Oracle Field Service

Oracle Field Service Questions and Answers

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How do I configure business rules?

When you set up Oracle Field Service you can use the **Business Rules** page to configure the way your business processes are handled by the application. You can configure the settings for marking en route for activities, activity priority, countries available in the application, activity markers, retention period, and overnight work among others.

The **Business Rules visibility** profile permission controls the access to the **Business Rules** page. You must set this permission for each user type that manages Business Rules. If the action is not configured for a user type, or if no visibility is defined, the users don't see the **Business Rules** page. If you select ReadOnly, Business Rules is placed into a view-only mode. If you select Read/Write for this setting, the user can manage Business Rules in Oracle Field Service.

1. Click **Configuration**.
2. In the **General** section, click **Business Rules**.
   The **Business Rules** page appears.
3. Complete these fields:

Field	Description
General	
Work Skills Support Work Zones support	If a feature is disabled (deselected) the settings defined for it are retained in the application, but no restrictions are applied. Work skills and work zones are critical settings greatly affecting performance, particularly, activity assignment to resources. Select these check boxes to impose these constraints on the process of activities assignment and reassignment: ○ Routing considers work skills and work zones and assigns activities only to resources matching the work skill and work zone requirements of the activities. ○ All newly-created activities have work skills and work zones calculated for them and, therefore, will be correctly assigned afterwards ○ Self-assignment, Quota management, manual activities move or assignment are subjected to work skills and work zones check All these factors contribute to higher application performance and help improve the use of the workforce. Disabling work skills support and/or work zones support may result in Routing results below optimum and, therefore, must be used with care.
Service Window Support	Select this check box to select the **Service Window** field by default when you add an activity or teamwork.
En Route Support	Select the check box to let field resources change the activity status to 'En route'. This status is then shown to your customers on the **Where is My Technician** page. After you enable the En route Support option, the 'En route' status is available only for the activity types that have the **Calculate travel option** enabled.
Periodic update of ETA for En Route activities	Select this check box to provide periodic auto-adjustments to the estimated time of arrival (ETA) to an activity site when an activity is in the En Route status. You can see these adjustments in updated ETA values across the product. You can also see them on the activity History page. Upon selecting this check box, the changes take effect in one hour and doesn't affect the activities that are currently in the "En route" status.

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Field	Description
	Note: You can see this check box, only if you've a license for Oracle Field Service Enterprise edition with Google Maps. Further, you must select the **Use real-time traffic data** setting for the user type of a user for which you want to assign an activity that receives periodic updates of ETA.
Points Support	Select the box if you use points. When points are used, each shift and corresponding work schedule is assigned some points, which are a relative expression of the required work to be performed within such work schedule. Similarly, each activity may be also assigned some points. As the resource completes activities in their route, their points are added and compared to the total number required for the work schedule. Points may be used by Routing in activities assignment.
Overnight Work	Select this check box to define number of hours for overnight work since midnight. Use only if you've overnight work activities. Select the time zone that is used to define when your work-day closes. If the value is greater than 0, it's possible to create activities for the previous day's route and perform other route modifications based on the time zone setting value. Working time ____ hours since midnight <…..> When you define the overnight work hours, you can't update activities if any of these conditions is met: ○ Current time is greater than the end of the day of the day of route +overnight setting in the resource's time zone. ○ Current time is greater than the end of the day of the day of route +overnight setting selected in this field. This setting affects the logic of data saving by the Daily Extract functionality. If the company doesn't support overnight shifts, the extraction period covers time since the previous extraction till the end of the previous day. If the company supports overnight shifts, the Daily Extract data for the previous day is available for extraction after the overnight setting expires, that is, at 00:00 AM + overnight. If the data is extracted before that time, the resulting files contain data from two days before. It is recommended to schedule the Daily Extract process several minutes after the overnight setting expires to guarantee that only the relevant data is extracted. If you use the **Overnight Work** feature, your field resources must deactivate their routes and sign out of the application. If they don't do these, they will see the previous day's date when they sign in the next day.
Allow update activities and offline sync after overnight within the following number of hours	Enter the number of hours after the overnight end time within which users can update the past activities and inventories. Users can update activities and inventories through the user interface and the 'Update Activity' and 'Update Inventory' REST API methods, as well as sync offline. Updates aren't allowed after this period. Outbound messages for actions in the past are blocked, except for scenarios that use the 'Service request is created' launch condition.
Full-time Equivalent	Enter a value to convert the calendar to a Full-time Equivalent resource. The value is used in the **Planning** section of **Calendars** and is a company wide setting. For example: If the resource works from 08:00-16:00 (8 hours) and the Full-time Equivalent value = 8 this resource will be shown as 1 Full-time Equivalent.
Expose mass and repeating activities for these number of days	Enter the number of days in advance in which the template activities are created in technicians' routes automatically. The default value is '0', which means that such activities are not instantiated automatically, but are created only when a route is created. When you modify the value and save it, Oracle Field Service scans all the technician routes and instantiates the templates for the dates that match the configured period. If you increase the value, then the application includes more dates into consideration for automatic instantiations. If you decrease the value, then the application does not remove the existing instantiated activities, instead processes fewer dates from then on. When you add a new resource or change the templates and schedules, the application changes the activities accordingly.

Field	Description
	Note: Instantiating activities may require significant time, especially if you increase the value and there are many technicians in the application. It also generates a significant amount of transactions such as events (routeCreated, activityCreated) and outbound messages for the "Activity is created" launch conditions.
Activity Priority	Select the property that defines the priority of an activity. Activity priority is used by Routing to assign urgent activities, immediate activities, and to prioritize activities for self-assignment on the map. You can use any custom property of activity with type string, enumeration, or integer, but not fields. The configuration consists of these parameters: ○ **Property to define priority**: Defines the activity property that will be used to identify urgent, immediate, and self assignment activities. ○ **Urgent activities have these values of the property**: Defines the specific values of the property, which make the activity urgent or immediate. Several values of the same property can be used as criteria. In this case the values must be separated by commas in the field. The order of property values defines the priority level. The value listed first will have the highest priority, with other values following in the descending order. For example, if you have a privileged customer, you may specify it as a specific value (such as "PC") in an activity property, so it qualifies the activity as urgent. For enumeration properties, you must specify the enumeration values. ○ **Normal activities have these values of the property**: Defines the specific values of the property, which make the activity normal. For example, in-house activity selected as "IN" in an activity property may qualify the activity as normal. When activities are routed using the immediate routing run option or the urgent routing option, the priority specified in the field that you select here are considered. For example, a company must always perform repairs as soon as possible to reduce service disruptions. In this case, the company may have a custom property which indicates that the activity is "Repair" to consider an activity as urgent. The preferred ETA for Urgent activities is the earliest possible time. SLA start time does not have any impact on Urgent activities, which means, SLA violation is expected behavior. Further, even if you select Immediate routing, SLA start time does not have an impact on the Urgent activities ETA.
Enable the Visit functionality	*How do I define bundling keys for a visit?*
Visit Bundling Keys	*How do I define bundling keys for a visit?*
Maps and Geocoding	
Available Countries	Select the + symbol to select an additional country from the drop-down list for geocoding purposes. Select the pencil icon to edit the country name for localization purposes. Geocoding is the process of finding associated geographic coordinates (latitude and longitude) from other geographic data, such as street addresses, or zip codes (postal codes). Geocoding data is required for Routing and is critical for Map/driving directions. Proper geocoding information is necessary for every country that this instance of the application is operating within. The **Available Countries** field allows adding additional countries for geocoding purposes.
Default Country for Geocoding	Select the country that is used as the default country for geocoding. The country you select here must be within the **Available Country** list selected earlier.
Zip Code Format	Select the format of ZIP (postal) code and state code values. Both fields are used in the activity coordinates resolution from its geographic address. The ZIP value is validated by the Inbound API, therefore, its format is important. When the ZIP value sent by the Inbound API does not correspond to the format set in the Business Rule, the API returns an error. However, when the Free Post code option is selected, the ZIP value is not validated and will always be accepted.
State Format	Select the State format. This field includes Free format and US. Select US for addresses in the USA having a strict 2-letter state code format. For all other countries with different civil entity systems, select Free.

Field	Description
GPS	**Identify technician by** – Determines how a unique technician is identified within the context of GPS plotting. These items are applicable with Oracle Field Service Smart Location Cloud Service: o **Resource is considered idle if moved less than __ meters within _- minutes** o **Resource is considered to be at the activity location if the distance is less than __ meters -**
Map Parameters	Define the items related to the Map page: o **Distance Measurement Units:** Specify whether the distance is measured in miles or kilometers. o **Ignore coordinates with accuracy less than:** Set the minimum sufficient accuracy level for geocoding. The minimum sufficient accuracy level is the coordinate's accuracy which is considered acceptable for usage. The coordinates below the specified level will not be used as insufficiently accurate. o **Baidu Maps and Geocoding parameters:** Provide the server key and browser key for Baidu maps, which are used to authenticate the user or organization using the service. **Note:** Driving directions for Oracle map and geocoding are only shown in these languages: (English (default), French, German, Italian, and Spanish). The default maps and geocoding provider is Oracle. Google or Baidu can be used, if it is part of your subscription. To use Google or Baidu maps, contact Oracle Sales. Further, you can have only one provider (Oracle, Google, or Baidu) configured in the application. Information about the geocoding provider is displayed at the bottom of the map.
Map Layers	Configure the map layers you want to use on top of the map: Work Zone layer (work zone shapes) and/or custom map layers (for example, places of interest such as gas stations or gas pipelines). You can add a Work Zone layer or a new map layer, modify or delete an existing layer, and change the permissions for an existing layer. When you click **Add new**, the **Add Map Layer** dialog box appears. You can either upload shape files through the interface or through an API, or you can provide the path to MapViewer from where the custom layer is obtained. You can add a maximum of 10 map layers per instance. You also see these sections: o **Status:** Indicates the status of the layer. If the shape file is uploaded successfully and is ready for use, the status displays a green check mark. If the shape file isn't uploaded properly or has any errors, the status displays a red cross mark. o **Map layers:** Provides the name of the map layer and the date on which it was last updated. If the map layer isn't available, this column provides the reason such as: Shape loading failed. o **Permissions:** User types to which the layer is assigned. If there are multiple user types, they are displayed as, '<user type> and <number> more'. For example, 'Technician and 3 more'. This column is empty for the Work Zone layer. **Note:** The **Permissions** option isn't available for a Work Zone layer. Properties of Work Zone layers: o Each Work Zone can have only one map layer, and if it doesn't exist, the message, No configured layers appears. o You can create only one Work Zone layer. After a Work Zone layer is created, the Create Work Zone layer option is grayed out on the **Add map layer** dialog box and the message "Only one layer for work zone shapes can be created" is displayed. o When you delete a Work Zone layer through the metadata API, only the layer is deleted. The shape files aren't deleted from the database. However, when you delete a Work Zone layer from the **Business Rules** page by selecting the **Delete associated shapes** option, the layer and its associated shapes are deleted.
Company Boundaries	Provide the latitude and longitude coordinates of the company's geographical work area. Activities can be performed only within these boundaries that are a set of squares. To identify a square, its top left and bottom right corners are defined. If no boundaries are defined the company can perform work anywhere. Additional boundaries can be added by clicking the + symbol.

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Field	Description
Retention period	
Activity, Inventory, Service Request and History information	Enter the retention period for the activities in the past, customer related inventory, service requests, and the associated activity history. It also includes the service requests, messages, logs such as activity history, quota history, configuration log, changes to resources and users. The default value is 90 days. You can set a value between 1 and 90 days. Activities are retained for these number of days regardless of their status. The background data purge process considers the updated value whenever the process runs the next time. If the difference between the changed numbers is huge (for example, you change from, 90 to 3 days), the purge process may take up to 24 hours. **CAUTION:** Do not set the value to 1 (one), if you have set the 'Overnight work' setting on Business Rules to a number greater than 0 (zero). If you do so, your data may be purged before the Daily Extract process runs.
Collaboration History	Enter the retention period for Collaboration chat history. The default value is 90 days. You can set a value between 1 and 90 days. The background data purge process takes into account the updated value whenever the process runs the next time. If the difference between the changed numbers is huge (for example, you change from, 90 to 3 days), the purge process may take up to 24 hours.
Resource Position History	Enter the retention period for the resource's GPS coordinates. Resources locations are extracted as part of the Daily Extract process. You can retrieve them through the 'Get last known positions of resources' and 'Get position history for resource for certain date' Core API requests. The default value is 90 days. You can set a value between 1 and 90 days. The background data purge process takes into account the updated value whenever the process runs the next time. If the difference between the changed numbers is huge (for example, you change from, 90 to 3 days), the purge process may take up to 24 hours. **Note:** The value for this field must be less than the value for 'Customer, resource and user information'. As part of the background data purge process for 'Customer, resource and user information', information about queues are also removed. Resource locations are gathered at the queue level, so they cannot be shown on the page when the queue is removed.
Daily Extract files	Enter the retention period for files that are generated by the Daily Extract process and retrieved through the 'Download daily extract file' Core API method. The default value is 90 days. You can set a value between 1 and 90 days. Updated value is taken into account for when the Daily Extract files are generated the next time. The retention period for existing Daily Extract files is the period that was defined when files were created.
Quota Management	
Quota Management	These items are applicable with Oracle Field Service Capacity Cloud Service: ○ **Measurement units for Quota and Available Capacity** Defines the general settings affecting Quota Management functionality. Particularly, the user can choose the units of measurement to display Quota and Used values by setting the Quota and available capacity are defined in parameter. The available values are hours, man-days and minutes. Internally, all values are calculated in minutes anyway, and are converted to the selected unit when the corresponding value is displayed in the Quota View. When man-days is selected as the unit of measurement, the **Number of hours per man day is** field appears where the correlation between man-days and hours can be defined. Ultimately, this parameter is used to convert man-hours into minutes. When the Quota is defined as percentage of the capacity available by calendar, sometimes it requires adjustment. To adjust the value, the system estimates the capacity available by calendar, processes the already booked activities (to calculate the Other activities value), and, finally, recalculates the Quota in minutes using the defined percentage value.

Field	Description
	○ **Recalculation period** You can set a predefined time interval for Quota and Capacity recalculation using the **every [ ] minutes** field. Valid values: 1 to 1,440 minutes Default value: 10 minutes Also, you can recalculate quota and capacity for a predefined future period (defined as days or calendar weeks). For example, if you enter 10 minutes and set 3 calendar weeks for Quota and Capacity recalculation, then the recalculation occurs after every 10 minutes for 3 calendar weeks. The Calendar Week (**during** drop-down list) option is processed based on the value selected from the **First Day of the Week** drop-down list in the **Display** page. When you use the Calendar Week option, all remaining days of the current week (unless the start day is the week start day selected using the **First Day of the Week** drop-down list) plus all days of these weeks are considered. However, if the recalculation period is set to 7 days, the recalculation is performed for 7 days only. The maximum value for the Calendar Week option is set to 99 days or 15 calendar weeks. You can select the recalculation start day (current day, tomorrow, or day after tomorrow) from the **The Corresponding quota values are automatically adjusted starting from** drop-down list. The Quota and Capacity is recalculated for the **Available Capacity**, **Booking Status**, and **Quota** pages. **Note:** When an activity is booked during the predefined recalculation period, then irrespective of the routing schedule and the specified recalculation period, the values in the **Available Capacity**, **Booking Status**, and **Quota** pages are recalculated immediately.
Capacity Intervals	See *Define Time Intervals* section in the *Oracle Field Service Capacity Cloud Service Guide*.
Recalculate data on a daily basis	Select this check box if you want to recalculate the Forecasting data on the current instance every day. The data is updated overnight. This check box is selected by default for production instances and deselected for test instances.
Search Fields	*How do I define the activity search fields?* and *How do I define the inventory search fields?* **Note:** Search uses the first 40 characters of the search string. Inventory search does not support enumeration type fields. You cannot configure the Search field to accept a keyword that is fewer than three characters or symbols.

Related Topics
- How do I add a map layer?
- How do I enable the En Route Support feature?

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How do I set the initial ratio for activity duration?

The **Initial ratio for Activity duration** field indicates the percentage by which the company-wide estimations of the activity duration is multiplied to get the estimated activity duration at the resource level for the new activities. This ratio is applicable only for those activities that are relatively new to the resource with no significant past data. You can edit this field only if the resource doesn't have any completed activities.

> **Note:** The field is displayed only for field resource, tool, and vehicle resource types.

1. Log in to the Core application as an admin user.
2. Navigate to **Configuration, User Types** page.
3. Select the **Screen Configuration** tab.
4. Add the **Initial ratio for Activity duration** field to the Edit Resource/User context layout and set RW visibility.
5. Click **Save**.
6. Navigate to the Add or Edit Resource page.

   > **Note:** Based on the settings in **Configuration, Statistics**, the fields, **Lower limit for personal ratio to calculate duration, %** and **Upper limit for personal ratio to calculate duration, %** are displayed.

7. Set an appropriate value for the **Initial ratio for Activity duration** field.

   For example, select 120%. You can view the value on the Resource Edit and Resource Hint pages. The **Default ratio for Activity duration** field is displayed as read-only under the **Initial ratio for Activity duration** field based on the reported duration after the field resource completes at least one activity.

   The Default ratio for Activity duration value is always displayed as Read-Only value and only if the Initial ratio for Activity duration value is displayed. The message below the **Initial ratio for Activity duration** drop-down list enables you to understand how the Initial ratio for Activity duration value impacts the resource.

   If the Initial ratio for Activity duration value of the resource differs from one of the predefined options, the current value is added to the bottom of the list. The initial ratio for Activity duration value set through the API is converted to percentages. For example, if you use the API and set the value to "1.25", then on the Resource Edit page and Resource Hint, the value is shown as "125%".

8. Click **Submit**.

How do I enable the En Route Support feature?

You can enable the **En route Support** option, so that the field resources can change the activity status to 'En route'. This status is then shown to your customers on the 'Where is My Technician' page. After you enable the **En route Support** option, the 'En route' status is available only for the activity types that have the **Calculate travel** option enabled. Further, if you disable the En route Support option after using the 'En route' status for some time, then all the current activities with the 'En route' status end their cycle. And, you can't set the 'En route' status for new activities. The 'En route' status integrates with the "Where is My Technician" page and you can use it in the Routing module to prevent undesirable adjustments to the next appointment.

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> **Note:** When you upgrade to Update 21B, the **En route Support** feature is disabled for all the instances to save backward compatibility. Enabling the 'En route' feature makes the "En Route" status available for travel activities globally. The changes may impact the "Next activity" function, ETA, and "On my way" notifications to your customers.

1. Click **Configuration** > **Business Rules**.
2. Select the **En route Support** check box.
3. Click **Save**.

   These changes are available for activities and resources:

   - The 'Next activity' section includes the option **I will be Idle for a while**.

   - The activity selected as the next activity gets the status 'En route'.

   - The ETA of the activity is updated using real-time traffic although the activity has a Service window, Access hours, or SLA. Real-time traffic is available only if you've a valid license for Oracle Field Service Enterprise Edition with Google Maps.

   - The **Adjust travel** option is available when activity is in the 'En route' status. Resources must click **Adjust travel** to change the status of the activity to En route.

   - If **Display and allow adjustment of remaining Travel Time** is selected on the **User Types** > **General** page, resources can change the travel time, but must set the activity to En route immediately. If **Display and allow adjustment of remaining Travel Time** isn't selected, resources can't change the travel time, but can be idle for sometime and then change to En route.

   - When you enable the **En route Support** feature, if your resources don't set their activities as 'En route', then:

     - Oracle Field Service doesn't consider the resource as on the way to an activity until they set the "En route" status.
     - Travel time isn't recalculated.
     - If you've configured a Message Scenario to notify your customers about resources being on their way, they aren't notified.
     - Where is My Technician page doesn't show the "On the way" status and the resource's position and track.

How do I define the activity search fields?

The application uses the activity property fields defined in the **Search** section of the **Business Rules** page to search for activities.

You can also edit the activity property fields in the **Search** section of the **Business Rules** page to define additional search fields to search for activities. For example, assume that the activities are searched using the Name and Account Number activity fields. Now, you want to search the activities using the Address activity field. You can specify an additional search field as follows:

1. Click **Configuration.**
2. Click **Business Rules** in the **General** section.

   The **Business Rules** page displays.
3. Click the **Edit** icon for Activity Search fields in the **Search** section.

   The **Activity Search Fields** dialog box displays.

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4. Click the **Plus** icon.

5. Select the **Address** field.

6. Click **Add**.

7. Click **OK**.

   The **Address** field displays in the **Activity Search Fields** section.

8. Click **Save**.

9. Click the search icon and click **Search Preferences**.

   The **Search preferences** dialog box displays the selected search categories.

10. Select the **by Address** check box.

11. Click the **Back to Search** button and enter an address, for example, **7700 Technology Way**, in the **Search** field.

    When you search for an activity or a resource, the search fields are selected in the order defined in the **Search preferences** dialog box. You can perform these tasks in the **Search Preferences** dialog box:

    ○ Click the reorder icon to drag the required activity search fields in the list to rearrange the order.

    ○ Select or deselect the required activity search fields to add or remove the activity search fields.

    ○ Select an option from the **Date** drop-down list to refine the activity search results.

    Note: Search uses the first 40 characters of the search string. You can't configure the **Search** field to accept a keyword that's fewer than three characters or symbols. You can't use the Activity ID field to search for activities. This is by design.

Results:

The activities matching the specified address display.

How do I define the inventory search fields?

The application uses the inventory property fields defined in the Search section of the **Configuration** > **Business Rules** page to search for inventories.

You can also edit the inventory property fields in the Search section of the **Business Rules** page and define additional search fields to search for inventories. For example, assume that the inventories in the application are searched using the Model and Item Number inventory fields. Now, you want to search the inventories using the Serial Number field. You can specify an additional search field as follows:

1. Click **Configuration**.

2. Click **Business Rules** in the **General** section.

   The **Business Rules** page displays.

3. Click the **Edit** icon for Inventory Search fields in the **Inventory Search Fields** section.

   The **Inventory Search Fields** dialog box displays.

4. Click the **Plus** icon.

5. Select the **Serial Number** field.

6. Click **Add**.

7. Click **OK**.

   The **Serial Number** field displays in the **Inventory Search Fields** section.

8. Click **Save**.

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9. Click the **Search** icon.
10. Enter the Serial Number (for example, 8779808797) in the **Search** field and click **Search**.

    The inventory matching the specified serial number displays.

    > **Note:** Search uses the first 40 characters of the search string. Inventory search does not support enumeration type fields. You cannot configure the Search field to accept a keyword that is fewer than three characters or symbols.

How do I define bundling keys for a visit?

Oracle Field Service sends configured notifications for each activity separately. If several activities (appointments) are scheduled on the same day for a customer and you want to send one notification of each kind (for example, day before, reminder, or change notifications) to the customer, then select the **Enable Visit Functionality** check box to activate the Visit functionality.

Use the **Visit Bundling Key** field to define the criterion for a visit. The criterion can include an activity property field, where you can set the length of the property values and determine whether the property values are case sensitive. The application compares the values defined in the activity fields against the specified criterion. Activities are grouped together as a visit, only if the values of all visit bundling keys match the specified criterion. To ensure that external system messages are sent properly, you must add a launch condition using visit triggers while configuring message scenarios.

> **Note:** A single activity can appear on the Links tab with a Visit ID if the Visit bundling criteria are met.

When routing is run using Immediate Assignment and if the Bundling setting is used (only available in Immediate Assignment routing), then the Immediate Routing plan uses the Visit Bundling key for route optimization. For example, when you use the activity address as a bundling key and run routing for urgent activities, then routing finds activities that are on the same address as the urgent activity to create visits. For more details, refer to the Immediate Activity Assignment section in the *Oracle Field Service Using Routing Cloud Service Guide*. After you define the visit bundling keys, click **Save** to recalculate the existing activities according to the new visit settings. To define bundling keys for a visit:

1. Click **Configuration**.
2. Click **Business Rules** in the **General** section.

    The **Business Rules** page appears.
3. Select the **Enable the Visit functionality** check box.
4. Click the **Modify** icon.
5. Click the **Plus** icon.
6. Select the required keys, for example, ZIP/Postal Code.
7. Click **Add**.
8. Use these filters to specify additional criterion for grouping activities:
    - **Length**: Enter an integer value between 0 and 99. For example, if you have selected ZIP/Postal Code as the key and enter **5** here, then the first 5 digits of the zip code are considered.
    - **Function parameter**: Select a parameter to determine whether the activity property values are case sensitive, case insensitive, first word case sensitive, or first word case insensitive.
9. Click **Update**.

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10. Use the slider and set the lower and upper limits of ratio for the duration of bundled activities.

   This is the ratio of the average duration of activities that are part of a bundle (except for the first one) to the duration that is currently estimated for such activities. This ratio is applied to the original estimate to get the estimated duration of bundled activities. The ratio is not applied to the estimated duration of the first activity of the bundle. The first activity continues to have the same duration as a similar standalone activity. You can also see the value calculated by the application based on the duration reported by the field resources. The final ratio that is applied to the estimation durations of the non-first bundled activities is within the lower and upper limits set here. So, if the calculated ratio lies within the limits, that value is used. If not, then the limit closet to the calculated value is used.

   You can use the limits to override the ratio to be used for the duration of non-first bundled activities. To override, set both the lower and upper limits to the value that you want to use. Since, the application always respects the limits, it uses the value you have set. For example, if your desired ratio is 80%, then set both the lower and upper limits to 80% to use this always, regardless of what the calculated value is. Similarly, to disable this feature and to have the application behave the way it used to, set the lower and upper limits to 100%.

   For more information, see the Bundling of Activities section in the Using Routing guide.

11. Click **Save** on the **Business Rules** page.

   > **Note:** If there are already visits in the system, and if the visit bundling keys are changed, then after recalculation, the visits no longer matching the keys are split into individual activities. 'Not Done' status for a visit is defined as follows:
   >
   >   ○ All the work orders in the visit have final statuses.
   >
   >   ○ A 'notdone' visit either contains a 'notdone' work order or several work orders with 'completed' and 'cancelled/deleted' statuses.

How is activity duration calculated?

You can define the activity duration or the application can calculate it using statistics that is obtained from learned durations.

> **Note:** You can specify durations for specific activities and technicians through APIs. For more information, see the REST API for Oracle Field Service guide.

The manually-defined and statistical methods work as follows:

- **Manually-defined:** If you have not selected the **Calculate activity duration using statistics** check box on the **Add activity type** or **Modify activity type** dialog box, the duration specified at the time of creating the activity is used. If you have not specified the duration in the activity, the default duration for that activity type is used.

- **Statistical:** If you have selected the **Calculate activity duration using statistics** check box on the **Add activity type** or **Modify activity type** dialog box, the duration of the activity is calculated based on statistical methods. If the history is not enough to calculate using statistics, the duration entered manually (if entered) at the time of creating the activity is used. If neither history nor a manually entered value is present, then the default duration for that activity type is used. The default duration is specified at the time of creating the activity type.

Calculation of activity duration using statistics

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Activity duration estimations are calculated by the application based on the historical data of completed activities. The application analyses new data, compares it against previous estimations, and corrects the previous estimations, based on the new data, to obtain updated estimations for future usage. For this, the application uses two main statistics: company profile and personal profile. The application learns how each technician performs tasks and updates these statistics daily.

- **Company profile:** The activity duration is calculated at the company level based on the **Activity duration stats fields** configured on the **Statistics** page. All activities belonging to the same field value are grouped together for calculating the duration. The key is typically something that identifies similar activities as a single entity including fields such as **Activity Type**. When a technician performs tasks and reports the time against them, the company level estimate is derived for each task type based on the stats field values. The application gives more importance to more recent data for computation, rather than historic data. This increases the estimation accuracy and allows the application to respond to changes in trends in a timely manner. The default duration specified in the **Add activity type** dialog box is used as the starting point for estimating the duration. The application:
    - Refers to the previous experiences of similar tasks.
    - Calculates the estimate based on the summary of experiences.
    - Learns from new experiences.
    - Updates and remembers the updated experiences for future use.

  Every day the estimate is modified by a small amount, based on the durations reported on the previous day for similar activities. The correction applied is controlled to ensure that there isn't too much deviation from the previous estimation and the estimated durations don't keep fluctuating on a daily basis; but is significant enough to respond to any trend change within a few days.

  The formula to calculate the new estimate is:
  ```
  New estimate = Previous estimate +/- Correction
  ```
  where correction is based on previous estimates and the differences between the estimated and reported durations.

- **Personal profile:** The company level estimate and the estimated time for the activity for the technician are computed in the form of a ratio. This ratio is calculated based on the company level estimate for the activity. The final estimate at the technician level is the product of the personal profile ratio and the company level estimate. Each technician may have different ratios for different types of activities, based on their performance. Similar to the correction applied to the Company level estimates, the Personal profile ratio is also updated by a small controlled amount every day, based on the durations reported by the particular technician on the previous day for similar activities. When a technician performs an activity for the first time, the default ratio is used. Ratios are also calculated for each bucket for each kind of activity, based on the durations reported by the resources under the bucket. This ratio is used to estimate the duration when the activity is assigned to a bucket and not yet assigned to a technician. This is also the duration that is used for Capacity and Quota calculations, if the activity is assigned at the bucket level.

Overrides

You can override activity durations for each activity duration key value at either the Company level or the Technician level, using REST APIs. The Override is stored in the application, in addition to the learned statistical value for the currently active Activity key. For duration estimations, if an override is specified for the user, the overridden value is used instead of the statistically learned value. However, the statistically learned value continues to be updated based on the new reported durations as currently done.

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Some more important points about activity durations:

- If the personal profile is not available for an activity key value, the default ratio for the technician is used.

- The default ratio has an initial value that is specified in the **Initial Ratio for Activity Duration** field. This value is updated each time the technician performs a relatively new activity.

- You can specify which type of resources use personal profile, using the **Personalize the estimation of activity duration** field. If you do not select this option, such resource types do not use the personal profile and use only the company wide estimations.

- You can specify whether a resource affects the company level estimates, using the **Use durations reported to enhance company-wide estimations** field. If it does, you can also specify the number of days to be skipped to avoid impacting the company estimates while the resource is new and still learning how to perform activities. The duration reported by only those resources that satisfy these two conditions is used to modify the company level estimates.

- You can set upper and lower limits for activity durations at the resource or bucket level, as a percentage of the company wide estimations. You can use using the **Lower/Upper limit for personal ratio for duration calculation** fields for this. The estimated Activity duration values always remain within the set limits.

The fields that affect activity duration are:

Field	Page	Description
Minimum and maximum relevant duration time in minutes	Statistics	These specify the acceptable values for reported durations to be considered for estimating Activity Durations. If technicians report durations outside of this range, the application does not consider that value when estimating durations.
Lower/Upper limit for personal ratio for duration calculation	Statistics	These specify the range within which the duration estimation for technicians and buckets would lie as a percentage of the company level estimation. If the estimation at the technician or bucket level, as a percentage of the company level estimation, is lesser than the set lower limit, the estimation is set to (Lower limit * company level estimation). Similar modifications are done if the percentage is more than the set upper limit.
Default duration	Add activity type and Modify activity type	This is the duration used for estimation, if no other estimation is available including override or historical data for that kind of Activity to estimate duration statistically. This value is also used as the estimated duration, if **Calculate activity duration using statistics** is cleared, or no duration is specified on Activity creation.
Calculate activity duration using statistics	Add activity type and Modify activity type	This parameter specifies whether the duration of the activity must be estimated statistically using historical data. If cleared, the duration specified at the time of creating the activity, or the default duration is used.
Personalize the estimation of activity duration	Add resource type	This parameter specifies whether the activity duration estimation must be learnt for each resource separately. If selected, the application estimates personal profile ratios for each resource for each kind of activity separately. If cleared, the application uses the company wide estimations.

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Field	Page	Description
Use durations reported to enhance company-wide estimations	Add resource type	This parameter specifies whether the durations reported by the resource must be considered while calculating activity or travel estimations.
Don't consider reported data of the first x working days	Add resource type	This parameter specifies the number of days only after which the durations reported by a new resource are considered for enhancing statistical estimations. Till such time the durations reported by a new resource are not considered for duration calculation purposes. This field is editable, only if the previous parameter is selected.
Initial ratio for Activity Duration	Resource Info	This is the default ratio that is used for the resource, if there isn't enough historical data for the resource for a particular type of activity. For such activities, the estimated duration of the technician is the value of the `Initial ratio * company wide estimation` (provided "Personalize the estimation of activity duration" is selected).
Working days left for reported data to start impacting duration estimations	Resource Info	This parameter specifies the number of days left before the reported duration of the resource starts affecting the estimated duration. The initial value is based on the value set in **Don't consider reported data of the first x working days**.

Flowcharts

The following diagrams show how Oracle Field Service determines activity durations. The first flowchart is based on the assumption that the **Personalize the estimation of activity duration** check box is not selected for the resource type, and therefore the activity duration estimate is not adjusted by the resource's personal profile or initial ratios.
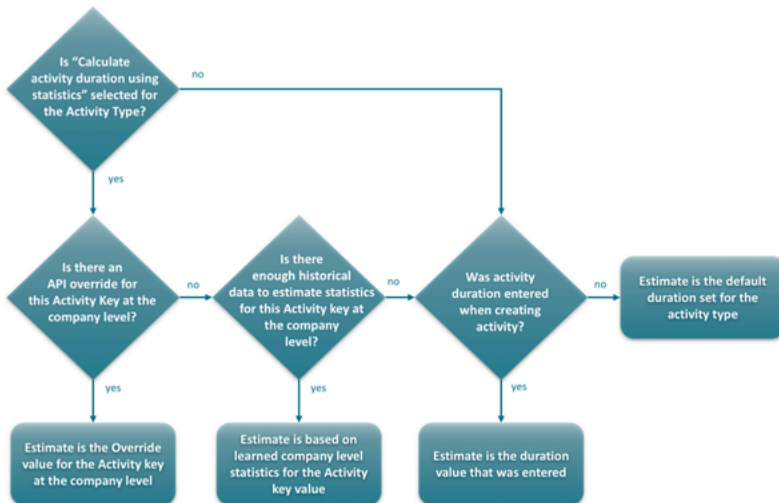
The second flowchart is based on the assumption that the **Personalize the estimation of activity duration** check box is selected for the resource type. This means, the activity duration estimate is adjusted by the resource's personal profile or initial ratio.

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Configuration examples

Example 1: Application uses the duration that is provided at the time of creating the activity

- Activity Type dialog box:

  o Default duration = 30

  o Calculate activity duration using statistics = not selected

If the activity created has a duration of 50 minutes, that value (50) is used. If no value is provided at the time of creating the activity, 30 minutes is used.

Example 2: New resource in the application has no historic data. The administrator wants to provide 20% more time than the estimated duration at the company level.

- Resource Type dialog box: Personalize the estimation of activity duration = selected

- Resource Info page: Initial Ratio for Activity Duration = 120%

- Activity Type dialog box: Calculate activity duration using statistics = selected

- Assume company-wide estimation for the activity to be 45 minutes

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Since the resource does not have previous records for this kind of activity the initial (default) ratio is used for calculations. The estimated duration for the resource is: 45 * 120% = 54 minutes

Example 3: Application uses technician's learned duration with limits. Resource has performed activities of this type in the past and, hence, has a personal activity key ratio.

- Statistics page:
    - Lower limit for personal ratio to calculate duration = 50%
    - Upper limit for personal ratio to calculate duration = 200%

- Resource Type dialog box: Personalize the estimation of activity duration = selected
- Activity Type dialog box: Calculate activity duration using statistics = selected
- Assume personal profile to be 40% and company-wide estimation for the activity to be 50 minutes.

Since the personal activity key ratio is less than the lower limit of 50%, the application uses the lower limit value of 50% for calculations instead of 40%. The estimated duration for the resource is 50 * 50% = 25 minutes.

Example 4: Application uses company duration without using personal profile

- Resource Type dialog box: Personalize the estimation of activity duration = not selected
- Activity Type dialog box: Calculate activity duration using statistics = selected
- Assume company-wide estimation for the activity to be 45 minutes

Since the personal profile is not configured, the estimated duration for the resource is same as the company wide estimation = 45 minutes.

Example 5: Application uses overridden value at technician level instead of learned statistics

- Resource Type dialog box: Personalize the estimation of activity duration = not selected
- Activity Type dialog box: Calculate activity duration using statistics = selected
- Assume personal profile to be 80% and company-wide estimation for the activity to be 50 minutes
- Assume that the duration for the resource for the Activity key has been overridden by a value of 30 minutes

The overridden value takes precedence over the learned duration at the resource level. The estimated duration is 30 minutes and not 80% of 50 = 40 minutes.

Example 6: Reported durations outside the acceptable range are not used as input for Activity duration estimation

- Statistics page: Minimum relevant duration time in minutes = 5 mins
- Statistics page: Maximum relevant duration time in minutes = 1440 mins
- Assume that the estimated duration for the activity was 20 minutes and a resource starts and completes the activity in 4 minutes. That is, the resource reports a duration of 4 minutes for a completed activity.

Since the reported duration lies outside the acceptable range of 5 to 1440 minutes, the duration of 4 minutes is not considered to enhance the estimated duration of the activity key and the estimated duration remains unchanged at 20 minutes (assuming there weren't any other reported activity that could have changed the estimated duration).

How do I add a map layer?

Map layers are layers that are added on top of a map to identify places of interest that are specific to your business. For example, you may add a layer that shows only the airports in a specific area. You can add layers through an external

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source or internally through APIs. You can use APIs or you can upload a file from your local device to upload shape files for each layer. You can also add a layer for your work zone, which is visible to all users.

Before you start

If you are adding a map layer internally, you must upload the shape file through the metadata API.

| **Note:** Work Zone layers are not displayed on the Map view.

Here's what to do

1. Click **Configuration**.
2. In the **General** section, click **Business Rules**.
3. In the **Maps and Geocoding** section, click **Add new**.

    The **Add Map Layer** dialog box appears.
4. Select whether you want to create a Work Zone layer or a map layer.

    You can add only one Work Zone layer; after you add it, the **Create work zone layer** option is grayed out. You can add a maximum of 10 map layers per instance.
5. Enter the name of the layer in the preferred language.

    The languages displayed here are the languages that you have selected for **Company language** in the **Display** page. This option is not available for the **Create work zone layer** option. The application adds the name 'Work Zone Layer' automatically and translates into the required languages.
6. Add a label for the custom layer in the **Label** field.

    If you have added a custom layer through the metadata API, the name is suggested as you type it. If you have not added any layer through API and you don't add an external source, you cannot save the layer. This option is not available for the **Create work zone layer** option. The application adds the name 'wz_layer' automatically and translates into the required languages.
7. Select the status of the layer in the **Status** drop-down list.

    A layer with the Active status is available and a layer with the Inactive status is not available. This option is not available for the **Create work zone layer** option.
8. Select the location from which you want to use the shape for the layer:
    ○ **Upload local file:** Select this option to upload a shape file from your local device. You must select a zip file that doesn't exceed 150 MB. If the file is not a valid zip file, or if the zip file exceeds 150 MB, an error message is shown. You must correct the errors and upload again. Oracle Field Service stores this file until you delete the layer with the associated shape file.

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- **Upload file using URL**: Select this option to upload a shape file that is available on a different computer. These fields are displayed:
  - URL to shape file: Enter the URL to the location where the shape file is available. Use only a secure protocol, that is, a HTTPS URL.
  - Username and Password: Enter the username and password to access the shape file location.
  - SRID: Enter the shape identifier that was generated in the application in which the shape was created.
- **Upload shapefile later via API:** Select this option to upload a shape file through API.
- **Use already uploaded shape:** Select this option to use a shape that is already uploaded. The list of available shapes is displayed and these details are displayed:
  - Layer label: The label of the layer.
  - Last updated: The date on which the shape file was last updated.
  - Source URL: The URL in which the shape file is uploaded.
- **Use external data source:** Select this option to use an external data source to display custom layers. This functionality requires Oracle MapViewer where the layers are created and stored. These fields are displayed:
  - MapViewer URL: Path to MapViewer from where the layer data is obtained.
  - Data source: The source of the map layer data used by MapViewer.
  - Theme: Layer name in MapViewer.

    All the fields are mandatory. If a field is left empty, the window is rejected with the error message: {field_name} is empty.

9. Click **OK** and then click **Save** on **Business Rules**.

   By default, users of all user types have access to the new custom layer. If the status is Active, the application verifies if:
   - Data for this layer is present in the database.
   - Data is consistent and not corrupted.
   - There are no errors when displaying the layer on map.

   If these conditions are satisfied, the layer is saved and displayed on the team map, activity list, and activity details map pages. You can add a maximum of 10 map layers per instance.

What to do next

Review this information before uploading shape files:

Requirements for the shape file:

- The shape file must be in a zip archive.
- Column names in the shape file must contain only alphanumeric characters and underscore ('_').
- Column names must begin with an alphabet.

Shape file restrictions:

- When uploading a shape file using HTTPS, these restrictions apply: WebLogic's default certificate validator does not accept certificates with wildcards (including Google Drive certificate).
- SRID value should be a valid SRID.
- A maximum of 2 GB is available for extracted shape file data that is uploaded and hosted in Oracle Field Service.
- If a shape file contains a column with the name "SHAPE_AREA" (case insensitive), it is renamed as "SHAPE_AREA_".

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- If a column name is same as an Oracle Database reserved word, then an underscore ("_") is prefixed to the column name. The full list of Oracle Database reserved words is available at: *Oracle Database Reserved Words*.

Recommendations:

- It is recommended that you use shape files with compressed data size less then 50 MB. The shape file data is extracted and stored in the browser memory (when showing to end user), so the size of the file may heavily influence the browser performance, including the inability to show the map layer.
- It is not recommended to use polylines for work zones.

What is a Work Skill?

A work skill is the job-specific skill or competency that's necessary to perform an activity. Work skills are the defining criteria to match activities with the resources. So, when you create a work skill, you assign it to an activity type and set the level of expertise of the skill required for the activity.

Similarly, when you create a resource, you can assign a work skill to the resource and define the level of expertise the resource has in the skill. For example, if you create Install as a work skill, you can have the required level of expertise as 90. Only the resources that have the expertise level of 90 percent or more are assigned to the activity. Further, you assign a work skill to a work skill condition and resource. You can also add work skills to Work Skill Groups.

How do I create a capacity category?

A Capacity Category is a predefined set of work skills and/or work skill groups and time slots visible to a user who is booking activities for customers. You can create a capacity category to add work skills, work skill groups, and time slots.

1. Click **Configuration** > **Capacity Categories**.

   The **Capacity categories** page appears.

2. Click **Add New**.

   The **Add Capacity Category** dialog box appears.

3. Enter the appropriate information in the following fields:

   The following table describes the fields available on the **Add Capacity Category** dialog box.

Option	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**.

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Once you create the capacity category, you must add work skills, work skill groups and time slots to the category.

How do I add a Resource Type for the field resource role?

A Field Resource is a resource that performs work, has work skills and work zones associated, and has a related user (actual person performing work or group of people). A Field Resource requires a user, can work, is shown with a Tech icon, and does not include the Organization unit option.

Assume that you want to assign activities to a technician. You have to first create the resource type, Technician and then select Field Resource from the **Role** drop-down list.

> **Note:** Some features are available only during the initial configuration. This will vary based on the options selected during the configuration. Features that are not available for editing after the initial configuration will be greyed out.

To add a resource type for the Field Resource role:

1. Click **Company Name** > **Configuration**.
2. Click **Resource Types** in the **Resources, Activities, Inventories** section.
3. Click **Add resource type**.
4. Complete these fields:

Field	Description
Name (mandatory)	Enter a name for the resource type. All supported languages are listed.
Label (mandatory)	A unique identifier for the resource type that is mapped to the REST API.
Active	By default, the Active check box is selected and the resource type is activated.
Statistic Parameters section	
Personalize the estimation of activity duration check box	When selected, the resource's personal profile is used for duration calculations. Else, uses only company estimates. For more information, see *How is activity duration calculated?*
Use durations reported to enhance company-wide estimations check box	When selected, company-wide estimations are modified based on the data reported by the resource. If not selected, the company-wide estimations are not changed. This applies to both activity durations and travel estimations. don't select this check box, if you don't want the durations reported by the resource to affect company level estimations.
Do not consider reported data for the first ____ working days, for statistic estimations	Data reported by the resource does not affect the company-wide estimations for the initial number of days specified in this field. The date is considered from the time the user accesses the system. Default value is 5 days. For example, if you enter 15 days, then the data reported by the resource for activity and travel durations are ignored for the first 15 days and will not be considered while calculating the company-wide estimates. This field is enabled only if the **Use data reported to enhance company-wide estimations** field is selected.

5. Select **Field Resource** from the **Role** drop-down list.

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6. Select the required features from this list:

- **Resource can participate in a team**: Select the Resource can participate in a team check box to determine whether the resource type is an assistant for teamwork activities. If deselected, then you cannot add the resource type, technician as an assistant to a team.
- **Resource can be a teamholder**: Select the Resource can be a teamholder check box to determine whether the resource type is a primary team holder of an activity.

  > **Note:** An activity that requires a team is always assigned to the team holder whereas the assisting teamwork activities are assigned to the assistants for the duration of the teamwork.

- **Share inventory in teamwork**: Determines whether the resource type shares inventory with other team members after an activity is started. For example, if the team holder's inventory has 5 items and the assistant's inventory has 3 items, then when the activity is started, there are 8 items available for use at the job site.
- **Share geolocation in teamwork**: Select the check box to define whether a resource (team holder or assistant) shares the geolocation in a teamwork assignment. Although, the application uses the GPS device of each resource to predict the location of the resource, these situations can occur:
  - Application is unable to obtain coordinates since the device of a resource has stopped to work.
  - Application is unable to find the location of the resource due to some reasons.

  In the above situations, the application uses an algorithm to predict the location of the resource using the coordinates of other resources in the team. Therefore, you can view the location of each team resource in the map view.
- **Share work skills in teamwork (team-member only)**: Enables the resource to share work skills with the team holder. Sharing is defined on the work skill level according to the "Sharing of the skill in the team" parameter configured in the **Add work skill** dialog box.
- **Used for Quota management**: Enables you to consider the working time of each resource into the overall workflow capacity calculation of the bucket.

  For example, assume that each resource (Technician 1, Technician 2, and Technician 3 configured as a Field Resource) has a capacity of 480 minutes per day and the **Use as Capacity Area** check box is selected for each resource. Therefore, the Max Available field in the bucket has the overall workflow capacity of 1440 minutes. Now, if a new resource type, Technician 4 is added and if the **Use as Capacity Area** check box is selected, then the overall workflow capacity of the bucket changes to 1920 minutes.

  When you select the **Used for Quota management** option for a field resource, you cannot change the resource type and deselect this option.
- **Routing can assign activities**: Select the check box if you want routing to assign activities to a resource.

  If selected, these options enable you to specify the cost of the resource's time that helps you to differentiate between resources (for example, Full time resources versus Contractors):

  - **Working hours cost**: Actual working hours of the resource during the day based on activity durations. Select an option (Low, Normal, High, Highest). The routing algorithm factors working time cost differences between resource types for assignments.
  - **Overtime cost**: Overtime refers to the minutes worked beyond the end of the resource's working hours for the day. Specify cost increases either as X minutes after the end of the shift or the time beyond the X minutes threshold.
  - **Travel Time cost**: Refers to the estimated time and the cost required for travelling between activities.
- **Working time** : Define the travel allowance for resources using these options:
  - Start travel: Enables routing to consider travel time from the beginning of the resource's working time for the day and to the resource's first activity. The application estimates the actual travel time

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to the location of the first activity, when a resource's Start location is defined. Note that when a route includes activities that require travel and activities that don't need travel, the travel between activities is split into two (or more) pieces by inserting non-travel activities in between. If there is any idle time before an activity, it is considered as travel time for the next activity. Select one of these options:

- ○ Travel time to the first activity is not included from the Working Time Start – when selected, travel time to the first activity will be calculated before the Working Time Start value. If an activity has a Service Window of 8:00 am-10:00 am, the activity will have an ETA of 8:00 am and the resource will have to leave their start location to arrive by 8:00 am.
- ○ Travel time to the first activity is included from the Working Time Start – when selected, travel time will be calculated to the first activity. If a resource has 30 minutes of travel and the activity has a service window of 8:00 am-10:00 am the activity's ETA will be 08:30 am.
- ○ Resource is allotted up to <number> minutes of travel time prior to the Working Time Start – when selected, a portion of the travel time can occur prior to the start of the shift. If the value is set to 30 minutes and the resource need 45 minutes of travel the first 30 minutes will occur prior to the start of the shift and the ETA activity's ETA will be 08:15 am.

- Final travel: Enables routing to consider travel time to a known end location. Select one of these options:
  - ○ Travel time from the last activity to the Resources End Location is not included from the Working Time End – when selected, travel time to the final location will be calculated after the Working Time End value. If a resource's shift ends at 6:00 pm with no overtime allowed, routing can assign activities that can end at 6:00 pm.
  - ○ Travel time from the last activity to the Resources End Location is included from the Working Time End – when selected, travel time to the final location will be calculated. If a resource's shift ends at 6:00 pm with no overtime allowed, routing cannot assign activities that can end at 6:00 pm.
  - ○ Resource is allotted up to <number> minutes of travel time after the Working Time End – when selected, a portion of the travel time will occur after the shift ends. Suppose that the resource's shift ends at 6:00 pm with no overtime allowed. When the value is set to 30 minutes and the resource needs 45 minutes of travel to the end location, the latest an activity can end would be 5:45pm.

○ **Enable 'Not activated in time' alert and trigger**: Represents an alert that the resource's route is not activated. For example, consider the resources, Technician 1 and Technician 2 configured as field resources. If the Enable 'Not activated in time' alert and trigger check box is selected for the resource, Technician 1 and not selected for Technician 2, then the notification messages are created only for Technician 1.

7. Click **Add**.

> **Note:** These features are available when a role, **Vehicle** or **Tool** is assigned to a resource type:
> - ○ Share inventory in teamwork
> - ○ Share geolocation in teamwork
> - ○ Share work skills in teamwork (team-member only)
> - ○ Working time includes travel to first activity
> - ○ Working time includes travel from last activity
> - ○ Enable 'Not activated in time' alert and trigger

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Results:

The resource type, technician displays on the **Resource Types** page. If you click **Modify** and change a feature setting of a resource type, the application automatically applies the changes to the resource type.

How do I create and format a string property?

The string property includes free text boxes, URLs, phone numbers, and email addresses. Assume that resources must enter remarks for an activity after the activity is closed. The Activity Details form must contain a text box, so the resource can enter the remarks. The text box that you add here, is a string property.

1. Click **Configuration**.
2. Click **Properties** in the **Resources, Activities, Inventories** section.
3. Click **Add New**.
4. Select **String** from the **Property Type** drop-down list.
5. Complete these fields:
   - **Property name** (required): Enter a name that you want to display to the user in English and in all the languages that are active in the application.
   - **Property label** (required): Enter a Unique database identifier for the Oracle Field Service API.
   - **Property hint** (optional): Enter a hint that you want to display when a user hovers over the field name. For example, Enter comments if any. Enter the text in English and in all the languages that are active in the application.
   - **Regular expression**: Enter an expression to validate the values or format the values in a certain way.
   - **Entity** (required): Select **Activity** since the property is associated with the Activity Details form.
   - **Lines Count** (required): Enter the number of lines that you want the property to display in the Activity Details form. For example, enter 3 to display a maximum of three lines.
   - **GUI** (optional): Select one of these options to define how the property displays to users:
     - **Text Element**: Displays as a free text field. For our example, select this option.
     - **URL**: Displays as a clickable URL.
     - **Phone**: Displays as a clickable phone number.
     - **Email**: Displays as a clickable email address.
     - **Geolocation Element**: Displays a button to show the location on a map.
   - **Regular expression** (optional): Enter an expression to validate input or to force the data to display in a certain way.
     For example, to display $23,540, then use this regular expression: /^/$?([1-9]{1}[0-9]{0,2}(/,[0-9]{3})*(/.[0-9]{0,2})?|[1-9]{1}[0-9]{0,}(/.[0-9]{0,2})?|0(/.[0-9]{0,2})?|(/.[0-9]{1,2})?)$/
     Other examples:
     - Ethernet ARP address: /^([0-9a-fA-F]{2}:){5}[0-9a-fA-F]{2}$/
     - Phone number: +1(555)5555555: "/^ *\\+? *[0-9]+[-0-9()]*$/"
     - 16-bit integer: (0-65535): /(^\d{0,4}$)|(^6553[0-5]$)|(^655[0-2][0-9]$)|(^65[0-4]\d{2}$)|(^6[0-4]\d{3}$)|(^[0-5]\d{4}$)/
     - 1 digit: (0-9): /^\d{1}$/
     - 2 digits: (01-99): /^\d{2}$/
     - Integer: (0-99): /^\d{1,2}$/

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- Integer: (0-999): /^\d{1,3}$/
- Any 6 symbols(you can change 6 to any number): /^.{6}$/u
- Currency (USD with 2 decimal places): /^/$?([1-9]{1}[0-9]{0,2}(/,[0-9]{3})*(/.[0-9]{0,2})?|[1-9]{1}[0-9]{0,}(/.[0-9]{0,2})?|0(/.[0-9]{0,2})?|(/.[0-9]{1,2})?)$/
- Date formatted as DD-MM-YYYY: /^((0[1-9])|([1-2][0-9])|30|31)-((0[1-9])|1[0-2])-2[0-9]{3}$/

o **Clone property on Reopen/Prework** (optional): Enables you to duplicate the property while reopening the activity or applying prework for a new activity.
o **Formatting** (optional): If selected, displays these options:

- Regular expression
- XSL transformation (converts an XML file into a table format viewable in HTML that is read-only).

> **Note:** Formatted properties aren't available for presentation on the Inventory Grid context layout structure.

