Configure mWorkOrder using RACE™

Connected Worker Solutions

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RACE™ Configurations Guide for mWorkOrder, a Mobile Workorder Management Solution of *Connected Workforce Platform*™.

Release Version: *2512*

Release Date: *09 January 2026*

Published Date: *09 January 2026*

Document Version: *1.0*

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Preface

Understand audience, know related documents and products and conventions followed in this document.

Audience

This guide is for technical configurators who do RACE™ configurations for mWorkOrder, a Mobile Workorder Management Solution of *Connected Workforce Platform*™.

Document Conventions

Table 0-1 Conventions followed in the document

Convention	Meaning
boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Indicates book titles, emphasis, or place-holder variables for which you supply values.
`monospace`	Indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter

Related Products

- Work Order Management
- Inventory and Warehouse Management
- Operator Rounds
- Inspections Checklist
- Fixed Asset Management
- Field Procurement
- Analytics and Dashboards

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1. Understand RACE™

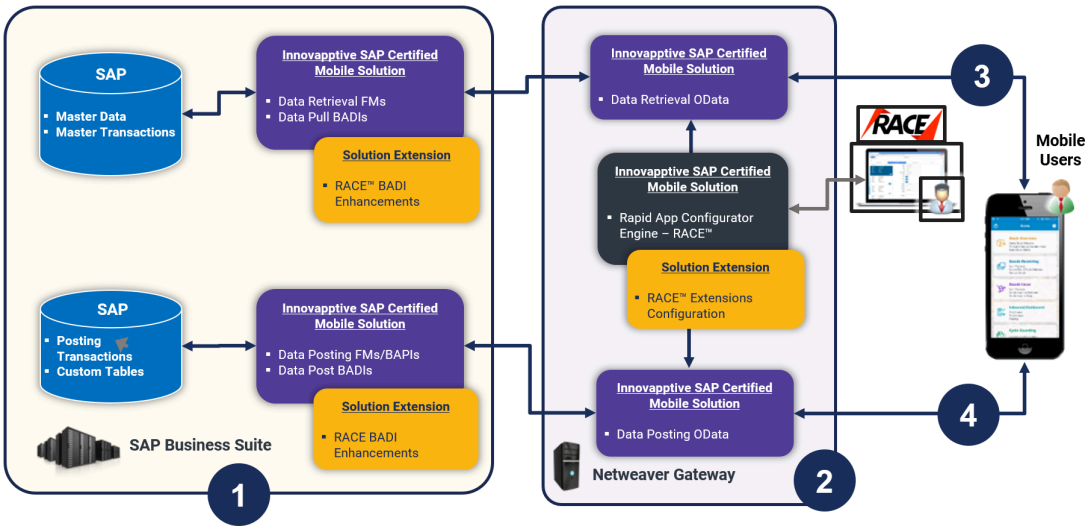
Innovapptive's Connected Workforce Platform™ uses built-in integrations to connect your SAP®, IBM Maximo, and other back-office systems with mobile applications.

This helps organizations,

- bridge communication and information gaps between executive teams, field technicians, plant operators, warehouse operators, maintenance engineers, and back-office staff.
- connect data points across cloud and on-premise networks to quickly and easily
- draw powerful insights
- identify cost-savings opportunities
- make calculated business decisions
- respond quickly to trends or problems

To align Innovapptive solutions with your operations, we built a Rapid App Configuration Engine (RACE™) directly into our mobile Connected Worker Platform. This sophisticated configuration toolkit gives developers and non-developers complete freedom to customize mobile environments without any coding experience.

Figure 1-1 RACE™ Architecture



Deployment ecosystem consists of the following:

1. **SAP ECC Integration Component (SAP Certified Add-On in Innovapptive Namespace)**: This SAP-certified add-on is developed on ABAP and can be deployed on SAP ECC through an Add-On Package. You can make enhancements to this, as required, through BADI by developing those enhancements in ABAP. This add-on helps you manage Data retrieval and do posting to BAPI's or Function Modules.
2. **SAP NetWeaver Integration Component with OData Web Services**: Developed on ABAP and OData and offered as an SAP Certified Add-On, this add-on is deployed through an Add-On Package on SAP NetWeaver. You can make enhancements through RACE Configurations. This add-on helps manage the OData integration components (i.e. OData Web Services) to interface with the mobile app. The RACE™ Add-On has both the front-end components and the back-end data tables for the RACE™ Lite Configuration tool.
3. **Native App Client + Desktop Web App**: Application front-end solutions are offered on all three major mobile OS as a native application that runs on tablets and smartphones.
    - iOS - Developed using native iOS (Swift SDK)
    - Android - Developed using Android SDK on JAVA
    - Windows OS - Developed using Windows development kits.
    - Browser based App for desktop - Developed using SAPUI5 technology.

    Changes on the application user interface is managed through the RACE™ Lite Admin tool.
4. **Interface between Mobile App and NetWeaver Gateway**: OData Web Services
5. **Interface between NetWeaver Gateway and SAP ECC**: RFC Connection

1.1. Features of RACE™

You can do the following with RACE™ for your Innovapptive Connected Worker mobile application:

- **Enable and Disable features**: Enable or disable modules on the fly; no additional development or deployments efforts.
- **Define Defaults**: Define default device and application values that you use every day at work. For example, when you define the Default Plant the technician is employed at and the type of peripherals he /she uses, the Plant and Peripherals fields are auto populated when the technician uses the application. This saves productive time of the field worker and eliminates scope for errors.
- **Manage Filters**: Create, edit, or delete filters to define the transaction records that you want to view across the modules. For example, you can add a date filter to Purchase Orders and restrict the list that is displayed.
- **Add/Modify fields**: Add new fields and modify existing field parameters, such as Field Types, UI Label, UI Positions, and visibility. Define mandatory, optional, or display/hidden fields.
- **Add and customize search criteria**: Add/modify search fields to filter records based on your work requirements.
- **Create modules and screens**: Create new modules and screens to address your specific business requirements.
- **Optimize Performance**: Enable or disable a collection for Offline storage and configure the page size on the list screen using Skip Token.
- **Localization**: Configure the UI labels in the language of your choice to cater to language requirements.
- Apply security access capabilities to modules and features.
- Configure security for newly added fields.
- Map newly added fields with SAP fields.

1.2. New Features and Enhancements for RACE

The following are the new features and enhancements for RACE™.

Check the releases below for the information:

- New Features and Enhancements in Release 2208 *(on page 12)*
- New Features and Enhancements in Release 2201 *(on page 16)*
- New Features and Enhancements in Release 2009 SP04 *(on page 16)*
- New Features and Enhancements in Release 2009 SP03 *(on page 17)*

New Features and Enhancements in Release 2208

Table 1-1 New Features and Enhancements in Release mWorkOrder 2208

Reference No.	Description
MWO-33377	**Create Custom Modules and Use them in mWorkOrder** • Create custom modules for your business needs and use them in the mWorkOrder application. Using RACE, you can create complete, fully functional modules with header, search, list, details, buttons, and so on. • This flexibility empowers organizations to develop custom requirements without any dependency on coding. For information, Create Custom Module for mWorkOrder *(on page 110)*.
RF-4659	**Supports Localization in Dynamic Forms** Configure or localize the static fields in Dynamic Forms such as UI labels, buttons, error, warning messages, and so on in the language of your choice to understand the application and use it more efficiently. For information, Define localization Entries *(on page 188)*.
RF-4533	**Enhanced Dynamic Forms Home Screen**

Table 1-1 New Features and Enhancements in Release mWorkOrder 2208 (continued)

Reference No.	Description
	• View the count and list of drafted, published, and pending forms in the home screen. • Create and upload forms from the home screen. • View different form categories and list of forms under the category. For information, View Dynamic Forms that are in Draft *(on page 113)*.
RF-4532	**Configure Dynamic Forms with Ease** • View the preview (phone or tablet) of dynamic form while creating. • Show or hide advanced configuration labels. For information, Create Dynamic Form *(on page 121)*.
RF-4181	**Organize Data in the form of Tables in Forms** • Configure a table with rows, columns, field labels, and input fields in RACE. • Organize related data and present it in a form, which helps you to view all the related data at one place in the forms in tabular format and fill out a form more conveniently. For information, Organize Data in the form of Tables in Forms *(on page 30)*.
RF-1495	**Create Emergency Notification from Forms**

Table 1-1 New Features and Enhancements in Release mWorkOrder 2208 (continued)

Reference No.	Description
	• Create an emergency notification while creating a form and associate the current form to it. • View the same form assigned as attachment against newly created work order or notification.
MRO-96	**Convert UOM field to drop down** Convert the UOM field to drop down to see the Unit of Measure field in drop down type with values in the mWorkOrder application. For information, Convert UOM field to Drop down *(on page 31)*.
MWO-32130	**Define preferred sorting order by module** • Supervisors can set the default sort criteria organization wide in RACE to have uniform criteria based on the business processes. • Technicians can sort and view the transactional data (Work Orders, Equipment) and master data (EQ, FL, MP). For information, Configure Preferred Sorting Order by Module *(on page 82)*.
MRO-98	**Execute Forms in an Operator Round**

Table 1-1 New Features and Enhancements in Release mWorkOrder 2208 (continued)

Reference No.	Description
	• As a planner, assign a dynamic form to a technician to fill and execute the form. • As an operator, fill a dynamic form with details such as readings, checklist, and so on. For information, Execute Forms in an Operator Round *(on page 99)*.
MWO-31196	**Technically Complete a Notification** Auto complete a notification when a related work order is technically completed. For information, How to Technically Complete a Notification *(on page 59)*.
MWO-33230	**SharePoint Integration** Integration with Document Management Systems like SharePoint. For information, How to Integrate with Share Point *(on page 59)*.
RF-1495	**Create Emergency Notification of Work Order from the Form** Create notifications from the form itself while doing maintenance tasks. The form is associated with the notification automatically. For information, Trigger Business Objects from Forms *(on page 155)*.

New Features and Enhancements in Release 2201

Table 1-2 New Features and Enhancements in Release mWorkOrder 2201

Reference No.	Description
RF-4391	**Collapsible Sections in Forms** Group related fields in forms and expand and collapse them to view. You can now easily identify the key sections and capture data quickly. For information, Create Dynamic Form *(on page 121)*.
RF-4276	**Auto-save Data in Forms** The data is auto-saved locally until the form is saved or submitted. This feature reduces the risk of data loss when the app times out or crashes abruptly. For information, Create Dynamic Form *(on page 121)*.
MWO-29914	**Improved Offline Functionality** View, post, and validate embedded forms when in offline mode. For information, Create Dynamic Form *(on page 121)*.

New Features and Enhancements in Release 2009 SP04

Table 1-3 New Features and Enhancements in Release mWorkOrder 2009 SP04

Reference No.	Description
MWO-27869	**Ability to indicate Pass or Fail against drop down and segment control tasks**

Table 1-3 New Features and Enhancements in Release mWorkOrder 2009 SP04 (continued)

Reference No.	Description
	User can configure the result value of and color for the selection of a drop down or segment control value. Hence, the user can understand the impact and take necessary actions on the rounds. Upload the following spreadsheets once you upload mWorkOrder SP3 RACE configuration spreadsheets • Extensions_2009_SP4 • Modules and Screens_2009_SP4 • Performance_2009_SP4 • Screens_2009_SP4

New Features and Enhancements in Release 2009 SP03

Table 1-4 New Features and Enhancements in Release mWorkOrder 2009 SP03

Reference No.	Description
RF-4150	**Make Error Message Informative and Consistent (UI5)** All the error messages are made consistent in the UI5 application.
RF-4080	**Operator Rounds - Support for demo data (iOS)** The Operator Rounds module now supports demo data.
RF-3996	**Support for signature and attachments in sub form (iOS)**

Table 1-4 New Features and Enhancements in Release mWorkOrder 2009 SP03 (continued)

Reference No.	Description
	A user can now attach images or attachments, and signatures in a sub form. When the user converts the sub form into PDF, the attachments and signatures also appear in the PDF. For information, Configure form template for dynamic screens *(on page 35)*
RF-3779	**Forms Builder - UI and UX improvements (UI5)** The UI and UX improvements are made such as the icons or buttons placement in the Form List Details screen is changed. For information, View Recent RACE Dynamic Forms *(on page)*
RF-3656 / RF-3647	**Header level attachments - Embedded Forms (iOS)** A user can now embed the PDF within a form or header. For information, Embed reference documents in the form *(on page 134)*

New Features and Enhancements in Release 2009 SP02

Table 1-5 New Features and Enhancements in Release mWorkOrder 2009 SP02

Reference No.	Description
RF-3488	**Activate or Deactivate Forms (iOS, UI5)**

Table 1-5 New Features and Enhancements in Release mWorkOrder 2009 SP02 (continued)

Reference No.	Description
	User can deactivate the dynamic forms that are not required and activate them when needed. This ensures that only the active forms are readily available when working. For information, Deactivate and Activate RACE Dynamic Forms *(on page 118)*

New Features and Enhancements in Release 2009

Table 1-6 New Features and Enhancements in Release mWorkOrder 2009

Reference No.	Description
RACELITE-2144 / RACELITE-2080 / RACELITE-2070 / RACELITE-2038 / RACELITE-2033 / RACELITE-2008 / RACELITE-2006 / RACELITE-2004 / RACELITE-1995	**Create and Edit Work Instructions** Work Instructions feature had the following productivity enhancements: These help you • create the work instruction from scratch. • edit or update work instruction and save it. • add new sections and attach files to the work instruction. • share work instruction for review and approval before publishing it. • organize work instructions into categories. • publish the work instructions. • configure the Overview screen of work instructions.
RF-2128	**Categorization of Forms in RACE (iOS, Android, Windows, UI5)**

Table 1-6 New Features and Enhancements in Release mWorkOrder 2009 (continued)

Reference No.	Description
	You can categorize forms in RACE under different categories while creating them. For information, Categorize RACE Dynamic Forms *(on page 115)*
RF-2021	**Form Versioning (iOS, Android, ABAP)** You can keep a track of the form changes done due to updates in inspection norms and revert to previous form versions while safeguarding all submission data. For information, Create New Versions, Edit and Publish RACE Dynamic Forms *(on page 157)*
RF-885	**Optical Character Recognition - Anyline OCR (iOS, Android, Windows)** You can fill the form through OCR technology which can decrease the manual intervention and the data would be more accurate.
RF-2777	**Forms performance Optimization (iOS, Android)** You can retrieve forms History with 100 entries under 5 seconds so that you can quickly check the posted forms and take relevant actions.
RF-3043	**RDF compatibility with upgraded SMP 3.1 SDK 5.0 (iOS, Android, Windows, UI5, ABAP)** RDF is now compatible with SMP 3.1 and SDK 5.0, so all the existing apps are able to work with SMP 3.1 and SDK 5.0.

Table 1-6 New Features and Enhancements in Release mWorkOrder 2009 (continued)

Reference No.	Description
RF-2831	**Integrate Foundation library into Race Dynamic Forms (iOS)** The Foundation library is integrated into RDF. Following features are handled by the Foundation Library Authentication: • DB preparation (Single & Multi DB) 5 5.3 Communication with Store • Data Fetching • Filter Implementation • Postings • Data Synchronization • Flush • Refresh • Large Volume Data Handling • Skip Token • User Personalization • Offline Outbox • Attachment Handling • Time Outs • Network Handling • Bandwidth • VPN • Error Handling • Push Notification
RF-1634	**RDF - Support iOS 14 and X Code 12 (iOS)** RDF now supports iOS 14 and X Code 12.

New Features and Enhancements in Release 2006

Table 1-7 New Features and Enhancements in Release mWorkOrder 2006

Reference No.	Description
RACELITE-1871	**Configurable select query sequence (UI5, ABAP)** As RACE admin you can define the sequence of tables while data fetching. So the Custom BADIs as product capabilities will decrease the PSO efforts and make the application more standardized.
RACELITE-1867	**Configurability of Label Positioning (UI5, ABAP)** With this feature, you can set offset configuration for label printing. So that the label will be printed as configured with the offset position.
RACELITE-1866	**Configure Master Data for Operator Rounds (UI5, ABAP)** With this feature, you can configure master data for operator rounds module, then the application shows the master data as configured in RACE.
RACELITE-1761	**Store Text Field Recent Values for Autosuggestion (Android)** When you start typing in the field, the application auto-suggests with last five values which is typed in that field.
RACELITE-1525	**Dynamic Extensions Collection Configured as Offline Collection (Android)**

Table 1-7 New Features and Enhancements in Release mWorkOrder 2006 (continued)

Reference No.	Description
	You can add new modules in an offline mode.
RACELITE-1359	**Module Builder is able to package the Module and distribute it (UI5)** You can package and distribute modules created using Add Module feature of RACE will enable faster and cheaper development of new features across the applications.

New Features and Enhancements in Release 2003

Table 1-8 New Features and Enhancements in Release mWorkOrder 2003

Reference No.	Description
RACELITE-1676 / RACELITE-468	**RACE is provided with the capability to default Dates (Android)** When you see the same field in the mobile application, the date value is automatically populated, if it is empty. For information, Configure forms and form fields for dynamic screens *(on page)*
RACELITE-1650 / RACELITE-1577	**UI drop-down Field Description along with Key (Android)** UI drop-down shows the Description along with the Key. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS and Android	**Filter forms using custom attributes**

Table 1-8 New Features and Enhancements in Release mWorkOrder 2003 (continued)

Reference No.	Description
	Add custom attributes to the form in RACE™ to filter the forms and add them to the business object. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Calculated fields in forms** Configure mathematical expressions in UI Validations to auto-populate or validate form fields. **Limitation**: This feature works only for numeric fields with Division, Multiplication, Subtraction and Addition (BODMAS) operations. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Inline field validation** Field values are now validated as you enter the values are in the Form. Earlier, the validation was performed when you Submit the Form. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Fraction fields** Enter numeric data in fractions, Forms convert the value into decimal format and post it to SAP.

Table 1-8 New Features and Enhancements in Release mWorkOrder 2003 (continued)

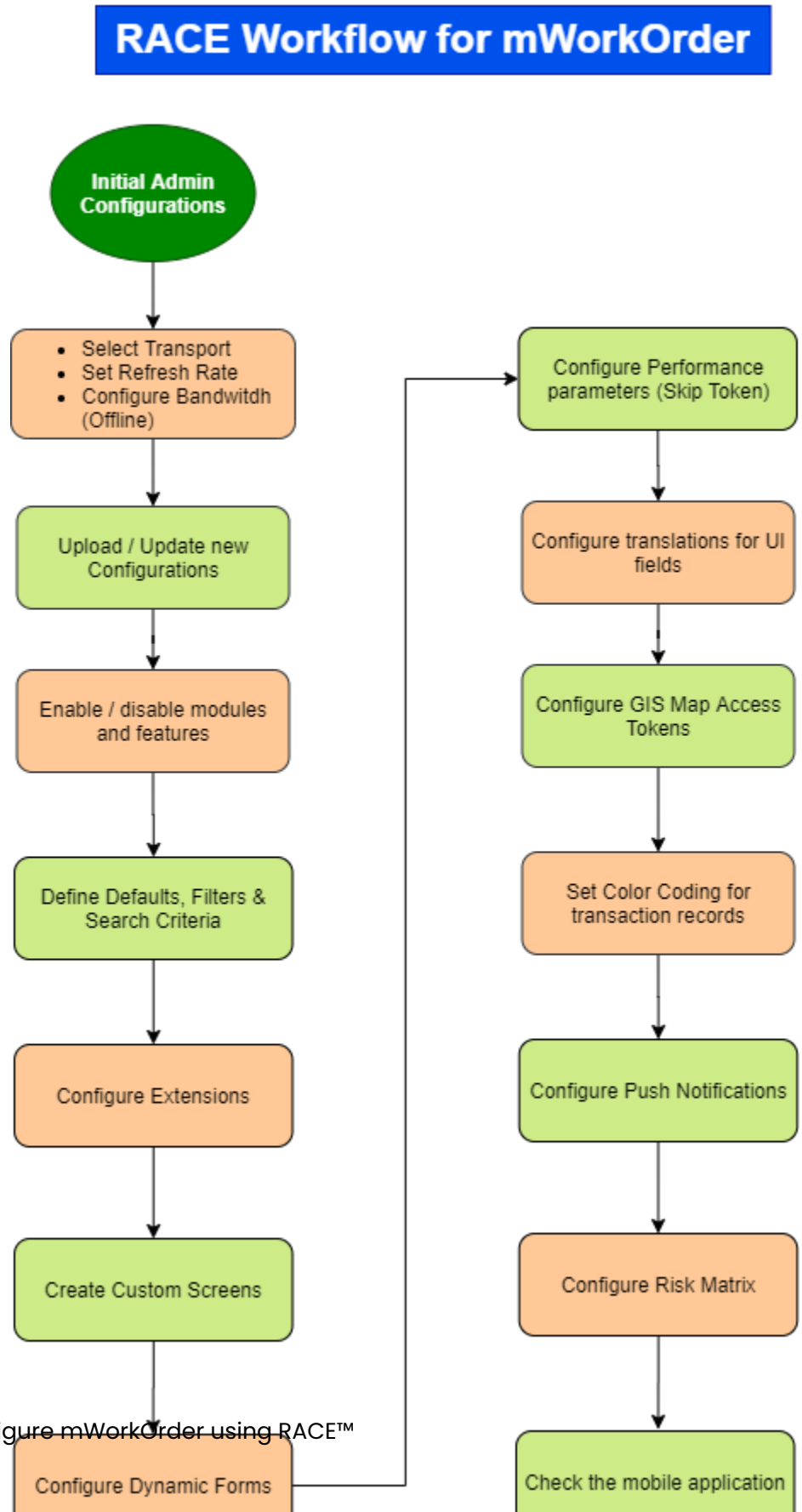
Reference No.	Description
	For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Populate Current Date & Time in Date fields on Form** Configure **Default Value** to populate **Current Date** (CD) and **CurrentTime** (CT) in Date field on Forms. You can also show the Current User (CU) in Text field. **Limitation**: You can increase or decrease only the Day value. CU, CD and CT cannot be used in expressions. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Hide fields using UI validations** Configure UI validations to hide (destination) fields depending on the value selected in the source field. **Note**: By default, the destination field is not displayed on the screen. **Limitation**: Form designer should understand the scenarios where the conditions conflict to hide fields. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Static images in forms** Now, you can configure Forms to add images along with fields which helps the technicians to carry out field inspections without hassle.

