Resource Optimizer

Scheduling simplified on Salesforce

Setup & Admin Guide

Version 1.0

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Contents

1. Introduction

Resource Optimizer (RO) stands out as a distinctive workforce scheduling and optimization solution integrated directly into the Salesforce platform. Designed with global organizational requirements in mind, RO embraces an open-framework approach that enhances adaptability to diverse business scenarios worldwide. Utilizing an 80-20 configuration-to-code approach, RO prioritizes flexibility and scalability.

Outlined below are some key features offered by RO, which will be explored in greater detail throughout this guide.

- ***Dispatch Console*** – Powerful dispatch interface to allocate work to your resources.
- ***Appointment Console*** – Designed to capture appointments in any time zone.
- ***Resource Suggestions*** – Smart console to suggest available resources at known timings.
- ***Mobile Calendar*** – Calendar interface to display work and to capture reservations and reschedule requests.
- ***Analytics*** – Designed to display application analytics.
- ***Push Notifications*** – Designed to push assignment notifications and proactive upcoming work notifications.

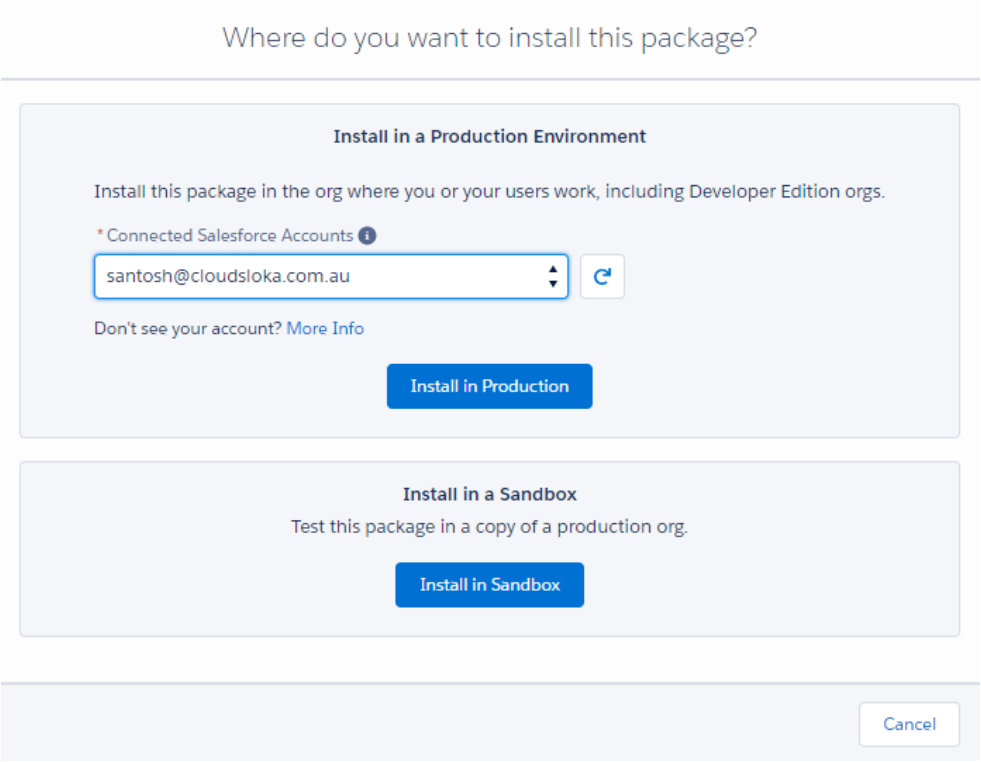
2. Purpose

This document serves as a comprehensive guide for Salesforce admins, detailing the installation process and offering a step-by-step procedure to set up and configure the application.

3. Install

Follow the steps below to install the Resource Optimizer application in your sandbox, production, or developer org. Make sure to have your Salesforce Trailblazer credentials ready. If you don't have Trailblazer credentials yet, please sign up at https://trailhead.salesforce.com/.

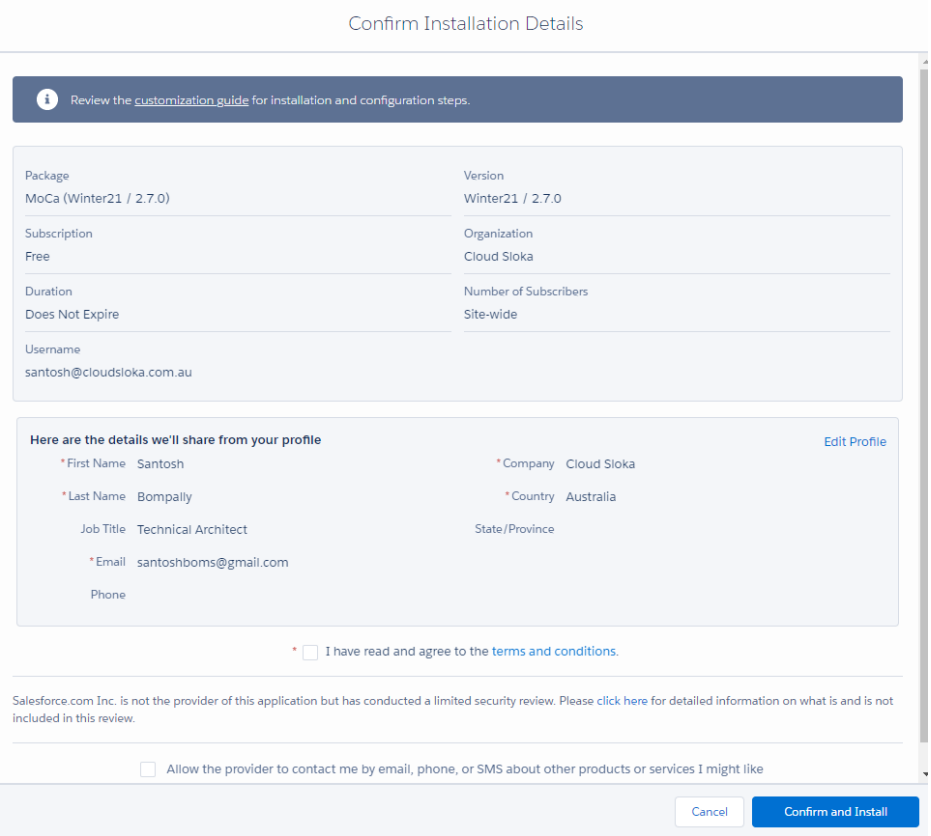
i. Navigate to RO AppExchange listing
ii. Click on "Get it Now."
iii. Login with your Trailblazer credentials.
iv. Once logged in, choose where you want to install the application.



Picture 1 : Steps during package installation from Salesforce AppExchange – Choose Environment

Note: If installing in a Developer Edition or Trail Edition, select "Install in Production".

v. After deciding, confirm the installation details and review/agree to the terms and conditions.



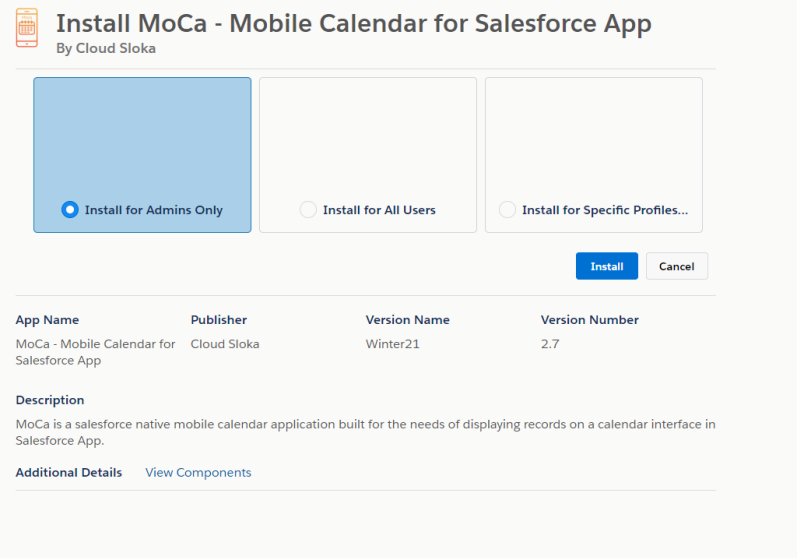
Picture 2: Steps during package installation from Salesforce AppExchange – Confirm and Install

Note: please enable "Allow provider to contact me by email, phone, or SMS about other products or services I might like", if you would like to know about other offerings

vi. Click on "Confirm and Install".

vii. Upon Confirmation, you will be redirected to either "login.salesforce.com" or "test.salesforce.com" based on your earlier selection.

viii. Login with your Sandbox/Production/Developer credentials



Picture 3 : Steps during package installation from Salesforce AppExchange – Install for Admins

ix. Choose “Install for Admins Only” and proceed with the installation.
x. Installation may take some time. If there’s a delay, click “Done”. You’ll receive an email once the installation is complete.

Congratulations on completing the installation! Now, proceed to set up the application and roll it out to your users. The trial version will be active for 30 days, during which you will receive the following licenses. For additional trial licenses or extension, please contact Resource Optimizer support.

License	Count
RO Admin	2
RO Scheduler	3
RO Resource	5
RO ServiceRep	5

4. Setup

Follow below steps to setup RO in your Salesforce Org.

4.1. Configure Time zones

RO gives you full control over the list of time zones for your operations The application comes pre-configured with a default set of time zones, but you can easily activate, deactivate, or add new time zones to meet your organization's specific needs.

"RO supports all time zones supported by salesforce."

If your organization operates in regions affected by daylight saving time, it is the admin's responsibility to update the time zones accordingly. For example, an organization operating in Sydney, Australia, would use (GMT+10:00) Australian Eastern Standard Time (Australia/Sydney) during standard months (April to October) and switch to (GMT+11:00) Australian Eastern Daylight Time (Australia/Sydney) during daylight saving months (October to April).

To manage time zones:

1. Navigate to **Global Picklist Values** (Setup -> Quick Find -> Picklist Value Sets).
2. Select **RO Time zone**.
3. Activate or deactivate the values based on your requirements.
4. Only one time zone can be activated per location. Therefore, if your organization is impacted by daylight saving changes, you must update the picklist value label accordingly.
    a. For example, for an organization operating in Sydney, the admin must update the label from (GMT+10:00) Australian Eastern Standard Time (Australia/Sydney) to (GMT+11:00) Australian Eastern Daylight Time (Australia/Sydney) on the first Sunday of October. Similarly, revert the value on the first Sunday of April.
5. Record and document the final list of configured time zones. This step needs to be performed after every package upgrade."

4.2. Assign Licenses

To provide RO access to users, perform the following two steps:

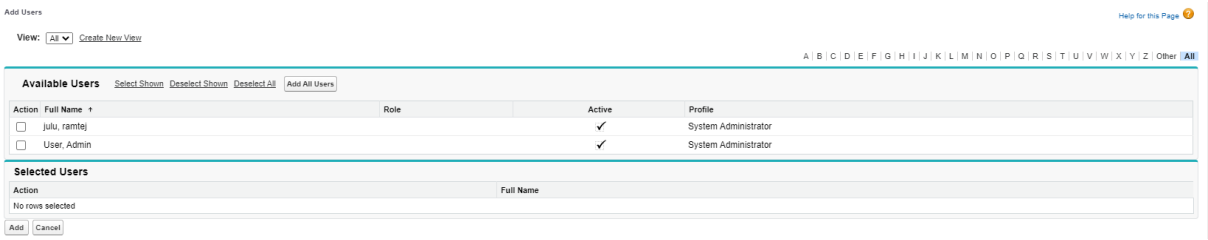
1. **Assign Licenses:**

- Go to **Setup**.

- Search for **Installed Packages** in Quick Find.

- Find **Cloud Sloka's Resource Optimizer** package and click **Manage Licenses**.

- Click **Add Users**, find the user, and add them.