Assume that you want to display this data from a client system within Oracle Field Service:

Group	Price
One Time Charges and Credits	$ 100.00
Programming Change	$ 5.00
Programming Change	$ 5.00
Programming Change	$ 5.00
Programming Change	$ 5.00
UNKNOWN	$ 0.00
Monthly Charges	$ 129.98
America's Top 250	$ 69.99
HD/SD (2TV) Receiver	$ 14.00
HD/SD (2TV) Receiver	$ 14.00
DVR Service	$ 6.00
Protection Plan	$ 6.00
Israeli: The Israeli Network	$ 19.99
Monthly Credits	$ -10.00
Cr: Agent $ 10x24 Mo	$ -10.00

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Group	Price
Monthly Charges and Credits	$ 119.98

Use this regular expression for the above data: /(/s+)?(.+/w)/s+(/$)/s+(.*)/n?/im = [item group="$1"] [name]$2[/name][price]$4[/price][currency]$3[/currency][/item]

This XML file converts the data given earlier into a table format:

```
[xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"]
[xsl:template match="/"]

[style]
.property_table
{
font-size:12px;
font-family: Arial;
border-collapse: collapse;
}
.property_table .property_name
{
padding-left:15px;
}
.property_table td
{
border: 1px solid grey;
padding: 4px;
}
.property_table .property_price
{
text-aligh:right;
}
.property_group
{
background-color:#ccc;
font-weight: bold;
}
.property_group .property_name
{
padding-left:5px;
font-weight: bold;
}
[/style]
[table class="property_table"]
[xsl:for-each select="root/item"]
[xsl:choose]
[xsl:when test="@group=' '"]
[tr class="property_group"]
[td class="property_name"] [xsl:value-of select="name"/] [/td]
[td class="property_price"]
[span] [xsl:value-of select="currency"/] [/span]
[xsl:value-of select="price"/]
[/td]
[/tr]
[/xsl:when]
[xsl:otherwise]
[tr]
[td class="property_name"] [xsl:value-of select="name"/] [/td]
[td class="property_price"]
[span] [xsl:value-of select="currency"/] [/span]
[xsl:value-of select="price"/]
[/td]
[/tr]
```

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```
   [/xsl:otherwise]
   [/xsl:choose]
   [/xsl:for-each]
   [/table]
[/xsl:template]
[/xsl:stylesheet]
```

Using XSL transformation, the above XML file is displayed in HTML as shown in this screenshot:

One Time Charges & Credits	$100.00
Programming Change	$5.00
Programming Change	$5.00
Programming Change	$5.00
Programming Change	$5.00
UNKNOWN	$0.00
Monthly Charges	**$129.98**
America's Top 250	$69.99
HD/SD (2TV) Receiver	$14.00
HD/SD (2TV) Receiver	$14.00
DVR Service	$6.00
Protection Plan	$6.00
Israeli: The Israeli Network	$19.99
Monthly Credits	**$-10.00**
Cr: Agent $10x24 Mo	$-10.00
Monthly Charges & Credits	**$119.98**
Amount Due Now	**$0.00**

6. Click **Add**.

   A system generated ID is assigned to the property. The maximum size of a string property you can create is 64 KB, or the maximum length can be 65,535 characters. You can perform these actions:

   o Click **Export** to export the properties to an XML file.

   o Click **Import**, **Browse**, and select the XML file that you want to import.

What are the supported MIME types?

The full list of supported MIME-types and the matching file extensions is provided here. Be aware that the maximum size of the file you can upload is 5 MB.

MIME Type	Supported File Extensions
animation/narrative	'nml'
application/mspowerpoint	'pot', 'pps', 'ppt', 'ppz'
application/msword	'doc', 'dot'
application/oda	'oda'

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MIME Type	Supported File Extensions
application/onenote	'one', 'onetoc2', 'onetmp', 'onepkg'
application/pdf	'pdf'
application/rtf	'rtf'
application/vnd.ms-excel	'xls', 'xlt', 'xla'
application/vnd.ms-excel.addin.macroEnabled.12	'xlam'
application/vnd.ms-excel.sheet.binary.macroEnabled.12	'xlsb'
application/vnd.ms-excel.sheet.macroEnabled.12	'xlsm'
application/vnd.ms-excel.template.macroEnabled.12	'xltm'
application/vnd.ms-officetheme	'thmx'
application/vnd.ms-powerpoint.addin.macroEnabled.12	'ppam'
application/vnd.ms-powerpoint.presentation.macroEnabled.12	'pptm'
application/vnd.ms-powerpoint.slide.macroEnabled.12	'sldm'
application/vnd.ms-powerpoint.slideshow.macroEnabled.12	'ppsm'
application/vnd.ms-powerpoint.template.macroEnabled.12	'potm'
application/vnd.ms-word.document.macroEnabled.12	'docm'
application/vnd.ms-word.template.macroEnabled.12	'dotm'
application/vnd.openxmlformats-officedocument.presentationml.presentatic	'pptx'
application/vnd.openxmlformats-officedocument.presentationml.slide '	'sldx'
application/vnd.openxmlformats-officedocument.presentationml.slideshow	'ppsx'

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MIME Type	Supported File Extensions
application/vnd.openxmlformats-officedocument.presentationml.template	'potx'
application/vnd.openxmlformats-officedocument.spreadsheetml.sheet	'xlsx'
application/vnd.openxmlformats-officedocument.spreadsheetml.template	'xltx'
application/vnd.openxmlformats-officedocument.wordprocessingml.docume	'docx'
application/vnd.openxmlformats-officedocument.wordprocessingml.template	'dotx'
application/x-excel	'xls'
application/x-gtar	'gtar'
application/x-gzip	'gz'
application/x-pointplus	'css'
application/x-shockwave-flash	'swf'
application/x-sprite	'spr', 'sprite'
application/x-tar	'tar', 'tgz'
application/zip	'zip'
audio/mpeg	'mp2', 'mp3', 'mpga'
audio/x-wav	'wav'
chemical/x-pdb	'pdb'
image/gif	'gif'
image/jpeg	'jpe', 'jpeg', 'jpg'
image/png	'png'
image/tiff	'tif', 'tiff'
image/x-ico	'ico'
text/html	'htm', 'html'
text/plain	'txt'
text/richtext	'rtx'

MIME Type	Supported File Extensions
text/tab-separated-values	'tsv'
text/x-speech	'talk'
text/x-vcard	'vcf'
video/mp4	'mp4'
video/mpeg	'mpe', 'mpeg', 'mpg'
video/quicktime	'mov', 'qt'
video/x-msvideo	'avi'

What is Activity Booking?

When a technician performs an activity at the customer's premises, the customer may enquire about the possibility to perform another job for them on a different day. The technician must be able to collect the information about the new job, create an activity, and schedule it right away. To book an activity, the technician must also have the ability to check the available capacity for that specific date and time. This situation is handled by the **Activity Booking** option. You must configure the activity booking context properly to get the most accurate and precise capacity calculation. The **Book new activity** option is configured in the **Application screens** section of the **Screen Configuration** page.

Note: The activity booking functionality, Quota management page, and the Capacity Area configuration functionality are available only with the "Oracle Field Service Enterprise Cloud Service" subscription.

Technicians can book activities in three ways:

- Direct assignment booking
- Quota based booking:
    ◦ Time slot based
    ◦ Booking interval based (or availability based)

Direct Assignment Booking

Activity booking uses the activity information and finds all the Capacity Areas that match the activity requirements. If a Capacity Area is configured for booking using direct assignment, the activity is created (or reassigned) in a technician's route, provided the technician meets the activity requirements and has enough time to complete it. When there are many available resources that can work on the activity for a particular date and time slot, Oracle Field Service assigns the activity to one of them. The application typically finds a technician that has a smaller set of working skills than a technician with a wider skillset. This way, resource selection is optimized, so that the following activities that require booking have more available options. With this feature, technicians can control the booking strategy that is used on a Capacity Area level. Technicians can also configure different capacity areas to use different booking strategies.

Availability-Based Booking

Technicians can book activities for Capacity Areas with booking interval based quota configuration. They can use the booking interval based quota when the time slots overlap or, have a significant variation in the activity duration. When technicians choose the booking interval based quota, they must select the booking intervals on the Quota Configuration page. If they do not select the booking intervals, the application uses the default Capacity intervals that are configured on the **Business Rules** page.

When you configure a Capacity Area for booking using Quota (time slot based or availability based), then the activity is created (or reassigned) on the bucket that is associated with the Capacity Area. If there are multiple Capacity Areas, the technician must select a Capacity Area, select the day and time slot on which they want to perform the activity, and book it.

You can obtain the booking options from the application in two ways:

- Through the Activity Booking page.
- Through the new API function showBookingGrid. This API simplifies the process of integrating the Booking functionality with external applications.

Regardless of the method, the application uses the activity information you have entered and provides you the list of options where it may be booked.

As soon as you book an activity, Oracle Field Service subtracts the capacity required for its performance from the available capacity and adds it to the used capacity. It compares the used capacity to the quota values to make sure that orders for new activities are accepted only when the capacity is still available. As having capacity information up-to-date is crucial for the functionality, Activity Booking is available only in the online mode.

If you book an activity close to the end of a time-slot, it has a higher probability of late start. To eliminate risky activity bookings, the application does not provide a booking option for an activity for which the estimated start time appears in the last 20% of the time slot.

How do I modify a glossary entry?

Oracle Field Service glossary items have a unique identifier referred to as placeholder IDs. The Placeholder ID that displays next to an UI element lets you identify the correct glossary item that you want to edit in the **Glossary** page. For example, you can use *Show* instead of *View*.

You can also modify the description of an UI element using an in-context editor, so that you need not access the **Glossary** page. This example explains how to modify the description of a UI element, View, using placeholders and in-context editor. To modify a glossary entry:

1. Select your user name (for example, Admin) at the top right corner.
2. To modify the description of each UI element using placeholders:
    a. Click **Preferences**.
    b. Select the **Show Placeholder ID** check box.
    c. Click **OK** and refresh the page.

       Each UI element that corresponds to an Oracle Field Service glossary item in the application displays an ID next to them.
    d. Select **Dispatch**,**Activities**.
    e. Make a note of the placeholder ID (for example, 8047) for the UI element, *View*.
    f. Click **Configuration**.
    g. Click **Displays**, **Glossary**.

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      h. Enter the **Placeholder ID** in the search field and click the **Search** icon.

          The glossary entry displays.

      i. Select **English** as the language and enter the term, **Show** in the field.

      j. Click **Save**.

          The glossary entry is modified and you can view the original text, *View* when you hover the mouse over the modified term, *Show*.

3. To modify the description of each UI element using the in-context editor:

      a. Repeat steps 1 to 2.c from the above procedure.

      b. Select your user name (for example, Admin) and select **Glossary Editor is Off**.

          The in-context glossary editor is turned on.

      c. Select **Dispatch**, **Activities**.

      d. Select **View**.

          An **on-screen glossary** editor displays.

      e. Enter the term, *View* in the **English** field.

      f. Click **Save**.

      g. Deselect **Glossary Editor is Off** and the **Show Placeholder ID** check box from the **Preferences** page.

      h. Refresh the page.

          The modified description displays.

How do I get notified when negative feedback is submitted?

You can use this best practice to configure Oracle Field Service to notify dispatchers when your customers provide negative feedback on the Where's My Technician page.

Before you start

You must select the **Enable Feedback** check box on the **Feedback** page in the Where's My Technician theme for this procedure to work.

Here's what to do

1. Create a Message Scenario named manage_negative_feedback with the Launch Condition *Activity Completed*.

2. Create these message steps to verify the feedback value in the feedback property:
   a. Create the first verification scenario step.
      i. Click **Add new** in the **Scenario steps** section of the manage_negative_feedback Message Scenario.
      ii. Select Collaboration from the **Delivery Channel** drop-down list and Use static address in the **Recipient** drop-down list. You can also select Email.
      iii. Click **Add new** and select a helpdesk group, which is designated to manage feedback responses.
      iv. Select **Deliver to Helpdesk**.
      v. Select Time of event in the **Sending time** field.
      vi. Choose the period for feedback verification. For this, enter a value in the **Sending delay** field. After this delay, the message step verifies if there is a feedback response for the first time.
      vii. In the Patterns tab, configure the message text that is delivered to helpdesk operators. Specify the properties used for Rating and Comments. Use placeholders to add the details for the activity and technician. Ensure that you use the right format for custom properties. For example, Rating: {pr_wmt_rating}, Comment: {pr_wmt_comments}).
      viii. Configure the star rating level that triggers a message to the helpdesk operator. For this, add these Blocking Conditions:
         ◦ First condition: Select Rating property, set the condition as Empty and Status as Failed. If there is no feedback value, the message is not sent to an operator.
         ◦ Second condition: Select Rating property, set the condition as >2 (greater than 2) and Status as Failed.
   b. Add the next verification step, in case the feedback was not provided during the configured period of time.
   c. Add more steps the same way to check for feedback in 5,10, and 30 minutes.

Results:

Other Recommendations:

- Define who should manage the negative feedback responses. After defining a dispatcher or a group of dispatchers who will receive notifications of negative feedback, either create a new helpdesk group or use an existing one.

- Configure different helpdesk groups for different types of services or lines of business.

- Accept the chat to resolve the feedback issue. As soon as the Where's My Technician Feedback with 1 or 2 stars is submitted, a notification appears for the helpdesk group. All online helpdesk users are notified and can see it. When an operator clicks **Take chat** to deal with the issue, the notification is no longer available to the other operators.

How do I create a custom filter?

Filters have two primary uses—first, filters narrow down lists of activities or resources within the workspace area, based on defined fields and values. These filters are used within the Time, List, and Map views, providing an ad hoc reporting capability. Second, filters within routing plans predefine the information that determines how routing distributes activities across available resources. These filters are commonly set up to differentiate the cost, or value of assigning certain jobs to certain resources, as well as determining the priority of certain types of activities.

The **Filters** visibility profile permission controls the access to the **Filters** window. You must set this permission for each user type that manages Filters. If you don't configure this permission or don't define the visibility for a user type, users of this user type cannot view the filters that you create. If you select ReadOnly, Filters is placed into a view only mode. If you select Read/Write for this setting, the user can manage Filters. To create a filter:

1. Click **Configuration**.

2. In the **Displays** section, click **Filters**.

   The existing list of filters appears. You can see a maximum of 500 filters from the currently available filters in your instance. If you have more than 500, use a combination of the options such as Find, Visible on screens, and Applicable to entity available on the **View** menu. Or, sort the list by ascending or descending values of the required column.

3. Click **Add New**.

   The Add filter dialog box appears.

4. Complete these fields:

Field	Description
Filter	The filter name that the users see. Enter the name in English and in all the languages that are active in the application.
Applicable for	The entity type (activity or resource) that the filter pertains to. The entity determines the table fields that can be selected when applying the filter conditions.
List/Time/Map/Daily	The views within which the filter is available.
Routing	Whether the filter is used within routing plans.
Restriction of Visible Activities	Whether you want to restrict filter activities from appearing if resource routes have not been activated or a working day has not yet begun. This configuration is related to the User Type. Once the filter is configured, apply the filter as a visibility restriction filter for user type.
User Types	The user types that the filter is available for. This field is displayed if you select the **List/Time/Map/Daily** check box. Use the arrow buttons to move the user types between the **Available** and **Selected** columns.

5. Click **Add**.

   The filter is saved.

What to do next

You must add conditions for the filter. If no conditions are added, the filter does not work.

How do I add a condition to a custom filter?

Filter conditions help you further narrow down the activity you want to search for. For example, you can have a condition to select activities based on work zones.

1. Click **Configuration**, **Filters**.

   The **Filters** page is displayed.

2. Locate the filter you want to add a condition to.

3. Click **Conditions** in the **Actions** column.

4. Click **Add New** at the top of the page.

   The **Add filter condition** dialog box appears.

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5. Complete these fields:

Field name	Action
Field	Choose one or more activity or resource-based criteria on which to base the filter.
Dynamic	Select the box if you want the user to type a value for the field that the condition is for.
Conditions	Select one or more options to represent how the field selected above relates to the **Value** entry.
Value	These are the options that can be associated with the **Field** chosen for this condition. If multiple values are applicable for this condition to be met, then add them to the **Selected** column. From the list of available values, click to select and then click the >> button. The selected item moves to the **Selected** column. These rules apply to enumeration fields:
	o Any field and property used in the application can serve as a filter condition.
	o You must populate the value for the field and property other than enumerated fields manually.
	o The condition value supports CSV format, such as 1, 2, 3, 4,, "1,1,1", "2,s", and "(""test"")".

6. Click **Add**.

7. Navigate to the **Work Area** and verify that the filter is listed in the **View** drop-down menu.

8. Test the filter to ensure that it meets your requirements.

How do I add a custom form to a page?

You add a custom form to a context layout page, so that Field Resources can open and fill it.

1. Click **Configuration** > **User Types**.

2. Select the type of user for which you want to add the Form.

3. Click **Screen configuration**.

4. Find and click the page to which you want to add the Form.

The **Visual Form Editor** page appears.

5. Drag-and-drop the **Button** element to the section from where you want to invoke the Form.

6. Click the button.

7. In the **Standard action screen** field, click the pencil icon and then select Custom Forms.

8. In the **Screens** list, select the name of the Form that you want to open and click **OK**.

   The label of the Form is displayed in the **Custom Forms** field, as shown in this screenshot:
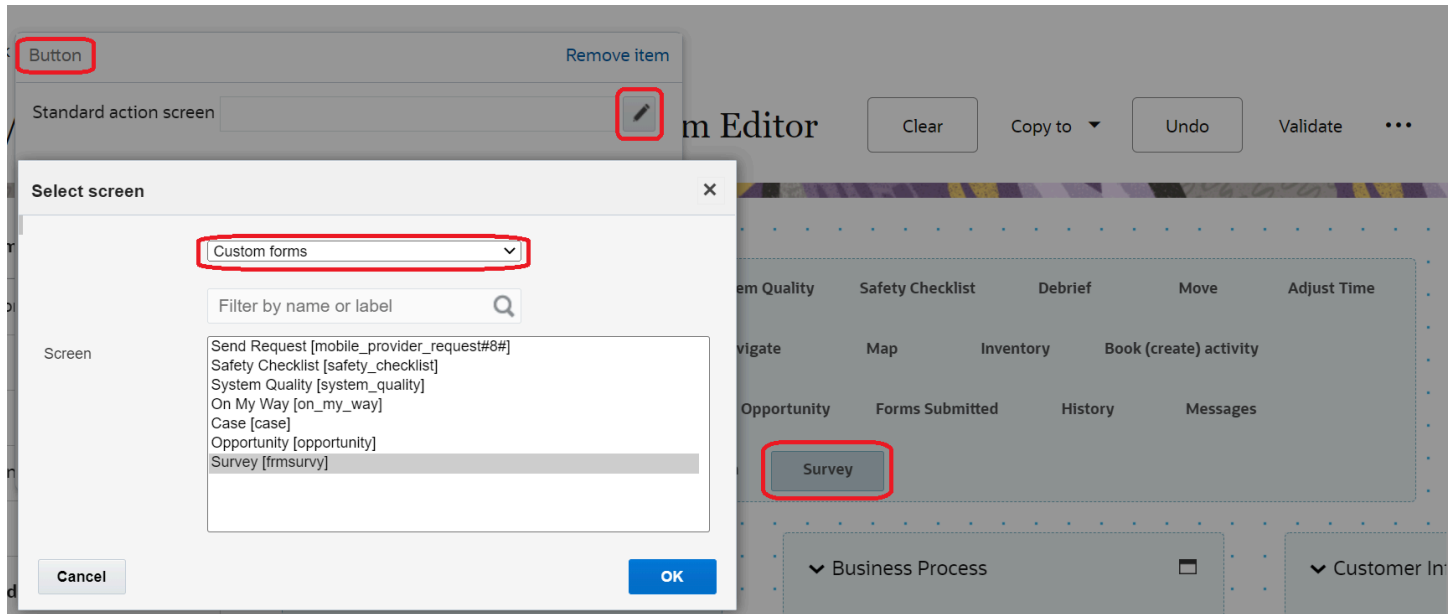
   By default all Forms have a visibility of Read-only.

9. In the **Visibility** section, add the conditions based on which the Form is visible.

10. In the **Parameters** section, add the values that you want the Form to be populated with:

    a. Click **Add new**.

       The **Add parameter** dialog box appears.

    b. Click **Entity** and select Form data.

       The Hidden value, Date, Time, and Date and Time elements added to the Form appear in the **Field name** list.

    c. Select an element in the **Field name** list.

    d. In the **Value** field, add the value that you want to be populated for the element.

       For example, let's say you have a field by name City and you want to populate it with New York. Select City in the **Filed name** list and enter New York in the **Value** field. Whenever a Field Resource opens the Form, New York is populated for **City**. In another example, let's say you want to populate today's date in a Date field. Select the Date field in the **Field name** list and enter 'today' in the **Value** field. Whenever a Field Resource opens the Form, today's date is displayed. Similarly, enter 'current time' in the **Value** field to display the current time in the Time field.

    e. Click **Save**.

11. In the **Translations** section, add a name for the Form.

    This name is displayed on the page from which the Form is invoked.

12. Click **Save** on the **Visual Form Editor** page.

    The Form is added to the selected page.

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How do I add a login policy for LDAP, SAML, or OpenID Connect authentication method?

Login policies determine the authentication method and options for users to access Oracle Field Service. The application includes a default login policy; you can add login policies for LDAP, SAML, and OpenID Connect authentication methods. You can also add multiple policies with multiple authentication methods.

Before you start

Before you implement OpenID Connect: Create or register Oracle Field Service as an application in your identity provider. Get the Configuration URL, Logout URL, Client ID, and Client secret from the identity provider. Further, define an attribute that will be used for the username.

Here's what to do

1. Click **Configuration**.
2. In the **Users and Security** section, click **Login Policies**.
3. Click **Add new**.

   The **Add Policy** dialog box appears.
4. Complete these fields:

Field	Action
Label	Enter a unique identifier label. For SAML login policy, enter only alphabets, numbers, and undersrores (_).
Policy name	Enter a name for this policy. Enter the name in English and in all the languages that are active in the application.
Authenticate using	Select the type of authentication method used for this login policy.
These fields are displayed for **Internal** authentication method:	
Max login attempts	Enter the number of invalid login attempts after which the user is blocked. When this field is set to 0 (zero), the feature is disabled. However, disabling this feature is not recommended for security reasons. Default value is 5.
Login block timer	Enter the number of minutes during which the user remains blocked after reaching the maximum number of invalid login attempts. Default value is 5 minutes.
Force password change after	Enter the number of days after which the user must change their password to access the application. When this field is set to 0 (zero), the feature is disabled. **Note:** If the customer's LDAP server allows setting the period of forced password change, it is recommended that the period set in the application is shorter than the one set on the LDAP server. This way, the password changes initiated by the application occur earlier than those initiated by the LDAP server which ensures correct and reliable performance.
User inactivity timeout	Enter the duration of the idle time after which the user is prompted to re-enter the password upon an attempt of any action in the application. Default value is 240 minutes.
Relogin timeout	Enter the period after which the user is prompted to re-enter the password regardless of whether the user was active or not. Default value is 480 minutes.

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Field	Action
Max sessions	Enter the maximum number of simultaneous sessions allowed to the user. Default value is 3.
Min password length	Enter the minimum number of characters in the password. Default is 8.
Password must contain uppercase and lowercase letters	Select whether the password must contain alphabets. This option is selected by default.
Password must contain digits	Select whether the password must contain numbers. This option is selected by default.
Password must contain special symbols	Select whether the password must contain special characters and symbols. This option is selected by default.
Password must not contain personal details	Select whether the password must not contain personal details such as the user's first name or last name. This option is selected by default.
Password must differ from old password	Select whether the password must be different from a previous password. This option is selected by default.
Allow access only for certain IP addresses	Select whether you want to restrict access to specific IP addresses. By default, a login policy is created without any restrictions to the IP addresses from which the user may log in. Select the check box to enable the restriction. When this check box selected, the **Allowed IP address list** field appears, where you can enter the IP addresses that can access the application.
These fields are displayed for the **LDAP** authentication method, along with the fields listed earlier:	
LDAP server URL	Enter the actual host name or IP address of the LDAP server.
LDAP DN pattern	If you want to select the **LDAP server is MS Active Directory** check box, enter the part of the UPN (User Principal Name) common among the users. In this case the LDAP DN pattern must always contain the UPN pattern. UPN (User Principal Name) is a string of characters used to represent a resource available in Active Directory. It should be used when communicating with MS Active Directory servers. An example of this field value is %s@test.corp, where %s is a special placeholder to be substituted with the user's login. If the **LDAP server is MS Active Directory** check box is not selected, this field contains the common path to the LDAP tree for the users, their DN pattern. DN (Distinguished Name) is a string of characters used to represent a resource available in the LDAP directory. An example of this field value is cn=%s,dc=example,dc=com, where %s is a special placeholder to be substituted with the user's login in the application.
LDAP server is MS Active Directory	Select whether the LDAP server is a MS Active Directory.
These fields are displayed for the **SAML** authentication method:	
Specify SAML IdP	Select the way in which you want to select the SAML identity provider. The options are: o Upload metadata XML o Specify metadata URL o Oracle IDCS o Manual populate
IdP Metadata XML	This field is displayed if you select **Upload metadata XML** in the **Specify SAML IdP** field. Click **Upload** to upload the XML file that contains the metadata details for the identity provider. If the uploaded file is incomplete, or does not contain the details in the proper format, the message, Cannot download metadata from the specified XML: XML parser error is displayed. Contact your Identity Service Provider to get this metadata XML. Ensure that the XML includes or conforms to this information: o Metadata XML must be in accordance with SAML 2.0 specifications. o The file contains "SAML Issuer" (parameter "entityID" of the node "EntityDescriptor").

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Field	Action
	o The file provides identity provider certificate (nodes "md:EntityDescriptor/md:IDPSSODescriptor/ KeyDescriptor/KeyInfo/X509Data/X509Certificate/").
IdP Metadata URL	This field is displayed if you select **Specify metadata URL** in the **Specify SAML IdP** field. Type the URL from which you want to take the SAML metadata details for the identity provider. If the URL is unresolved, the message, Cannot download metadata from the specified URL: no route to host is displayed.
IDCS Metadata XML	This field is displayed if you select **Oracle IDCS** in the **Specify SAML IdP** field. Click **Upload** to upload the XML file that contains the metadata details for Oracle IDCS. Contact your implementation consultant for more details on Oracle IDCS.
OFS Metadata XML	Click **Download** and select the domain that you want to use to redirect the requests from the identity provider to Oracle Field Service. The metadata file is downloaded to your computer and the address is displayed under **OFS Domain**. You must pair your identity provider with Oracle Field Service. Use the downloaded XML file to register Oracle Field Service with your identity provider.
Max sessions	Enter the maximum number of simultaneous sessions allowed to the user.
SAML issuer	Enter the identifier used to identify asserts from the Identity provider (IdP). It can be any string provided by IdP, not only URL. It is used for IdP and Service provider (SP) initiated connections.
SAML identity provider certificate	Enter the IdP public key used to sign requests.
SAML identity provider login URL	Enter the IdP URL to redirect to for login. It is needed only for SP initiated logins.
SAML identity provider logout URL	Enter the IdP URL to redirect to for logout. It is needed only for SP initiated logins.

SAML attribute containing username	Enter the SAML assertion attribute name where IdP must store the user name (login name for Oracle Field Service). Example:
	
	`[saml:Attribute Name="uid"`
	`NameFormat="urn:oasis:names:tc:SAML:2.0:attrnameformat:`
	`basic"]`
	`[saml:AttributeValue xsi:type="xs:string"]dispatcher[/saml:AttributeValue]`
	`[/saml:Attribute]`
	
	If it is empty then Oracle Field Service gets the user name from the Name Identifier element of Subject statement. Example:
	
	`[saml:Subject]`
	`[saml:NameID`
	`SPNameQualifier="https://sp.com/sp/module.php/ saml/sp/metadata.php/`
	`default-sp"`
	`Format="urn:oasis:names:tc:SAML:2.0:nameidformat:`
	`persistent"]dispatcher[/saml:NameID]`
	`[/saml:Subject]`

These fields are displayed for the **Open ID Connect** authentication method:	
Max sessions	Enter the maximum number of simultaneous sessions allowed to the user.
Select linkback URL	Click **Select linkback URL** and select the domain that you want to use to redirect the requests from the identity provider to Oracle Field Service.
Configuration login URL	Enter the Identity Provider URL to start authentication.
Logout URL	Enter the URL to which the user is redirected after logout. It may be the URL for logout from the Identity Provider.
Attribute containing username	Enter the name of the OpenId attribute where the Identity Provider must store the user's name (login name for Oracle Field Service). Example: email.

Field	Action
Client ID	Enter the value of the field containing data from registered OpenID provider (for example, Client ID).
Client secret	Enter the value of the field containing data from registered OpenID provider (for example, Client Secret).

5. In your OpenID application, configure a link back URL. Use the URL displayed in this dialog box for the option that you have selected.

   Your Identity Provider uses this link to redirect users to Oracle Field Service upon successful login.

6. Click **Add**.

   A warning appears if any of the security parameters is blank. If not, the Login Policy is saved. The application generates the metadata based on the options you have selected. Use this metadata to link your identity provider with the instance. Note down the instance URL that you must use when setting up an external identity provider.

Sample metadata XML file for SAML identity provider:

```
<?xml version="1.0"?>
<md:EntityDescriptor xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" xmlns:ds="http://www.w3.org/2000/09/
xmldsig#" entityID="https://idp-saml.ua3.int/simplesaml/saml2/idp/metadata.php">
  <md:IDPSSODescriptor protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
  <md:KeyDescriptor use="signing">
  <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
  <ds:X509Data>
  <ds:X509Certificate>MIID7TCCAtWgAwIBAgIJANn3qP9lF7M3MA0GCSqGSIb3DQEBCwUAMIGMMQswCQYDVQQGEwJVQTEXMBUGA1UE
  CAwOS2hhcmtpdiBSZWdpb24xEDAOBgNVBAcMB0toYXJrb3YxDzANBgNVBAoMBk9yYWNsZTEYMBYGA1UEAwwPc3RzeWJvdi12bTEudWEzMScw
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  BhMCVUExFzAVBgNVBAgMDktoYXJraXYgUmVnaW9uMRAwDgYDVQQHDAdLaGFya292MQ8wDQYDVQQKDAZPcmFjbGUxGDAWBgNVBAMMD3N0c3lib
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  hU0o7KiQgYwDAYDVR0TBAUwAwEB/zANBgkqhkiG9w0BAQsFAAOCAQEAJawU5WRXqkW4emm+djpJAxZ0076qPgEsaaog6ng4MLAlU7RmfIY/
  l0VhXQegvhIBfG4OfduuzGaqd9y4IsQZFJ0yuotl96iEVcqg7hJ1LEY6UT6u6dZyGj1a9I6IlwJm/9CXFZHuVqGJkMfQZ4gaunE4c5gjbQA5/
  +PEJwPorKn48w8bojymV8hriqzrmaP8eQNuZUJsJdnKENOE5/asGyj+R2YfP6bmlOX3q0ozLcyJbXeZ6IvDFdRiDH5wO4JqW/ujvdvC553y
  CO3xxsorB4xCupuHu/c7vkzNpaKjYdmGRkqhEqBcCqYSxdwIFc1xhOwYPWKJzgn7pGQsT7yNJg==</ds:X509Certificate>
  </ds:X509Data>
  </ds:KeyInfo>
  </md:KeyDescriptor>
  <md:KeyDescriptor use="encryption">
  <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
  <ds:X509Data>
  <ds:X509Certificate>MIID7TCCAtWgAwIBAgIJANn3qP9lF7M3MA0GCSqGSIb3DQEBCwUAMIGMMQswCQYDVQQGEwJVQTEXMBUGA1
  UECAwOS2hhcmtpdiBSZWdpb24xEDAOBgNVBAcMB0toYXJrb3YxDzANBgNVBAoMBk9yYWNsZTEYMBYGA1UEAwwPc3RzeWJvdi12bTEud
  WEzMScwJQYJKoZIhvcNAQkBFhhzZXJnaWkudHN5Ym92QG9yYWNsZS5jb20wHhcNMTUxMjI1MTIyMjU5WhcNMjUxMjI0MTIyMjU5WjCB
  jDELMAkGA1UEBhMCVUExFzAVBgNVBAgMDktoYXJraXYgUmVnaW9uMRAwDgYDVQQHDAdLaGFya292MQ8wDQYDVQQKDAZPcmFjbGUxGDA
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  AQEFAAOCAQ8AMIIBCgKCAQEAw4OFwuUNjn6xxb/OuAnmQA6mCWPY2hKMoOz0cAajUHjNZZMwGnuEeUyPtEcULfz2MYo1yKQLxVj3pY0HT
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  AviTHLBrLfSrbFKYuQUrXyy6X22wpzobQ3Z+4bhEE8SXQtVbQdy7K0MKWYopNhX05SMTv7yMfUGp8EkGNyJ5Km8AuQt6ZCbVao6cHL2h
  SujQiN6aMjKbdzHeA1QEicppnnoG/Zefyi/okWdlLAaLjcpYrjUSWQJZQIDAQABo1AwTjAdBgNVHQ4EFgQUIKa0zeXmAJsCuNhJjhU0o
  7KiQgYwHwYDVR0jBBgwFoAUIKa0zeXmAJsCuNhJjhU0o7KiQgYwDAYDVR0TBAUwAwEB/zANBgkqhkiG9w0BAQsFAAOCAQEAJawU5WRXq
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  ZyGj1a9I6IlwJm/9CXFZHuVqGJkMfQZ4gaunE4c5gjbQA5/+PEJwPorKn48w8bojymV8hriqzrmaP8eQNuZUJsJdnKENOE5/
  asGyj+R2YfP6bmlOX3q0ozLcyJbXeZ6IvDFdRiDH5wO4JqW/ujvdvC553yCO3xxsorB4xCupuHu/c7vkzNpaKjYdmGRkqhEqBcCqYSxd
  wIFc1xhOwYPWKJzgn7pGQsT7yNJg==</ds:X509Certificate>
  </ds:X509Data>
  </ds:KeyInfo>
  </md:KeyDescriptor>
```