Table 1-8 New Features and Enhancements in Release mWorkOrder 2003 (continued)

Reference No.	Description
	Limitation: Images are not displayed when you use Print & Email form on Submit. For information, Configure forms and form fields for dynamic screens *(on page)*
iOS, Android	**Notify users on Form actions** Back office executives are now notified of the actions on Forms. For example, you can enable notification on the form to receive an alert when the form is Submitted. For information, Configure forms and form fields for dynamic screens *(on page)*

1.3. Workflow to configure mWorkOrder using RACE™

Figure 1-2 RACE Workflow



1.4. RACE™ Admin Configurations – Setting it up

You are a RACE™ administrator and you configure screen components, field types, form templates and attributes, dropdown table fields which can be used by non-admin RACE™ configurators.

For example, when you configure an Extension or Search field as check label, check box or an auto input dropdown field type in the admin section, a RACE™ user uses from these options for configuring applications.

To manage these configurations, login to RACE™ as an administrator, click the Admin  icon on the top right of the screen and do the configurations listed in this section

1.4.1. Connect to backend SAP systems to retrieve data

Connect to backend SAP systems and retrieve tables, fields, and BAPIs list.

To connect to backend SAP systems to retrieve data:

1. In the Admin section, click **Systems** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing UI field type to populate the properties in the **Create New System** section.
3. In the **Create New System** section, enter this information:

Table 1-9 System attributes

Field	Description
System Name	Name of the system to retrieve the data from like ECC, CRM, and so on.

Field	Description
System ID	Unique identity (alpha numeric) to specify the ID for system.
Destination	Name of the system where the data is posted.

4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.4.2. Get appropriate access permissions

When users make RACE™ configuration changes, the changes are captured in SAP Netweaver Gateway as custom transports.

To make these configuration changes, RACE users must have one of the following valid profiles with required authorizations.

- **Add and update configurations**: Access to Authorization Object /INVCEC/RA and Activity 01,02,03
- **Update configurations only**: Access to Authorization Object /INVCEC/RA and Activity 02.
- **View configurations only**: Access to Authorization Object /INVCEC/RA and Activity 03

Provide required authorizations to RACE™ users.

1.4.3. Configure UI Field Types

Use the **UI Field Types** menu to configure field types for RACE™ User screen.

When you configure an Extension or Search field as check label, check box or an auto input dropdown, a RACE™ user uses any of these or all types as the field type when configuring the fields for Innovapptive Connected Worker mobile applications.

To configure UI field type:

1. In the Admin section, click **UI Field Types** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing UI field type to populate the properties in the **Create UI Field** section.
3. In the **Create new UI Fields** section, enter this information:

Table 1-10 UI Field Types attributes

Field	Description
UI Field	Type of extension field to be displayed in the application. **Note:** Select **UI Field** as **TAF** to enable user to enter the data in a tabular format in a Form.
UI Field Description	Description of the UI field type.
UI Field Category	Category of the UI field like drop down and non-drop down depending on which some fields are shown on the application.
Product(s)	Select the applications for which the field type is configured.

4. Click **Create**.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.4.4. Organize Data in the form of Tables in Forms

This configuration allows you to enter the data in a tabular format in a form.

To enter the data in a tabular format:

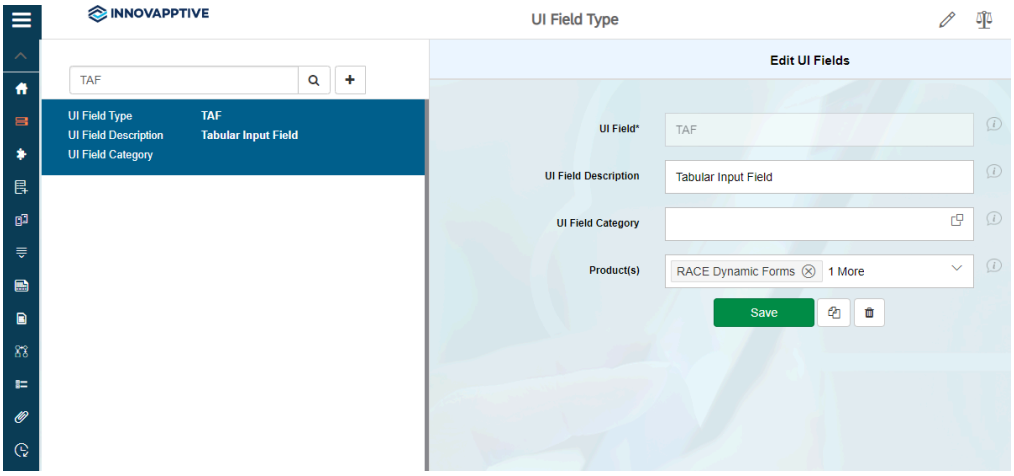
1. In the Admin section, click **UI Field Types** on the left panel.
2. Click the **Add**  icon next to the search field.
3. In the **Create new UI Fields** section, enter this information:

Table 1-11 UI Field Types attributes

Field	Description
UI Field	TAF
UI Field Description	Tabular Input Field
Product(s)	mWorkOrder and RACE Dynamic Forms

4. Click **Create**.

Figure 1-3 Configure Values to Enter Data in Tabular Format



1.4.5. Convert UOM field to Drop down

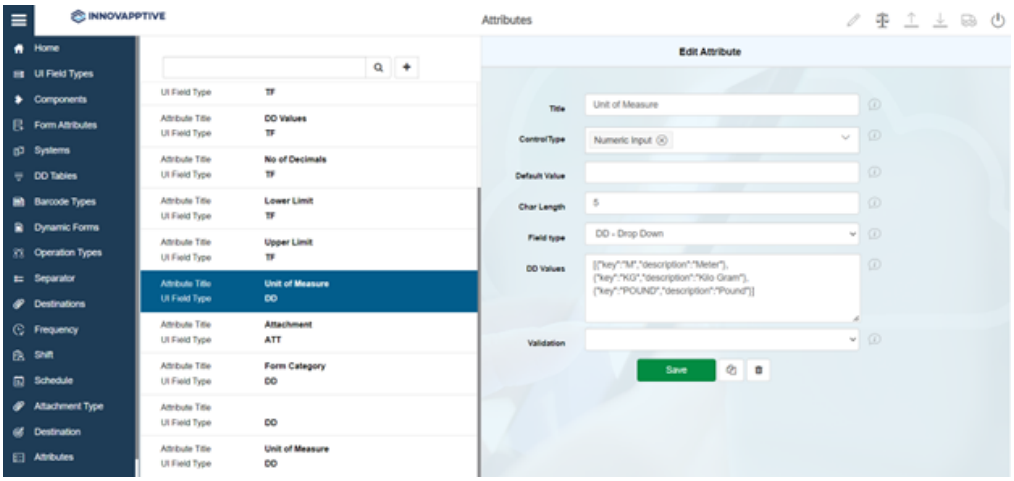
Use the **Attributes** menu to configure field types for mWorkOrder.

Convert the UOM field to drop down to see the Unit of Measure field in drop down type with values in the mWorkOrder application.

To convert the UOM field to drop down and add values:

1. In the Admin section, click **Attributes** on the left panel.
2. Enter **Unit of Measure** in the Search field and select.
3. Select the **Field Type** value as **DD - Drop Down**.

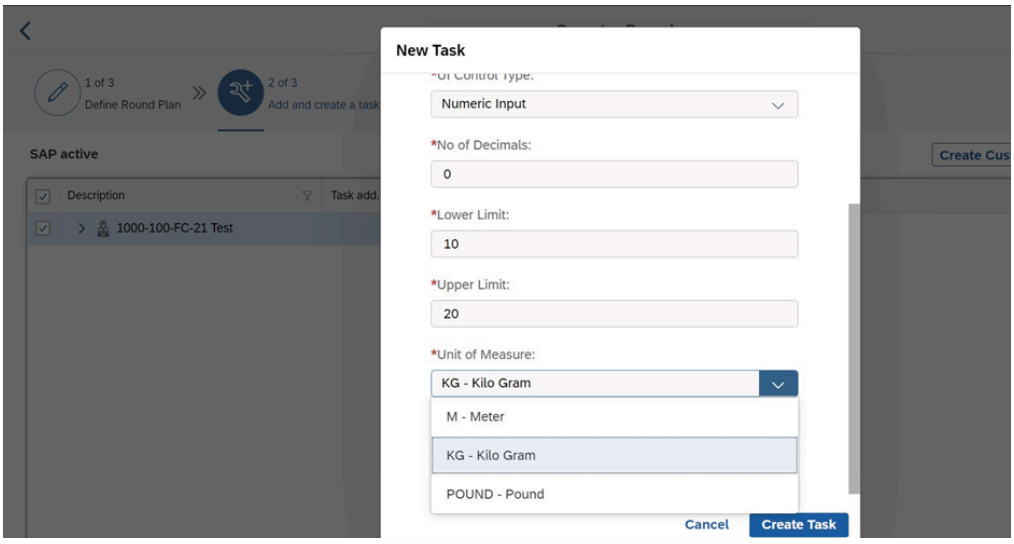
Figure 1-4 Select Drop Down



4. Click **Save**.

   In the application, the UOM field is displayed as below.

Figure 1-5 UOM Field in Application



1.4.6. Configure components for transaction screens

Use the **Components** option to configure screen area, screen type, element, and element type components for RACE™ transaction screens.

When you configure a screen, you select a component like Header and define extensions or fields depending on the type of transaction / workflow.

To configure screen components:

1. In the Admin section, click **Components** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing UI field type to populate the properties in the **Create new Component** section.
3. In the **Create new Component** section, enter this information:

   Table 1-12 Screen Component attributes

Field	Description
Component Type	Type of screen component. Possible values: ◦ Screen Area ◦ Screen Type ◦ Element ◦ Element Type
Component Name	Name of the screen element like Header, Tab, Label and Button.
Component Description	Description of the Screen component.
Parent Component	Name of the parent component like screen or element.

4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.4.7. Configure attributes to filter forms

Use **Form Attributes** option to configure attributes (filters) for dynamic forms. A RACE™ User can configure forms using these attributes.

When you create forms, you can select filters (attributes) like Order Type, Priority to assign the form to Work Order. For example, if the technician requires an additional form, only the forms relevant to the Work Order are shown.

To configure form attributes:

1. In the Admin section, click **Form Attributes** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing UI field type to populate the properties in the **Create new Form Attribute** section.
3. In the **Create new Form Attribute** section, enter the **Attribute Name** and **Description**.
4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.4.8. Configure dropdown table and dependency fields

Use the **DD Tables** menu to configure dropdown tables to retrieve data from SAP for transaction screens on the mobile.

You can also configure the Dependency Field and Dependency Key Field for the dropdown field. For example, when you select the dropdown table to configure an Extension or Search dropdown field, the dependency fields are auto populated.

To configure dropdown table for fields:

1. In the Admin section, click **DD Tables** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing UI field type to populate the properties in the **Create new predefined DD table fields** section.
3. In the **Create new predefined DD table fields** section, enter this information:

Table 1-13 Dropdown table field attributes

Field	Description
Predefined DD Table	Enter the dropdown table field.
DD Table Name	Enter the name of SAP table to retrieve data from.
DD Field Name	Enter the name of SAP field to retrieve.
DD Dependency Field	Enter the name of the field to auto-populate depending on the value selected in dropdown field.
Text Required	Define how the text for dropdown values is displayed. Possible values: ◦ 0 – Not Required (not relevant) ◦ 1 – Only Description (only the description of the value is displayed) ◦ 2 – Key and Description (both the key and description of the value are displayed)
Text Table	Enter the table name to fetch the text from.
Text Field	Enter the table field name to fetch the text.
Text Key Field	Enter the name of the field to fetch the value.

4. Click **Create**.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.4.9. Configure form template for dynamic screens

Configure form templates so that the RACE™ users can use them when creating embedded forms for transactions in mobile application.

You can define the key / repetitive fields used across the forms. When you create a Form using template, fields configured are added to the form and you can add / modify the fields depending on the requirements.

To configure form template:

1. In the Admin section, click **Dynamic Forms** on the left panel.
2. Click the **Add**  icon next to the search field.
3. In the **Create Form** pop up window, enter this information:

Table 1-14 Dynamic Form Attributes

Field	Description
Form Name	Unique ID or name to identify the form.
Form Title	Name of the Form. Alpha-numeric code to identify the form.
Form Type	Type of Form like Single or Multi level.
Attribute	Select the attributes like Plant, Order Type and Material for which the Form is applicable. Depending on the values you select, app filters the forms list shown to the field technician.

4. Click **Create**.
5. In the **Create New Form Fields** pane, enter this information:

Table 1-15 Dynamic Forms field attributes

Field	Description
Field Key	Unique identifier for the form to perform validations.
Valid From	Date from when the Form parameters are applicable.
Valid To	Date after which the Form parameters are not valid.
Version	Version number of the Form.
Section Name	Select the Section where the field appears on the form. Section contains a group of fields that share the same purpose, for styling and organization of form data.

Field	Description
Section Position	Position of Section on the Form layout.
Reference Field	Select Reference field for the form field. Reference field defines relationship between fields like defining Currency units related to Quantity values.
Sub-Form Name	To maintain navigation inside the form and it is maintained same as forms.
Field Label	Enter the text to be shown on the application UI.
Field Position	Position for the field compared to other fields on the form.
Placeholder	Text to describe the field like type or description.
Field Type	Element type for form field like Dropdown, text field. Following are a few of the supported field types for forms: **Table 1-16 UI Field Types** **Field Type ID** / **Field Type** / **Purpose** LF / Label Field / Displays only field value. DL / Date Label / Displays field value of type Date. CB / Check Box / To enable and disable the check box. DD / Drop-Down / Allows to select of a value from a drop-down list of values. DF / Date Field / Allows to select a date. TF / Text Field / Allows to enter free text. SF / Scan Field / Scans a barcode or a enter free text.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Field Type ID</th><th>Field Type</th><th>Purpose</th></tr>
<tr><td>ID</td><td>Input Drop-Down</td><td>Allows to either select a value from a drop-down list of values or a enter free text.</td></tr>
<tr><td>ARD</td><td>Array Field Line Display</td><td>Allows to add sub-form inside a field of a form.

Note: Select the form in the Sub-form field if you configure this field type.

You can attach attachments, signatures, and images in the sub-forms. When you convert the sub form into PDF, the attachments and signatures also appear in the PDF.</td></tr>
<tr><td>TIF</td><td>Time Field</td><td>Allows to add time.</td></tr>
<tr><td>TIL</td><td>Time Label</td><td>Allows to add label for time.</td></tr>
<tr><td>TV</td><td>Text View</td><td>Allows to add text fields with more characters.</td></tr>
</table>
</td></tr>
</table>

Field	Description		
	Field Type ID	**Field Type**	**Purpose**
	GAI	Geo-Location Address Input	Allows to add the current location of device in the field.
	GAL	Geo-Location Address Label	Fetch the location of device and display in form.
	SGF	Signature Field	Allows to add signature.
	SMF	Sum Field	Calculates the field values and shows the sum in the form.
	NF	Numeric Field	Allows to enter a numeric value in a free text field.
	CL	Check Label	Displays a Check Box.
	DDM	Drop Down Multi Selection	Allows to select multiple values from a list of values.
	IDM	Input Drop-Down Multi Selection	Allows to select either multiple values from a list of values or enter multiple values as free text.
	ATT	Attachment	Allows to add images as attachments to the form.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Field Type ID</th><th>Field Type</th><th>Purpose</th></tr>
<tr><td>DOC</td><td>Document</td><td>Adds a reference document in line with the form field.</td></tr>
<tr><td>IMG</td><td>Image</td><td>Adds an image in line with the form fields.</td></tr>
<tr><td>VI</td><td>Visible Input</td><td>Shows the possible values for the field on the screen but not as a list.</td></tr>
<tr><td>RT</td><td>Rating</td><td>Shows a scale to record or capture the readings.</td></tr>
</table>
</td></tr>
<tr><td>DD Dependency Fields</td><td>Select the Dependent field on the transaction screen that facilitates filtering of the field values.

Note:
Displayed only if the Field Type is set to DD - Drop Down or ID - Input Dropdown.</td></tr>
<tr><td>DD Values</td><td>Values for dropdown form elements in json format.</td></tr>
<tr><td>Dropdown Table</td><td>Source table from where the dropdown field values are populated.</td></tr>
<tr><td>Active</td><td>To show/hide the field on the form.</td></tr>
<tr><td>Overview</td><td>Enable/disable the form field in Overview section of the transaction screen.</td></tr>
<tr><td>Detail</td><td>Enable/disable to show the form field in Detail section of the transaction screen.</td></tr>
<tr><td>Default Value</td><td>Value to be populated in the form field.</td></tr>
</table>

Field	Description
Field Instruction	User instructions relevant to the field.
Field Color	Defines the color of the field on the Form in the UI.
Mandatory	To show the extension as Mandatory field on the transaction screen.
Follow up Indicator	To mandate the follow-up process for this Form.
Validation Required	To configure validation rules for the form field.
UI Validation	Specify the validations for user entered values. **Note:** This field is displayed only if the **Validation Required** is enabled.
UI Validation Message	Enter the alert message to be displayed if the UI validation is applicable. **Note:** This field is displayed only if the **Validation Required** is enabled.
API Type	Indicates the type of data source such as RFC, BOR, ODATA services. Currently we support only RFC, BOR.

6. Click **Create**.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet.

1.5. Before you configure mWorkOrder using RACE™

Before you use RACE™ to configure mWorkOrder, do the following:

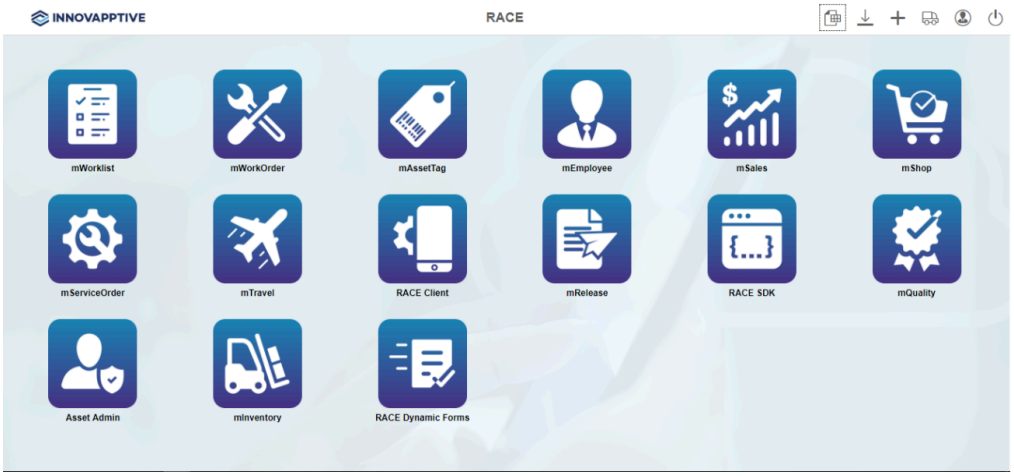
1.5.1. Familiarize yourself with the mWorkOrder RACE™ UI

Understanding the mWorkOrder RACE™ dashboard helps you do your tasks faster.

To access mWorkOrder RACE™ UI to familiarize yourself with the dashboard:

1. Enter the RACE™ URL in a browser and login using your User ID and Password.
2. From the Dashboard, select the **mWorkOrder** application.

Figure 1-6 RACE™ Home Page



RACE™ for mWorkOrder configuration panel appears with the following options:

- Modules and Screens
- Scoping
- Screens
- Dynamic Searches
- Defaults
- Extensions
- Filters
- Performance
- Localization
- Dynamic forms

- GIS Maps
- Color coding
- Push Notifications
- Risk Matrix

1.5.2. Select Transport for Migrating Changes

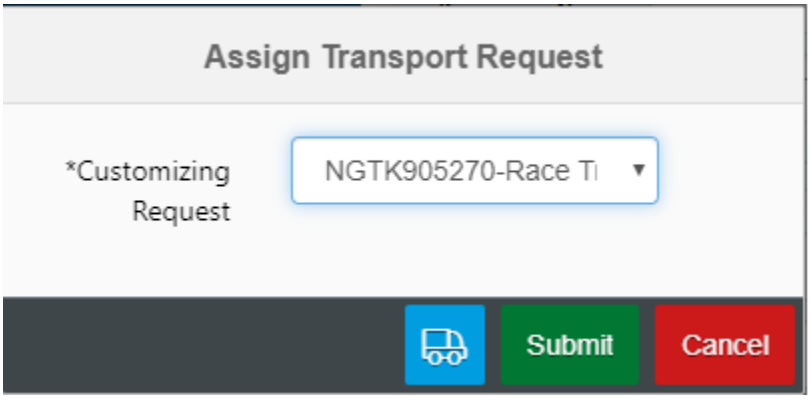
Before you upload the RACE™ configurations provided in spreadsheets, or do any configuration changes, select the valid SAP transport request. These SAP transports help migrate the configurations that you make in RACE™ from Development to Quality and to Production systems.

Note:
You can use 'LOCAL' Object as an option. However, changes made under 'LOCAL' are not transportable. Use this option only when making changes to 'Productive' environment settings.

To select the transport to be used for moving configurations:

1. In the top panel bar, click the **Transport Requests** icon.
2. Select a transport in the **Assign Transport Request** window.
3. Click **Submit**.

Figure 1-7 RACE™ Transport Request



1.5.3. Configurations for your Connected Worker Mobile Application

Configurations such as Offline, RACE Menu, Application details and configurations are applicable to your entire mobile application.

You can do the following configurations for your connected worker mobile application:

To do the app level configurations, On the top panel bar, click the **Settings**  icon on the top panel.