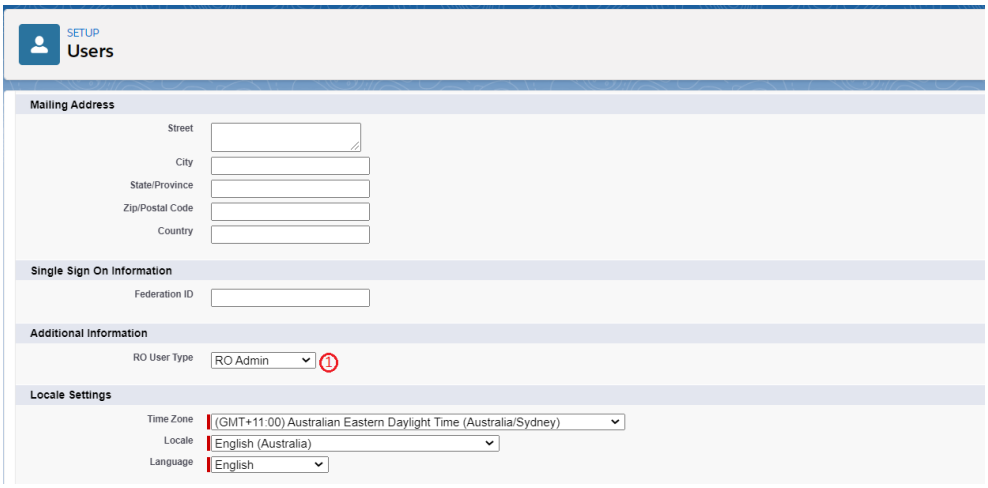
Picture 4: Manage Licenses

2. **Select RO User Type:**

- Navigate to the User detail record page for each user.

- Select the appropriate **RO User Type** to enable access to different features and consoles in the application.

Note: Post package installation, add RO User Type field on user page layout.



Picture 5 : User layout

	Field Name	Data Type	Description
1	RO User Type	Picklist	Select the user type to allow access to different features in application. This also helps to get a count on license usage. Picklist values – RO Admin, RO Resource, RO Schedule, RO ServiceRep

4.3. Assign Permission set

The RO Application includes four out-of-the-box (OOB) permission sets designed to provide users with the necessary access. You can use these OOB permission sets directly or clone them to create new ones based on your specific requirements.

Here are the OOB permission sets available:

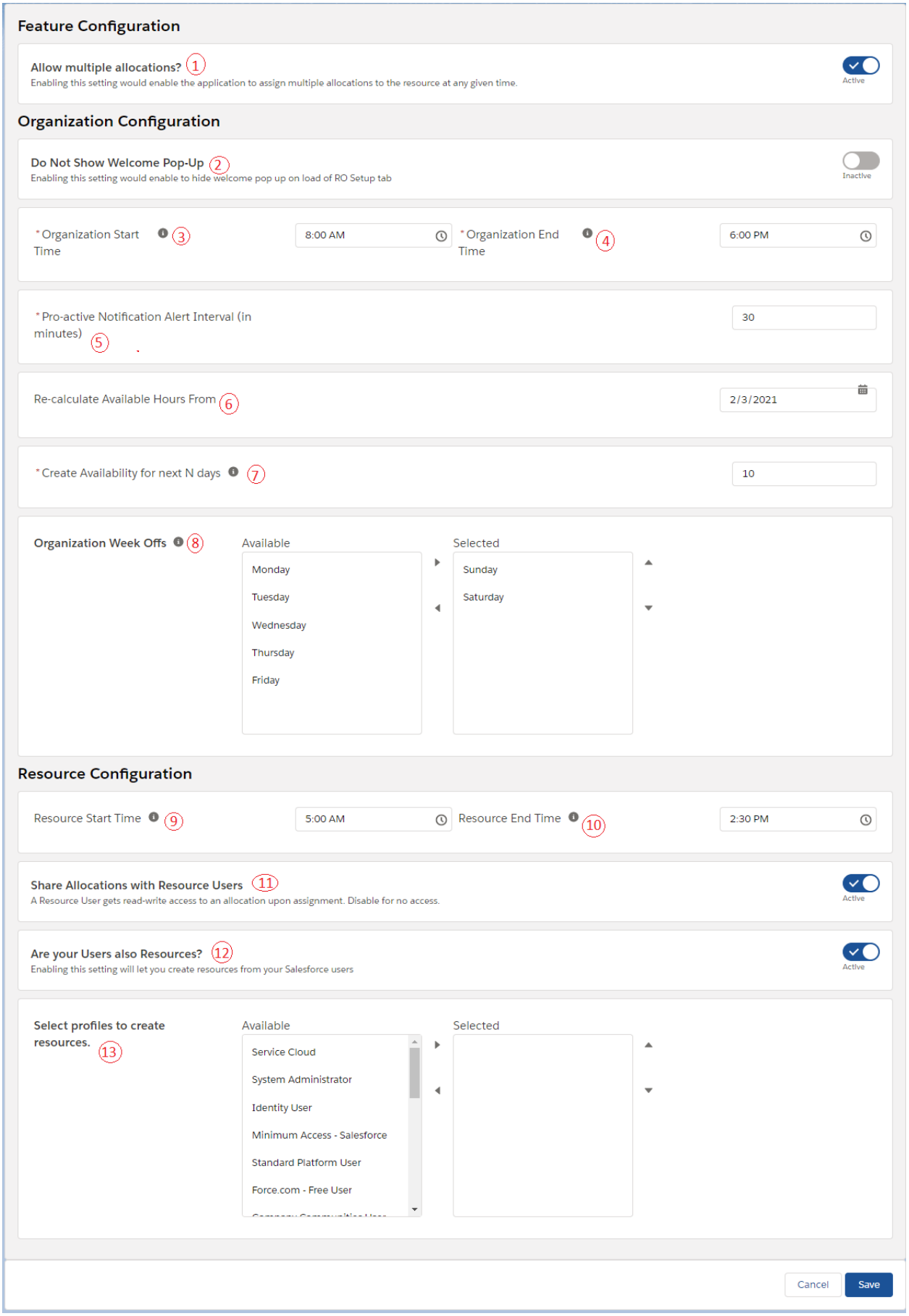
1. **RO Admin** – Designed for Application Admins.
2. **RO Resource** – Suitable for all end users.
3. **RO Scheduler** – Intended for Dispatchers, Schedulers, and Resource Managers.
4. **RO ServiceRep** – Meant for Support Representatives.

For a detailed understanding of how access varies across these permission sets, please refer to the “RO Data Dictionary” guide.

4.4. Setup Defaults

In this Step, you’ll setup default values for the application. Once logged in as System Admin/RO Admin,

i. Go to App Launcher and Select **Resource Optimizer** application.
ii. Click on **RO Setup** Tab. If you don't see the tab, click on **More** and then select **RO Setup**.



Picture 6: RO Setup Layout

	Name	Data Type	Description
Feature Configuration			
1	Allow multiple allocations?	Checkbox	Activate this setting if you want the application to assign multiple allocations to the resource.
Organization Configuration			
2	Do Not Show Welcome Pop-up	Checkbox	Enable this setting to hide the welcome pop-up upon loading the RO Setup Page.
3	Organization Start Time	Time	Provide the default Organization start time
4	Organization End Time	Time	Provide the default Organization end time
5	Pro-Active Notification Alert Interval (in minutes)	Integer	Set the time interval to receive proactive notifications.
6	Re-calculate Available Hours From	Date	Specify the date from which you wish to recalculate the available hours across the organization.
7	Calculate Availability for next N Days	Integer	Specify the number of days the scheduled job should consider when creating resource availability.
8	Organization Week Offs	Multi Picklist	(Optional) To capture the organization's weekly days off.
Resource Configuration			
9	Resource Start Time	Time	Provide default Resource start time
10	Resource End Time	Time	Provide default Resource end time
11	Share Allocations with Resource Users	Checkbox	Enable this setting to share allocations with resources after the assignment. (It is recommended to keep this setting enabled unless you have a specific reason to override this functionality.)
12	Are Your Users Are Resources?	Checkbox	Enable this setting if your Salesforce users are the resources for the application. This will activate the 'Select profiles' section, allowing you to create resources for your users.
13	Select Profiles to Create Resources	Multi Picklist	Select the profiles for which you want to create resources. Saving this configuration will automatically create resources for every user within the selected profiles. If you're unsure about this step, do not select any values yet. You can refer to the 'Create Resources' section for more information and return to the RO Setup at any time to create resources.

iii. Click **Save**.

4.5. Setup Relationships

RO Application is designed with an open framework approach for allocating and assigning work to resources from any Salesforce record. This flexibility allows resource allocations to originate or be associated with various Salesforce objects, such as cases, work orders, or custom records. While the application handles the establishment and connection of records, it's the responsibility of the admin to determine which objects should be linked to Resource Allocations.

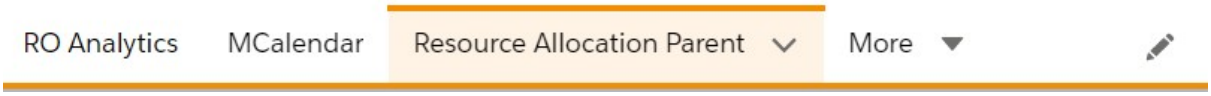
To achieve this:

a) Go to the Resource Allocation object (Setup -> Object Manager -> Resource Allocation).
b) Create lookup fields to the desired objects.
c) When creating a lookup field to a standard object, ensure the field API name follows the format Object API name appended with '__c' (e.g., Account__c, Contact__c, Case__c).
d) When creating a lookup field to a custom object, use the object API name as the field API name (e.g., Custom_object__c, Invoice__c).

4.6. Setup Resource Allocation Parent

The RO Application offers the flexibility to configure and manage related objects linked through lookup relationships with the Resource Allocation object. Admins can achieve this by creating Resource Allocation Parent records for each related object. Below are the steps to create a Resource Allocation Parent record:

a. Go to App Launcher and Select Resource Optimizer application.
b. Click on Resource Allocation Parent Tab. If you don't find the tab, click on More → Resource Allocation Parent.



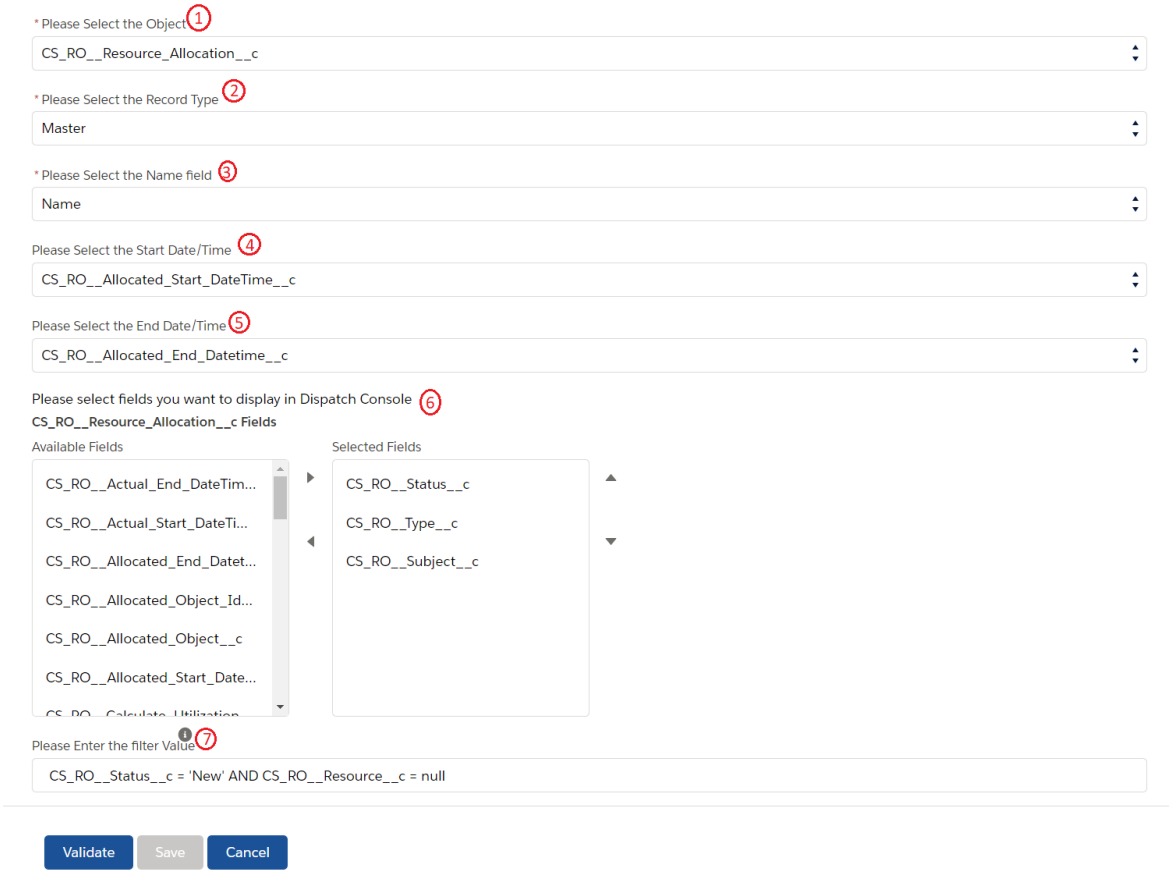
Picture 7 : Resource Allocation Parent create layout – Select Object

c. Click on New button. This will display you a custom Lightning component.
d. Select the related object from the drop down

