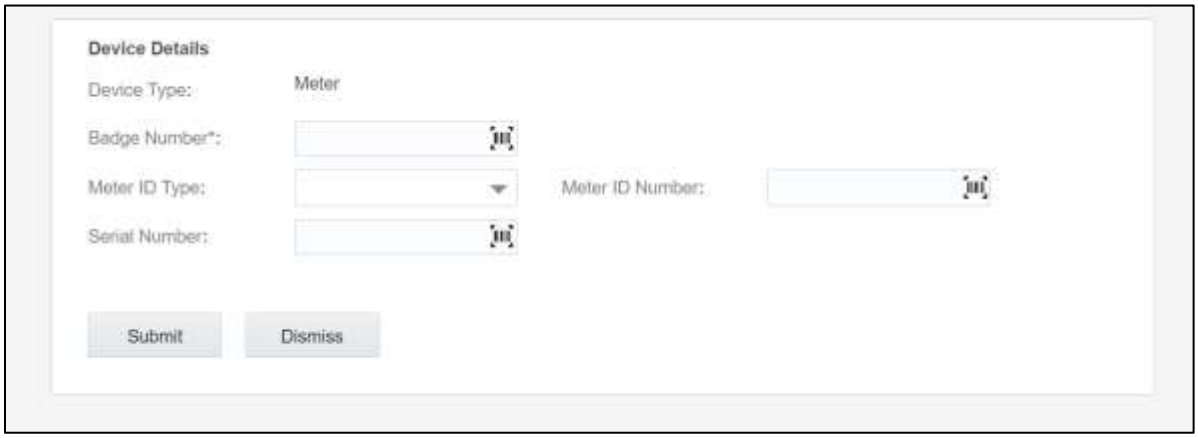


4. Click ">" against the activity. The options **Start**, **Cancel**, **Suspend**, **Map**, and **Book Activity** are displayed.

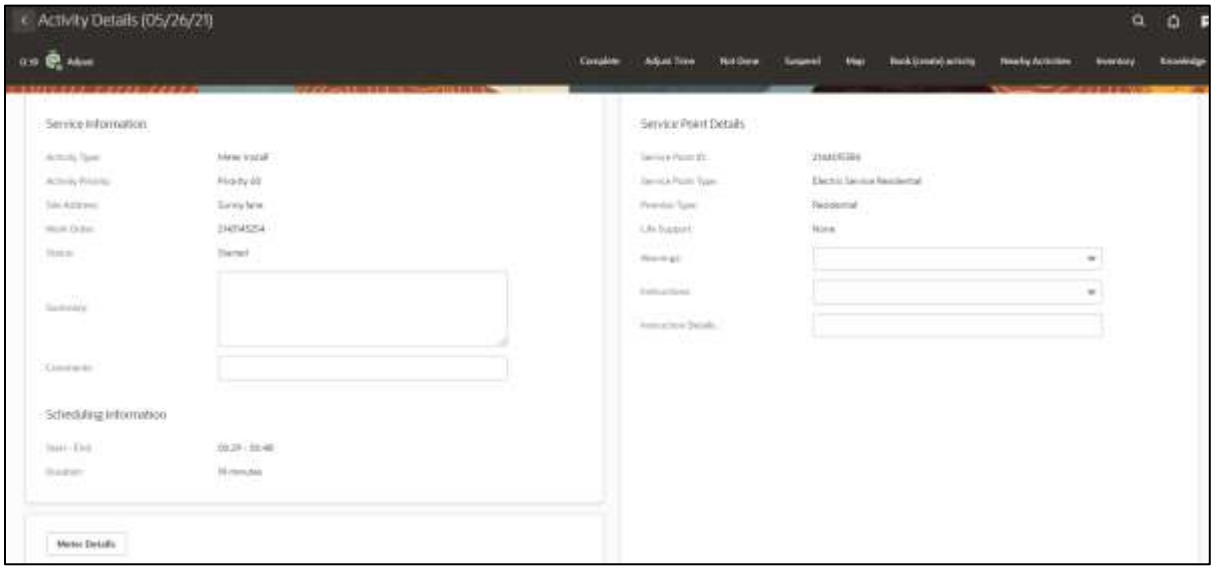
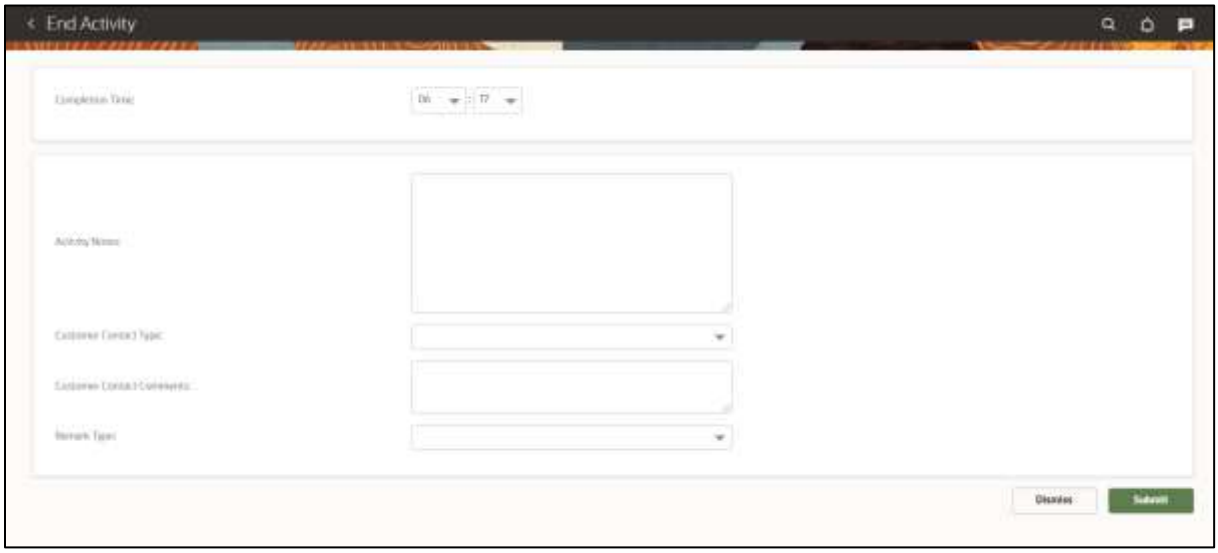
5. Click **Start** to start the activity in the worker's queue.
6. Enter the odometer details and click **Submit**.



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



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



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