Application Details

You can view the basic application details like App Name, App ID, App Title and Project Name.

- You cannot change **App Name** or **App ID**.
- You can edit **App Title** and **Project Name**. Do only if required.
- User Project Name when creating or adding a new module. Do not change this value for the standard product deployment.

Offline Configurations

- **Refresh Offline:** Choose this if you want the application to synchronize data into the offline database. Helps in low and no connectivity zones of your workplace.
- **Refresh Rate:** Duration in seconds to auto refresh the offline database, from the time the last refresh was triggered.
- **Bandwidth:** Duration in seconds before the application switches to offline mode, if the bandwidth of the network connection falls below the level maintained in application settings.

Application Configurations

This option enables the User Profile feature in the mobile application. You can configure default logout method for every application user:

- **Logout:** When the user clicks on Logout, the user will be logged out. But the user is still registered with the device. A new user will not be able to login to the device. If the device is shared between multiple employees, the registered user must navigate to the Settings screen in the application and Unregister.
- **Logout and Unregister:** With this option, when the user logs out, the user is also unregistered from the device at the same time. All Offline database and cached data of the user is also cleared. New users can use the same device to do the transactions in the next shift.

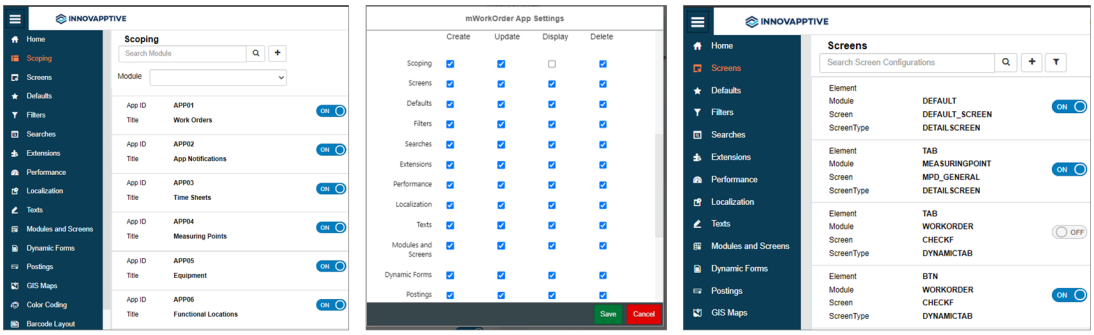
RACE™ Menu Configuration

When the RACE™ Admin creates a RACE™ user, the user gets full access to do the configurations by default. If the user needs to be provided restricted access, the RACE™ admin can provide the following access levels.

- Create allows the user to add new configuration entry for the module.
- Update allows the user to modify the existing configuration entry for that module.
- Display allows the user to view configuration entries for that module.
- Delete allows the user to remove any existing configuration entry in that module.

In the following screenshot, when the **Display** of the **Scoping** module is turned off, you can see that the user can no longer view the **Scoping** module.

Figure 1-8 RACE™ Menu Configurations



Scoping display ON | Turn Off Scoping display in Menu | Scoping display Off

2. Upload mWorkOrder RACE™ pre-set Configuration Spreadsheets

mWorkOrder configurations are provided in RACE™ pre-set configurations spreadsheets. Download these RACE™ spreadsheets from Innovapptive support website and upload the spreadsheets to enable the latest features that are developed for mWorkOrder.

When you use the RACE™ pre-set configuration spreadsheets, you enable all the recommended features / configurations automatically. Contact your Innovapptive representative if you need help downloading them.

Note:
You can check release wise RACE configurations before updating the mWorkOrder RACE pre-set configurations. Click here to view

mWorkOrder configuration RACE Spreadsheets

- **Admin Configurations**: (Mandatory file) Upload this file during the product deployment. You cannot reconfigure the settings.
- **Applications**: (Mandatory file) Upload this file during the product deployment and reconfigure as required later.
- **Defaults**: (Recommended file) Upload this file during the product deployment. The configurations in the file ensure that the application works as designed. However, you can reconfigure as required later.

Note:

- If UI field type is related to drop down, check and maintain dynamic drop-down configuration fields data properly (DD TABLE NAME, DD FIELD NAME, TEXT REQ, TEXT TABLE NAME, TEXT FIELD NAME, TEXT KEY FIELD NAME, DEPENDENCY FIELD NAME, DEPENDENCY KEY FIELD NAME).
- Try to avoid Transaction tables in DD Table Name (MARA, VBAK, MARC, MSEG).
- Dynamic drop-down table should have very less data (< 1000 entries). If we have more data in dynamic drop-down table, there will be chances of offline store failure.

- **Dynamic Search**: (Recommended file) Upload this file during the product deployment. The configurations in the file ensure that the application works as designed. However, you can reconfigure as required later.

> **Note:**
> - At least one search field should be active for each module name and search screen name.
> - If UI field type is related to drop down, check and maintain dynamic drop-down configuration fields data properly (DD TABLE NAME, DD FIELD NAME, TEXT REQ, TEXT TABLE NAME, TEXT FIELD NAME, TEXT KEY FIELD NAME, DEPENDENCY FIELD NAME, DEPENDENCY KEY FIELD NAME).
> - Try to avoid Transaction tables in DD Table Name (MARA, VBAK, MARC, MSEG). Dynamic drop-down table should have very less data (< 1000 entries).
> - If we have more data in dynamic drop-down table, there will be chances of offline store failure.

- **Dynamic Screens:** (Reference file) Use this file as a reference to configure additional screens (custom tabs or forms) in any module as required and upload it.
- **Extensions**: (Reference file) Use this file as a reference to create similar kinds of configurations based on your requirements and upload it.

> **Note:**
> - If UI field type is related to drop down, check and maintain dynamic drop-down configuration fields data properly (DD TABLE NAME, DD FIELD NAME, TEXT REQ, TEXT TABLE NAME, TEXT FIELD NAME, TEXT KEY FIELD NAME, DEPENDENCY FIELD NAME, DEPENDENCY KEY FIELD NAME).
> - Try to avoid Transaction tables in DD Table Name (MARA, VBAK, MARC, MSEG).
> - Dynamic drop-down table should have very less data (< 1000 entries). If we have more data in dynamic drop-down table, there will be chances of offline store failure.

- **Filters**: (Recommended file) Upload this file during the product deployment. The configurations in the file ensure that the application works as designed. However, you can reconfigure as required later.

Note:

- Try to filter the data as much as the end user requires.
- Do not maintain any junk data.

- **Modules and Screens**: (Mandatory file) Upload this file during the product deployment and reconfigure as required later.
- **Operator Rounds**: (Mandatory files) Upload the following files to use operator rounds feature during product deployment and reconfigure later.
  - Operator Rounds - Attachment type
  - Operator Rounds - Attributes
  - Operator Rounds - Extensions
  - Operator Rounds - Frequency
  - Operator Rounds - Schedule
  - Operator Rounds - Shift
  - Operator Rounds - UI Control Type
- **Performance**: (Mandatory file) Upload this file during the product deployment and reconfigure as required later. The configurations in the file ensure that the performance of application is optimized.

Note:

- Sync the collections to offline as per the customer scope only.
- For drop-down collection, if no. of entries < 1000, then enable delta token and offline sync. Access from offline should be active.
- For drop-down collection, if no. of entries > 1000, then enable skip token and offline sync. Skip token size should be 500 to 1000. Access from offline should be active.
- For expand collections, enable skip token and offline sync. Access from offline should be active.
- Delete any duplicate collections.
- If expand collection (WORKORDERHEADERCOLLECTION?$expand=operationscollection...etc.) is enabled for offline sync, then there is no need to enable the offline sync for plain collection (GROPHEADERCOLLECTION). We maintain expand collection and plain collection separately only to increase the skip token value in online mode.

- **Scoping**: (Mandatory file) Upload this file during the product deployment and reconfigure as required later.

> **Note:**
> - Each entry should have a system name.
> - Do not configure any static feature directly in customer environment. It should come through P&I.
> - Do not maintain any junk data.

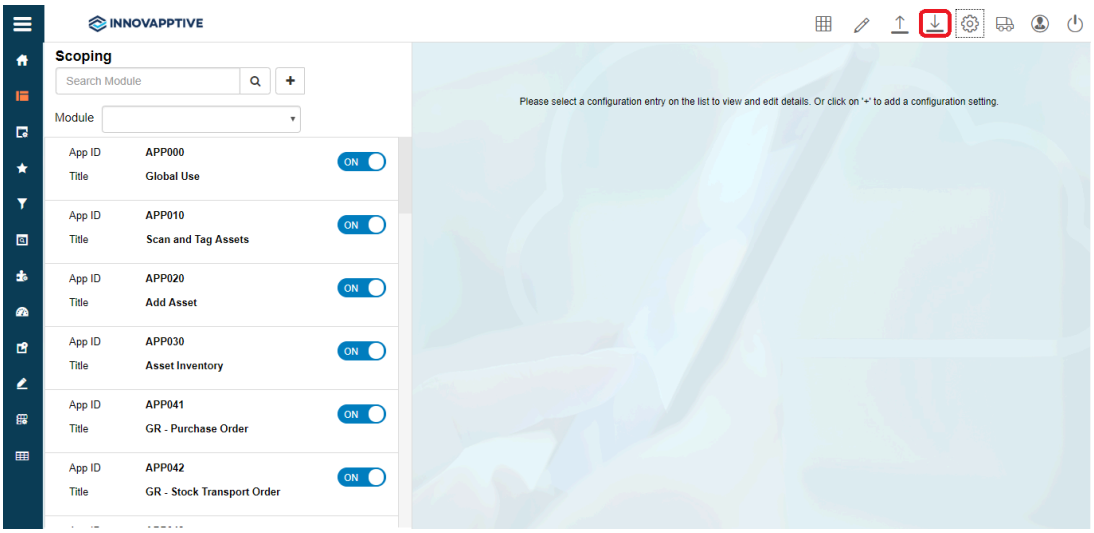
- **UILabelCollection**: (Mandatory file) Upload this file during the product deployment and reconfigure as required later
- **Dynamic Forms**: (Reference file) Use this file as a reference to create similar kinds of configurations based on your requirements and upload it.
- **Push Notifications**: (Reference file) Use this file as a reference to create similar kinds of configurations based on your requirements and upload it.
- **Risk Matrix**: (Reference file) Use this file as a reference to create similar kinds of configurations based on your requirements and upload it.

2.1. Download current version RACE™ configuration spreadsheets

Before you upload the latest version's RACE™ configuration spreadsheets, download your existing RACE™ configurations and place them in a backup folder.

To download RACE™ configurations, click the **Download**  icon and save.

Figure 2-1 Download RACE™ Configurations



2.2. Upload/upgrade RACE™ configurations of the current release

When you use the mWorkOrder RACE™ preset configuration spreadsheets, you enable all the modules/features, extensions, or screens and other configurations on the mWorkOrder application automatically. Depending on whether you are installing for the first time or upgrading from the previous version, choose upload and update options respectively.

Note:
You can check release wise RACE configurations before updating the mWorkOrder RACE pre-set configurations. Click here to view

Upload : When installing and configuring mWorkOrder for the first time

Use the upload option when you are installing and configuring the mWorkOrder application for the first time.

Note:
This option overrides any customizations made to the RACE spreadsheets by your organization.

Following table illustrates how RACE™ Upload option works:

Table 2-1 RACE™ Upload Configurations

Preset Configurations in Spreadsheets	Configurations Changes made by your organization	After RACE™ Upload
Extension 1 – DD	Extension 1 – DD	Extension 1 – DD
Extension 2 – TF	**Extension 2 – CB**	**Extension 2 – TF**
Extension 3 – ID	Extension 3 – ID	Extension 3 – ID
Extension 4 – SCAN	**Extension 4 – OCR**	**Extension 4 – SCAN**

Update  : When upgrading and configuring mWorkOrder from previous version

Use the update option when you are upgrading and configuring the mWorkOrder application from the previous version. This updates new configurations without overriding the changes made to the previous RACE™ preset configurations by your organization

Following table illustrates you how RACE™ Update option works:

Table 2-2 RACE™ Update Configurations

Preset Configurations in Spreadsheets	Configurations Changes made by your organization	After RACE™ Update
Extension 1 – DD	Extension 1 – DD	Extension 1 – DD
Extension 2 – TF	**Extension 2 – CB**	**Extension 2 – CB**
Extension 3 – ID	Extension 3 – ID	Extension 3 – ID
Extension 4 – SCAN	**Extension 4 – OCR**	**Extension 4 – OCR**

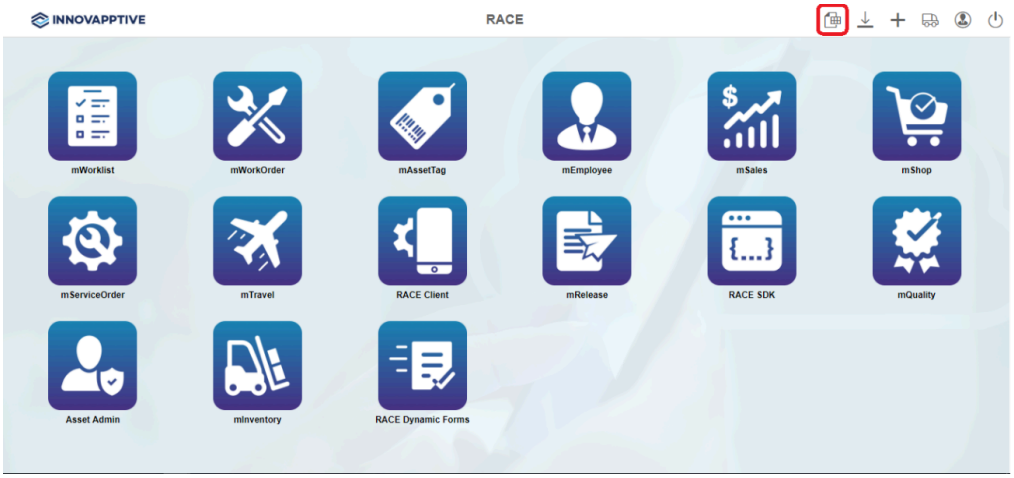
2.3. Upload/upgrade configurations for multiple modules at once

You can upload or upgrade multiple modules using RACE™ preset configuration spreadsheets at one go.

To upload or upgrade RACE™ configurations for all modules at one go:

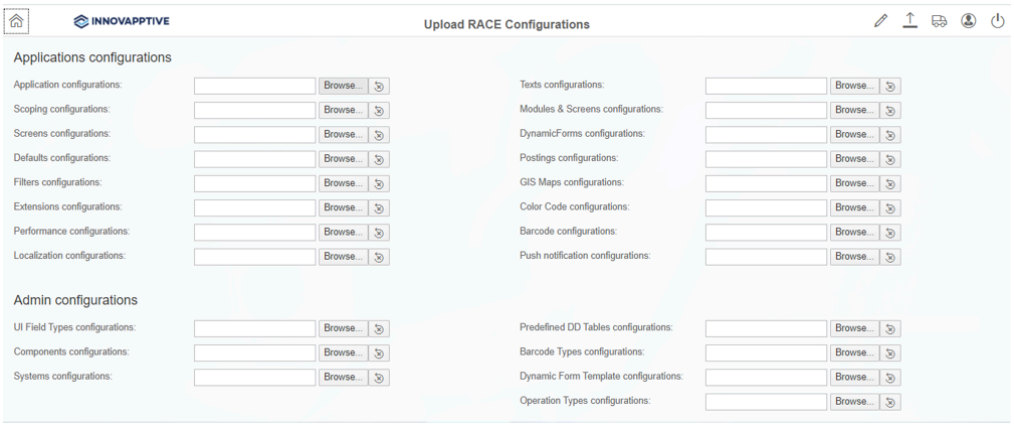
1. Click on the  icon on RACE™ home page.

Figure 2-2 Upload RACE™ Configuration Settings



2. On the **Upload RACE™ Configurations** screen, click **Browse** next to the module/feature to select the spreadsheet for that module/feature.

Figure 2-3 Upload RACE™ Configurations



3. Click the **Upload**  or **Update**  icon.

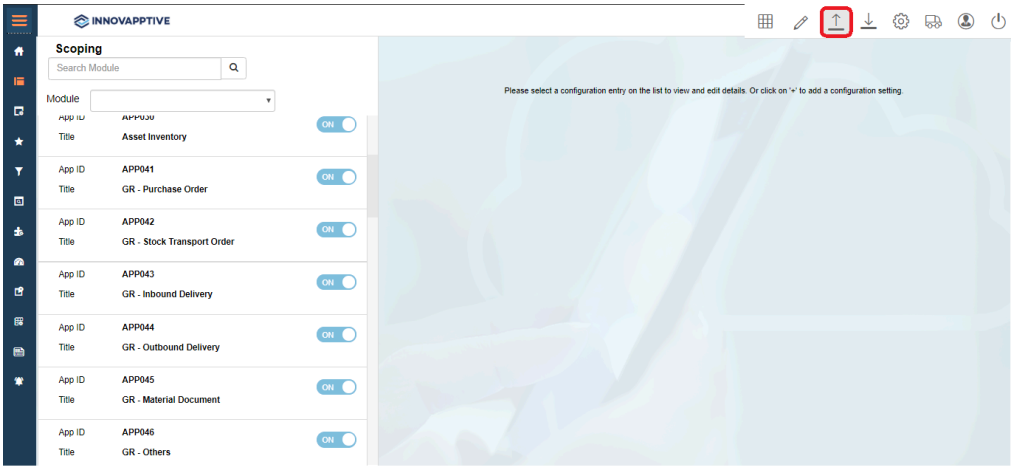
2.4. Upload/upgrade configurations for one module at a time

You can upload or upgrade multiple modules using RACE™ preset configuration spreadsheets at one go.

To upload/ upgrade one module in RACE™ at a time:

1. Click the module that you want to upgrade in the left pane. For example, click the **Scoping** module.
2. Click the **Upload**  icon or **Update**  icon to browse and select the excel spreadsheet.

Figure 2-4 Upload RACE™ Configuration Settings



3. Enable/disable modules and features

When you upload RACE preset configuration spreadsheets, all the standard features and configurations that are required for the mobile application are enabled. You can disable the features that are not required for your organization or not applicable for your industry.

This chapter helps you with the following tasks

3.1. Module / Feature Properties

Before you enable or disable features, read the explanations of the properties of the fields related to modules and features in the following table.

Table 3-1 Scoping attributes

Field	Description
Type	Type of the feature/module. Possible values: • **Standard**: Standard feature/module in the mobile application. You can only enable or disable. • **Custom Category**: New feature can be added in the application. User can add the entries under custom category with or without using the templates. • **Template Category**: New feature can be added in the application with reference to templates.
System ID	Indicates the SAP system like ECC, CRM, SRM to retrieve tables, fields and BAPIs list in other screens like Defaults, Extensions.

Table 3-1 Scoping attributes (continued)

Field	Description
Module Name	Enter/select the name to define/identify the module.
App ID	Unique identity (alpha numeric) to specify the ID for the application.
Parent App ID	Parent App ID of the module for which the **Module** is the sub-module.
BOR Object ID	Business object ID based on the transaction codes used for the configuration process.
Description	Description of the module/feature.
Sequence No	Defines the sequence or position of the screen for the Module.
Title	Short description of the feature.
Active	To show/hide the module/feature in the mobile application.
Access Category	Enable/disable extension field based on user access: • T-Transaction Code • U-User Group • R-Role • A-Authorization Object.
Access Value	This field is used for data related to security. Based on the access category, data in this field needs to be maintained. For example, if you maintain a transaction code in the **Access Category** field then you must enter the t-code name in this field. Module/feature is displayed in the mobile application only if the user has access to the transaction code.

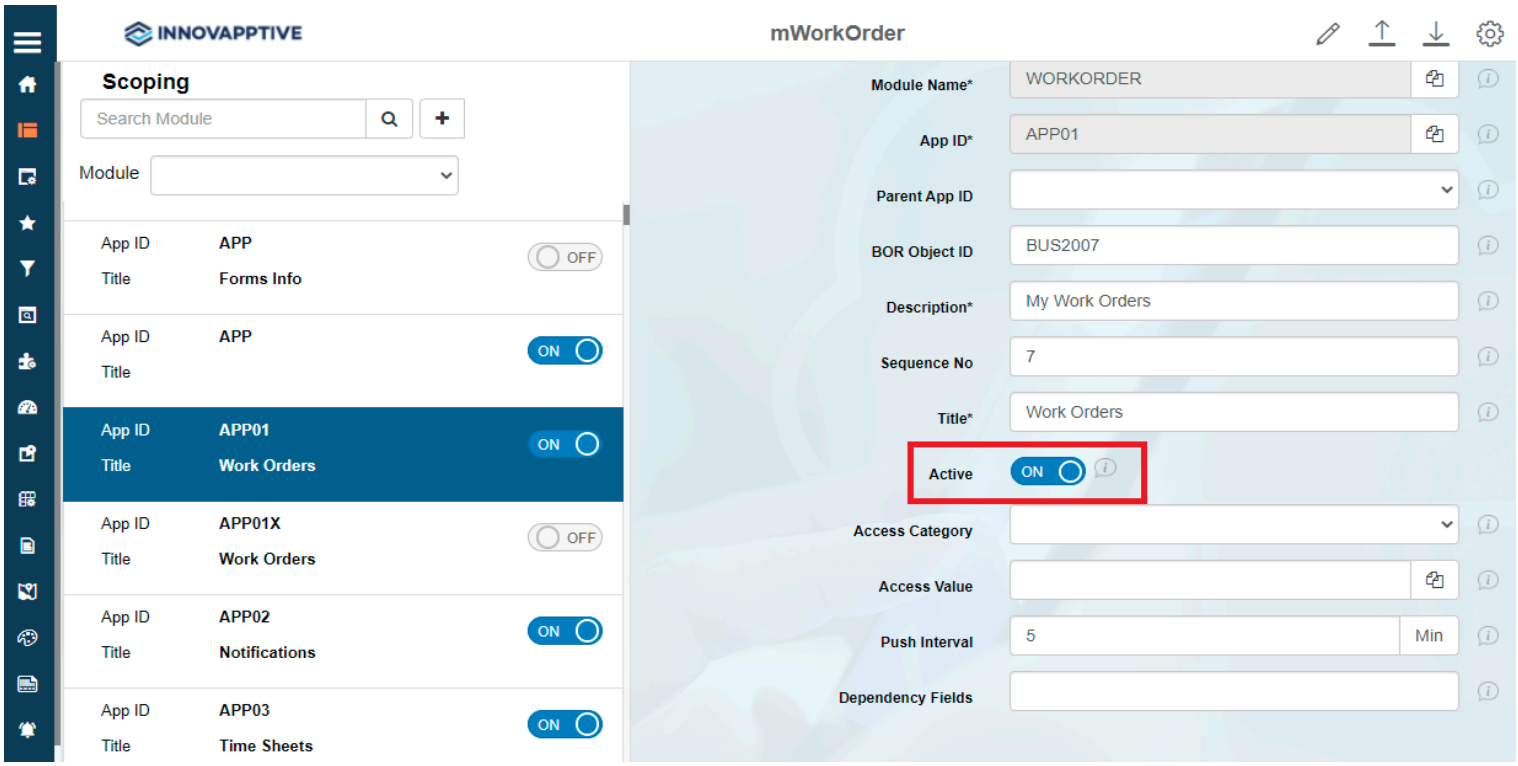
3.2. Enable/disable modules and features for all users (application level)

You can enable or disable modules / features that are not required for all users in the organization.