Picture 8 : Resource Allocation Parent create layout – Select Object

Note: The Object drop down will only show you objects, to which a lookup relationship has been established on Resource allocation(Section 4.3). In addition, you'll also see Resource allocation object to configure backlog

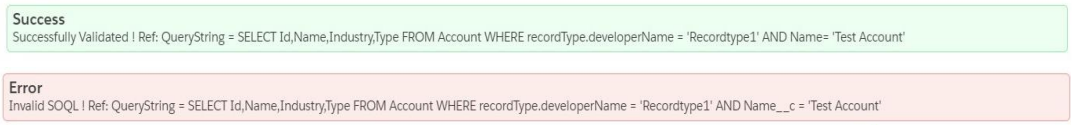
e. This selection of object will show the remaining fields to be filled.



Picture 9 : Resource Allocation Parent create layout – Select Fields

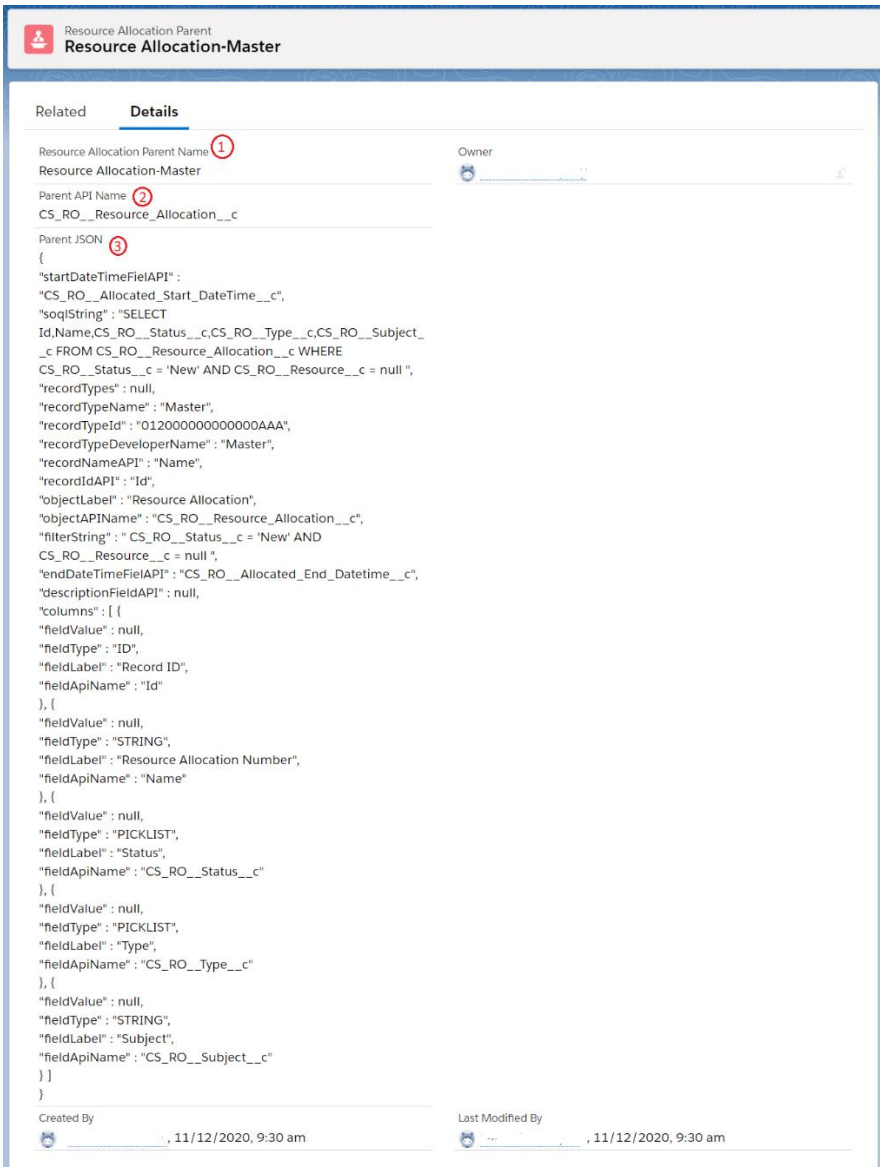
	Attribute Name	Data Type	Description
1	Please Select the Object	Picklist	This drop down lists all related objects. Defaults with the value selected from the first screen.
2	Please Select the Record Type	Picklist	This drop down lists all record types related to the selected object. Select any record type which you desire to show the data in the main dispatch console. If you want to select multiple record types you need to create new resource parent allocation record. (Note: If the selected object doesn't have any record type please select Master record type)
3	Please select the Name field	Picklist	This drop down lists all text fields from related object. The selected field data will helps to Id the record on dispatch screen.
4	Please Select the Start Date/Time	Picklist	This drop down lists all date/time fields from selected object. This selected field value will be defaulted to start date/time field on resource allocation creation screen in dispatch console.
5	Please select the End Date/Time	Picklist	This drop down lists all date/time fields from selected object. This selected field value will be defaulted to end date/time field on resource allocation creation screen in dispatch console.
6	Please select fields you want to display in Dispatch Console	Multi Picklist	This dual picklist lists all fields except reference fields from the selected object and it allows to select the fields which you want to display in dispatch console.
7	Please enter the filter value	Text	Additional filter can be added here for the data that display in dispatch screen. Enter the filter logic in string format. Example: Status = 'New' AND isActive = TRUE

f. Click on Validate button to validate the entered data and filter logic. This will prompt whether the data is valid or not by generating a SOQL query.



Picture 10 : Resource Allocation Parent – Success/ Failure Message post save.

g. Upon successful validation, save button will be enabled. Click on save button. It will save the filled in data and navigate to detail record page.
h. On the detail record page



Picture 11: Resource Allocation Parent Layout – Post Save

1. **Resource Allocation Parent Name:** This is the name of the record, derived from the selected object and its record type.
2. **Parent API Name:** The API name specific to the selected object.

3. **Parent JSON:** The JSON string format containing the filled-in data captured during the record creation process.

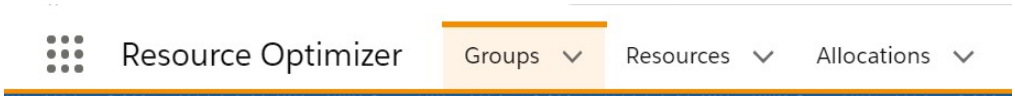
Note: To make any changes use **Edit** button on detail record page.

4.7. Groups

RO Application facilitates resource organization by allowing administrators to create resource groups within the system.

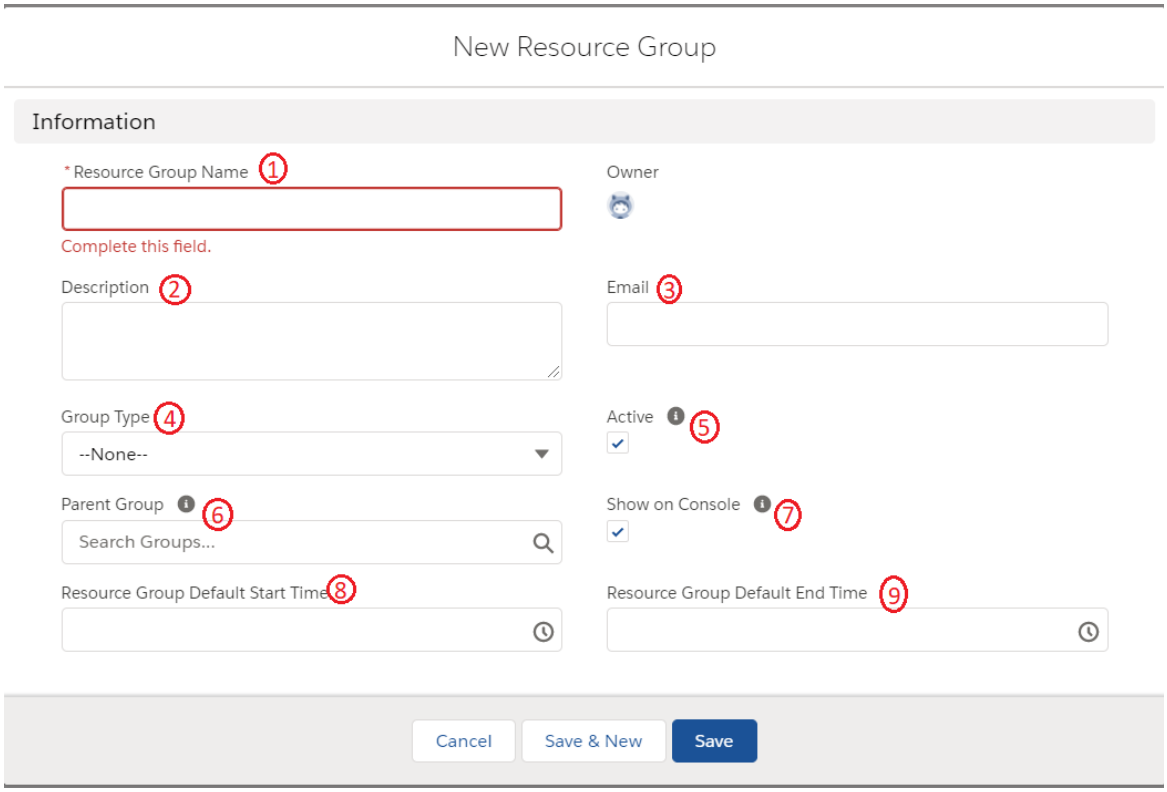
To create a Resource Group record, follow these steps:

a. Go to App Launcher and Select Resource Optimizer application.
b. Click on Groups Tab. If you don't find the tab, click on **More** and then select **Groups**.



Picture 9: Groups Tab

c. Click on **New** button.



Picture 12: New Group

	Field Name	Data Type	Description
1	Resource Group Name	Text(80)	Name of the group (80 char limit).
2	Description	Long Text(500)	fill in description of the group
3	Email	Email	Email specific to the group.
4	Group Type	Picklist	Select the group type from the pick list values. It helps to identify if the group is of internal, external or both.
5	Active	Checkbox	Checkbox to activate or inactivate the group.
6	Parent Group	Lookup(Group)	Self-Lookup. Select the parent group if the current group is a child of any group. If it doesn't have any parent group leave this field blank.
7	Show on Console	Checkbox	Enable it to make group available on dispatch console drop down
8	Resource Group Default Start Time	Time	Default Start time of all resources in the group
9	Resource Group Default End Time	Time	Default End time of all resources in the group

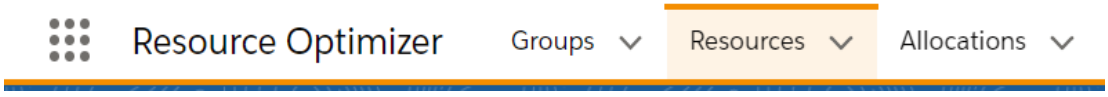
d. Click on **save** button to save the filled in details.
e. Use Edit button on detail record page to make any changes to the fields.