```
   <md:SingleLogoutService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://idp-
saml.ua3.int/simplesaml/saml2/idp/SingleLogoutService.php"/>
   <md:NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</md:NameIDFormat>
   <md:SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://idp-
saml.ua3.int/simplesaml/saml2/idp/SSOService.php"/>
   </md:IDPSSODescriptor>
   <md:ContactPerson contactType="technical">
   <md:SurName>Administrator</md:SurName>
   <md:EmailAddress>name@emailprovider.com</md:EmailAddress>
   </md:ContactPerson>
</md:EntityDescriptor>
```

How do I configure a Context Layout Structure?

You can configure the Context layout structure for a page, when you want to change the visibility of fields, add conditions for visibility, or add more fields and buttons.

Let's say you want to create an Edit/View Activity form for the Edit/View Activity context, that belongs to the Administrator user type, with these objects:

- **Start** action.
- Special element, **Section**
- **Name** field.

This example explains how to configure the entities, namely, fields, actions, and special elements for the form.

> **Note:** Properties configured on the **Edit/View Activity** context (also known as **Activity Details** page) are ReadOnly, even if the property visibility is set to ReadWrite. To set the property visibility to ReadWrite, you must add the properties to a tab.

1. Click **Configuration**, **User Types** in the **Users and Security** section.

   The existing users display in the left pane.
2. Select **Administrator** from the left pane.
3. Select the **Screen Configuration** tab.
4. Expand **Application screens** and select **Edit/View Activity**.

   The **Visual Form Editor** displays.
5. To add the special element Section to the grid:
   a. Expand **New element**.
   b. Drag and drop **Section** to the grid to add a section to the form.
6. To add the **Name** field to the section:
   a. Expand **New element**.
   b. Drag and drop the Input element to the required position on the form.
   c. Click the element and in the **Activity field** drop-down list, select Address.
7. To add the Start action:
   a. Expand **New element**.
   b. Drag and drop Button to the required position on the form.
   c. Click the button and in the **Standard screen action** drop-down list, select start_activity.

8. In the **Name Translations** field, add a name for the new element in all the required languages.

This name is displayed for the element on the form. If a user has selected a different display language, the name in the corresponding language is displayed for the user.

9. Click **Save** at the top of the form editor.

Results:

After you configure the entities for a form, log in to the application and view the configured form. If you add multiple Barcode/QR code scanner check boxes on a form or page, ensure that the section contains only the Barcode/QR code scanner check boxes and Text elements. If the section contains any other type of element, the barcode scanner is not triggered.

> **Note:** Visibility of tabs is the aggregated result of the configured visibility conditions for the child elements (for example, property, text). these rules apply:
> - The tab is visible and accessible, if at least one element is configured to be visible (for example, Read-write or Mandatory) or a Read-only element contains data.
> - The tab is not visible or accessible, if none of the configured elements is visible (for example, no Read-write or Mandatory property or Read-only element without data).
> - If a tab has all Read-Only elements, then the buttons are shown. If at least one element in the tab is Read-Write or Mandatory, then the buttons are not shown.
> - If a tab has been configured with visibility conditions, it will be displayed in accordance with those conditions ignoring inner elements.

Fields that cannot have the Barcode/QR Code Scanner option

The **Data entry** field is not available for these fields on the Visual Form Editor:

Activity fields

These auto-calculated fields:

- Access Schedule [access_schedule]
- Access Hours [access_hours]
- Compliance Alerts [activity_compliance]
- Alerts [activity_alerts]
- SLA End [sla_window_end]
- SLA Start [sla_window_start]
- Traveling Time [travel]
- Resource ID [pid]
- Time Slot [time_slot]

These fields are not auto-calculated (but contain specific data):

- Points [apoints]
- Coordinate X [acoord_x]
- Coordinate Y [acoord_y]
- Duration [length]

These fields are not auto-calculated:

- Name [cname]
- Work Order [appt_number]
- Cellular Phone [ccell]
- Email [cemail]
- Phone [cphone]
- Account Number [customer_number]
- State [cstate]
- ZIP/Postal Code [czip]
- City [ccity]
- Address [caddress]

These auto-calculated fields:

- First Manual Operation [first_manual_operation]
- First Manual Operation Interface [first_manual_operation_interface]
- First Manual Operation Performed by User [first_manual_operation_user_id]
- First Manual Operation Performed by User (Login) [first_manual_operation_user_login]
- First Manual Operation Performed by User (Name) [first_manual_operation_user_name]
- Auto-Routed to Date [auto_routed_to_date]
- Auto-Routed to Resource [auto_routed_to_provider_id]
- Auto-Routed to Resource (Name) [auto_routed_to_provider_name]
- Activity Time of Assignment [atime_of_assignment]
- Activity Time of Booking [atime_of_booking]
- Capacity Categories [activity_capacity_categories]
- Coordinate Status [acoord_status]
- Date [date]
- Start - End [eta_end_time]
- Delivery Window [delivery_window]
- End [end_time]
- Time Notified [time_delivered]
- Work Zone [aworkzone]
- Activity ID [aid]

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- Activity status [astatus]
- Start [ETA]
- Service Window [service_window] [service_window]
- Travel estimation method [travel_estimation_method]

Inventory fields

These auto-calculated fields:

- Changed Inventory ID [inv_change_invid]
- Resource Id [inv_pid]
- Activity Id [inv_aid]
- Inventory Id [invid]
- Inventory pool [invpool]

These fields are not auto-calculated (but contain specific data):

- Quantity [quantity]

Resource fields

These auto-calculated fields:

- ID [pid]
- Working days left for reported data to start impacting duration estimations [skip_days_for_stats]
- Reactivated [reactivated]
- On-call Calendar [oncall_calendar]
- Work Zones [resource_workzones]
- Effective Work Skills [resource_effective_workskills]
- Time slots [resource_time_slots]
- Capacity Categories [resource_capacity_categories]
- Work Skills [resource_workskills]
- Calendar [calendar]
- Queue status [queue_status]
- Total [total]
- Pending [pending]
- Alerts [alerts]

These fields are not auto-calculated:

- Name [pname]
- External ID [external_id]
- Email address [email]
- Phone [pphone]

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Service request fields

These auto-calculated fields:

- Created [srcreated]
- Activity [appt_ident]
- Request Id [srid]
- User Id [sr_uid]
- Resource Id [sr_pid]
- Activity Id [sr_aid]
- Inventory Id [sr_invid]

These possibly auto-calculated fields:

- User [uname]
- Date [srdate]

User fields

These auto-calculated fields:

- User ID [uid]
- Registered [sucreated]
- Failed login attempts [login_attempts]
- Blocked to [login_blocked_to]
- Last login [last_login]
- Last password change [last_password_change]
- Updated [suupdated]
- Main Resource [main_resource_id]

These fields are not auto-calculated (but contain specific data):

- Refresh Rate [refresh_rate]
- Mobile Resource Count [mobile_provider_count]
- Mobile Activity Count [mobile_activity_count]
- Mobile Inventory Count [mobile_inventory_count]
- Collaboration Group [collab_assigned_user_group]
- Operator of Helpdesk [collab_operator_helpdesk]

These fields are not auto-calculated:

- User name [uname]
- Login [ulogin]
- Password [password]

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Can I open internal pages and plug-ins with direct URLs?

You can directly access internal pages such as Activity details, List view, or Inventory details within the Oracle Field Service Mobile for Android or iOS apps or Core Application, using specific direct URLs.

> **Note:** Use this feature only to launch Oracle Field Service on the browser or the app using external sources such as sms, emails, or other apps. Don't use this feature to navigate between pages within Oracle Field Service.

Based on the page that is accessed and the user type accessing the page, you can send the following parameters with the URL:

Name	Type	Description	Constraints
screen	String	Specifies the page that you want to access.	The following labels are supported: • activity_list • activity_by_id • start_activity • end_activity • cancel_activity • notdone_activity • suspend_activity • delay_activity • inventory_list • inventory_by_id • install_inventory • deinstall_inventory
date	Date	Specifies the date for the page that you want to access.	Date format is YYYY-MM-DD.
activityId	Number	Specifies the activity for the page that you want to access.	Valid activity ID is required.
resourceInternalId	Number	Specifies the resource for the page that you want to access.	A valid resourceInternalId is required.

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Name	Type	Description	Constraints
			Mandatory, if you are navigating from the Supervisor page.
inventoryId	Number	Specifies the inventory for the page that you want to access.	Valid Inventory ID is required.

The order of the parameters is not important. Also, any unsupported parameters are ignored. The supported parameters, URLs, and accessible pages might differ based on whether the logged-in user has access to other users (such as supervisor, technician). In case, there are missing or invalid params or if the user doesn't have access to the page, then an error message is displayed.

<OFS_CORE_APP_URL> is the URL to access the following OFS Core App pages:

Activity List

The activity_list label allows you to access the Activity List page.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
date	No	No
resourceInternalId	No	Yes

Possible URLs

URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/#screen=activity_list	Displays the Activity List page for today's date.	Yes	No
https://<OFS_CORE_APP_URL>/#screen=activity_list&date=2020-02-19	Displays the Activity List page for the date, 2020-02-19.	Yes	No
https://<OFS_CORE_APP_URL>/#screen=activity_	Displays the Activity List page of the	Yes	Yes

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URL	Description	Applicable for Technician	Applicable for Supervisor
list&resourceInternalId=3000001	technician with resourceInternalId 3000001 for today's date.		
https://<OFS_CORE_APP_URL>/ #screen=activity_list&date=2020-02-19&resourceInternalId=3000001	Displays the Activity List page of the technician with resourceInternalId 3000001 for the date, 2020-02-19.	Yes	Yes

Activity Details

The activity_by_id label allows you to access the Activity Details page.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
activityId	Yes	Yes
date	Yes	Yes
resourceInternalId	No	Yes

Possible URLs

URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/ #screen=activity_by_id&activityId=4225435&date=2020-02-20	Displays the details for activity with id 4225435.	Yes	No
https://<OFS_CORE_APP_URL>/ #screen=activity_by_id&activityId=4225435&date=2020-02-20&resourceInternalId=3000	Displays the details for activity with id 4225435.	Yes	Yes

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Constraints

- The specified date must be the route date of the specified activity.

- For technicians, the activity must be assigned to the technician.

- For supervisors, the specified resourceInternalId must be assigned to the activity and the supervisor must have access to the technician.

Activity Actions

Page Label	Description
start_activity	Access the Start Activity page.
end_activity	Access the End Activity page.
cancel_activity	Access the Cancel Activity page.
notdone_activity	Access the Not Done Activity page.
suspend_activity	Access the Suspend Activity page.
delay_activity	Access the Delay Activity page.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
activityId	yes	yes
date	yes	yes
resourceInternalId	No	yes

Possible URLs

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URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/ #screen=<SCREEN_LABEL>&activityId=4225435&date=2020-02-20	Displays the specified Activity Action page for the Activity ID, 4225435.	yes	No
https://<OFS_CORE_APP_URL>/#screen= <SCREEN_LABEL>&activityId=4225435&date=2020-02-20&resourceInternalId=3000001	Displays the specified activity action page for activity with id 4225435.	yes	yes

Constraints

- The specified Activity Action page must be visible for the specified activity.
- The specified date must be the route date of the specified activity.
- For technicians, the activity must be assigned to the technician.
- For supervisors, the specified resourceInternalId must be assigned to the activity and the supervisor must have access to the technician.

Inventory List

The inventory_list page label allows you to access the Inventory List page.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
activityId	No	No
date	No	No
resourceInternalId	No	yes

Possible URLs

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URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/#screen=inventory_list	Displays the Inventory List page.	yes	No
https://<OFS_CORE_APP_URL>/ #screen=inventory_list&activityId=4225435&date=2020-02-19	Displays the Inventory List page for the Activity ID, 4225435.	yes	No
https://<OFS_CORE_APP_URL>/#screen=inventory_list&resourceInternalId=3000001	Displays the Inventory List page of the technician with resourceInternalId, 3000001.	No	No
https://<OFS_CORE_APP_URL>/ #screen=inventory_list&activityId=4225435&date=2020-02-19&resourceInternalId=3000001	Displays the Inventory List page for the Activity ID, 4225435. resourceInternalId is required for supervisors.	yes	No

Constraints

- Inventory list action link should be visible from the activity.
- The specified date must be the route date of the specified activity.
- For technicians, the activity should be assigned to the technician.
- For supervisors, the specified resourceInternalId must be assigned to the activity and the supervisor must have access to the technician.

Inventory Details

The inventory_by_id label allows you to access the Inventory Details page with the specified Inventory ID.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
inventoryId	yes	yes

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Name	Mandatory for Technician	Mandatory for Supervisor
activityId	No	No
date	No	No
resourceInternalId	No	yes

Possible URLs

URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/#screen=inventory_by_id&inventoryId=21229417	Displays the inventory details for the inventory ID, 21229417.	yes	No
https://<OFS_CORE_APP_URL>/#screen=inventory_by_ id&inventoryId=21229417&activityId=4225435&date=2020-02-19	Displays the inventory details for the inventory ID, 21229417 and activity ID, 4225435.	No	No
https://<OFS_CORE_APP_URL>/#screen=inventory_by_ id&inventoryId=21229417&resourceInternalId=3000001	Displays the inventory details for the inventory ID, 21229417 for the technician with resourceInternalI 3000001.	yes	yes
https://<OFS_CORE_APP_URL>/#screen=inventory_by_id&inventoryId=21229417&activityId=4225435 &date=2020-02-19&resourceInternalId=3000001	Displays the inventory details for the inventory ID, 21229417 and the activity ID, 4225435 for the technician with resourceInternalI 3000001.	yes	yes

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URL	Description	Applicable for Technician	Applicable for Supervisor

Constraints

- For technicians, the technician must have the inventory with the specified ID.

- For supervisors, the specified resourceInternalId must belong to a technician with the inventory specified by inventory ID.

- The specified date must be the route date of the specified activity.

- For technicians, the activity must be assigned to the technician.

- For supervisors, the specified resourceInternalId must be assigned to the activity and the supervisor must have access to the technician.

Inventory Actions

Page Label	Description
deinstall_inventory	Accesses the Add to Deinstalled page with the selected inventory.
install_inventory	Accesses the Add to Installed page with the selected inventory.

Supported Parameters

Name	Mandatory for Technician	Mandatory for Supervisor
inventoryId	yes	yes
activityId	yes	yes
date	yes	yes
resourceInternalId	no	yes

Possible URLs

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URL	Description	Applicable for Technician	Applicable for Supervisor
https://<OFS_CORE_APP_URL>/#screen=<SCREEN_LABEL>&activityId=4225435&date=2020-02-19&inventoryId=21229417	Displays the specified Activity Action page for the activity ID, 4225435 and for the inventory ID, 21229417.	yes	no
https://<OFS_CORE_APP_URL>/#screen= <SCREEN_LABEL> &activityId=4225435&date=2020-02-19&resourceInternalId=3000001&inventoryId=21229417	Displays the specified Inventory Action page for the activity ID, 4225435 and inventory ID, 21229417.	no	yes

Constraints

- The specified Inventory Action page must be visible for the specified activity and inventory.
- For technicians, the technician must have the inventory with the specified ID.
- For supervisors, the specified resourceInternalId must belong to a technician with the inventory specified by inventory ID.
- The specified date must be the route date of the specified activity.
- For technicians, the activity must be assigned to the technician.
- For supervisors, the specified resourceInternalId must be assigned to the activity and the supervisor must have access to the technician.

How do I add an organization unit or a bucket to define the resource tree structure?

Use organization units to sort and organize the items in the resource tree. You can use buckets to hold the activities that aren't yet assigned to field resources. You must set up the resource tree using the organization, buckets, and child resources in a way that suits your business requirements.

Difference between resource, user, and child resource: A resource can be a field resource (a human being), a dispatcher, an administrator, a vehicle, or a tool. All resources are elements of the Resource tree. A user is a field

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resource or any other user that has access to Oracle Field Service. A child resource is a resource that is added to a bucket or an organization unit element of the resource tree. In the hierarchy of the resource tree, the bucket or the organization unit appears at a higher level than the child resource. A child resource can be a field resource (a human being), a vehicle, or a tool.

Organization units are typically used to group resources by location. Organization units cannot be route owners and you cannot assign activities to them. Buckets can have activities. However, dispatchers can assign activities to buckets manually and Routing can assign activities to buckets automatically. To add an organization unit or a bucket:

1. Click the navigation icon and then click **Resources**.
2. Click the plus icon.
3. Complete these fields:

Field name	Action
Resource Type	Select Group or Bucket. The fields on the page change based on the option you select.
Name	Enter the name of the organization unit or bucket the way you want it to appear in the resource tree.
External ID	Enter a unique ID for the organization unit or bucket. These IDs are optional.
Org Unit/Bucket	Select the organization unit or bucket under which you want to create the organization or bucket.
Status	Select whetner the organization unit or bucket is active or inactive. An inactive organization unit or bucket is not listed in the resource tree.
Message Language	Select the language in which dispatchers and technicians see the error messages.
Time zone	Your (currently logged in user) time zone is populated, change it if required. This is the time zone in which the organization is located.
Time format	Your (currently logged in user) time format is populated, change it if required. This is the time format that your resources see and use in the interface. This can be either **12-hour** or **24-hour**.
Date format	Your (currently logged in user) date format is populated, change it if required. This is the date format that your resources see and use in the interface. This can be either **month-day-year** or **day-month-year**. The date format controls the display of dates in numeric format.

4. Click **Submit**.

   The new active organization unit or bucket is added to the resource tree, in the selected hierarchy.

How do I activate, deactivate, or delete a user?

You can control users' access to the application by activating or deactivating them. Active users can log in and use the application. Deactivated uses can be re-activated when needed. Deleted users are no longer available in the resource tree.

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1. Use one of the following ways to access the user that you want to activate or deactivate:
    a. In the resource tree, click the user for which you want to change the status. Click the Info icon for the resource. On the **Resource Info** page, click the stack icon and then click **Edit**. The **Edit Resource** page appears.
    b. Click the hamburger menu and then click **Resources**. Search for the user for which you want to change the status.
2. Select the corresponding check box and click **Activate** or **Deactivate**, depending on whether you are activating or deactivating the user.
3. Click **Activate** or **Deactivate** on the confirmation dialog box.
4. To delete a user, select the corresponding check box and click **Delete**. Click **Delete** on the confirmation dialog box.
5. If you want to activate, deactivate, or delete multiple users, click the hamburger menu and then click **Resources**. Search for the resources for which you want to change the status. In the search result, select the check box against resource names and click the appropriate check box in the header. However, note that your administrator must first configure these group actions for the **Resources** context layout structure, before you can use them.

How do I unlock a user account?

When a user makes too many unsuccessful attempts to log in, the account is locked. You must unlock it for the user to log in and use the application.

1. Click the hamburger menu and then click **Resources**.
2. Select **Blocked** under **Status**.
3. Select the check box next to the resource whose account you want to unlock.
4. Click **Unlock** above the list of resources.

    Unlock appreas as an option, only if you have configured it on the **Resources** context layout structure.
5. Click **Unlock** in the confirmation diaog.

How do I configure activity and resource hints?

Activity hint is a context menu that is displayed when you click an activity on the List, Time, or Map view. Similarly, resource hint is displayed when you click a resource in the resource tree. These menus can include static text such as activity type or capacity category and buttons for actions such as adding or starting an activity. The menu can also include links to open forms and plug-ins.

1. Click **Configuration** > **User Types**.
2. Select the type of user for which you want to configure the hint and click **Screen configuration**.
3. Expand **Application screens**.
4. To add an activity hint, locate **Activity hint** in the **Dispatch Console** tree and click it. To add a resource hint, locate **Resource hint** in the **Main menu** tree and click it.

    The **Context layout structure** opens for the selected hint. This page displays two sections—**Layout structure** and **Actions**.

5. Click **Click to Add** in the **Layout structure** section and select the required properties such as Alerts, Activity type, Activity status, Resource name.

   The items in the **Layout structure** are static text items.

6. Click **Click to Add** in the **Actions** section.

   The **Add action** dialog box appears and displays these options:

   ○ **Standard action screen:** Lets you add standard actions such as Activate route, Add child resource, Add to group, Resource calendar, Work Skills, Work Zones, Location, and so on.

   ○ **Plugins:** Lets you add plug-ins. The plug-ins that you have added on the Forms & Plugins page are listed here.

   ○ **Custom forms:** Lets you add custom forms. The Forms that you have added on the Forms & Plugins page are listed here.

7. Select one of the three options and then select the required item in the **Available** list.

8. Click **OK**.

   The properties of the newly added item are displayed.

9. Click **Add new visibility**.

   Read-only is selected by default on the **[item] visibility** dialog box.

10. Click **Conditions** and add any conditions based on which you want to display the link.

11. Click **Save**.

    The new item or link is added to the hint. The item is displayed when the user refreshes the application, or logs in to it the next time.

How do I add My Route to the main menu or landing page?

You can configure the landing page for Field Resources to display either the My Route page or the list of activities.

1. Click **Configuration** > **User Types**.
2. Under Screen Configuration, go to Application Screens and click Main Menu.
3. Click **Click to Add** and add **My Route**.

4. Click **Add new visibility** and then click **Save**.

   My Route is added to the Main menu.

   - For users who have a route: **My Route** is always displayed in the Main menu regardless of whether it is configured or not.
     - If you have not configured **My Route** but have configured other items for the Main menu, **My Route** is displayed as the first item.
     - If you have configured **My Route** and other items, the position of **My Route** is per the configuration.
     - If a user has access to multiple resources and also has a route of their own, if you have not configured any items, **Manage** and **My Route** are displayed in the Main menu.
   - For users who do not have a route of their own: **My Route** is not displayed in the Main menu even if you have configured it.

   > **Note:** If a resource who does not have access to multiple resources needs to access the Main menu, then set the **Field Resource Landing Page** option on the Configuration → Display page to 'My Route'. You can also set the option to 'Activity List'. However, if you set it to 'Activity List', this user will not have access to other Main menu items.

How do time zone settings work?

When you configure the application, it's possible to set different time zones for users and for resources. These time zones are used in different contexts on different pages. Here's an overview of how time zones are displayed throughout Oracle Field Service for technicians and dispatchers.

Today's Date

The time zone of the currently logged in user is used when determining today's date. Let's say it's 1:00 PM, Jun 10 in a UTC+00:00 time zone. If you sign in as a user who's in UTC+12:00 time zone, after logging in you see that the current date is set to Jun 11. This is because, in the user's time zone it's already 01:00 AM, Jun 11.

Where is it Used?

Today's date is used as the initial date on these pages in Oracle Field Service Core Application: Activities, Offline synchronization, Dashboard, and Print route. For example, on the "Activities" page, it is the date for which the activities are shown after you log in to the application. You can change the date on these pages to see the information for another date. Nevertheless, when you click the date field, the calendar widget shows you today's date in light blue color. This screenshot shows the calendar with the current date highlighted:
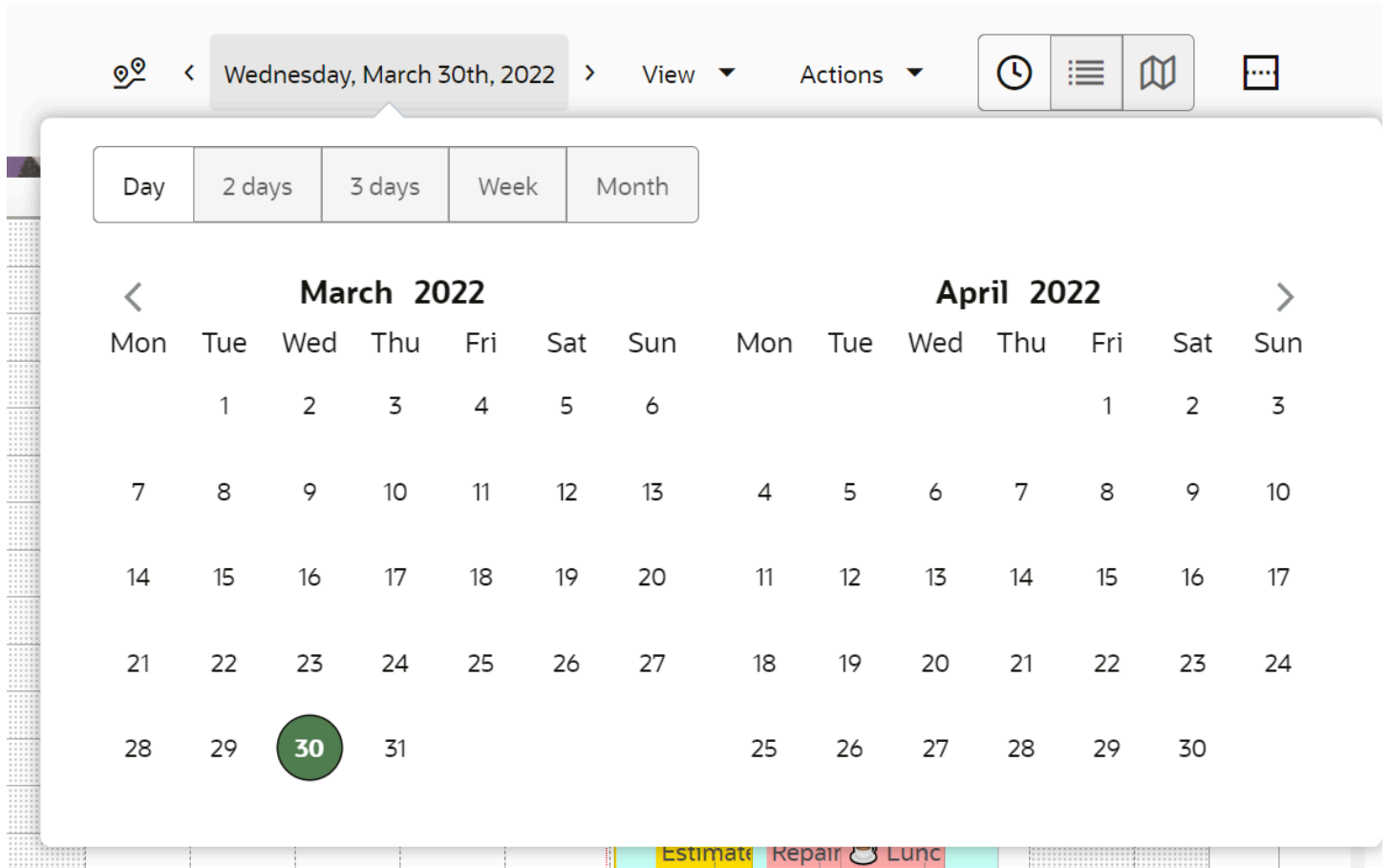
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The same behavior is present in Oracle Field Service Mobile for Android and iOS. When a field resource logs in, today's date is marked with light red color on the date selection panel in the header, as shown in this screenshot:
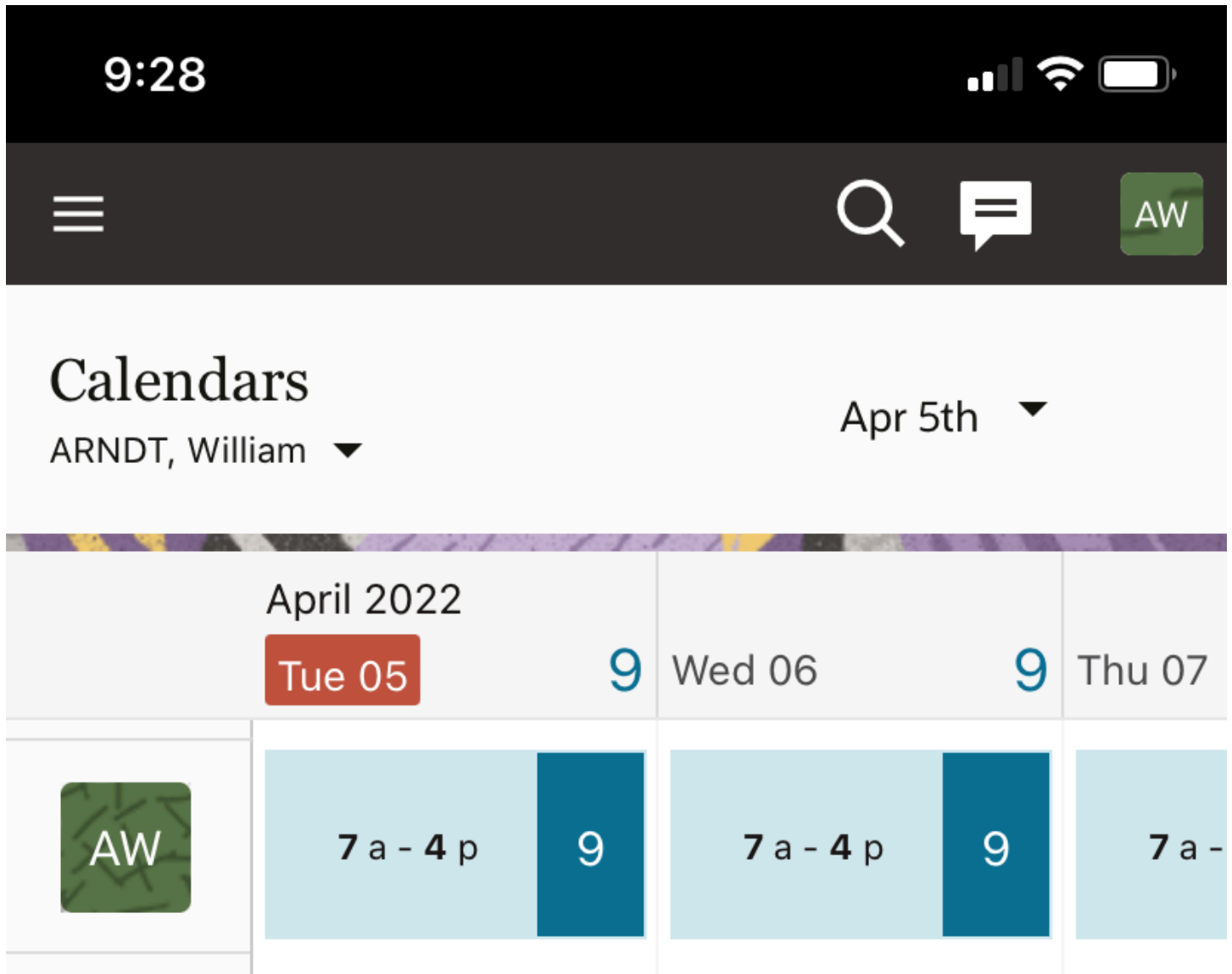
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When a field manager looks at the **Calendars** page in Oracle Field Service Mobile for Android and iOS, then today's date is marked in light red, as shown in this screenshot:
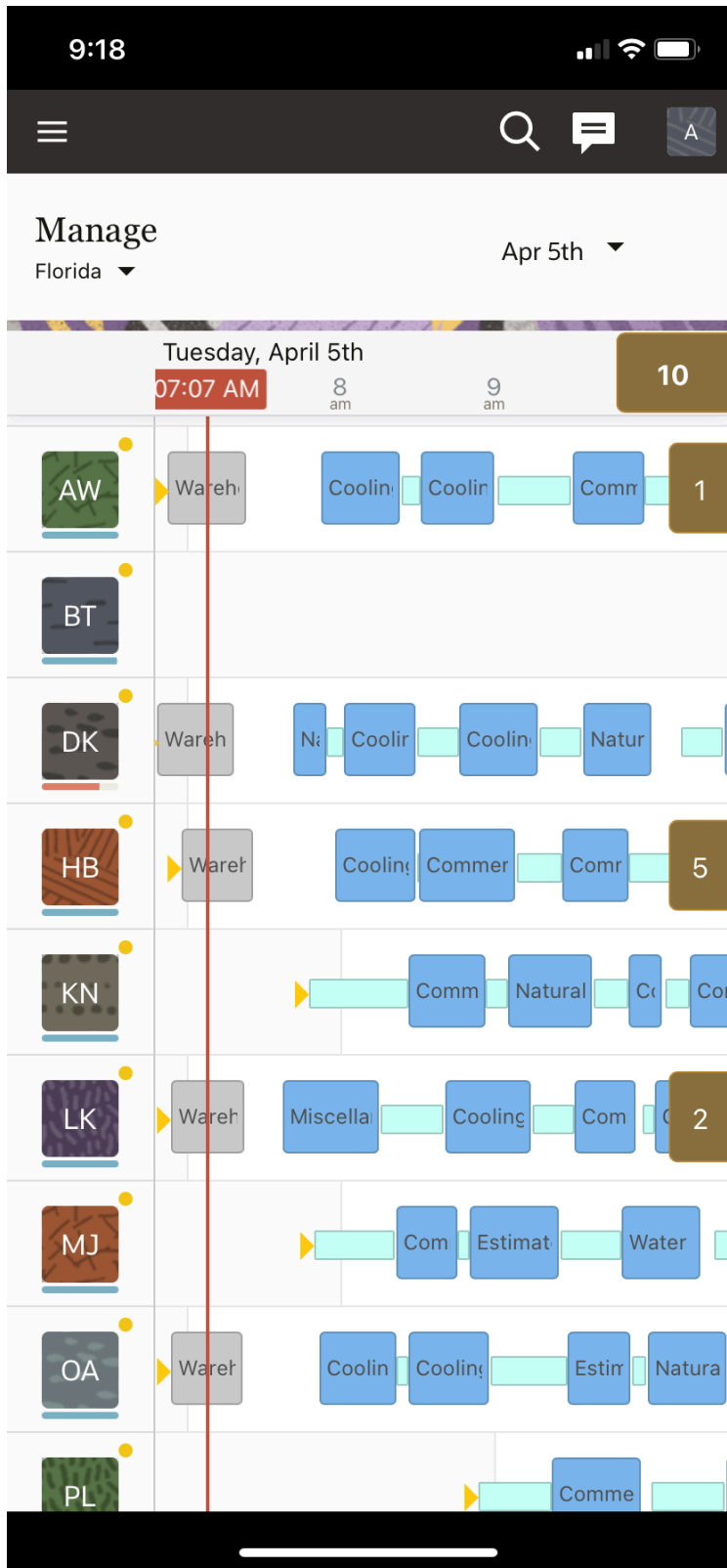
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The same date is used in Oracle Field Service Core Application when searching for activities "starting today".

Current Date of the Resource

The current date of the resource is always determined in the time zone of the resource. You can activate the route and start an activity only on the current date of the resource's time zone.

Changing Past Activities

Every instance has a specific time when all the data that is related to the previous day is frozen and can't be changed any more. This time is configured in the **Overnight work** section on **Business Rules**, shown in this screenshot:
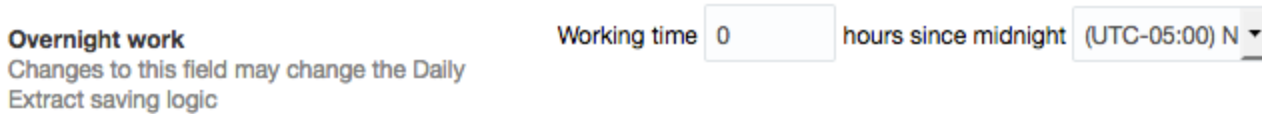
For example, you have configured that the working time is 5 hours since midnight in the Eastern time zone. This means that at 5:00 AM in the Eastern time zone all data for the previous day becomes frozen.

> **Note:** If you configure an instance to use in several time zones, you must set the time zone on **Business Rules** to the most "western" time zone. If the work is performed several hours after midnight in this most "western" time zone, then you must also specify the number of hours after midnight.

Time View in Oracle Field Service Core Application

Time view displays aggregated information for the hierarchy of resources. The information is presented in the same time zone to look consistent on the time line. The time zone is determined as the time zone of the resource selected in the resource tree on the left of the page. The current time, which is shown as a red vertical line is also in the time zone of the selected resource, shown in this screenshot:

> **Note:** The only exceptions are the resource hint, activity hint, and activity label. Information on the resource hint is displayed in the time zone of the resource this hint belongs to. Information on the activity hint and activity label is displayed according to the rules described in the Activity related information section later in the topic.

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Manage page in Oracle Field Service Mobile for Android and iOS

The **Manage** page in Oracle Field Service Mobile for Android and iOS shows the information similar to the Time view. The difference is that there is no resource selected in the installed app. The information is shown for the list of resources identified as a group, and the group is configured by a user. Since it is not possible to identify which resource time zone must be used as the primary time zone, the time zone of the currently logged in user is used instead.

> **Note:**
> - The only exceptions are the resource hint, activity hint, and activity label. Information on the resource hint displays in the time zone of the resource this hint belongs to. Information on the activity hint and activity label displays according to the rules described in the Activity related information section later in the topic.
>
> - When a user opens the non-scheduled or non-ordered activities on the right of the page, the activity identifier shows information according to the rules described in the Activity related information section later in the topic.

Organizations with Multiple Time Zones

If your organization operates in multiple time zones, it is important that you configure both, the field resource and activity time zones correctly. Configuring these time zones is even more important if they are different. A field resource sees all the data in their own time zone, but when the activity (customer) is in a different time zone, both times are shown as appropriate. The activity time zone is used for notifications and can be used in APIs (for example, for sending messages). Typically, the time zone of a physical location is used for notifications, but you may use your preferred time zone, such as your headquarters time zone or any other in which you prefer to get notifications.

Resource related information

Information that is related to a resource and the resource's route is entered in the resource's time zone. It includes:

- Route Status (queue_status), includes the time when the route was activated
- Reactivated (reactivated)
- Resource working hours (calendar)
- Resource on-call hours (oncall_calendar)

Time view shows this information differently in Oracle Field Service Core Application and Oracle Field Service Mobile for Android and iOS. See the earlier sections for more details.

Activity Related Information

Time related information on an activity is displayed and entered in the time zone of the resource for which the activity is assigned. This information includes:

- Start (ETA)
- End (end_time)
- Start - End (eta_end_time)
- Delivery window (delivery_window)
- Activity Time of Booking (atime_of_booking)
- Activity Time of Assignment (atime_of_assignment)

The only exceptions are:

- Time slot or service window (depending on what is used for the particular activity type)
- SLA window

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These properties are either in the resource time zone or in the customer time zone. It depends on the **SLA and Service window use customer time zone** field set on the activity type. Time view shows this information differently in Oracle Field Service Core Application and Oracle Field Service Mobile for Android and iOS. See the earlier sections for more details.

User related information

All user related information is shown in the time zone of the user. It includes:

- When the user was registered
- When the user was updated
- When the user logged in last time
- When the user changed the password
- Date and time till when the user is blocked

Collaboration

Each message in Collaboration includes the time when it was sent. This time is shown in the time zone of the currently logged in user.

Can I update activities and sync offline after Overnight end time?

You can complete the activities that you worked on after the Overnight end time. In other words, you can change the status of *Started* activities to a final status and work with the inventory for these activities.

Be aware that the option **Allow update activities and offline sync after overnight within the following number of hours** must be selected on the **Business Rules** page.

Beyond the Overnight end time, the activity and inventory-related links and buttons are displayed just for those activities that are in *Started* status. You can:

- Change activity status to Completed, Suspended, or Not done.
- Perform actions with inventory such as install, deinstall, and so on.

You can perform these actions from the **My Route** and **Activity Details** pages as well as from the activity hints available on the **Manage** and **Dispatch Console** pages. The application collects the data and synchronized to the server. You can perform these actions for single activities as well as segmentable activities and their segments.

> **Note:** You cannot start new activities after the Overnight work ends, or manage inventory for activities that are in any other statuses.

How suspending activity works

Suspending an activity after the Overnight work ends as follows:

- When you suspend a single activity action, the application:
    - Creates a 'Suspended' activity in the route of the original activity.

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- o Moves the original activity to the non-scheduled pool, changes its status to 'Pending', and defines its position in route as 'not-ordered'.
- When you suspend a segment of a segmentable activity, the application:
  - o Creates a 'Suspended' segment in the route of the original segment.
  - o Increases the **Time to complete** value for the master segmentable activity corresponding to the time of the suspended segment.

Note: You must enable the **Allow access to non-scheduled pool** setting for the appropriate user types to make the Suspend activity operation work as described earlier.

Adjusting activity duration

You can adjust the activity duration for both, single activities and segments of segmentable activities.

Selecting next activity and changing action time

You cannot select the next activity or set an activity's action time in the user interface for the last activity on a given day.

Inventory actions

The following inventory actions are available for inventories related to the *Started* activities after Overnight end time:

- Add to customer
- Add to required
- Delete inventory
- Install inventory
- Deinstall inventory
- Create installed inventory
- Create deinstalled inventory
- Undo install
- Undo deinstall
- Exchange inventory
- Install required inventory
- Delete required inventory
- Edit required inventory
- Create installed required inventory

Apart from this, you can update the values of any fields or properties through the **Inventory Details** page and any forms connected to this page. Changes to field values on the **Required Inventory** page are also supported.

Limitations

Inventory actions from an activity of a team holder are not available for an assistant while working in teamwork.

API support

You can get updates for activities that are still in *Started* status after the Overnight end time and any inventory items related to these activities using the following API calls:

- Events
- Get Activity
- Get Activities
- Get Inventory

Daily Extract files

The Daily Extract files for a given day won't contain any actions performed after the Overnight end time. You must either wait for the automatic generation of the Daily Extract files for the following day, or run the Daily Extract manually after all the activities are completed. When you do so, you must merge the results from two the Daily Extract files to get the complete data set.

> **Note:** Messages from the Outbound API remain blocked after the configured Overnight period.

How do I add my preference for a specific resource?

If you've a resource that you prefer for an activity over other resources, you can use the **Resource Preferences** tab to add them. You can also use this tab to view any restrictions on resources that shouldn't be added to this activity.

Resources listed here are in one of three categories:

- Required: Only one of these resources can be assigned to the activity.
- Preferred: If no Required resources are listed, then Preferred resources have priority over everyone else.
- Forbidden: Resources that can't be assigned to the activity.

What details can I see on the History tab?

You can use the History page to view all the events associated with this activity from the time it was received through completion. Additionally, the page also shows information related to the activity route, which includes the time before the activity was created and after activity was completed. Such details are necessary for dispatch audit and helps you analyze unclear cases, for example, why a technician could be late for an appointment.

The details that are displayed on the History page depends on the retention period that's configured on the **Business Rules** page. For example, if the retention period for activities is 90 days, you can see the actions performed up to 90 days and not earlier.

You can see a record of the changes and movement of the activity, time stamped with the user ID. The changes and movement are recorded automatically by the application. As a dispatcher, you can use this tab when researching issues or problems with an activity. The user name links to a dialog that shows the interface in which the action was performed and the details of the device with which the action was performed.

This screenshot shows the History page:

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↑ Activity Details

History

Action Time	Action	Changes	User
03/30/22 12:11 PM	route updated	Final Travel: 00:30	**Admin (admin)**
03/30/22 12:11 PM	created	Activity type: Assisting Duration: 02:45 Traveling Time: 00:30 **Show more**	**Admin (admin)**

You can filter data using each column:

- In the **Action time** column, select one of the listed times. Select 'All' to include all the records that are generated within the retention period.
- Use the check boxes in the **Action** and **User** columns to filter records based on the existing actions in the table.
- Use the **Search** field to filter data in the **Changes** column. All rows with matching text are displayed.
- Click the user name in the **User** column to see the Interface and User Agent. Interface is the Oracle Field Service module from which you've updated the activity. User Agent provides the details of the browser from which you've accessed Oracle Field Service. This column is blank for the changes made by Oracle Field Service.

Smaller devices (less than 480 px) don't have these filters.

How do I add a resource?

The field resource is an individual associated with the user who performs an activity or a tool or vehicle that belongs to an organization or resource.

1. Log in to the Core application as an admin user.
2. Click the **hamburger** icon and then click **Resources**.
3. Click the Plus icon.
   The **Add Resource** page displays.
4. Complete the following fields:

Field	Mandatory	Description
Resource type	Yes	Select one of the following resource type that is configured for your organization: ○ Bucket ○ Organization Unit

Field	Mandatory	Description
		○ Technician ○ Truck ○ Manager/Admin/Dispatcher **Note:** The fields on the page change based on the selected resource type.
Type	Yes	Select whether the technician is a Contractor or an In-House employee. **Note:** This field displays only for the technician resource type.
Name	Yes	Enter the resource name that you want to display in the resource tree.
External ID	No	Enter the ID number from an external system, such as the employee ID number. If you use them, each resource must have a unique ID.
Org Unit/Bucket	Yes	If you are adding a bucket, organization unit, or a technician, select the organization or organization unit to which the resource belongs. **Note:** The field is not mandatory for the Manager/Admin/Dispatcher resource type.
Status	Yes	Select **Active** if you want the resource to use the application. Else, select **Inactive**.
Access Settings (applicable only for the Technician and Manager/Admin/Dispatcher resource type)		
User Type	Yes	Select the user type for the resource. You can create and edit resources of only the user types that are selected in the **Configuration** > **User Types** > **General Can create users of the following user types** section. The user types that are not selected on the **General** page are not available here for selection. Further, you cannot edit the details on the **Resource Info** page of the resources of this user type.
Visible Resources	Yes for the Manager/Admin/Dispatcher resource type.	Select the organization, organization unit, or the bucket to which the resource belongs.
Self Assignment		The **Self-Assignment** feature influences the availability of activities and resources for a user who is assigned to a bucket. By default, **Self-Assignment** is disabled. This setting is mostly used by dispatchers, who allocate activities to resources and usually do not perform any activities. If a user is assigned to a bucket and **Self-Assignment** is cleared: ○ All child resources of the bucket are available to the user. ○ All activities in the bucket are available to the user (regardless of their work zones and work skills). ○ The user can move all activities between all available resources (for example, from the bucket to any of the assigned resources, between resources, from a resource back to a bucket). ○ **Self-Assignment** must be selected, if a technician is granted permission to assign tasks. (For example, the user is a crew chief, assigning activities to members of the crew, or a single technician allowed to choose activities to perform.) If a user is assigned to a bucket and **Self-Assignment** is selected: ○ Only the resources explicitly assigned to the user are available to such a user (for example, the bucket, the user themselves and members of the crew). No other child resources of the bucket are available to the user.

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Field	Mandatory	Description
		○ Only those activities in the bucket that can be performed by at least one of available resources (subject to the work zone and work skill requirements) are available to the user. ○ The user can move only the available activities and only between the available resources.
Login	Yes	Enter the login name for the resource.
Password, Confirm Password	No	Enter the password that you would like to set for the resource.
Force Password Change at Next Login	No	Select the check box, if you want the resource to change their password when they log in for the first time.
Collaboration Group		Select the collaboration groups. See Create a Group or Help Desk section in the *Administering Oracle Field Service Guide*.
Refresh Rate	No	Enter the duration within which you want the dashboard charts to be refreshed automatically. This auto-refresh applies only to the dashboard charts and not other parts of the application. This field is shown on the **Add Resource** page, only if your administrator has added it.
Initial Ratio for Resource Value		See *How do I set the initial ratio for activity duration?*. **Note:** If you select a resource from the Home page, navigate to the **Resource Info** page, and click Information, then the Initial ratio for Activity duration and Default ratio for Activity duration values are displayed on the **Edit Resource** page.
Locale Settings		
Message Language	Yes	Select the language in which the resource sees the error messages.
Time Zone	Yes	Select the time zone that the resource views in the application.
Time Format	Yes	Select the time format (12–hour or 24–hour) that the resource views in the application.
Date Format	Yes	Select the date format that the resource views in the application.
Long Date Format	Yes	Select the long date format that the resource views in the application. A long date is a date that includes words. For example, Wednesday, May 6, 2020. **Note:** The field displays only for the Technician and Manager/Admin/Dispatcher resource type.

5. Click **Submit**.

Inventory Transactions

You can perform inventory transactions on behalf of a technician, if you have the user type permissions.

You perform the inventory actions on the **Inventory list** page on the Activity details page.

> **Note:** You can see inventory actions such as, install, deinstall, and exchange only when the activity is in a Started status.

↑ Activity Details

Equipment List

Add to Required   Add to Customer

▲ 🏠 Required 1

Inventory Type	Model	Missing Quantity	Installed	Quantity
FIT2100 Treadmill	CT800	1		1

▶ 🚐 Technician 6

Common inventory actions are listed in this section. The actual configuration may differ based on the way your organization has implemented the application.

How do I install inventory?

Use the install inventory action to track equipment or inventory that is moved from the technician's inventory pool to the customer's inventory pool. Typically, technicians install new equipment as part of the activity completion process and the **Add to Installed** action tracks the inventory consumed during the activity.

1. Open an activity that is in Started status.

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2. Open the **Inventory** tab and click **Add to Installed** for the equipment in the technician pool.

   The Add to Installed dialog box appears, as shown in this screenshot:

↑ Equipment List

Add to Installed

Update Inventory

Inventory Type
FIT2100 Treadmill

Model
CT800

Description

Serial Number
2219XC768

Dismiss   Submit

3. Enter the details of the inventory you are installing.

   If this is non-serialized inventory and you enter a value that exceeds the quantity precision that's configured, then the precision is rounded off. For example: Quantity precision for an Inventory type = 2. You enter 1.4552; this is rounded off to 1.46. In general, the half-up rounding rule is applied; that is, 0.5 becomes 1 and 0.4 becomes 0. If you enter extra zeros after the decimal point, then all trailing zeros are trimmed and not displayed in the inventory pool. If you try to install more non-serialized inventory than you have in the pool, then the message, 'The quantity 6.5 exceeded your available quantity of 5. Are you sure you want to proceed?' is displayed.

4. Click **Submit**.

5. Optionally, click **Deinstall.**

   This allows the ability to undo an install if, for example, a device was installed in error.

How do I deinstall inventory?

Use the **Add to Deinstalled** action to track equipment or inventory removed from the customer pool. For example, if a technician removes an existing cable box at the customer premise, the **Add to Deinstalled** action tracks the removal of the equipment.

1. Open an activity that is in Started status.

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2. Open the **Inventory** tab and click the **Add to Deinstalled** link for the equipment in the customer pool.

   The Deinstall inventory dialog appears, as shown in this screenshot:

↑ Equipment List

Add to Deinstalled

Update Inventory

Inventory Type
FIT2100 Treadmill

Model
CT800

Description

Serial Number
2219XC768

Dismiss   **Submit**

3. Enter the details of the inventory you are deinstalling.

   If this is non-serialized inventory and you enter a value that exceeds the quantity precision that's configured, then the precision is rounded off. For example: Quantity precision for an Inventory type = 2. You enter 1.4552; this is rounded off to 1.46. In general, the half-up rounding rule is applied; that is, 0.5 becomes 1 and 0.4 becomes 0. If you enter extra zeros after the decimal point, then all trailing zeros are trimmed and not displayed in the inventory pool. If you try to deinstall more non-serialized inventory than you have in the pool, then the message, 'The quantity 6.5 exceeded your available quantity of 5. Are you sure you want to proceed?' is displayed.

4. Click **Submit**.

   Equipment now shows as **Deinstalled**.

How do I exchange the inventory installed for a customer?

Use the exchange action to replace equipment on the customer's premises with a piece of equipment from the technician's inventory pool.

Here's an example of an inventory exchange. Let's say a DVR set top box is being upgraded to a new model. The technician initiates an exchange action, which removes the equipment from the customer's pool and installs the upgraded box from the technician's inventory pool.

1. Open an activity that is in Started status.

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2. Open the **Inventory** tab and click **Exchange**.

3. On the **Inventory exchange** window, select another serialized inventory from the technician's inventory pool with which you want to exchange the customer's inventory.

4. Click **OK**.

   When you exchange inventory, the original equipment in the customer pool shows as **Deinstalled** and the newly swapped device shows as **installed**.

How do I suspend an activity?

You can suspend an activity and return to it at a later time in the route.

You can suspend both started and pending activities. The started activity is always ordered; the pending activity must be ordered.

When you suspend a started activity, the activity has these characteristics:

- You can work on it later during the day.
- A duplicate of the original activity is created in a suspended status.
- The duplicate is created for tracking purposes.

When you suspend a pending activity, it is converted to a not-ordered pending activity.

1. Open the **Activity details** page for the activity.

2. Click **Actions** > **Suspend**.

   The **Suspend activity** dialog box displays and shows the fields configured for your organization.

3. Select the time required to complete the remaining part of the activity in the **Duration** field.

   The duration of the pending activity is the duration you've added here and not the one calculated automatically.

4. Select the reason for suspending the activity from the **Suspend Reason** drop-down list, and enter any notes you think might be helpful.

5. Click **Submit**.

   If you suspend an activity multiple times, the final duration of the activity is considered to be the duration provided for the most recent suspension.

How do I reschedule an activity?

If your user type allows it, you can reschedule an activity for another day. Activities that have crossed the Overnight work time are 'frozen'. You cannot reschedule such activities.

1. From the **Activity details** page, click the activity that you want to reschedule.

2. Click **Actions** > **Reschedule**.

   The **Reschedule Activity** page displays.

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3. Click the date to which you want to move the activity.
   - Blue dates are in the future and can be selected

   - Black dates are in the past and cannot be selected

   Oracle Field Service checks your schedule for the day and then displays the times in your schedule that are available for moving this activity. Rescheduling options include these:
   - Not ordered

   - Set first

   - After (an activity)

   - Set last

   If no schedule information is available, Oracle Field Service displays **Not Ordered** and **Ordered**.
4. Select a rescheduling option for this activity.
5. Review the alerts in the confirmation dialog box, and then click **Submit**.

How do I update an activity location by repositioning the pin?

Sometimes, the activity location can't be resolved, is resolved with a low accuracy, or the site may have multiple entrances. In such cases, you can update the activity location by repositioning the pin on the map manually.

The Reposition button is available when:

- The address is resolved with a high accuracy.

- The address is resolved, but the accuracy is low.

- The address isn't resolved and an approximate location is available.

  Tip: If you've requested Google to change any information on the map, Oracle Field Service may take some time to display it. You can keep refreshing the page to see the change. If not, you can make some insignificant change to the address so that Oracle Field Service sends a new request to update the address.

1. Open the activity for which you want to update the location.
2. On the **Activity Details** page, click **Update Activity Location**.
3. Click **Reposition Pin** and place the pin at the desired location on the map.
4. Click **Update**.

   If you modify only the address fields and click **Resolve**, then the address fields and coordinates are updated. If you reposition the pin without modifying the address, then only the coordinates are updated.

   When you update a location on the map, then the coordinate accuracy is considered as high. For more information about the best practices to resolve the coordinates, see the knowledge article **What are the best practices to resolve geocoordinates in Oracle Fusion Cloud Field Service? (Doc ID 2947220.1)** on My Oracle Support.

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How do I configure the Settings tab?

Use the fields on the Settings tab to define the general information about a scenario step for a message scenario, including the recipient, delivery channel, and other message delivery parameters.

Fields in the Settings tab

Field Name	Description	Possible Values
Name	The name of the step	Name of the steps to a maximum of 64 characters.
Type	The type of step	Start, Inner An inner step is triggered by the results from the start step or a previous inner step. An inner step may or may not be performed depending on the result of the start step. Here's an example of an inner step: let's say you've configured a step to notify a customer by email. You can configure an inner step to notify the technician, if notifying the customer through email fails.
Recipient	The person or entity receiving the message.	Customer, Dispatcher, Resource, Use Static Address **Note:** When you select Customer, Resource, or Dispatcher, the recipient's address is obtained from the activity or resource fields. However, if you select Use Static Address, you must enter a static email address using the *notify@example.com* format. You can enter multiple email addresses, separating each by a comma or semicolon.
Recipients (Add new)	Visible only if you select Use static address in the Recipient field. Click Add new and select the email address of a helpdesk. These options are displayed: • Deliver to helpdesk: The message is broadcast to the helpdesk; it is available in the helpdesk as a system message. Any operator in the helpdesk can take this chat and it will be moved to the operator's active chat list where they can take action. Other operators will not see the message in the helpdesk queue, but they can view this message from the chats in progress menu to know who is working on this message. • Deliver to helpdesk operators: The message is delivered to all the operators within the helpdesk.	Resources or helpdesks
Delivery Channel	The method used to send the message **Note:** The methods used are company-specific and correspond to the list of delivery channels configured for the company.	Email, Set Property (used to set new property value for entities), Collaboration
Sending time	The time when the message is to be sent	Select one of following options: • Day of event

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Field Name	Description	Possible Values
	Note: The messages with **Day of route** option for non-scheduled activities get the status **falsemethod (ACTIVITY_IS_NONSCHEDULED)** as the route date is not defined.	• Time of event • Day of route For example, if you select Day of event, select +, and enter 2 in the Days field, then the messages are sent after two days from the Day of event.
from	The time when the scenario step can start **Note:** This option is not applicable when **Sending time** is **time of event**.	00:00 – 23:59 or 12:00AM – 11:59PM, depending on the time format settings
Sending will time out in	The end of the time range during which the message can be delivered, measured in hours and minutes from the sending time	00:01 – 99:59
Sending delay	Time period in minutes between message creation and message sending	0 – 999
Block messages for specific days	The days of the week on which proactive customer messages should not be sent	Sun – Sat. When a day is selected, messages will not be sent on that day.
Block messages for holidays	Whether proactive customer messages can be sent on company holidays. **Note:** The list of holidays can be configured in **Company Settings** > **Holidays**.	When the check box is selected, messages will not be sent on company holidays.
Blocked messages sending	The number of days to shift proactive customer messages back in the calendar if messages are assigned for a day of the week for which a block is set or if they are assigned to fall on a company holiday when holidays are blocked. **Note:** If a message cannot be sent because it falls on a non-working day or a holiday and cannot be shifted to a working day, it will be blocked with the **falsemethod** status and the **NONWORKING_DAY** description.	0 – 10, when 0 means that the messages will be blocked, because there is no shift of days defined.
Number of attempts on 'failed' status	**Interval** is the maximum number of attempts (including the initial one) to resend a message if it is returned with a **Failed** notification status. The **minutes** field defines the number of minutes between attempts to resend the message. This functionality is available for all messages except **Set property** and **External launch condition**. The **Failed** attempts are ignored if: • Scenario processing has been stopped. (See the Scenarios in which messages are removed section later in this topic.) • The next attempt cannot be scheduled before the message expires.	1 – 999 for both the number of attempts and the minutes between attempts.

Field Name	Description	Possible Values
	• Further attempts are pointless, for example, if the email address is invalid. **Note:** An agent can also stop further **Failed** attempts or change their number using the **fault_attempt** and **stop_further_attempts** fields in a **send_message** response or a **set_message_status** request.	
Number of attempts on 'sent'status	**Interval** is the maximum number of attempts (including the initial one) to resend a message if it is returned with a **Sent** notification status. The **minutes** field defines the number of minutes between attempts to resend the message. This functionality is available only for **External system** messages. The **Sent** attempts are ignored if: • Scenario processing has been stopped. (See the Scenarios in which messages are removed section later in this topic.) • The next attempt cannot be scheduled before the message expires.	1 – 999 for both the number of attempts and the minutes between attempts.
Customer notification time	The time range to be communicated to the customer. If the final status for the message is **Sent** or **Delivered**, the **Customer notification time** is stored in the **time delivered start/end** activity fields. **Note:** This option is available only when the recipient is **Customer.**	Service Window, Delivery Window, ETA.
Reply address	The e-mail address (for example, notify@ofs.oracle.com) for sending notifications when you select Email as the Delivery channel and Customer, Dispatcher, or Resource as the Recipient. If you leave this field blank or enter an incorrect ID, Oracle Field Service uses the default reply address from Oracle (noreply@fs.ocs.oraclecloud.com). This address has the proper SPF and DKIM settings set up for the domain. However, if you use a custom reply address, you must enable SPF and DKIM on your email server. For more information on how to enable SPF and DKIM, see the Configure SPF topic in the Oracle Cloud Infrastructure Documentation.	Any valid email address.
Email address source	The field containing the email address to be used in the 'Email' notification method Not applicable for the 'use static address' recipient	Any field to be selected from the drop-down list of the email address sources available in the system. You can enter multiple email addresses, separating each by a comma or semicolon.

Scenarios in which messages are removed

There are a number of actions in the system which, under certain conditions, might remove the existing messages, if the messages have not yet been sent.

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Activity Start action

Event/Action	Description
Removed Messages	`Reminder, Change, Day before`
Status	`obsolete`
Description	`ACTIVITY_WAS_STARTED`

Activity Cancelation action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_CANCELED`

Activity Notdone action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_NOT_DONE`

Deletion of a Pending Activity action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_DELETED`

Activity Suspend action

Event/Action	Description
Removed Messages	All except `SLA Warning`

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Event/Action	Description
Status	`obsolete`
Description	`ACTIVITY_WAS_SUSPENDED`

Activity Reschedule action

Event/Action	Description
Removed Messages	All except `SLA Warning`
Status	`obsolete`
Description	`ACTIVITY_WAS_RESCHEDULED`

Activity Move action

Event/Action	Description
Removed Messages	`Reminder, Change, Not started, Service window warning, Call ahead, Add`
Status	`obsolete`
Description	`ACTIVITY_WAS_MOVED`

Convert an activity to not ordered

Event/Action	Description
Removed Messages	`Reminder, Change`
Status	`obsolete`
Description	`ACTIVITY_IS_NOT_ORDERED`

Reminder message creation action

Event/Action	Description
Removed Messages	`Customer` messages: Recipient = `Customer`
Status	`obsolete`
Description	`NEW_CUSTOMER_MESSAGE_WAS_CREATED`

Event/Action	Description
Notes	The `Reminder` launch condition is not invoked if the existing customer messages cannot be dropped using the `drop_message` call (if required).

Change message creation action

Event/Action	Description
Removed Messages	`Customer` messages: Recipient = `Customer`
Status	`obsolete`
Description	`NEW_CUSTOMER_MESSAGE_WAS_CREATED`
Notes	The `Change` launch condition is not invoked if an incomplete `Reminder` exists, or if the existing customer messages cannot be dropped using the `drop_message` call (if required).

Cancel visit action

Event/Action	Description
Removed Messages	All (visit related)
Status	`obsolete`
Description	`VISIT_WAS_CANCELED`

Delete visit action

Event/Action	Description
Removed Messages	All (visit related)
Status	`obsolete`
Description	`VISIT_WAS_DELETED`

Start visit action

Event/Action	Description
Removed Messages	`Visit reminder`, `Visit change #`, `Visit day before`
Status	`obsolete`

Event/Action	Description
Description	**VISIT_WAS_STARTED**

Applying new visit formulas action

Event/Action	Description
Removed Messages	All (visit related)
Status	**obsolete**
Description	**VISIT_WAS_RECALCULATED**
Notes	The messages are only removed if the visit is removed as the result of applying formula changes.

Block/Shift messages action

Event/Action	Description
Removed Messages	N/A
Status	**false**
Method Description	**NONWORKING_DAY**
Notes	This removal is performed if message sending of is not allowed for a non-working day (or a holiday) and such message cannot be shifted to an appropriate working day.

How do I configure the subject and body of a message in the Patterns tab?

The **Patterns** tab defines the content of the message that's sent for the scenario step, such as the subject and body. The options for the pattern depend on the selected delivery channel.

Every pattern has a subject and body. Some patterns can be defined for several languages, although English is the default language and it is used if the message step does not include a pattern in another language. The different pattern types are described below.

Patterns can use placeholders to represent actual values that will be inserted when the message is sent. For example, if you want to include the customer's name in a message, you can use the **{activity_customer_name}** placeholder.

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Placeholders

Use placeholders in messages when you want the message to include an actual value for an entity when the message is generated. Placeholders let you create a single message pattern that replaces the placeholders with information specific to each instance, such as the resource time and time of arrival. You can define the type of encoding to be applied to a placeholder value before printing. The encoding can be specified after a name of the placeholder. The | character is used as the delimiter in this case. The following encoding types are supported:

- none
- xml/html
- slashes/cslashes
- cescape
- url
- cgi
- csv_item
- json
- sql_slashes

Here are a couple of examples for encoding placeholder values:

```
CSV: "{pr_address|csv_item}","{pr_comments|csv_item}","{pr_notes|csv_item}"
URL: address={pr_address|cgi}&comments={pr_comments|cgi}&notes={pr_notes|cgi}
```

Email notification pattern

When the delivery channel is email, you can define the subject and body for the message using placeholders to represent the actual value that will be inserted into the message.

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Modify scenario step

Settings   Patterns   Blocking Conditions   Next Steps

Message patterns

Subject (English)	Body (English)
Customers canceled via ETAdirect IVR	This appointment was canceled by the customer: {activity_customer_name} Address: {activity_address} Account: {activity_customer_number} Order: {activity_number}

○ **Generate content on message creation**
◉ **Generate content on message sending**

Cancel   **Modify**

External application notification pattern

External application notification patterns for the message body use XML, as shown in the figure.

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Message patterns	
Subject(English)	Body(English)

ORDER_ADDED	`<message>`
	`<f n="appt_number">{activity_number}</f>`
	`<f n="external_id">{resource_external_id}</f>`
	`<f n="time_slot">{activity_time_slot}</f>`
	`<f n="resource_name">{resource_name}</f>`
	`<f n="XA_Technology_Name">{pr_XA_Technology_Name}</f>`
	`</message>`

Message patterns	
Subject(English)	Body(English)

INSTALL VALIDATION	`<message>`
	`<f n="appt_number">{activity_number}</f>`
	`<f n="external_id">{resource_external_id}</f>`
	`<f n="XA_Service">Validate_Order</f>`
	`<f n="XA_TipoPeticion">Installed</f>`
	`</message>`
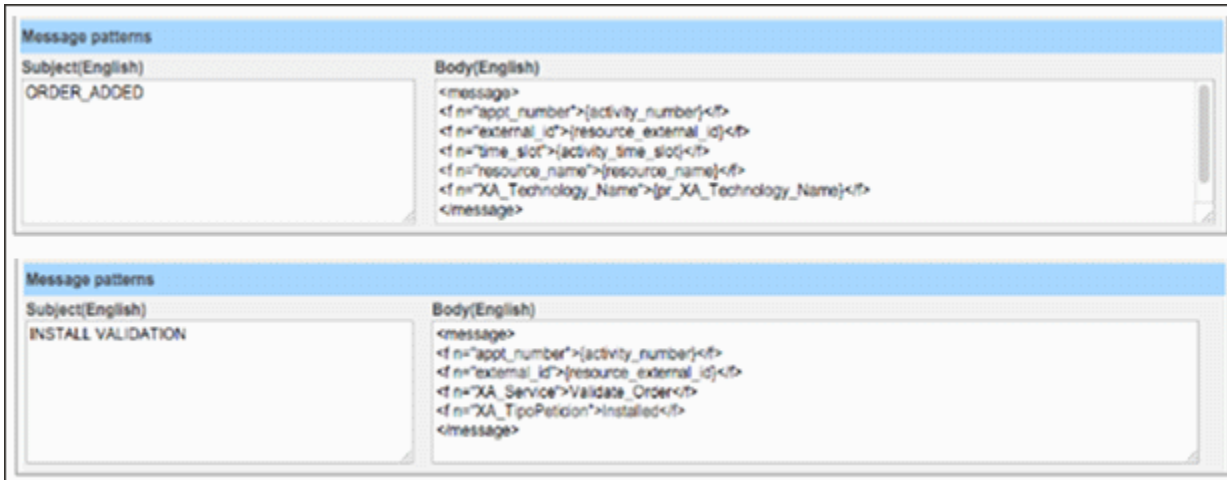
Set property notification pattern

The following message for the **Set property** delivery channel sets the CANCEL_REASON property to the value with index14, indicating a customer request as defined in the property settings. – 'CUSTOMER REQUEST', as is defined in the property settings.

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Settings   Patterns   Blocking Conditions   Next Steps

Message patterns

Subject (English)

CANCEL_REASON

Body (English)

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Subject (Greek)

Body (Greek)

○   **Generate content on message creation**

◉   **Generate content on message sending**

Cancel   Modify

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> **Note:** Values for properties should be defined using an internal format. In particular, use **property_label** to define the subject value. For enumeration properties, use the **index** value in a message body rather than its corresponding translation. Translations for enumeration property values are shown in the following screenshot.

> **Tip:** If you want to delete a custom property, add the property in the **Subject** field and leave the **Body** field blank.

External launch condition notification pattern

In external launch condition patterns, the body defines the activity information to be passed to an external application, as shown in the figure.

Timing of message content generation

The **Patterns** tab also lets you define when the message content should be generated. The options are:

- **On message creation**—This option is intended for use when messages are related to synchronizing activity statuses and assignments. If multiple operations are performed for the same activity within a short time period, a separate message should be generated for each operation. Each message should contain activity details that are accurate at the moment of creation. For example, if several sequential move operations are performed, it might be necessary to include **from** and **to** values in all intermediate messages.

- **On message sending**–This option is recommended for messages that are generated in advance, such as **Day before** and other proactive customer notifications.

What activity message placeholders are available?

These are message placeholders related to activities.

Activity Number placeholder

Placeholder	Description
`activity_number`	ID of the corresponding work order in an external system

Activity Type placeholder

Placeholder	Description
`activity_type`	activity primary type (regular, reopened, prework, multiday_activity, multiday_activity_segment)

Activity Status placeholder

Placeholder	Description
`activity_status`	activity status

Activity Worktype placeholder

Placeholder	Description
`activity_worktype`	activity work type (name)

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Activity Worktype ID placeholder

Placeholder	Description
`activity_worktype_id`	activity work type (id)

Activity Worktype Label placeholder

Placeholder	Description
`activity_worktype_label`	activity work type (label)

Activity Workzone placeholder

Placeholder	Description
`activity_workzone`	activity work zone (name)

Activity Worktype ID placeholder

Placeholder	Description
`activity_workzone_id`	activity work zone (id)

Activity Travel Area placeholder

Placeholder	Description
`activity_travel_area`	activity travel area (name)

Activity Travel Area ID placeholder

Placeholder	Description
`activity_travel_area_id`	activity travel area (id)

Activity Travel Area Label placeholder

Placeholder	Description
`activity_travel_area_label`	activity travel area (label)

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Activity Workskill placeholder

Placeholder	Description
`activity_workskill`	activity work skill (name). can only be used in the 'activity_workskills' block.

Activity Workskill ID placeholder

Placeholder	Description
`activity_workskill_id`	activity work skill (id). can only be used in the 'activity_workskills' block.

Activity Workskill Label placeholder

Placeholder	Description
`activity_workskill_label`	activity work skill (label. can only be used in the 'activity_workskills' block.

Activity Workskill Required Level placeholder

Placeholder	Description
`activity_workskill_required_level`	required work skill level for an activity. can only be used in the 'activity_workskills' block.

Activity Workskill Preferable Level placeholder

Placeholder	Description
`activity_workskill_preferable_level`	preferable work skill level for an activity. can only be used in the 'activity_workskills' block.

Activity Start Time placeholder

Placeholder	Description
`activity_start_time`	estimated start time of the activity ("hh24:mi" format)

Activity End Time placeholder

Placeholder	Description
`activity_end_time`	estimated end time of the activity ("hh24:mi" format)

Activity duration placeholder

Placeholder	Description
`activity_duration`	estimated activity duration

Activity Service Window Start placeholder

Placeholder	Description
`activity_service_window_start`	service window start ("hh24:mi" format)

Activity Service Window End placeholder

Placeholder	Description
`activity_service_window_end`	service window end ("hh24:mi" format)

Activity SLA Window Start placeholder

Placeholder	Description
`activity_sla_window_start`	sla window start ("yyyy-dd-mm hh24:mi" format)

Activity SLA Window End placeholder

Placeholder	Description
`activity_sla_window_end`	sla window end ("yyyy-dd-mm hh24:mi" format)

Activity Delivery Window Start placeholder

Placeholder	Description
`activity_delivery_window_start`	delivery window start ("hh24:mi" format)

Activity Delivery Window End placeholder

Placeholder	Description
`activity_delivery_window_end`	delivery window end ("hh24:mi" format)

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Activity Time Delivered Start placeholder

Placeholder	Description
`activity_time_delivered_start`	start of the time window delivered to customer ("hh24:mm" format)

Activity Time Delivered End placeholder

Placeholder	Description
`activity_time_delivered_end`	end of the time window delivered to customer ("hh24:mm" format)

Activity Traveling Time placeholder

Placeholder	Description
`activity_traveling_time`	estimated travel time from the previous activity (minutes)

Activity Time Slot placeholder

Placeholder	Description
`activity_time_slot`	activity time slot (name)

Activity Time Slot ID placeholder

Placeholder	Description
`activity_time_slot_id`	activity time slot (id)

Activity Time Slot Label placeholder

Placeholder	Description
`activity_time_slot_label`	activity time slot (label)

Activity Time Zone placeholder

Placeholder	Description
`activity_time_zone`	name of the time zone defined for the activity

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Activity Time Zone ID placeholder

Placeholder	Description
`activity_time_zone_id`	id of the time zone defined for the activity

Activity Timezone Label placeholder

Placeholder	Description
`activity_time_zone_label`	label of the time zone defined for the activity

Activity Timezone Diff placeholder

Placeholder	Description
`activity_time_zone_diff`	time difference of the time zone defined for the activity

Activity Customer Name placeholder

Placeholder	Description
`activity_customer_name`	customer's name

Activity Customer Number placeholder

Placeholder	Description
`activity_customer_number`	id of the corresponding customer's account in an external system

Activity Phone placeholder

Placeholder	Description
`activity_phone`	activity/customer contact information

Activity Email placeholder

Placeholder	Description
`activity_email`	activity/customer contact information

Activity Cell placeholder

Placeholder	Description
`activity_cell`	activity/customer contact information

Activity Address placeholder

Placeholder	Description
`activity_address`	location of the activity

Activity City placeholder

Placeholder	Description
`activity_city`	location of the activity

Activity State placeholder

Placeholder	Description
`activity_state`	location of the activity

Activity Zip placeholder

Placeholder	Description
`activity_zip`	location of the activity

Activity Coord Status placeholder

Placeholder	Description
`activity_coord_status`	whether or not the activity coordinates were found

Activity Coordx placeholder

Placeholder	Description
`activity_coordx`	longitude of the activity (of customer's location)

Activity Coordy placeholder

Placeholder	Description
`activity_coordy`	latitude of the activity (of customer's location)

Activity Language placeholder

Placeholder	Description
`activity_language`	customer's messaging language (name)

Activity Language ID placeholder

Placeholder	Description
`activity_language_id`	customer's messaging language (id)

Activity Language Label placeholder

Placeholder	Description
`activity_language_label`	customer's messaging language (label)

Activity Reminder Time placeholder

Placeholder	Description
`activity_reminder_time`	customer's reminder notification time

Activity Position in Route placeholder

Placeholder	Description
`activity_position_in_route`	sequential position (starts from "1") of the corresponding activity in a route

Activity Time of Booking placeholder

Placeholder	Description
`activity_time_of_booking`	time when the activity was booked (customer activities) or created (internal activities). ("yyyy-dd-mm hh24:mi" format)

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Activity Time of Assignment placeholder

Placeholder	Description
`activity_time_of_assignment`	For the activity currently assigned to a resource, the placeholder returns the time when the corresponding move/reschedule/create operation was performed. For the activity in a bucket, the placeholder's value is empty ("yyyy-dd-mm hh24:mi" format).

Activity Link Min Interval placeholder

Placeholder	Description
`activity_link_min_interval`	minimum duration of the time interval between linked activities. This placeholder can only be used in the 'linked_activities' block.

Activity Link Max Interval placeholder

Placeholder	Description
`activity_link_max_interval`	maximum duration of the time interval between linked activities. this placeholder can only be used in the 'linked_activities' block.

What escalation message launch conditions are available?

These condition-driven launch conditions provide notifications about activities that are not started on time.

Not started 1 – This launch condition is invoked when an activity has not been started within a certain time after ETA.

Not started 2 – This launch condition is similar to **Not started 1**. It allows setting the second message with a different delay time. The `Not started` launch condition can only be invoked for a pending ordered activity (regular or reopened) in an activated route which belongs to the current working day. The **Enable not started trigger** feature should be enabled for the corresponding activity type. The **Not started 1** and **Not started 2** messages are independent and can be generated for the same activity at the same time.

Not activated – This message is sent if the resource has not activated their route the defined number of minutes after the planned start of the working day, according to the calendar. It works only once a day for a specific route. The messages are not generated again if the calendar has been changed. If any not activated in time messages are present for the resource at the moment of route activation, these messages become obsolete. For a new resource the Not activated in time messages are only generated on the next day (in the company time zone) after its creation. This launch condition is only invoked for resources with the **Enable Not activated in time alert and trigger** feature enabled.

Service window warning - This message is intended to notify of a possibility to lose the service window. It is sent in the case when the Activity has not been started within the defined number of minutes before the service window end.

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This trigger is only invoked for pending ordered activities (regular or reopened) in an activated route with a service window that belongs to the current working day. This trigger is invoked only once per activity. You should also activate the **Enable SW Warning trigger** feature for the corresponding activity type.

Configure this trigger using the threshold parameter near the **Service window warning** trigger selector on the **Notification Triggers** screen. It defines the number of minutes before the end of service window that is used in the condition.

SLA window warning – This message is intended to notify of a possibility to lose the SLA window. This trigger is only invoked for pending or started activities (regular or reopened). The warning is sent if the activity has not been started (for pending activities) or completed (for started activities) the defined number of minutes before the SLA window end. It is invoked only once per activity. But, if SLA window end has changed after the generation of the SLA window warning messages, the trigger can be invoked again.

Configure this trigger using the threshold parameter (**hours/minutes**) near the **SLA window warning trigger** selector on the **Notification Triggers** screen. It defines the number of minutes before the end of the SLA window that is used in the condition.

> **Note:** For more information, see the *Add a launch condition for a message scenario* section.

How does the Call Ahead launch condition work?

This action-driven launch condition is initiated when a technician completes the previous activity or marks an activity as En route.

The launch condition is typically used to:

- Inform the customer.
- Initiate provisioning or hardware test while the resource is on the way.

When configured, the **Complete Activity** page has the mandatory Next Activity field. The resource is to select the next activity. When the resource submits the Complete Activity form, the application generates the `Call ahead` trigger for the next activity (selected by the resource).

Similarly, if the En route option is enabled and a technician sets the status of an activity as En route, the application generates the `Call ahead` trigger for the next activity in the route. You can use this trigger to notify your customers.

> **Note:** For more information, see the *Add a launch condition for a message scenario* section.

What's the Set Property method?

One of the delivery channels for a scenario step is **Set Property**. When you select this method, the message scenario can update all company-defined properties, except file properties.

The `set_property` method can update the following entities:

- Activity (except mass/repeating)

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- Inventory
- Resource
- User

The property values must use an internal format. In particular, use the index values for enumeration properties rather than their translations. In the **Subject** field, specify a label for the property you are assigning. Do not use a **pr_** or **prnum_** prefix for the label.

The `set_property` method supports the following predefined list of activity fields. Additional predefined fields are not available.

- appt_number
- customer_number
- customer_name
- cell (or "sms")
- address
- city
- state
- zip
- email
- phone
- points
- time_slot
- service_window (hh:mm; hh:mm)
- sla_window_start
- sla_window_end
- action (Only the `cancel_activity` and `unschedule_activity` action are supported. See the following sections for more details.)

What are the blocking conditions available for activities?

You can use these blocking conditions with activities.

Activity Status Blocking Condition

Activity Status	
Condition name	`[appt_status]`
Condition type	Activity
Description	Checks activity status
Valid values/format	`started`, `completed`, `suspended`, etc.

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Activity Status	
Case sensitive?	No
Suggested functions	**IN, NOT IN**

Customer Number Blocking Condition

Account Number	
Condition name	**[customer_number]**
Condition type	Activity
Description	Checks the account number
Valid values/format	text

Activity Type Blocking Condition

Activity Type	
Condition name	**[appt_type]**
Condition type	Activity
Description	Checks the activity type
Valid values/format	**regular, reopened, prework, multiday_activity, multiday_activity_segment**
Case sensitive?	No
Suggested functions	**IN, NOT IN**

Activity Time of Assignment blocking condition

Activity Time of Assignment	
Condition name	**[atime_of_assignment]**
Condition type	Activity
Description	Checks the time the activity is assigned in the time zone of the assigned resource.
Valid values/format	**YYYY-MM-DD HH24:MI:SS**
Suggested functions	**IS NULL, IS NOT NULL, CONTAINS, DOESN'T CONTAIN, <, >**
Example 1	**Condition**: **'Time of assignment' CONTAINS '2012-05-21' Result**: Blocks all activities that were assigned during **'2012-05-21'**
Example 2	**Condition**: **'Time of assignment' <'2012-05-21' Result**: Blocks all activities that were assigned before **'2012-05-21'**

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Activity Time of Booking Blocking Condition

Activity Time of Booking	
Condition name	`[atime_of_booking]`
Condition type	Activity
Description	Checks the time the activity is booked in the time zone of the assigned resource.
Valid values/format	`YYYY-MM-DD, HH24:MI:SS`
Suggested functions	`IS NULL, IS NOT NULL, CONTAINS, DOESN'T CONTAIN, <, >`
Example 1	**Condition**: `'Time of booking' CONTAINS '2012-05-21'` **Result**: Blocks all activities that were booked during `'2012-05-21'`
Example 2	**Condition**: `'Time of booking' < '2012-05-21'` **Result**: Blocks all activities that were booked before `'2012-05-21'`

Activity Work Type Blocking Condition

Activity Type	
Condition name	`[aworktype]`
Condition type	Activity
Description	Checks the activity work type
Valid values/format	Activity type IDs
Notes	This condition can be used with both activity types and their groups.

Address Blocking Condition

Address	
Condition name	`[caddress]`
Condition type	Activity
Description	Checks the activity address
Valid values/format	text

Calendar Days from Activity Assignment blocking condition

Calendar Days from Activity Assignment	
Condition name	`[calendar_days_from_activity_assignment]`
Condition type	Activity

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Calendar Days from Activity Assignment	
Description	Calculated as the number of calendar days from the activity assignment date to the current date of the resource.
Valid values/format	integer >= 0
Suggested functions	`IN, NOT IN, <, >, <=, >=`
Example 1	**Condition**: `'Calendar days from activity assignment' <= 1` **Result**: Blocks all activities that were assigned yesterday `(1)` or today `(0)`.
Notes	Both dates have the same time zone difference.

Calendar Days from Activity Booking blocking condition

Calendar Days from Activity Booking	
Condition name	`[calendar_days_from_activity_booking]`
Condition type	Activity
Description	Calculated as the number of calendar days from the activity booking date to the current date of the resource the activity is assigned to.
Valid values/format	integer >= 0
Suggested functions	`IN, NOT IN, <, >, <=, >=`
Example 1	**Condition**: `'Calendar days from activity booking' <= 1` **Result**: Blocks all activities that were booked or created yesterday `(1)` or today `(0)`.
Notes	Both dates have the same time zone difference.

Capacity Categories blocking condition

Capacity Categories	
Condition name	`[activity_capacity_categories]`
Condition type	Activity
Description	Selects activities that belong to the given capacity category.
Valid values/format	Capacity category IDs
Suggested functions	`IN` - the activity belongs to all provided categories. `NOT IN`- the activity belongs to none of the categories provided in the list.
Notes	The same rules apply as in Quota Management.

City blocking condition

City	
Condition name	`[ccity]`
Condition type	Activity
Description	Checks the city of the activity location.
Valid values/format	text

Coordinate Status blocking condition

Coordinate Status	
Condition name	`[acoord_status]`
Condition type	Activity
Description	Checks whether or not the current activity coordinates were found
Valid values/format	`found, not_found, invalid`

Coordinate X blocking condition

Coordinate X	
Condition name	`[acoord_x]`
Condition type	Activity
Description	Checks the longitude of the activity location
Valid values/format	A longitude value, such as `37.40562` or `-79.42639`

Coordinate Y blocking condition

Coordinate Y	
Condition name	`[acoord_y]`
Condition type	Activity
Description	Checks the latitude of the activity location
Valid values/format	A latitude value, such as `22.831438`

Days from Activity Assignment blocking condition

Days from Activity Assignment	
Condition name	`[days_from_activity_assignment]`
Condition type	Activity
Description	The number of full days elapsed between the time the activity was assigned and the current time.
Valid values/format	integer >= 0
Suggested functions	`IN, NOT IN, <, >, <=, >=`
Example	**Condition**: `'Days from activity assignment' = 0` **Result**: Blocks all activities assigned within the last 24 hours. If the current time is `'2012-09-27 08:28:22'`, the condition will return the activity that was assigned on `'2012-09-26 19:17:00'`.

Days from Activity Booking blocking condition

Days from Activity Booking	
Condition name	`[days_from_activity_booking]`
Condition type	Activity
Description	The number of full days elapsed between the time the activity was booked and the current time.
Valid values/format	integer >= 0
Suggested functions	`IN, NOT IN, <, >, <=, >=`
Example	**Condition**: `'Days from activity booking' = 0` **Result**: Blocks all activities booked within the last 24 hours. If the current time is `'2012-09-27 08:28:22'`, the condition will return the activity that was booked on `'2012-09-26 19:17:00'`.

Days to Activity blocking condition

Days to Activity	
Condition name	`[days_to_appt]`
Condition type	Activity
Description	Returns the number of days from the message creation to the activity.
Valid values/format	integer >= 0
Suggested functions	`IN, NOT IN`

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Activity Scheduled? blocking condition

Activity Scheduled?	
Condition name	`[is_activity_scheduled]`
Condition type	Activity
Description	Checks if the activity is scheduled
Valid values/format	**1** or **<empty>**
Suggested functions	`IS NULL, IS NOT NULL`
Notes	This condition cannot be used in the `cancel activity` scenario. This constraint is related to the two-phase nature of the `Cancel non-scheduled activity` action.This action consists of two steps: 1. Making the activity `scheduled` (moving it to the current day). 2. Performing the`cancel` action. According to this scenario, the launch condition is invoked when the activity is already `scheduled`. Therefore, the condition is always `false`.

Message Language blocking condition

Message Language	
Condition name	`[clanguage]`
Condition type	Activity
Description	Checks the language of the message to be sent to the customer
Valid values/format	Language IDs
Suggested functions	`IS NULL, IS NOT NULL`
Notes	This condition is true for both segmentable activities and individual segments which can be distinguished by the value of the `Type` field. For segmentable activities the `Type` value is `multiday_activity`, while for segments it is `multiday_activity_segments`.

Customer Name blocking condition

Name	
Condition name	`[cname]`
Condition type	Activity
Description	Checks the customer name
Valid values/format	text

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Not Ordered Activity blocking condition

Not Ordered Activity	
Condition name	`[all_day_flag]`
Condition type	Activity
Description	Checks if the activity is not ordered
Valid values/format	`1` or `<empty>`
Suggested functions	`IS NULL, IS NOT NULL`

Pending Activity Order blocking condition

Pending Activity Order	
Condition name	`[pending_activity_order]`
Condition type	Activity
Description	Checks the offset of a pending activity from the start of the route to which this activity belongs
Valid values/format	integer >= -1
Suggested functions	`IN, NOT IN, <, >, <=, >=`
Example	**Condition**: `'Pending activity order' = 1` **Result**: Blocks the first pending activity in the route.
Notes	The following logic applies:– "1..." pending ordered activity in the route (offset from the route start)– "1" pending ordered in the bucket– "1" pending ordered non-scheduled activity– "-1" pending not ordered activity– "0" started, completed, canceled, notdone, suspended activity

Phone blocking condition

Phone	
Condition name	`[phone]`
Condition type	Activity
Description	Checks the customer's phone number
Valid values/format	text
Notes	Takes into account whether the contact can be used with messages.

Email Address blocking condition

Email Address	
Condition name	`[email]`

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Email Address	
Condition type	Activity
Description	Checks the customer's email address
Valid values/format	text
Notes	Takes into account whether the contact can be used with messages.

Cellular Phone blocking condition

Cellular Phone	
Condition name	[cell]
Condition type	Activity
Description	Checks the customer's cell phone number
Valid values/format	text
Notes	Takes into account whether the contact can be used with messages.

Points blocking condition

Points	
Condition name	[apoints]
Condition type	Activity
Description	Checks the number of points assigned to the activity
Valid values/format	integer

Position in Route blocking condition

Position in Route	
Condition name	[position_in_route]
Condition type	Activity
Description	Checks the activity position in the route
Valid values/format	integer

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Reminder blocking condition

Reminder	
Condition name	**[cmessagetime]**
Condition type	Activity
Description	Checks the number of minutes before the **Notification base** when reminder notification is to be generated
Valid values/format	integer

SLA Start blocking condition

SLA Start	
Condition name	**[sla_window_start]**
Condition type	Activity
Description	Checks the start of the activity SLA window
Valid values/format	**YYYY-MM-DD,HH24:MI:SS**

SLA End blocking condition

SLA End	
Condition name	**[sla_window_end]**
Condition type	Activity
Description	Checks the end of the activity SLA window
Valid values/format	**YYYY-MM-DD,HH24:MI:SS**

Service Window End blocking condition

Service Window End	
Condition name	**[service_window_end]**
Condition type	Activity
Description	Checks the end of the activity service window
Valid values/format	**HH24:MI**

Service Window Start blocking condition

Service Window Start	
Condition name	**[service_window_start]**
Condition type	Activity
Description	Checks the start of the activity service window
Valid values/format	**HH24:MI**

Start blocking condition

Start	
Condition name	**[eta]**
Condition type	Activity
Description	Checks if the activity has an ETA
Valid values/format	**HH24:MI:SS**
Suggested functions	**IS NULL, IS NOT NULL**

State blocking condition

State	
Condition name	**[state]**
Condition type	Activity
Description	Checks the area name of the activity (state, county, land, etc.)
Valid values/format	text

Time Slot blocking condition

Time Slot	
Condition name	**[time_slot]**
Condition type	Activity
Description	Checks the label of the activity time slot

Time Zone blocking condition

Time Zone	
Condition name	`[c_zid]`
Condition type	Activity
Description	Checks the activity time zone
Valid values/format	Time zone IDs

Time Notified blocking condition

Time Notified	
Condition name	`[time_delivered]`
Condition type	Activity
Description	Checks the start time of arrival interval communicated to the customer
Valid values/format	`HH24:MI`
Suggested functions	`IS NULL, IS NOT NULL`
Notes	This condition works both for a single activity and a visit. If the message is based on a visit, it refers to the visit's field instead of the activity's field.

Travel Area blocking condition

Travel Area	
Condition name	`[atravelarea]`
Condition type	Activity
Description	Checks the activity travel area
Valid values/format	Travel area IDs

Traveling Time blocking condition

Traveling Time	
Condition name	`[travel]`
Condition type	Activity
Description	Checks the travel time from the previous activity/location to the current activity
Valid values/format	integer

Work Order blocking condition

Work Order	
Condition name	**[appt_number]**
Condition type	Activity
Description	Checks the activity work skills
Valid values/format	Work skill IDs
Suggested functions	**IS NULL** - The activity doesn't require any work skills. **IS NOT NULL** - The activity requires at least one work skill. **IN** - The activity requires all the provided work skills. **NOT IN** - The activity requires none of the provided work skills.
Example 1	**Activity #1 work skills:** **Install IPTV (1),English (10)** **Activity #2 work skills:** **Install IPTV (1), Spanish (11)** **Condition:** **Activity work skill IN (1)** **R**
Example 2	**Condition:** **Activity work skill IN (1, 10)** **Condition:** **Activity work skill NOT IN (1,10** **Result: <NONE>**
Notes	Groups of work skills are also supported. In this case a group is handled as any work skill it includes.

ZIP/Postal Code blocking condition

ZIP/Postal Code	
Condition name	**[czip]**
Condition type	Activity
Description	Checks ZIP (postal code)
Valid values/format	text

Time Delivered End blocking condition

Time Delivered End	
Condition name	**[ctime_delivered_end]**
Condition type	Activity
Description	Checks the end time of arrival interval communicated to the customer
Valid values/format	**YYYY-MM-DD, HH24:MI:SS**
Suggested functions	**IS NULL, IS NOT NULL**

Time Delivered Start blocking condition

Time Delivered Start	
Condition name	**`[ctime_delivered_start]`**
Condition type	Activity
Description	Checks the start time of arrival interval communicated to the customer
Valid values/format	**`YYYY-MM-DD, HH24:MI:SS`**
Suggested functions	**`IS NULL, IS NOT NULL`**

Delivery Window End blocking condition

Delivery Window End	
Condition name	**`[delivery_window_end]`**
Condition type	Activity
Description	Checks the delivery window end
Valid values/format	**`HH24:MI:SS`**

Delivery Window Start blocking condition

Delivery Window Start	
Condition name	**`[delivery_window_start]`**
Condition type	Activity
Description	Checks the delivery window start
Valid values/format	**`HH24:MI:SS`**

How do I add a plug-in to a page?

You add a plug-in to a context layout page, so that Field Resources can open it. You can configure the parameters for a button to send the parameters to the plug-in, or to open a specific page, or another plug-in.

1. 1. Click **Configuration** > **User Types**.
2. Select the type of user for which you want to add the plug-in.
3. Click **Screen configuration**.
4. Find and click the page to which you want to add the plug-in.

   The **Visual Form Editor** page appears. Plug-ins are available not only on the Visual Form Editor, but on old context layout structures such as Parts Details as well. On such pages, add an action and select a plug-in from the list.

5. Drag-and-drop the **Button** element to the section from where you want to invoke the plug-in.

> **Note:** You cannot add buttons to context layout structures that are responsible for changing the state of an activity, simultaneously with submitting data. Some of the context layout structures where you cannot add buttons are Add activity, Not done activity, Install inventory, End activity. Further, you cannot remove or change the visibility of the two predefined buttons on these pages: Dismiss and Submit. This is to preserve the data integrity within transitions between states.

6. Click the button.
7. In the **Standard action screen** field, click the pencil icon.
8. Select **Plug-ins**.
9. In the **Screens list**, select the name of the plug-in that you want to open and click **OK**.

   The label of the plug-in is displayed in the **Plug-in** field. By default all plug-ins have a visibility of Read-only.

10. In the **Visibility** section, add the conditions based on which the plug-in is visible.
11. In the **Translations** section, add a name for the plug-in. [Optional]

    This name is displayed on the page from which the plug-in will be invoked. This screenshot shows the Visual Form Editor page where a plug-in is added to a Button element:
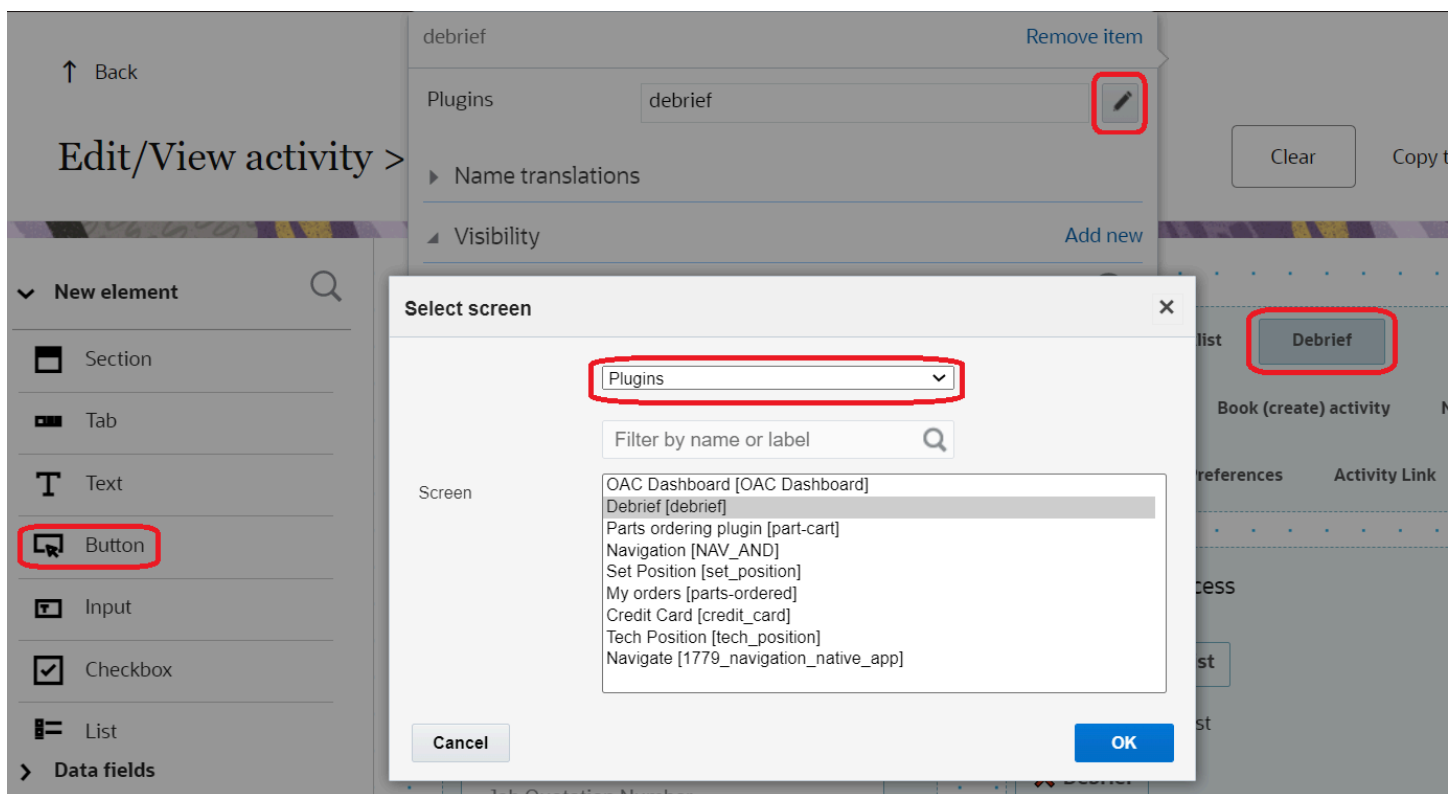
If you retain the default name and if you happen to change the name of the plug-in later, the new default name is populated automatically.

12. To configure the parameters:

    a. Click **Add new** in the **Parameters** section.

    b. Enter a name for the parameter in the **Name** field.

        For example, enter defaultScreen to define a page as the default page in the plug-in. The maximum length of the name that you can enter is 248 characters.

    c. Enter a value for the parameter.

        For example, enter part_order to display the Part order page as the default page in the plug-in. The maximum length of the value that you can enter is 4000 characters.

    d. Click **Save**.

    e. Repeat the procedure for all the parameters that you want to configure.

        The total combined length of all parameter names and values must not exceed 5000 characters. These parameters are not encrypted when sent to the plug-in.

13. Click **Save** on the **Visual Form Editor** page.

    The plug-in is added to the selected page.

How does routing work?

Oracle Field Service Routing leverages a sophisticated algorithm to optimize resource utilization. It learns about your resources and activities through the information you enter and through the real-time data that it collects about resources and activities. The application then uses this information to generate routes that optimize the mobile workforce utilization details.

Oracle Field Service Routing includes the logic to consider the resource arrival time communicated to the customer, so that the company's commitments can be fulfilled. If the customer has been notified of the arrival period (both the start and end time of the arrival period have been communicated), and such arrival period overlaps the Service Window, the module uses this overlap as the interval within which the activity start is preferred to be scheduled.

Here is the data flow of the routing process:

- Oracle Field Service receives activities from the activity booking system. The application identifies the necessary skills and skill levels for the activity as well as any other requirements and then identifies resources with a matching set of skills, skill levels, working areas and other constraints. Then Oracle Field Service Routing assigns the activity to the resource that best matches the requirements. If a resource is selected as the Preferred resource for an activity, the resource is given priority. However, when a Preferred resource is inactive or unavailable, other appropriate resources are selected. The company realizes cost savings through efficiencies, resources receive routes that are tailored to their skill levels and their locations, and customers receive quality service on time.

- Oracle Field Service Routing always considers the assignment requirements established for activities and resources in Oracle Field Service. This includes - work skills, work zones, activities forbidden, required resources, activity links constrains and resource calendars. Routing plan level settings let you configure additional constrains and priorities; however, it is not possible to minimize the standard constrains at the plan level.

Note: Routes are optimized using a number of different goals, not just the ones that you select. For example, if you build a routing strategy that optimizes travel and work time, the application prioritizes not just the optimization of travel time and work, but it also maximizes a number of assigned activities and minimizes resources overtime as additional optimization goals.

What are routing profiles and plans?

You can create or modify a custom routing profile or plan.

Routing Plan

Routing plans define the optimization strategies for a company. A company may have several strategies such as:

- a strategy for customer facing activities and employees
- a strategy for internal maintenance activities and employees (if the organizations are managed separately)
- a strategy for morning time, for noon, and for after hours (for example, the morning strategy prioritizes the travel optimization most, noon prioritizes activities that are older then 3 days, after hours works with VIP customers activities, or highest priority problems only)
- a strategy for weekdays
- a strategy for weekends (weekends have a different number of field employees, different service layer agreements, which can be similar to morning but running morning, noon, and after hours)

Routing Profile

A routing profile is a group of all the required routing plans. A routing profile can be assigned to many buckets, so that the customer need not copy the plans for each bucket, and only the plans that are from the assigned profiles are available for the bucket. This ensures that the strategies for different buckets, related to different lines of business or regions are not mixed with other buckets. To run routing on a bucket, you must have a non-empty routing profile assigned to the bucket.

How Access Schedule Impacts Routing

Generally no work is done beyond the hours defined by the *Access Schedule*. Therefore, routing plans including urgent, immediate, and bulk routing will not schedule activities outside of the *Access Schedule*. The only exception is when the activity is manually scheduled to be performed beyond Access Hours. In this case, routing ignores the access hours and uses the service window for routing activities.

If a Service Window is configured for an activity with Access Hours then the Access Hours will be not be used for routing assignment. The Service Window will override the provided Access Hours.

How do I add a routing profile?

Routing profiles contain one or more routing plans that run against a bucket.

To add a routing profile:

1. Click **Routing** to open the **Routing** screen.
2. Select **Routing Plans** to display the routing plans and routing profiles available for the selected bucket or resource.
3. Click **Add routing profile** located on the toolbar.
   The **Add routing profile** dialog box displays.
4. Type the name of the routing profile in the **Routing profile name** field.
5. Select the **Active** check box.
6. Click **Add**.
   The new profile displays in the **Routing Profiles** list.

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How do I create a routing plan?

Routing plans provide the rules to use when deciding how to route activities to resources. When you create a new routing plan, you select the routing profile to assign it to in the first step.

Before you start

You must create a Routing Profile before creating a routing plan.

To create a routing plan:

Here's what to do

1. Navigate to the **Routing Profiles** screen.
2. Find the routing profile to which you want to add the routing plan.
3. Click **Add routing plan** in the **Actions** column.

   A new routing plan template displays.
4. Expand each section and add values as necessary.
5. Click **Add**.

   Before you can run a routing plan against a bucket, you must assign the routing profile that contains the routing plan to the bucket.

Related Topics
- How do I add a routing profile?
- How do I assign a routing profile to a bucket?

How do I assign a routing profile to a bucket?

You must assign a routing profile to each bucket so that the routing plans in that profile can run against the buckets.

To assign a routing profile to a bucket:

1. Click **Routing**.
2. Select the bucket for which you want to assign the routing profile from the resource tree.
3. Click **Routing Plans**.

   Bucket has no Routing Profile is displayed.
4. Click **Assign Routing Profile**.

   The **Select Routing Profile** dialog box displays.
5. Select the routing profile that you want to assign to this bucket from the drop-down list.
6. Click **Update**.

   Note: If you select the blank value from the **Routing Profile** drop-down list and click **Update**, any previous profile assignments for the selected bucket are removed.

Results:

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The Routing Plans block shows the routing plan for the selected bucket.

How do I delete a routing plan?

You can delete a routing plan from the **Routing Profiles** screen, as long as it doesn't have a Routing Summary report.

Before you start

A Routing plan belonging to a sequence cannot be deleted unless detached from the sequence.

To delete a routing plan:

Here's what to do

1. Navigate to the **Routing Profiles** screen.
2. Select the routing plan to delete.

   You cannot delete the routing plans for which the activities that were routed are still available in the application (including the activities that are not yet deleted by your retention policy).
3. Click the **Delete** link in the **Actions** column.

   A confirmation message displays.
4. Click **Yes** to delete the selected routing plan.

Related Topics
- How do I configure a sequential routing plan?

How do I configure a sequential routing plan?

The configuration of a sequential Routing run always includes selection of a predecessor Routing plan, that is, the one to be completed before the current one starts. Any Routing plan, regardless of its schedule, can be selected as predecessor. However, any Routing plan can have only one successor, therefore, whenever a sequence has already been created, the predecessor Routing plan of such sequence can no longer be selected for other sequences. Its name is disabled in the list.

This screenshot shows the settings for a sequential routing plan:

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Sequential Routing plans can be used as predecessors creating longer sequences, if the business needs so require. Other routing plan settings depend on the company specifics and are not influenced by the sequential nature of the Routing plan.

> **Note:** Routing plan sequences can only be created within one routing profile. Sequences of Routing plans between different Routing profiles are not supported. The Routing plan summary shown in the Routing plan header contains its schedule – Sequentially after [predecessor_Routing_plan_name].

A Routing plan belonging to a sequence cannot be deleted unless detached from the sequence. On an attempt to delete such Routing plan, the action is rejected with the [Routing_plan_name] is already in use and cannot be deleted error message. To detach a Routing plan, change the schedule from **sequentially** to any other, starting from the last plan in the sequence. This restriction applies to all plans in a sequence regardless of their position. The system prevents creation of Routing plan chains forming closed loops in which the first plan is to be started after the completion of the last one. If the first Routing plan in the sequence is changed to the sequential schedule to start after the completion of the last plan in the same sequence, the modification is rejected with the Routing plan {plan_name} cannot be processed error message.

How do I configure the run schedule for a routing plan?

The run schedule identifies when you want the plan to run, how often you want to run it, and whether you want to run it over multiple days. You can also specify the day's activities to run the plan against. The run schedule that you choose affects the information you can share with your customers through notifications. For example, to launch a notification the afternoon before an activity, but you don't run routing until the evening, your notification will not include the time slot.

To configure the run schedule for the Routing Plan:

1. Navigate to the **Routing Profiles** page and locate the routing plan that you want to configure.

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2. In the **Actions** column, click **Modify**.

The **Edit Routing Plan** screen appears.

3. Expand **Run Schedule**.

4. Configure one of the following routing plans:

    a. Create a plan to start routing manually:

        i. Select Manually from the **Run routing** drop-down list.

        ii. Enter a number in the **Apply to activities within day interval** field. The activities selected for this routing plan are executed within the number of days selected in this field, starting the selected day.

        iii. Select the duration for which the plan must run in the **Time limit** field.

    This figure shows an example of a manual routing plan:

    b. Create a recurring routing plan:

        i. Select Recurrent from the **Run routing** drop-down list.

        ii. Enter a number in the **Apply to activities within day interval** field. The activities selected for this routing plan are executed within the number of days selected in this field, starting the selected day.

        iii. Select the start and end time at which the routing plan must run, in the **Start time** and **End time** fields.

        iv. Enter the interval between each run in the **Interval between runs in minutes** field.

        v. Check the boxes corresponding to the days on which the routing plan must run recurrently, in the **Activity days** field.

        vi. Select the duration for which the plan must run in the **Time limit** field. This time denotes the maximum number of minutes and seconds that the routing plan will run before producing a result. When the application launches a routing plan, it runs the plan over and over again until it either finds

the best match or the time limit expires, whichever comes first. Three minutes is usually sufficient. The maximum time limit possible is 20 minutes.

c. Create a plan that runs once a day:

   i. Select **once a day** from the **Run routing** drop-down list.

   ii. The activities selected for this routing plan are executed within the number of days selected in the **Apply to activities within day interval** field, starting the selected day. The default value is 1.

   iii. The **Start day for activity processing** field is used in the Once a Day and Recurrently plans. New values for Start day for activity processing allow to run routing starting at 2, 3 or 4 weeks in future.

   Select one of these values from the drop-down list:

   - yesterday
   - today
   - tomorrow
   - +2 days
   - +3 days
   - +4 days
   - +5 days
   - +6 days
   - +7 days
   - +8 days
   - +2 weeks
   - +3 weeks
   - +4 weeks

   iv. Enter the time at which the routing plan must run, in the **Time of run** field.

   v. The **Activity days** field specifies the days on which activities are scheduled.

   vi. Select the duration for which the plan must run in the **Time limit** field. This time denotes the maximum number of minutes and seconds that the routing plan will run before producing a result. When the application launches a routing plan, it runs the plan over and over again until it either finds

the best match or the time limit expires, whichever comes first. Three minutes is usually sufficient. The maximum time limit possible is 20 minutes.

This figure shows an example of a plan that runs once a day:

d. Create a plan that runs immediately:

   i. Select Immediately from the **Run routing** drop-down list.

   ii. Select one of the following options:

   - **for Urgent Activities**: Activities are assigned and scheduled the same day, regardless of whether this assignment disrupts other scheduled activities. In this case, the SLA is not honored for the activity.
   - **activities that correspond with filter**: Only those activities that correspond to the selected filter are assigned immediately. Such activities can also be bundled with other activities that are scheduled for the same location and bucket in the near future.

   The image shows the Run routing field in the Add Routing Plan screen:

        iii. Use the **Assignment and Bundling within __ day interval starting** fields to configure bundling activities.

  e. Create a plan that runs sequentially after another plan:

        i. Select Sequentially from the **Run routing** drop-down list.

        ii. Select the plan that must run before the current plan, from the **after the completion of** drop-down list.

        iii. Select the duration for which the plan must run in the **Time limit** field. This time denotes the maximum number of minutes and seconds that the routing plan will run before producing a result. When the application launches a routing plan, it runs the plan over and over again until it either finds the best match or the time limit expires, whichever comes first. Three minutes is usually sufficient. The maximum time limit possible is 20 minutes.

5. Use Street Level Routing (SLR) to obtain travel data in your routing plan:

This feature can be used with routing runs that run Manually, Once a Day, Recurrently and Sequentially; it is not available for Immediate routing runs. To improve the quality of the routing run with SLR, configure the plan with adequate time to gather enough SLR data. We recommend that you allocate a minimum of five (5) minutes for Once a day and Manual routing plans. This time will vary based on your business and the amount of activities to be optimized. You may increase the time if needed.

The Run schedule section shows the **Use SLR to obtain travel data** check box. This indicates that the time limit includes extra time for SLR data.

  a. Select the **Use SLR to obtain travel data** check box.

  b. Select the duration in the **Time limit** field to adjust the time limit accordingly.

      The routing run time includes both gathering SLR data and using that data to run Routing.

      In some situations when there are a large number of pending activities, every point to point travel combination cannot be obtained in the allotted time period. When this occurs, routing will use SLR data

and learning travel data to optimize the routes. This ensures routes are optimized quickly with the optimal combination of travel data.

The figure shows the Run schedule section in the Add Routing Plan screen:
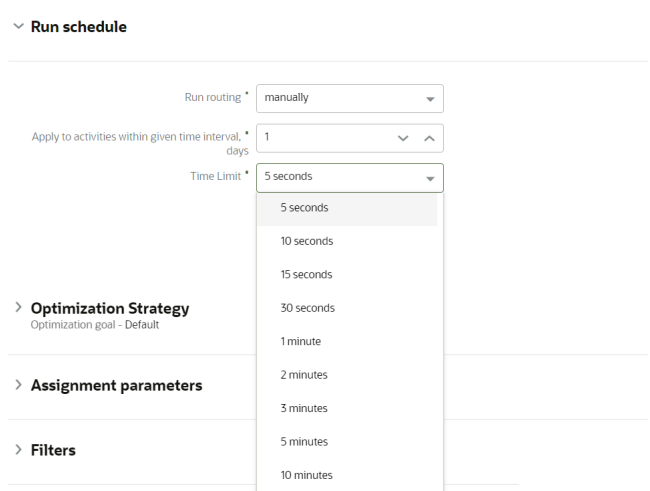
> **Note:** SLR in Routing requires a subscription to Oracle Field Service Enterprise and Oracle Field Service Standard Map Service with Google Maps or Oracle Field Service Standard Map Service with Baidu Maps.

6. Click **Add** to save your changes.

> **Note:** In some cases, when routing's evaluation has to terminate due to time limit, it consumes slightly more time than configured. This is because termination cannot occur at the arbitrary point; it occurs only after the completion of the current block of computations.

How do I fine-tune a routing plan to achieve specific goals?

You can set the Assignment Parameters to further configure or fine-tune the routing plan to achieve specific goals such as creating an inventory pickup activity or creating the activities close to the service window start time.

To set assignment parameters:

1. Navigate to the **Routing** screen and locate the routing plan to which you want to configure.
2. Click **Actions** and select **Modify** to open the **Edit Routing Plan** screen.
3. Expand the **Assignment Parameters** section.
4. Select the following options, as necessary:
   - **Enable Routing by Inventory:** When this check box is selected, routing considers the required inventories for all activities that are sent to routing, and assigns activities only to those resources that can meet these requirements. This could result in some activities being unassigned. Activities which have no inventory

requirements are not affected by this setting. They are routed in the same way as before. Activities are unassigned if there are no resources that meet their inventory requirements. Such activities are rejected with the reason code: 6003 and message: no appropriate resources. Regular activity filters and resource filters, work zone, work skill restrictions apply as usual. For example, if a resource which has the inventory X is not selected by a filter for the activity that requires inventory X, then that activity is not assigned to that resource.

- o **Enable Inventory Pickup:** Bulk routing may auto-create an inventory pickup activity to obtain the required inventory pieces from the nearest warehouse and handle the changes during intra-day routing re-optimization runs. This increases the autorouted percentage value and improves the routing quality as the same technician completes more activities.
- o **Dynamic Routing:** This option helps you set the limits on how long the module runs based on the number of minutes and/or the number of activities routed. The screenshot (below) shows a different location for setting minutes/activities (described as the Dynamic Routing check box of the Add/Edit routing plan dialog box):
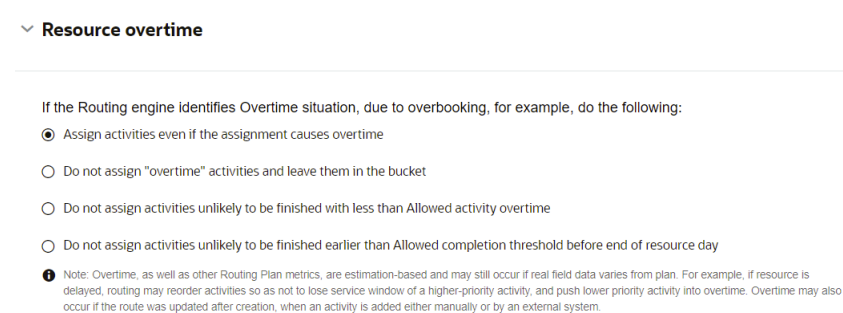
- o **Limit work by points:** Select the box to enable Routing to limit how many activities technicians can have in their routes. Note the following:
  - Overload by points may still happen if an activity was added to the route or updated after routing was performed.
  - Routing will not remove previously-assigned activities back to bucket nor assign to another resource if a route was already overloaded before the Routing run.
  - Zero points activities may be assigned to any resource, including but not limited to, resources with already overloaded routes and resources that have zero or negative points capacity.
- o **Try to schedule activities to service window start:**This option (formerly named Route Uniformity) schedules activities as close to the start of service windows as possible. As a result, routing options will typically include a broader selection of resources and the possibility of burdening some resources with many activities and under-utilizing others is minimized. Note, however, the following consequences are there:

  - Idle time may collect closer to the end of the service window.
  - Summary travel time may increase.
  - Summary work time may increase.
- o **Override default service window reservation value:** Select this check box to enable modification of service window reservation. Default *Service window reservation* is up to 20% of the service window but no more than 60 minutes. See 'Service window reservation %' description for more details
- o **Service window reservation %:** This field determines the percentage of the service window from its end that must be reserved. Routing tries to avoid assigning activities with ETA within the reserved part of their service windows by pushing the activities to an earlier ETA. Routing tries to push the activity to an earlier

ETA as higher is the late arrival penalty for this activity. This setting applies to all the activities that are part of the routing plan.

For example, an activity has a service window from 10:00 AM to 5:00 PM:
- If 15% is specified in the **Service window reservation %** field, the last 63 minutes of this 420 minutes service window are reserved.
- If 50% is specified in the **Service window reservation %** field, 210 minutes are reserved.

Higher **Service window reservation %** increases the 'buffer time', which may result in the degradation of the other metric.

Lower percentage may result in a higher risk of resource appears to be late for the appointment.

> **Note:** Service Window Reservation % is not applied (its effective value is 0%) when (a) bundling the activities on the same address or (b) having the same bundling key and assigned to same technician for activities starting from second one in the bundle. For bundled activities, both SLA and Service Window are calculated by the start of the first activity in the bundle.

- **Center point home zone support:** This option defines the home zone radius, that is, the number of miles in any direction from the starting point and the penalty to be applied if a resource must leave the home zone to complete an activity. The default penalty (Overstep Weight) is 4.
- **Automatic ordering:** This option places activities without service windows on the route in the most efficient order. If cleared, the application places these activities on the route, but does not assign a time slot. In this case, resources decide when to do the work.

  Automatic Ordering can help you complete more activities over the course of the day, but it also reduces the resources' ability to use their own judgement in completing activities.
- **Limit work by points:** This option is only necessary if you use points to estimate activities. It limits the number of activities assigned to a resource based on the maximum points allowed within a resource's shift. You must also enable Points Support in Business Rules, enable a Points property, and send the point value for the activity through the API.
- **Move activities to the bucket instead of assignment to contractor's resource:** This option assigns the relevant activities to a contractor's bucket instead of the contractor's resource. For this option to work, you must run the plan from an In-house Organization bucket that has contractor buckets (and, possibly, in-house ones) as children. In this case activities routed to in-house technicians will be assigned to technicians, but activities routed to contractor technicians will be assigned to contractor buckets. However, if you run the plan from a contractor bucket, the activities will be assigned to the underlying contractor technicians.

> **Note:** Routing runs that assign or reassign all activities to the contractor's personnel will be moved to the parent bucket of such resources, regardless of the optimization destination selected. To prevent activities that are already assigned to the contractor resources before the routing run, of being taken from contractor's resources to the bucket, select the **Do not move activities between routes and do not reorder activities for Handling of preassigned activities** check box.

When you close **Assignment Parameters**, you'll see your selections summarized on screen.

What are the routing error messages?

The following table provides the message codes:

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Error Code	Error	Explanation
6000	Dynamic routing	This is a common error that you can expect to see when using dynamic routing. It means the activity was filtered out because it falls outside the dynamic routing time or activity limitations. If you want to route the activity, change either the dynamic routing time or activity limitations, or turn dynamic routing off.
6001	Both work length and key are undefined	This is a data validation error. The application needs to know the estimated activity length. It can be specified either through stats or directly in the case of activities. If this error message displays it means this value is not specified and therefore the activity cannot be routed. You should never see this error message under normal circumstances. To correct this error specify the estimated activity length.
6002	Negative cost is not allowed	This is a data validation error. Activity cost is used as a multiplier for all activity related penalties and to implement activity priorities. You should never see this error message under normal circumstances.
6003	No appropriate resources	This means that the activity has requirements that cannot be met by any available resources. This message does not necessarily indicate an error. It informs you that the application could not find a matching resource for the activity. Check the following settings to confirm that they are accurate for your mobile workforce: • Work Zones • Work Skills • Points (if you use them) • Resources Calendars
6005	Service window start is greater than service window end	This is a data validation error. The service window end time falls before the service window start time on the activity.
6007	Unacceptable overdue	The activity was not scheduled because it would be late and would start after the lateness settings specified in the filter parameters. Check the settings in the filter parameters. Go to the Filters section of the routing plan and click Settings to view filter parameters.
6008	Resource overloaded or has not enough resources	The activity was left unscheduled because of the Limit work by points parameter. The assignment of this job would have caused a tech to incur more points than his max threshold. You can adjust the resource's point allotment in Daily View.
6009	Resource workday stop	The activity was left unscheduled because it would have caused overtime for the resource. If you want to allow overtime for resources, change the Resource Overtime settings in the routing plan.
6010	Unacceptable travel time	The activity was left unscheduled because the travel time would have exceeded the maximum travel time allowed. If you want to allow longer travel, change the Travel time settings in the routing plan.
6011	Linked activity cannot be scheduled	Activity was unscheduled due to the *master* activity in the linked activities (activity link) hierarchy. The activity was unassigned due to link requirements.
6012	Link Cycle	Activity was unscheduled for break dependency cycle between linked activities (activity link).
6013	Unable to fit activity link	Activity was unscheduled because the application was unable to find route that didn't violate linked activity requirements.
6014	Effective service window start is greater than effective service window end	This is a data validation error. After applying all time related constraints, the activity should be ended before it can be started. Usually, this occurs because of an error in the data.

Error Code	Error	Explanation
6015	SLA window start is greater than SLA window end	This is a data validation error. Activity claims that the SLA window will end before/earlier than the SLA window will start. Usually, this occurs because of an error in the data.
6016	May cause SLA violation	Activity was unscheduled because it would cause a SLA violation by another following activity. It is normal to obtain this unscheduling reason when using SLA windows.
6017	Other	Reserved for cases where there are no other specific or precise unscheduling reasons. There is a very low chance to see this error code.
6018	Cost configuration	Activity was not routed as either its non-assignment cost is too low or resources' time and travel costs are too high.
6019	Unacceptable SLA overdue	Corresponds to the Unacceptable SLA Overdue protection.
6020	Provider preferences	Activities cannot be assigned without Provider Preferences violation. Insufficient Capacity: There is no available employees to handle the activity among required/allowed employees.
6021	May cause unacceptable overdue on another activity	Assignment will cause unacceptable overdue on another activity Insufficient Capacity: The activity assignment pushes another, more important or non-movable, activity into unacceptable overdue.
6022	May cause unacceptable overtime on another activity	Assignment will cause unacceptable overtime on another activity Insufficient Capacity: The activity assignment pushes another, more important or non-movable, activity into unacceptable overtime.
6024	Unable to reach activity	Street level routing engine cannot make a route from the giving activity to any of the activities in the route. This occurs due to an error in the data. Other factors include travel restriction violations (if travel distance is over 200KM or 240 minutes, the error is returned). Check the activity address and the coordinates.
6025	Unacceptable travel distance	The activity was left unscheduled because the travel distance would have exceeded the maximum travel distance allowed. If you want to allow longer travel, change the Travel distance settings in the routing plan.
6063	Link constraint violation	Linked activities: Assignment will cause link constraint violation
6064	Result is not accepted according to optimization criteria	Routing run was either not started or run results were not applied because the conditions set for the given Optimization Goal were not met
6067	No required Work Zones	No technicians with required Work Zones available Insufficient Capacity: there is not enough resources in the required work zone to handle the activity.
6068	No required Work Skills	No technicians with required Work Skills available Insufficient Capacity: there is not enough resources with the required work skills set to handle the activity.
6069	No required inventory	Technician does not have the required inventory Insufficient Capacity: there is not enough resources with the required inventory available to handle the activity.
6070	Resource preferences	Assignment will cause Resource Preferences violation. See error code 6003 to understand and resolve this error.

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Error Code	Error	Explanation
6071	Not enough points	Technician does not have enough points to perform this activity
6072	Calendar	No providers with working calendar
6077	No field resources having right work skills and/or able to work in particular work zones found	The activity's requirements cannot be met by any available resource. While this error does not necessarily indicate an error, you must check these settings to confirm that they are accurate for your mobile workforce: • Work Zones • Work Skills
6092	Activity is not movable	Activity type constraints or routing plan settings prevent the activity from being moved between days and/or resources.
6093	No field resources available calendar-wise to handle the particular activities found	The activity's requirements cannot be met by any available resource. While this error does not necessarily indicate an error, you should check the following settings to confirm that they are accurate for your mobile workforce: • Resources Calendars

What information is displayed in the Autorouting block?

The Autorouting block shows the efficiency of automatic Routing in percentage. The Autorouting block includes both scheduled activities for the date selected and non-scheduled activities that were routed but not necessarily by the date selected.

The Autorouting efficiency is calculated as the ratio of the number of autorouted activities to the total number of routed activities (both automatically and manually). This statistics takes into account the number of operations resulting in 'meaningful' changes to the activity routing, that is, changes to the date of the route or the resource to whose route the activity has been assigned. Operations bringing no changes to the activity date or resource to which the activity is assigned, are ignored. Similarly, reverse operations resulting in no change to the initial activity assignment are ignored, as well.

The figures shown in the **Autorouting** block are aggregated results of all resources in the selected bucket and its child buckets, if any. If no activities were routed manually, the Autorouting efficiency is 100%. The Autorouting drop-down menu contains the following data:

- **Manually processed:** Displays the number of manually routed activities
- **By Dispatcher / By Resource:** Allows viewing the number of manual operations performed by the dispatcher or by the resource. This section contains the breakdown of manual operations in the following types:
  - **Assigned:** Activities moved from the bucket to resources' routes
  - **Reassigned:** Activities moved between resources
  - **Unassigned:** Activities moved from resources' routes to the bucket
  - **Reordered:** Activities moved to a different position in the route. The **Reordered** category is not available in manually processed **By Resource** column
- Total amount of manually processed activities {number} (of {number})

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How do I embed an external report in the Dashboard?

You can embed reports from external applications in Oracle Field Service using the **Embedded dashboard** option.

You can select the user type from the page header and add relevant reports or dashboard charts to the dashboard to create a predefined dashboard for that user type. Or, you can use the following procedure to embed a predefined dashboard as a dashboard tab.

To embed a dashboard:

1. Navigate to the **Dashboards** page from the Configuration menu.
2. On the **Dashboards** page, click **Actions** > **Add Dashboard**.
3. In the **Add Dashboard** dialog box, select **Embedded dashboard** option.
4. In the **Name** field, enter the name that you want to be displayed on the new dashboard tab.
5. In the **URL** field, provide the URL for the Oracle Analytical Cloud, Oracle Business Intelligent Cloud Services, or Oracle Integrated Cloud Services report, or any report from an external application.

   The embedded reports are presented as a new dashboard tab on the Dashboards page.

   > **Note:** You cannot configure embedded dashboards.

How do I view the changes made to the Configuration pages?

The Configuration History report displays the changes made to any of the Configuration pages within the application.

> **Note:** Whenever a PATCH API is used to update a value for an Activity Duration or Travel Duration, the **Configuration History** report has an entry showing the number of records that were updated in addition to the Activity duration or Travel duration key.

To view the Configuration History report:

1. Select the *Navigation* button.
2. Select **'Configuration History** from the navigation pane.

   The Configuration History report is displayed.

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3. Review the following information in the report:

   a. **Action Time**—Specifies the date and time in the time zone and desired format of the user viewing the page when the change in Configuration was made.

   b. **Action**—Specifies either an Insert, Update or a Delete based on the operation carried out by the user.

   c. **Old value**—Displays the previous value of the fields related to the element in case of a Delete or an Update operation.

   d. **New value**—Displays one of the following:

      - In case of an Update operation, this column displays the modified value of fields related to the element.
      - In case of an Insert operation, this column displays the set value of the fields.

   e. **Element**—Displays the element or object that has been added, deleted or modified.

   f. **User**—Displays the user name of the user who made the modification. On mouse hover, the user name and the user ID are displayed.

4. To filter the report, click **View**.

   a. **Start Date** and **End Date**—Select the date range to filter the data.

   b. **Find** —Enter a string to search within the Old value and New value columns in the report.

   c. **Search Category**—Select an action to filter the report based on a category for example message type.

   d. **Rows**—Specify the number of rows to be displayed on each page of the report.

Results:

Changes made to these pages in the application are included in the Configuration History report:

- Business Rules
- Link Templates
- Work Schedules
- Work Zones
- Work Skills
- Properties
- Capacity Categories
- Time Slots
- Resource Types
- Activity Types
- Inventory Types
- Glossary
- Action Management
- Display
- Filters
- Organizations
- Login Policies
- User Types
- Oracle Knowledge
- Statistics

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- Applications

- Message Scenarios

- Holidays

- Resource Info

- Resource Calendars

- Locations

- Resource Work Zones

- Users (Except for Collaboration and Helpdesk groups)

- Daily

- Routing

- My Display

- Themes (only when default Theme is changed)

- Applications (limited to changes in the context of APIs)

Known Behaviors:

- The 'Find' option within 'View' is applicable only for the Old value and New value columns, it is not available for the Identifier column.

- You can search only Old value and New value columns using the value of the field and not the field name. For example: for the entry 'Activity Type: Install', you can search the word 'Install', but not on 'Activity Type'. You can search Users using the *User ID* ; you cannot search using the *User Name*.

- Some fields may display the IDs of the values, instead of the actual values. For example: Design Theme: 2 or Time Slots can have values like 2, 3.

- The Identifier column, in some cases may display IDs instead of or in addition to values. For example: 'Display Profile: UT16_DISPLAY_PROFILE**/26**' instead of 'Display Profile: UT16_DISPLAY_PROFILE' ID: 15497

- The Identifier may display just the Company name when the Business Rules screen is modified.

- In entries related to the Statistics page, the value of the Type displays the label instead of the text. For example: 'Type: appt_duration' instead of 'Type: Activity duration stats fields'

- The Context Layout displayed within the Identifier column shows the label instead of the text. For example: 'Display Context Layout: web_menu manage/540'

- In some cases, the number of rows displayed on the screen may be less than the configured number of rows. For example: The page may display only 18 rows on the screen though the user has set 20 as the number of rows.

- Sorting is only available using the Action Time and Operation columns.

- Values of sensitive information like passwords, client secrets, and certificates are masked using * characters.

- Collaboration and Helpdesk groups are not shown in the Configuration History.

- Changes done to the SAML login policy using "Upload Metadata XML" are not logged.

Note: Configuration History Log information will be available for the past 90 days; information beyond 90 days is automatically removed.

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How do I view the quota matrix?

Based on the resource changes, Oracle Field Service updates the quota periodically. Quota and capacity are displayed side by side in the Quota Management matrix.

The application updates quota automatically based on the resource changes as they affect quota at the Day, Time Slot and/or Capacity Category levels.

1. Select **Quota**.
2. Select a capacity area.
3.
   Click the **Quota** [icon] icon.

   The **Quota** page opens. It includes the Resource Tree and the Quota matrix. You must have the Read-only or Read-write permission on the Quota element (Configuration > User Types > Quota > Quota) to view this page.

What is Activity Booking?

When a technician performs an activity at the customer's premises, the customer may enquire about the possibility to perform another job for them on a different day. The technician must be able to collect the information about the new job, create an activity, and schedule it right away. To book an activity, the technician must also have the ability to check the available capacity for that specific date and time. This situation is handled by the **Activity Booking** option. You must configure the activity booking context properly to get the most accurate and precise capacity calculation. The **Book new activity** option is configured in the **Application screens** section of the **Screen Configuration** page.

> **Note:** The activity booking functionality, Quota management page, and the Capacity Area configuration functionality are available only with the "Oracle Field Service Enterprise Cloud Service" subscription.

Technicians can book activities in three ways:

- Direct assignment booking
- Quota based booking:
  - Time slot based
  - Booking interval based (or availability based)

Direct Assignment Booking

Activity booking uses the activity information and finds all the Capacity Areas that match the activity requirements. If a Capacity Area is configured for booking using direct assignment, the activity is created (or reassigned) in a technician's route, provided the technician meets the activity requirements and has enough time to complete it. When there are many available resources that can work on the activity for a particular date and time slot, Oracle Field Service assigns the activity to one of them. The application typically finds a technician that has a smaller set of working skills than a technician with a wider skillset. This way, resource selection is optimized, so that the following activities that require booking have more available options. With this feature, technicians can control the booking strategy that is used on a Capacity Area level. Technicians can also configure different capacity areas to use different booking strategies.

Availability-Based Booking

Technicians can book activities for Capacity Areas with booking interval based quota configuration. They can use the booking interval based quota when the time slots overlap or, have a significant variation in the activity duration. When technicians choose the booking interval based quota, they must select the booking intervals on the Quota Configuration page. If they do not select the booking intervals, the application uses the default Capacity intervals that are configured on the **Business Rules** page.

When you configure a Capacity Area for booking using Quota (time slot based or availability based), then the activity is created (or reassigned) on the bucket that is associated with the Capacity Area. If there are multiple Capacity Areas, the technician must select a Capacity Area, select the day and time slot on which they want to perform the activity, and book it.

You can obtain the booking options from the application in two ways:

- Through the Activity Booking page.
- Through the new API function showBookingGrid. This API simplifies the process of integrating the Booking functionality with external applications.

Regardless of the method, the application uses the activity information you have entered and provides you the list of options where it may be booked.

As soon as you book an activity, Oracle Field Service subtracts the capacity required for its performance from the available capacity and adds it to the used capacity. It compares the used capacity to the quota values to make sure that orders for new activities are accepted only when the capacity is still available. As having capacity information up-to-date is crucial for the functionality, Activity Booking is available only in the online mode.

If you book an activity close to the end of a time-slot, it has a higher probability of late start. To eliminate risky activity bookings, the application does not provide a booking option for an activity for which the estimated start time appears in the last 20% of the time slot.

What are the rules to schedule Oracle Field Service updates?

Some rules to keep in mind during the Update process.

- Oracle releases Updates four times a year. The Updates are available from the first Friday of each quarter in a year (in the months of Feb, May, Aug, and Nov).
- You can select any date within the quarterly Update period to schedule or re-schedule quarterly Updates for the respective Prod and Test instances. The quarterly Update period lasts for 60 days starting from the quarterly Update release date. Oracle manages the quarterly Updates for Test Preview instances and these cannot be configured.
- It's possible to pick update dates for four future GA updates. For example, if the current release is 21C, you can pick Update dates for 21D, 22A, 22B, and 22C.
- Oracle defines the number of updates and availability that can happen per day. The available dates are allotted on first come, first served basis.
- Updates are performed during the standard 3-hour update window. You can specify an update window, which is applied to all the instances in your subscription. If you do not specify any update window, the default update window is applied depending on the geographical region in which the hosting takes place.

- o   North America (NA) and Latin America (LATAM) – AMER : Friday, 21:00 CDT/CST

- o   Europe and Africa - EMEA : Friday, 21:00 BST/GMT8

- Update selection is not available in the following cases:

  - o   You have an Oracle maintained extension.

  - o   You don't have access to your Oracle Field Service instances from the Cloud Portal.

- Oracle reserves the right to cancel an update if the conditions are not optimal. In such a case, you'll be notified to select a different date.

What data is copied and not copied when re-created from another instance?

When you re-create an instance from another instance, some data is (or configuration elements are) copied and some is not copied.

This table gives the configuration elements that are copied when you re-create an instance from another instance.

Data Copied with the Instance		
Activity Types	Applications	Business Rules
Capacity Categories	Collaboration / Helpdesk groups and their members	Company Settings
Daily Extract, BICS / DbaaS Configuration	Dashboards (both Reports and Dashboards)	Display
Filters	Forms and Plugins	Geocoding Configuration
Glossary	Holidays	Inventory Types
Link Templates	Login Policies	Message Scenarios
Oracle Knowledge	Organizations	Properties
Quota (configuration settings)	Resources	Resource Types
Resource Settings	Routing Settings	Time Slots
Themes	User and User Types	Work Schedules
Work Skills	Work Skill Conditions	Work Zones
Work Zone Layers		

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In addition to the above configuration elements, the following data is copied when you select the **Recreate From Another Instance** option with **data for future** or **data for future and 7 days from the past** option:

- Activities
- Inventory
- Quota (quota values)
- Statistics Parameters (both the parameters, estimated activity, and travel durations)
- Service requests
- Parts catalog

> **Note:** Customer information including phone numbers, emails, and so on are copied while copying the data. So, be very careful if message scenarios use this information and contact customers accidentally from your TEST instances that are copied from Production or other TEST instances. For Statistics, only the durations are copied not the raw, reported data. In addition, the process that calculates statistics is not run in non-production instances (that is, TEST). This means any started and completed activities are not used to create statistics in a non-production instance.

If you have integrated an external application using Oracle Integration, the application is copied over to the target instance. However, you must reactivate the target instance in Oracle Integration to restart the data flow.

This data won't be copied for any type of operation:

Data that is Not Copied		
Certificates (uploaded for SAML & Open ID login policies and Applications)	Collaboration chats	Daily extract archives
BICS / DBaaS / OAC real time data	GPS tracks / positions	Files (images, file attachments, signatures, and user avatars)
History (activity, resource, and inventory)	Logs	Messages
Plug-ins credentials (credentials should be manually re-configured)	Work zone shapes	Subscriptions (event subscriptions)

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

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

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

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| **Note:** You can't edit the Field name for this entity.

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

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

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

Field	Label	Description
Activity ID	gps_tracks.aid	The ID of the activity started at the moment of the data collection or if there were no started activities at the moment of the next activity in the resource' route
Distance	gps_tracks.distance	Distance from the resource's location to the activity
Idle Time	gps_tracks.idle	Number of seconds the resource spent in the point.
Latitude	gps_tracks.latitude	The Y coordinate of the position.
Longitude	gps_tracks.longitude	The X coordinate of the position.
Resource External ID	provider.external_id	External identifier for the resource
Status	gps_tracks.status	Location status. Possible values are: • 0 - a position without warnings • 1 - a position has the alert "Started outside the location" (Started at driving) • 2 - a position has the alert "Completed outside the location" (Finish at driving) • 4 - a position has the alert "Resource left the activity location" (Driving at working time)

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Field	Label	Description
		• 8 - an 'idling' position (See Business rules to understand what position is considered as 'Idle') Sometimes you may see values such as 5, 7, 9, which refer to a combination of two or more bits set: 5 = 1+4 7 = 1+2+4 9 = 1+8 For example, a status value = 5 means that both values 1 and 4 are set as follows: 1 - a position has the alert "Started outside the location" (Started at driving) AND 4 - a position has the alert "Resource left the activity location" (Driving at working time)
Time	gps_tracks.time	Timestamp received along with the GPS data.
Track Route ID	gps_tracks.queue_id	The ID of the route for which the geolocation data has been received.

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

Example: GPS Track Fields File

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

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

The example provides details of two positions for a resource. On 10 October, 2012 , which corresponds to queue 00234, at 09:08:15, 10 October, 2013 the resource was at (41° 22' 51" North; 02° 07' 22" East) performing activity 89765 and the location of the resource fully complied with the route. On the same day at 10:25:45 the resource was at (41° 25' 49"

North; 02° 27' 25" East) 5230 meters away from the next activity 96754. The resource had spent 36000 seconds at this point, which exceeds the idle threshold.

```
<?xml version="1.0" encoding="UTF-8"?>
<tracks>
 <track>
 <Field name="queue_id">00234</Field>
 <Field name="aid">89765</Field>
 <Field name="time">2012-04-10 09:08:15</Field>
 <Field name="longitude">41.380833</Field>
 <Field name="latitude">2.122778</Field>
 <Field name="distance">0</Field>
 <Field name="status">0</Field>
 <Field name="latitude" />
 </track>
 <track>
 <Field name="queue_id">00234</Field>
 <Field name="aid">96754</Field>
 <Field name="time">2012-04-10 10:25:45</Field>
 <Field name="longitude">41.430278</Field>
 <Field name="latitude">2.456944</Field>
 <Field name="distance">5230</Field>
 <Field name="status">8</Field>
 <Field name="latitude">36000</Field>
 </track>
</tracks>
```

What are the responsibilities of an administrator?

The Administrator plays an essential role in the application. The Administrator user type is assigned to an individual or group of individuals who oversee the regular maintenance and updating of users, resources, calendars, and the Resource Tree.

The Administrator is responsible for a combination of functions that can include:

- Managing users—Adding new users and deactivating users.
- Assigning user types to users. Resetting passwords.
- Managing the Resource Tree.
- Managing the resource calendars, shifts, and teamwork.
- Working with work zones, work skills, work conditions, and work skills groups.

The Administrator user type is unique to each company and includes any combination of the responsibilities mentioned earlier, depending upon the visibilities assigned to the user type. As a general rule, the administrator user:

- Has read-write access to the interface.
- Can manage user and resource related information.
- Can manage own account (password).

Note: This document covers all aspects of an administrator's role. Based on your company's configuration and modules purchased, some of the functionality described in this document may not apply.

As an administrator, one of your key responsibilities is to manage user information. There are two primary types of users:

- Users who use the manage aspect, for example, dispatchers and field managers.
- Field service resources who use the mobile app, for example, field service personnel.

In either case, a *user* is someone who requires access to some part of the application's interface.

How do I adjust travel time for the next activity?

You can adjust the time required to travel to the next activity when you are about to complete the current activity.

> **Note:** The **Display and allow adjustment of remaining Travel Time remaining** option must be selected on the **Configuration** > **User Types** page for the corresponding User Type to use this functionality. The behavior is also influenced by the **Allow selection of next activity on Complete** option on the **Configuration** > **User Types** page for the corresponding User Type.

When you are about to mark an activity as **End**, **Not Done**, or **Cancel**, you can adjust the travel time for the next activity. You will find different options based on how Allow selection of next activity selection on Complete is configured.

1. Start an activity by selecting **Start**.
2. Change the status of the activity to one of the three options (End/Not Done/Cancel). Either one or both options appear on the page:
   - Ability to select the Next Activity from a drop-down list. This displays a drop-down list where you can select the next activity to be visited.
   - The Travel Time Remaining selection field.
3. Select the required time from the **Travel Time** drop-down list.
4. Click **Submit**. The travel time for the next activity is updated.

   > **Note:** If there is no idle time before the next activity, or if the idle time is less than the amount of time travel that is being adjusted with, the start time of the next activity may be shifted to a further time. If the previous activity finishes late, you must adjust the travel correspondingly to shift the planned start time of the next activity.

How do I suspend an activity as a dispatcher?

When resources must return to activities at a later time and they don't want to cancel the activity, they can suspend the activity. If necessary, you can suspend the activity on the resource's behalf.

Suspending an activity captures the time that a resource has already spent working on it. Further, it creates a duplicate activity that the resource can start at any time during the day.

> **Note:** You can suspend only started or pending activities.

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1. Click the hamburger icon and then click **Dispatch Console**.
2. In the Resource Tree, select the resource for which you want to suspend the activity.
3. Click a started or pending activity that you want to suspend.
4. In the activity hint, click **Suspend**.

   The **Suspend activity** dialog box displays.
5. In the **Suspension Time** field, change the time as required, within the same working day.

   The time is displayed in the time display format that's configured for you. You can change the time in increments of five minutes. The time you select here is displayed on Dispatch Console and the activity history, and sent to external applications through integrations. If you're offline, you can't change the suspension time. You must switch to online to suspend the activity with the time that differs from your current time. When you suspend a started activity, a duplicate of the original activity is created in a suspended status. If you suspend a pending activity, it is converted to a not-ordered pending activity. In the Work Area, the current part of the activity closes. It displays as a suspended activity (scheduled, but not ordered) in the lower half of the page.
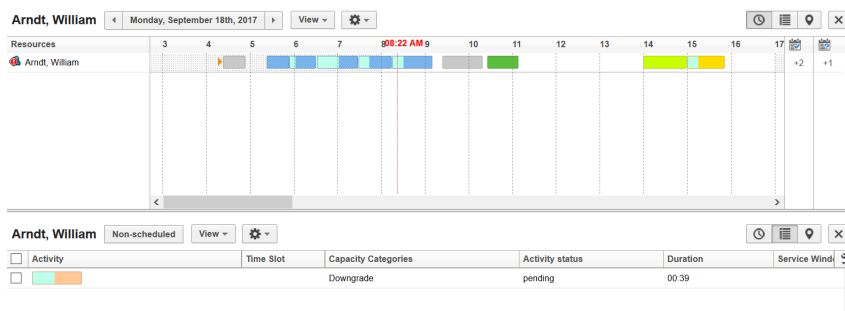
6. Select the reason for suspension and add notes, if required.
7. In the **Duration** field, specify the time to complete the remaining part of the activity.

   The duration of the pending activity is the duration that you've added here and not the one calculated automatically.
8. Click **Submit**.

   If you suspend an activity multiple times, the final duration of the activity is considered to be the duration provided for the most recent suspension.

How do I rename an instance?

You can rename an auto-generated instance name to a meaningful name, which becomes part of instance URL. This name is also visible to users on the Login page.

However, the auto-generated instance remains as is and the instance can be accessed using it.
To rename an instance:

1. Log in to Oracle Field Service Service Console with your credentials.

   You can see the list of your subscribed instances.
2. Click the menu on the right of the instance that you want to rename.

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3. From the drop-down list, select **Rename Instance**.

   The **Rename Instance** dialog box appears.
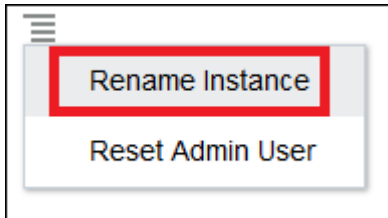
4. Enter a valid name for your instance and click **Rename**.

   > **Note:** A valid instance name can have numbers (0-9), lowercase letters (a-z), and dashes (-). The instance name must start and end with an alphanumeric number.

How do I edit a Context Layout Structure?

Use the Context Layout Structure to configure the fields that appear on the application pages.

1. Click **Configuration** > **User Types**.

   The **User Types** page appears.
2. In the left pane, select the user type for which you want to edit the context layout.
3. Click **Screen Configuration**.
4. Expand **Application screens**.
5. Click the page for which you want to edit the context layout. For example, click **Activity hint**.

   The **Context layout structure** for the selected page and the selected user type opens. On this page, you can add or edit properties, actions, tabs, columns, and sections. Properties appear as fields and actions appear as buttons. Tabs, columns, and sections define the structure of the layout. You can also configure visibilities to properties and define the conditions under which the visibility settings are effective.
6. Follow these steps to add a property:

   a. Click the **Click to add** button.

      The **Add property** dialog box appears.

   b. Select the property that you want to add and click **OK**.

      If you add an enumeration property, the **Value visibility** section is displayed. When you configure pages for a user type, the **Context layout structure** page provides an indicator to show that a property is configured. When you add an item to the **Layout structure** column of the page, it appears in red until you add visibility to the field. After you define a visibility for the item, it's no longer highlighted in the **Layout structure** column.

      > **Note:** You must add an instance of a property, button, or field only once in a form. More than one instance of a field, button, or property on a form may lead to unexpected behavior such as property not being saved or the action being denied.

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7. Follow these steps to configure the visibility for the newly added property:

    a. Click **Add new visibility**.

       The [property name] visibility dialog box appears.

    b. Select the access mode.

    c. To add a condition for visibility, click **Add new condition**.

       The corresponding fields appear.

    d. Select a property, select the condition, select the additional condition if available, and then click the tick mark.

       The condition can be equal, not in, empty, and so on.

       Example: If you've selected the property as activity status and the condition as equal, the additional condition can be suspended and pending.

8. Follow these steps to add the visibility for a value:

    a. Click **Add new** in the **Value visibility** section.

    b. On the **Value Visibility Settings** dialog box, select the values for which you want to set the visibility conditions.

    c. Click the plus icon and select the conditions under which you want to display the values and click **Save**.

       For example, let's say you want to show the cancelation reason Customer Request only for Free Service type of activities. Open the Cancel Activity context layout edit and click **Add new** in the **Value visibility** section. On the **Value Visibility Settings** dialog box, click **Select values** and select Customer Request. Click the plus icon, select Activity type [aworktype], in equal, and Free Service. After you save and publish this condition, Customer Request is available for selection only if the activity type being canceled is Free Service.

    d. Click **Publish** on the context layout editor.

9. Follow these steps to add an action:

    a. Click the **Click to add** button under **Actions**.

       The **Add action** dialog box appears.

    b. Select the action that you want to add and click **OK**.

       After adding the action, set visibility for it. Visibility is not set by default, so you must configure it for every field and action that you add.

10. Follow these steps to add a tab:

    a. Click a property and click **Group**.

       The **Add to group** dialog box appears.

    b. Enter the name of the group.

    c. Select one of these options and then click **OK**:

Option	Description
Section	Select this option to start a new section or block.
Tab	Select this option to start a new tab with the name provided earlier.
Predefined tab	Select this option to include a predefined tab. Select the tab from the **Tab** type drop-down list. Predefined tabs are the tabs available in the application by default.

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11. Follow these steps to add a column or section:

    a. Select a property or an action and click **Add marker**.

    b. In the **Add marker** dialog, select **End of column** or **End of section**.

    c. Click **OK**.

How do I modify the work zone key?

A work zone key helps you identify a work zone with a short name. The work zones that you create are automatically assigned with the key or convention that you define in the **Work Zone Key** dialog box. By default, City is the work zone key in the application.

1. Click **Configuration**.

2. In the **General** section, click **Work Zones**.

3. Click **Modify** next to Work Zone Key in the header area.

    The **Work Zone Key** dialog box appears.

4. To retain City as the key and just change the length of the key, change the number in the **Length** field. In the next field, select whether you want the entire key as case insensitive, or just the first letter.

5. Click **OK**.

    The existing work zone keys are modified to conform to the new configuration.

6. To add a new field as the key, click the plus icon in the **Work Zone Key** dialog box.

    The list of fields available in the application is displayed in alphabetical order.

7. Select a field of your choice and click **Add**.

    The newly added field is displayed in the **Work Zone Key** dialog box.

8. Add the length of the key in the **Length** field. In the next field, select whether you want the entire key as case insensitive, or just the first letter.

    If you have selected multiple fields (a combination of fields), you must add the length of the key for each field. If the value of the field or property is lower than the length, the application populates the remaining length with 'space' characters. This is done for all the fields and properties the Work Zone is built from.

    When the application creates a Work Zone key from all the fields and properties, it trims the Work Zone key and removes all the spaces from the right to the left until the first non-space character is met.

9. Click **OK**.

    The modifications are applied to the existing work zone keys. If the key size exceeds 50 characters, it is truncated to 50.

Results:

How do I pick a date to schedule an Update?

You can manage a schedule for quarterly Updates from the **Update Schedule** tab and select the update dates for any of the quarterly Updates ahead. You can schedule updates for all the instances, except the **Test preview** instance, which is managed by Oracle.

1. Open the Service Console and go to the **Update Schedule** page.

2. Identify the instance for which you want to schedule an update and click **Select** in the appropriate column.

3. To schedule an update, pick any of the available dates from the calendar.

4. To re-schedule an update, click a date that is shown as a link, and select a different date from the calendar.

   Completed updates appear as green check boxes and you cannot reschedule them. This screenshot shows the Update Schedule page:
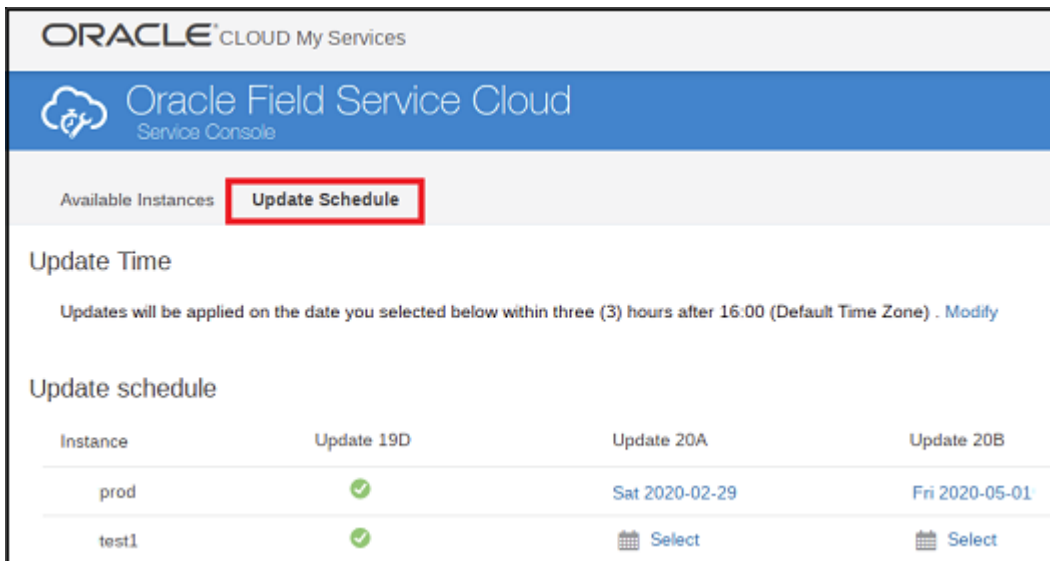
How do I configure real-time data integration With Oracle Autonomous Database?

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

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

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

To complete real-time data integration:

1. Log in to Oracle Field Service Manage interface.

2. Click Configuration, **Applications**.

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

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

Add Application

Application Type
Oracle Autonomous Database

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

Application Name
AIS DBaaS

URL
https://198.51.100.1

Schema Alias
AIS_DB.example.com

User Name
sys

Password
••••••••

Confirm Password
••••••••

Test Connection   Dismiss   **Modify**

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

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

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

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

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

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

   Prerequisite: You must REST enable the Oracle database schema on which you want to use the REST Enabled SQL service. To REST enable the Oracle Database schema, you can use SQL Developer or the PL/SQL API. For more information, see the Oracle Database Cloud Service documentation.

   d. **User Name**: Type the name of the ORDS user with roles: SQL developer or Oracle database schema name. For more information, see the Oracle Database Cloud Service documentation.

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

   - First Party Authentication (Basic Authentication): For this authentication, create a user in ORDS with the SQL Developer role. This ORDS user will be able to run SQL for any Oracle database schema that is REST-enabled.

   - Schema Authentication: For this authentication, use the Oracle database schema name in uppercase and the Oracle database schema password (for example, HR and HRPassword). This user type will be able to run SQL for the specified schema.

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

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

5. Click **Add**.

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

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

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

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

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

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

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

      - **Once Daily**: Data is transferred to the Oracle Autonomous Database instance once in a day as per the daily extraction period configured in the system.

      - **Real-time**: Data transfer from Oracle Field Service to Oracle Autonomous Database occurs in near real time.

   f. Click **Submit**.

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

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

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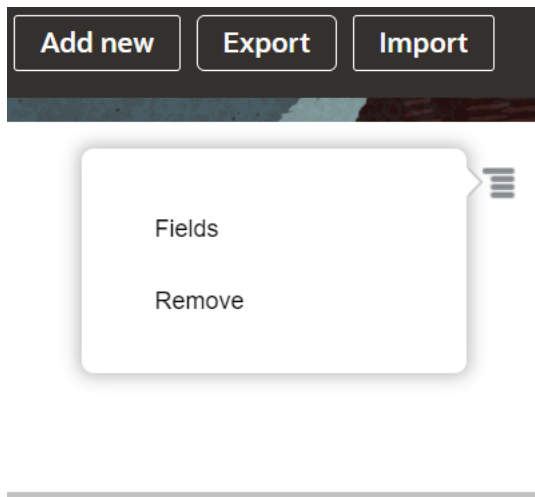
8. Click the **Plus** icon and select the required field that you want to add to the entity.

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

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

Results:

After you add a new application:

- The Applications page displays the updated list of applications.

- Monitoring data or information displayed in the Applications page is reset every day (24 hours).

- The data processing and transmission depends on the volume of data stored. You may expect a delay in transferring big volumes of data for real-time data transfer. Also, the daily transmission is initiated as per the daily extraction period.

- The data transfer for the entities, namely, Activity, Inventory, ActivityLink, Resources, Users, and Route entities is not started immediately when the user opts for real-time data transfer.

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

Consider the following configurations for the new application:
- Chat Fields and Chat Message Fields entities are configured.

- Real-time data transfer method is selected.

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

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

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How do I see the messages for an activity?

You can see these types of messages in the Messages tab:

- *Notification*: messages sent to the customer and/or resource.

- Messages sent to or received from an external application.

Messages are displayed per these rules:
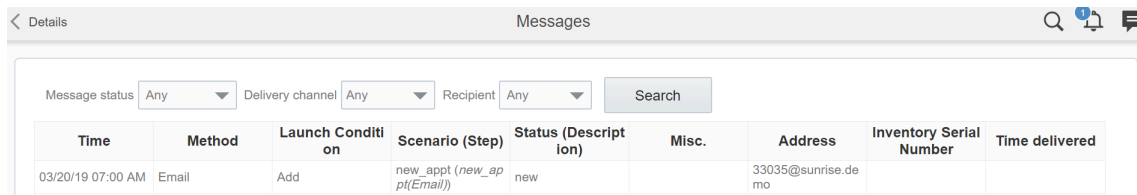
- Obsolete messages and messages in final statuses are removed from the message queue.

- No 'day of event' or 'day of route' messages are generated for non-scheduled activities.

- Messages that use the **Set property** delivery channel (method) are shown in this view, only if they were generated less than one (1) hour ago. The only exception from this rule is for messages that have the Failed status. Such messages are important for troubleshooting, so they don't have the one (1) hour expiration time.

You can filter the types of messages that are visible by using the **Message Status**, **Message Type**, and **Recipient** drop-down lists.

Follow these steps to view all of the messages associated with an activity:

1. Select the word "any" from a drop-down list to view all the messages.

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2. Click **Search**. The page resets, displaying all messages, as shown in this screenshot:

Time: Indicates the day and time that the message was issued. If it is in the future, then the time listed indicates when the message will be sent to the customer.

Method: Indicates the method by which the message is sent. For example:

- Voice –telephone or voice call.
- SMS – SMS text message.

Trigger: Indicates the previous action that triggered the message.

Scenario (Step): Specifies the details on the message sent.

Status (Description): Indicates whether the message was successfully sent or not. If a message was successfully sent, this column displays **Delivered** or **Sent**. If not, the column displays **Failed** and a reason for failure.

Address: Indicates the phone number or e-mail address to which the message was sent. If this column says **External system**, it means the message was sent to an external billing system.

equipment S/N: Indicates the serial number of any equipment referenced.

Time Delivered: Indicates the time the message was delivered.

What are the types of message blocks available in Field Service?

These types of message blocks are available.

Block	Description
`installed_inventory`	This block retrieves the list of inventory from the `install` pool.
`deinstalled_inventory`	This block retrieves the list of inventory from the `deinstall` pool.
`customer_inventory`	This block retrieves the list of inventory from the `customer` pool.
`resource_inventory`	This block retrieves the list of inventory from the `resource` pool.

Block	Description
`exchanged_inventory`	This block retrieves the list of exchanged inventory.
`required_inventory`	This block retrieves the list of required inventory.
`visit`	This block can include information related to work orders that belong to a visit into a single message. This block can only be used in scenarios attached to the visit-related launch conditions.
`team-members`	This block retrieves the list of team-members for a given teamholder and a given day. It can be used in messages that are related to a route. It also it works for the `Manual` (service request) launch condition.
`regular_calendar/oncall_calendar`	These two blocks are intended for switching between the `regular` and `on-call` calendar types. The `regular` calendar is selected by default and it is not required to use the block in this case.
`activity_workskills`	Only the following placeholders can be used in this block: • Activity Workskill • Activity Workskill ID • Activity Workskill label • Activity Workskill Required level • Activity Workskill Preferable label See *What activity message placeholders are available?*
`destination_resource`	This block retrieves values of fields (resource_* placeholders) and custom properties for a destination resource in the following cases: • "move activity" trigger • "move inventory" trigger
`forbidden_resources/required_resources/preferred_resources`	These blocks retrieve forbidden/required or preferred resources.
`linked_activities`	This block retrieves activities linked to the current one. The block has the following syntax: <BLOCK type="linked_activities: label of activity link type">. This block cannot be used without the label of activity link type. All related activity links are also handled as ordered even if the corresponding activity link type has two identical labels.
`multiday_activity`	This block temporarily switches the context to the related segmentable activity. It can be used in scenarios related to both segmentable activities and their segments. If this block is invoked for a single-day activity, it will not process any records and the result will contain no data.
`multiday_activity_segments`	This block prints information about all existing segments of a segmentable activity regardless of their statuses (except `deleted` segments). It can be used in scenarios related to both segmentable activities and their segments. If this block is invoked for a single-day activity, it will not process any records and the result will contain no data.

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Examples of message blocks

These are the examples of message blocks.

Visit