To enable / disable a module at the application level:

1. Click **Scoping** on the left panel.
2. Enter the App ID or name of module in the search field.
   You can also select the module name in the **Module** field and filter the App IDs.
3. Select the App ID you want to enable / disable.
4. Turn ON / OFF the **ACTIVE** toggle switch.
5. Click **Save**.

Figure 3-1 Enable or Disable Module



Following are the App IDs or Scoping IDs of the main modules:

Table 3-2 App IDs of Main Modules

Module	App ID
Dashboard	APPDBD

Module	App ID
Notifications	APP02
Work Orders	APP01
Equipment	APP05
Functional Locations	APP06
Operator Rounds (UI5)	APP13
Operator Rounds (Mobile)	OPRDS
Timesheets	APP03
Scheduling Overview	APP12
Measuring Points	APP04
Inspection Lots	APP07
Usage Decision	APP08
Crew Management	APP09
Technical Objects	APP14

3.2.1. How to Enable Technical Objects Module

Users need not check whether the object is a Functional Location or Equipment, navigate to the module and retrieve details. Users can retrieve Equipment and Functional Locations using the unified Technical Objects module.

Use **Scoping** feature to enable the Technical Objects module.

Note:
As a best practice, disable Equipment and Functional Locations when enabling the Technical Objects module.

To enable the Technical Objects module:

1. Click **Scoping** on the left panel.
2. Enter the App ID as **APP14** or name as **Technical Objects** in the search field.
   You can also select the module name in the **Module** field and filter the App IDs.
3. Select the **App ID** with **APP14** to enable.
4. Turn **ON** the **ACTIVE** toggle switch.
5. Click **Save**.

3.2.2. How to Enable Technician and Supervisor Views

Use **Scoping** feature to enable Technician and Supervisor views.

> **Note:**
> Supervisor view is enabled by default. You should enable TECH_V scoping ID to enable the Technician view.

To enable Technician view:

1. Click **Scoping** on the left panel.
2. Enter the App ID as **TECH_V** in the search field.

   You can also select the module name in the **Module** field and filter the App IDs.
3. Select the **App ID** with **TECH_V** to enable.
4. Assign **/INVMWO/TECH_V** parameter ID to user through SU01 in ECC.

   The above two conditions should be met in order to enable technician view for the user.
5. Turn **ON** the **ACTIVE** toggle switch.
6. Click **Save**.

   The Technician view is enabled in the application.

   You should enable following Work Order filters to display the work orders to the technician.

- WOOPRA filter should be active.
- Access Category needs to be updated with user group (/INVMWO/TECH, etc.)
- Assign user group to user in SU01 in ECC.

When the filter is active along with the user group assignment, then the user is able to view those work orders, which have operation splits assigned to the user. This adds another level of filtration which restricts the amount of data to be fetched on to the mobile device.

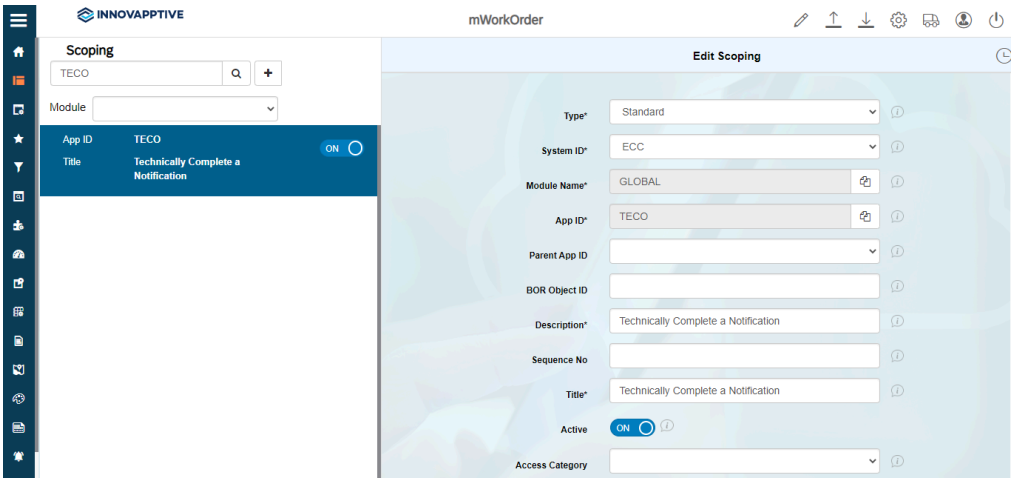
3.2.3. How to Technically Complete a Notification

This configuration allows you to auto complete a notification when a related work order is technically completed.

To technically complete a notification:

1. Click **Scoping** on the left panel.
2. Enter the App ID as **TECO** in the search field.
3. Select the **App ID** with **TECO**.
4. Configure the values as shown below.

Figure 3-2 Technically Complete a Notification



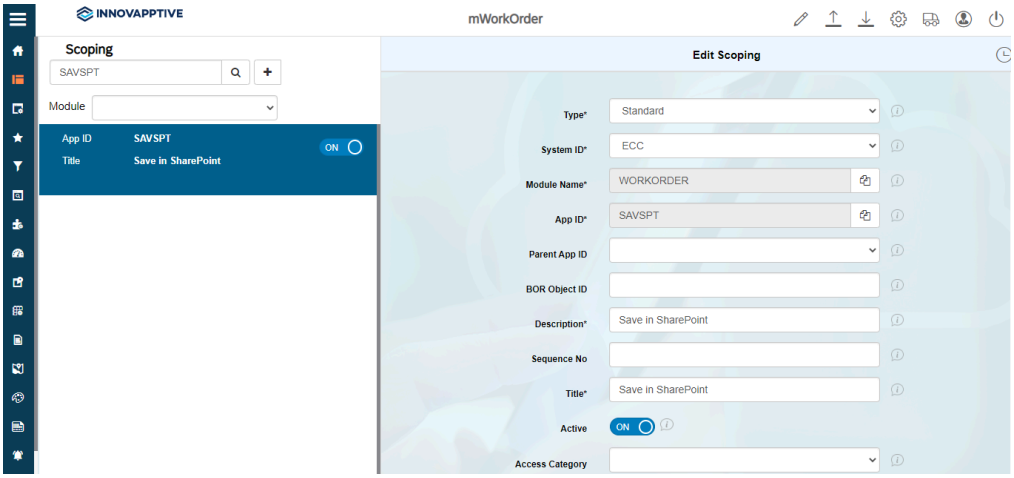
3.2.4. How to Integrate with Share Point

This configuration allows you to save the attachments to Share Point, SAP, or other third party Document Management Systems (DMS).

To integrate with share point and SAP:

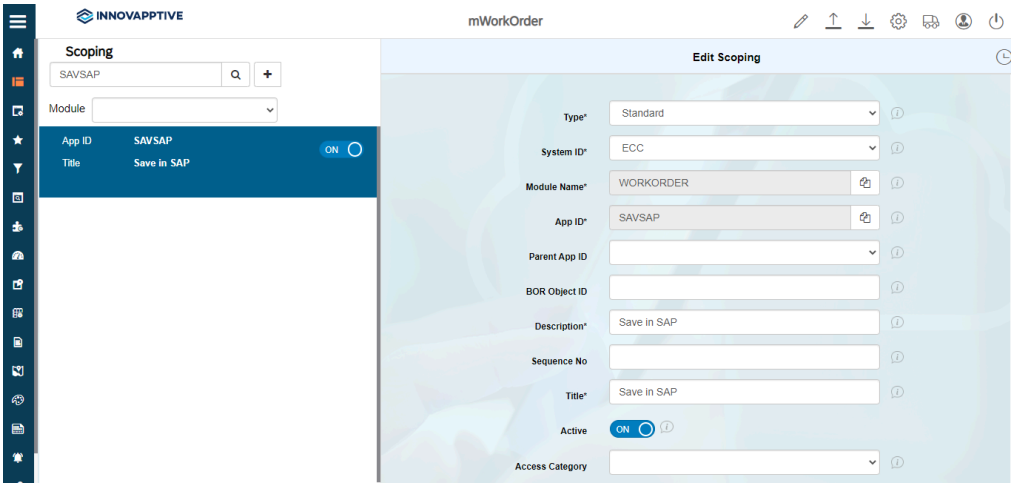
1. Click **Scoping** on the left panel.
2. Enter the App ID as **SAVSPT** in the search field.
3. Select the **App ID** with **SAVSPT**.
4. Turn **ON** the **ACTIVE** toggle switch to integrate with Share Point.
5. Click **Save**.

Figure 3-3 Integrate with Share Point



6. Search and select the **App ID** with **SAVSAP**.
7. Turn **ON** the **ACTIVE** toggle switch to integrate with SAP.
8. Click **Save**.

Figure 3-4 Integrate with SAP



3.3. Enable / Disable modules and features for specific users

You can disable or enable modules / features to a specific set of roles / users. This helps customize application based on the job function.

To enable or disable modules / features to a few users in your organization:

1. Click **Scoping** on the left panel.
2. Enter the App ID or name of the module/feature in the search field.
   You can also select the module name in the **Module** field and filter the App IDs.
3. Select the App ID you want to enable / disable.
4. Turn **ON** / **OFF** the **ACTIVE** toggle switch.
5. Select the **Access Category** from the **Transaction Code**, **User Group**, **Role**, **Authorization Group** options.
6. Specify the **Access Value** for the Access Category.

   For example, when you select MIGO as access value for Transaction Code, users who have SAP security access to MIGO transaction can view the module/sub-module in the mobile application.
7. Click **Save**.

3.4. Enable Features that are not enabled with preset configuration spreadsheets

When you upload RACE™ preset configuration spreadsheets, only the core business features are enabled. Non-standard features developed for a few customers are not enabled when you import the preset configuration spreadsheets.

You can enable these features, if required, by your business. To enable / disable these special features:

1. Click **Scoping** on the left panel.
2. Enter the App ID.
3. Select the App ID.
4. Turn **ON** / **OFF** the **ACTIVE** toggle switch.
5. If you want to turn on / off the scanner options based on the access category:

a. Select the **Access Category** from the **Transaction Code**, **User Group**, **Role**, **Authorization Group** options.
b. Specify the **Access Value** for the Access Category.

   For example, when you select MIGO as access value for Transaction Code, users who have SAP security access to MIGO transaction can view the module/sub-module in the mobile application.

6. Click **Save**.

3.4.1. Features not enabled by default in mWorkOrder

The following features are not enabled by default in mWorkOrder.

Table 3-3 mWorkOrder modules/features not enabled by default

App ID	Module / Feature
APP14	Technical Objects
INLRR	Inspection Lots
EQCRUP	Equipment Create with User Password
EQUPUP	Equipment Update with User Password
UDDF	Usage Decision Defects
WO_PL	Work Order Planning
EQCRDS	Equipment Create with Digital Signature
EQUPDS	Equipment Update with Digital Signature
EQDTE	Equipment Dashboard Temperature
EQDWAT	Equipment Dashboard Workorder Attachments
FLCRUP	Functional Location Create with User Password
FLUPUP	Functional Location Update with User Password
FLCRDS	Functional Location Create with Digital Signature

Table 3-3 mWorkOrder modules/features not enabled by default (continued)

App ID	Module / Feature
FLUPDS	Functional Location Update with Digital Signature
NOCPDS	Notification Complete with Digital Signature
FL_TTP	Functional Location Tool Tip
FLSCAN	Functional Location Scan
ATDBOX	Dropbox Option for Attachment
ATDRIV	G-Drive Option for Attachment
CMAPHO	Critigen LEMUR
CMAPWO	Critigen LEMUR Work Orders
LOGUNR	Logout & Unregister
USRSYN	User Preferred Offline Sync
ILRRDS	Inspection Lots
ILRRUP	Inspection Lots
NOCRDS	Notification Create with Digital Signature
NOCRUP	Notification Create with User Password
NOUPUP	Notification Update with User Password
NOUPDS	Notification Update with Digital Signature
NOCPUP	Notification Complete with User Password
NOREUP	Notification Release with User Password
NOREDS	Notification Release with Digital signature
EQNETE	Equipment Temperature
CMAPNO	Critigen LEMUR Notifications
NOATMN	Mandate attachment
UDSDS	Usage Decision Save with Digital Signature
UDSUP	Usage Decision Save with User Password

Table 3-3 mWorkOrder modules/features not enabled by default (continued)

App ID	Module / Feature
EQDGMP	Equipment Dashboard Google Map
WOCRUP	Work Order Create with User Password
EQDCI	Equipment Dashboard Critical Indicator
WOREDS	Work Order Release with Digital Signature
EQDMPT	Equipment Dashboard Measuring Point Graph Temperature
WOREUP	Work Order Release with User Password
WOUPUP	Work Order Update with User Password
WODTUP	Workorder Dynamic Tab User Password
WOUPDS	Work Order Update with Digital Signature
WOCFDS	Work Order Operation Confirmation with Digital Signature
WOCFUP	Work Order Operation Confirmation with User Password
WOCPUP	Work Order Complete with User Password
DFON	Dynamic Form - Object Number
WOCPDS	Work Order Complete with Digital Signature
WOCRDS	Work Order Create with Digital Signature
WOOPCP	Work Order
WODTDS	Work Order Dynamic Tab Digital Sign
WOATMN	Mandate attachment
ALTL	Assembly Tasklists
MP30DY	Last 30 Days
NOOBPF	Notification Object Profile
MPOP	Measuring Point Operation Filter
APP999	Smartplants

Table 3-3 mWorkOrder modules/features not enabled by default (continued)

App ID	Module / Feature
INNAPP	In-App Help
WO_FIL	Work Order based Filter
OPMPS	Operation related Measuring Point
PRTDTS	prt document
WOCRFM	Work Order Create Forms delete

4. Define Defaults, Filters and Search Criteria

Defaults, Filters and Dynamic Search configuration settings through RACE™.

The corresponding table in SAP NetWeaver Gateway is **/INVCEC/SEARCH**. Basic application configurations in this table are populated through the Add-On transport and you can update or modify them using RACE™.

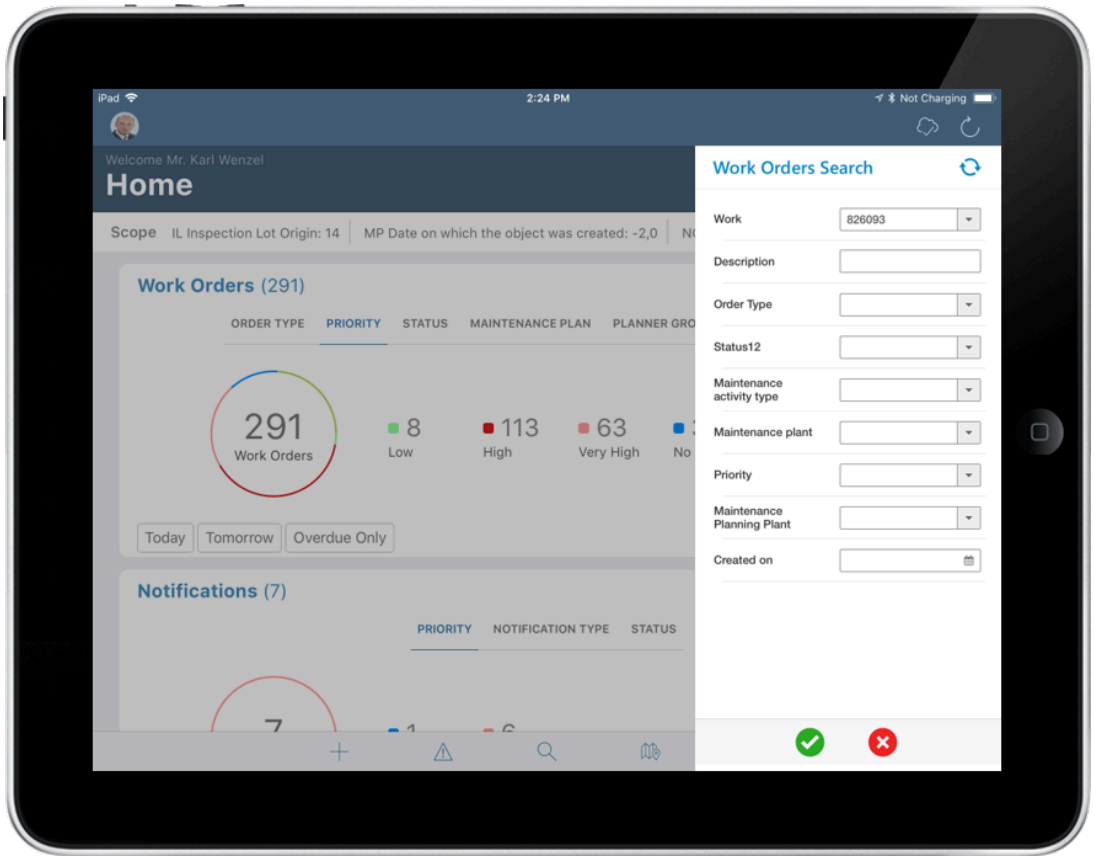
This chapter helps you with the following:

4.1. Configure search criteria

Define search criteria and provide mobile user the flexibility to search transaction data.

The following screen shows the mWorkOrder mobile application's search screen for Work Orders module. The fields—**Order Type**, **Work Order, Priority, Equipment** are configured using the RACE™ Dynamic Search configuration.

Figure 4-1 Work Orders Search



To configure search fields using RACE™:

1. Click **Searches** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Search field to populate the properties in the **Create Search Field** section.
3. In the **Create Search Field** section, enter the following information:

Table 4-1 Search configuration attributes

Field	Description
Module	Select the module where the field is configured.
Screen	Select the screen within the module where the field is displayed.

Field	Description
Category	Select between Standard and Extension options to choose the configuration type.
Table / BAPI Name	Select the table/BAPI to fetch the data from.
Table Description	Auto-populated based on **Table / BAPI Name**.
Field Name	Select the table/BAPI field to retrieve the field data.
Field Description	Populated based on the **Field Name**.
External Field	Enter the name of external system to integrate like Maximo.
Search Type	Select between the Header and Item level options to perform the search with this field.
UI Label	Enter the text to be shown on the application UI.
UI Field Type	Define the type of the field. Following are a few of the UI field types available for mWorkOrder: **Table 4-2 UI Field Types** **Field Type ID** / **Field Type** DD – Drop Down DF – Date Field TF – Text Field SF – Scan Field ID – Input Drop Down DDR – Drop Down Range DFR – Date Field Range TFR – Text Field Range IDR – Input Drop Down Range SID – Scan Input Drop Down

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Field Type ID</th><th>Field Type</th></tr>
<tr><td>DDM</td><td>Drop Down Multi Selection</td></tr>
<tr><td>TFM</td><td>Text Field Multi Selection</td></tr>
<tr><td>IDM</td><td>Input Drop Down Multi Selection</td></tr>
</table>
</td></tr>
<tr><td>UI Position</td><td>Define the position for the extension compared to other fields on the search screen.</td></tr>
<tr><td>Default Value</td><td>Enter the value to be populated in the search field.</td></tr>
<tr><td>Active</td><td>Select whether to show/hide the extension on the transaction screen.</td></tr>
<tr><td>Mandatory</td><td>To show the search field as Mandatory field on the transaction screen.</td></tr>
<tr><td>Validation Required</td><td>To configure validation rules for the extension field.</td></tr>
<tr><td>UI Validation</td><td>Specify the validations for user entered values.

Note:
This field is displayed only if the Validation Required is enabled.</td></tr>
<tr><td>UI Validation Message</td><td>Enter the alert message to be displayed if the UI validation is applicable.

Note:
This field is displayed only if the Validation Required is enabled.</td></tr>
</table>

Field	Description
Dropdown Table	Select the Source table from where the values of a dropdown field are retrieved. **Note:** This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Dropdown Field	Select the Field in the source table from where the values of a dropdown field are retrieved. **Note:** This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
DD Dependency Field	Select the Dependent field on the transaction screen that facilitates filtering of the field values. For example, **Storage Location** search field is dependent on **Plant** field. **Note:** Displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Authorization Relevant	Enable/disable security authorization relevancy. This is relevant for fields of type 'drop down', and when activated, filters values based on security org values set up in SAP security roles.
Access Category	Select the type of user authorization required to show the search field:

Field	Description
	◦ T-Transaction Code ◦ U-User Group ◦ R-Role ◦ A-Authorization Object.
Access Value	Enter the value for the user authorization selected in the Access category field. For example, if you select Transaction Code in the **Access Category** field, enter the t-code name in this field. Module/feature is available to the users only if they have access to the transaction code.
Text Required	Define how the dropdown values are displayed. Possible values: ◦ 0 – Not Required (not relevant) ◦ 1 – Only Description (only the description of the value is displayed) ◦ 2 – Key and Description (both the key and description of the value are displayed)
Text Table	Select the Table to retrieve text for dropdown values. **Note:** This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.
Text Field Name	Select the table field name to retrieve the text. When the value in **Text Required** field is set to 1 or 2, the corresponding Description is fetched from the text table in SAP.