4.8. Resource

Resources in the organization can encompass users (both internal and external) as well as non-user types, all of which are tracked for utilization within Resource Optimizer. These resources can be created either during the initial Resource Optimizer setup or by administrators with appropriate permissions.

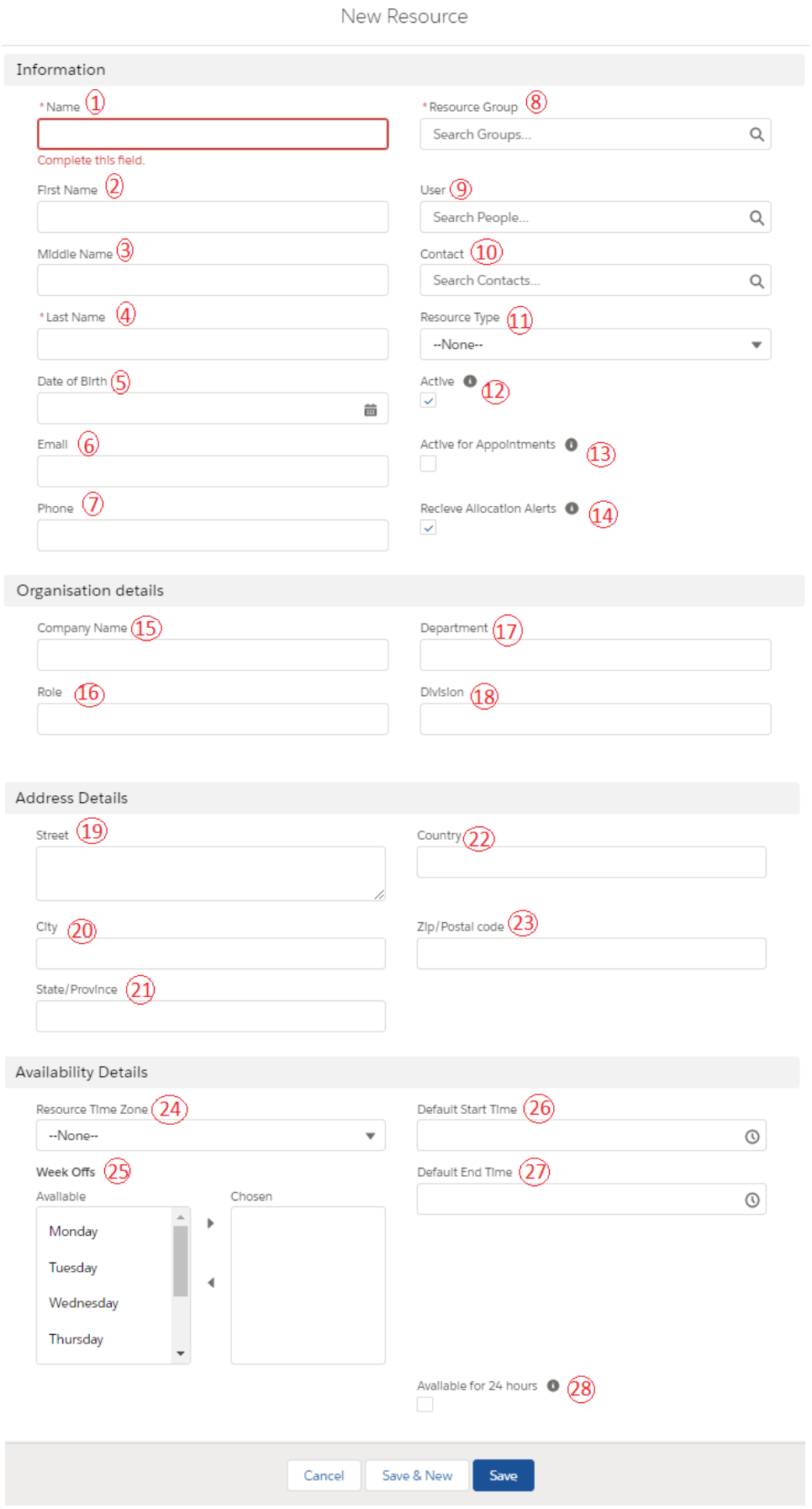
Please follow below steps to create a Resource:

a. Go to App Launcher and Select Resource Optimizer application
b. Click on Resources Tab. If you don't find the tab, click on More → Resources.



Picture 13 : Resources Tab

c. Click on New button.



Picture 14 : New Resource Layout

	Field Name	Data Type	Description
1	Name	Text(80)	Name of the Resource.
2	First Name	Text(50)	First name of the resource.
3	Middle Name	Text(50)	Middle name of the resource.
4	Last Name*	Text(50)	Last name of the resource.
5	Date of Birth	Date	If Resource is a user then fill in his/her DOB.
6	Email	Email	Resource email address.
7	Phone	Phone	Resource phone number.
8	Resource Group*	Lookup(Group)	Select the Resource group from the lookup to which the resource related to.
9	User	Lookup(User)	If the resource is a salesforce user then select the user from the lookup.
10	Contact	Lookup(Contact)	If the resource is a Salesforce Contact then select the contact form the lookup.
11	Resource Type	Picklist	Select resource type from the picklist values Internal, Partner, Both and Other
12	Active	Checkbox	Enable it to make Resource Active. Only Active Resources will be displayed in consoles and will be available for allocations.
13	Active for Appointments	Checkbox	Enable it to make Resource available for appointments. Only enabled Resources appear in the appointment console.
14	Receive Allocation Alerts	Checkbox	Enable it to receive bell notifications to Resource related SF user.
15	Company Name	Text(80)	Company name of the resource belongs to.
16	Role	Text(255)	Department resource belongs to.
17	Department	Text(80)	Role of the resource.
18	Division	Text(80)	Division resource belongs to.
19	Street	Text Area(255)	Street Name of the Resource address
20	City	Text(50)	City of the Resource
21	State/Province	Text(50)	State of the Resource
22	Country	Text(50)	Country of the Resource
23	Zip/Postal code	Number	Postal code of the Resource
24	Resource Time Zone	Picklist	Select the resource time zone. This will helps during assigning allocations.

25	Week Offs	Picklist(multi-select)	Select resource week offs. This value will be used in dispatch console to show the availability and in utilization efficiency calculation
26	Default Start Time	Time	Select the resource default start time. This value will be used in utilization efficiency.
27	Default End Time	Time	Select the resource default end time. This value will be used in utilization efficiency.
28	Available for 24 hours	Checkbox	Enable this check box if the resource is available for 24 hours.

d. After creating the resource, you have the option to personalize their profile by dragging and dropping a profile picture directly onto the resource detail page.

4.9. Skills

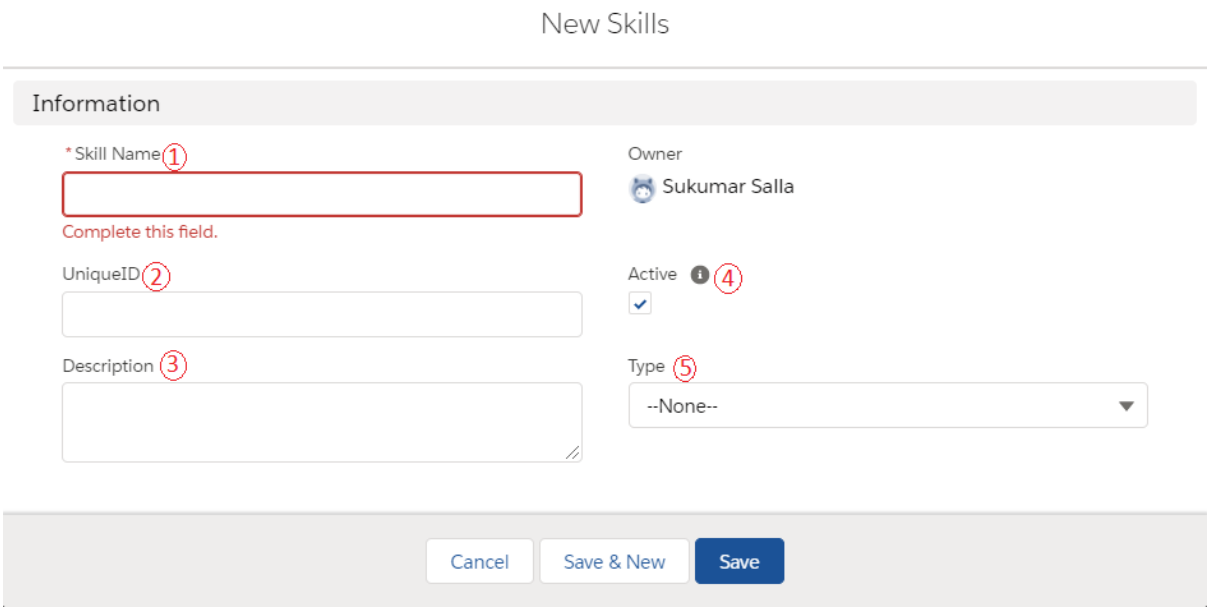
RO Application facilitates the capture of resource skills through the skill object. Admins are responsible for mapping resources to their respective skills using a junction object. This mapping enables efficient resource filtering in the dispatch console during resource allocation.

To create a skill, follow these steps:

a. Navigate to the App Launcher and select the Resource Optimizer application.
b. Click on **Skills** Tab. If you don't find the tab, click on **More** and then select **Skills**.

Picture 15 : Skills Tab

c. Click on **New** button.



Picture 16 : New Skill Layout

	Field Name	Data Type	Description
1	Skill Name	Text(80)	Enter the skill name
2	Unique ID	Text(255) (Unique Case Insensitive)	Enter unique skill Id. This field is Unique Case Insensitive.
3	Description	Text(255)	Enter skill description.
4	Active	Checkbox	Enable if the skill is active.
5	Type	Picklist	Enter type of skill from the list of values (Soft, Hard, Technical, Transferable and Job-Specific).

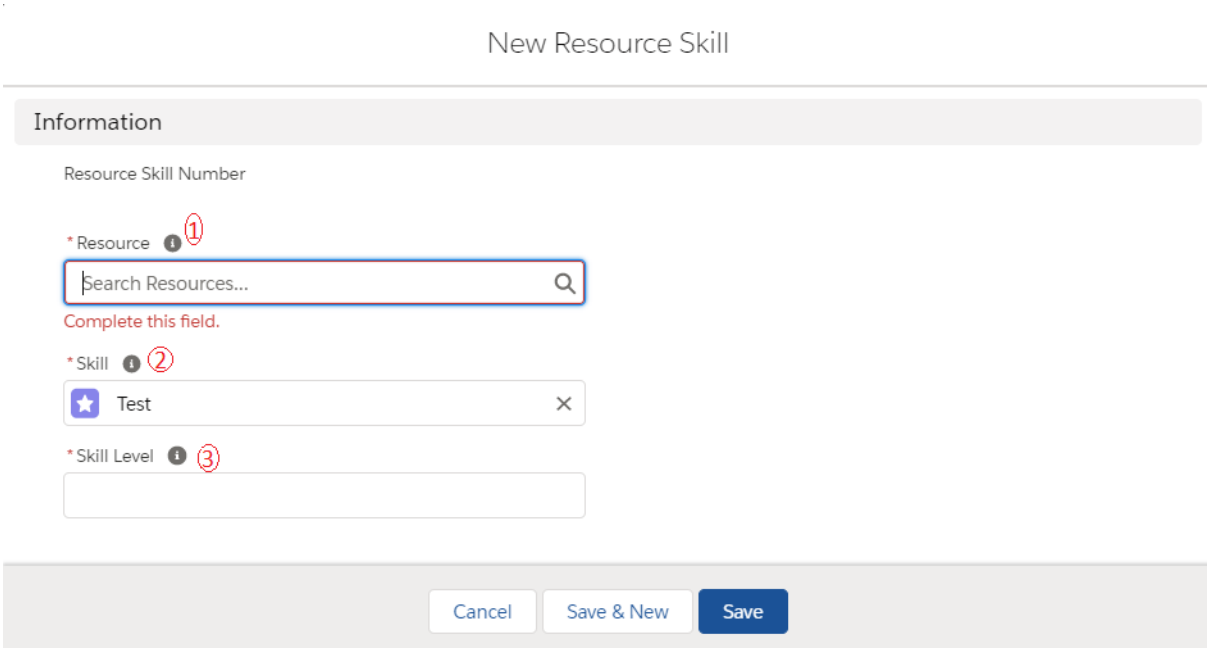
d. Click on the "Save" button to store the entered details.
e. Use the "Edit" button on the detail record page to modify any fields as needed.