```
<visit>
<BLOCK type="visit">
<work_order number="{activity_number}" status="{activity_status}" comments="{pr_comments}"/>
</BLOCK>
</visit>
```

Team

```
<team>
<BLOCK type="team-members">
<team-member
resource_external_id ="{resource_external_id}"
resource_name = "{resource_name}"
teamwork_start = "{activity_start_time:+{activity_start_time}}{activity_start_time:-
{activity_service_window_start}}"
teamwork_end = "{activity_end_time:+{activity_end_time}}{activity_end_time:-{activity_service_window_end}}"
teamwork_activity_number = "{activity_number}"
teamwork_activity_worktype = "{activity_worktype}"
teamwork_activity_duration = "{activity_duration}"
teamwork_activity_time_slot = "{activity_time_slot}"
/>
</BLOCK>
</team>
```

Oncall_calendar

```
regular_shift = "{calendar_shift}"

<BLOCK type="oncall_calendar">
oncall_shift = "{calendar_shift}"
</BLOCK>
```

Activity_workskills

```
Pattern:

<desc><BLOCK type="activity_workskills">{activity_workskill},</BLOCK></desc>
<details>
<BLOCK type="activity_workskills">
<skill label="{activity_workskill_label}" required="{activity_workskill_required_level}"
preferable="{activity_workskill_preferable_level}"/>
</BLOCK>
</details>
```

Linked activities and preferred resources

```
Pattern:

<linked_activities>
<BLOCK type="linked_activities: start-before">
<activity link = "predecessor" min_delay = "{activity_link_min_interval}" max_delay =
"{activity_link_max_interval}" date = "{date}" resource = "{resource_name}" number = "{activity_number}"
worktype = "{activity_worktype}"/>

<forbidden_resources>
<BLOCK type="forbidden_resources">
<resource resource = "{resource_name}"/>
```

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```
    </BLOCK>
    </forbidden_resources>

    <required_resources>
    <BLOCK type="required_resources">
    <resource resource = "{resource_name}"/>
    </BLOCK>
    </required_resources>

    <preferred_resources>
    <BLOCK type="preferred_resources">
    <resource resource = "{resource_name}"/>
    </BLOCK>
    </preferred_resources>

    <resource_inventory>
    <BLOCK type="resource_inventory">
    <inventory serial = "{inventory_serial_number}" type="{inventory_type}"/>
    </BLOCK>
    </resource_inventory>

    </activity>
    </BLOCK>
    <BLOCK type="linked_activities: start-after">
    <activity link = "successor" min_delay = "{activity_link_min_interval}" max_delay =
    "{activity_link_max_interval}" date = "{date}" resource = "{resource_name}" number = "{activity_number}"
    worktype = "{activity_worktype}"/>
    </BLOCK>
    <BLOCK type="linked_activities: start-together">
    <activity link = "simultaneous" date = "{date}" resource = "{resource_name}" number = "{activity_number}"
    worktype = "{activity_worktype}"/>
    </BLOCK>
    </linked_activities>
```

Required inventory

```
    Pattern:
    <required_inventory>
    <BLOCK type="required_inventory">
    <item
    type="{required_inventory_type_label}"
    model="{required_inventory_model}"
    quantity="{required_inventory_quantity}"
    />
    </BLOCK>
    </required_inventory>

    </conbody>
    </concept>
```

How do I activate, deactivate, or delete an activity type?

If you don't want to use an activity type any more, you can change its status and deactivate it, or delete it. Similarly, if you've an existing deactivated activity type, you can activate it and start using it.

1. Click **Configuration**.
2. In the **Resources, Activities, Inventories** section, click **Activity Types**.
3. Select the check box next to an activity type.

   Group action buttons such as activate and deactivate appear.

4. Click the appropriate button, based on the action you want to perform.

> **Note:** Deactivate doesn't delete the activity type; it just makes it inactive. You can't delete an activity type that's in use (or, activities of this type exists).

How do I use the open method in the Plug-In API?

When a user opens a plug-in through a button, a message with the open method is sent to the plug-in after Oracle Field Service receives the ready message. The response of the 'open' method contains the 'user' item, includes the 'main_resource_id' field that represents the resource which is referenced to the current user. Similarly, the response of the 'open' method includes the 'team' item, which contains information about teamwork. The response of the 'open' method also contains the 'queue' key with current queue state (activated, not activated, or deactivated). The 'resource' key contains the time-related fields such as the current resource's time, resource's time zone difference, and the difference between a device's clock and UTC.

The open message contains entity collections, for example, data of available Oracle Field Service entities such as activities and inventories. See Available entities and data collections for details. The 'dataItems' option of the 'ready' method controls the availability of the 'team' item. The 'team' item is not sent if the plug-in is opened from the Main menu. The response of the 'open' method is extended with the activity and inventory lists when they are available.

Example of open message

```
{
 "manifestVersion": "1",
 "pluginApiVersion": "1",
 "productVersion": "19.5.0",
 "label": "debriefing",
 "name": "Debriefing",
 "description": "Debriefing is the process of reporting time and materials that were used while performing
 the work order.\nThe reporting is usually done by a field technician.",
 "icon": "oj-ux-ico-adapter",
 "buttonEntity": "activity",
 "secureParameters": ["ofsRestApiEndpoint", "ofsRestApiClientId"],
 "properties": {
 "csign": {
 "entity": "activity",
 "type": "file",
 "gui": "signature",
 "translations": [
 {
 "language": "en",
 "name": "Signature"
 }
 ]
 },
 "labor_service_activity": {
 "entity": "inventory",
 "type": "enumeration",
 "gui": "combobox",
 "translations": [
 {
 "language": "en",
 "name": "Labor Activity"
 }
 ],
 "items": [
 {
 "label": "com",
```

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```
"active": true,
"translations": [
{
"language": "en",
"name": "Commute"
}
]
},
{
"label": "drp",
"active": true,
"translations": [
{
"language": "en",
"name": "Diagnose and Repair"
}
]
}
]
},
"labor_end_time": {
"entity": "inventory",
"type": "string",
"gui": "text",
"lines": 1,
"translations": [
{
"language": "en",
"name": "Labor End Time"
}
]
},
"invoice": {
"entity": "activity",
"type": "file",
"gui": "file",
"mimeTypes": "application/pdf",
"fileSizeLimit": "5",
"translations": [
{
"language": "en",
"name": "Invoice"
}
]
},
"pid": {
"entity": "provider"
},
"pname": {
"entity": "provider"
},
"astatus": {
"entity": "activity"
},
"aid": {
"entity": "activity"
},
"invid": {
"entity": "inventory"
},
"invsn": {
"entity": "inventory"
}
}
```

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```
        }
```

Example of the open message for a plug-in opened from the Main menu

```
    {
    "apiVersion": 1,
    "method": "open",
    "entity": "user",
    "user": {
    "uid": 2315,
    "ulogin": "admin",
    "uname": "Admin",
    "format": {
    "date": "m/d/y",
    "long_date": "l, F jS, Y",
    "time": "h:i A",
    "datetime": "m/d/y h:i A"
    },
    "week_start": 0,
    "ulanguage": 1,
    "language": "en",
    "design_theme": 1,
    "allow_vibration": 0,
    "allow_desktop_notifications": 0,
    "sound_theme": 0,
    "providers": [
    2
    ]
    }
    }
```

Example of the open message for a plug-in opened from the Parts Catalog

```
    {
    "apiVersion": 1,
    "method": "open",
    "entity": "partsCatalogItem",
    "partsCatalogItem":
    {
    "catalogId": 2,
    "label": "a5123-df" },
    "resource":
    {
    "pid": 5000038,
    "pname": "RAYNER, Faye",
    "external_id": "55038",
    "gender": "1" },
    "activityiList":
    {
    "3956534":
    {
    "WO_COMMENTS": "AUTOMATIC TRANSFER WORK ORDER\n\n",
    "astatus": "started",
    "aid": 3956534 }
    },
    "inventoryList":
    {
    "20997919":
    {
    "invid": 20997919,
    "inv_aid": 3956534,
    "inv_pid": 5000038,
    "invpool": "install",
    "invsn": "SABDFWKNZ" }
    }
```

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```
    }
```

Structure of the 'team' collection in the 'open' method when teamwork is not set:

```
"team": {
 "assistingTo": {},
 "assistingMe": [],
 "teamMembers": {}
}
```

Structure of the 'team' collection in the 'open' method when teamwork is set:

```
"team": {
 "assistingTo": { - object with list of resources who I am assisting to
 "3000001": [ - array with list of additional resources who is assisting to user who I am assisting to
 (current user 3000035 is absent in this list!)
 "3000008", - resource ID who is also assisting to resource 3000001
 "3000037"
 ],
 "3000015": []
 }
 "assistingMe": [ - array with list of resources who is assisting me
 "3000003", - resource ID who is assisting to me
 "3000008"
 ]
 "teamMembers": { - object with information of all team members
 "3000001": {
 "uid": 1000001, - the resource is main resource for this user ID
 "external_id": "resource_1", - resource external ID
 "pname": "Resource 1", - resource name
 },
 "3000003": {
 "uid": 1000003,
 "external_id": "resource_13",
 "pname": "Resource 3"
 },
 "3000008": {
 "uid": 1000008,
 "external_id": "resource_8",
 "pname": "Resource 8"
 },
 "3000015": {
 "uid": 1000015,
 "external_id": "resource_15",
 "pname": "Resource 15"
 },
 "3000037": {
 "uid": 1000037,
 "external_id": "resource_37",
 "pname": "Resource 37"
 }
 }
}
```

Available Entities and Data Collections

The field 'entity' and entity data collections are available only for 'open' and 'close' methods. The value of the special 'entity' field depends on the Oracle Field Service Core Application page from which the user opens the plug-in. Availability of entity data collections that are sent within the message data, depends on the value of 'entity'. this table gives the available entities and data collections for the *open* method:

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Page	Entity Field Value	Available Collections
Main menu Team Map	user	user
Activity List Route Map	activitiyList	user team
Activity List -> Inventory List	inventoryList	queue resource activitiyList inventoryList
Activity List -> Activity Details	activity	user
Activity List -> Activity Details -> Inventory List	activityInventoryList	team queue resource activityList activity inventoryList
Activity List -> Inventory List -> Inventory Details	inventory	user team queue resource activitiyList inventoryList inventory
Activity List -> Activity Details -> Inventory List -> Inventory Details	activityInventory	user team queue

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Page	Entity Field Value	Available Collections
		resource activityList activity inventoryList inventory
Inventory Search -> Parts Catalog Item Details	partsCatalogItem	user team queue resource activitiyList inventoryList partsCatalogItem

Entity Data Collections

- team: Information about assistants and resources who are assisting to the current resource
- resource: Element in the resource tree representing a defined company asset
- activity: Entity of Oracle Field Service that represents any time-consuming activity of the resource
- activityList: Activity list
- inventory: Equipment that can be installed or deinstalled during an activity
- inventoryList: Inventory list
- user: User who has currently logged in to Oracle Field Service Core Application and opens the plug-in
- partsCatalogItem: Information that identifies the parts catalog item, so it can be retrieved using the getParts procedure

Note: The 'team', 'resource', 'user', and 'partsCatalogItem' collections can't be updated through the plug-in API and are ignored if they're sent with the 'close' message.

Order of Applying Changes to Entity Data Collections

If a plug-in sends a few collections such as, 'activityList', 'activity', 'inventoryList', and 'inventory' in the 'close' method, the application tries to apply the changes in this order:

1. 'activityList'
2. 'activity'
3. 'inventoryList'
4. 'inventory'

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If a plug-in receives the same activity changes in the 'activityList' and 'activity' entity data collections, only the changes from the 'activity' entity data collection are applied. The changes from the 'activityList' entity data collection are ignored. However, the current activity in the 'activityList' can be changed, if the 'activity' entity data collection is not sent to the plug-in. This example shows the activity changes that can and cannot be applied:

```
{
"apiVersion": 1,
"method": "close",
"backScreen": "default",
"wakeupNeeded": false,
"activity": {
"aid": "8761055",
"ACTIVITY_NOTES": "new changes 1" <--- these changes will be applied
},
"activityList": {
"8761054": {
"ACTIVITY_NOTES": "another activity"
},
"8761055": {
"ACTIVITY_NOTES": "new changes 2" <--- these changes won't be applied, they will be ignored
}
}
}
```

If a plug-in receives the same activity changes in the 'inventoryList' and 'inventory' entity data collections, only the changes from the 'inventory' entity data collection are applied. The changes from the 'inventoryList' entity data collection are ignored. However, the current inventory in the 'inventoryList' can be changed, if the 'inventory' entity data collection is not sent to the plug-in. This example shows the inventory changes that can and cannot be applied:

```
{
"apiVersion": 1,
"method": "close",
"backScreen": "default",
"wakeupNeeded": false,
"inventory": {
"invid": "1055",
"INVENTORY_NOTES": "new changes 1" <--- these changes will be applied
},
"inventoryList": {
"1054": {
"INVENTORY_NOTES": "another inventory"
},
"1055": {
"INVENTORY_NOTES": "new changes 2" <--- these changes won't be applied, they will be ignored
}
}
}
```

Availability of activity, inventory, and resource properties depends on the configuration of the plug-in. See Available Properties for details.

Available Fields for 'user' Entity Collection

The available properties for this entity are predefined and do not depend on the configuration of the plug-in. this table provides the available fields for the 'user' entity collection:

Field	Type	Example Value	Description
uid	Number	2315	Internal id of user
ulogin	String	admin	Login

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Field	Type	Example Value	Description
uname	String	Admin	Name
format	Object<String, String>	`{ "date": "m/d/y", "long_date": "l, F jS, Y", "time": "h:i A", "datetime": "m/d/y h:i A" }`	Collection of date format strings in the PHP's style
su_zid	Number	2	Time Zone id
week_start	Number	0	Week start day (0-6) 0 - Sunday, 1 - Monday
ulanguage	Number	1	Language id (1 - English)
languageCode	String	en	Two-letter code for the language
design_theme	Number	1	Design theme ID
allow_vibration	Number	0	1 - Vibration on mobile devices is allowed, 0 - disallowed
allow_desktop_notifications	Number	0	1 - Browser desktop notifications are allowed, 0 - disallowed
sound_theme	Number	0	Sound notification settings 0 - Off, 1 - Quiet, 2 - Loud, 3 - Persistent
providers	Array<Number>	[38, 3000001]	List of resources, that are visible to user, excluding their descendants
main_resource_id (optional)	Number	1111	Resource ID, which is set as the main resource

Available Fields for 'activity' Entity Collection

This table provides the available fields for the 'activity' entity collection:

Field	Description
cname	Name
caddress	Address
ccity	City
czip	ZIP/Postal Code
cstate	State

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Field	Description
customer_number	Account Number
c_zid	Time Zone
cphone	Phone
cemail	Email
ccell	Cellular Phone
atype	Activity Type
position_in_route	Position in Route
aworktype	Activity type
time_slot	Time Slot
service_window	Service Window
appt_number	Work Order
clanguage	Message Language
cmessagetime	Reminder
activity_workskills	Work Skill
length	Duration
ETA	Start
astatus	Activity status
aid	Activity ID
end_time	End
delivery_window	Delivery Window
acoord_status	Coordinate Status
acoord_x	Coordinate X
acoord_y	Coordinate Y
travel	Traveling Time
sla_window_start	SLA Start
sla_window_end	SLA End
atime_of_booking	Activity Time of Booking

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Field	Description
atime_of_assignment	Activity Time of Assignment

Non-Available Fields for 'activity' Entity Collection

This table provides the fields that are not available for the 'activity' entity collection:

Field	Description
aworkzone	Work Zone
time_delivered	Time Notified
eta_end_time	Start - End
date	Date
pid	Resource ID
apoints	Points
atravelarea	Travel Area
activity_capacity_categories	Capacity Categories
activity_alerts	Alerts
activity_compliance	Compliance Alerts
auto_routed_to_provider_id	Auto-Routed to Resource
auto_routed_to_date	Auto-Routed to Date
first_manual_operation	First Manual Operation
first_manual_operation_user_id	First Manual Operation Performed by User
first_manual_operation_interface	First Manual Operation Interface
auto_routed_to_provider_name	Auto-Routed to Resource (Name)
first_manual_operation_user_name	First Manual Operation Performed by User (Name)
first_manual_operation_user_login	First Manual Operation Performed by User (Login)
access_hours	Access Hours
access_schedule	Access Schedule

Available Fields for 'inventory' Entity Collection

This table provides the available fields for the 'inventory' entity collection:

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Field	Description
invsn	Serial Number
invpool	Inventory pool
invtype	Inventory Type
invid	Inventory Id
inv_aid	Activity Id
inv_pid	Resource Id
inv_change_invid	Changed Inventory ID
quantity	Quantity

Available Fields for 'resource' Entity Collection

This table provides the available fields for the 'resource' entity collection:

Field	Description
email	Email address
external_id	External ID
pdate_fid	Date format
pactive	Status
pid	ID
planguage	Message Language
pname	Name
pphone	Phone
ptime_fid	Time format
ptype	Resource type
time_zone	Time zone
currentTime	Current time in "YYYY-MM-DD hh:mm:ss" format in the resource's time zone at the time of generating the "open" message.
deviceUTCDiffSeconds	Difference between browser's time and UTC (server time) in seconds. A plug-in can calculate the actual UTC time using this formula: UTC = Math.round(new Date().getTime() / 1000) - deviceUTCDiffSeconds.

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Field	Description
timeZoneDiffSeconds	Provider's timezone diff in seconds at the time of generating the "open" message.

Unavailable Fields for 'resource' Entity Collection

This table provides the fields that are not available for the 'resource' entity collection:

Field	Description
alerts	Alerts
calendar	Calendar
oncall_calendar	On-call Calendar
organization_id	Organization
p_rprid	Routing profile
pcapacity_bucket	Use as Capacity Area
pending	Pending
pinitial_ratio	Initial Ratio for Activity Duration
queue_status	Queue status
reactivated	Reactivated
resource_capacity_categories	Capacity Categories
resource_effective_workskills	Effective Work Skills
resource_time_slots	Time slots
resource_workskills	Work Skills
resource_workzones	Work Zones
skip_days_for_stats	Working days left for reported data to start impacting duration estimations
total	Total

Available Fields for "partsCatalogItem" Entity Collection

This table provides the available fields for the 'partsCatalogItem' entity collection:

Field	Example Value	Description	Mandatory
catalogId	17	A unique identifier of a catalog which contains the item. Is returned by the getPartsCatalogsStructure procedure and is required by getParts procedure.	Yes

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Field	Example Value	Description	Mandatory
label	a5123-df	A unique identifier of a part within a catalog. Is required by getParts procedure.	Yes

What are the error codes displayed for inventory actions?

This table describes the errors that are available for inventory-related actions:

Code	Caused by Action	Cause
TYPE_ACTION_ERROR		
CODE_ACTION_NUMBER_LIMIT_ EXCEEDED	create	Number of items in the "actions" field of *close* or *update* message is greater than 10,000.
CODE_ACTION_ON_PAST_DATE_NOT_ ALLOWED	- install - deinstall - undo_install - undo_deinstall - create - delete	Any of these: "inv_aid" param of "install", "deisntall", "undo_install" or "undo_deinstall" action is equal to id of activity that is assigned for a past date "inv_aid" param of "create" or "delete" action is equal to id of the activity that is assigned for a past date, and "invpool" is "customer", "install" or "deinstall"
CODE_ENTITY_ID_INVALID	- install - deinstall - undo_install - undo_deinstall - create - delete	"invid" param is not equal to the id of any inventory in available pools
CODE_ACTION_UNKNOWN	—	"action" param is not equal to any of the supported inventory actions (for example, "install", "create")
CODE_ACTION_ENTITY_UNKNOWN	—	"entity" param is not equal to "inventory"
TYPE_ACTION_PARAM		
CODE_ACTION_INVENTORY_AID_ INVALID	create	"inv_aid" param is sent for the "create" action, and "invpool" is "provider"

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Code	Caused by Action	Cause
CODE_ACTION_INVENTORY_PID_ INVALID	- deinstall - create	Any of these: "inv_pid" param value is not equal to id of current resource or his teammates "inv_pid" param is sent for "create" action, and "invpool" is "customer"
CODE_ACTION_INVENTORY_POOL_ INVALID	create	"invpool" param value is not equal to one of: "customer", "install", "deinstall", "provider"
CODE_ACTION_INVENTORY_TYPE_ INVALID	create	"invtype" param value is not equal to the label of any of the Inventory Types, configured for Oracle Field Service
CODE_ACTION_MANDATORY_PARAM_ EMPTY	- install - deinstall - undo_install - undo_deinstall - create - delete	Any of these: "invid" param is not sent or its value is empty for "install", "deinstall", "undo_install", "undo_deinstall" or "delete" action "invpool" param of "create" action is not sent or is empty "inv_aid" param of "install" action is not sent or is empty "inv_pid" param of "deinstall" action is not sent or is empty "inv_aid" param of "create" action is not sent or is empty, and "invpool" is "customer", "install" or "deinstall" "inv_pid" param of "create" action is not sent or is empty, and "invpool" is "provider", "install" or "deinstall" "quantity" is not sent or is empty for inventory of non-serialized type
CODE_ACTION_PARAM_VALUE_INVALID	- install - deinstall - undo_install - undo_deinstall - create	Any of these: "properties" param value is sent but is not a plain object "quantity" is sent for inventory of serialized type "quantity" is not a positive integer number
TYPE_ACTION_PROPERTY		
CODE_ACTION_MANDATORY_ PROPERTY_EMPTY	- install - deinstall - undo_install - undo_deinstall - create	[Reserved]
CODE_ACTION_PROPERTY_VALUE_ INVALID	- install - deinstall - undo_install - undo_deinstall - create	Any of these: - Property type is 'file', its GUI type is 'signature' and its value is not a valid Data URI, or it has an invalid MIME-type - Property type is 'enumeration', and its value is not a valid enumeration item's index

Code	Caused by Action	Cause
CODE_ACTION_PROPERTY_VALUE_TOO_LARGE	• install • deinstall • undo_install • undo_deinstall • create	Any of these: • Property type is 'field' and the length of its value exceeds 119 UTF-16 codepoints • Property type is 'file', its GUI type is 'signature' and the length of its value exceeds 102400 UTF-16 codepoints • Property is neither field nor signature and the length of its value exceeds 32767 UTF-16 codepoints See Property Value Length and Limits for details.
TYPE_ACTION_FAILED		
CODE_ACTION_INVENTORY_ACTIVITY_STATUS_INVALID	• install • deinstall • undo_install • undo_deinstall • create • delete	Any of these: • "inv_aid" param of "install", "deinstall", "undo_install" or "undo_deinstall" action is not equal to the id of a started activity • "inv_aid" param of "create" or "delete" action is not equal to the id of a started activity, and "invpool" is "install" or "deinstall" • "inv_aid" param of "create" or "delete" action is equal to the id of a completed, not done, or cancelled activity, and "invpool" is "customer" • "invid" param of "deisntall", "undo_install" or "undo_deinstall" action is equal to the id of an inventory, associated with a not started regular activity • "invid" param of "deisntall", "undo_install" or "undo_deinstall" action is equal to the id of an inventory, associated with a segmentable activity that is not a master activity of the currently started segment
CODE_ACTION_INVENTORY_ACTIVITY_TYPE_INVALID	• install • create	"inv_aid" param equal to the id of an activity, whose type doesn't support inventories
CODE_ACTION_INVENTORY_ACTIVITY_UNKNOWN	• install • create	"inv_aid" param isn't equal to: • Id of one of the activities in the queue of current provider / his teammates • Id of one of the activities in the unscheduled pool
CODE_ACTION_INVENTORY_POOL_TRANSITION_INVALID	• install • deinstall	Any of these: • "invid" param of "install" action is equal to the id of inventory, whose "invpool" isn't equal to "provider" • "invid" param of "deinstall" action is equal to the id of inventory, whose "invpool" isn't equal to "customer" • "invid" param of "undo_install" action is equal to the id of inventory, whose "invpool" isn't equal to "install" • "invid" param of "undo_deinstall" action is equal to the id of inventory, whose "invpool" isn't equal to "deinstall"
TYPE_INTERNAL		
CODE_UNKNOWN	• install • deinstall	Oracle Field Service is unable to process the message due to an unexpected change of the system's state

Code	Caused by Action	Cause
	• undo_install • undo_deinstall • create	

Related Topics
- Which inventory actions does the plug-in API support?

Which inventory actions does the plug-in API support?

The Plug-in API supports install, deinstall, undo install, undo deinstall, create, and delete actions for inventory.

install

This table describes the parameters supported for the install inventory action:

Parameter	Mandatory	Type	Description
invid	Yes	String	Id of an existing inventory that is in the "provider" pool of the current resource or the resource's teammates.
inv_aid	Yes	String	Id of the started activity. Inventory will be installed to its "install" pool. Must contain the id of started segment for segmentable activities.
quantity	Yes/No	Number	Is mandatory and must be > 0 for non-serialized inventory. Is forbidden for serialized inventory.
properties	No	Object	Is a key-value object, where keys are the labels of Oracle Field Service inventory properties to be updated. Properties are validated and processed according to the plug-in configuration.

deinstall

This table describes the parameters supported for the deinstall inventory action:

Parameter	Mandatory	Type	Description
invid	Yes	String	Id of an existing inventory that is in the "customer" pool of a started activity.

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Parameter	Mandatory	Type	Description
inv_aid	Yes	String	Id of the current resource or the resource's teammates. Inventory will be deinstalled to its "deinstall" pool.
quantity	Yes/No	Number	Is mandatory and must be > 0 for non-serialized inventory. Is forbidden for serialized inventory.
properties	No	Object	Is a key-value object, where keys are the labels of Oracle Field Service inventory properties to be updated. Properties are validated and processed according to the plug-in configuration.

undo_install

This table describes the parameters supported for the undo-install inventory action:

Parameter	Mandatory	Type	Description
invid	Yes	String	Id of an existing inventory that is in the "install" pool of a started activity.
quantity	Yes/No	Number	Is mandatory and must be > 0 for non-serialized inventory. Is forbidden for serialized inventory.
properties	No	Object	Is a key-value object, where keys are the labels of Oracle Field Service inventory properties to be updated. Properties are validated and processed according to the plug-in configuration.

undo_deinstall

This table describes the parameters supported for the undo-deinstall inventory action:

Parameter	Mandatory	Type	Description
invid	Yes	String	Id of an existing inventory that is in the "deinstall" pool of the current resource or the resource's teammates.
quantity	Yes/No	Number	Is mandatory and must be > 0 for non-serialized inventory. Is forbidden for serialized inventory.
properties	No	Object	Is a key-value object, where keys are the labels of Oracle Field Service inventory properties to be updated.

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Parameter	Mandatory	Type	Description
			Properties are validated and processed according to the plug-in configuration.

create

This table describes the parameters supported for the create inventory action:

Parameter	Mandatory	Type	Description
invtype	Yes	String	Label of one of the Inventory Types, configured for Oracle Field Service (for example, "NT")
invpool	Yes	String	Inventory pool in which the inventory is created. It can be one of: "customer", "install", "deinstall", "provider".
inv_aid	Yes/No	String	Id of the started activity. Inventory will be created in its pool. Must contain the id of the started segment for segmentable activities. Is mandatory if invpool is one of: "customer", "install", or "deinstall". Is forbidden for invpool equal to "provider".
inv_pid	Yes/No	String	Id of the current resource or the resource's teammates. Inventory will be created in the resource's pool. Is mandatory if invpool is one of: "provider", "install", "deinstall". Is forbidden for invpool equal to "customer".
quantity	Yes/No	Number	Is mandatory and must be > 0 for non-serialized inventory. Is forbidden for serialized inventory. **Note:** If the quantity is not present in the **Add Plugin** or **Modify Plugin** page, **Available properties** section or present and set to "Read-only" and if it's not configured as available for the plug-in, then it is set to "1" for non-serialized inventory by Oracle Field Service Core Application itself.
properties	No	Object	Is a key-value object, where keys are the labels of Oracle Field Service inventory properties to be updated. Properties are validated and processed according to the plug-in configuration.

delete

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This table describes the parameters supported for the delete inventory action:

Parameter	Mandatory	Type	Description
invid	Yes	String	Id of an existing inventory that is in the "provider" pool of the current resource or the resource's teammates, or in "install", "deinstall" or "customer" pool of the started activity. **Note:** There is no quantity parameter for the delete action. The entire record with any quantity is deleted from the corresponding pool.

What are the warning messages displayed while moving activities?

This topic describes the warning messages that you would see while moving activities.

You may see these types of warning messages:

- Service window warning
- Resource overload risk warning
- SLA warning
- Overtime warning
- Linked activity warnings

    - Has successor scheduled earlier
    - Has predecessor scheduled later
    - Has simultaneous activity

- Work zone mismatch
- Work skills mismatch
- Soft skill mismatch

Resource overload risk warning

The *Resource overload risk* warning message is displayed if you try to assign activities with a total duration of more than 12 hours to a single resource's route. The message doesn't appear when you assign activities to a bucket or to the non-scheduled pool of a resource. The message is displayed when you move activities using these methods:

- Dragging from the List View
- Using the lasso tool on the Dispatch Map

Here is a sample warning message:

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Resource overload risk; You are assigning 30 activities with estimated time over 25 hours to a single Field Resource.

If you try to move more than 200 activities, then only the duration of the first 200 is displayed in the warning message.

Linked activity warnings

The warnings related to linked activities are as follows:

- **Has successor scheduled earlier:** This warning appears for a pending activity linked to another activity that must be started after, but is scheduled before its estimated completion.

- **Has predecessor scheduled later:** This warning appears for a pending activity linked to another activity that must be finished before, but is scheduled after its estimated start.

- **Has simultaneous activity:** This warning appears for a pending activity linked to another activity that must be started simultaneously, but is scheduled to a different time.

Overtime alert: This alert notifies you that the estimated completion time of the activity extends beyond the end of a resource's working day.

Work Zone mismatch alert: The application doesn't allow you to assign an activity to a resource without a required work zone. The only exception is when the **All** check box is selected. In this case, the resource is shown in red and the "Work zone mismatch" alert appears in its hint.

Work skill **mismatch alert:** This alert displays when you move an activity to a resource that does not have the required and preferred qualification level of an activity skill. The only exception is when the **All** check box is selected. In this case, the resource is shown in red and the "Work skill mismatch" alert appears in its hint. Depending on your settings, the Work skill mismatch alert either prevents you from moving the activity, or gives you the option to move it, or let you cancel the move.

Soft Skill mismatch alert: If an activity is to be moved to a resource and a work skill level of this resource is more than (or equal to) the level 'required' to complete this activity, but less than the 'preferred' level, the 'Soft skill mismatch' alert appears. In case of the 'Soft skill mismatch' warning, the resource is not removed from the list of available resources on the **Move activity** page (the **All** check box doesn't affect this behavior). But, it is shown in a different color (blue) than a regular one and the 'Soft skill mismatch' text is shown in its hint message. The 'preferable' skill level is ignored by the 'Self assignment' constraint that is used to filter activities in bucket. In this case the 'required' level is only checked. The 'Soft skill mismatch' warning is shown on attempt to move an activity to a technician with an insufficient 'preferred' skill level.

don't move alert: This alert displays when you try to move an activity type that is not allowed to move between resources. Activity types are configured in the **Add activity type** page.

Resource preferences

- If an activity has a list of Forbidden resources, the application doesn't allow to assign it to one of these resources. They are not shown in the GUI (regardless of the "All" option).

- If an activity has a list of Required resources, these resources are only shown in GUI (regardless of the "All" option).

- If an activity has a list of Preferred resources, these resources are shown in GUI by default. Other resources are returned, if the **All** option is set. In this case, such resources are shown in red and the **Resource is not preferred** message appears for the activity to be moved.

If several activities are selected to be moved at the same time, these rules are used to merge their lists of preferred resources:

- Forbidden

  - The resulting list of the Forbidden resources is a union of the original activity lists.

- Required

  - If activities to be moved have the Required resources, the result is an intersection.
  - Activities without the Required list are not processed. If only one of the two activities has the Required list, this list is only used in the restriction.
  - If two activities have the Required lists and these lists are not intersected, all the activities cannot be assigned together to the same resource.

- Preferred

  - If any of the activities has the Required list, the Preferred resources are ignored.
  - The result Preferred list is calculated as an intersection.
  - Activities without the Preferred list are not processed. If only one of two activities has the Preferred list, this list is only used in the restriction.
  - If two activities have the Preferred lists and these lists are not intersected, all the activities cannot be assigned together to the same resource (can be overridden using the **All** option).

How do I add an activity filter to a routing plan?

You can use filters to prioritize certain types of activities or resources over others during the routing process. Filters are an alternative to using another routing plan for prioritization.

Before you start

You must create the filter, set the conditions, and make the filter available for routing first. To make the filter available for routing, ensure that the Routing check box is selected. In addition, ensure that the filter designated for routing doesn't have any dynamic filter conditions.

To configure routing parameters:

Here's what to do

1. Navigate to the **Routing Profiles** screen and find the routing plan that you want to add the filter to.
2. Click the **Modify** link.
3. Expand the **Filters** section of the **Edit Routing Plan** screen.
4. Click the **Add activity filters group** button.
5. Select the filter that you want to add to the routing plan from the **Activities** drop-down list.

   A drop-down list is displayed.

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6. Select the type of activities to which the filter should be applied from the second drop-down list (if any).
   - **Non-scheduled activities in the routing bucket**. These activities are not currently on any route. They are not assigned to time slots or resources. Routing will attempt to route them during the next run.
   - **Activities in the routing bucket**. These activities are not currently on any route. They are assigned to time slots, but are not assigned to resources. Routing will attempt to route them during the next run.
   - **Preassigned non-scheduled activities**. These activities are already assigned to resources, but they are not assigned to time slots. You can use reoptimization to automatically move these activities during the routing process.

   You can add the filter for **Activities in existing routes** by clicking the **Add activity filter** link. These activities are already assigned to resources and time slots. You can use reoptimization to automatically move these activities during the routing process.

7. **Optional:** Under Assignment Cost, assign a cost to this filter.

   In general, the higher the cost, the less desirable the assignment. If you select **Do not assign**, activities of that type can never be assigned to a resource that meets this filter condition.

8. Repeat these steps to add additional filters to the routing plan. Arrange the filters in the order that you want them to be applied using drag and drop. The filters are applied in chronological order starting at the top of the list. The * (Other) filter is always applied last.

9. Click **OK**.

Assignment Cost for Multiple Activity Filters

In this example, the routing strategy includes these steps:

- Do not assign work to contractors.

- Assign activities to In-house resources before all others.

The **Contractors** filter has the assignment cost **Do not assign** so that activities are never assigned to contractors.

The **In-House** filter has a lower assignment cost than the *** (Other)** filter so that in-house personnel receive activities before all other resources.

How do I use the update method in the Plug-In API?

You can use the *update* method to update Oracle Field Service entities through a plug-in, without leaving the plug-in's page.

Oracle Field Service validates the format of the *update* message and processes it in the same way as the *close* message. The differences between the *update* and *close* methods are:

- *update* messages may be sent by the plug-in multiple times before closing. However, the plug-in cannot send the next *update* message until the previous *update* is applied and the *updateResult* message is sent to the plug-in.

- The plug-in page is not closed after applying of *update* message and its iframe is not destroyed.

- The message fields wakeupNeeded, backScreen, backActivityId, backInventoryId, backPluginLabel, backPluginButtonId, backPluginOpenParams, and iconData are ignored.

- Upon successful processing of the *update* message, Oracle Field Service sends a message with the *updateResult* method.

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If the validation or processing of the *update* message fails, the Plugin API sends the "error" message of same format (with the same "type" and "code" values) that is sent for the *close* message.

If a user has to stay on the plug-in page after applying the updates, the best practice is to use the *update* method instead of *close*. This improves the user experience and reduces the consumption of the device's resources (RAM and CPU), as the plug-in page won't be recreated and the plug-in doesn't have to process the open data again.

Example of the *update* method:

```
{
 "apiVersion": 1,
 "method": "update",
 "activity": {
 "caddress": "Cleveland",
 "aid": "4224031"
 }
}
```

How do I install the Debrief plug-in?

Debrief is available as a Standard plug-in in Oracle Field Service. You can install it from the **Forms & Plugins** page.

You can add additional secure parameters to the plug-in, but you can't change the label, or available properties.

1. Click **Configuration** > **Forms & Plugins**.

   The **Forms & Plugins** page appears and displays the existing forms and plug-ins.
2. Click **Add Plugin**.
3. Click **Standard Plugin** and then click **Next**.
4. Click Debriefing.

   These sections are displayed:
   - **Properties will be installed.** These are the properties that are automatically installed with the plug-in. These properties will be available on the **Configuration** > **Properties** page. If you de-install this plug-in in the future, these properties will still remain on the Properties page.
   - **Existing properties will be used.** These are the properties that are required for the plug-in and are currently present in Oracle Field Service.

     Note: If a property has an incorrect configuration (for example, for property type or entity), then you'll see a corresponding message. Open the plug-in's documentation, find the property requirements, and change the property settings accordingly.
5. Click **Install** and confirm the installation.

   A message similar to, 'Debriefing Successfully installed.' is displayed on the **Forms and Plugins** page after the installation You can install a Standard plug-in only once. The **Install** button is disabled when you install the plug-in. Be aware that plug-ins are supported only in the English language. Further, the Debrief plug-in doesn't work in offline mode.

   Oracle Field Service creates the required properties automatically or notifies you that some existing properties will be used by the plug-in, if they're already configured. If you've created the properties in the application with the

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corresponding names and labels, but with the improper configuration, you must change the property settings and install the plug-in again. Here are the properties for resource, activity, and inventory entities that the plug-in uses:

Resource entity properties

Name	Label	Type	GUI	Description
ID	pid			Internal ID of the resource.
Name	pname			Name of the resource.

Activity entity properties

Name	Label	Type	GUI	Description
Invoice	invoice	File	File	PDF file of the generated invoice. For example, mime_types ="application/pdf"
Company name	ccompany	String	Text	Customer's company name, displayed as the title of the invoice.
Activity ID	aid			Internal ID of the activity.
Name	cname			Name of activity used in the PDF invoice.
Address	caddress			Activity address used in the invoice.
City	ccity			Activity city used in the invoice.
State	cstate			Activity state used in the invoice.
ZIP/Postal Code	czip			Postal code used in the invoice.
Work Order	appt_number			Work order used in the invoice.

Name	Label	Type	GUI	Description
Signature	csign			Customer signature, required prior to saving the invoice as PDF.

Inventory entity properties

Name	Label	Type	GUI	Description
Expense	expense_amount	String	Text	Amount of expense.
Expense Currency	expense_currency_code	Enumeration	Combobox	Value of each enumeration item is separated with the "|" character.
Part Disposition	part_disposition_code	Enumeration	Combobox	The value that identifies whether the inventory is consumable by the customer and there is no need to track it anymore, or whether the inventory is returnable. If the inventory is returnable, the Inventory Management system of Oracle SCM Cloud must track the part until it is returned by the customer.
Part Unit of Measure	part_uom_code	Enumeration	Combobox	The unit of measurement (UOM) of parts (inventories).
Part Item Description	part_item_desc	String	Text	The description of the part. For example, 'Magnetic hard drive'. It is used to search for inventory in the catalog.
Part Item Number	part_item_number	String	Text	The number of the part that has been installed or taken from the customer. It is specified as a code. For example, FS908765.

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Name	Label	Type	GUI	Description
Part Item Revision	part_item_revision	String	Text	A single-letter code, for example, "A" or "B". Also, it is possible to have a single digit like "1" or "2". Usually, the inventory is identified by Part Item + Part Item Revision, but Item Revision is optional.
Part Item Number + Revision	part_item_number_rev	String	Text	The Part Item number concatenated with the Part Item Revision. For example, FS908765A, where "FS908765" is a Part Item Number and "A" is a Part Item Revision. It is used to search for inventory in the catalog.
Expense Activity	expense_service_activity	Enumeration	Combobox	Type of expense.
Expense Item	expense_item_ number	Enumeration	Combobox	The subtype of expense.
Expense Item Description	expense_item_ desc	Enumeration	Combobox	The description of expense subtypes. The indices must be the same as in the expense_item_numb er property. The values must describe the corresponding expense_item_numb er element.
Labor End Time	labor_end_time	String	Text	The time when a technician stops working on particular service activity. It must be not later than the end time of the work order (Oracle Field Service activity). Also, there must be no overlap between the items in the labor list. The format is T24:59:59.
Labor Start Time	labor_start_time	String	Text	The time when a technician starts working

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Name	Label	Type	GUI	Description
				on a particular service activity. It must be not be earlier than the start time of the work order (Oracle Field Service activity). Also, there must be no overlap between the items in the labor list. The format is T24:59:59.
Labor Activity	labor_service_activity	Enumeration	Combobox	The type of labor.
Labor Item	labor_item_number	Enumeration	Combobox	The subtype of labor.
Labor Item Description	labor_item_desc	Enumeration	Combobox	The description of labor subtype. The indices must be the same as in labor_item_number property. The values must describe the corresponding labor_item_number element.
Inventory ID	invid			Internal ID of the inventory.
Activity ID	inv_aid			Internal ID of the activity to which the inventory is assigned.
Resource ID	inv_pid			Internal ID of the resource to which the inventory is assigned.
Inventory Pool	invpool			The inventory pool (Resource, Customer, Installed, De- installed).
Inventory Type	invtype			Type of inventory. See Add Inventory Types for the Plug-In.
Quantity	quantity			The installed parts or the parts taken from the customer. It can be either counted or specified in inches, feet, and so on.

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Name	Label	Type	GUI	Description
				The quantity is defined as an integer number.
Serial Number	invsn	Field	Text	The serial number of the inventory.

6. To add your company logo in the Time & Labour Report, add a new secure parameter with the name "logoUrl" with the value "url of the company logo".

   Logo only supports .jpeg images and the recommended size of the image is less than "150X60 ".

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

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

This feature includes these improvements:

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

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

- Order parts to replenish their trunk stock.

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

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

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

- INV_DEFAULT_ORG
- RCL_DEF_PARENT_RESOURCE

To enable this recipe, follow these steps:

1. Click Configuration, **Applications**.
2. In the Applications page, click **Add Application**.
3. In the Add Application dialog box, select **Oracle Fusion Service and Service Logistics Integration** from the **Application Type** drop-down list.
4. In the **Application Name** field, enter the name of the application to be displayed.

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5. Provide the Oracle Fusion Service endpoint details for the application in the URL, User Name and password for the application.

6. Select the integration channel that is used for this integration from the **Integration Channel** drop-down list.

7. Check **Connect with Service Logistics** to enable the service logistics connectivity.

8. Specify the password in **Integration Password**.

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

9. Click OK.

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

Results:

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

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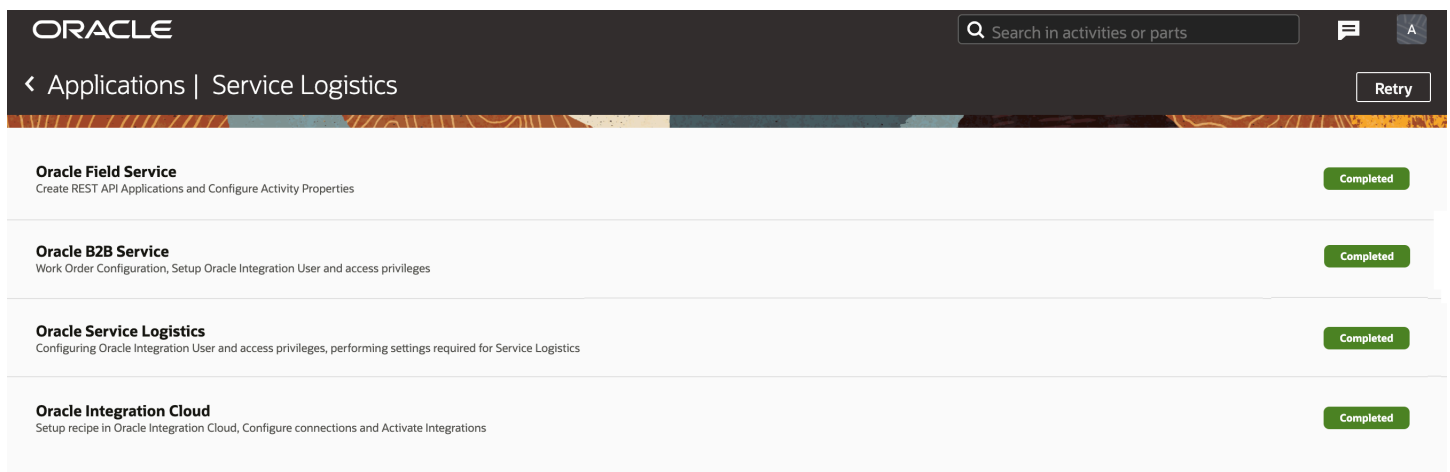
This OIC recipe is now active and the data flow between Oracle Field Service and Service Logistics will start according to the configurations in Oracle Integration. The application status in Oracle Field Service becomes active, along with date and time of activation.

This screenshot displays the Oracle Fusion Service and Service Logistics application knowledge card:

ServiceLogistics

Oracle B2B Service and Service
Logistics

Status   Active

Completed 03/11/22 12:04

⋮
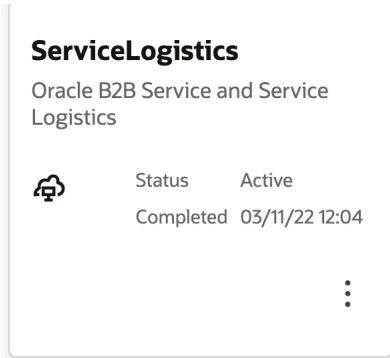
How do I regenerate the Daily Extract files?

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

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

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

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

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

How do I complete a segmentable activity?

You can complete a started segment of a *segmentable activity* by clicking **End** and entering the required information.

In addition to the single-day activity fields, a **segmentable activity is finished** check box displays on the on the **End activity** page. When checked, you confirm that you are completing the entire activity together with the segment. When the current segment is the last segment of a segmentable activity, the check box is enabled by default, otherwise it is disabled.

If the last segment is completed simultaneously with the expiration of **Time to complete**, the segmentable activity is completed. However, if **Time to complete** is longer than the duration of the last segment, the remaining duration is moved to the non-scheduled pool after the completion of the last segment, and the segmentable activity remains **started**.

If you choose to complete only the current segment (by leaving the check box unchecked), the **Time to complete** field on the **End activity** page shows the remaining duration of the segmentable activity. Initially, the **Time to complete** value is calculated according to the following formula:

```
segmentable activity duration – Duration of finished segments – (current time – start time)
```

The **Time to complete** value can be adjusted simultaneously with completing a segment.

> **Note:** Changing the **Time to complete** value results in recalculation of the remaining pending segments of the segmentable activity and may cause changes to their number and/or duration.

If you choose to complete the entire segmentable activity and enable **segmentable activity is finished**, the **Time to complete** field is replaced with the **segmentable activity status** field, allowing you to select either **completed** or **not done** from the drop-down list as the final status of the segmentable activity.

The final status of a segment may be different from the final status of the entire segmentable activity. For example, a segment can be closed as **not done** while the activity will have the **completed** status, and vice versa.

If you choose to complete the entire activity together with completing a segment that is not the last in the segmentable sequence, all subsequent segments are deleted from the route(s).

You can set a segmentable activity as not completed in a similar manner, except the final status of the activity will be **not done**.

The **not done** button of a started segment behaves in the similar manner, also offering an option of completing the entire segmentable activity or setting it as not done.

What's Daily Extract?

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

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

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

- When you change the name of an entity in Oracle Field Service, a new table is created in the target application with the new name:
  - For daily transactions, the changes are shown in the next daily run configured for the customer
  - For entities that support both daily and realtime transactions, the changes are shown after the next daily run
  - For entities that support only realtime, changes are shown immediately

- When you change a field that is configured for an entity, a new column is created in the target table:
  - For daily transactions, the changes are shown in the next daily run configured for the customer
  - For entities that support both daily and realtime transactions, the changes are shown after the next daily run
  - For entities that support only realtime, changes are shown immediately

- When you change the data transfer mode (Real time to Daily or the reverse), the data transfer starts only from the next day.

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

What are Suspended and Not Done activity statuses?

Suspended Suspended status indicates that an activity has been postponed because the work could not be completed within the given timeframe, and allows the activity to be completed at a later time during the day. For activities that cannot be completed on the same day, use Not Done. When you click Suspend for an activity with the Started status, the activity is cloned. While the original activity is added to the not-ordered activity queue with a Pending status, the cloned activity gets a new activity ID with the status Suspended. If you click Suspend for an activity with the Pending status, it is converted to a not-ordered activity with the Pending status.

Not Done: Not Done status indicates an activity that cannot be completed that day, and closes the activity so that the resource can move on to the next customer. Unlike suspend, which creates a duplicate copy of the activity to be completed by the technician the same day, the Not Done status is considered to be a final status. For example: the customer was not home, or the customer asked to reschedule. See also completed status.

How do I add the Find Nearby Inventory action to parts details page?

Field Resources can find out the availability of an item with any of the nearby technicians. You must first configure the context layout of the **Part details** page to display the **Find Nearby Inventory** action on the **Parts details** page.

The Find Nearby Inventory option is available based on these rules:

1. The **Find Nearby** link is active ONLY if these conditions are true:
   - Your company has a subscription to Smart Collaboration and Smart Location or Oracle Field Service Enterprise edition or Oracle Field Service Professional edition.
   - Collaboration is enabled and configured for the user type and user.
   - User location information is available and the location permission given in the browser.
   - Nearby resources are available for the current user and at least one nearby user is online.
   - Find Nearby action link is added to the Part Details context for the user.
   - User activated the route.
2. The **Find Nearby Inventory** tab shows the number of users who hold this inventory within 50 miles distance from the resource.

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3. The **Find Nearby Inventory** tab displays the travel duration only if these conditions are true:

    o Your company has a subscription to Oracle Field Service Enterprise edition with Google Maps.

    o You have enabled the Enable Real Time Traffic check box on the User Types page.

To add the Find Nearby Inventory action to the Parts details page:

1. Click **Configuration**.
2. Click **User Types**.
3. Open the **Screen configuration** tab.
4. In the **Application screens** section, click **Parts details**.

    The Parts details context layout structure appears.
5. Under Action, click the**Click to Add** link.
6. Select the **Standard action screen** option.
7. Select the **Nearby Resources with Parts** check box and then click OK.
8. Click **Add new visibility**.

    Read-only is selected by default.
9. Click **Save**.

Results:

The **Find Nearby Inventory** button is now available on the **Parts details** page.

Are there any prerequisites to use the Activity Booking feature?

If you want to use the Activity Booking feature, you must complete some prerequisite tasks.

1. Add the fields required for booking activities to the **Book new activity** Visual Form Editor. Typically, you need activity type, activity address, work skills for the activity, work zone it belongs to, activity duration, and the coordinates of the activity. On the **Schedule booked activity** Visual Form Editor, configure the fields that your technicians see when they reschedule an existing activity. Go to **Configuration** > **User Types** > **Screen configuration** > **Book new activity** (or Schedule booked activity) to add the fields.
2. Add the **Book (create) activity** and **Book (reschedule) activity** buttons to the **Edit/View activity** and the **Activity hint** Visual Form Editors. Technicians use these buttons to book and reschedule activities. Go to **Configuration** > **User Types** > **Screen configuration** > **Edit/View activity** or Activity hint to add the buttons.
3. Configure the Capacity Areas for booking activities. You can configure a different type of booking option for each Capacity Area. For more information, see the *Using Capacity* guide.
4. Configure the booking recommendations. You can show or hide the booking recommendations for each Capacity Area separately. For more information, see the *Using Capacity* guide.

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How do I filter activities by SLA?

Sometimes, you may first want to assign activities for which SLA is about to start or expire. You can use a custom filter to find the activities for which SLA is starting or expiring within a specified number of days or hours.

Before you start

Your administrator must create a filter for example, 'Calendar Days before SLA', 'Full Days before SLA', or 'Hours before SLA'. The **Property** field on the **Add new condition** dialog box must have a value of **Calendar Days Before SLA End** [calendar_day_to_sla_window_end], **Full Days to SLA End** [days_to_sla_window_end], or **Hours to SLA End** [hours_to_sla_window_end]. The field **Condition** must have a value of <=.

Here's what to do

1. Open the **Dispatch Console** and go to the **Map view**.
2. Click **View** and select **Calendar Days before SLA**, **Full Days before SLA** or **Hours to SLA End**.
3. Add the number of days or hours remaining for the SLA to expire.

   Activities that match the criterion are displayed. Here's the difference between "Calendar Days to SLA Start" and "Full Days to SLA Start":

   Let's say the current time is "2023-03-20 14:00" and you've an activity for which SLA starts at "2023-03-23 13:59".

   The condition that includes "Calendar Days to SLA Start" finds the difference between the date part of the SLA start and the current date (that is, "2023-03-23" - "2023-03-20" = 3 days). Therefore, in this example, a filter condition of "Calendar Days to SLA Start > 2" results in a match.

   The condition that includes "Full Days to SLA Start" takes the time into account. Using the same example, the difference between the SLA start and the current time ("2023-03-23 13:59" - "2023-03-20 14:00") would equal 2.999 days, which would be further truncated to 2 days. Therefore, a filter condition of "Full Days to SLA Start > 2" doesn't result in a match.

What details can I see on the Resource History page?

Oracle Field Service saves the history of the changes made to resources, such as a change in the location or work zone. You can view, filter, sort, and export the list of such changes.

1. Open the **Resource Info** page from the **Manage**, **Dispatch Console**, or **Resources** page.
2. Click **Resource History**.

   The **Resource History** page displays the **Action**, **Value**, **Action Time**, and **User** columns.
3. Click the **Action**, **Action Time**, or **User** column to filter and sort the history.
4. Click **Export** to export the history to a comma separated value (.CSV) file.

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What are the activity link types available to link activities?

Activity link types identify the way that two or more activities are linked. It specifies the constraints, if any, that are placed while assigning and scheduling resources. You can use Start-to-Start, Finish-to-Start, Simultaneous, and Related types of links.

Before you can link activities, you must create activity link types.

Activity link types are generic. You can reuse a link type to link activities over time. Apart from the link type, you can add specific characteristics such as the interval between activities and any rules for assigning and scheduling the resources.

There are two types of activity links:

- Regular link type: This link type places the first activity in the schedule before the second activity.

- Reverse link type: This link type places the second activity in the schedule before the first activity.

The links that you create – both regular and reverse – are available when you link activities.

The activity link type template shown below features four different linkages:

- Start-to-Start: Second activity starts after the first has been started.

- Finish-to-Start: Second activity starts after the first one has been finished. If you want to start the activities manually, you can still start the activities in any order. Routing enforces the Finish-to-Start constraint while

assigning linked activities, but you can still override such constraints. However, if starting an activity out of order sets the other activity to jeopardy, then you will see a warning.

- Simultaneous: Both activities start at the same time.

- Related: The relationship between these two activities is not sequential.

Because each of these link types generates two different linking options — regular and reverse — your linkage "library" could begin with at least eight link types. These might further be differentiated by the amount of time between activities and any assignment and scheduling constraints you want to place on them. For example, same technician over two days, or different technicians on the same day.

How to I view the Number of Active Users report?

The **Number of Active Users** report enables you to view the number of users with Active status for each user type in the selected org unit or bucket.

To view the number of active users:

1. Click the navigation button and select **Dashboards**.
2. Go to **Admin Reports** and select **Number of Active Users**.

   The Number of Active Users report is displayed for the selected org unit or bucket.
   This screenshot shows the number of individual users for each user type.

Number of Active Users
Sunrise HVAC ▾

View ▾   Print   Print All   Export

User Type	Active users
Dispatcher	9
Administrator	3
Technician	117
Manager	10
Privileged Administrator	1

1 - 5 of 5

3. The number of active users report displays these fields:

   - **User Type**—Displays the name of the user type which has at least one active user. One user will have only one user type.
   - **Active users**—Displays the number of active users with a given profile.

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What settings are available for a user type on the General tab?

The first step in creating a user type is to define the general settings such as, user type name, access, and permissions.

This table describes the fields available on the **General** tab:

Setting	Description	Notes
User Type Info		
Label	A unique identifier of the *user* type.	Required. No spaces are allowed.
Name	A user-friendly name that describes the user type.	Required. Spaces are allowed.
Active	Indicates whether the user type is active.	Activating a user type simply makes it assignable to users. Inactive user types still apply to users that are assigned to them.
Login Policy	Defines the user authentication method to Oracle Field Service	None
Assigned resource types	Shows the *resource types* available for this user type.	To change the assigned resource types, click the pencil icon. You cannot remove a resource type if any users are currently assigned to this user type.
Can create users of these user types	Lists the user types that this user type can create.	Inactive user types are greyed out and cannot be created by this user type. Permission to create user types is reciprocal. For example, if user type Manager can create user type Dispatcher, user type Dispatcher can create user type Manager. To change the user types this user type can create, click the pencil icon.
Can be created by users of following user types	Lists the user types that can create the current user type.	Inactive user types are greyed out. Permission to create user types is reciprocal. For example, if user type Manager can create user type Dispatcher, user type Dispatcher can create user type Manager.

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Setting	Description	Notes
Access Settings		
Allow access to web application	When enabled, users of the current type can use the unified Core Application to manage dispatch operations.	None
Allow access via installed application for Android	When enabled, users can access the application through the Oracle Field Service Mobile for Android application.	None
Allow access via installed application for iOS	When enabled, users can access the application through the Oracle Field Service Mobile for iOS application.	None
Permissions		
Maps	When enabled, the user can access the Map View on the **Activities**, **Quota**, and **Resource Work Zones** pages.	None
Enable GPS Telemetry	When enabled, the user's geopositioning information can be collected directly from the user's device.	None
Disable route activation when geolocation is not enabled on device	When selected, users can't activate the route if they haven't enabled the location settings on their device.	None
Limit location gathering to installed Android or iOS applications	When selected, Oracle Field Service collects the location details only for the installed applications. If you don't select this permission, the application collects the location details from all the interfaces that the field resource has logged in to.	Be aware that even if you select this option, resource positions can still be sent through APIs.
Allow user feedback	When selected, Oracle Field Service Android and iOS app users can see the Like and Dislike icons on either the My Route or Activity List page. Using these icons users can provide feedback about the app to Oracle.	None
Enable Smart Location alerts	When enabled, the user can receive alerts on their mobile device whenever any compliance issues have occurred and have been identified by the SmartLocation module.	None
Use real-time traffic data	When enabled, the check box, **Show Traffic** is shown on the **Map** view. Users can select the **Show Traffic** check box to view the current traffic data in the selected route.	This option isn't available for Contingent Workers (set as 'Resource is a Contingent Worker' parameter in Manage, under Configuration, and Resource Types).

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Setting	Description	Notes
		The real-time update is available to users of Oracle Field Service Enterprise when Oracle Field Service Standard Map Cloud Service with Google Maps or Baidu Maps is part of your subscription.
Display Inventory using a table format	When selected, inventory is displayed in a tabular format. When not selected, inventory is displayed as a list, grouped by Inventory Type.	None
Allow access to required inventory	When enabled, the user can access the Required inventory functionality and perform all related actions.	The **Required Inventory** permission for Manage is implemented as visibility for the **Required Inventory** tab in the **Add activity** or **Activity details** context.
Parts Catalog	When enabled, the user can search for particular spare parts in the catalog using the standard search function.	None
Collaboration		
Collaboration	Select the check box to view the collaboration settings.	None
Allow inventory move via chat	In addition to chat functions, allows the user to transfer inventory via chat.	None
Allow image sharing via chat	In addition to chat functions, allows the user to share images via chat.	None
Allow activity move via chat	In addition to chat functions, allows the user to transfer activities via chat.	None
Allow Video Call	When enabled, the setting allows the user type to access the Video Chat functionality.	• Requires a subscription to Oracle Field Service Enterprise. • If the resource type is a Contingent worker, then the Video Chat isn't available even if the setting is selected.
Allow Video Call Feedback	When enabled, a user can provide feedback for the Video Call service.	None
Activity Management		
Allow activity move between resources	When enabled, the user can move an activity from one resource to another	None
Allow activity move from non-scheduled pool to scheduled one	When enabled, the user can convert a non-scheduled activity to one that's scheduled.	None

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Setting	Description	Notes
Allow access to non-scheduled pool	When enabled, the user can access the pool of non-scheduled activities and perform actions to them.	None
Allow activity reorder inside the route	When enabled, the user can change the position of an activity in the route.	None
Allow activity reschedule/move to non-scheduled pool	When enabled, the user can move an activity to a different date or make it non-scheduled.	None
Allow activity deletion	When enabled, the user can delete an activity together with canceling it. Otherwise, a canceled activity remains in the application.	None
Ignore work zones/work skills mismatch on activity move	When enabled, the user can move activities to resources with work zones and/or work skills not matching those of the activity.	None
Allow repeating/mass activity creation	When enabled, the user can create mass and repeating activities.	None
Set action time	When enabled, the user can adjust the time for activity actions and route activation manually. When not enabled, the action time is logged as the current time.	None
Display the remaining Activity Time	When enabled, the activity work progress countdown is displayed.	None
Allow next activity selection on Complete	When enabled, the user completing an activity can select the next activity to start. Otherwise, only the next activity in the route can be started.	None
Display and allow adjustment of remaining Travel Time	When enabled, the Travel Time Countdown is displayed and the user can adjust travel time. Available values are: 5, 10, 15, 30, 45 minutes, 1 hour, 1 hour and 30 minutes, 2, 3, 4 and 8 hours.	None
Suggest activity by location	When enabled, displays the number of activities that are assigned in the same location for a technician. This information is displayed above the **Start** button on the **Resource Info** page.	The distance within which a location falls is determined by the **Resource is considered to be at the activity location if the distance to it is less than X meters** setting in the **SmartLocation/GPS** section on the **Business Rules** page.
Resource Management		
Allow changes in working calendar	When enabled, the user can modify the working calendar of the resource.	None

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Setting	Description	Notes
Allow to move resources between Organization Units	When enabled, the user can move the resources to different organizations in the resource tree.	None

Screen Configuration Tab

This table describes the fields available on the **Screen Configuration** tab:

Setting	Description	Notes
Application screens	Includes the contexts used in the Core Application.	None
Collaboration and Identifiers	Includes the contexts used in Collaboration and the entity identifier contexts.	None
Plugin API	Includes the plug-ins used with activity, inventory, and resource properties. This context layout is deprecated with release 19A. Use the Forms & Plugins page to configure new plug-ins and migrate the existing plug-ins. When you finish migrating all the plug-ins, the Plugin API section will be removed.	None

Restrictions and Filters Tab

these table describes the fields available on the **Restrictions and Filters** tab:

Setting	Description	Notes
Hide all activities	Determines if the users will or will not be able to access any activities in the system after a certain time. When enabled, the administrator also has to set the time after which the activities are to be hidden.	None
Hide activity fields	Determines if the users will or will not be able to access certain activity fields after a certain time. The fields to be hidden are defined in the **Field restrictions** context accessible by clicking the **Activity fields** link. When enabled, the administrator also has to set the time after which the activity fields are to be hidden.	None
Filters restricting visible activities	Defines whether the users of the current type will be able to view the entire routes or only some activities. Setting the visibility restrictions requires proper configuration of the applicable filters.	None

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Can I provide rating and feedback on the installed app to Oracle?

Oracle Field Service seeks users' feedback on the installed app. The feedback helps in knowing their perceptions and determining how we can further improve the app.

By collecting rating and feedback, the mobile app can:

- Gather information about what a user truly appreciates about it.

- Identify the user's pain points that may be addressed in the future.

On either the **My Route** page or the **Activity List** page, a banner is displayed, only after a particular version of the mobile app is used for seven days. The banner is either displayed at the end of the day when users are deactivating their route or displayed when the app observes that a user has some idle time. If a user doesn't interact with the banner, it automatically disappears at the end of the day (when there's a date change for the user). The banner reappears after seven days and this can happen a maximum of ten times. Once the user has interacted with the banner, it doesn't appear again.

On the banner, the users can respond whether they like (by clicking the thumbs up button) or don't like (by clicking on the thumbs down button) the mobile application.

This screenshot displays the banner on **Route** showing thumbs up and thumbs down buttons:

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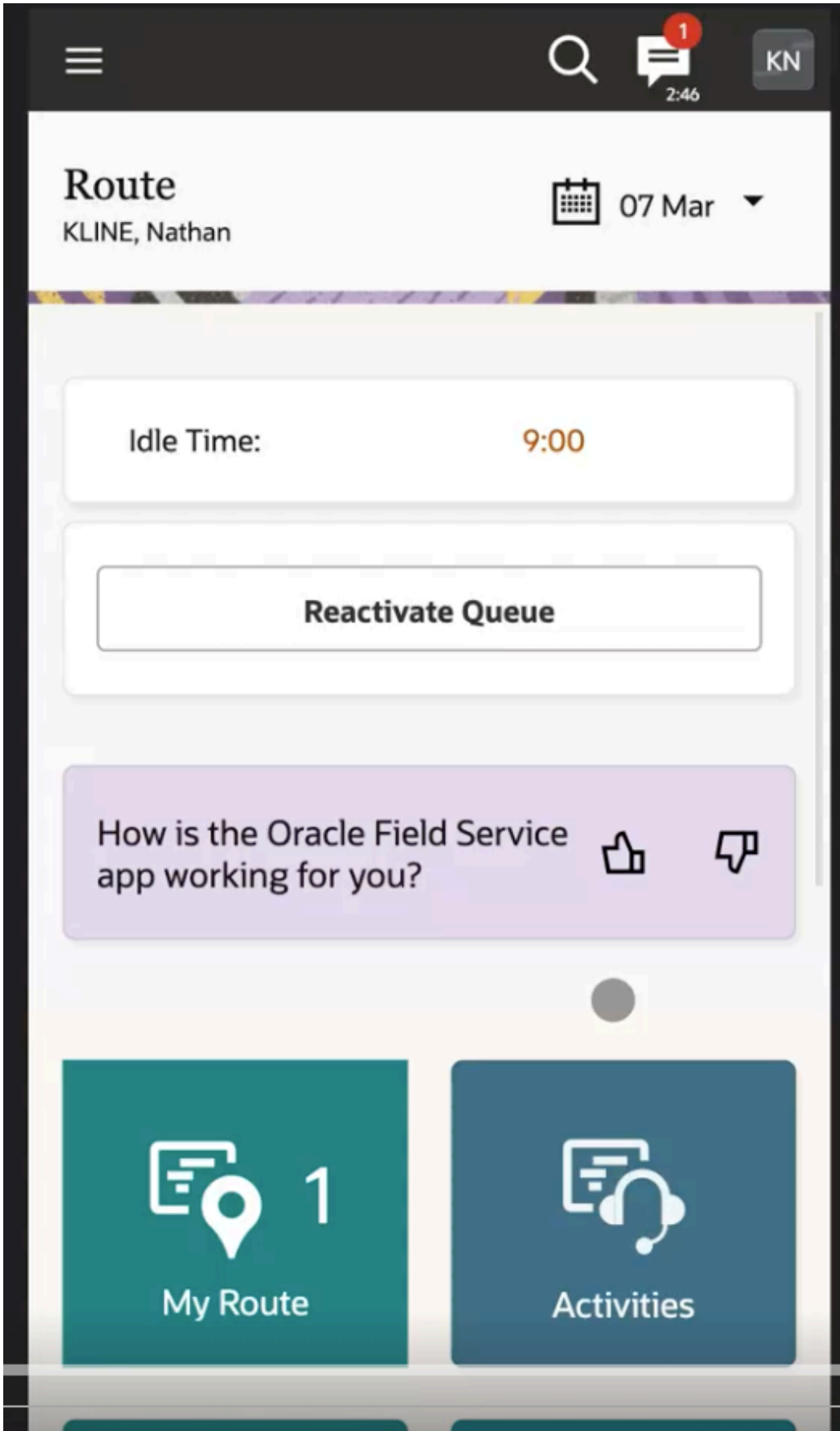
This screenshot displays the banner on Activity List showing thumbs up and thumbs down buttons:
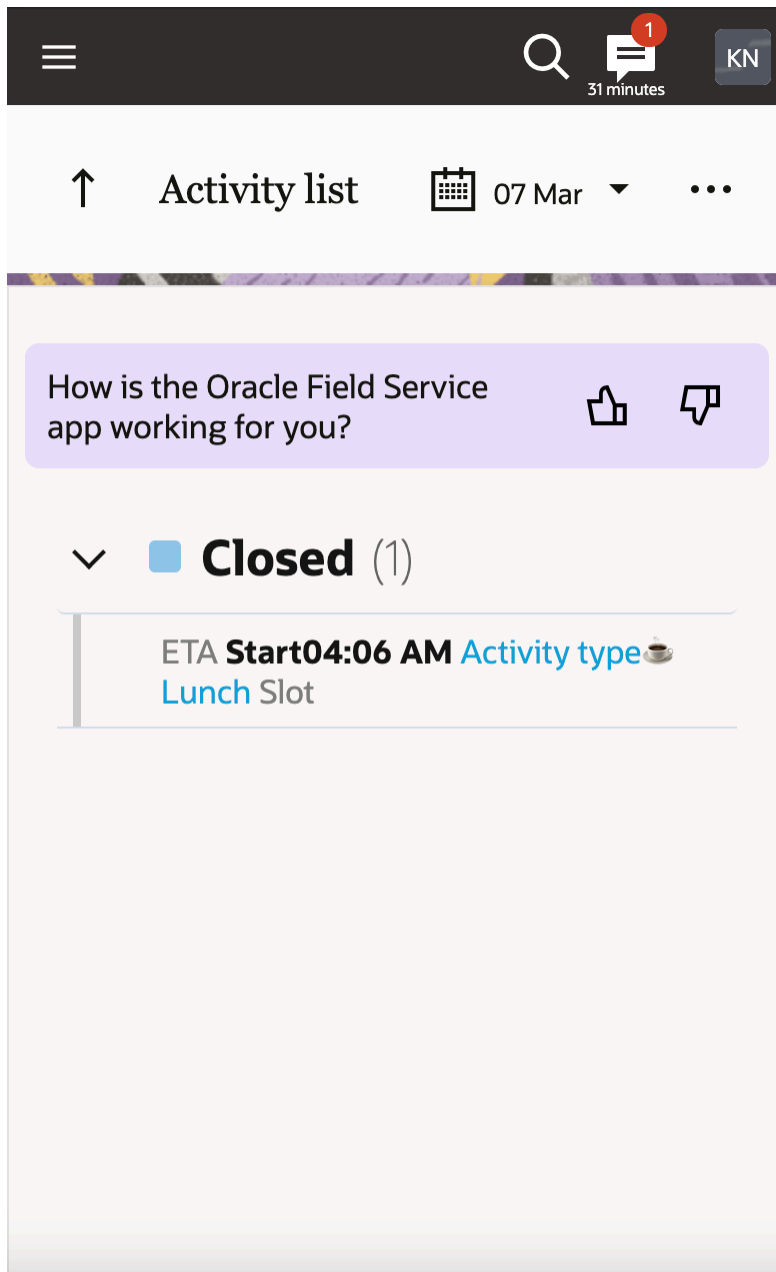
When using the Android or iOS application, if a user 'likes' the app, they see a prompt message to rate it in the relevant app store.

If the user likes the app and accesses the application through a browser, they see a prompt message to provide additional feedback.

This screenshot displays the banner on **Route** showing thumbs up and thumbs down buttons in large screen devices:

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If a user doesn't like the app, they see a prompt message to provide feedback regarding what can be improved.

This screenshot displays the banner on Activity List showing the thumbs up and thumbs down buttons in large screen devices:

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Lunc
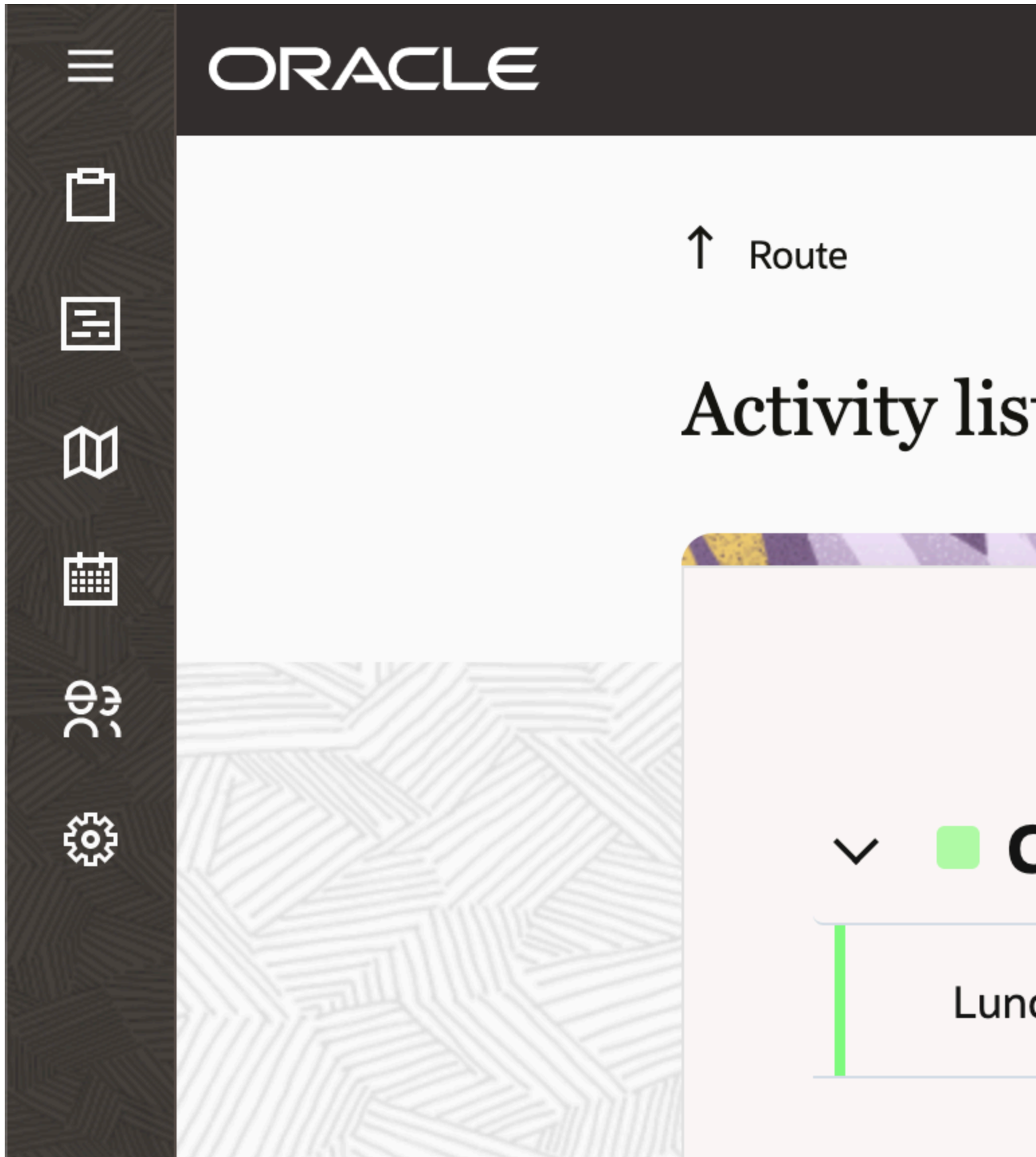
The user experience gaps gathered as a result helps Oracle provide you with the best possible user experience. Your administrator can enable this feature by selecting **Allow user feedback** on the **Configuration** > **User Types** > **General** tab.

How do I set up SSO authentication?

You must use the Service Provider initiated implementation method to have your users use SSO to sign in to iOS and Android installed apps. You can implement it using SAML or OpenID type of authentication.

These options are available to sign in using SAML or OpenID authentication:

- Use the full URL of login policy in browser application: To construct correct URL you must use the instance URL followed by the login policy label. For example, https://instance_name.fs.ocs.oraclecloud.com/login_policy_label/. Here, the instance name can be a name of your choice or automatically generated upon provisioning. The login policy label is configured manually and can be found on the **Login Policies** page. When you use this option, enter the full URL of the login policy in the browser address bar and the application redirects you to an Identity Provider for further authentication.

- Use the instance name and login policy label in installed apps: In the iOS and Android installed apps you must specify the instance name followed by the login policy label on the **Instance** page. Enter the name in the {instance_name}/{login_policy_label} format. When you do this and click **Next**, the application redirects you to an Identity Provider for further authentication.

- Configure the URL through the MDM configuration file: Use this approach for Android and iOS installed applications. Here you must specify a URL in the {instance URL + login policy label} format within the configuration file managed by the MDM settings. When you open the app, the app uses this URL to navigate you to your Identity Provider for authentication. Within the MDM file the instance, the URL must be in the format: https://{instance_name}.fs.ocs.oraclecloud.com/saml_idp/

  For example:

  ```xml
  <?xml version="1.0" encoding="UTF-8"?>
  <managedAppConfiguration xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:noNamespaceSchemaLocation="/com.mobileiron.onetouch/appconfig/appconfig.xsd">
   <version>123</version>
   <bundleId>com.oracle.ofsc.mobile</bundleId>
   <dict>
   <string keyName="instance.name_1">
   <defaultValue>
   <value>instance_name</value>
   </defaultValue>
   </string>
   <string keyName="instance.url_1">
   <defaultValue>
   <value> https://{instance_name}.fs.ocs.oraclecloud.com/saml_idp/ </value>
   </defaultValue>
   </string>
   </dict>
  </managedAppConfiguration>
  ```

When you configure the SSO authentication, users must click **Sign in with SSO** on the **Sign in** page and follow the instructions.

Domains for Production Environments

Each production environment may have several URLs depending on the provided alternate name and domain zones. These domains are always constructed from two parts:

- either instance name (mentioned as the 'instance_name' parameter in the example) or an alternate name
- domain zones available for an environment

The standard set of addresses for any environment is:

- https://{instance_name}.fs.ocs.oraclecloud.com
- https://{instance_name}.fs.ocs.oraclecloud.com

For legacy instances that are created before June 2021, the domains are also registered within the etadirect.com zone:

- https://{instance_name}.etadirect.com
- https://{instance_name}.etadirect.com

> **Note:** Check the instance provisioning date in the Cloud Portal to find out what domain zones you can use to access the instance.

Domains for Test Environments

The rules for provisioning end points for test environments are almost the same as those for production instances. The only difference is that for test environments, the application automatically adds the '.test' suffix after the name. This logic is applied to easily distinguish production and test environments. The example of an end point for a test environment is https://{instance_name}.test.fs.ocs.oraclecloud.com.

Example of How the Authentication Works

Assume that your identity provider is configured to accept requests from acme.fs.ocs.oraclecloud.com to perform SAML authentication. Also assume that there's a user that uses ofsc-1e800d.fs.ocs.oraclecloud.com, which is another valid address of your instance.

When the user tries to sign in to the instance, the application replaces ofsc-1e800d.fs.ocs.oraclecloud.com with acme.fs.ocs.oraclecloud.com in the request to the identity provider, which lets this user authenticate to the environment.

How do I export a report?

You can export any dashboard report as a **.csv** file, so that you can download and use the data in any reporting tool. When you print or export a report, it's printed or exported in the language set in the **Company language** field of the **Display** page.

The **Export** option is available for all reports in the work area.

To export a report:

1. Open **Dashboard**.
2. Open the report that you want to want to export and click **Export**.
   The **Open Report** dialog box appears for the selected report.
3. Select **Open with** and then choose any application from the list to view the report.

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4. Optionally, select **Save File** to save the report to the default application, Microsoft Excel.

   The file name of the saved file is displayed in the language set in the operating system.

5. Optionally, click the **Do this automatically for files like this from now on** check box to save the export settings as default.

6. Click **OK**.

   The file is saved in **.csv** format. The exported report includes all the columns that are shown in the user interface.

How do I enable or disable internet caching?

If you're using Oracle Field Service with Oracle Integration and you want your IP address to be added to the allowlist, you must disable internet caching just for the end point that's required for the integration. You can use the Content acceleration option in the Service Console to manage the internet caching.

You must disable content acceleration to prevent caching in these scenarios:

- To configure your environment for private access over VPN or FastConnect.

- To integrate Oracle applications (for example, integration through Oracle Cloud). Disabling this feature retains API requests within the Oracle network, reduces the rate of errors, and enhances integration reliability.

- To add your IP addresses to allowlist for integration with Oracle.

Follow these steps:

1. Sign in to Oracle Cloud Console (or Oracle Cloud Portal) and open the Service Console.

2. Go to the instance for which you want to disable internet caching. If your instance domain isn't oci, then four domain names are displayed. If your instance domain is oci, then two domain names are displayed. Select the domain for which you want to disable internet caching.

3. Click the actions menu and select **Content acceleration**.

4. Click **Enabled** and then click **Update**. Internet caching is updated for the domain and Enabled becomes Disabled. 'Internet caching is disabled' is displayed next to the domain name.

How do I pin an activity to a specific time in a route?

You might want to pin an activity to a specific time in a route, especially when you work with a third-party provider. Oracle Field Service uses the Communicated Window Start and Communicated Window End fields to pin an activity. The Communicated Window is preserved throughout the application.

Prerequisites:

- Your administrator must add the Communicated Window Start and Communicated Window End fields to the **Add/Edit Activity** page.

- Your administrator can configure an activity identifier using the Communicated Window End Is not empty condition to distinguish pinned activities from other activities.

How it works:

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You must select the date and time in the Communicated Window Start and Communicated Window End fields on the **Activity Details** page for the activity that you want to pin. Then:

- The Time view shows the activity with the visual identifier.
- If you try to move the activity manually, you see a warning. If you move it despite the warning, you can see that the activity is in jeopardy.
- Bulk routing optimizes and moves the activity back so that the Communicated Window is preserved.

Exceptions:

- Urgent and Immediate routing ignore the Communicated Window Start and Communicated Window End values.
- Bulk update API might move the activity outside its Communicated Window date and time. This is to ensure that the activity is synchronized correctly with third-party applications.

How do I assign a parts catalog to a user type?

When you've many parts catalogs in an instance, you can assign each catalog to specific user types. With this, users can use only those catalogs that are applicable to them and the application can download only the required catalogs for offline use.

Prerequisites:

- The parts catalogs are available in Oracle Field Service (they're uploaded using APIs).
- The Parts Catalog button is added to the Configuration page with Read-write visibility.
  To assign a parts catalog:

1. Click **Configuration** > **Parts Catalogs**.
2. Click the action buttons on the catalog for which you want to assign user types and then click **Assign to user types**.
3. On the **Assign Parts Catalog to User Types** page, select the required user types.
4. Click **Assign**.
   When you assign or unassign a parts catalog to a user type, you can view it on the **Configuration History** report.

How do I add Parts Catalog to the Configuration page?

You must add the **Parts Catalog** button to the **Configuration** page for the users who can add the catalogs to other user types.

1. Click **Configuration** > **User Types**.
2. Select the required user type and go to the **Screen configuration** tab.
3. Click **Configuration** under **Main menu**.
4. Click the **Click to add** button and select Parts Catalogs.
5. Click **OK** on the **Add Button** dialog box.
6. Click **Parts Catalogs** and then click **Add new visibility**. Select one of these options:

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- o Read-only: If you select this visibility, users can only view the parts catalogs and their audit information.

- o Read-write: If you select this visibility, users can view the catalogs and their audit information, and assign the catalogs to other user types.

7. Click **Save** on the [Parts Catalogs] visibility dialog box.

> **Note:** User types that have Read-write access to the **Inventory types** page have the Read-write visibility to the Parts Catalogs. And, user types that have Read-only access to the **Inventory types** page have Read-only visibility to the Parts Catalogs.

How can I troubleshoot a parts catalog?

Here are some common scenarios in which you can't view or use the parts catalogs.

Troubleshooting Parts Catalogs

Issue	Reason
Users can't see the parts catalogs assigned to them	• The catalog is empty: If there are no parts in the catalog, users can't see the catalog. You can see this warning on the catalog card. • The catalog isn't assigned to any user type: The catalog is uploaded to Oracle Field Service, but it isn't assigned to any user type. You can see this warning on the catalog card. • Language mismatch: If the language of some users from the assigned user types differs from the catalog language, users can't see the catalog. You can see a warning about the number of users that can't access the catalog due to the language mismatch on the catalog card. This count includes only the users in 'active' status and doesn't include 'inactive' users.
Parts catalog isn't downloaded for offline use	This might happen due to the lack of resources on the mobile devices. You can try to change the number of parts available for offline to decrease the data that's downloaded.
Last updated date isn't displayed for a parts catalog	This happens when there's a warning.

How do I generate a report of the activities for a future date?

You can generate a report of the activities that are scheduled for a future date or a past date for your business analysis. You can generate this report by exporting the list of activities on the Dispatch Console.

1. Open the **Dispatch Console**.
2. Select a resource or bucket in the resource tree.

3. Click the date editor and select a past or future date.

   The past date you can select depends on the **Retention Period** that's selected on the **Business Rules** page.

4. Click **View** and select **Apply Hierarchically**.

   When you select **Apply Hierarchically**, the report includes the activities of the child resources of the selected resource or bucket.

5. Click **Actions** > **Export**.

   The activities for the selected resource or bucket and period are exported as a .csv file. Your administrator can change the fields to be exported from the **List view columns** context layout page.

6. To export non-scheduled activities, go to **List view** and select Non-Scheduled in the date editor.

What's the Debrief plug-in?

Debriefing is the process of reporting time and materials used while performing an activity. You can use the Debrief button available on a started activity to add time, expense, or material information to an invoice report.

You can use the debriefing process to report this information:

- Labor: Includes travel time and working time (measured in hours)
- Parts: Parts and materials used while performing the activity
- Charges: Any extra charges such as tolls or parking (measured in money spent)

You can also generate an invoice and obtain the customer's signature. All parts, labor, and expense items are stored in the installed inventory pool of the corresponding activity. The invoice is saved as a PDF file to the file property of the activity. Be aware that the Debrief plug-in doesn't work in offline mode.

In which format can I send messages to a plug-in?

You can send a message to a plug-in (plugin) as a string, containing serialized JSON data, or as a raw JavaScript object.

Here's an example of a message that's sent as a string containing serialized JSON data:

```
window.parent.postMessage('{"apiVersion":1,"method":"close","activity":{"cname":"John"}}', targetOrigin);
```

Here's an example of a message that's sent as a raw JavaScript object:

```
window.parent.postMessage({
 apiVersion: 1,
 method: 'close',
 activity: {
 cname: 'John'
 }
}, targetOrigin);
```

You can update file properties only by using a JavaScript object as message data. See File properties for details. Similarly, the plug-in must process the messages that it receives. Oracle Field Service always sends the data to the plug-in as a serialized JSON string and never as a raw object. For example:

```
function getPostMessageData(event)
{
 var data = JSON.parse(event.data);
```

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```
switch (data.method)
{
case 'open':
pluginOpen(data);
break;
default:
showError();
}
};

window.addEventListener("message", _getPostMessageData, false);
```

JSON data is an object (hash) of a defined format, and contains common fields (that describe the message itself) and fields that are specific for different 'methods' (for example, that hold Oracle Field Service entities data), for example:

```
{
"apiVersion": 1,
"method": "open",
"entity": "activity",
"resource": {
"pid": 5000038
},
"inventoryList": {
"20997919": {
"invid": 20997919,
"inv_pid": 5000038,
}
}
}
```

Where:

- **apiVersion, method**: Common fields.

- **entity**: Name of the Oracle Field Service entity that's to be processed by the plug-in. Available only for the 'open' method.

- **resource, inventoryList**: Entity data collections. Available only for 'open' and 'close' methods.

Common Fields

- **apiVersion:** Version of the plug-in API that's used for interaction between and Oracle Field Service and the plug-in. Available methods and data depend on it. This is a required parameter. You must include this parameter in the message for the plug-in to be processed without any errors.

- **method:** Describes the action initiated by Oracle Field Service or the plug-in, and the actions that should be performed by other side.

Related Topics
- Does the plug-in apply limits to property values?

Does the plug-in apply limits to property values?

Limits are applied to property values that are submitted by the plug-in through the Plugin API for update. If a value length exceeds the limit, Oracle Field Service returns an error message as part of the message with the *error* method.

Fields (property type is 'field')

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Maximum un-formatted data to store is 239 bytes. JavaScript uses UTF-16 for strings, so one Unicode character may take up 2 to 4 bytes. But, the String.length property uses UTF-16 code points for counting, which is 2 bytes. This means, the length of the string containing one 4-byte UTF-16 char is 2. So, only ceil(239/2) = 119 code points can be stored without truncating.

Signatures (property type is 'file' and GUI option is 'Signature')

We assume that the value contains only MIME-type and correct base64 string. So, each character takes up 2 bytes as JavaScript uses UTF-16. To avoid overflow of LocalStorage, each signature is limited with 200 KB (1024*200/2 = 102400 characters).

File Properties (property type is 'file' and GUI is not 'Signature')

Maximum allowed length for a file property value depends on the "File size limit" attribute configured for the property, but it can't exceed 20 MB (20971520 bytes) in any case.

Properties (any other property type)

Maximum amount of data to store is 65 535 bytes (2^16 - 1). Oracle Field Service internally uses the UTF-8 encoding, so the value is converted to UTF-8 representation before checking against the limit. One Unicode character (code point) may take up 1 to 4 bytes in UTF-8. But, JavaScript uses UTF-16 for strings, so one character takes up 2 to 4 bytes. The String.length property uses UTF-16 code units for counting, which is 2 bytes. So the length of the string that contains one 1 or 2-byte Unicode char is 1. The length of the string that contains one 3 or 4-byte Unicode char (code point) is 2. There's also a range of 2-byte Unicode code points (U+0800 - U+10000) that take up 2 bytes (1 code unit) in UTF-16 (e.g. ¿ - \u20AC), but require 3 bytes in UTF-8. So, only 65535/3 = 21845 code units are always under limit. If the length of the string is grater that 21845, it may or may not pass the validation depending on its contents. To know whether the property value is of valid length, it must be converted to UTF-8, for example:

```
function isPropertyLengthValid(value) {

if (('' + value).length <= }}{{21845) {
return true;
}

if (('' + value).length > }}{{65535) {
return false;
}

var utf8Encoder = }}{{new TextEncoder();
var utf8BytesArray = utf8Encoder.encode(value);

utf8Encoder = }}{{null;

if (utf8BytesArray.length <= }}{{65535) {
return true;
}

return false;
}
```

File Properties

Plugin API supports updating of file properties. The plug-in sends the values of file properties with the regular properties in the entity collections or inventory actions as part of the *close* message. Due to performance limitations, it's not rational to send the file contents using JSON strings, so the Plugin API accepts raw JS objects as the value for PostMessage data. File properties can be updated only using JS objects as message data. The value of the file property in the PostMessage data must be an object that has two properties:

- fileName: Name of the file, that will be shown on the Oracle Field Service user interface

- fileContents: Blob object that contains the file contents. It can be constructed and filled with the data generated by JS code in runtime, or just obtained from the file input and sent to Oracle Field Service Core Application without any transformation, as the File object inherits the Blob.

Contents of the file property value is validated against these rules:

- Length of the file must be less than or equal to the configured File size limit
- MIME type of the file must be equal to one of the configured Allowed MIME types

How do I add on-call, non-working, or custom working time to a calendar?

Use *non-working time* to identify times when a resource, an organization unit, or a bucket isn't available for work. You can use the custom working time to specify a custom schedule for a resource. Similarly, you can use the on-call option to specify the time during which a resource is available on call. Be aware that you can change the calendar, only if you've the Read-Write permission for Resource Calendar on the Resource/User Info context layout structure.

1. Click the hamburger icon and then click **Calendars**.

   The Calendar view appears for the group or bucket assigned to you.
2. Select the bucket, group, or resource for which you want to change the calendar.
3. Click the date for which you want to add the non-working time, custom working time, or an on-call schedule.
4. Click On-Call and update these fields:

Name	Description
On-Call Schedule	The field specifies whether the resource isn't working, is working in a custom schedule, or is on call. Select Non-Working Time, Custom Working Time, or On-Call. If you select the blank option, the existing on-call schedule is removed and the earlier schedule is restored. You can't remove an on-call shift, which is part of a Schedule.
Reason	If you've selected Non-Working Time, select the reason for which the resource isn't working. For example, Others. This field isn't displayed if you've selected Custom Working Time or On-Call.
Start time, End time	If you've selected Custom Working Time, select the custom start and end time of the schedule. This field isn't displayed if you've selected Non-Working Time or On-Call.
Comment	Enter any comment that you wish to provide, for example, Daughter's graduation day, or Dentist's appointment at 4:00 pm. This field isn't displayed if you select On-Call.
End Date	Select the date on which you want to end the new working time.
Repeat	Select the frequency (Daily, Weekly, Yearly) at the new working time must be repeated. Enter the number of days or select the day of the week on which you want the new working time to be repeated. If you've selected Yearly, select the end date for the recurrence of the new working time. The end date of the new schedule is displayed below the field. You can't add recurrence for a schedule and for Non-Working Time.
Keep the Non-working days	Select this check box to retain the existing non-working days in the resource's calendar. This check box is available and enabled by default if the schedule is changed for more than a day. That is, it's available if you change the **End date** field.

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5. Click **OK**.

   If the non-working time can be applied, the resource is marked as a non-working resource for the selected date range. If the non-working time can't be applied, a warning message appears. If you click OK, the non-working time is applied, but a warning message appears on the resource tree for that resource on that day. Non-working time can't be applied if the technician has anything other than repeating, shift, or mass type of activities assigned on this route. The activities on the resource's route, other than mass and repeating activities, are rerouted or assigned to the bucket, if these conditions are met:

   ○ The routing plan has the Enable reoptimization check box selected.

   ○ The resource meets the routing plan filter conditions.

   ○ If the **Use resources outside the bucket** option isn't selected for the routing plan, the activities may be assigned to the bucket despite having different work zones.

   ○ If the **Use resources outside the bucket** option is selected, then it depends on the resource. If the resource is a child of the routing bucket, their activities may be assigned to the bucket even if the work zone isn't a common work zone. However, if the resource isn't a child of the routing bucket, then only the activities for which the bucket has all the work zones may be assigned to the bucket.

How do I view the forms and plug-ins?

You can view the **Forms & Plugins** page to add a custom Form or a plug-in, and to export and import plug-ins.

1. Click **Configuration** > **Forms & Plugins**.

   The **Forms and Plugins** page opens and displays the default plug-ins, custom plug-ins and Forms. The page shows the number of action links that are configured for each Form and plug-in.

2. To see the list of buttons configured for a Form or plug-in, click the number.

   A context menu appears and displays the buttons that are grouped by the context layout structure name in which it's configured. Within every context layout structure name, the buttons are grouped by the user type name. You can click a button to open the appropriate editor and navigate to the position on the editor. The button is also highlighted the button in the Visual Form Editor or Context Layout Editor.

3. To add a new custom Form, click **Add Form**.

4. To add a new plug-in, click **Add Plugin**.

5. To export and import plug-ins, click **Export Plugins** and **Import Plugins** respectively.

6. To delete a Form or plug-in, click the actions icon and then click **Delete**.

   You can see the **Delete** option only if you haven't configured any buttons to the Form or plug-in. This means, you can delete only those Forms and plug-ins that show **Not Configured**.

7. To search for a specific Form or a plug-in, click **View** and select the required options.

How do I add a hosted plug-in?

A Hosted plug-in is hosted in Oracle Field Service and uses the Plugin API to interact with Oracle Field Service. You can host a maximum of 35 plug-ins, excluding Standard plug-ins.

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1. Click **Configuration** > **Forms & Plugins**.

   The Forms & Plugins page appears and displays the existing forms and plug-ins.

2. Click **Add Plugin**.

3. Click **Plugin Archive** and then click **Next**.

4. Complete these fields:

Field Name	Description
General Information section	
Label	A required field defining a unique action or a label for the plug-in.
Entity	Entity (activity, inventory, required inventory, resource, service request, user) to which the action or plug-in is to be related. For example, if you select Inventory, the action will appear only in the contexts related to inventory. Leave the field blank for the action to be available in all contexts of all the entities.
Visibility rules similar to	The base action from which the plug-in is to be derived, if needed. When a base action is selected, the resulting plug-in functions per the same rules as the base action. The base action affects only the visibility of buttons and not the functioning of the plug-in. It appears only in the contexts in which the base action appears and is shown or hidden according to the same visibility conditions. For example, if start_activity is selected as the base action for a plug-in, the plug-in is only be shown in the context of a pending activity when there's no started activity in the same route, similar to the Start action. The list of available base actions is filtered according to the Entity that's selected.
Name (English)	A required field defining the plug-in name in the English language. The action or plug-in appears under this name in the actual context.
Name (other languages)	Plug-in name translations to other languages, if used.
Plugin settings section	
Plugin archive	The zip file for the Hosted plug-in, which contains HTML, CSS, and JavaScript files. Click the field to browse and select file, or drag a file.
Disable plug-in in offline	Determines whether you want to disable the plug-in when Oracle Field Service is offline. Clear this check box for the plug-in to work in offline mode.
Plugin parameters	The section where sensitive information such as a user name and password that is used to access external sites is entered. Click plus to add the parameters. The **Add new parameter** dialog box appears with these fields: ○ Name: Enter a name for the parameter that is used to access an external application. For example, Client ID. ○ Value: Enter a value for the parameter. ○ Secure parameter: Select the check box to indicate that the parameter contains sensitive data. When you enable the check box, the application masks the value of the parameter and replaces it with a series of dots. You can deselect the check box and verify that the value is correct until you save the configuration of the plug-in. Once you save the configuration, the application masks the value of the parameter on the Edit Plugin and Modify parameter pages. However, when you open an existing secure parameter, you can only replace the value, as the application deletes the value from the field. ○ Click **Add**. The parameter is added to the plug-in. You can add a maximum of 20 key-value textbox pairs, after which the icon is hidden. The maximum size of the parameters allowed is 5 KB. This size includes the data structure overhead and doesn't correspond to the length of keys and values of strings. Changes to the secure data are sent

Field Name	Description
	to Oracle Field Service during the next synchronization. The data is sent to the plug-in when the next message is sent. If you open the values saved earlier, the application deletes them. You must add them again.
Available properties	The properties that you want to be passed to the plug-in or updated by the plug-in. These properties are added as read-only and are available through the Plugin API. Click the field to select the properties. You need not define the visibility for the properties explicitly. These properties can't be updated through the Plug-in API: ○ activity_capacity_categories ○ auto_routed_to_date ○ auto_routed_to_provider_id ○ aworkzone ○ date ○ time_delivered You can't add these properties to the list of Available properties: ○ activity_alerts ○ access_hours ○ activity_compliance ○ atravelarea ○ travel_estimation_method ○ service_window_end ○ service_window_start ○ eta_end_time ○ pid (it's still available for the Resource entity) ○ ctime_delivered_start ○ ctime_delivered_end

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5. Click **Add**.

The archive is uploaded only if these conditions are met:

- The archive is a ZIP archive and has the extension .zip.

- The size of the archive is less than 500 KB.

- The archive includes only directories and files of these types:

    - .html files
    - .css files
    - .js files
    - .appcache files
    - .jpg, .jpeg, .png, .gif, .svg files
    - Directories

- Files are less than 1 MB.

- The "index.html" file is located in the root of the archive.

- The archive includes a maximum of 10 entries, including empty directories.

If any of these conditions is not met, an error message is displayed and the archive is not uploaded.

To be able to use the plug-in, you must add it to a button or a link. See the Add the Plug-In to a Page topic.

How do I start an activity as a field resource?

When you arrive at a customer location, you must start the activity in Oracle Field Service from the **My Route** page. The application uses this data to project activity durations, travel time, and distance.

Always start activities as soon as you arrive at the customer's location, even before you get out of your vehicle. If you forget to start an activity on time, contact dispatch so that they can start the activity and enter the correct start time for you.

> **Note:** You must always start the scheduled activities in order. This means, you can only start the next activity in the list. Unordered activities are different, they can be started at any time.

1. Open **My Route** and click **Start** for the activity that you want to start.

   A confirmation page displays. By default you start the first pending activity in the route.

2. Select the time of start and click **Submit**.

   The activity status changes to **started**. You can't select a time that's earlier than the current time.

   > **Note:** After you start an activity, you've the option to adjust time or to change the activity status. Menu options are driven by previous activity actions.

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How do I change the status of an activity to En Route?

When you mark an activity as End, Not Done, or Cancel you can select the next activity that you're going to. After the confirmation, the next activity becomes 'En route'.

1. Sign in to Oracle Field Service.
2. Open the Activity details page for the activity that you want to complete.
3. Click **Complete**.
4. Fill up the required fields and click **Submit**.
5. On the **Select next activity** dialog box, select the next activity that you want to go to.

   The Travel Time option is available on the **Select next activity** dialog box only if **Display and allow adjustment of remaining Travel Time** is selected on the **Configuration** > **User Types** > **General** page for your user type.
6. Click **Confirm**.

   The selected activity is assigned with the En route status. This behavior doesn't depend on the 'En route' action link configured for your user type.

How do I add an activity type?

An activity type defines the properties based on which users can create activities. The properties could be whether the activity is created for customers, internal activities, or team work, whether travel needs to be calculated for the activity, whether the activity can be rescheduled, and so on. You can't change some features after you start creating activities for some activity types. Whether you change the features for existing activity types on the user interface or through REST APIs, the application validates the features and displays warnings, as appropriate.

1. Click **Configuration** > **Activity Types** > **Add new**.
2. On the Add Activity Type page, complete these fields:

Field	Action
Activity type info section	
Label	Enter a unique identifier for the activity type.
Active	Specify whether the activity type is active. Users can't select inactive activity types while creating activities.
Name	Enter a user-friendly name that appears in the interface. Enter the name in English and in all the languages that are active in the application.
Group	Select the activity type group this activity type belongs to, for example, Customer, Internal, Teamwork, or Task.
Default duration, minutes	Enter the time taken to complete the activity in minutes. This is the default value and it will be used when no statistics are available for the activity.
Available Time Slots Section	

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Field	Action
Available Time Slots	Select the times slots during which activities of this type must be completed. You must have set up time slots on **Configuration** > **Time Slots** for them to be available on this page. Select the check box to activate the time slot.
Color Scheme Section	
Copy from	Select the color palette to be copied from an existing activity type. The color scheme of the selected activity type is duplicated.
Pending through Cancelled	Define colors for each of activity statuses and for warning with standard RGB color codes and palettes. The colors that you select here are used on all the application pages. For example, let's say you select Green for the Started status. Whether you view the Time View, List View, or Manage, activities with the Started status are displayed in Green. The colors Pending = FFDE00, Completed = 79B6EB, Warning = FFAAAA, Suspended = 99FFFF, Not done = 60CECE, Not ordered = FFCC99, Started = 5DBE3F, and Canceled = 80FF80 are not available in the Supervisor Time View (Manage).
Features Section- The features are yes/no flags, which define individual characteristics of the type processing. If the check box is selected then the feature is enabled.	
Allow mass activities	Select the check box to define that the activities of this type can be performed by multiple resources simultaneously. For example, team meeting, or training. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message. ○ This option can't be enabled if **Teamwork** is selected. ○ This option can't be enabled if **Allow move between resources** is selected. ○ This option can't be enabled if **Support of not-scheduled activities** is selected. ○ This option can't be enabled if **Allow reschedule** is selected.
Teamwork	Select the check box to define that the activities of this type are allowed for teamwork. Teamwork is an activity that's performed by minimum two resources: a team leader and an assistant. You can select this option only while creating the Activity Type. After you select this option and save the Activity type, you can't clear it. Similarly, if you clear it at the time of creating the Activity Type, you can't select it later. When the Teamwork activity feature is enabled, these activity type features are disabled: ○ Enable segmenting and extended duration ○ Allow move between resources ○ Allow creation in buckets ○ Allow reschedule ○ Allow non-scheduled ○ Enable 'day before' trigger ○ Enable 'reminder' and 'change' triggers ○ Support of work zones ○ Support of work skills ○ Support of inventory ○ Support of preferred resources ○ Allow mass activities
Enable segmenting and extended duration	Select the check box to define that the activities of this type are intended to be used for field work that must be split into segments, which can be scheduled and assigned to technicians. You can select this option only while creating the Activity Type. When you select this option, a new section,

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Field	Action
	Enable segmenting and extended duration, appears in the **Add activity type** window where you can set the duration for segments. After you select this option and save the Activity type, you can't clear it. Similarly, if you clear it at the time of creating the Activity Type, you can't select it later. These fields are displayed in the **Enable segmenting and extended duration** section: ○ **Minimum segment duration for a single day:** Defines the minimum length (in minutes) of each segment the activity is to be split. ○ **Maximum segment duration for a single day:** Defines the maximum total duration (in minutes) of the activity segments for any day. When you select the **Enable segmenting and extended duration** feature, these activity type features are disabled: ○ Teamwork ○ Allow mass activities ○ Allow repeating activities ○ Enable 'day before' trigger ○ Enable 'reminder' and 'change' triggers ○ Enable 'not started' trigger ○ Enable 'SW warning' trigger
Allow move between resources	Select the check box to define that the activities of this type can be moved from one resource to another. You can't select this option if you've selected **Teamwork**.
Allow creation in buckets	Select the check box to define that the activities of this type can be created in a bucket. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message. ○ You can't select this option if you've selected **Teamwork**. ○ You can select this option only if you've selected **Allow move between resources**.
Allow reschedule	Select the check box to define that the activities of this type can be rescheduled to another date.
Support of not-ordered activities	Select the check box to define that the activities of this type can be not-ordered activities. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message. Not-ordered activities are the ones for which the order of processing isn't defined. Such activities don't have an estimated time of arrival. The resource, dispatcher or routing may define the order (for example, command change order in mobile interface or edit activity command in web interface).
Allow non-scheduled activities	Select the check box to define that this activity type can have non-scheduled activities. You can't select this option if you've selected **Teamwork**. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message. Non-scheduled activities are the ones that don't have a specific day of completion assigned to them.
Support of work zones	Select the check box to define that the resource work zone must be calculated for this type of activities. This option can't be enabled if **Teamwork** is selected. If this option is selected and a work zone can't be calculated, a warning is displayed when such an activity is moved; routing will not assign such activities. If using work zones, Business rules must be configured to allow support of work zones (**Configuration** > **Business Rules** > **GUI features** > **Enable work zones support**).
Support of work skills	Select the check box to define that the work skills are calculated and assigned to the activities of this type, based on any conditions met. Subsequently, only resources with matching work skills

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Field	Action
	are considered for assignment of the activity. If you don't select this check box, work skills are not considered and the activity can be assigned to any available resource. ○ You can't select this option if you've selected **Teamwork**. ○ This option does not depend on the **Allow move between resources** feature (as work skills are used not only to move activities but to calculate capacity). If you choose to use work skills, you must configure Business Rules to allow support of work skills (**Configuration** > **Business Rules** > **GUI features** > **Enable work skills support**).
Support of time slots	Select the check box to define that the activities of this type require time slots. This refers to predefined time slots within which the activity can be performed. After you select this option and save the Activity type, if you try to clear the option, you see the message, 'Time Slot values will not be preserved after the change of this feature.' If you don't select this check box and the 'Time slot' field is added to the **Edit/View activity** context layout, then it's replaced with the Service Window field.
Support of inventory	Select the check box to define that inventory can be used for activities of this type. For example, lunch breaks and team meetings do not have inventory. You can't select this option if you've selected **Teamwork**. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message.
Support of links	Select the check box to define that the activities of this type can be linked with predecessor/successor activity relationships. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message.
Support of preferred resources	Select the check box to define that the activities of this type can have preferred resources (Preferred Resource tab). You can't select this option if you've selected **Teamwork**. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message.
Allow repeating activities	Select the check box to define that the activities of this type can be recurrent. If you select this option at the time of creating the Activity Type and save the Activity type, you can't clear it later. However, if you've cleared it at the time of creating the Activity Type, you can select it later. But, you see a warning message. ○ You can't select this option if you've selected **Allow move between resources**. ○ You can't select this option if you've selected **Support of not-scheduled activities**.
Calculate travel	Select the check box to define that the travel time to an activity must be calculated. If you've selected **Calculate travel** for an activity and it has neither the travel key (that is, zip code) nor coordinates, a company default value is used as a value of travel to and from the activity. ○ If the feature is selected, the algorithm implemented for activities is used for all activities of the type. ○ If the feature isn't selected, the travel time to activities of the type is always calculated as zero (0) (as if location of activities of the type is the same as location of previous activity) and travel to the next stop also starts from this previous location.
Calculate activity duration using statistics	Select the check box to define that the activities are estimated using the statistics that are gathered at the resource level and company level.
Allow to search	Select the check box to define that the Oracle Field Service Search Engine indexes activities of this type.
Allow to create from Incoming interface	Select the check box to define that the activities of this type can be created from Inbound Interface. Activities may originate from either Oracle Field Service or external systems.