Field	Description
	Note: This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.
Text Key Field Name	Select the field to define the relationship between the dropdown field and table.
Collection	Select the Source Collection from where the dropdown field values are retrieved.
Collection Filter	Select the field to filter the values retrieved from the Collection.

4. Click **Create**.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains list of Search fields with attributes like Module Name, Screen, Field Name and Description.

Following are a few examples to search Work Orders using Search fields:

- To search Work Orders using the **Equipment** number, do these configurations:

Table 4-3 Search Work Orders using Equipment

Field	Value
Table	VIAUFKST
Field	EQUNR
UI Field Type	ID – Input Dropdown
Collection	EQUNR

- To search for Work Orders using the **Work Order Number**, do these configurations:

Table 4-4 Search Work Orders using Work Order Number

Field	Value
Table	VIAUFKST
Field	AUFNR
UI Field Type	SF – Scan Field

- To search for Work Orders using **Order Type**, do these configurations:

Table 4-5 Search Work Orders using Order Type

Field	Value
Table	VIAUFKST
Field	AUART
UI Field Type	ID – Input Dropdown
Collection	AUART

- To search for Work Orders using the **Priority**, do these configurations:

Table 4-6 Search Work Orders using Priority

Field	Value
Table	VIAUFKST
Field	PRIOK
UI Field Type	ID – Input Dropdown
Collection	PRIOK

4.1.1. Enable scan for transaction fields

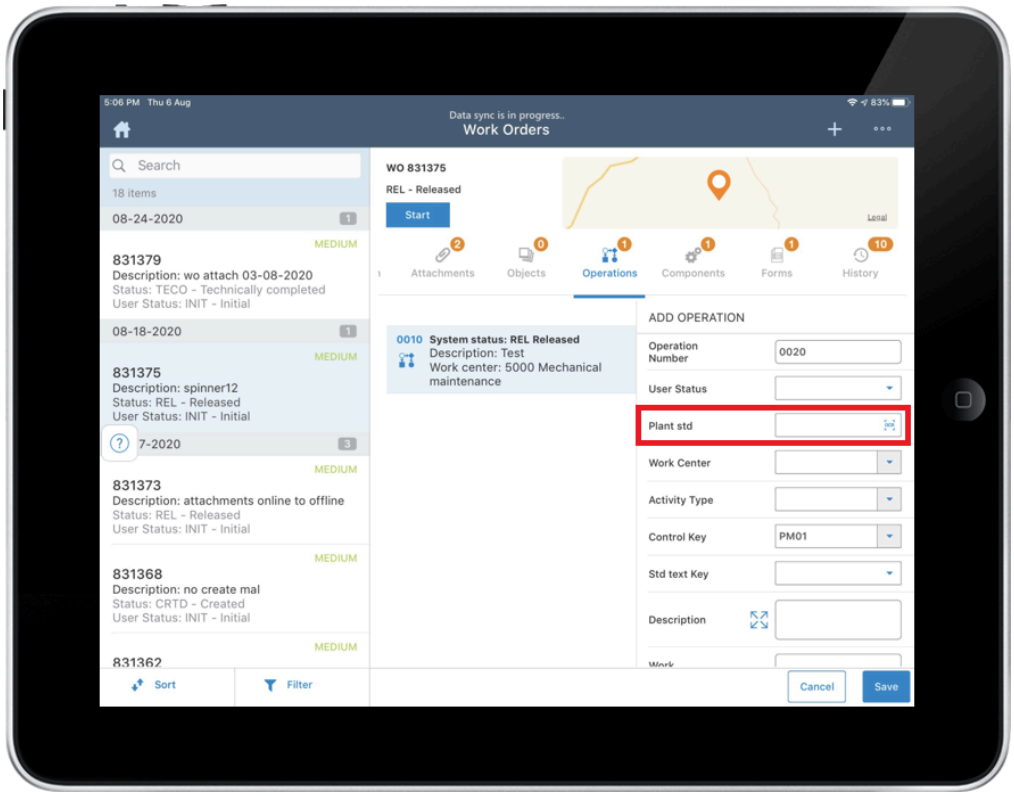
You can enable Optical Character Recognition (OCR) and scan text, which includes numbers, alphabets, and alphanumeric text.

To configure OCR field:

1. Go to **Searches** or **Extensions**.
2. Create a Search / Extension field with **UI Field Type** as **OCR**.
3. Click **Save**.

   Login to application and navigate to the screen. The OCR field is displayed with  icon. Tap the OCR icon to scan and capture the data.

Figure 4-2 OCR field



4.1.2. Configure fields for technician dashboard

You can configure additional fields on the work order dashboard for technicians.

You can add the fields that are available on the Header and Operations tab of the work order details screen.

Note:
You can configure maximum five fields to be displayed on the work orders dashboard.

To configure additional fields for technician on work order dashboard:

1. Click **Searches** on the left panel.
2. Click the **Filter**  icon.
3. Enter the following values:
    - **Module**: Mobile Work Orders
    - **Screen**: Work Order Technician View
4. Select the record which has the **Field** as AUFNR (Work Order).

> **Note:**
> Select the record with **Field** as VORNR (Operation) to add fields on the **Operations** tab on the work order dashboard.

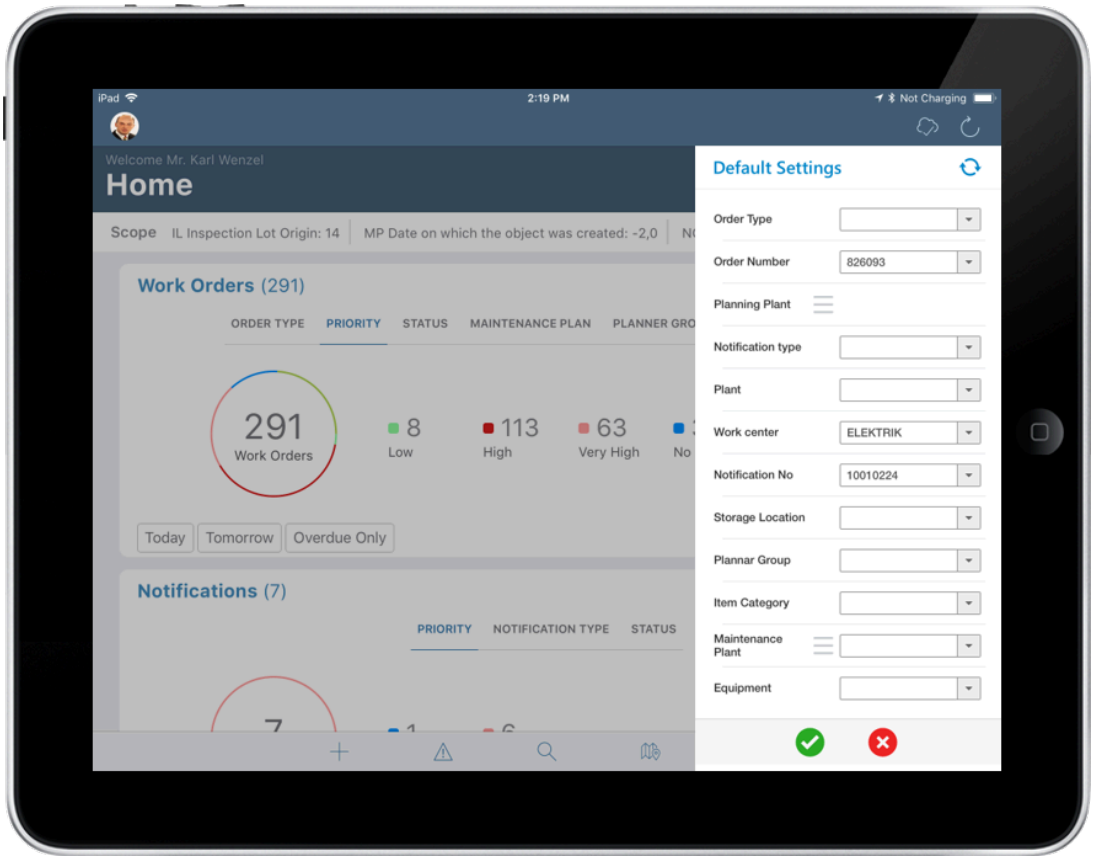
5. In the **Edit Search Field** section, add the SAP field names separated with comma (without spaces) in the **Default Value** field.
6. Click **Save**.

4.2. Configure default values

Configure key field values that are used repetitively in your everyday / regular tasks. These values, when configured, are populated across all the Search and Creation screens. The population of default values improve the productivity of the of the field workers.

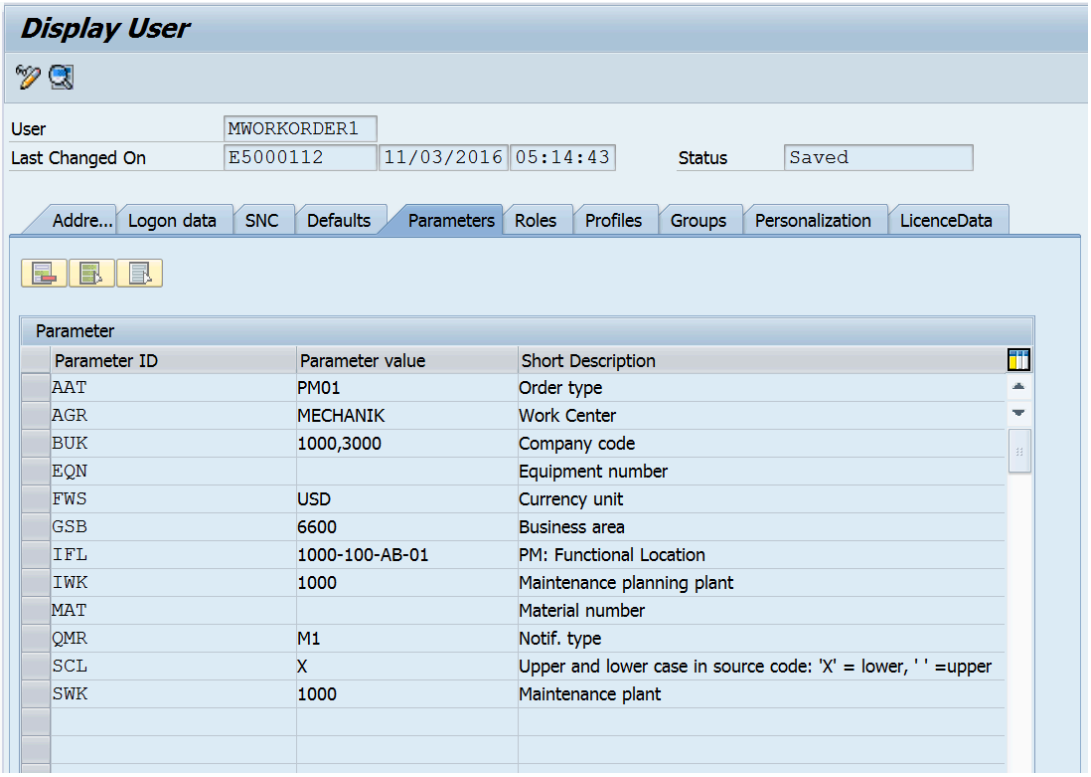
The following screen shows the mWorkOrder mobile application's **Default Settings** screen. Initially the values of fields in the default settings screen are populated from the Mobile User's SAP user parameters. If user parameters are not set in the SAP, the default values configured in RACE™ are populated in the mobile. When the user updates the Default Settings, the application updates the user parameters in SAP.

Figure 4-3 Work Orders Default Settings



The following screen shows the user parameters in SAP.

Figure 4-4 SAP User Parameters



To configure Default Settings using RACE™:

1. Click **Defaults** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Default field to populate the properties in the **Create Default Field** section.
3. In the **Create Default Field** section of the screen, enter the following information:

Table 4-7 Default Field configuration attributes

Field	Description
Module	Select the Module where the field is configured. For example, Default module.
Screen	Select the screen where the field is displayed. For example, Default Settings screen.

Field	Description
Table Name	Select the table from where the field data is retrieved.
Table Description	Auto-populated based on the **Table Name**.
Field Name	Select the name of the field in SAP Table.
Field Description	Populated based on the **Field Name**.
UI Label	Enter the text to be shown on the application UI.
UI Field Type	Define the type of the field. Following are a few of the UI field types available for mWorkOrder: **Table 4-8 UI Field Types** **Field Type ID** / **Field Type** DD – Drop Down DF – Date Field TF – Text Field SF – Scan Field ID – Input Drop Down DDR – Drop Down Range DFR – Date Field Range TFR – Text Field Range IDR – Input Drop Down Range SID – Scan Input Drop Down DDM – Drop Down Multi Selection TFM – Text Field Multi Selection IDM – Input Drop Down Multi Selection

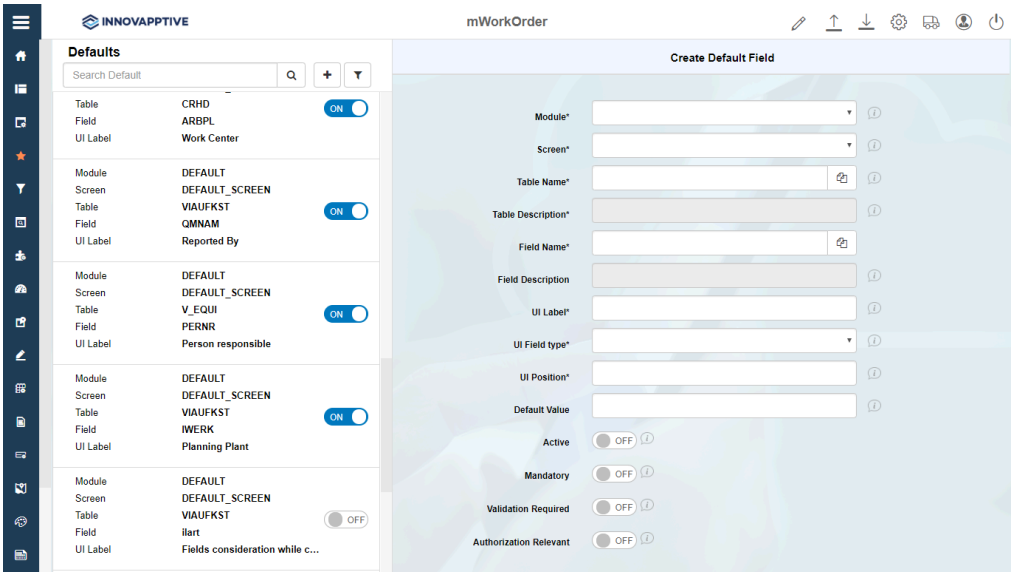
Field	Description
UI Position	Define the position for the default field compared to other fields on the transaction screen.
Default Value	Enter the value to be populated in the default field.
Active	To show/hide the field on the Default Settings screen.
Mandatory	Helps you show the field as Mandatory field on the Default Settings screen.
Validation Required	To configure validation rules for the UI field.
UI Validation	Specify the validations for user entered values. **Note:** This field is displayed only if the **Validation Required** is enabled.
UI Validation Message	Enter the alert message to be displayed if the UI validation is applicable. **Note:** This field is displayed only if the **Validation Required** is enabled.
Authorization Relevant	Enable/disable security authorization relevancy. This is relevant for fields of type 'drop down', and when activated, will filter values based on security org values set up in SAP security roles.
Dropdown Table	Select the Source table from where the values of a dropdown field are retrieved.

Field	Description
	Note: This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Dropdown Field	Select the Field in the source table from where the values of a dropdown field are retrieved. **Note:** This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
DD Dependency Field	Select the Dependent field on the transaction screen that facilitates filtering of the field values. **Note:** Displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Text Required	Define how the dropdown values are displayed. Possible values: ◦ 0 – Not Required (not relevant) ◦ 1 – Only Description (only the description of the value is displayed) ◦ 2 – Key and Description (both the key and description of the value are displayed)
Text Table	Select the Table from where the text is retrieved.

Field	Description
	Note: This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.
Text Field Name	Select the table field name from where the text is retrieved. When the value in **Text Required** field is set to 1 or 2, the corresponding Description is fetched from the text table in SAP. **Note:** This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.
Collection	Select the Source Collection from where the dropdown field values are retrieved.

Field	Description
Collection Filter	Select the field to filter the values retrieved from the Collection.

Figure 4-5 Create Default Field



4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains default values for key fields with attributes like Module Name and UI Field Type.

4.2.1. Configure Preferred Sorting Order by Module

As a Supervisor, you can set the default sort criteria organization wide in RACE to have uniform criteria based on the business processes.

As a Technician, you can sort and view the transactional data (Work Orders, Notification) and master data (EQ, FL, MP).

To configure preferred sorting order for Work Order and Notification modules:

1. Click **Defaults** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Default field to populate the properties in the **Create Default Field** section.
3. In the **Create Default Field** section of the screen, enter the following information:

Table 4-9 Default Field configuration attributes

Field	Description	
	Work Order	**Notification**
Module	Defaults	Defaults
Screen	Default Screen	Default_Screen
Table Name	VIAUFKST	VIAUFKST
Table Description	PM Order Selection by Status	PM Order Selection by Status
Field Name	APP01	APP02
Field Description	Notification Type	Notification Type
UI Label	WO Sort	NO Sort
UI Field Type	Drop Down - DD	Drop Down - DD
UI Position	1	2
Active	ON	ON

Field	Description	
Default Value	PRIOK-Priority, AUFNR-WO Number, IPHAS-Status, TXT04- User Status, ARBPL- Work center, AUART-WO Type, NOTE-WO Description	PRIOK-Priority, QMNUM-NO Number, PHASE-Status, QMART-NO Type, QMTXT-NO Description, IWERK-Planning Plant,

4. Click **Save**.

Figure 4-6 Sorting Order for Work Order

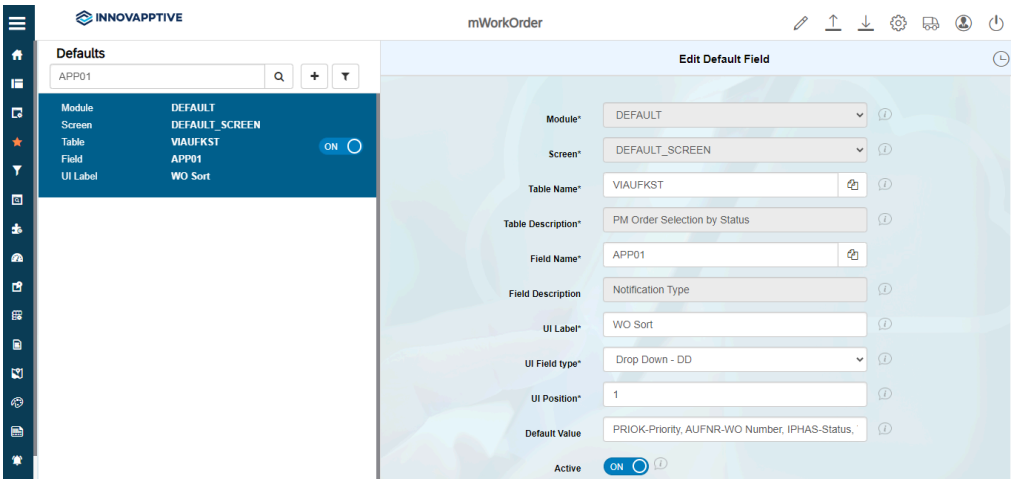
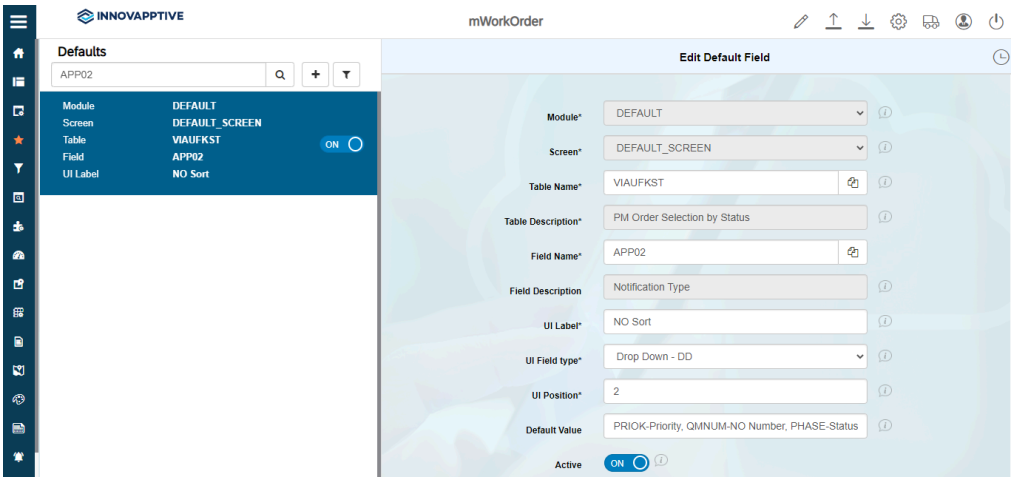


Figure 4-7 Sorting Order for Notification



4.3. Configure data filters

SAP tables hold a lot of data. Pulling the entire table increases the data volume and significantly impacts offline sync and overall performance of the app.