4.10. Resource Skills

Resource Skills serves as a junction object linking skills with resources within the RO Application. Administrators are responsible for establishing these resource skills mappings.

Here's how to create resource skills:

a. Go to Skill detail record page or Resource detail record page.
b. Navigate to Related Tab on detail record page and go to Resource Skills section.
c. Click **New** button to create new record.



Picture 17 : New Resource Skill Layout

	Field Name	Data Type	Description
1	Resource	Master-Detail(Resource)	Select the related Resource
2	Skills	Lookup(Skills)	Select related skill from lookup
3	Skill Level	Number(2,2)	Enter the skill level in a scale of 00.00 to 99.99

f. Click on **save** button to save the fill in details.
g. Use Edit button on detail record page to make any changes to the fields.

4.11. Reservation Reasons

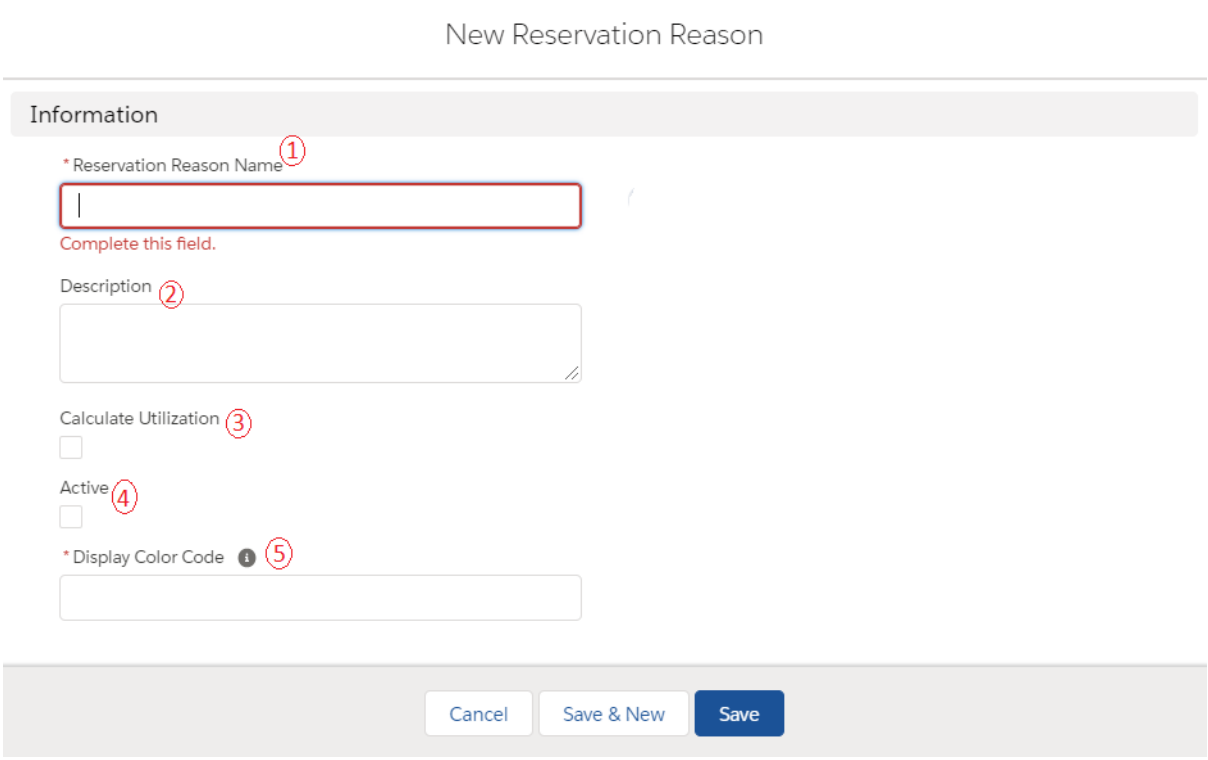
The Reservation Reasons object facilitates the capture of various reasons that can be associated with reservation records for a resource.

Here are the steps to create reservation reasons:

a. Go to App Launcher and Select Resource Optimizer application
b. Click on Reservation Reasons Tab. If you don't find the tab, click on More → Reservation Reasons.

Picture 18 : Reservation Reason Tab

c. Click new button.



Picture 19 : New Reservation Reason Layout

	Field Name	Data Type	Description
1	Reservation Reason Name	Text(80)	Enter Reservation reason
2	Description	Text(255)	Enter description for reservation reason.
3	Calculate Utilization	Checkbox	Enable it if you want this reservation reason needs to consider for utilization calculation.
4	Active	Checkbox	Enable if the Reservation Reason is active.
5	Display Color Code	Text(10)	Enter color code in hex format (Example: #00FFFF). This color code will be used to display the reservation slot in dispatch console.

d. Click on **save** button to save the filled in details.

e. Use Edit button on detail record page to make any changes to the fields.

4.12. Reservation

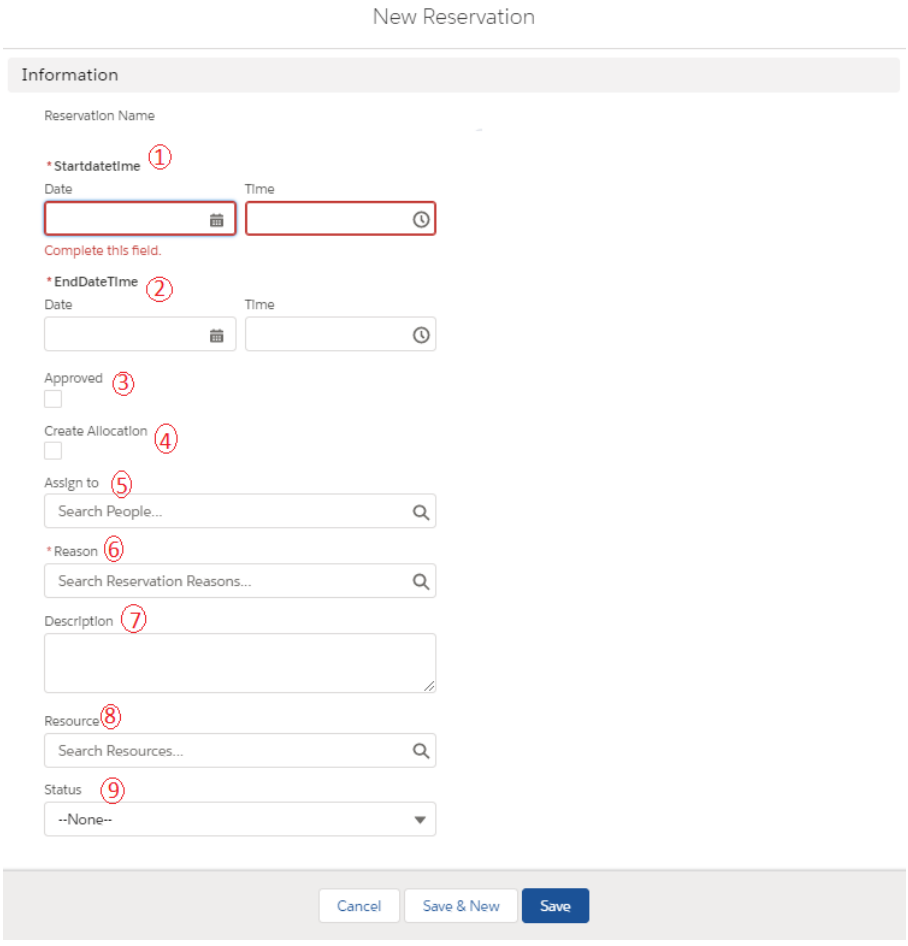
The Reservation object is designed to capture resource reservations such as breaks, leaves, or unavailable times. This functionality enhances the ability to display resource availability efficiently on the dispatch console.

Here are the steps to create a reservation:

a. Go to App Launcher and Select Resource Optimizer application
b. Click on Reservation Tab. If you don't find the tab, click on More → Reservation.

Picture 20 : Reservation Tab

c. Click New button.



Picture 21 : New Reservation Layout

	Field Name	Data Type	Description
1	Start Date Time	Date/Time	Enter date time when the Reservation starts.
2	End Date Time	Date/Time	Enter date time when the Reservation ends.
3	Approved	Checkbox	Enable if the Reservation is approved. It will be only considered and showed in dispatch console if it is approved

4	Create Allocation	Checkbox	Some reservations are supposed to be considered for utilization calculations (like Project meetings) for such reservations, enable this check box. This will allow to create allocation record and help in utilization calculation.
5	Assign To	Lookup(User)	Select the user to whom the reservation is assigned.
6	Reason	Lookup(Reservation Reason)	Select the reservation reason from the lookup.
7	Description	Text Area(255)	Enter the description for this reservation.
8	Resource	Lookup(Resource)	Select the related resource from lookup.
9	Status	Picklist	Status of the Reservation. Picklist values – New, Sent for Approval, Approved, Rejected

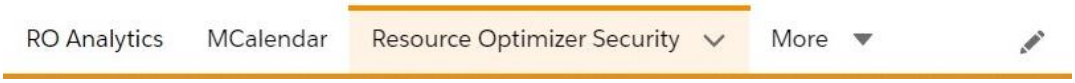
d. Click on **save** button to save the filled in details.
e. Use Edit button on detail record page to make any changes to the fields.

4.13. RO Security

The RO application offers enhanced security management by enabling administrators to define access levels for resource groups and resource allocation parents through RO security records for application users. This setup complements existing permission set assignments.

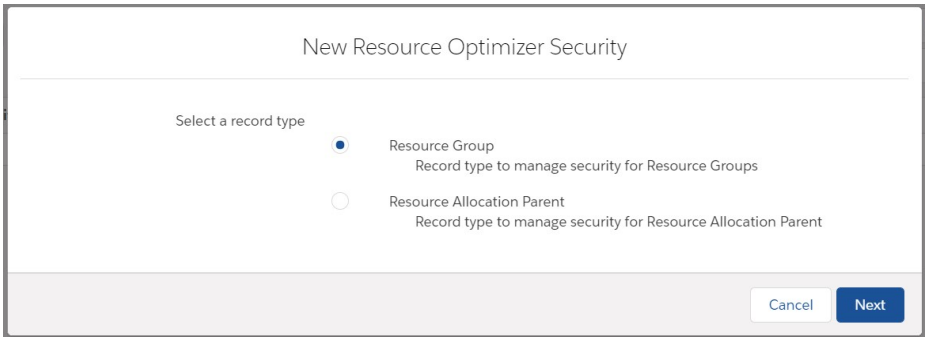
Here are the steps to set up security:

a. Go to App Launcher and Select Resource Optimizer application
b. Click on Resource Optimizer Security Tab. If you don't find the tab, click on **More** and then select **Resource Optimizer Security**.



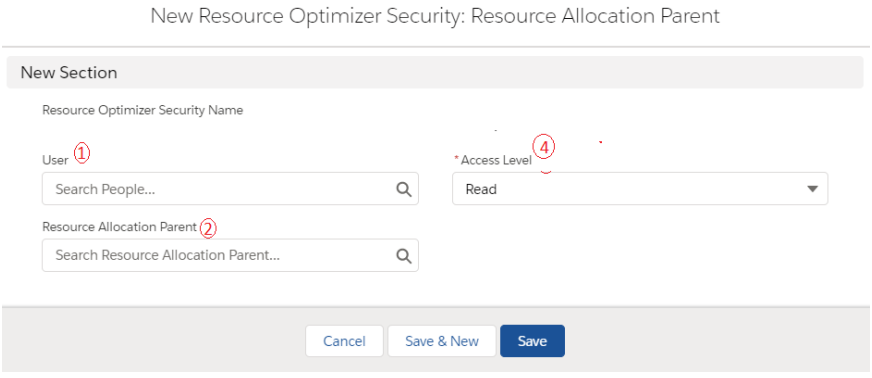
Picture 22 : Resource Optimizer Security Tab

c. Click **New** button.
d. You will see the Record Type Selection screen, offering two types of security records:
   i. **Resource Group** – Used to manage security settings for resource groups.
   ii. **Resource Allocation Parent** – Used to manage security settings for resource allocation parents.