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Field	Action
Enable 'day before' trigger	Select the check box to define that the day before trigger is invoked for activities of this type. You can't select this option if you've selected either **Teamwork** or **Enable segmenting and extended duration**. You can select or clear this option at the time of creating the Activity Type, or later.
Enable 'reminder' and 'change' triggers	Select the check box to define that the 'reminder' and 'change' triggers are invoked for activities of this type. You can't select this option if you've selected either **Teamwork** or **Enable segmenting and extended duration**. You can select or clear this option at the time of creating the Activity Type, or later.
Enable 'not started' trigger	Select the check box to define that the 'not started' trigger is invoked for activities of this type. You can't select this option if you've selected either **Teamwork** or **Enable segmenting and extended duration**. You can select or clear this option at the time of creating the Activity Type, or later.
Enable 'SW warning' trigger	Select the check box to define that the 'SW warning' trigger (Service Window warning) is invoked for activities of this type. You can't select this option if you've selected either **Teamwork** or **Enable segmenting and extended duration**. You can select or clear this option at the time of creating the Activity Type, or later.
Calculate delivery window	Select the check box to define that a delivery window can be calculated for activities of this type.
SLA and Service window use customer time zone (required for routing)	Select the check box to define that SLA/Service Window can be adjusted for the activities of this type. You must select this feature if you've selected **Support of time slots**.
Support of required inventory	Select the check box to define that the required inventory is supported for activities of this type.
Disable resource tracking for this activity type	Select the check box to define that the resource's geolocation isn't tracked, if the activity has the status 'Started'. The message, 'Your location isn't tracked for this activity.' appears on the Landing page. Location tracking resumes after the activity status changes (that is, the status changes to 'Completed/End', 'Suspend', or 'Not Done') and, the route is still active. This functionality is supported in the Oracle Field Service Core Application (browser) and installed applications (Android and iOS) and requires Oracle Field Service Smart Location, Oracle Field Service Professional Cloud Service or Oracle Field Service Enterprise Cloud Service. This message isn't displayed if you've not selected **Enable GPS Telemetry** under the **Configuration** > **User Types** > **Permissions** section.

3. Click **Add**.

Related Topics
- How is activity duration calculated?

How do I set the Access Schedule for an activity?

Typically, you add the Access Schedules to an activity when you create the activity, however, you can set it later as well.

1. Open the **Activity details** page for the activity for which you want to add an Access Schedule.
2. Click the pencil next to the **Access Schedule** field.

The **Access Schedule editor** opens.

3. Choose the days of the week for which you want to set the Access Schedule. Use the "+" and "-" icons to add and delete Access Schedule Intervals.

You can set up to two Access Schedule Intervals per day of the week. If multiple days of the week have the same Access Schedule, you can set up the Access Schedule Intervals for all at once.

4. To add the days on which the asset isn't accessible, click the "+" icon in the **Exception Days** section and then choose a date in the calendar. To delete an Exception Day, use the "-" icon.

For Example: You can set this Access Schedule:

- o Mon-Fri: 8AM-12PM, 13PM-17PM

- o Sat: 10AM-12PM

- o Exceptions: 2018-01-01, 2018-05-01

This means that the asset is accessible from 8 AM till 12 PM and from 13 PM till 17 PM, Monday to Friday and from 10 AM till 12 PM on Saturday. It I s closed on Sundays. The non-working days are January 1st and May 1st next year.

5. Click **Apply**.

The Access Schedule is saved.

What information can I see on the My Route tile?

The information you see on the My Route tile depends on the width of your device screen. A wide screen device shows more information.

Wide screens

The My Route tile for wide screen contains the Workload bar with the percent of resource work time load for the selected day.
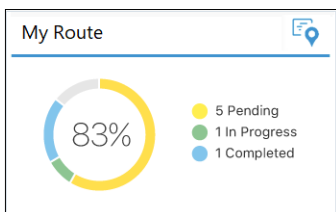
The percentage of workload is calculated using the formula: Load = (Duration/Shift)*100%, where:

Duration is the time taken to complete an activity, which is = duration of the activity + travel time

Shift is the duration of the shift in minutes.

The Workload is grouped based on these activity statuses:

- Pending

- Started

- Completed

- Suspended

- Not Done

On a narrow screen device, you see the total number of activities in the route for the selected day.

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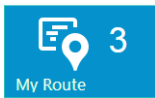
The tile redirects to the **Route Map** page if your administrator has configured the **Map** action link on the **Activity List** Context layout page.

This tile is always displayed even if there are no activities in your route.

If an activity is in jeopardy (for example, Missing SLA window), the tile turns orange.
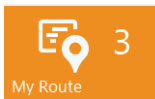
How do I change the optimization goal for a routing plan?

You can now select optimization goals for the routing plan and set the routing plan parameters in the best way. When you select an Optimization Goal, routing tweaks the variable parameters (costs) and suggests changes to the routing plan parameter.

Migration

During the migration process, re-optimization goals are migrated to optimizations.

This table provides the re-optimization goals and new optimizations goals:

Legacy Re-optimization Goal	New Optimization Goal
Optimize routes	Default
Assign high priority activities	Maximized assigned activities number
Reduce overdue	Reduce activities overdue

To set optimization goal for a routing plan:

1. Navigate to the **Routing** page.
2. Select the routing plan that you want to modify in the list.

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3. Click the **Modify** link to display the **Modify routing plan** dialog box.

4. Expand the Optimization Strategy section and select an **Optimization goal** from the drop-down list:

This figure shows the Modify routing plan dialog box with the Optimization goal options:

↑ Routing

Bulk Routing

Time Limit - **3 min.**

| Default |
| Maximize the number of assigned activities |
| Maximize activities per resource ratio |
| Minimize total travel |
| Prioritize earlier start of most important activities |
| Reduce activities overdue |

∨ **Optimization Strategy**

Optimization goal | Default ▾
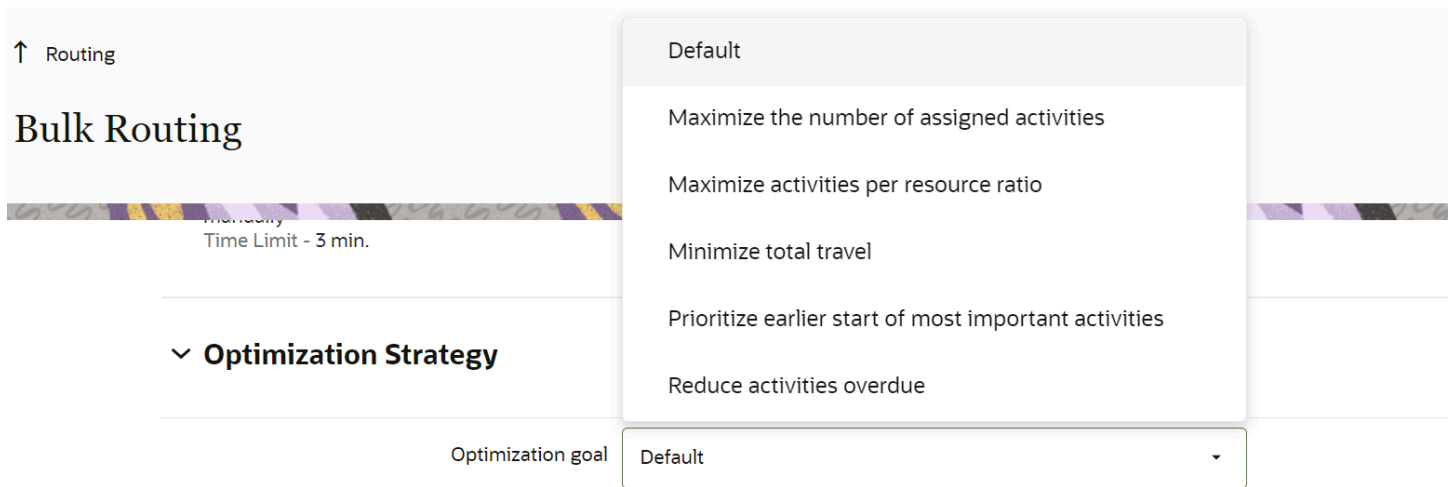
It is the default behavior. The reoptimization will only be started if it has the ability to assign new activities or change existing routes. There are no acceptance criteria.

5. When you select an Optimization Goal, routing tweaks the variable parameters (costs) and suggests changes to the routing plan parameter.

   o Default—Ensures that there are no changes in the general routing behavior in comparison with previous versions. This is the default value. Reoptimization starts only if routing can assign new activities or change existing routes.

   o Maximize assigned activities number—Slightly pushes the routing optimization behavior so that more activities are taken to the routes in total even if it requires more travel. If moving the activities between resource routes is ON, the routing plan will start only if there are non-assigned activities with high or highest non-assignment cost and the results are applied only if at least one such activity is assigned. The suggestions listed also help in setting up a routing plan to assign activities more aggressively.

   o Minimize total travel—Slightly pushes the routing optimization behavior such a way that less travel is involved even at the cost of lesser total activities number. The suggestions listed also helps to set up a routing plan to minimize travel more aggressively.

   o Maximize activities per resource ratio—Slightly pushes the routing optimization behavior in accordance to real travel time or distance in such a way that activities are assigning to less number of resources, leaving some of them completely free if possible. This option is recommended if there more personnel in the bucket that are needed for today and user would like to transfer resources to another bucket for some time. The suggestions listed also helps to set up a routing plan to minimize number of assigned resources.

   o Prioritize earlier start of most important activities—Pushes the activities with a higher cost of non-assignment closer to the beginning of the working day. This works only for Bulk Routing plans and works when you've selected Cost of not assigning an activity as the highest. Optimization starts only if routing can assign new activities; optimization results are automatically applied.

   Bulk routing tries to optimize the entire set of routes, rather than each individual route. Because of this, it's possible (although not likely) for a particular activity with a higher non-assignment cost to be scheduled

later than the one with a lower non-assignment cost, if such an assignment provides better overall optimization when travel time is considered.

To achieve the desired result, keep your non-assignment costs consistent among all the filters, including the ones for non-scheduled activities, for the activities that are already in the routes, and across all the routing plans within the profile, including optimization plans.

These constraints are applied:
- This optimization goal applies to bundled visits. It is expected that the technician at the job site for the first activity in a given bundle completea all the activities in the bundle. However, activities in the bundle must also be ordered by non-assignment costs, and the activity with the highest non-assignment cost must represent the entire bundle in the route.
- The activity's work skill, work zone, and calendar requirements are met.
- The activity's Delivery Window, Service Window, Time Slot and Access Hours are met.
- Late arrival penalties are considered for activities that have the same non-assignment cost priority.
- Travel is optimized while it doesn't affect activity order.
- An activity's SLA is observed, but only for activities that have the same non-assignment cost priority.

Nine main priority levels are used to prioritize an activity's start, ranging from Minimal to At All Costs. If additional levels are required, you can use the Late arrival penalty to distinguish the activity priorities further for the activities that have the same non-assignment cost (from Minimal to High). For example, an activity that has the Cost of non-assignment set to High and the Late arrival penalty set to Normal has a higher priority than an activity with the Cost of non-assignment set to Normal and the Late arrival penalty set to Normal. However, the first activity has a lower priority than an activity with the Cost of non-assignment set to High and the Late arrival penalty set to High.

o Reduce activities overdue—If moving the activities between resource routes is ON, the routing plan will only start if there are activities to be processed with high or highest overdue penalty and actually assigned with overdue and the results are applied only if the resulting overdue was decreased by given percentage. The suggestions listed helps to set up a routing plan to minimize number of activities having overdue and total overdue value.

Based on the selected option, internal routing optimization strategy is tweaked for better achieving the goal (with the except of default Balanced mode, which leaves costs untouched). If there are other parameters that are set to suboptimal values according to the selected goal, the suggestions for their values will also be displayed in this section.

6. Click **Update** to save your changes.

If a resource within a team is made inactive or has a non-working day, their work skills aren't shared with the team anymore, so the work skills are recalculated. As a result, the activity may be moved to a bucket or assigned to another resource.

Are there any known constraints for optiimzation goals?

Here are some known constraints for optimization goals.

We don't recommend mixing routing plans with different optimization goals in the same bucket, especially if the plans having an optimization goal set to **Prioritize earlier start of most important activities** are combined with plans having other optimization goals. If such a combination is inevitable, we recommend preventing the ability to move

activities between routes and reorder activities within the same route for all the plans, except the ones that have the optimization goal set to **Prioritize earlier start of most important activities**.

We don't recommend using Immediate Routing for activities matching the filter for the same set of activities that are used by the plan having the optimization goal set to **Prioritize earlier start of most important activities** as the assignments may be handled differently. However, you can combine an Immediate Routing for Urgent activities plan along side of a plan having the optimization goal set to **Prioritize earlier start of most important activities**, providing that activities with Urgent priority levels have the maximum non-assignment costs in the plan settings.

How do I define the blocking conditions for a message scenario?

The **Conditions** tab is used to define the set of blocking conditions under which the message should not be sent.

To define blocking conditions:

1. Open the scenario step for which you want to define blocking conditions.
2. Click the **Conditions** tab.
   The **Add Blocking Condition** tab opens:

3. Complete the fields as described in the following table.

Fields in the Add Blocking Condition tab

Field Name	Description
Condition to block message	
Field	Select the property from the menu that you want to use as the blocking condition. The menu includes all available properties related to activity, inventory, resource, service request, route, visit, user, and shifts and calendars. Additionally, several **other** fields, such as interface and day of the week, can be used for blocking conditions.
Check on	Choose one of the following options to define the time when the message's blocking conditions should be checked: ○ On creation—The conditions are checked at time of the message generation and not checked again. ○ On sending—The message is generated and stored in the message queue. The blocking conditions are checked at the time of message sending, which allows the system to account for any changes since the message was generated. ○ On creation and sending—The blocking conditions are checked at time of both message creation and sending.
Condition	Select the operator from the menu that relates the field you selected and the value you'll enter. For example, to block a message if the day hasn't changed, you'd select **Day changed?** for the field, enter **no** for the value, and select **in** from the **Condition** menu. The menu options include: In–The field value matches the entry in the **Value** field. Not in–The field value doesn't match the entry in the **Value** field. Contains—The field value contains the entry in the **Value** field. Does not contain—The field value doesn't contain the entry in the **Value** field. | **Note:** Don't use the **Contains** or **Does not contain** option for enumeration properties. Is empty—The field value is null or undefined. Is not empty—The field value isn't null. > >= < <= These operators compare the field value to the entry in the **Value** field. They apply to integer, string, enumeration properties, and date/time fields. Does not start with—The field value doesn't start with the entry in the **Value** field. Starts with—The field value starts with the entry in the **Value** field.
Status	Select the final status that will be assigned to the message when the defined conditions are met. Setting the status lets the message be processed further in the scenario, even though the actual message creation is blocked by the defined conditions. The options include:

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Field Name	Description
	o Failed o Sent o Delivered o False Method o Obsolete **Note:** If you don't select an option from the **Result** menu, no message is created.
Set message final status	
Value	Type a value that will be compared to the field value with the following operators: **In**, **Not in**, **Contains**, **Does not contain**, **>**, **>=**, **<**, and **<=**. You can enter only one value for the **>**, **>=**, **<**, and **<=** operators. To enter multiple values for the other operators, separate the values with commas.
Description	Type a description that defines what happens when the message is blocked. **Note:** The **Description** field isn't enabled until you make a selection from the **Result** menu.

4. Click **Add** to add the blocking condition.

   The new blocking condition appears in the **Block Conditions** tab.

5. To add more blocking conditions, repeat steps 1 through 4.

6. To rearrange blocking conditions, select an option from the **Order** drop-down list in the **Add/Modify Blocking Condition** tab.

   The application processes the blocking conditions one by one in order of their appearance in the list in the right panel. Checking stops after the first blocking condition is met, so the order of the conditions may change the message-sending logic.

7. To delete a blocking condition, select it in the right panel and click **Delete**.

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8. Click **Save** to save the blocking condition addition or changes to the scenario step.

In this screenshot, the blocking condition has been set so that the customer with phone number 555–12345, who has confirmed the appointment earlier in another manner, will never receive any messages. Therefore, the message's final status will be set as **Obsolete** with the **Previously confirmed** description.

Condition to block message		Set message final status	
Field	Phone [phone] ▾	Status	Obsolete ▾
Condition	Contains ▾	Description	confirmed
Value	12345		* Final status will be set without message sending

> **Note:** For troubleshooting message scenario configurations, ensure that you include properties used in Blocking Conditions and Message Scenario Steps to the **Monitored activity** and **Monitored inventory** fields. You can configure the properties on the **Configuration, Displays, Display, Activity history** page.

What are calendars, work schedules, and shifts?

Whether they're set at the organization unit, bucket or resource level, overall calendar options are made up of combinations of work schedules, shifts, working, and non-working time. They represent a holistic view of who's available or not available for work at any given time on any given day.

Here are a few rules regarding the hierarchy of calendars in general, and their levels of precedence:

- Work schedules, shifts, and working time applied to a bucket or an organization unit, by default, also apply to all resources that are part of bucket or organization unit.
- Calendars created or adjusted at a lower level override the calendar at a higher level. That is, the calendar that you've set up at a resource level overrides the calendar that the resource may have inherited from its parent entity. However, the work schedule defined at the child level doesn't override the shift, custom working time, and non-working time defined at the parent level. To override custom working time, you must delete any existing custom working time.
- A calendar at the individual resource level applies only to that resource and overrides all other calendars.

To understand calendars and their potential components better, we must define the different options. The components of a calendar are:

- Work Schedules: Work schedules contain multiple shifts and non-working times. Work schedules are the mechanisms for grouping these items, so that they can be applied to a single resource, a bucket, or an entire organization unit. Work schedules represent the highest level of calendar options.
- Shifts: Shifts are used to define the different working times as defined by an organization. They can be created once and used by various work schedules, simplifying the assignment of schedules. In addition to work schedules, shifts can also be assigned directly to organization units, buckets, or resources.
- Working Time: The time frame in which a resource is scheduled to work that doesn't comply with one of a company's standard shift definitions.
- Non-working Time: Non-working time is used to identify known absences such as bereavement, illness, holidays, and vacations.

Earlier portions of this guide covered the creation of work schedules, shifts, and non-working time. This section will concentrate on assigning those calendar options to entities on the Resource Tree (organization units, buckets, resources). While the process is the same for each, depending on what you select on the Resource Tree, the implications differ. This ties back in with the explanation of the calendar hierarchy.

How do I add a holiday?

There might be certain nonworking days when you don't want to send notifications to your customers from Oracle Field Service. You must add such days on the **Holidays** page for the application to consider them.

1. Click **Configuration** > **Holidays**.
2. Click **Add new**.

   The **Add Holiday** page appears.
3. Complete these fields:

Field Name	Action
Name	Enter the name of the holiday, for example, New Year Day.
Active	Select the check box if you want this Holiday to be considered by the application.
Date	Click the calendar icon and select the date, for example, 01/01/2023.

4. Click **Add**.

How do I add a shift to a resource's calendar?

Shifts are standard patterns of working time. They decide when a resource is available for work. Shifts applied at the resource level override the shifts applied at a higher level in the resource tree. You must modify the resource's calendar to add a shift.

1. Method 1: Click the calendar icon on the navigation bar. Select a resource from the resource tree.

   The **Calendars** page appears.
2. Method 2: Go to the **Resource Info** page for the desired resource and click **Resource Calendar**.
3. Click the date for which you want to change the shift.

   The shift dialog box displays.
4. Complete the fields.

Field name	Action
Schedule	Select a shift from the drop-down list.
End date	Select the end date of the shift, if applicable.

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Field name	Action
Comments	Enter comments, if any.
Recurrence-Repeats-Daily	Apply to schedules such as every other day or every 3rd day. If you select this option, add the frequency of occurrence in the field **Days between occurrences**.
Recurrence-Repeats-Everyday	Applies to every day schedules that repeat without exception and without any modification options.
Recurrence-Repeats-Weekly	Apply calendars that have a regular weekly pattern. Select the days that apply to this shift using the check boxes for the individual days. Indicate the frequency of this pattern weekly by adding a value to the **Weeks between occurrences** field.
Recurrence-Repeats-Yearly	Occurs every year from the selected date entered in the **From day** until the date entered in the **To day** field.

5. Click **Submit**.

How do I add a Mass activity?

You create a Mass activity when you want several resources to use it at the same time. For example, if all the technicians are required to attend a training, you add a Mass activity.

1. Open the **Dispatch Console**.
2. Select a resource, an organization unit, or a bucket in the resource tree.
3. Click **Actions** > **Add Activity**.
4. Complete the Activity Notes, Position in Route, Duration, SLA Start, SLA End, and Time Slot fields.

   If **Position in Route** is either Read-Only or isn't configured for the page, the order of the activity is decided based on the Time Slot or Service Window. If **Position in Route** is available, the order of the activity is the same as selected for this field.
5. Click **Mass Activity.**

   The **Mass Activity** check box is displayed only for the activity types for which it's configured.
6. Select the resources that you want to be part of this activity.

   The resource, organization unit, or bucket that you selected in the resource tree is selected by default. This means, the child resources that are part of the organization unit or bucket are selected automatically. If you had selected an individual resource in Step 2, you can select more individual resources as required.
7. Click **Submit**.

   The activity is assigned to all the selected resources and the child resources of the selected organization unit or bucket. Be aware that the activity isn't created on the bucket or the organization unit itself. You can't deselect the **Mass Activity** check box and make it an individual activity after you click **Submit**.

   If you've configured the **Expose mass and repeating activities in API for these number of days** field on the **Business Rules** page, the activities are instantiated in the technician's route in advance. If the value for this field is zero then the activities aren't instantiated automatically, but are created only when a route is created.

How do I add a workflow step?

A workflow step is the page that you want to display at that step. This can be either a custom form, a plug-in, or a standard inventory action page. A step includes conditions that decide when a step is started or completed.

1. Click **Configuration** > **Workflow Manager**.
   The existing workflows are displayed.
2. Click the workflow for which you want to add a step.
3. Click the plus icon (**Add new** button) in the right pane.
4. Complete these fields on the **Add step** dialog box:

Field	Action
Open	Select one of these options: ○ **Forms:** Select the custom form that you want to display at this step. To display a form dynamically, select **Form label is taken from property** and select the form property that was created for this purpose in the **Property containing form label** field. ○ **Plugins:** Select the plugin that you want to display at this step. ○ **Standard action screens:** Select the standard inventory page that you want to display at this step. The options in the **Show completed when** section change based on the option you select here.
Position in workflow	Select the position of the step within the workflow. If you're adding the first step, 'First' is automatically populated. You can change the order of the steps on the **Workflows** page as well.
Name translations	Add the name of the step in the languages that you prefer. This name is displayed on the workflow panel.
Show available when	Select the visibility condition for the step. The condition can be based on a field or property, or a step in the workflow. This step is visible for end users only when the condition is satisfied. **Always available (no conditions)** means that a step is displayed for end users initially. Click the plus icon and select one of these options: ○ **Fields and Properties:** Click the plus icon. Select the field name and then select the condition it must satisfy. This is similar to adding the visibility conditions for user types. ○ **Workflow Step:** Click the plus icon. Select the custom form that you've selected for the current or an earlier step. Add the condition. This option lets you specify whether you want to display a step when a form selected in an earlier step is completed. **Default:** Form <form name> in (equal) submitted The *Submitted* option isn't available if you've selected a plug-in in the **This step will open** field.
Show completed when	Select the condition that decides a step as completed. The condition can be based on a field or property, or a step in the workflow. The step is marked as completed only when the condition is satisfied. Click the plus icon and select one of these options: ○ **Fields and Properties:** Click the plus icon. Select the field name and then select the condition it must satisfy. This is similar to adding the visibility conditions for user types.

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Field	Action
	o **Workflow Step:** Click the plus icon. Select the custom form that you've selected for the current or an earlier step. Add the condition. This option lets you specify whether you want to mark a step as completed when the current form is submitted. **Default:** Form <form name> in (equal) submitted The *Submitted* option isn't available if you've selected a plug-in in the **This step will open** field.
Parameters	Use the **Parameters** section to prepopulate the fields on the form you're using with this step. This option is similar to the **Parameters** option when you configure a custom form using the Visual Form Editor.

5. Click **Add**.

The step is added.

6. Click **Save**.

The workflow is saved.

Related Topics

- Launch a Custom Form Dynamically
- Add the Form Property to a Workflow Step

How do I launch a custom form dynamically?

If your business uses several form variations, for example, a form for a specific type of asset or activity, you need not configure a button for each form individually. Instead, you can configure a single button or workflow step to launch the relevant form dynamically. This is achieved by populating the appropriate form label into a designated label property while creating an activity. To start with, you must define a property that stores the unique form label.

The high-level steps to configure a dynamic form button or workflow step are:

1. Create a custom property to store the form label.
2. Link the property to a button or workflow step.
3. Populate the relevant form label into the property when creating a new activity (new activities are typically created through APIs).

Forms launched dynamically are supported in offline mode the same way as persistent forms. The application caches the forms for offline use, while loading the application at the beginning of the work day or while receiving updates for activities or inventory.

Oracle Field Service displays an error when you try to open a form that doesn't exist in the environment. For example, when an incorrect form label is populated into a dynamic form property. Further, dynamic form buttons and workflow steps are disabled when the linked dynamic form property is empty.

How do I create a form property to store the form label?

You must create a form property to store the form label, to launch forms dynamically.

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1. Click **Configuration** > **Properties**.
2. Click **Add new**.
3. Complete these fields:
    a. **Entity:** Select the entity as activity or equipment. You can create a dynamic property only for these two entities.
    b. **Label:** Add a label for the form that aligns with the activity for which you're using the form.
    c. **Name:** Add a name for the form in the English language field and other required language fields.
    d. **Property type:** Select string. The dynamic property supports only string type of properties.
    e. **GUI:** Select Text element. The dynamic property supports only text elements.
4. Click **Add**.

How do I add a form property to a workflow step?

If you wish to launch a custom form dynamically from a workflow step, you must create a property to store the form label and then link the property to the required workflow step. Perform this step after creating the form property to store the label.

1. Click **Configuration** > **Workflow Manager**.
2. Add a new workflow or edit an existing one.
3. Within the workflow, add a new step or modify an existing step.
4. In the **Add step** or **Modify step** dialog box, select **Forms**.
5. Select the **Form label is taken from property** check box.
6. Select the form property that you've configured earlier, in the **Property containing form label** field.
7. Complete the remaining fields as required.
8. Click **Add** or **Modify** and save the step configuration.

Related Topics
- Launch a Custom Form Dynamically
- Create a Form Property to Store the Form Label

How do I view the quota history?

Quota history stores the data related to the changes you perform on the time slot based Quota pages (for example, Quota by day, Quota by time slot, and Quota by Capacity Categories). You can view quota history using the filter options. You can also export quota history in the default export file format setup in the **My Display** settings under your user profile.

Note: During implementation, an unnamed group is created and the Quota History action link is moved under the unnamed group. You can navigate to the User Types screen and add the Quota History action link to the group so that it displays under the ▤ icon for the required user type.

To view the quota history for a bucket:

1. Click the **Quota** icon on the navigation panel.
2. Open the **Quota** page.
3. In the resource tree, select the bucket for which you want to view the quota history.
4. Click **Actions** > **Quota history**.

Quota history includes the following information:

- **Date:** Date of the action.

- **Time Slot:** Time slots that are updated. Filter the values in the Time Slot column by selecting or deselecting some or all the time slots used in the Quota Management.

- **Capacity Category:** Capacity categories that are updated. Filter the values in the **Capacity Category** column by selecting or deselecting some or all the capacity categories used in the Quota Management.

- **Work zone:** Work zones that are updated.

- **Action:** Actions performed in the Quota Management screen. Filter the values in the **Action** column using the following options:

  ◦ **Change:** Changes made to the values in the Quota, % Quota, Min. quota, and % to stop booking at cells at a Quota level.

  ◦ **Close:** Quota closed for a day, time slot, capacity category or work zone.

  ◦ **Open:** The opening Quota for a day, time slot, capacity category or work zone.

  ◦ **Remove work zone specific settings:** Displays only if the close time is updated and the following conditions are met:
    - Quota for all work zones for a particular capacity category that belongs to a particular time-slot or time-interval is closed using the **Close All** option. A red cross mark displays on the cell when the quota for all work zones is closed.
    - Quota for all work zones is opened using the **Open All** option for the same capacity category for which the quota for all work zones was closed.

- **Action time:** Time of the action performed in the Quota Management screen. The values in the **Action time** column are shown in the time zone of the selected capacity area. Filter the values in the Action time column to display the actions performed within the last 4 hours, last 8 hours, last day or last 2 days. Additionally, it's possible to sort the data in ascending or descending orders.

- **% Quota, Min. quota:** These columns are only shown when the Quota is defined as a percentage of the available capacity according to the configuration of the capacity area. They show the corresponding values.

- **Quota:** Changes made to the to the Quota values.

- **% to stop booking at:** This column is shown only when the **% to stop booking at** option is enabled at the Time Slot or Capacity Category level during the capacity area configuration.

- **User:** User who updated the quota. When a change is performed automatically, the **User** column doesn't contain any value.

  | **Note:** Quota history isn't available in the multi-bucket mode.

How do I configure Pass-Through authentication?

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

Follow these steps:

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

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

   This screenshot shows the Configure PTA dialog box.

Knowledge access

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

Knowledge fields mapping

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

Save

2. Complete these fields:

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

3. Click **Save**.

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

What to do next

PTA Fields and Values

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

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

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

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

Security Policy as a Basic Authentication

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

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

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

Oracle Field Service - Knowledge Advanced for B2C Service Authentication Workflow

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

How do I add the 'Select Resource' button to a page?

You can add the **Select Resource** button to the **Edit/View activity** and **Add/Details inventory** Visual Form Editor to help dispatchers, field users, and supervisors view the activities assigned to a technician in one click. For dispatchers, **Select Resource** leads to the **Dispatch Console**, where the resource is automatically selected in the resource tree. For field resources and supervisors who don't have access to the **Dispatch Console**, **Select Resource** opens the technician's landing page.

The **Select Resource** link is added by default to the Activity Hint and it can't be configured.

1. Click **Configuration** > **User Types**.
2. Select the User Type for which you want to add the button and go to the **Screen configuration** tab.
3. Expand **Application screens** and click **Edit/View activity**.
4. Expand **New element** and drag the **Button** element to the header.
5. Click the pencil icon in the **Standard action screen** field.
6. On the **Select screen** dialog, select **Select Resource [select_provider]** in the **Screen** field.

   The **Select Resource** button is added with a default visibility of Read-Only.
7. Click **OK**.
8. Add any name translations and visibility conditions that you want.
9. Click **Save** on the Visual Form Editor.
10. Repeat steps 3 to 9 and add the button to the **Add/Details inventory** page.

How does immediate activity assignment work?

The Routing module can now prioritize activities and assign urgent ones to technicians immediately, even if it's at the cost of other activities. If the priority of the new activity is high enough, Routing can rearrange technicians' routes and insert urgent activities in front of other activities. This rearrangement happens even when the technician is already on the way to an activity or in the middle of an activity.

Oracle Field Service Routing automatically assigns activities created in the bucket to resources matching the requirements of such activities. Depending on your company requirements, you can select a routing schedule that's the most suitable for a particular bucket. Routing can be started manually or once a day or recurrently with the specified interval. These options covered most of the operational patterns used by different companies. If the company preferred to distribute the workload the day before and provide its technicians with complete routes at the beginning of their working day, then once-a-day Routing is the best option. If the company needs to respond quickly to new tasks received during the day, then recurrent Routing running several times a day is the solution.

Routing schedule options have been enhanced to handle urgent activities. Routing can assign activities meeting certain criteria immediately after they're created in or moved to the bucket so that the time between the activity creation and its assignment is minimal. Routing now has an additional schedule option, **immediate**. Depending on the schedule settings, Routing either assigns urgent activities identified by the activity priority or assigns certain activities from the bucket keeping the time till assignment to the minimum.

Urgent and immediate activities with SLA end that have a preferred resource are assigned to preferred resources. If a preferred resource has the work day start after SLA end time and other resources are available to execute this activity, then the activity is assigned to the other resource. Further, if a preferred resource isn't available for an urgent activity assignment, the activity will be assigned to another resource with the matching work skills (and work zone based on the routing plan configuration).

Urgent routing doesn't assign activities to those technicians who just have on-call working calendars but their route isn't activated. Urgent routing assigns activities to those technicians who have on-call working calendars and their route is activated.

> **Note:** Resources that have activated routes are considered eligible to be assigned activities, assuming all other conditions are met, even if they activated the route before their scheduled start time.

Here's the difference between an Immediate Routing plan for Urgent activities and activities meeting filter conditions-- Immediate routing for urgent activities can reassign activities, whereas Immediate routing for activities that satisfy the filter conditions can't reassign.

Basic Principles of Immediate Activity Assignment

Immediate-assignment functionality is aimed at assigning certain activities immediately following their creation in or moving to the bucket. It serves the following purposes:

- Assignment of activities with the minimum ETA possible. The activities to be assigned are determined by the **Activity Priority** settings.

- Assignment of activities within the configured interval. The activities to be assigned are determined by applying a filter.

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- Support segmentable activity assignment when the Activity Type = segmentable activity flag is set.

  > **Note:** Segmentable activities aren't supported by urgent routing plans.

- Segmentable activities are available for Immediate Routing when you create them and when you move them to the bucket.

- Immediate routing of segmentable activities will use the required work skill ratio and not the preferred work skill ratio. This is different from regular activities.

Immediate Routing may not route those activities that are linked with hard constraints if they're assigned to the Bucket and linked before Immediate Routing triggers and starts the processing of such new Activities. Activities linked with other constraints will be routed via Immediate routing without any issues.

Start-start and finish-finish are considered hard constraints as one linked activity is assigned to a resource while another linked activity is in the bucket; this violates the constraint for an assigned activity.

Immediate Routing may still assign one of the linked activities (say activity A) in case if:

- Activities linked to A are assigned to the field resource

- Activity A is assigned in such a way that its links will not be violated (apart from other Routing's conditions) .

  > **Note:** Assigning simultaneous links isn't supported using Immediate Routing; such activities are skipped and unassigned.

Immediate Routing and SLA

Here's how Immediate Routing plans work with the SLA fields:

- To minimize the chance of a resource to be retained on an activity that's nearing SLA End, Immediate Routing doesn't route activities (that satisfy the filter conditions) if the ETA is greater than the remainder of SLA End and SLA Window Threshold (that is, ETA > SLA End - SLA Window Threshold).

- This automatically applies to activities for which SLA ends earlier than the SLA Window Threshold, before the current time. These activities can't be routed by Immediate Routing, even if they satisfy the filter conditions.

- If you try to assign activities manually in such a way that ETA > SLA End - SLA Window Threshold, it leads to the warning that the SLA Window may be lost.

You can configure the SLA Window Threshold using the **Activity has not been completed XX minutes before the end of SLA Window** setting on the **Configuration** > **Display** > **Alerts** section.

Resource Filters in Immediate and Urgent Routing

Immediate and urgent routing plans contain resource filters similar to Bulk Routing plans. The Filters section is similar to the Bulk Routing with the following exceptions.

To set resource filters:

1. Navigate to the **Routing** screen.
2. In the row for the Immediate or urgent routing plan, click the **Properties** icon and select **Modify**.
3. In the Edit Routing Plan screen for Urgent and Immediate routing plan, expand the **Filters** section, set the filters as needed. The Filters section is similar to the Bulk Routing with the following exceptions:

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> ○ Only one predefined filter is available for non-scheduled activities in the routing bucket.

> ○ You can't add other filters or delete existing filters.

> ○ You can't add/modify/delete activity filters.

How do I implement Redwood styles in a custom plug-in?

If you've created a custom plug-in and want it to have the same look and feel as the other pages of Oracle Field Service, you can implement it.

You can use JET and standard JET styles to get a consistent look between the application and plug-ins. For more information, see the Use CSS and Themes in Oracle JET Apps section in the Oracle® JavaScript Extension Toolkit (Oracle JET) guide.

How do I add a shift?

Use this feature for special types of shifts that don't fall within the traditional 24-hour clock. You can create separate shifts for each working time pattern within your organization.

1. Click **Configuration**.
2. In the **General** section, click **Calendars**.

   The **Work Schedules** page appears.
3. Click **Shifts**.

   The **Shifts** page appears.
4. Click **Add new**.

   The **Add Shift** page appears.
5. Fill up these fields and then click **Add**:

Field	Description
Name	Enter a name for the shift, as it appears in the application.
Label	A unique identifier for this shift.
Active	Click the check box to activate (make available for use) this shift.
Type	Select the type of shift from the drop-down list. Common shift types include **Regular** for standard periods of time, or **On-call** for longer time frames that a resource might be available, after the regular shift ends. Select the color coded on-call icon that you want to attach to the shift. When you add this shift to a resource, this icon is displayed on the Dispatch Console, Manage, Calendar, and Resource Calendar pages, and on the resource avatar.
Time From	Enter the start time for this shift.
Time To	Enter the end time for this shift.

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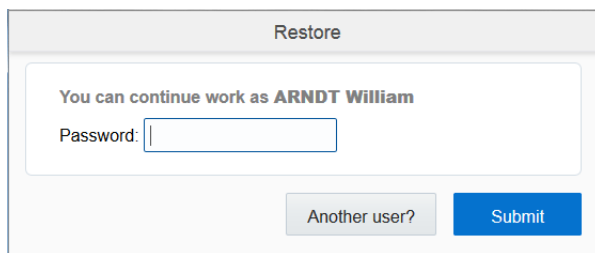
Field	Description
Points	Within the application, points are used as limiters. If activities are assigned point values (based on different completion durations, complexity, value, and so on.), then assignment caps can be determined on a shift-by-shift basis. Once point thresholds are reached for a resource to which that shift is assigned, then routing will allocate no more activities to that resource.

How do I create and use a PIN?

In addition to signing in with a password, you also can use a personal identification number (PIN) to access the application on Android and iOS devices.

When you sign in to Oracle Field Service Mobility Cloud Service for the first time, you're prompted to create a PIN.
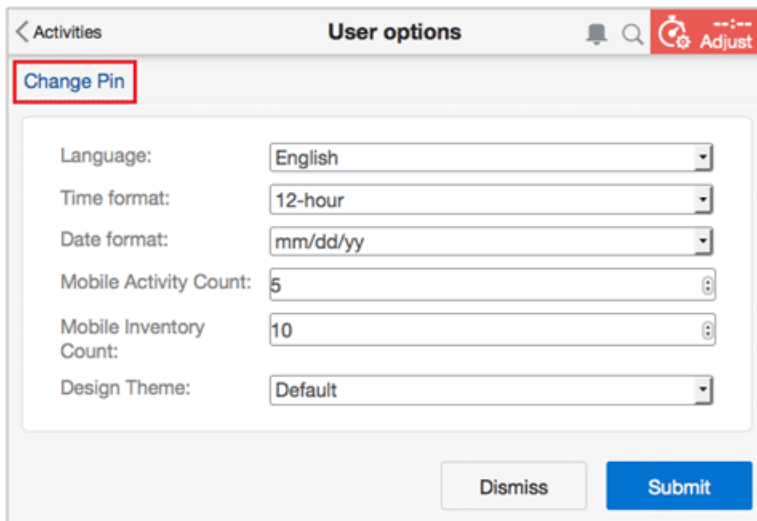
In some situations, you're asked to reenter/restore your PIN.

- After too many unsuccessful sign in attempts (if you've forgotten your password)
- When you sign in again and the page you were on when you logged out has been saved to the cache

You also can reset your PIN from the **Restore** page. Enter your PIN and click **Reset PIN**. The application logs you out and prompt you to sign in again, using your password. You're then redirected to the **Set PIN** page to create a new PIN.

When certain authentication methods have been implemented, you'll have the option to change your PIN instead of your password on the **User options** page.

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Click **Change Pin** to access the **Change PIN** page. You must change the PIN for yourself, you can't change it for other users.

What are user type settings?

Use user types to manage permissions and restrictions for all users. You can create user types for your business that correspond to your existing business roles. If your organization adds a new business role, you must create and configure a new user type for it. Similarly, if you alter a business role, you must change the corresponding user type settings.

Each user type has a profile that defines security and display permissions, such as the user's sign in method, the ability to use certain functions, and access to menu items and properties. They might also include custom context layouts. You assign each user only one user type. You can add or change user types at any time, and delete those which are no longer needed. You can also copy existing user type configurations to make new ones. This makes it easy to create multiple user types that share similar configuration settings.

For each page or function that you want to make available for a user type, you set the visibility to **Read-only** or **Read-write**. If you don't define a visibility value, that page or function is hidden for that user type. Access to a page or tab automatically includes access to the actions on that page.

Changes to a user type assigned to Oracle Field Service Core Application users are applied shortly after they're saved on the **User Types** page. Changes to a user type assigned to Oracle Field Service Mobile for Android and iOS users are applied after the next synchronization.

User type settings fall into these categories, which appear as tabs:

- **General**

  These basic settings define the user type options regarding resource types and other users, and the user type access to the application and its functions.

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- **Screen configuration**

  These settings define the pages, windows, context menus, and other elements visible to a user type and supports the context layout editor where the content, arrangement, and visibilities of each context are set.

- **Restrictions and Filters**

  These settings define the restrictions on the activities and fields that are visible to the users of the current type.

How do I create a user type?

A user type is a template that specifies permissions and page configurations. These permissions and configurations are applicable to all the users of the user type. Oracle Field Service includes a default user type, you can create more user types based on your business requirements.

Before you start

You must be logged into Oracle Field Service as an administrator.

When you create a user type that isn't copied from an existing one, most of the options are disabled, so you must define the settings manually. When you use a copy, the new user type inherits all the settings from the copy.

Here's what to do

1. Open the **User Types** page.
2. Click the **+** icon at the upper left corner of the page.

   The **Add User Type** dialog box appears.
3. Enter a **Label** for the user type.

   This is a unique string identifier of the user type, which is used in APIs.
4. Enter a **Name** for the user type.

   This is a human-friendly name, which is displayed in the list of user types.
5. Optionally, choose an existing user type to copy settings from.
   a. Choose an existing user type from the available list.
   b. Optionally, click **Share screen configuration**.

      Choose this option if you want the new user type to have the same page configuration options as the copied user type. If you change a shared page configuration, the change applies to all user types that use the configuration.
6. Click **OK**

   The **User Type Settings** page appears.
7. Edit the user type values as necessary.
8. Click **Save**.

   Changes to a user type that's assigned to manage users are applied shortly after they're saved. Changes to a user type assigned to Oracle Field Service Mobile for Android and iOS users are applied after the next synchronization.

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How do I view the statistical parameters?

You can view the settings based on which Oracle Field Service collects statistical data. Some settings are duration parameters, travel time parameters, activity travel keys, and resource travel keys. Be aware that if you try to adjust the settings, it may significantly change the workload for each resource, and significantly impact the logic of gathering statistics for the work done.

1. Click **Configuration**.
2. In the **Subsystems and Integrations** section, click **Statistics**.
   The **Statistics** page appears.

Field	Description
Duration parameters	
Minimum relevant duration time in minutes Maximum relevant duration time in minutes	To ensure that outlier activity durations (sometimes due to non-compliance) don't adversely affect statistical calculations, durations with values less than or more than the minutes entered in these fields will be ignored by the statistics engine.
Lower limit for personal ratio to calculate duration (%) Upper limit for personal ratio to calculate duration (%)	The lower and upper limit percentages are about the company level duration for an activity. If the duration estimated for a resource's assigned activity is beyond the lower or upper limit, the estimate is corrected so that it lies within the set limits. The Lower limit default value is 50 with an available range from 0-100. The Upper limit default value is 200 with an available range from 100-999. If the preference is always to use the personal learned duration without any lower or upper limits applied, the ranges must be set for the outer extremes with the lower limit set to 0 and the upper limit set to 999. Example: Suppose the company-level estimation for an activity is 50 minutes and the lower limit percentage is set to 80%. If the estimation for a resource is 30 minutes, the final estimation for the activity will be calculated as the maximum of 30 minutes and 80% of 50 minutes, which will be 40 minutes. The lower limit would be in effect and 40 minutes would be assigned to the activity.
Travel time parameters	
Default travel average time	The average value and standard deviation (in minutes) used for travel time prediction when there isn't statistical data for travel between two specific travel statistics keys.
Minimum relevant travel time in minutes Maximum relevant travel time in minutes	To ensure that outlier travel durations (sometimes due to non-compliance) will not adversely affect statistical calculations, durations with values less than or more than the minutes entered in these fields are ignored by the statistics engine.
Airline distance method weight	This parameter defines the weighting proportion between the statistic (average travel time) and coordinate methods (straight line/airline) of calculating/predicting travel time between two locations. The options are as follows: ○ 0 = Use only travel key based estimation. Oracle Field Service uses the statistics based estimation if coordinates are available. If not available, then it uses the default values. ○ 0.001 = Prefer travel key based estimation. Oracle Field Service uses the statistics based estimation if coordinates are available. If not available, then it uses the airline distance. If even airline distance isn't available, then it uses the default values. ○ 0.5 = Use both estimations evenly. ○ 0.999 = Prefer Airline distance method based estimation. Oracle Field Service uses the airline distance based estimation if coordinates are available. If not available, then it uses statistics. If even statistics aren't available, then it uses the default values.

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Field	Description
	o 1 = Use only Airline distance method based estimation. Oracle Field Service uses the airline distance based estimation if coordinates are available. If not available, then it uses the default values.
Calculate airline distance based travel at key level	If this check box is selected, travel key parameters are used to calculate the airline distance based travel estimation. The application acts as before if this check box is deselected.
Default airline distance speed in km/h	The speed used to determine airline (straight line) distance time.
Default departure/parking time in minutes	The amount of time that's allowed for parking and departure from one activity to another.
Delivery Window Parameters	
Delivery window factor	Determines how much deviation should affect the calculation of future delivery windows based on their ETAs.
Delivery window granularity	This defines the number of minutes to which delivery window values will be rounded.
Delivery window minimal size	When delivery window is calculated, this is the smallest value (in minutes) that will be provided.
Delivery window maximal size	When delivery window is calculated, this is the largest value (in minutes) that will be provided.
Delivery window should not start earlier than [ ] minutes prior to start of service or SLA window	Prevents the delivery window from starting outside the service window agreed to earlier. When the option is enabled, the statistically calculated delivery window can't start earlier than the specified number of minutes before the service window or SLA window start.
Stats Fields	
Activity duration stats fields Activity travel stats fields Resource travel stats fields	This group represents the formation of the keys (made up of fields) used for the grouping of work duration and travel duration values to find the averages. The user-defined activity keys make it possible to sort the collected statistical data according to various activity characteristics, such as work order type, activity properties, activity postcode, etc.

Note: You can specify durations for specific activities and technicians through APIs. For more information, see the REST API for Oracle Field Service guide.

Related Topics
- How is activity duration calculated?

What's a custom property?

A custom property is an attribute of an entity that's unique to each client. You can create a custom property through the user interface or through an API, or you can import it from another instance. Once added, the custom property is available for use in page configurations, filters, and many configuration areas (for example, search fields, duration field, and so on).

You can create these types of properties:

- String: These are custom properties that require alphanumeric entries. These can include free text boxes, URLs, phone numbers, or email addresses.

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- Integer: These are custom properties that require numeric entries. This option can also be used for check boxes.

- Enumeration: These are custom properties that require selections from fixed lists. Option buttons and combo (drop-down lists) boxes are common examples of this property type.

- File: These are custom properties that require some type of file upload. These could include MIME types such as .gif, .jpg, .pdf, .mpeg, .zip, html, .wav, or .doc. Examples of File properties could be customer signatures or even technician photos.

Each entity (for example, activity, resource, inventory, and users) contains a set of associated attributes. For example, resource records might contain attributes such as name, contact information, and physical attributes such as gender or a photograph. These attributes within Oracle Field Service are combinations of fields or custom properties.

Properties with the Type "Field" are the native system properties that are available for the specified entities. For example, Name (property label, cname) is associated with an Activity, and Serial Number (property label, invsn) is associated with Inventory. Field type of properties can be mapped with similar client properties.

> **Note:**
> - Multiple fields or properties with the same name can exist. For example, Name can be a customer's name (property label, cname) or a resource's name (property label, pname). In this example, each Name property is assigned to a different entity and has a different property label.
>
> - When custom property values exceed 255 bytes, the entire value is shown in the activity details, API responses, and Outbound Messages. However, only the first 255 bytes are used for search, visibility conditions, activity inventory list columns and their sorting, travel, activity duration, visit, and Work Zone Keys. If you create a condition with long values, only the first 255 bytes are used with historic data; all the long values that are added after you create the new condition will use the full set of data. Further, if a field with a long value is added to a page such as **List view**, only the first 255 characters are shown.

How do I configure the Where Is My Technician theme?

You must configure a theme after you create it. You configure a theme to select a template, specify your branding details, select the tracking details, and decide whether you want to let customers provide feedback for the technician and the service.

Before you start

Before you add the **Feedback** page, ensure that you've created the custom properties to store the feedback comments and rating. You can create the custom properties on the **Configuration** > **Properties** page.

Here's what to do

1. Click **Configuration** > **Themes**.
2. In the **Where is My Technician** section, click **Edit** on the Actions icon for the Where is My Technician theme of your choice.
3. To add branding to the theme, click **Branding** and complete these fields:

Field Name	Action or Description
Theme description	Enter a description for the theme that helps you identify its purpose.
Template	Select the template that you want to use from Bright, Hero, and Minimal templates. Notice that the Scheduled, Days before, On the way, Arrived, and Feedback pages refresh with each detail that you add to the theme.
Main color	Click the hexadecimal number and select a color of your choice. Depending on the template you select, the Main color applies to the elements on the page and some text that must be highlighted. Some text is inverted based on the background color and the placement of the text. If the background is dark then the text can be white, if the background is light colored, then the text is black.
Background color	Click the hexadecimal number and select a color of your choice. This is the background color of the page. Your customers may access this page from their mobile phones and the screen width is limited, so choose the colors carefully. If you've selected the Hero template, then the **Background picture** field becomes available and you can upload a custom picture.
Company logo	Click **Browse** and select a file with the extension JPEG, PNG, GIF, TIFF, or SVG. You can select a file of maximum size 100 KB. This logo is displayed at the top of the page.
Company favicon	Click **Browse** and select a file with the extension ICO or PNG. You can select a file of maximum size 30 KB. This is the small icon is displayed on the web page header. It is typically a smaller image of your organization or product logo. You can configure the browser tab name in the **Company** field on the **Localization** tab. It will be shown next to the favicon.
Custom domain name	Enter the domain name that you want to use in the Where is My Technician URL. For example, https://wmt.example.com/k694jg. Here, k694g is the unique token. **Note:** If the Custom domain name field is empty, then the Where is My Technician URL can't be opened in an iFrame.

4. To specify attributes such as arrival time and technician's photo, click **Attributes** and complete these fields:

Field Name	Action or Description
Arrival time	Select one of these values to define the technician's time of arrival: ○ Do not display: Select this option to hide the arrival time on the Where is My Technician page. ○ Communicated Window, Delivery window, Service window: Select this option to let the application choose the available value according to the activity status, value availability, and their priority: - Communicated Window: ○ Delivery Window ○ ETA ○ Service Window ○ Value returned through an outbound response message - Delivery Window - Service Window You can configure the arrival time further using the {ARRIVAL_TIME_RANGE} place holder. For more information on the {ARRIVAL_TIME_RANGE} place holder on the Localication tab, see the Available Placeholders on the Localization Tab topic.

Field Name	Action or Description
	o Communicated Window: Select this option to display the time you've informed your customer that the technician would arrive. The application doesn't update this value automatically. The options are: - Delivery Window - ETA - Service Window - Value returned through an outbound response message o Delivery window o Service window o ETA You can configure the 'ARRIVAL_TIME_RANGE' placeholder to configure the value that you want to use for Communicated Window. If the Delivery Window, Service window, or ETA is empty, then the arrival time isn't shown on the page.
Type of service	Select one of these values: o Do not display: Select this option to hide the type of service that the technician is going to perform. o Activity type: Select this option to display the activity type as the type of service.
Customer address	Select one of these values: o Do not display: Select this option to hide the customer's address. o Customer address: Select this option to display the customer's address on the Where is My Technician page. This field includes the Address, City, ZIP/Postal Code, and State fields. If any of these values is empty, then it isn't shown on the page.
Technician name	Select whether you want to display the technician's name or the credence. You can choose any custom resource property that has the GUI set as Text element. **Note:** The Where is My Technician functionality isn't available for Contingent Workers.
Show technician photo	Select the check box to display the technician's photo. If you don't select the check box, no photo is shown. Be aware that the photo available in the **Avatar** field of the **Resource Info** page is used as the technician's photo.

5. To add the map details, click **Map** and complete these fields:

Field Name	Action or Description
Customer position	Select one of these values: o Do not display: Select this option to hide the customer's coordinates on the map. When you select this option, the technician's position is also hidden. Use the **Customer address** field on **Attribute** tab to hide the customer's address on the page. o Exact: Select this option to display the exact position of the customer on the map. o Approximate: Select this option to display a bubble around the customer's location on the map.
Customer icon	Select an icon from the drop-down list or, click **Browse** and select a custom icon. This icon indicates the location of the activity. If you select an icon from the drop-down list, its color changes according to the color you've selected in the **Branding** tab. If you select a custom icon, you can also select the position of the icon on the map.

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Field Name	Action or Description
Technician position	Select one of these values: o Do not display: Select this option to hide the technician's coordinates on the map. o Show with driving track: Select this option to display the technician's driving track, while showing the exact position of the customer on the map. o Show without driving track: Select this option to display the technician icon without the driving track, when you've selected the customer position as 'Exact' or 'Approximate'. When you've selected the customer's position as Approximate, the technician icon is available till the technician hits the bubble on the map. After that the technician icon is hidden. If Google sends the navigation details and the technician has shared their location, Oracle Field Service uses that data. If the technician hasn't shared their location, or if Google hasn't sent the navigation details, Oracle Field Service uses the ETA (Start Time - Current-Time) to derive the estimated duration. The behavior is further clarified here: o Shows the ETA (expected time of arrival) from Oracle Field Service (StartTime - Current time), if Google hasn't yet sent the navigation details and ETA. In this case, only the customer icon shows on the map and ETA from Oracle Field Service. o Shows Google ETA as soon as it's available, then the route is available on the map, with the ETA from Google. In this case, the technician icon with route displays on map and ETA updates to Google's ETA. o If the technician becomes offline, the last position is remembered and shown. In this case, the user who opens the link sees the ETA to the technician's last position and as soon as the technician becomes online, the ETA is updated. This means that the ETA may be about 4 hours and may suddenly become about 20 minutes, because the technician's actual position is updated.
Do not show position	Enter the number of minutes for which you want to hide the technician's position after they complete the previous appointment or after they activate the route. The activity status of the previous activity can be Complete, Note done, Canceled, Suspended, or the activity is reordered. As soon as the set time is over, the technician icon is shown on the map. This helps you hide the coordinates of the previous customer or the technician's home location. This field is set to 0 (zero) by default, which means, the technician's position is shown immediately after the technician completes the previous appointment.
Technician icon	Select an icon from the drop-down list or, click **Browse** and select a custom icon. This icon indicates the technician's location. If you select an icon from the drop-down list, its color changes according to the color you've selected in the **Branding** tab. If you select a custom icon, you can also select the position of the icon on the map. You can use real car icons and show the car changing direction according to the route. Be aware that the anchor for these icons is in the center. If a technician doesn't share the location, or is offline for a long time, then only the customer's location is displayed on the map. If neither the technician's location nor the customer's location is available, only a blue map is displayed.

6. To change the text that's displayed on the Where is My Technician page, click **Localization** and complete these steps:

   a. Click **Locale** and select the locale based on which you want to display the date and time. For more information on the languages and locales supported, see Default Translations and Date-Time Format.

   b. In each field, enter the text that you want to display, based on your business requirements. These values are always displayed in English.

   c. Click the question mark icon to view the description and default text of the field.

   d. Place the cursor at the required position, click the question mark, and then click **Available placeholders**. The data field is inserted at the selected location. Let's say you want to change '{TECHNICIAN_NAME} is your technician.' to 'Your technician is '{TECHNICIAN_NAME}'. Delete the existing text and add 'Your technician is'. Place the cursor after 'is'. Click the question mark icon and then click '{TECHNICIAN_NAME}' under **Available placeholders**.

   e. Optionally, clear the custom text to view the default text.

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7. To add the **Feedback** page, click **Feedback** and complete these fields:

Field Name	Action or Description
Enable feedback	Select this check box to let your customers send feedback. Your customers can see the **Feedback** page even after the appointment is completed. You can configure the duration for which the page is available using the **Allow offline sync and update activities after overnight within the following amount of hours** setting on the **Business Rules** page. The duration within which your customers can save the feedback is calculated as the sum of the values of the **Overnight work** and **Allow offline sync and update activities after overnight within the following amount of hours** settings on the **Business Rules** page and your organization's time zone difference. If the **Allow offline sync and update activities after overnight within the following amount of hours** setting isn't enabled, or the time range that's specified on the **Business Rules** page is over, then the **Feedback** page isn't displayed.
Feedback mode	Select how you want to receive the feedback. You can choose from Comment and Rating, Comment, and Rating.
Property for saving comments	Select the property that you want to use to store the comments. Use only string type of custom activity properties for comments.
Property for saving rating	Select the property that you want to use to store the ratings. Use only integer type custom activity properties that have the GUI as Text for ratings.
Localization	Change the text that you want to display on the **Feedback** page. For more information on this, see Step 6.

8. To provide more options to your customers on the Where is My Technician page, click **Interaction** and complete these fields:

Field Name	Action or Description
Enable Cancel	Select this check box to let your customers cancel the activity. Then, add the text for the confirmation page. **Cancel** is available for an activity that's in Pending status. **Cancel** is hidden as soon as the activity status changes to Started. For more information about how to use the feature for specific activity types, see the *Enable the Cancel Feature for Specific Activity Types* topic.
Enable chatbot	Select this check box to let your customers chat with a chatbot. Ensure that you've a license for Oracle Digital Assistant. Verify that your administrator has created a web channel and configured the chatbot flow in Oracle Digital Assistant. Get the values of Channel URI and Channel ID from Oracle Digital Assistant.

9. Click **Save**.

Your settings are saved and the Where is My Technician theme is created.

Related Topics

- What placeholders are available on the Localization tab?

What placeholders are available on the Localization tab?

This table gives the placeholders that you can add to the text on the **Localization** tab of the Where is My Technician theme.

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Placeholder	When You Can Use	Values
{TECHNICIAN_NAME}	Available in all activity statuses except "notAssigned". Can be used for translations: • First line of status text shown when the activity is already assigned to a technician Default value: Will arrive between • Second line of status text shown when the activity is already assigned to a technician Default value: {ARRIVAL_TIME_RANGE} • First line of status text shown when the technician is on the way Default value: Arriving in about • Second line of status text shown when the technician is on the way Default value: {ETA} • Technician info text when the appointment is assigned Default value: {TECHNICIAN_NAME} is your technician • Technician info text when the technician is on the way Default value: {TECHNICIAN_NAME} is on the way • Technician info text when the technician has arrived Default value: {TECHNICIAN_NAME} has arrived • Feedback form ratio field title Default value: How was {TECHNICIAN_NAME}'s service?	Holm, Billy Mr. Billy Billy
{ETA}	Available for "onTheWay" activity status. ETA is calculated based on Google data. If Google data is not available, then Oracle Field Service ETA is used. Can be used for translations: • First line of status text shown when the technician is on the way Default value: Arriving in about • Second line of status text shown when the technician is on the way Default value: {ETA} To use the {ETA} placeholder, you must ensure that the resource and your customer are in the same time zone.	2 hours 42 minutes less than 1 minute The ETA is always displayed in English.
{ARRIVAL_TIME_RANGE}	This place holder is applicable only if you select the 'Time notified, Delivery window, Service window' option for **Arrival time** on the **Attributes** tab. Available for "notAssigned" and "assigned" activity statuses and when delivery window or service window are not empty. Can be used for translations:	8:15 AM - 8:45 AM

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Placeholder	When You Can Use	Values
	• For "notAssigned" activities the arrival window is used according to the availability of these values and their priority: a. Time Notified: i. Service window ii. Value returned via Outbound response message b. Service Window Default value of the first line of the status text shown when the activity is ordered and isn't assigned to a technician yet: A technician will arrive between. Default value of the second line of the status text shown when the activity is ordered and isn't assigned to a technician yet: {ARRIVAL_TIME_RANGE} • For the activities assigned to a technician, the arrival window is used according to the availability of these values and their priority: a. Time Notified: i. Delivery Window ii. ETA iii. Service Window iv. Value returned via Outbound response message b. Delivery Window c. Service Window Default value of the first line of the status text shown when the activity is already assigned to a technician: Will arrive between Default value of the second line of the status text shown when the activity is already assigned to a technician Default value: {ARRIVAL_TIME_RANGE} For more information about how to use 'Time Notified', see the How to Use 'Time Notified' topic.	