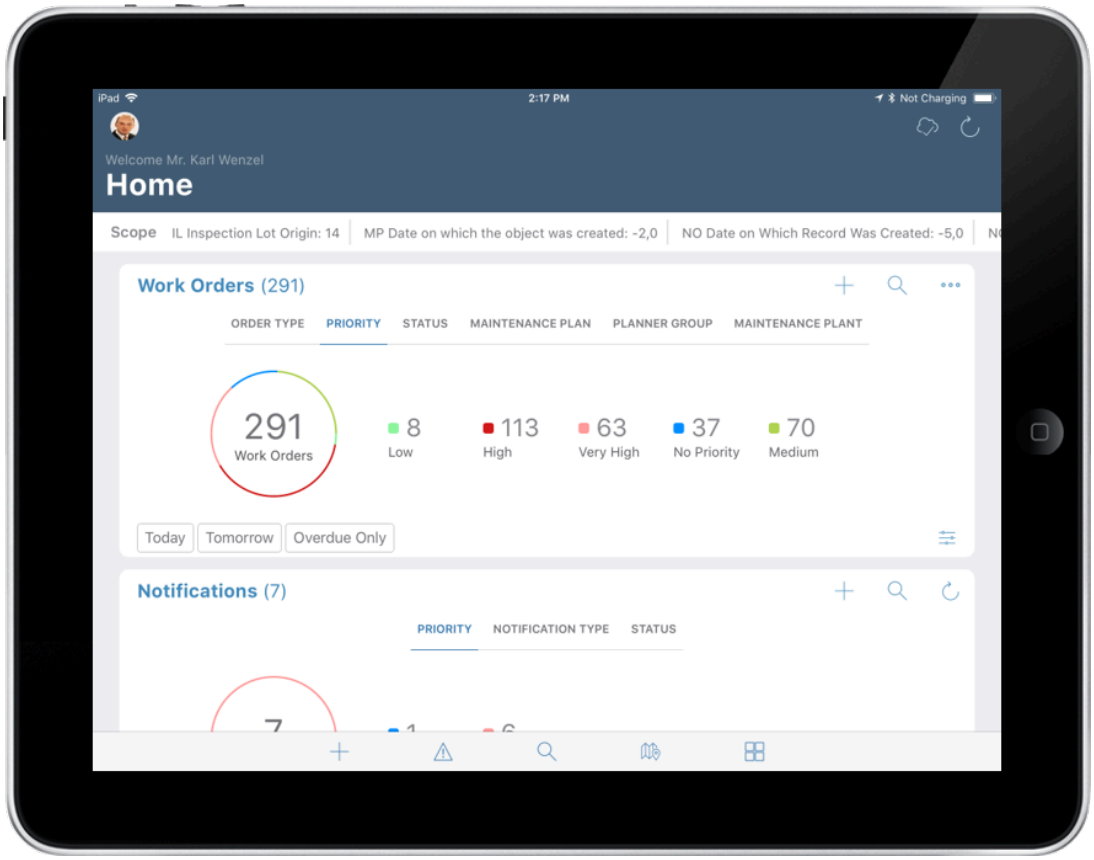
You can configure filters to pull specific data into modules and sub modules of your mobile application using the Filters feature in RACE™.

Filters help users focus on data which they are supposed to work on. You can set filter in the following ways:

- Authorization object
- Single filter value
- Multiple filter values (not based on range)
- Including or Excluding defined values/range
- Range of values (by using the “Select Option” field)

The following screen shows the mWorkOrder mobile application’s dashboard. Count shown for each module— Work Orders, Notifications, Equipment, Functional Locations represent the data synchronized to the mobile application based on the data filters configured.

Figure 4-8 Work Order Home Screen



To configure data filters:

1. Click **Filters** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Filter field to populate the properties in the **Create Filter Field** section.
3. In the **Create Filter Field** section, enter the following information:

Table 4-10 Data Filter configuration attributes

Field	Description
Module	Select the name of the Module where the filter is configured.
Screen	Select the name of the screen where the records are filtered. For example, Work Orders List.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Table Name</td><td>Select the table from where the data is retrieved.</td></tr>
<tr><td>Table Description</td><td>Auto-populated based on the Table Name.</td></tr>
<tr><td>Field Name</td><td>Select the standard field in the SAP Table.</td></tr>
<tr><td>Field Description</td><td>Populated based on the Field Name.</td></tr>
<tr><td>UI Label</td><td>Enter the text to be shown on the application UI.</td></tr>
<tr><td>Field Type</td><td>Define the type of the field. Following are a few of the UI field types available for mWorkOrder:

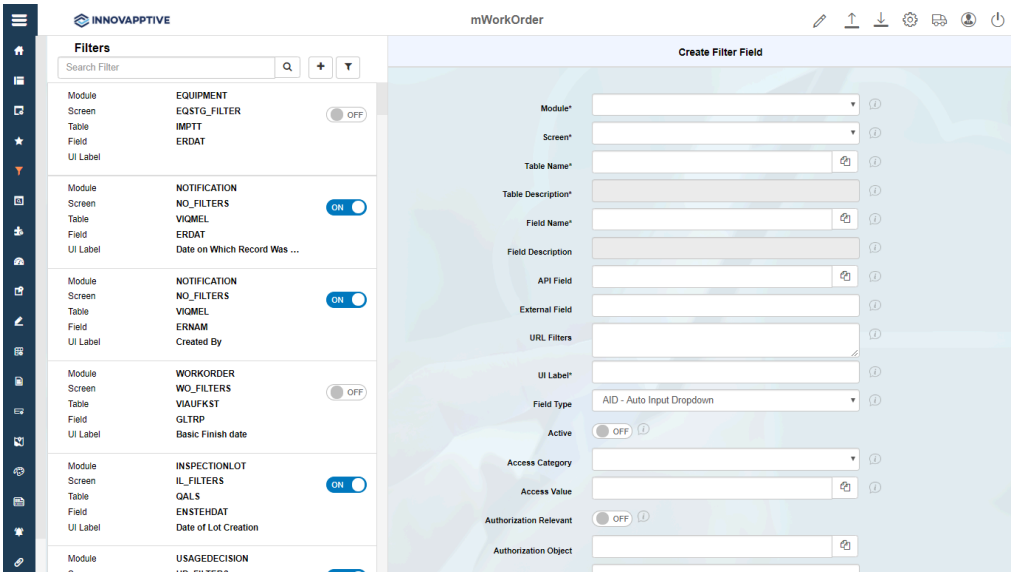
Table 4-11 UI Field Types
<table>
<tr><th>Field Type ID</th><th>Field Type</th></tr>
<tr><td>DD</td><td>Drop Down</td></tr>
<tr><td>DF</td><td>Date Field</td></tr>
<tr><td>TF</td><td>Text Field</td></tr>
<tr><td>SF</td><td>Scan Field</td></tr>
<tr><td>ID</td><td>Input Drop Down</td></tr>
<tr><td>DDR</td><td>Drop Down Range</td></tr>
<tr><td>DFR</td><td>Date Field Range</td></tr>
<tr><td>TFR</td><td>Text Field Range</td></tr>
<tr><td>IDR</td><td>Input Drop Down Range</td></tr>
<tr><td>SID</td><td>Scan Input Drop Down</td></tr>
<tr><td>DDM</td><td>Drop Down Multi Selection</td></tr>
<tr><td>TFM</td><td>Text Field Multi Selection</td></tr>
<tr><td>IDM</td><td>Input Drop Down Multi Selection</td></tr>
</table></td></tr>
<tr><td>Active</td><td>To enable or disable the data filter.</td></tr>
</table>

Field	Description
Access Category	Enable/disable data filter based on user access: ◦ T-Transaction Code ◦ U-User Group ◦ R-Role ◦ A-Authorization Object.
Access Value	This field is used for data related to security. Based on the access category, value in this field must be maintained. For example, if you configure a transaction code in the **Access Category** field then the t-code name must be specified in this field. Data filter configured is displayed in the mobile application only if the transaction code is assigned to the user.
Authorization Relevant	Enable/disable security authorization relevancy. This is relevant for fields of type 'drop down', and when activated, will filter values based on security org values set up in SAP security roles.
Sign	Select whether to include the values defined in **Low Value** and **High Value** fields to filter data.
Select Option	Select an Operation to filter data based on the specified **Low Value** and **High Value**. Possible values: ◦ Equal To ◦ Not Equal To ◦ Between Lower and Upper Value ◦ Outside Lower and Upper Value ◦ Contains the Pattern ◦ Does Not Contain the Pattern ◦ Less Than ◦ Less Than or Equal To ◦ Greater Than ◦ Greater Than or Equal To
Low Value	Enter the lower value based on which data is filtered and shown in the mobile application.

Field	Description
	Note: Displayed only if **Select Option** field is set to **Between Lower and Upper Value** and **Outside Lower and Upper Value**.
High Value	Enter the upper value based on which data is filtered and shown in the mobile application. **Note:** Displayed only if **Select Option** field is set to **Between Lower and Upper Value** or **Outside Lower and Upper Value**.
Filters	Values based on which data is filtered and shown in the mobile application. For example, if you enter purchase order filters PO1, PO100, all the purchase orders of these series are shown in the GRPO list screen.
Custom Table	Select the custom table in SAP from where the data is retrieved.

Field	Description
Custom Field	Select the field in SAP custom table.

Figure 4-9 Create Filter Field



4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains Filters configured with attributes like Module Name, Screen, Field Name and UI Label.

5. Configure Extensions

Extensions help you configure additional fields and properties, modify the properties of standard fields or create and map a new field from the SAP system.

Data flows to the app in the form of collections. A collection is a group of fields (Standard fields) which are pre-configured in the app to execute the business transactions. A collection also includes few optional fields based on standard industry practices. You can modify the behavior of standard fields using Extensions menu. For example, you can hide the standard field if it is not required for your transactions or change the field type or the UI Label.

An Extension is an additional field that you can configure and enable it depending on your specific requirements. Changes done in Extensions menu are stored in the SAP NetWeaver Gateway table: /INVCEC/COCKPIT and the transaction code: /n/INVCEC/COCKPIT.

Learn how to configure additional fields and properties on the transaction screens (list, header, item details).

To configure fields for transaction screens:

1. Click **Extensions** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing extension to populate the properties in the **Create Extension** section.
3. In the **Create Extension** section, enter this information:

Table 5-1 Extension configuration attributes

Field	Description
Module Name	Select the module where the field is configured.
Screen Name	Select the screen within the module where the field is displayed.
Category	Select between Standard and Extension options to choose the configuration type.

Field	Description
	Note: Select **Standard** to customize the type of input required to be displayed on the header.
Section Name	Helps you group the Extension fields into sections for retrievals or Posting Forms.
Section Position	Define the position of section within the screen relevant to other sections.
Source Type	Select the source like BAPI or SAP Table from where the data is retrieved. a. **BAPI**: Select this option if the extension field is part of the BAPI structure. And the value entered in the extension field is posted to the backend ECC. b. **Table**: Select this option if the extension field is part of the SAP table. And the value in the extension field is pulled from the backend ECC table.
Entity Set	Collection to which the Standard field belongs. **Note:** Auto-populated based on Module and Screen selected if the **Category** field is set to Standard.
Entity Type	Auto-populated based on Module and Screen selected if the **Category** field is set to Standard.
Table / BAPI Name	Select the table/BAPI to fetch the data from.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>Note:
This field is applicable only if you selected Extension in the Category field.</td></tr>
<tr><td>Table / BAPI Description</td><td>Auto-populated based on Table / BAPI Name.

Note:
This field is applicable only if you selected Extension in the Category field.</td></tr>
<tr><td>Field Name</td><td>Select the table/BAPI field to retrieve the field data.</td></tr>
<tr><td>Field Description</td><td>Populated based on the Field Name.</td></tr>
<tr><td>UI Label</td><td>Enter the text to be shown on the application UI.</td></tr>
<tr><td>Field Type</td><td>Define the type of the field. Following are a few of the UI field types available for mWorkOrder:

Table 5-2 UI Field Types
<table>
<tr><th>Field Type ID</th><th>Field Type</th></tr>
<tr><td>LF</td><td>Label Field</td></tr>
<tr><td>DL</td><td>Date Label</td></tr>
<tr><td>CB</td><td>Check Box</td></tr>
<tr><td>DD</td><td>Drop Down</td></tr>
<tr><td>DF</td><td>Date Field</td></tr>
<tr><td>TF</td><td>Text Field</td></tr>
<tr><td>SF</td><td>Scan Field</td></tr>
<tr><td>OCR</td><td>Optical Character Recognition</td></tr>
<tr><td>ID</td><td>Input Drop Down</td></tr>
</table></td></tr>
</table>

Field	Description

Field Type ID	Field Type
DDR	Drop Down Range
DFR	Date Field Range
TFR	Text Field Range
NF	Numeric Field
NFR	Numeric Field Range
IDR	Input Drop Down Range
CL	Check Label
LV	Long Text View
LT	Long Text
NID	Numeric Input Drop Down
NDR	Numeric Input Drop Down Range
SID	Scan Input Drop Down
DDM	Drop Down Multi Selection
TFM	Text Field Multi Selection
IDM	Input Drop Down Multi Selection
GAL	Geo Location Address Label
GCL	Geo Location Coordinates Label
GAI	Geo Location Address Input

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Field Type ID</th><th>Field Type</th></tr>
<tr><td>GCI</td><td>Geo location Coordinates Input</td></tr>
<tr><td>SGF</td><td>Signature Field</td></tr>
<tr><td>NDM</td><td>Numeric Input Drop Down Multi Selection</td></tr>
<tr><td>NFM</td><td>Numeric Field Multi Selection</td></tr>
</table>
</td></tr>
<tr><td>UI Position</td><td>Position for the extension compared to other fields on the transaction screen.</td></tr>
<tr><td>Default Value</td><td>Value to be populated in the extension field.</td></tr>
<tr><td>Case Sensitive</td><td>To show the extension field value in Uppercase or Lowercase.</td></tr>
<tr><td>Active</td><td>To show/hide the extension on the transaction screen.</td></tr>
<tr><td>Overview</td><td>Enable/disable the extension field in Overview section of the transaction screen. For example, header fields and line item fields in the Item Overview list screen are displayed in Overview section.</td></tr>
<tr><td>Detail</td><td>Enable/disable to show the extension in Detail section of the transaction screen.</td></tr>
<tr><td>Mandatory</td><td>To show the extension as Mandatory field on the transaction screen.</td></tr>
<tr><td>Validation Required</td><td>To configure validation rules for the extension field.</td></tr>
<tr><td>UI Validation</td><td>Specify the validations for user entered values.</td></tr>
</table>

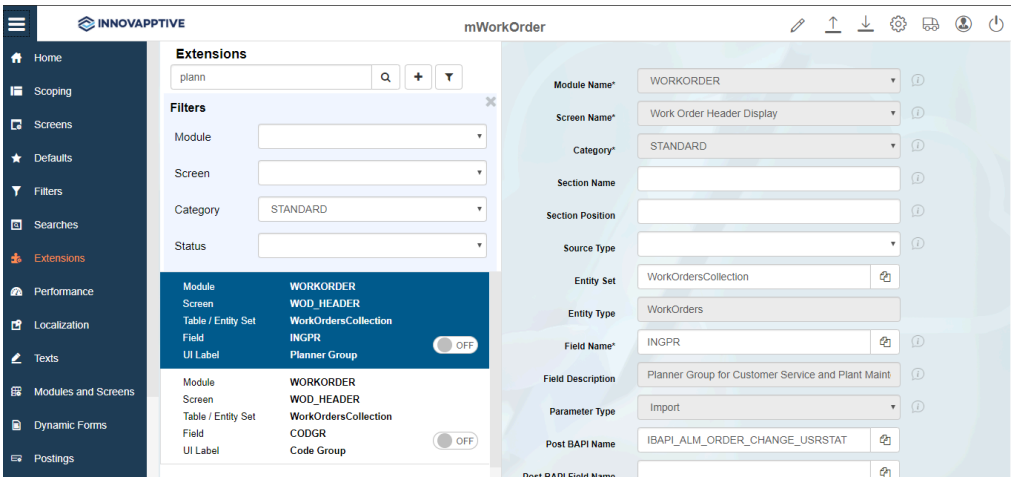
Field	Description
	Note: This field is displayed only if the **Validation Required** is enabled.
UI Validation Message	Enter the alert message to be displayed if the UI validation is applicable. **Note:** This field is displayed only if the **Validation Required** is enabled.
Authorization Relevant	Enable/disable security authorization relevancy. This is relevant for fields of type 'drop down', and when activated, will filter values based on security org values set up in SAP security roles.
Access Category	Enable/disable extension field based on user access: ◦ T-Transaction Code ◦ U-User Group ◦ R-Role ◦ A-Authorization Object.
Access Value	This field is used for data related to security. Based on the access category, value in this field must be maintained. For example, if you configure a transaction code in the **Access Category** field then the t-code name must be specified in this field. Extension configured is displayed in the mobile application only if the transaction code is assigned to the user.
Dropdown Table	Select the Source table from where the values of a dropdown field are retrieved.

Field	Description
	Note: This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Dropdown Field	Select the Field in the source table from where the values of a dropdown field are retrieved. **Note:** This field is displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
DD Dependency Field	Select the Dependent field on the transaction screen that facilitates filtering of the field values. **Note:** Displayed only if the **UI Field type** is set to **DD - Drop Down** or **ID - Input Dropdown**.
Parent Table	Select the Table from where the field is retrieved.
Parent Key	Select the field to define the relationship between the dropdown field and table.
Condition	Enter the logic to show the configured field. For example, you can show an extension 'Supplying Plant' only if the Purchase Order type is UB (Internal Purchase Order).
Text Required	Define how the dropdown values are displayed. Possible values:

Field	Description
	◦ 0 – Not Required (not relevant) ◦ 1 – Only Description (only the description of the value is displayed) ◦ 2 – Key and Description (both the key and description of the value are displayed)
Text Table	Select the Table from where the text is retrieved. **Note:** This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.
Text Field Name	Select the table field name from where the text is retrieved. When the value in **Text Required** field is set to 1 or 2, the corresponding Description is fetched from the text table in SAP. **Note:** This field is displayed only if the **Text Required** is set to **Only Description** or **Key and Description**.

Field	Description
Text Key Field Name	Select the field to define the relationship between the dropdown field and table.

Figure 5-1 Extension attributes



4. Click **Create**.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains fields configured as extensions with attributes like Module Name, Screen, UI Label and Field Type.

5.1. Execute Forms in an Operator Round

This configuration allows you to see the Form data in the Operator Rounds module to execute the form while executing a task.

To see the form data in an operator round:

1. Click **Extensions** on the left panel.
2. Click the **Add**  icon next to the search field.
3. Make the below configurations.

Figure 5-2 Form Data Configuration1

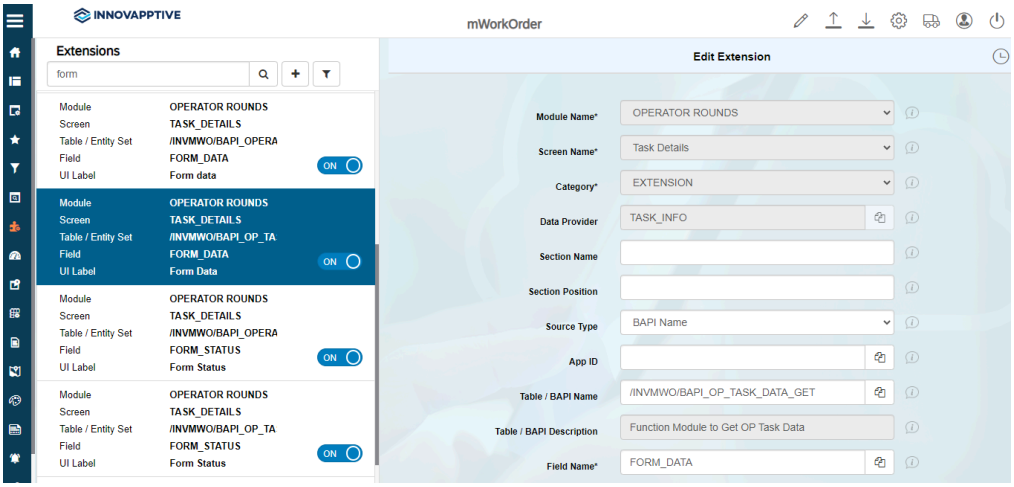


Figure 5-3 Form Data Configuration2

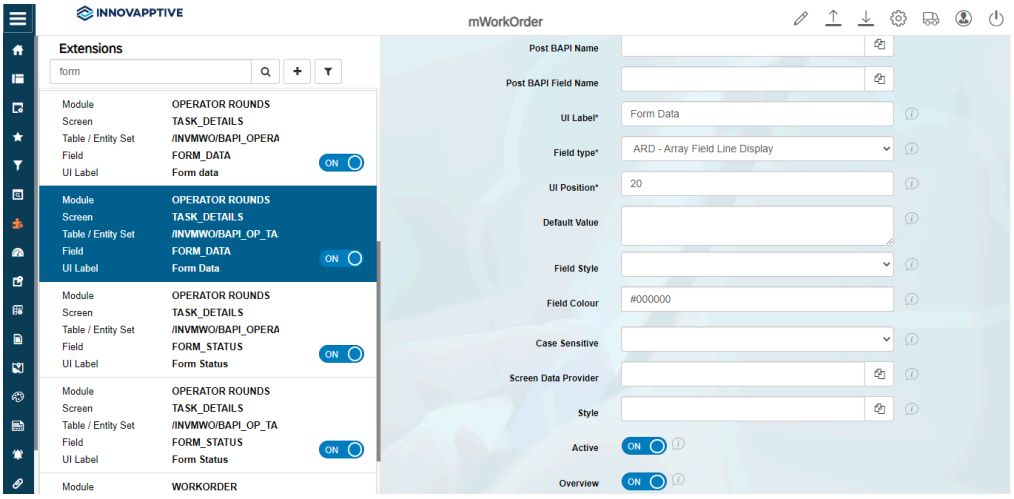


Figure 5-4 Form Data Configuration3

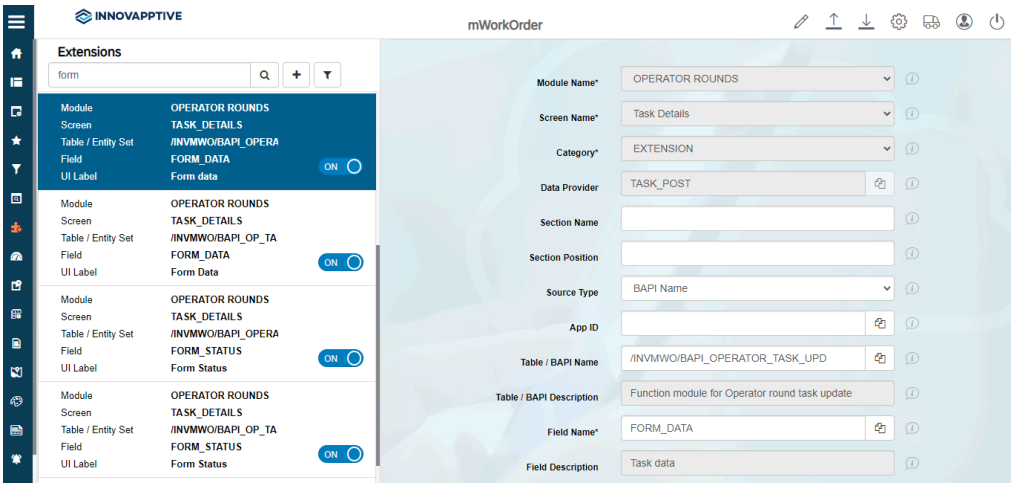
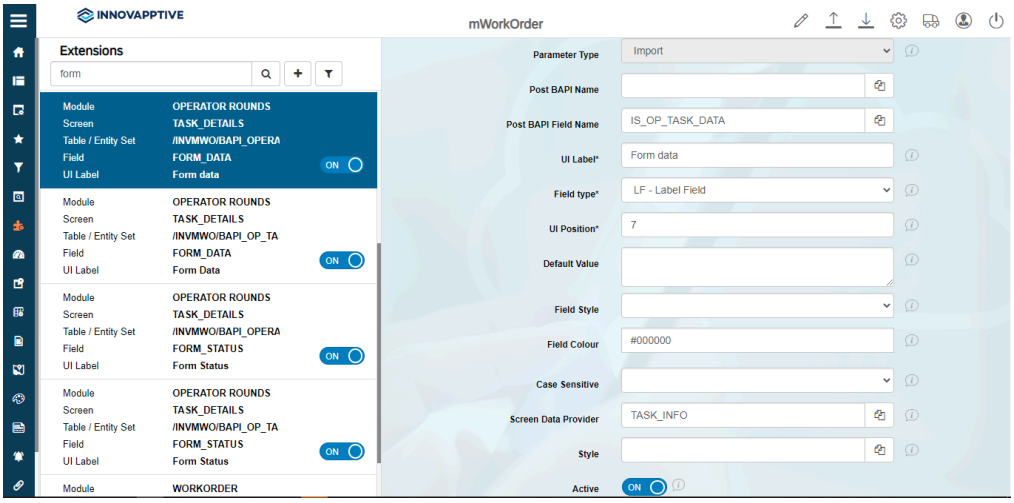


Figure 5-5 Form Data Configuration4



6. Create Custom Tabs (Screens)

Use the **Screens** menu to configure screen elements like custom tabs - Single Panel and three (Line Item) panel view, single and multiple forms and form buttons.