Picture 23 : Select Resource Optimizer Security type

e. After selecting a record type, you will be directed to the edit page to configure the security settings accordingly.



Picture 24 : New Resource Optimizer Security – resource allocation parent

	Field Name	Data Type	Description
1	User	Lookup(User)	Select the user who requires access to a specific resource group or resource allocation parent.
2	Resource Allocation Parent	Lookup(Resource Allocation Parent)	This field will only be visible when the selected record type is "Resource Allocation Parent." Please select the **resource allocation parent** from the lookup.
3	Resource Group	Lookup(Resource Group)	This field will be visible only visible when the selected record type is “Resource Group”. Please select **resource group** from the lookup.
4	Access Level	Picklist	Select the access level from the list of values (Read, Edit).

5. Configure & Customize

5.1. Configure **RelatedTo** on Resource Allocation

RelatedTo is a custom feature designed to establish an indirect relationship from Resource Allocation to any Salesforce record, without requiring a lookup or master-detail relationship. This feature stores data in four fields on the Resource Allocation object: CS_RO__Relatedto_Id__c, CS_RO__Relatedto_Name__c, CS_RO__Relatedto_Object__c, CS_RO__Relatedto__c.

The "**RelatedTo**" (CS_RO__Relatedto__c) field on Resource Allocation provides a link to the selected Salesforce record. A custom component named 'roAllocationRelatedTo' has been developed to display details or a compact view of the related record on the Resource Allocation layout within the RelatedTo tab.

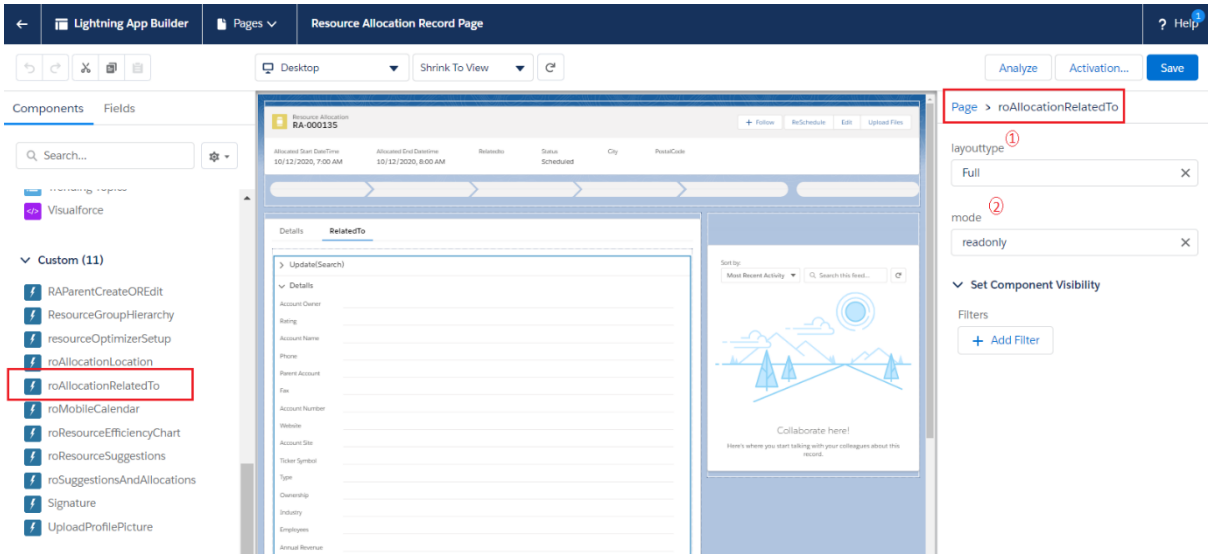
System administrators can customize the input attributes of the 'roAllocationRelatedTo' component based on specific requirements.

To configure this setup:

1. Navigate to Setup -> Lightning App Builder.
2. Access the Resource Allocation Record Page within the Lightning App Builder.
3. Select the RelatedTo tab where the 'roAllocationRelatedTo' component is integrated.

This configuration allows admins to effectively manage and display related record details within the Resource Allocation interface as needed.

	Attribute Name	Data Type	Description
1	layouttype	picklist	It allows to display the related to details either in Full or Compact format.
2	Mode	picklist	It allows related to details to be in read only or view mode



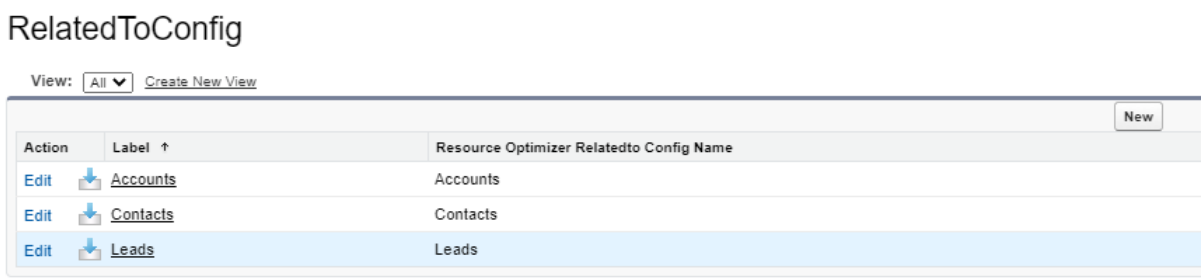
Picture 25 : Resource Allocation Record Page

The **RelatedTo** feature enables you to associate resource allocations with any record in Salesforce. By default, Accounts, Contacts, and Leads are pre-configured for this feature. You have the flexibility to deactivate these defaults or add additional objects to this list as needed.

To manage this configuration:

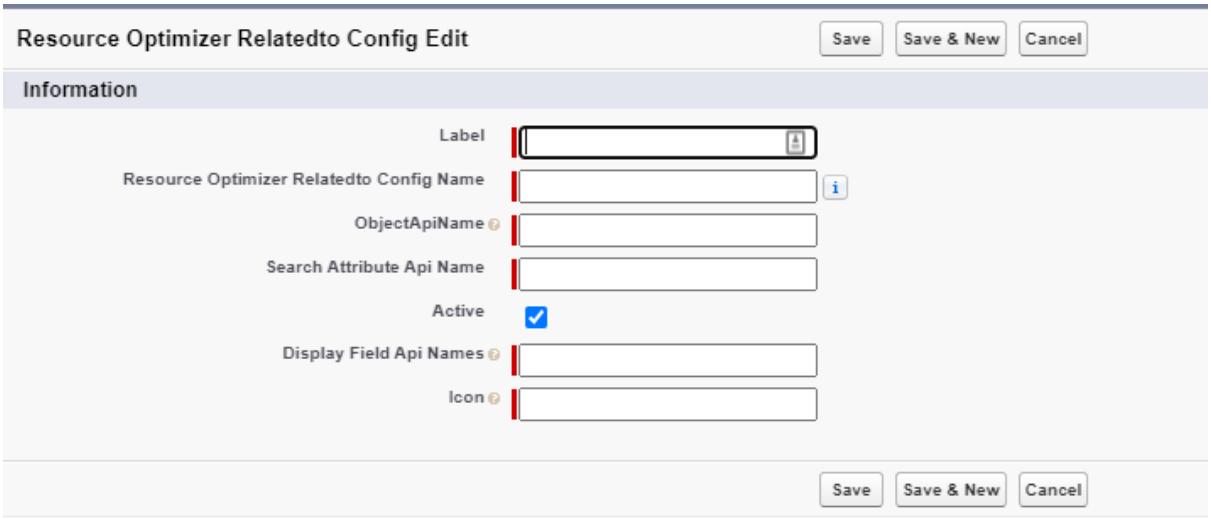
1. Navigate to Setup -> Custom Metadata Types.
2. Select "Resource Optimizer Relatedto Config" from the list of custom metadata types.
3. Click on "Manage" to access and modify the configuration settings.

This setup empowers administrators to tailor the RelatedTo feature according to specific organizational requirements, ensuring seamless integration with diverse Salesforce records.



Picture 26 : Default Related to configuration

To Add New object, Click on New,



Picture 27 : Create New layout for Related to Configuration

	Attribute Name	Data Type	Description
1	Label	Text	Provide desired Object label (Ex: opportunity, billing order)
2	Resource Optimizer Relatedto Config Name	Text	Provide Unique config name.
3	Object API Name	Text	Provide desired Object api name (Ex: opportunity, billing_order__c)
4	Search Attribute Api Name	Text	Provide desired field name on which search operation is performed during lookup (Ex: name, casenumber, SAP_account_number__c)
5	Active	Boolean	Enable/Disable to activate or inactivate the config. If Disabled, this object doesn't appear in related to lookup field.
6	Display Field Api Names	Text	Provide Api names of the fields separated by comma(,) which the the information desired to be displayed as additional information to select right record (Ex: City, Industry, Type)
7	Icon	Text	Lightning icon to be displayed during the lookup operation. (Ex: standard:account) Refer Salesforce lightning icons for more icon samples

5.2. Resource Suggestions

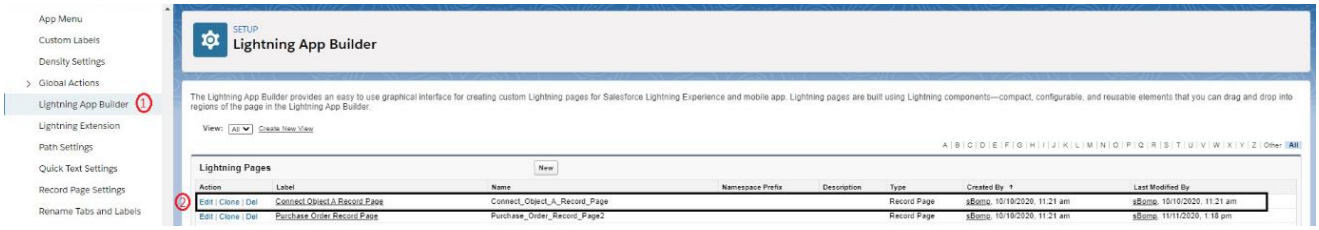
Resource Suggestions is an intelligent feature within RO that recommends resources based on predefined start and end times or real-time user inputs. This functionality is delivered through a custom Lightning component called 'roResourceSuggestions', which can be integrated into the detail record page of any object that has a lookup relationship established with resource allocation (refer to section 4.3 for details).

This custom component enables RO dispatchers to efficiently create allocations and assign them to available resources based on parameters such as start and end times, required skills, and resource group.

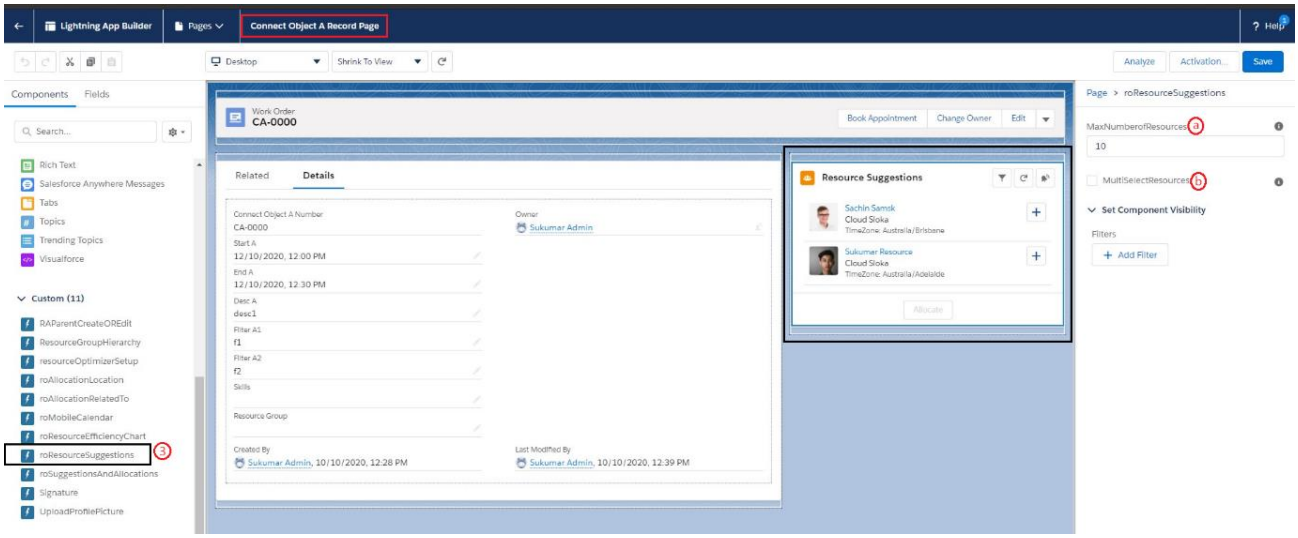
Resource Suggestions leverages the StartDateTime and EndDateTime fields configured in RAParent (Section 4.4) to retrieve relevant data and identify available resources.