Related Topics
- How do I configure the Where Is My Technician theme?
- How do I use 'Communicated Window'?

How do I use 'Communicated Window'?

You can show **Communicated Window** on the {ARRIVAL TIME RANGE} placeholder. You can set the value for **Communicated Window** through a Message Step with the Outbound API using 'send_message'. If you set the value, it will be used on the Where's My Technician page, instead of the Delivery Window or Service window. If **Communicated Window** isn't populated, then Delivery Window or Service window is shown. You can choose to use ETA, Delivery Window, or Service Window as **Communicated Window**. For example, you can save the ETA, which you communicated

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to your customer the Where is My Technician page shows this time, even if the technician adjusts the previous activity. This way, the feature also prevents the application from updating the agreed time automatically.

1. Navigate to **Configuration** > **Message Scenarios**.

2. Open the message scenario that you've configured for Where is My Technician.

   If not configured, set the Recipient to **Customer** in the **Settings** Tab.

3. Select the **Customer notification time** field and select the value that you want to display for Communicated Window.

   You can select either Service window, Delivery Window, or ETA. You can set a custom window using the Outbound API 'send_message'. For using 'send_message', see the Outbound API documentation.

4. Open the Where is My Technician theme and go to the **Localization** tab. Click the **{ARRIVAL TIME RANGE}** placeholder.

   {ARRIVAL TIME RANGE} is available only for "Not Assigned" and "assigned" activity statuses. The value you've selected for **Customer notification time** in the message scenario is shown on the Where is My Technician page. If you've configured the **Communicated Window** field to receive the value from an outbound API response using 'send_message', it's displayed.

   The {ARRIVAL TIME RANGE} shows the arrival window according to availability of these values and their priority:

   > **Note:** If 'Communicated Window' is set with a custom window, this value isn't removed or changed if the activity is moved to another resource or bucket. You must consider this behavior in your design and make any necessary updates to the window according to your business process.

Page	Activity on the Bucket (Not Assigned)	Activity Assigned to a Technician (Assigned)

Days before screen	a. Communicated Window:
	  - Service window
	  - Value returned via Outbound response message
	b. Service Window
		a. Communicated Window
		  - Delivery window
		  - ETA
		  - Service window
		  - Value returned via Outbound response message
		b. Delivery Window
		c. Service window

How do I hide activities and activity fields for specific user types?

You can hide activities and activity fields from users. For example, you can stop contingency workers from viewing their activities starting tomorrow, or you can hide the customer rating field from field resources.

1. Click **Configuration** > **User Types**.

2. Select the user types for which you want to hide activities or activity fields.

3. Go to the **Restrictions and Filters** tab.

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4. To hide the activities, select **Hide all activities**. Click the drop-down list and select either 'starting tomorrow' or 'starting day after tomorrow'.

5. To hide specific activity fields, select **Hide activity fields**. Click the drop-down list and select either 'starting tomorrow' or 'starting day after tomorrow'.

    a. To configure the fields that you want to hide, click the **activity fields** link.

    b. On the **Field restrictions** context layout structure, click **Click to add** and select the properties and buttons that you want to hide.

    c. To add the visibility, click the property or button, click **Add new visibility**. Select **Hidden** and then add any conditions based on which you want the property or button to be hidden.

    d. Click **Save**.

6. To filter the visible activities on the current route, click the pencil icon in the **Filter restricting visible activities** section. Select the filters to apply and click **Select**.

    The filters must be created on the **Configuration** > **Filters** page.

7. On the **Restrictions and Filters** page click **Save**.

How do I view the hierarchy or map of application pages?

You can view the hierarchy or the map of the application pages on the **Screen configuration** page.

To view the **Screen configuration** page, click **Configuration** > **User Types**. Screen configuration settings define the page, dialog boxes, context menus, and other elements visible to a certain user type. You must have the **Allow access to web application** option selected for your user type, for you to see the **Screen configuration** tab. If the **Allow access to web application** option is deselected for your user type, the **Application screens** section is collapsed and inactive. If the **Allow access to web application** option is selected initially and deselected later, the settings you've configured so far are retained. If the option is selected later, the same configuration settings apply again for your user type.

You can use these sections on the **Screen configuration** page to define the content, arrangement, and visibilities of each context (or page):

- **Application screens**: Use this section to change the contexts or pages used in Core Application.

- **Collaboration and Identifiers**: Use this section to change the contexts or pages used in Oracle Field Service Collaboration Service and to define the entity identifiers.

How's the Screen configuration page organized?

The settings are organized hierarchically and show the relationship between different contexts. All context names are links to the context layout editor pages. Links to new (not edited) or empty contexts and the links to edited contexts are shown in different colors. If you remove all the elements from a context, its link color changes from blue to red to indicate that the context is now empty. If you create a user type without copying the settings of another user type, all contexts are shown in red.

The hierarchy of contexts starts from the **Main menu items** context that defines the navigation menu items being available or unavailable for the current user type. Each navigation menu element opens a certain page and, therefore, provides access to its functionality. If a certain page has been made available for a user type, all users of such type have access to the entire functionality implemented on that page. Similarly, if a page has been made unavailable for a user type, all users of such type don't have access to the functionality implemented on that page.

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Context Layout Structure and Visual Form Editor

The links to contexts are connected with arrows showing the relation between the contexts. Hovering the mouse over an arrow highlights it in red for better visibility. Click a link to open the **Context layout structure** page and define the fields and actions of the context, and their visibilities for the user type. You can copy a context layout to another user type if the other user type uses the same or slightly modified layout of the same page. For this purpose, the **Context layout structure** page has the **Copy to** button, which opens the list of all user types in the application.

For the **form** type contexts, the link leads to the **Visual Form Editor** page, where you can edit context layouts in an easier and more transparent manner. You can delete the default Read/Write visibility on the sections and tabs in the Visual Form Editor. Also, Read/Write visibility isn't added after migration. When the visibility condition for a property is required and the property value is cleared, the value is set to null and the visibility is selected.

Copying and sharing

If you've shared the configuration for the current user type with one or more other user types, such user types are preselected in the **Copy to** list. If the user type selected in the list shares its configuration with other user types, such user types are automatically selected as well. The current context layout is applied to the selected user types and it replaces the previous context layout settings, if any.

When a context layout is copied for another user type, only the current context is copied, while the rest of the configuration remains unchanged. When a context layout is copied, two separate identical context layouts are created. You can edit each layout independently without affecting the other one. However, if the destination configuration is shared with other user types, the current context layout is copied to all user types sharing the same configuration.

Example of changing the visibility

You can change the visibility of the **Message Scenarios** menu item to **Read-write** to let the user view and edit all elements of a message scenario. With the **Read-only** visibility, they can only view them.

> **Note:** Text formatting such as modifying the text size, bold/non-bold, italic, or coloring or properties isn't supported.

How do I configure Collaboration chat properties?

You can use the **Collaboration and Identifiers** section on the **Screen configuration** page to define the information that your users can see on the Collaboration chat messages.

1. Click **Configuration** > **User Types.**
2. Select the user type for which you want to define the chat properties.
3. Open the **Screen configuration** tab and expand **Collaboration and Identifiers**.
4. To define the user properties that users can export from the chat window, click **User properties for export in community**.

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5. To define the activity details that users can see on the Collaboration chat, click **Activity details in chat**.

   a. Click **Click to add**.

   b. Select the required properties and click **OK**.

   c. Click **Add new visibility** on the **Context layout structure** page.

   d. Click **Add new condition** and add the conditions based which you want the activity details to be displayed.

   e. Click **Save**.

6. To define the inventory details that users can see on the Collaboration chat, click **Inventory details in chat**. Follow the steps 5 a to 5 e.

7. To define the resource details that users can see on the Collaboration chat, click **Resource details in chat**. Follow the steps 5 a to 5 e.

8. To define the resource properties that users can export from a chat window, click **Resource properties for export in community**.

How do I add a shift to a work schedule?

After you've created a work schedule, you can add the shifts and non-working times that will be included in the overall period of time.

1. Click **Configuration**.

2. In the **General** section, click **Work Schedules**.

   The **Work Schedules** page appears.

3. Click **Items** to the right of the work schedule for which you want to add a shift.

   The **Add Work Schedule Item** page appears.

4. Click **Shift**.

5. Click the **Shift** drop-down list and select a shift.

6. Select a **Start Date** and **End Date**.

   The start and end dates define the period for which this shift is associated with the work schedule. Leaving the **End Date** field empty implies that the shift is part of the work schedule indefinitely.

7. Add any comments for clarification or detail.

8. Select one of these options in the **Recurrence** drop-down list:

   o Daily – Allows for inclusion of the shift such as every other day or every third day. This option requires a value in the field labeled every _____ day(s).

   o Everyday – The shift applies to everyday without exception.

   o Weekly – Allows for shifts that are used on a regular weekly pattern. Select the days that apply to this shift using the check boxes for the individual days. Indicate the frequency of this pattern weekly by adding a value to the every _____ weeks(s) field.

   o Yearly – Select a date range for the shift that will recur every year.

9. Click **Add**.

   The shift is added to the work schedule.

10. Repeat the steps for each shift that you want to apply to this work schedule.

    Be aware that if you add two shifts that have the same priority to a weekday, only the shift that was created most recently is assigned.

How do I configure my display preferences?

You can change some display options to suit how you work and how you prefer to view information.

Depending on your company's configuration and your user type, display options might differ.

1. Click the menu icon and then click **Preferences**.
   The **Preferences** page displays.
2. Complete these fields:
   - **Language**: The language you want to use.
   - **Time format**: Either 12- or 24-hour mode. This affects an activity's start and end times.
   - **Date format**: The date format you want to use.
   - **Mobile Activity Count**: The number of activities that's displayed on the landing page and in the activities list. The number of activities displayed on the landing page includes the activities in Started and Pending statuses. The default number is 5. If there are more activities than the configured number, **View more** is displayed. Filters restricting the visibility of activities may reduce the maximum number of activities displayed on the landing page and the activity list. If you don't see this field (which means if the field isn't added to the **Preferences** page by your administrator), the number of activities you see on the landing page is based on the number defined for the **Number of activities per page** field on the **Configuration > Display** page. Further, if you set the value for this field and then the field is removed from the page, Oracle Field Service still uses the value you'd set before the field was removed.
   - **Mobile Inventory Count**: The number of inventory items you want to see on each page.
   - **Design Theme**: The way you want your mobile application to look. You've two options:

     - Classic theme: The classic style theme displays tabs with text.
     - Vanilla theme: The Vanilla theme displays icons in the header region for the most frequently accessed screens. It has a menu to the left of the screen, which provides access to the remaining screens.
   - **Photo**: Your photo.
3. Click **Submit**.
   The amount of information will not change, only the way in which it displays on your screen changes.

Why do I see the 'Replace OFS Metadata' warning?

If you use at least one Login Policy with SAML authentication, you might see a warning to replace the OFS metadata. This warning appears if the current certificate, which is used by your identity provider, is about to expire or has expired.

When you see this warning, you must replace the metadata before the date specified in the message. For more information about how to download the metadata and apply it to your identity provider, see the knowledge article **Certificate Renewal for SAML Login Policy (Doc ID 2973643.1)** on My Oracle Support.

How do I use the ad hoc filter option?

You can use the **Ad hoc Filter** option on the **View** menu to filter the activities on the Dispatch Console using the criteria that you want, rather than using the criteria available by default.

1. Open the Dispatch Console.
2. Click **View** > **Ad hoc Filter**.
3. Click **Add field** and select a property from the list.

   The properties that are displayed in the list are as same as the fields configured for the **List view**.
4. Repeat Step 3 and add all the properties based on which you want to filter the activities.

   You can add a maximum of 10 properties. If you add an enumeration property and don't select a value, it's not included in the search criteria. If you search with a single value for each field, you get the activities that match all the criteria. This is similar to using an AND condition.

   You can provide several values for the same field. For enumeration properties, you can just select several values from the list. For string properties, you can provide several values, each separated by a comma. If you provide several values, then the filter matches the activity that contains at least one value. This is similar to using an "OR" condition.
5. Click **Apply**.

   The matching activities are displayed. All fields added to the ad hoc filter are preserved between sessions. When you open the Dispatch Console after signing out, the initial filter is "*". When you select **Ad hoc Filter**, you can see all the fields that you've added in the earlier session. Only you can see the ad hoc filter that you create, other users can't see it.

Which activity fields are available while integrating with external applications?

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

Field	Label	Data Type	Mandatory	Description
Account Number	appt.customer_number	VARCHAR2		String with name of customer account i
Activity ID	appt.aid	INTEGER	true	Unique numeric identifier of the activity
Activity Time of Assignment	appt.atime_of_assignment	DATE		Date/Time when the last move/resched
Activity Time of Booking	appt.atime_of_booking	DATE		Date/time when the activity was booke

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Field	Label	Data Type	Mandatory	Description
Activity Type	appt.atype	VARCHAR2		Primary type of the activity (prework, re
Activity Work Type	appt.aworktype	VARCHAR2		Identifier of the activity type defined for
Activity Workflow	appt.activity_flow	VARCHAR2		Activity workflow assigned to the activit
Activity Work Zone	appt.aworkzone	VARCHAR2		Work zone which is defined for the activ
Activity status	appt.astatus	VARCHAR2		Status of the activity.
City	appt.ccity	VARCHAR2		City name, part of Customer address
Coordinate X	appt.acoord_x	FLOAT		X coordinate received from geocoding r
Coordinate Y	appt.acoord_y	FLOAT		Y coordinate received from geocoding r
Customer Email	appt.cemail	VARCHAR2		Email of the customer for whom the act
Customer Language	appt.clanguage	VARCHAR2		Message language of the customer for v
Customer Name	appt.cname	VARCHAR2		Name of the customer for whom the ac
Customer Phone	appt.cphone	VARCHAR2		Phone number of the customer for who
Customer Time Zone	appt.c_zid	VARCHAR2		Time Zone ID of the customer for whom
Delivery Window End	appt.delivery_window_end	DATE		End time for activity Delivery Window
Delivery Window start	appt.delivery_window_start	DATE		Start time for activity Delivery Window
Delivery address	appt.caddress	VARCHAR2		Customer address (except City, Zip/Pos
Duration	appt.length	INTEGER		Activity length in minutes. Filled when a
Estimated Time of arrival	appt.ETA	DATE		ETA date/time. Can be empty for Regula time when activity is started. For Cance was Canceled

Field	Label	Data Type	Mandatory	Description
First Manual Operation	appt.first_manual_operation	VARCHAR2		The name of the first manual reschedul
First Manual Operation (User ID)	appt.first_manual_operation_user_id	VARCHAR2		The interface the first manual reschedu
Master Activity ID	appt.amaster_aid	INTEGER		ID of main activity for prework, reassign
Mobile Phone	appt.ccell	VARCHAR2		Mobile phone number of the customer
Points	appt.apoints	INTEGER		Number of points that represent efforts
Postal Code	appt.czip	VARCHAR2		ZIP/Postal code of customer for whom t
Reminder	appt.cmessagetime	INTEGER		Number of minutes before Delivery Win
Reported End Time of Activity Delivery	appt.time_delivered_end	DATE		End date/time of activity which is delive
Reported Start Time of Activity Delivery	appt.ctime_delivered_start	DATE		Start date/time of activity which is deliv
Resource External ID	provider.external_id	VARCHAR2		External system identifier for the resour
Resource ID	provider.pid	INTEGER		ID of resource the activity is assigned to
Route Date	queue.date	DATE		Date of the route the activity is assigned
SLA End	appt.sla_window_end	DATE		End date and time of Service Level Agre
SLA Start	appt.sla_window_start	DATE		Start date and time of Service Level Agr
Service Window End	appt.service_window_end	VARCHAR2		End time of Service Window
Service Window Start	appt.service_window_start	VARCHAR2		Start time of Service Window

Field	Label	Data Type	Mandatory	Description
State	appt.cstate	VARCHAR2		State (Geographic area) of the customer
Teamwork ID	appt.a_teamid	VARCHAR2		ID of team for teamwork activities
Time Slot ID	appt.a_tsid	VARCHAR2		Time Slot assigned to the activity
Traveling Time	appt.travel	INTEGER		Time of travel from a previous activity/l
Work Order	appt.appt_number	VARCHAR2		Identifier of the activity (string, value of
*	Activity Custom Fields			

How do I add a delivery channel?

Add delivery channels for message scenarios on the **Delivery Channels** screen.

1. Click **Configuration**.
2. Click **Configuration** > **Message Scenarios**.
3. Click **Channels**.

   The **Delivery Channels** page opens and lists the existing delivery channels.
4. Click the plus sign.

   The page displays fields for entering general delivery channel information and end-point information.
5. Type the name of the delivery channel in the **Name** fields.
6. Select the required option from the **Status** drop-down list.

   > **Note:** If notification scenarios contain at least one message step that uses an internal delivery channel (email or voice) then that channel is accessible in the list of channels. A user with appropriate permissions can select **Active** or **Inactive** to resume or stop the message delivery for any external or internal channel. For example, you can block a channel using the Inactive option in Test instances to disallow test messages to reach real customers. Messages that aren't delivered due to inactivated delivery channel get the status 'obsolete' with the description, EXTERNAL_NOTIFICATION_ARE_DISABLED. Note that the 'set property' messages don't have a delivery channel and can't be handled this way.

7. Type a value between 1 and 10,000 in the **Bulk Size** field to define the maximum number of messages per request.

   > **Note:** The default value is 10, which is also the recommended value.

8. Type a host field in the **Host/Port** field using the **example.com** format.
9. Type a port number in the section of the **Host/Port** field that appears after the colon.

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10. Type a URL in the **URL Path** field.

11. Type a user name in the **User** field.

12. Type the user's password in the **Password** field.

13. Re-type the user's password in the **Confirm Password** field.

14. Select the **Allow basic access authentication** check box to implement HTTP basic authentication while integrating with external systems.

When you select the check box, the outbound methods (such as send_message, drop_message, get_message_status methods) send the standard HTTP header "Authorization" with base64-encoded user credentials (standard basic access authentication). Also, the <user> SOAP structure is sent in the body of the request. The client application can either use the standard HTTP header "Authorization" or the <user> SOAP structure to send user credentials in the request.

> **Note:** When the check box isn't selected, the standard HTTP header isn't used in the request and the client application can use the <user> SOAP structure for authentication. For more information, see the *Integrating with Outbound API Guide*.

> **Note:** From the 19C release onward, the **Disable Weak Password** option is removed for delivery channels and all Outbound API integrations shall use the SHA256 algorithm for secured authentication. The delivery channels of the clients which used Weak Password Hashing (MD5) algorithm for Outbound API integrations, shall use the SHA256 algorithm for secured authentication.

15. Click the **Connection** menu and select an encryption method for the connection. The options include:

- Not encrypted
- Default encryption
- SSL 3
- TLS 1.0
- TLS 1.1
- TLS 1.2

16. If you selected any option except **Not encrypted**, the **Advanced settings** section opens to let you enter certificates and a client private key. Complete some or all the following fields:

- x509 Trust File
- x509 CRL File
- Client Certificate
- Client Private Key

The format of the files in the Advanced Settings is PEM. You don't have to complete all fields. However, the **Client Certificate** and **Client Private Key** fields must both be either empty or completed.

> **Note:** To configure and use mTLS connections for sending messages from Oracle Field Service to external systems, see *How do I configure an mTLS connection?*

17. Click **Save**.

The newly created delivery channel appears.

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How do I configure an mTLS connection?

You can configure the application to send the messages using mTLS connection. With mutual TLS authentication (mTLS), not only does the service side prove its identity by exposing a certificate, but also the clients prove their identity to the servers by exposing a client-side certificate.

In this reference the term "client" refers to Applications Interface, which performs an API call to a "server" (external system), which receives the message and provides the result back in the response. To use mTLS connection, perform these steps and settings:

- Generate root certificate (root ca) and private key for the certificate.

- Generate client private key and client certificate signed with root ca.

- Generate server private key and client certificate signed with root ca.

To set up a channel through Oracle Field Service, follow these steps.

1. Click Configuration, Message scenarios, Delivery Channels to open the Delivery Channels screen. Select or create the necessary delivery channel.

   For more information see *How do I add a delivery channel?*.
2. Configure the connection point with the host and port of the server.
3. Set "TLS 1.2" value in the Connection menu.
4. For the x509 Trust File set content of the root ca file.
5. Set content of client certificate for Client Certificate.
6. Set content of client private key for Client Private Key

   > **Note:** root ca, client certificate and client key files must be in pem format.

7. Check if your server uses mTLS connection:
   a. To check that server supports mtls, run the following command (in linux terminal) against the server:

   ```
   openssl s_client -connect
   SERVER_HOST:PORT -key
   /path_to_client_key_dir/client.key.pem -cert
   /path_to_client_cert_dir/client.cert.pem -CAfile
   /path_to_rootca_cert_dir/cacert.pem -state
   ```

   Open ssl will print information about mtls connection establishing, the output should not have any error messages.
   b. To check that generated certificates are ok, run openssl server:

   ```
   openssl s_server -accept PORT -CAfile
   /path_to_rootca_dir/cacert.pem -cert
   /path_to_server_cert_dir/server.cert.pem -key
   /path_to_server_key_dir/server.key.pem -state
   ```

   c. Make request from openssl client and then check logs.

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How do I create a Form?

You create a Form so that Field Resources can fill it to capture statutory or business data required for an activity. This is a custom form that's available only for your organization.

1. Click **Configuration** > **Forms & Plugins**.
2. Click **Add Form**.

   The Add Form dialog box appears.
3. In the **English** field, add a name for the Form in English.
4. Add the names in other required languages.
5. In the **Label** field, add a label for the Form.
6. Click **OK**.

   The Form is saved. The next step is to add elements to the Form.

How do I configure the Form elements?

After you create a Form, you must add elements to it. Form elements are the fields in which a Field Resource can display and capture the required data. Some form elements that you can add are date and time fields, barcode scanners, text boxes, and check boxes.

1. Click **Configuration** > **Forms & Plugins**.
2. Click the stack icon and click **Modify content** for the Form that you want to edit.

   The **Visual Form Editor** page appears and displays an accordion type panel with these options to help you add, edit, and search for elements:

   - **Available elements:** All the element types that you can use in this context are listed here. To add a new element, drag it from this section and drop it to the desired location on the form. You can also use the search option to search for an element within this section.
   - **Data fields:** All the data fields that you can use in this context across all element types are listed in this section. Drag an element from this section and drop it to the form, to add the data field with a

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> preconfigured binding to the data source. You can also use the search option to search for a data field within this section.

- ○ **Fields in this layout:** All the fields you've used in the layout. Each field has an icon representing the GUI type of the element that's defined when you bind the field to a data source. The features of this section are:
  - Clicking an item scrolls the content to the appropriate item in the layout and highlights it without opening the context menu editor.
  - Clicking an item in the layout focuses the list to the appropriate item, if the panel is active (not collapsed).
  - If a field is present more then once in the content, you see a marker in a format (n / m). For example, (1 / 3) means first of the three occurrences. Clicking the marker takes you to the item on the layout.
  - The order in the list is according to the appearance on the configured form, top to bottom, left to right.
  - The search option lets you search for a field within this section.

Another way to open this page is when you add the Form to a page. If you're configuring a page and there's a button that's configured to open a Form, then you can use the **Modify Form content** option. In this case, a new editor session is opened with the specified Form content. Ensure that you've saved all the changes to the page configuration before you click **Modify Form content**.

3. Drag the element that you want to add to the Form. For example, add a section, a text box, a check box, or a file element.

Here are some special elements that you can add:

- ○ **Form Field:** Adds a field such as text box, list, check box and so on, to the Form. This type of fields exist on the Form only for presenting and gathering information. The data entered in Form fields will only be captured in a screenshot of the Form when the Form is Submitted. This data isn't stored in the application. However, data for other fields and properties is captured as normal.

  > **Note:** You must add an instance of a property, button, or field only once in a form. More than one instance of a field, button, or property on a form may lead to application error such as property not being saved or the action being denied.

- ○ **Barcode/QR Code/ NFC Tag Scanner:** Adds an icon to the Form, using which users can scan a barcode, a QR code, or an NFC tag. The embedded scanning functionality (that is, camera) on the resource's mobile device is used to scan the code. The results of the scan is populated automatically in the associated field. This option is available as part of the **Input** element. You can add the scanner any number of times on a form. Before using the scan option, users must ensure that the Android and iOS app that's installed on their devices has access to the device's camera. In Core Application, Barcode/QR scanner is displayed as a text box.

  > **Note:** When you add multiple scanner check boxes on a form or page, ensure that the section contains only the scanner check boxes and Text elements. If the section contains any other type of element, the scanner isn't triggered.

- ○ **Date and Time:** Adds a date, time, or date and time field to the Form. The format of data in the data and time field is controlled by user settings. Specifically 'Time' (sudate_fid) and 'Date' (sudate_fid) user fields. The data captured from 'Date', 'Time', and 'DateTime' components is stored and exposed through the 'formSubmitted' event of Events API in a predefined format. Date and Time are form fields and not available for binding to a custom property. The formats are:
  - yyyy-mm-dd for 'Date'
  - HH:mm for 'Time'
  - yyyy-mm-dd HH:mm for 'DateTime'

Integrators must convert data into other formats, if required.

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  - o **Hidden value:** Adds a field to:
    - - Include calculated values, which aren't required to be displayed when the Form is filled.
    - - Include prepopulated values by open parameters. The values for these parameters are configured on the Form button. When the user opens the Form, these values are populated on the Form.
    - - Use in other expressions, whose values will be included into the submitted Form data with the values of all other Form elements.

4. In the **Data binding** section, bind the elements to appropriate entities and fields:
   a. Click the Form field drop-down list and select the entity and start entering the entity name that defines the data source.

      The application displays only those fields that contain the entered text in their label or caption.
   b. Select the field that you want to define as the data source.

      The application populates the Type field automatically, based on the field you select as the data source. If you don't bind your field to any entity, then you can use the text as a form field label.
   c. Optionally, click the pencil icon. In the **Data field** list, select the specific field that you want to associate with the selected element.

      If the **Show only fields appropriate for element type** check box is selected, only the fields that are appropriate for the selected entity and the element type are displayed. If the check box isn't selected and a different type of field is selected, the element type is changed accordingly. For example, if your element type is Input and you select Activity Type [aworktype], then the element type is changed to the one that the Activity Type belongs to.
   d. Click **OK**.

5. In the **Visibility** section, configure the visibility settings.
   a. To change the visibility, click **Add new**. In the **Access mode** section, select the required visibility.
   b. To add any conditions to make the element visible, click the plus icon.
   c. Add the required condition and click **Save**.

   The visibility is Read-write (RW) by default.

6. In the **Translations** section, add the labels for the field in the required languages.

   The number of languages in this section is same as the number of languages you've configured on the **Configuration** > **Display** page. The application adds a label by default and you can change it here. You can use this

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label in default expressions and in the visibility conditions of other Form items. Further, you can use this label to refer to the submitted values in APIs. Here's the screenshot that shows Form elements:
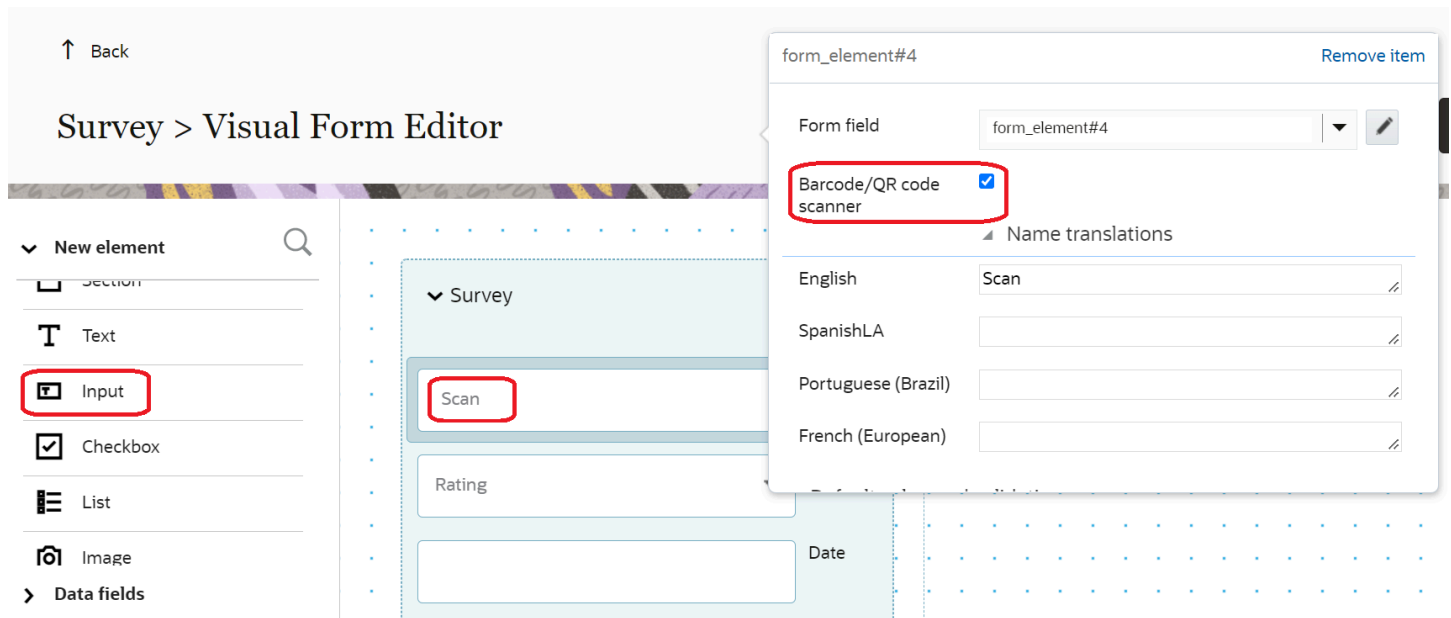
7. To view the form as your end-users see it and to verify upcoming configuration changes, click **Preview**.

The preview includes all fields, except those that are Read-Only and don't have any data currently. Within the form preview:

   o You can enter values into the required and optional fields.

   o Any default values that are configured are calculated and displayed in the fields.

   o Any configured visibility conditions are applied.

   o Any validation rules that are set up are applied and the relevant validation messages are triggered.

   o Any regular expressions configured for custom properties validate the data you've entered and trigger error messages, if necessary.

   o The preview includes the saved and unsaved changes.

   o The data you enter while viewing the preview is saved and displayed the next time you open the preview.

   o You can clear the data you had entered in the preview page and start again, using the **Start Over** button.

   o Any visibility conditions configured for the **Submit** and **Dismiss** buttons are applied.

8. Click **Publish** on the **Visual Form Editor** page.

The Form elements are published to the users of the selected user type. The next step is to add the Form to a context layout through a User Type page configuration.

How do I configure default values and validation rules?

When you configure fields on the **Visual Form Editor**, you can add a default value or a validation rule for fields and properties. You can also use formulas to configure visibility and visibility value.

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1. Click **Configuration**.
2. Click **User Types** in the **Users, Security, Integration** section.
3. Click **Screen configuration**.
4. Expand the **Application screens** section and click the page that you want to change.
5. Select the field for which you want to add a default value or a validation rule. If the field isn't added to the context layout, drag it to the work area.

   By default, the field is assigned with a visibility of Read-Write (RW).
6. Follow these steps to change the default visibility:
   a. Click **Add New** in the **Visibility** section.

      The **Visibility settings** dialog appears.
   b. Select the required option in the **Access mode** section.
   c. To change the visibility based on a condition, add it in the **Conditions** section.

      You can add a formula to determine the condition for visibility. The conditions entered here are given priority over the visibility inherited by the field or property.

      > **Note:** When setting up the visibility for a specific property, you can't create a visibility condition based on the property itself. For example, suppose that you want to set up the visibility of the property "City" as Read Write. You can't set up a condition such as "City contains New York". Further, ensure that there are no circular dependencies. For example, the Customer Name field is displayed if the Customer Address field is filled and the Customer Address field is displayed if the Customer Name field is filled. Although the application doesn't display an error message when you configure such fields, the page on which the fields appear might not work properly.

   d. Click **Show conditions as formula** to view the conditions as a formula.

      These rules apply to showing conditions as formula:
      - If you click **Show conditions as formula**, the standard conditions constructor hides and a text area appears containing the auto-generated formula of the conditions.
      - If you don't change the auto-generated formula, the formula isn't saved. **Show conditions as list** is shown, so you can switch back.
      - If you change the formula and it differs from the auto-generated content, **Show conditions as list** is disabled.
      - If you change the formula and save the changes, the next time this dialog opens with the formula without the **Show conditions as list** link.
7. Follow these steps to add a default value or a validation rule:
   a. Expand the **Default value and validation** section.
   b. Enter a value in the **Default value** field.
   c. Enter a validation for the value in the **Validation** field.

      You can use arithmetic operators, comparison operators, or functions to form the validation rule.
8. Click **Save**.

   The details are saved and enforced when a user edits the corresponding page the next time.

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What are the miscellaneous blocking conditions available for message scenarios?

There are some blocking conditions that aren't related to a specific area. For example, day of the week, day changed, and property blocking conditions. Messages aren't sent, or are blocked, when these conditions are true.

Application blocking condition

Fields	Description
Condition name	[application]
Condition type	Other
Description	Checks the application ID which generated the message.
Valid values/format	Value of the application ID set on the Configuration, Applications screen.
Case sensitive?	Yes
Notes	The value in the Application field is empty in the following cases: • If the message is generated by a user action in the Core app or Legacy app. • If the message is generated by the Oracle Field Service application. • If the message is generated by a REST API call that uses the OAuth2 assertion grant with a user identity in the assertion for authentication. The value in the Application field is present in the following cases: • SOAP API call • REST API call authenticated through HTTP basic authentication • REST API call authenticated through OAuth2 with client_credentials grant or with the assertion grant without the user identity in the assertion.

Day of Week blocking condition

Fields	Description
Condition name	`[day_of_week]`
Condition type	Other
Description	Checks the day of the message
Valid values/format	`sun, mon, tue, wed, thu, fri, sat`
Case sensitive?	No
Suggested functions	`IN, NOT IN`

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Interface blocking condition

Fields	Description
Condition name	`[interface]`
Condition type	Other
Description	Checks the interface where the message was created.
Valid values/format	`web, soap, wap, xhtml, file_upload`
Case sensitive?	No
Notes	The interface will be empty if the message is initiated by the server. • web: Corresponds to operations performed from Legacy Manage. • soap: Corresponds to both SOAP (except Inbound API) and REST APIs. • wap: Corresponds to operations performed from Core Application and Android and iOS applications. • xhtml: not in use. • file_upload: Corresponds to Inbound API. • mobile: not in use.

Day Changed? blocking condition

Fields	Description
Condition name	`[is_day_changed]`
Condition type	Other
Description	Checks whether the day has changed.
Valid values/format	`1, <empty>`
Suggested functions	`IS NULL, IS NOT NULL`
Notes	This function is mainly intended to be used in the `move` scenario. It can't be used to detect the `move/reschedule` actions for the `Add` launch condition messages.

Resource Changed? blocking condition

Fields	Description
Condition name	`[is_provider_changed]`
Condition type	Other
Description	Checks whether the resource has changed.
Valid values/format	`1, <empty>`
Suggested functions	`IS NULL, IS NOT NULL`

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Fields	Description
Notes	This function is mainly intended to be used in the **move** scenario. It can't be used to detect the **move/reschedule** actions for the **Add** launch condition messages.

Message Day blocking condition

Fields	Description
Condition name	**[message_day]**
Condition type	Other
Description	Checks if the day of the message is a holiday
Valid values/format	**holiday, regular**
Case sensitive?	No
Suggested functions	**IN, NOT IN**

Previous Message Data blocking condition

Fields	Description
Condition name	**[prev_data]**
Condition type	Other
Description	Checks the data of the previous message
Valid values/format	Message data
Notes	Can be used to implement the following condition: all **failed** except **failed/INVALID_PHONE_NUMBER**

Previous Message Description blocking condition

Fields	Description
Condition name	**[prev_desc]**
Condition type	Other
Description	Checks the description of the previous message
Valid values/format	Message descriptions
Notes	Can be used to implement the following condition: all **failed** except **failed/INVALID_PHONE_NUMBER**

Previous Message Status blocking condition

Fields	Description
Condition name	`[prev_status]`
Condition type	Other
Description	Checks the status of the previous message
Valid values/format	`new`, `sending`, `failed`, `sent`, `delivered`, `falsemethod`, `obsolete`
Notes	Can be used to implement the following condition: all `failed` except `failed/INVALID_PHONE_NUMBER`

Property blocking condition

Fields	Description
Condition type	Other
Description	Checks the property value for an entity related to the message. Supports resource, activity, inventory, and support request properties.
Valid values/format	Format according to a property type.
Notes	Use `index` values for enumeration properties, rather than their translation.

How do I configure Oracle Fusion Service?

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

To enable the integration flow from Oracle Field Service:

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

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

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

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

   b. Click **Applications**.

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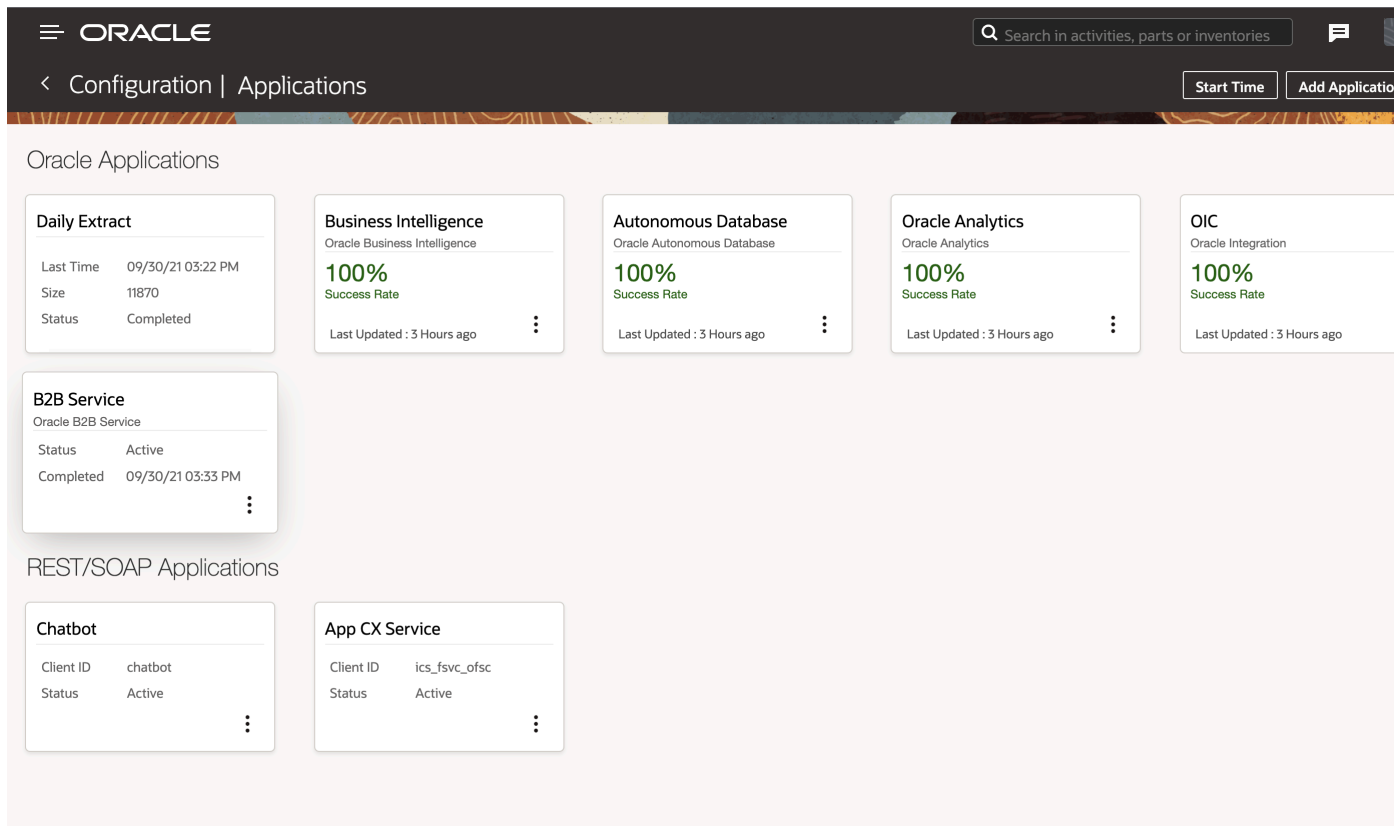
   c. In the Applications page, click **Add Application** on the header.

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

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

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

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

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

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Field	Description

	With privileges for:
	
	  ○ Setup and Maintain Applications
	
	  ○ Setup Service
	
	  ○ Setup Service Work Order

Password	Password for this user.

3. Select an existing Oracle Integration Channel.

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

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

What to do next

This table lists the validations and warnings:

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

How do I use the openLink procedure in the callProcedure method?

The openLink procedure provides a common way to open external URLs from Oracle Field Service Core Application run either in a web browser or in the Oracle Field Service Mobile for Android and iOS app. If Oracle Field Service Core Application is run in the Oracle Field Service Mobile for Android and iOS app, the URL is opened in a new web browser window. If not, it's opened as a new browser tab.

Example of the *callProcedure* Message

```
{
 "apiVersion": 1,
 "method": "callProcedure",
 "procedure": "openLink",
 "callId": "123abc",
 "params": {
 "url": "https://play.google.com/store/apps/details?id=com.oracle.ofs"
 }
```

```
    }
```

Result of the Procedure

The result is sent through the *callProcedureResult* message, just to indicate that the procedure is run successfully. The *resultData* param doesn't contain any data.

How do I create a Daily Extract file?

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

The **Daily Extract** page lists the files that are extracted. Each row shows an entity and the exported file name. The menu icon lets you display the fields associated with the entity in the extraction file, and lets you remove the file.

To create daily extract files:

1. Click **Configuration** > **Application** > **Daily Extract**.
2. On the **Daily Extract** page, click **Add new** and select the entity containing the data you want to extract.

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

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

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

What data sets are available for extraction?

Data sets are groups of details from extracted data that are related to the same entity. You can select the fields that you want to extract and schedule the extraction. For example, you can select activity fields, resource fields, inventory fields, message fields, or GPS fields.

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

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

- Activity Fields—Data on all fields/properties assigned by the end of extraction period to activities processed in the application during the extraction period (activities that were to be performed or were performed during the extraction period).
- Activity Link Fields—Details of all links between activities defined in the application by the end of extraction period.
- Activity Work Skill Fields—Details of work skills per activity at the time of extraction.

- GPS Details—Details of all GPS data gathered during the data extraction period, including gpstracks.

  - GPS Track Fields (gpstracks)—Data calculated based on the GPS data in Oracle Field Service in fixed format native for Oracle Field Service. All GPS data collected for each resource for the extraction period is gathered.

- Inventory Fields—Data on all fields and properties assigned to all inventory items, except inventory in resources' pools, available in the application by the end of extraction period.

- Message Details—Data on all messages generated (all messages that were sent or were to be sent by the application) during the extraction period divided into two data sets.

- Message Fields—Basic details of the messages excluding the actual text of the message.

- Message Text Fields—Parameters of the text of each message.

- PAS Answers Fields—Details of customer's answers to questions asked in the Post Appointment Survey that are present in the application with status 'Delivered' at the time of extraction.

- PAS Questions Fields—Details of questions for Post Appointment Surveys at the time of extraction.

- Property Fields—Details of all fields and custom properties available in the application by the end of the extraction period.

- Property File Fields—Contents of file properties (for example, images) available in the application by the end of the extraction period.

- Property Lookup Fields—Sets of values that can be used to identify a field or custom property for all fields and custom properties available in the application by the end of extraction period.

- Route Fields—Data on all fields/properties assigned to the routes processed in the application during the extraction period (routes that were to be executed during the extraction period), including all fields and properties assigned to resources, to which a route is directly assigned by the end of the extraction period.

- Resource Fields—Details of the properties of all resources available in the application by the end of the extraction period (including inactive resources) and their position in the Resource Tree.

- Resource Location Fields—Details of the locations defined for each resource in the application by the end of the extraction period.

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

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

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

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

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

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

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

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

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

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How do I add a new user to the Cloud Account?

After you sign in to your Cloud Account, you can see the Oracle Field Service application that you've purchased. You must create a user within the Oracle Field Service application in Oracle Cloud Console (Cloud Console) who can work with the Service Console.

1. Sign in to Cloud Console.
2. Click **Applications**.
3. Click **Quick Actions** > **Add a user to your tenancy**.
4. Click **Create user** and complete these fields on the **Create user** page:
   a. Type the first and last names of the user in the respective fields.
   b. If you want the email address of the user to be the user name to access Cloud Console, add it in the **Username/Email** field. Then, select **Use the email address as the username**.
   c. If you want the user name to be different from the email address, type a unique user name in the **Username/Email** field. Then, deselect **Use the email address as the username**. Type the email address in the **Email** field.
   d. If you want to provide administrative privileges to the user, select **Assign cloud account administrator role**.
   e. In the Groups section, select the user group to which you want to assign the user.
   f. Click **Create**.
5. After the user is added, click **Identity** > **Domains** > **Default Domain**.
6. Click **Oracle Cloud Services** > **FIELDSERVICETOA**.
7. Click **Application Roles**.
8. In the OFSC_APP_ADMINISTRATOR row, click the arrow and expand the row.
9. Click **Manage** next to **Assigned users**.
10. Click **Show available users** and select user that you added in Step 4.
11. Click **Assign**.

   The selected Oracle Cloud Services user is assigned to work with the Service Console of Oracle Field Service.

How does moving activities work?

When you identify an activity or a group of activities that are in jeopardy, you can move the activities to another resource or a bucket for re-assignment at a later time. To move an activity that's En route, you must stop the travel, change its status to Pending, and then move it.

You can move activities from three different locations in the interface:

- *List view*: You can move one activity or multiple activities at once. The application proposes resources that might be a good match for the activity. You can also choose where a new activity fits in the new resource's schedule.

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- *Time view*: From this view, you can drag an activity from one resource to another. You can move only one activity at a time. The application chooses the best time in the resource's schedule and automatically moves the job to that time slot.

- *Map view*: From this view, you can drag an activity from one resource to another. You can move only one activity at a time. The application chooses the best time in the resource's schedule and automatically moves the job to that time slot.

Here are some reasons for which you want to move activities from resources back to the bucket:

- A resource called in sick and you've already assigned a route to the resource.

- A resource is assigned activities that might place them in an overtime situation.

- An activity is in jeopardy after routing.

- A resource requested a particular day off, but the calendar doesn't reflect it as a non-working day and a route has already been assigned to the resource.

If you try to move 1000 and more activities at once from a bucket to a resource, the **Activity Details** page may not open from the **Dispatch Console** or the **Routing Report** page. Oracle Field Service Core Application dowloads information about recently moved activities to the mobile device.

The best practice is to move not more than 100 activities at once from a bucket to a resource's route.

Related Topics
- How do I move an activity using the Assignment Assistant?

How do I move an activity using the Assignment Assistant?

You can move activities from one resource to another, one bucket to another, a bucket to a resource, or a resource to a bucket using the Assignment Assistant. You can move a single activity or multiple activities at once. For your convenience, the procedure to move activities is split between two pages, Main and Route details. Use the Main page to find the specific resource for which you can assign the activity. And, use the **Route details** page to make additional changes such as reordering or setting as not ordered. To move an activity that's En route, you must stop the travel, change its status to Pending, and then move it. This procedure describes how to move a single activity; you can use the same procedure to move multiple activities.

1. Select the activity that you want to move from the **Activity details**, activity hint on the **Dispatch Console**, **List view**, or **Map view** page.

   The **Assignment Assistant** appears and shows the resources that match all the criteria required to move the activity. The resources are sorted on the route impact; the resource with the most optimal route impact is at the top. The order of resources is affected by these factors:
   - Route impact (activity duration + travel time)
   - Resolved activity coordinates
   - Distance from the selected activity to the activities in the resource's route and Start/End/Home location
   - Resource Work Zone match
   - Accuracy of the travel statistics data

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If you move an activity by dragging and dropping and the target resource matches all the criteria, then the application simply moves the activity to the target, without displaying the **Assignment Assistant**. If you move an activity between resources on the same date, then the current resource's name and details are displayed at the top. In addition, the selected activity is highlighted with a dark border. If you reorder an activity within a resource's route, then Assignment Assistant displays the route impact before and after reordering.

2. Review the route impact and the idle time of the resources.

If you move an activity between resources on the same date, the routes impact column contains the summary impact on the routes of both the resources (existing and target). In addition, the route impact hint shows how both the routes are impacted:

  ○ How the activity duration and travel time of the current owner reduce after the activity is reassigned.

  ○ How the activity duration and travel time of the target resource increase after the activity is reassigned.

The current resource details aren't displayed when you move an activity:

  ○ From a bucket

  ○ From a non-scheduled pool

  ○ To another date

  ○ From multiple field resources

In these cases, the route impact hint and column show how only the target resource's route is impacted.

3. By default **Show all** is disabled. Click it to view all the resources, regardless of whether they match the required criteria.

Alerts for resources are displayed below the resource names only when **Show all** is selected.

4. Determine the best resource to which you can assign the activity and click **Continue**.

5. On the **Select Move Reason** dialog box, select the reason for moving the activity.

The reason is required when there's at least one active Move Reason for the current move type (for example, resource to resource). When you move several activities with different Move Reasons, then all the corresponding reasons are available for selection. You'll not see this field if you belong to a User Type that's excluded from providing a Move Reason.

6. Click **Assign**.

The activity is assigned to the selected resource. The activity that's moved is highlighted with a darker background. When you move a not ordered activity, it's shown as ordered on the Main page and the **Route details** page. Therefore, the count of not ordered activities isn't changed on the Main page. However, when you move a not ordered activity to a bucket, the activity status ordered or not ordered is retained.

If you try to assign activities with a total duration of more than 12 hours to a single resource's route, a warning message appears. The message doesn't appear when you assign activities to a bucket or to the non-scheduled pool of a resource. If you try to move more than 200 activities, then only the duration of the first 200 is displayed in the warning message.

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7. Make further changes using the **Route details** page:

    a. To set the activity as not ordered, just drag the activities to the **Not ordered** section. Or, click the stack icon and then click **Set not ordered**.

    b. To cancel the move, click the stack icon and then click **Do not move**. The activity is removed from this page and isn't assigned to technician. Don't move is not available when only one moved activity remains on the page.

    c. To reorder the activities within the route, simply drag the activities to the required position.

    d. To save the changes, click **Assign**. Let's say you've moved a not ordered activity and you haven't set it as not ordered on the Route details page. The activity is added as ordered and is shown in the appropriate position on the route.

    e. To go to the Main page without saving the changes, click the back arrow.

How do I lock preassigned activities in bulk routing?

You can prevent preassigned activities from being unscheduled or rescheduled during optimization by a bulk routing run. This eliminates unnecessary changes in the activity assignment and retains the existing activities in the route.

Changes have been made to the translations within the filter section of Optimization Strategy section. This table lists the old and new translations within the filter section:

Old translation	New translation
Filter parameters	Preassigned activities handling rules
Activities	Preassigned activities filter
Destination	Possible routing actions
Destination of unassigned activities	Possible routing actions
Non-scheduled activities in the routing bucket	Unschedule and move to the routing bucket
Activities in the routing bucket	Move to the routing bucket
Preassigned non-scheduled activities	Unschedule and leave in the same route
Resources' routes	Reassign to another route
Prevent optimization *	Do not move to the routing bucket and do not reassign
To reorder activities, drag and drop the grid rows	To reorder rules, drag and drop the grid rows

To prevent rescheduling selected activities to another resource or day or to prevent unscheduling of selected activities to bucket by means of bulk routing, follow these steps:

    1. Make sure you've a filter describing such activities.

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2. Select the **Do not move to the routing bucket and do not reassign** option for the Possible routing actions of the given Optimization strategy filter.

3. Corresponding activities may not be assigned to another resource due to routing optimization. Routing engine doesn't change the planned start time of such activities. However, Routing may insert other activities before if there's enough time for them.

4. You may use this functionality effectively to lock the activities or to imitate the En route status for activities not eligible for fully pledged En route status usage.

For example, you may like to create a special property Locked (Yes/No) for an activity, and have two action buttons - Lock and Unlock, setting the property values correspondingly. If you've filter Locked activities, filtering those activities having Locked set to Yes, you may add this filter to the Optimization strategy filters for a routing plan allowing activities to be moved between routes and/or being reordered within the same route.

Technicians may lock the activity by clicking Lock when it was aligned with the customer that this particular resource at this particular time will do the activity.

Then, activities having Locked = Yes before routing will retain their ETA and resource assignment unchanged. Moreover, if an activity has had Locked = No when routing started, but changed the Locked value to Yes after routing started, but before routing results were applied, such an activity will not be changed by the routing results and thus retain the same ETA and assignment it had.

However, a manual intervention to routes during the time of routing run may lead to suboptimal routing results, so ensure that you've regular recurrent routing runs to constantly re-optimize the routes.

You can prevent activities from being reassigned or their ETA changed. Follow these steps:

1. Navigate to the Optimization strategy filter.

2. In the **Preassigned activities handling rules** dialog box, click the **Do not move to the routing bucket and do not reassign for the Possible routing actions** check box of the selected Optimization strategy filter.

How do I add a work zone to a resource?

Work zones define the regional areas in which resources are allowed to work. You can add a work zone that the resource uses only on weekdays, a work zone only for weekends, or a temporary work zone which is assigned for a short period. When you add a work zone to a resource, any work zone shape or custom map layer that's added to the work zone is displayed on the map. Work zone shapes and custom map layers help you visualize your work area better.

If you don't assign a work zone either to a resource or to any of its parents, the application considers that the resource has no work zones and is thus incompatible with all activities.

1. Open the **Resource Info** page for a resource.

   When a resource doesn't have any work zones assigned directly, but inherits work zones from one of its parent entities, then the message, "Applied from <bucket_name>" appears on the Work Zones tile, where <bucket_name> is the parent resource. When a resource has been assigned with several work zones, then the Map isn't shown on the tile. Instead, a list of up to 10 assigned work zones appears.

2. Click the title of the Work Zones tile.

   When resources have work zones added but shapes aren't populated, or no work zones are added either for the resource AND all its parents, then the map on the **Resource Work Zones** page doesn't display. Only the list of work zones is displayed in full-screen mode. After you add new work zones that have shapes, the page is refreshed and the map is displayed. When a resource doesn't have any directly-assigned work zones, then a

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search field is displayed and the message, "No work zones are added for the resource. Work zones are applied from <bucket_name>" is displayed where <bucket_name> is the parent resource.

3. On the **Resource Work Zones** page, click the plus icon.

   The **Add Work Zones** dialog box appears.

4. Complete these fields:

Field	Description
Work zone	Select one or more work zones from the drop-down list. The **Default Work Zones** section contains active work zones that are added to the resource's bucket or organization unit. When the bucket or organization unit isn't assigned to a work zone, then the work zones of its parent are considered. The **Other Work Zones** section contains other active work zones that aren't considered as default.
Ratio	Type a value between 1 and 100. A higher number increases the likelihood that this resource is assigned activities in this work zone. If this is a work zone the resource works in daily, or if it's a preferred zone for the resource, enter a higher number. If this resource works in this work zone occasionally or only by exception, enter a lower number. You can assign multiple work zones with different ratios to one resource.
Temporary	Select this check box to assign a temporary work zone for a specified period of time.
Start date	Enter the date that this work zone assignment starts.
End date	[Optional] If this is a temporary assignment, enter the date that this work zone assignment ends.
Recurrence	Set the schedule for the work zone if the resource is alternating between work zone assignments. Resources can cover different work zones on different days of the week. Use this feature to change a resource's work area on certain days of the week. Select the frequency of recurrence and the days on which to recur.
Days between occurrences	Enter the number of days after which the assignment repeats. If you've selected Repeat Weekly in the earlier field, select the days of the week on which the assignment repeats.

5. Click **Submit**.

   The work zone is added to the resource. If any work zone shapes are added to this work zone, they're displayed on the map.

Under what conditions are messages removed?

There are several actions in the application that might remove the existing messages, based on certain conditions. The messages are removed only if they haven't been sent.

Activity Start action

Event/Action	Description
Removed Messages	`Reminder, Change, Day before`
Status	`obsolete`
Description	`ACTIVITY_WAS_STARTED`

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Activity Cancelation action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_CANCELED`

Activity Notdone action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_NOT_DONE`

Deletion of a Pending Activity action

Event/Action	Description
Removed Messages	All
Status	`obsolete`
Description	`ACTIVITY_WAS_DELETED`

Activity Suspend action

Event/Action	Description
Removed Messages	`Started`
Status	`obsolete`
Description	`ACTIVITY_WAS_SUSPENDED`

Activity Reschedule action

Event/Action	Description
Removed Messages	All except `SLA Warning`
Status	`obsolete`
Description	`ACTIVITY_WAS_RESCHEDULED`

Activity Move action

Event/Action	Description
Removed Messages	**Reminder, Change, Not started, Service window warning, Call ahead, Add**
Status	**obsolete**
Description	**ACTIVITY_WAS_MOVED**

Convert an activity to not ordered

Event/Action	Description
Removed Messages	**Reminder, Change**
Status	**obsolete**
Description	**ACTIVITY_IS_NOT_ORDERED**

Reminder message creation action

Event/Action	Description
Removed Messages	**Customer** messages: Recipient = **Customer**
Status	**obsolete**
Description	**NEW_CUSTOMER_MESSAGE_WAS_CREATED**
Notes	The **Reminder** launch condition is not invoked if the existing customer messages cannot be dropped using the **drop_message** call (if required).

Change message creation action

Event/Action	Description
Removed Messages	**Customer** messages: Recipient = **Customer**
Status	**obsolete**
Description	**NEW_CUSTOMER_MESSAGE_WAS_CREATED**
Notes	The **Change** launch condition is not invoked if an incomplete **Reminder** exists, or if the existing customer messages cannot be dropped using the **drop_message** call (if required).

Cancel visit action

Event/Action	Description
Removed Messages	All (visit related)

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Event/Action	Description
Status	`obsolete`
Description	`VISIT_WAS_CANCELED`

Delete visit action

Event/Action	Description
Removed Messages	All (visit related)
Status	`obsolete`
Description	`VISIT_WAS_DELETED`

Start visit action

Event/Action	Description
Removed Messages	`Visit reminder`, `Visit change #`, `Visit day before`
Status	`obsolete`
Description	`VISIT_WAS_STARTED`

Applying new visit formulas action

Event/Action	Description
Removed Messages	All (visit related)
Status	`obsolete`
Description	`VISIT_WAS_RECALCULATED`
Notes	The messages are only removed if the visit is removed as the result of applying formula changes.

Block/Shift messages action

Event/Action	Description
Removed Messages	N/A
Status	`false`
Method Description	`NONWORKING_DAY`
Notes	This removal is performed if message sending of is not allowed for a non-working day (or a holiday) and such message cannot be shifted to an appropriate working day.

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