> **Note:**
> **mWorkOrder** application is used as an example to demonstrate the steps.

You can assign a form or tab to the Work Order or Notification to help field technicians with checklist or capture measurement data. The corresponding table in SAP NetWeaver Gateway is /INVCEC/SCRCONF. Basic application configurations are updated in this table using the mWorkOrder Add-on / transport and you can update or enhance them using RACE™.

The following screens shows the custom form and tab on Work Order details screen configured using RACE™ **Screens** menu.

Figure 6-1 Dynamic Form

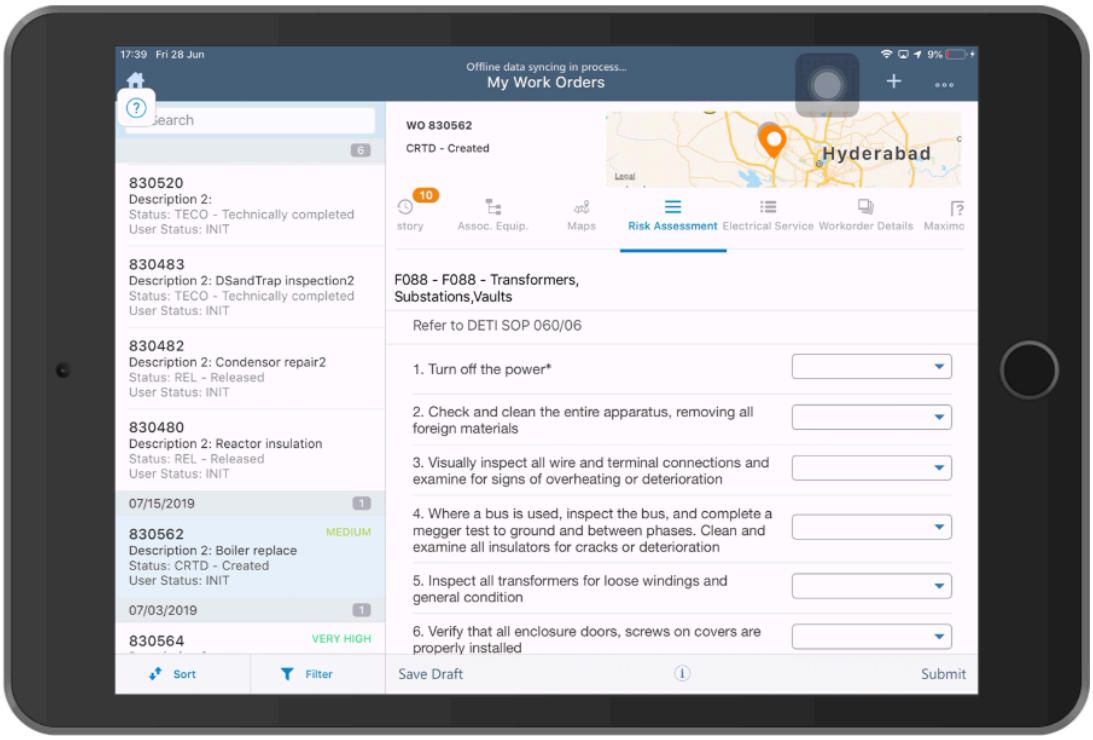
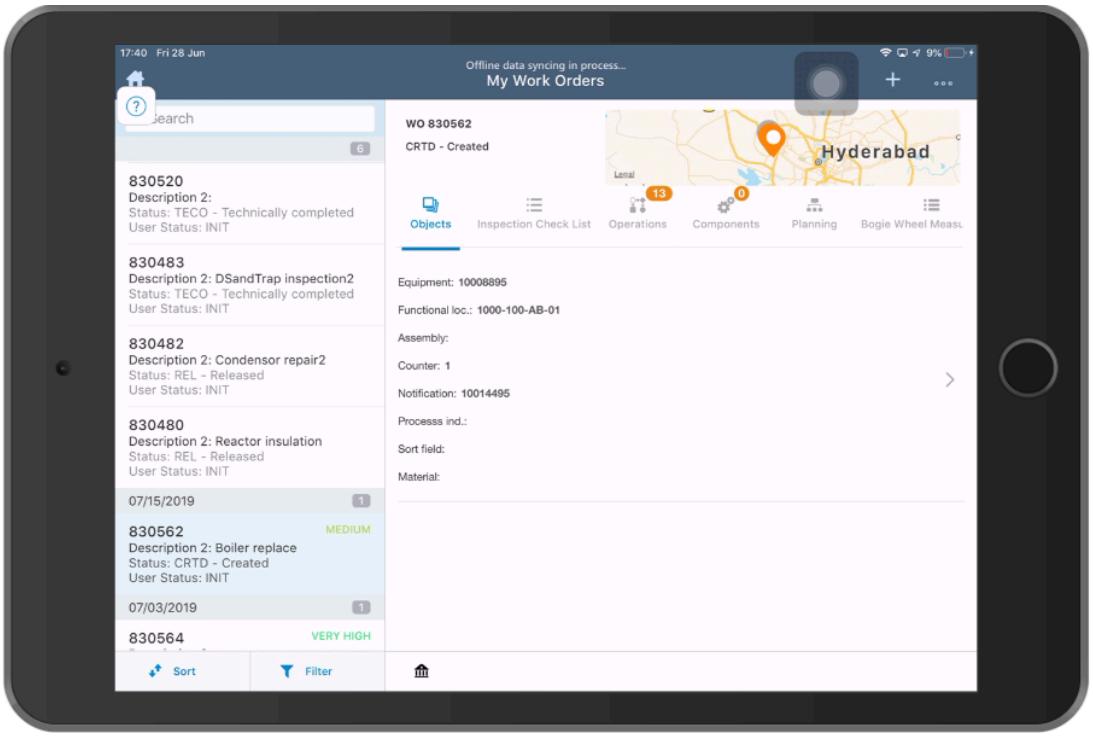


Figure 6-2 Custom / Dynamic Tab



To create custom screens using RACE™:

1. Click **Screens** on the left panel.
2. Click the **Add**  icon next to the search field and click **Create Screen**.

   You can also click the **Copy**  button on the details pane of an existing Screen configuration to populate the properties in the **Create Screen** section.
3. In the **Create Screen** section, enter the following information:

Table 6-1 Dynamic Screen configuration attributes

Field	Description
Module Name	Select the module where the dynamic screen or element is configured.For example, Work Order.
Screen Name	Select the screen within the module where the dynamic screen or element is displayed.

Field	Description
Screen Type	Type of screen to configure such as Create Screen (for new record), Detail Screen, List Screen or Dynamic Tab.
Screen Area	Position of the screen such as header, footer, and body where the dynamic form/tab is displayed.
Element	Element to be displayed on the screen such as Tab, Form Tab or Button.
Element Type	The sub-type of **Element** such as Multi-Form Tab, Line Item Tab or Draft or Submit Buttons.
Sequence No.	Define the sequence or position of the form/tab or element on the application UI.
UI Label	Enter the text to be shown on the application UI.
UI Position	Define alignment for form/tab or element on the screen such as Center, Left or Right.
Action	Define the screen navigation for the element.
Action Type	Define the type of the action to be completed for the screen navigation by the element.
Style	Tap to define Style properties for screen element like Icon, Icon Color, Background Color and Text Color in the **Select Styles** window that appears.
Layout	Select the Layout order (Horizontal or Vertical) for the element.
Data Provider	Define the source to retrieve data for the element.

Field	Description
Data Provider Key	Specify the fields to retrieve data from the data provider.
Active	To enable or disable the dynamic screen or element.
Form Name	Select the Form from where the fields on the Dynamic Screen appear.

4. Click **Create**.

> **Note:**
> For recommended settings, see the Dynamic Screens RACE™ Preset Configuration spreadsheet. This spreadsheet contains a list of Screens with attributes like Module Name, Screen Type, Screen Area, Layout Type, Element and Element Type.

Following are a few examples to configure Dynamic Screen and components:

- To configure Risk Assessment form for Work Order module, do these configurations:

Table 6-2 Risk Assessment form for Work Order

Field	Value
Module Name	WORKORDER
Screen Name	RISKASSESS (as configured in **Modules and Screens** section)
Screen Type	Dynamic Tab
Screen Area	Body
Element	Tab
Element Type	Form Tab

Field	Value
	Note: ▪ Set this field to Multi-Form Tab to save revision history for the form. ▪ For Custom tabs, select the **Element Type** as Tab (Single panel tab) or Line Item Tab (Three panel view).

◦ To configure Button on dynamic screen, do these configurations:

Table 6-3 Configure Button for Form

Field	Value
Module Name	WORKORDER
Screen Name	RISKASSESS (as configured in **Modules and Screens** section)
Screen Type	Dynamic Tab
Screen Area	Footer
Element	Button
Element Type	Select the button type such as Save, Submit or Help.

6.1. Supported screen types and elements

You can configure the following screen types and elements in the custom module:

Screen types:

- Search Screen
- List Screen
- Detail Screen
- Line Item Detail Screen
- Create Screen
- Item Detail Screen

Supported screen elements depending on screen area:

Table 6-4 Screen Components

Screen Area	Element	Corresponding element type
Header	Button	Accept Button, Add Button, Approve Button, Check Box, Combo Scan Button, Confirm Button, Draft Button, Edit Button, Email Button, Help Button, Print Button, Reject Button, Reset Button, Save Button, Search Button, Select/Deselect Button and Submit Button
	Label	Label Field
	Left Button	Back Button, Home Button
	Right button	Filter Button, Multi-Select Button, Analytic Button and Forward Button, Search Button and Signature Button. **Note:** Buttons are applicable depending on the Module configured.
Body	List View	Search List View, List View
	Tab	Line Items Tab, Attachments Tab, Approvers Tab, Text Tab, Approvers Note Tab, Geo Location Tab. **Note:** Tabs are applicable based upon the Module that is configured)

Table 6-4 Screen Components (continued)

Screen Area	Element	Corresponding element type
	Form	Header Form
	Button	Accept Button, Add Button, Approve Button, Check Box, Combo Scan Button, Confirm Button, Draft Button, Edit Button, Email Button, Help Button, Print Button, Reject Button, Reset Button, Save Button, Search Button, Select/Deselect Button and Submit Button
	Attachment	Attachments Tab
	Form Tab	Item Form
Footer	Button	Accept Button, Add Button, Approve Button, Check Box, Combo Scan Button, Confirm Button, Draft Button, Edit Button, Email Button, Help Button, Print Button, Reject Button, Reset Button, Save Button, Search Button, Select/Deselect Button and Submit Button

6.2. Build screen using data from existing screens

You can also use existing screen as a template to create and configure new screens.

To configure custom screen using data from existing screens:

1. Click **Screens** on the left panel.
2. Click the **Add**  icon next to the search field and click **Create Screen with Template**.
3. In the **Create Screen with Template** window, enter this information:

Table 6-5 Screen template attributes

Field	Description
Module	Select the Module where the custom screen is configured.

Field	Description
Screen Name	Select the screen in the Module where the custom screen (form/tab) is configured.
Screen Type	Type of screen to configure such as Create Screen, Detail Screen, List Screen or Dynamic Tab.

4. Click **Submit**.
   Use the **Preview** button to view layout of the selected Screen Type on application UI (Mobile and Tablet)

7. Create Custom Module for mWorkOrder

Create modules for your business needs and use them in the mWorkOrder application. Using RACE you can create a complete, fully functional modules with header, search, list, details, buttons, and so on.

This flexibility empowers organizations to create as many modules as needed that help with asset management and use them seamlessly in the mWorkOrder application.

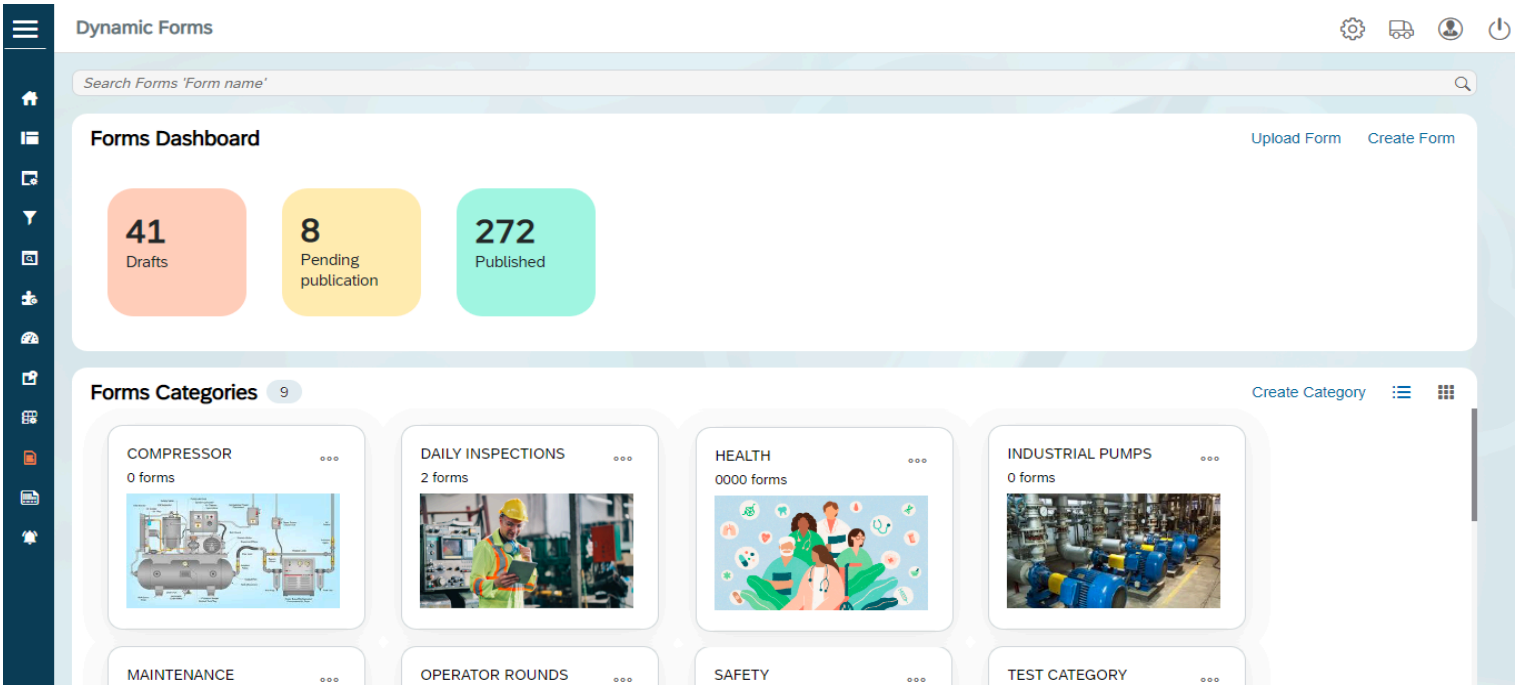
The document *Add New Module for mWorkOrder* helps you understand how to; create a new module and add header, body, footer, extensions, elements, and so on in the module.

8. Overview of RACE Dynamic Forms Home Screen

You can do the following in the RACE Dynamic Forms (RDF) Home screen:

- *Search RACE Dynamic Forms.*
- *View Drafted RACE Dynamic Forms.*
- *View Pending RACE Dynamic Forms.*
- *View Published RACE Dynamic Forms.*
- *Create Dynamic Forms and upload them.*
- *Categorize RACE Dynamic Forms.*

Figure 8-1 RDF Dynamic Forms Home Screen



8.1. Search RACE Dynamic Forms

Search and navigate to the form details that you want to view by entering the form name in the Search Forms section.

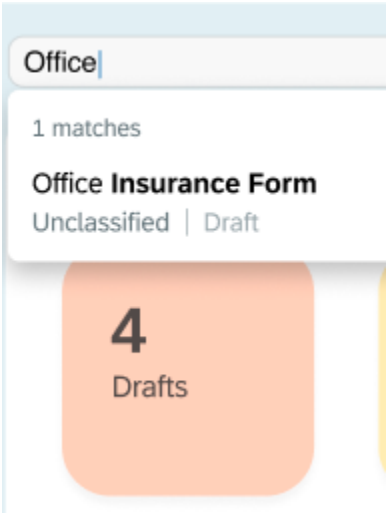
To search and view the form details:

1. Click the **Dynamic Forms** menu on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

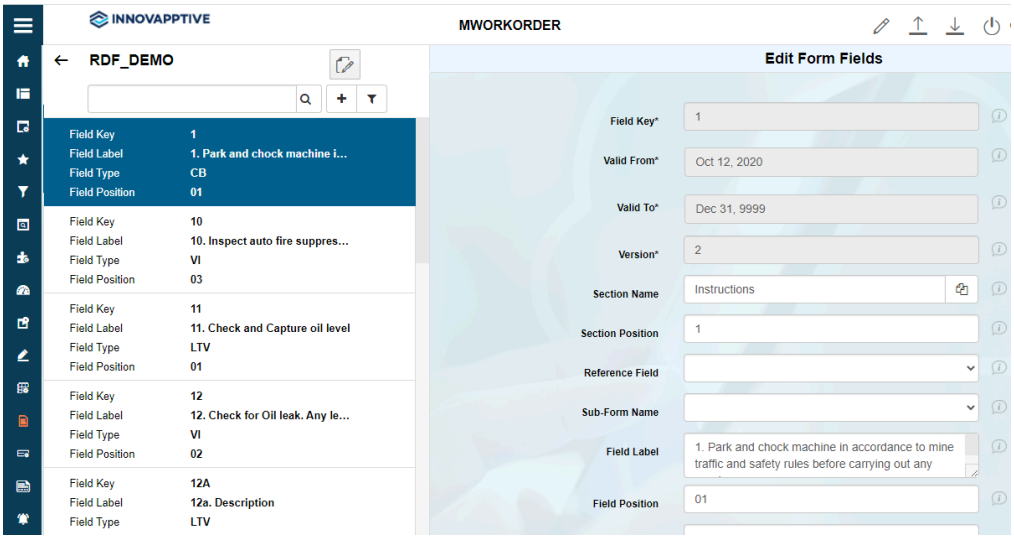
2. In the Home screen, enter the name of the form in the **Search Forms** field.

Figure 8-2 Search Forms



3. Select the form from the list.

Figure 8-3 Searched Form Details



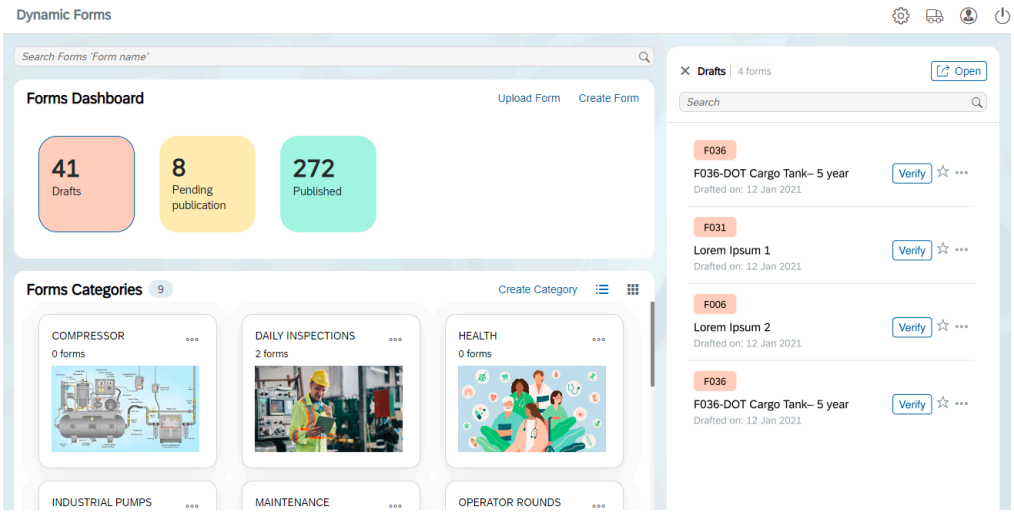
You can view and edit the details of the form on the right panel.