To add or edit the **Resource Suggestions** Lightning component on an object record page, follow these steps:

Example: Let's consider a custom object 'Connect Object A'. Assuming a lookup relationship has already been established between Resource allocation and Connect Object A, Connect Object A gains eligibility to embed resource suggestions component on its record page.



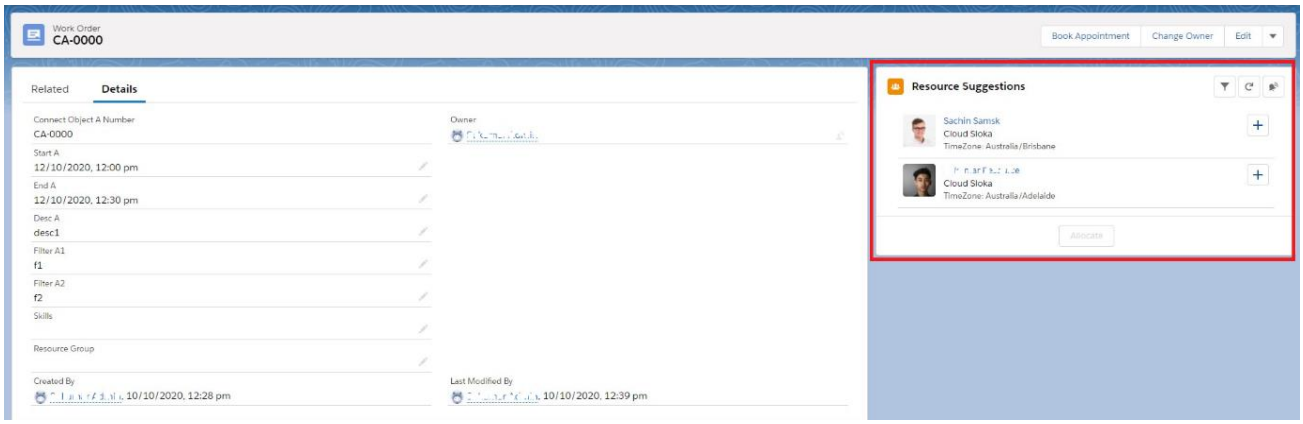
Picture 28 : Lightning pages list



Picture 29 : Lightning Record Page view

1. Navigate to Setup → Lightning App Builder → Select the record page (here in the above example, its Connect Object A Record Page)
2. Click Edit link to open the record page in lightning app builder.
3. In the left navigation under Custom components, locate the 'roResourceSuggestions' component. Drag and drop it onto the available panel of the record page.
4. Lightning component offers the following configurable attributes:

	Attribute Name	Data Type	Description
a.	MaxNumberOfResources	Number	Specify maximum number of resources to be displayed
b.	MultiSelectResources	Checkbox	Enable to let users select multiple resources for allocation.



Picture 30 : Resource Suggestions component on sample record page

5.3. Customize Mobile Calendar (MCalendar)

MCalendar is a custom mobile calendar interface designed to fulfill the requirement of having a calendar directly within the Salesforce mobile application. This interface seamlessly displays both custom and standard records, each associated with a defined start time and end time.

The RO application comes pre-configured with three default objects:

- Resource Allocation
- Reservation
- Reschedule Request

These objects are automatically integrated into the MCalendar interface, enabling users to efficiently manage and view schedules and allocations directly from their mobile devices within the Salesforce environment.

To activate/inactivate or to add new objects to be displayed on the MCalendar interface,

1. Navigate to Setup -> Custom Metadata Types -> Resource Optimizer Mobile Calendar Config -> Manage Records.
2. Edit existing records to update style, detail or stop displaying on calendar.

Picture 31 : Resource Optimizer mobile calendar configuration for Resource allocation

3. Create New to add new object to the configuration.

Picture 32 : New Resource Optimizer mobile calendar configuration layout

	Attribute Name	Data Type	Description
a.	Label	Text	Custom label for the Configuration. Provide Object Label (Ex: Reservation, Appointment)
b.	ResourceOptimizerMobileCalendarConfig Name	Text	Unique Api Name for the configuration.
c.	Plural Label	Text	Object Plural Label to be displayed on Mcalendar Filters (Ex: Reservations, Appointments)
d.	Object Api Name	Text	Desired Object Api Name (Ex: CS_RO__Reservation__c , Appointment__c)
e.	NameField Api Name	Text	Field Api Name of the Name attribute on object (Ex: Name, Casenumber, Appointment_Number__c)
f.	StartTime Api Name	Text	Field Api Name of the Start Date Time attribute on object
g.	EndTime Api Name	Text	Field Api Name of the End Date Time attribute on object
h.	Detail Field Api Name	Text	Field Api Name of the Detail attribute on object (Ex: Subject)
i.	FilterId Field Api Name	Text	Field Api Name of the Filter attribute on object (Ex: CreatedbyId, OwnerId). Ensure This field holds user Ids.
j.	Show on Calendar	Boolean	Enable/Disable to show/hide the object on the calendar
k.	Create New	Boolean	Enable to display create new link, to create new record directly from Mcalendar
l.	Create New Link	Text	Relative URL to create new record (Ex: /lightning/o/Event/new)
m.	Style	Text	Inline CSS style attribute to add Color or Font attributes (Ex: background-color: #223344)

5.4. Resource Available Hours/Resource Availability

After setting up defaults (Section 4.2), configuring resource groups (Section 4.5), and setting up resources (Section 4.6), it is essential for both the application and administrators to create available hours for resources based on their respective configurations.

Resource Availability can be configured and customized in three distinct ways:

Automate: In this method, RO automatically generates resource availability for all resources based on default settings configured at the resource, group, and organization levels.

Fully Integrate: Under this approach, all resource availability data originates from external shift management systems, seamlessly integrating with RO.

Partially Integrate: This approach involves creating resource availability within the RO application for a specific set of resources, while for others, availability is inherited from an external shift management system.

These configurations provide flexibility in how organizations manage and maintain resource availability within the RO application, catering to diverse operational needs and integration capabilities.

Automate –

To automate the creation of resource available hours, follow these steps ensuring the necessary configurations are set:

1. **Set Default Start Time and Default End Time**:

- Define default start and end times at either the resource level (Default Start Time, Default End Time), group level (Resource Group Default Start Time, Resource Group Default End Time), or organization level (Resource Start Time, Resource End Time).

2. **Specify Time Zone**:

- Populate the time zone at the resource level (Resource Time Zone) to ensure accurate time calculations.

3. **Configure 24-Hour Availability**:

- Optionally, configure resources to be available 24 hours, as detailed in Section 4.6 for resource configuration.

4. **Schedule Batch Job**:

- Schedule the batch job named roUtilizationRecordGeneratorBatch at a desired interval. This job is responsible for automating the creation of available hours.

- Upon execution, the batch job script generates available hours for all active resources, taking into account their respective time zones, for the next 'n' days.

- The value of 'n' is determined by the organization configuration setting 'Calculate Availability for next N Days'.

5. **Exclude Week Offs**:

- During the availability calculation process, the batch job excludes any configured week offs at the resource level to ensure accurate availability calculations.

By following these automated procedures, administrators can streamline the creation and management of resource available hours based on configured defaults and organizational settings within the RO application framework.

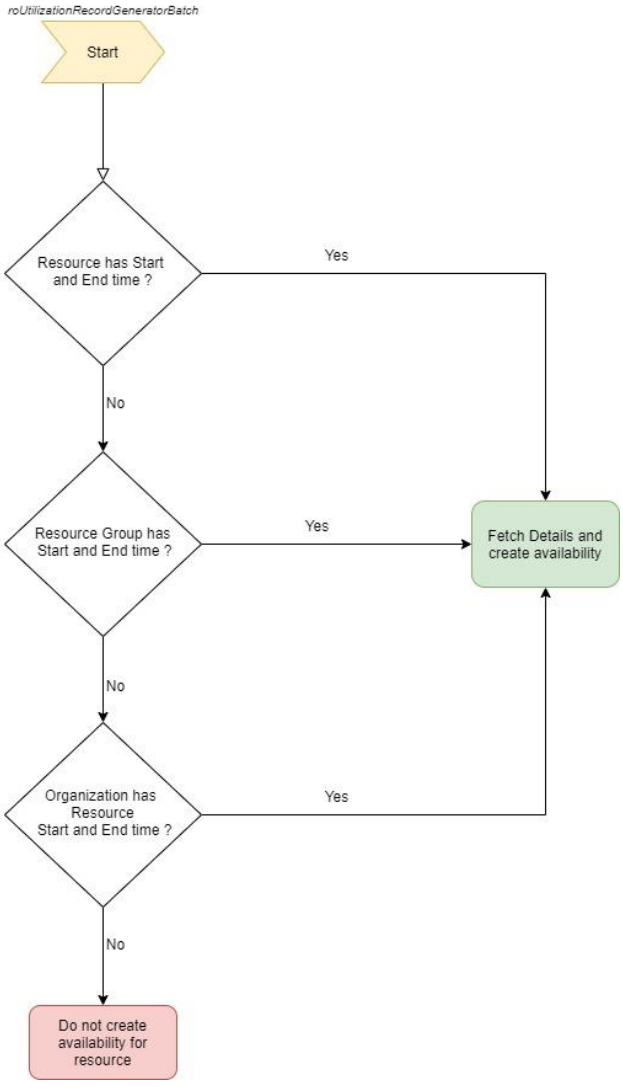


Figure 32: roUtilizationRecordGenerator Batch flow diagram

Fully Integrated –

Here's how to integrate RO with your external shift management systems:

1. **Nullify Time Settings**:

- Ensure all time settings at the resource level (Default Start Time, Default End Time), group level (Resource Group Default Start Time, Resource Group Default End Time), or organization level (Resource Start Time, Resource End Time) are set to null. This step ensures that time configurations do not conflict with external shift management system data.

2. **Salesforce Integration Patterns**:

- Follow Salesforce integration patterns and methods to seamlessly connect your shift management system with the RO application.

3. **Key Tables for Integration**:

- **Resource** (CS_RO__Resource__c): Contains essential resource details and serves as the parent table for Resource Utilization.

- **Resource Utilization** (CS_RO__Resource_Utilization__c): Stores daily, weekly, monthly, and quarterly utilization details of the resource. Ensure daily utilization records exist before creating available timings for that day.

- **Resource Available Hours** (CS_RO__Resource_Available_Hours__c): Acts as a child object to Resource Utilization, holding GMT start time and end time of the resource for a specific day.

4. **GMT Conversions and Considerations**:

- GMT conversions are critical when integrating external systems. The RO application adheres to global standards and operates across all time zones.

- Backend configurations within RO are designed to accept inputs in GMT and display information in the preferred time zone.

Example Use Cases:

Use Case 1: Assume Resource R1 works from 11AM GMT to 6PM GMT on March 9, 2021.

- Create a daily utilization record for March 9, 2021.

- Create a resource available hours record with a start time of 11AM GMT and end time of 6PM GMT, linking it to the utilization record.

Use Case 2: Assume Resource R1 works from 9AM AEST to 6PM AEST on March 9, 2021 (which converts to 11PM GMT on March 8, 2021, to 8AM GMT on March 9, 2021).

- Since AEST is GMT +10 hours, create daily utilization records for both March 8, 2021, and March 9, 2021.

- Create a resource available hours record with a start time of 11PM GMT and end time of 12AM GMT, related to the utilization record for March 8, 2021.

- Create another resource available hours record with a start time of 12AM GMT and end time of 8AM GMT, related to the utilization record for March 9, 2021.

By following these guidelines and examples, you can effectively integrate external shift management systems with the RO application, ensuring accurate and efficient management of resource availability across different time zones.

Partially Integrated –

Follow this approach when you have a set of resources with stable start and end times in a day and another set of resource with continuously changing shift times.

Ensure Resource Start time and Resource End time is nullified at org level config for this approach.

Below figure shows a classic example where availabilities for certain resources are auto calculated by RO batch job and remaining resources would be open for an integrated approach.

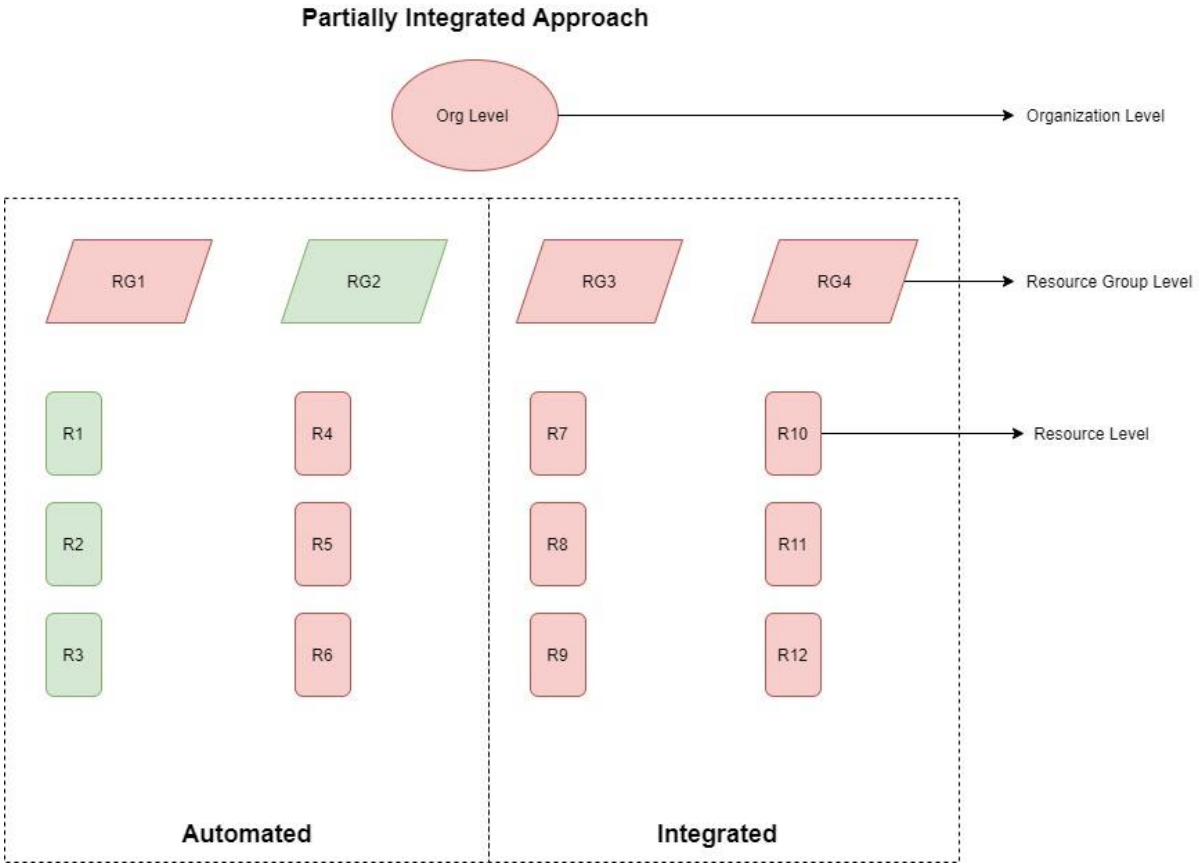


Figure 33 : Partially integrated approach example

In the Above Scenario, start time and end time are nullified in all red stages/records, Org Level, Resource Groups(RG1,RG3,RG4) and Resources (R3-R12).

Upon Scheduling the batch job, the system would Auto create availabilities for Resource (R1-R6) and would not create availabilities for Resource (R7-R12). While Resources (R1,R2,R3) capture their start and end times from their own resource configurations, Resources(R4,R5,R6) capture their start and end time from their parent Resource Group RG2.

Thus, this approach would provide a flexibility for the organization to have partially integrated and partially automated approach.

Tip1 : To have a common start time and end time for entire group of resources, nullify their individual start and end time and have a common start and end time at resource group level.

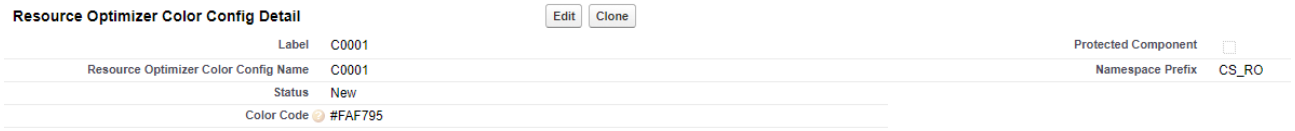
Tip2: To have a common start time and end time for all resources in the Organization, nullify their individual start and end time at resource and group level and have resource start and end time populated at Org level.

5.5. Custom Color Coding

One of RO's key features is the ability to customize color coding for the dispatch console to align with your organization's theme. This feature enhances user experience by improving usability and enabling schedulers to easily identify allocations based on their status. Custom color coding makes it simpler to differentiate between various types of allocations, such as those that are pending, in progress, or completed, providing a visually intuitive way to manage and track resource assignments.

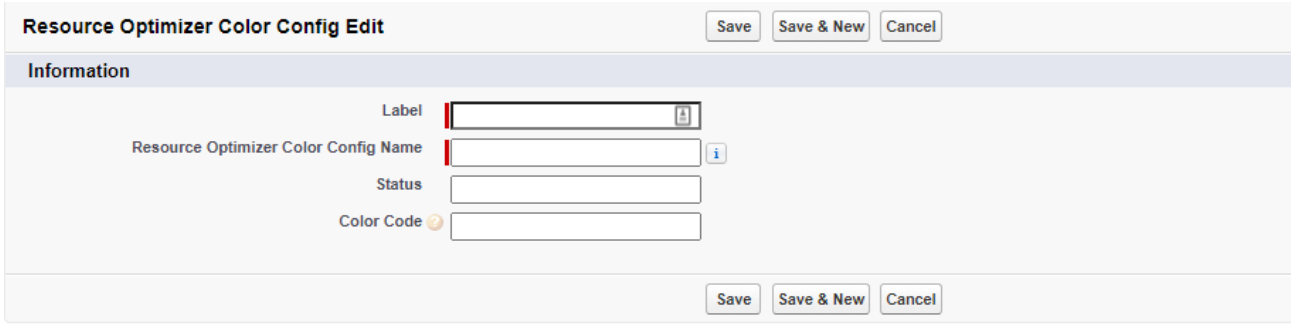
For Color Coding

1. Navigate to Setup -> Custom Metadata Types -> Resource Optimizer Color Config -> Manage Records.
2. Edit existing records to update Status or Color.



Picture 34 : Default Color Config record

3. Create New to add new status and color to the configuration.



Picture 35 : New Color Config layout

	Attribute Name	Data Type	Description
a.	Label	Text	Custom label for the Configuration. Provide Resource allocation Status (Ex: New, Scheduled)
b.	Resource Optimizer Color Config Name	Text	Unique Api Name for the configuration.
c.	Status	Text	Resource Allocation Status (Ensure an exact text match)
d.	Color Code	Text	Color Code in Hex Format (Ex: #223344)

Note : This feature is currently under upgrade is not accessible in V1.8.

5.6. Proactive notifications

One of the crucial features of RO is to send proactive bell notifications to the users about their upcoming resource allocations.

You can schedule a RO job to send notifications for every 30mins or every hour or timing of your choice.

To customize this feature

1. Navigate to Resource Optimizer Application -> RO Setup -> Alert interval -> Pro-active Notification Alert interval(in minutes) of your choice (Ex:30mins,60mins,15min)
2. Programmatically schedule "*roNotificationScheduler*" from anonymous window from developer console if the interval populated in step 1 is less than 24 hours(1440mins).

Use case : Sloka solutions would like to send pro-active notifications to their resources every 30mins about their upcoming allocations.

Solution : The above use case requires the admin to schedule the *roNotificationScheduler* for every 30min.

```
CS_RO.roNotificationScheduler N1 = new CS_RO.roNotificationScheduler();
String schedulestring1 = '0 0 * * * ?';
String jobID1 = system.schedule('send alerts1', schedulestring1, N1);
CS_RO.roNotificationScheduler N2 = new CS_RO.roNotificationScheduler();
String schedulestring2 = '0 30 * * * ?';
String jobID2 = system.schedule('send alerts2', schedulestring2, N2);
```

Theory : To run a job every 30min we have schedule 2 instances of the job, one at 0th minute of every hour and another at 30th minute of every hour interval. Upon running the above code snippet in execute anonymous window in Developer Console, a job(send alerts) gets scheduled every 30mins and sends bell notification to the users, if they have any upcoming allocations in next 30 min interval. For example, if the job runs at 9am, resource R1 receives bell a notification if he has been assigned to any allocation, which starts between 9:30am and 10am.

Note : This feature is currently under upgrade is not accessible in V1.8.

5.7. Page Layouts

RO is configured with multiple OOB page layouts for every object. few key objects to notice are Resources, Resource allocation and Resource Utilization. While you can customize, clone or create new layouts, below tables help you understand the purpose behind the existing OOB layouts configuration.

Resource allocation layouts

	Layout Name	Purpose
a.	Resource Allocation Layout	Built for Admins
b.	Resource Allocation Dispatcher Layout	Built for Resource Managers/Dispatcher/Schedulers
c.	Resource Allocation Resource Layout	Built for Resources

Resource layouts

	Layout Name	Purpose
a.	Resource Layout	Built for Admins/ Configurators
b.	Resource - Read Only	Built for Resources or anyone who needs read-only access on interface level

Resource Utilization layouts

	Layout Name	Purpose
a.	Resource Utilization Layout	Built for Admins/ Configurators to display daily utilization details
b.	Resource Utilization - Read Only	Built for Resources or anyone who needs read-only access on interface level to daily utilization details
c.	Week Resource Utilization	Built for Admins/ Configurators to display weekly utilization details
d.	Week Resource Utilization - Read Only	Built for Resources or anyone who needs read-only access on interface level to weekly utilization details
e.	Month Resource Utilization	Built for Admins/ Configurators to display Monthly utilization details
f.	Month Resource Utilization - Read Only	Built for Resources or anyone who needs read-only access on interface level to Monthly utilization details
g.	Quarter Resource Utilization	Built for Admins/ Configurators to display quarterly utilization details
h.	Quarter Resource Utilization - Read Only	Built for Resources or anyone who needs read-only access on interface level to quarterly utilization details

6. Conclusion

6.1. Acronyms

Below Acronyms are used in the document.

Acronym	Full Form
RO	Resource Optimizer
Org	Organization
GMT	Greenwich Meridian Time
AEST	Australian Eastern Standard Time
AEDT	Australian Eastern Daylight Time
SOQL	Salesforce Object Query Language
API	Application Programming Interface
JSON	JavaScript Object Notation
OOB	Out of the box
EX	Example

6.2. References

Reference Name	URL
RO Data Dictionary	https://www.cloudsloka.com.au/resources/ro-data-dictionary
RO Data Sheet	https://www.cloudsloka.com.au/resources/ro-data-sheet