8.2. View Dynamic Forms that are in Draft

To view and access the forms that are drafted but not published:

1. Click  on the left and click **Dynamic Forms**.
2. Click **Drafts** in the **Forms Dashboard** section.
   The list of forms that are in Draft mode are displayed on the right.

Figure 8-4 Drafted Forms



In this section, you can,

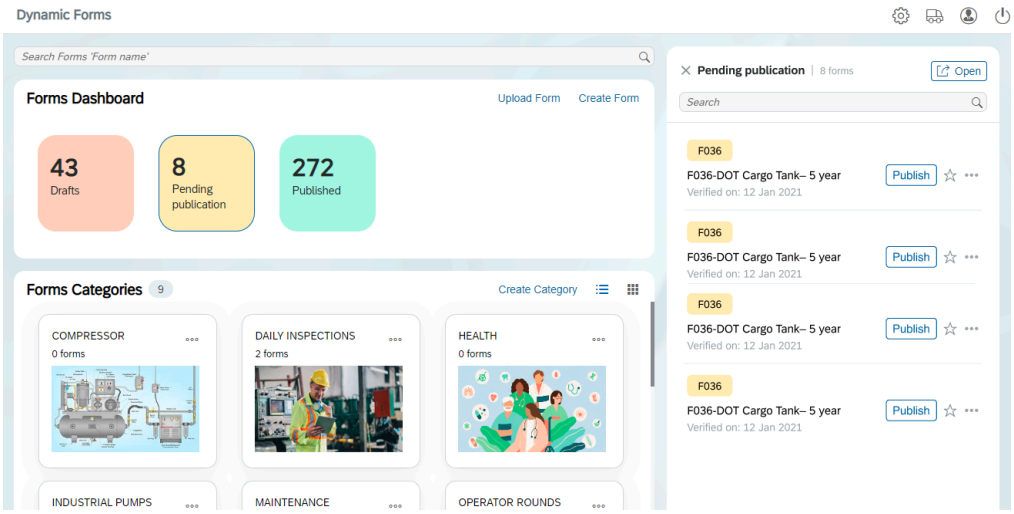
-  all forms.
- Search for specific forms, view date when the form was drafted, click **Verify** to view the preview (phone or tablet) of dynamic form and verify the form.
- You can mark the form as favourite that you want retrieve quickly in future by clicking ☆ or click ★ to remove the form from favorites.
- Click the More ••• icon next to the form to check **Version History** of the form, **Edit**, **Duplicate**, **Deactivate**, or **Delete** form.

8.3. View Form that are not published

To view the forms that are not published:

1. Click  on the left and click **Dynamic Forms**.
2. Click **Pending publication** in the **Forms Dashboard** section.
   The list of forms that are pending for publishing are displayed on the right.

Figure 8-5 Pending Forms for Publication



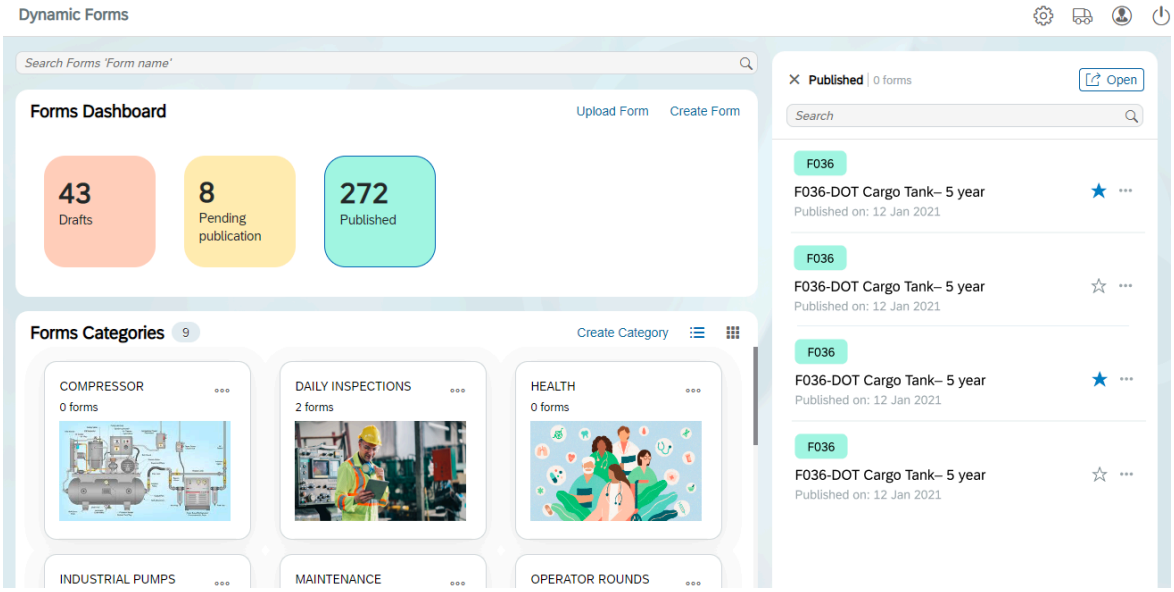
In this section, you can,

-  all forms.
- Search for specific forms, view date when the form was verified, click **Publish** to view the preview (phone or tablet) of dynamic form and publish the form.
- You can mark the form as favourite that you want retrieve quickly in future by clicking  or click  to remove the form from favorites.
- Click the More icon next to the form to check **Version History** of the form, **Edit**, **Duplicate**, **Deactivate**, or **Delete** form.

8.4. View Published Dynamic Forms

To view the forms that are published:

1. Click  on the left and click **Dynamic Forms**.
2. Click **Published** in the **Forms Dashboard** section.
   The list of forms that are published displayed on the right.



In this section, you can,

-  all forms.
- Search for specific forms, view date when the form was published, click on the form to view the preview (phone or tablet) of dynamic form.
- You can mark the form as favourite that you want retrieve quickly in future by clicking  or click  to remove the form from favorites.
- Click the More icon next to the form to check **Version History** of the form, **Duplicate**, **Deactivate**, or **Delete** form.

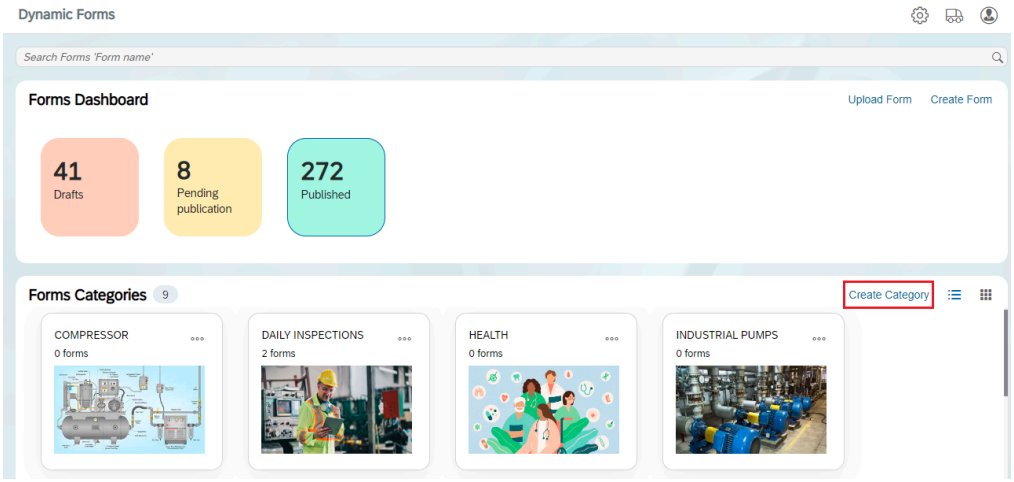
8.5. Categorize RACE Dynamic Forms

You can organize the forms into logical categories using the Categories section. For example, you can organize all checklist forms into one category. You can create, edit, and delete categories as required.

To create a new category:

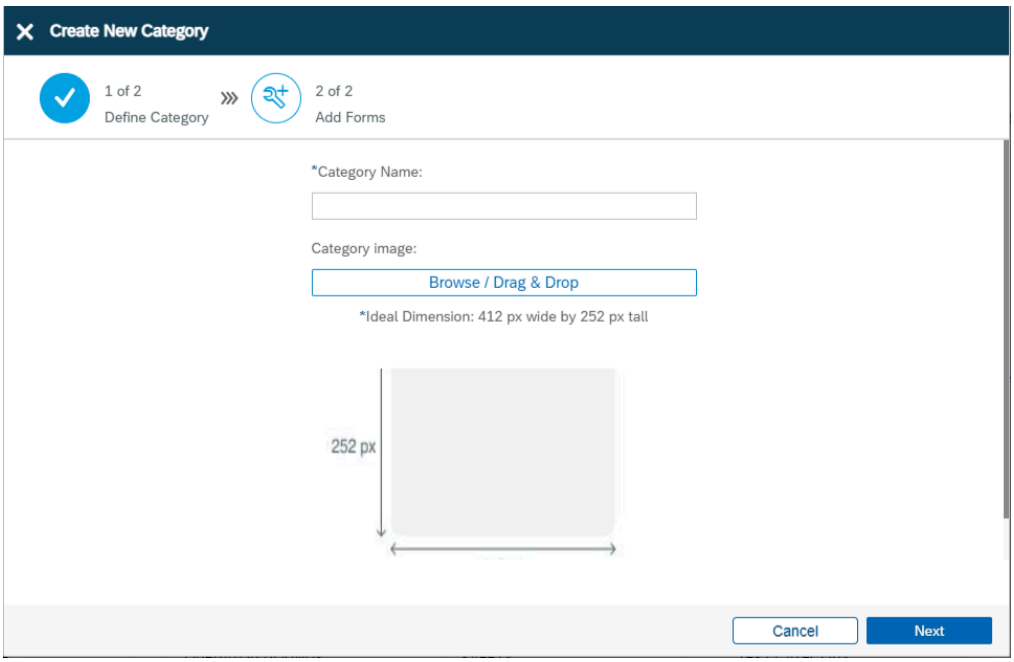
1. Click  on the left and click **Dynamic Forms**.
   You can view the categories of forms and the number of forms added to each category in the **Forms Categories** section.
2. Click **Create Category**.

Figure 8-6 Create Category



3. Enter a name for the category in the **Category Name** field.

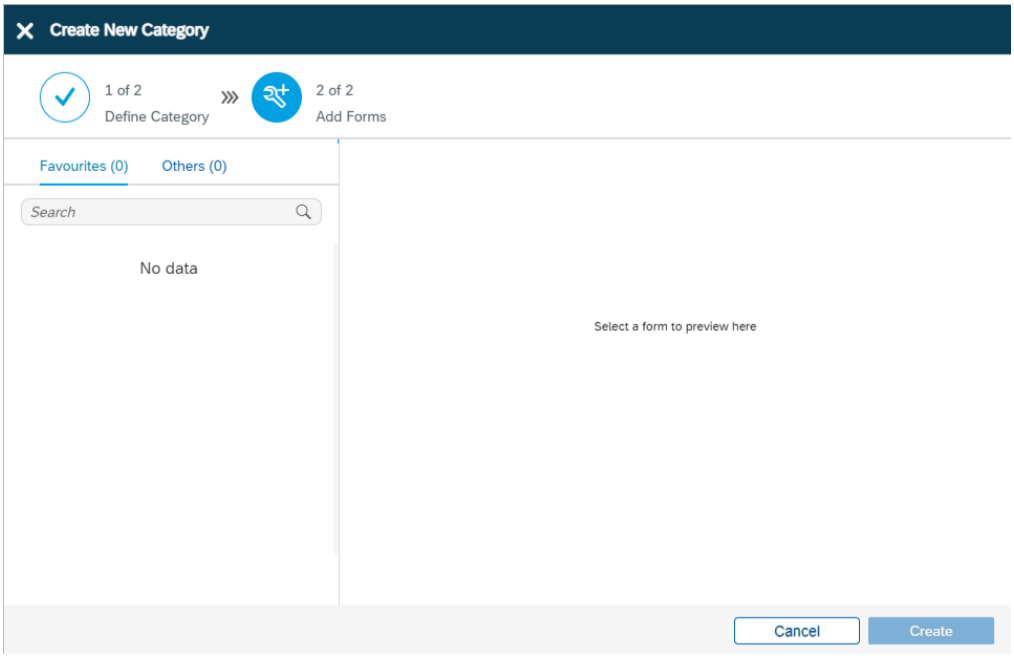
Figure 8-7 Create new Categories



4. Upload an image and click **Next**.

5. Search and add forms to the category in the **Add Forms** tab by clicking the **Add** button under each form.

Figure 8-8 Add Forms to Categories



6. Click **Create**.
   The newly created category is displayed in the **Forms Categories** section in the Home screen.

   In the **Forms Categories** section, you can,
   - View the count of categories next to the section name.
   - Click the More icon next to the category to **Edit** or **Delete** category.
   - Click to view the categories in list view.
   - Click to view the categories in expanded view.
   - Click on the category then the list of the forms under the category is displayed on the right section.

> **Note:**
> The forms that are not assigned to a category during a form creation appear in the **Unclassified Forms** section. When you delete a category, all the forms under category move to **Unclassified Forms** if they are not part of any other category.

8.6. Deactivate and Activate RACE Dynamic Forms

You can deactivate dynamic forms that are not required and activate them when needed. When you deactivate a form, it moves into dormant state and when you activate it the form along with the data is restored. This eliminates the need for deleting forms and recreating them when required.

This topic contains the following sections:

8.6.1. Deactivate RACE Dynamic Forms

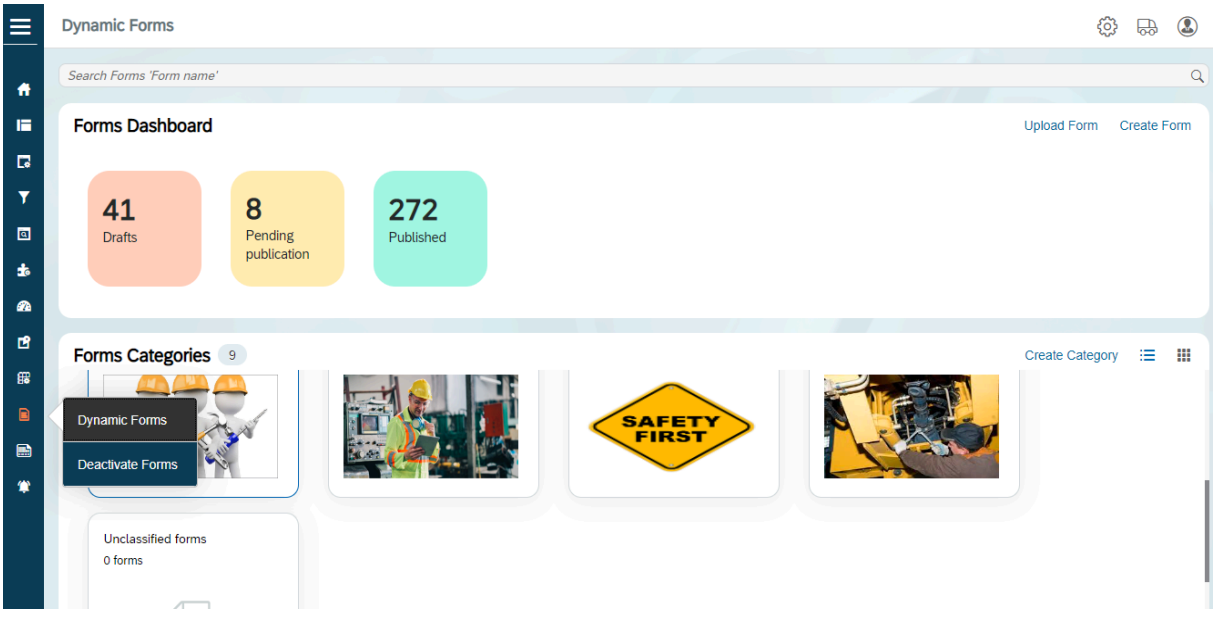
Use the Deactivate Form feature to deactivate a form.

To deactivate a form:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

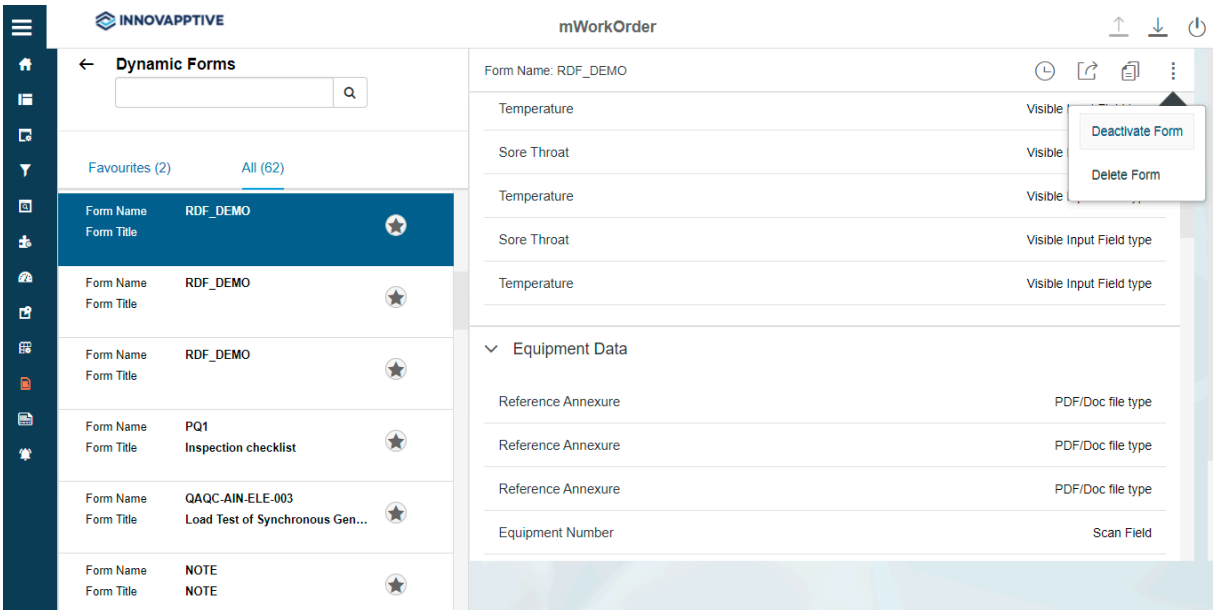
Figure 8-9 Dynamic Forms Option



2. Search and open the form that you want to deactivate in the **Search Forms** field.

3. Click the ellipses button at the top right and select **Deactivate Form**.

Figure 8-10 Deactivate Form



The selected form is deactivated and is displayed in Deactivate Forms.

> **Note:**
>
> Click the ellipses button at the top right and select **Delete Form** to delete the form permanently.

4. Click the **Dynamic Forms** button on the left panel and click the **Deactivate Forms** option to see the list of deactivated forms.

8.6.2. Activate RACE Dynamic Forms

Use the Deactivate Form feature to deactivate a form.

To activate a form:

1. Click the **Dynamic Forms** button on the left panel and click the **Deactivate Forms** option.

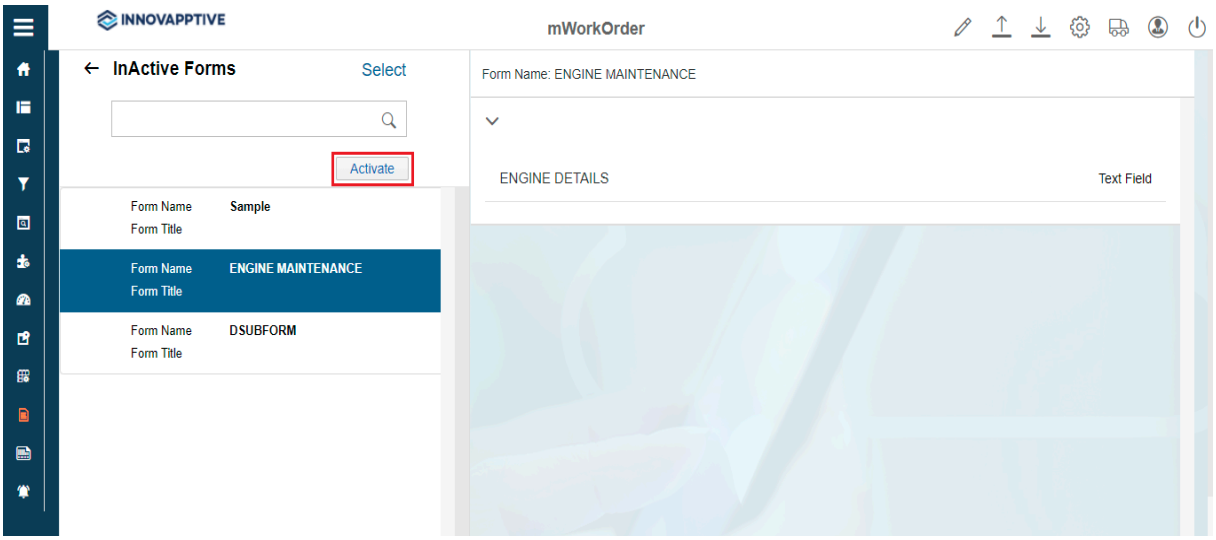
> **Note:**
>
> You can also expand the Menu and click the **Deactivate Forms** option.

2. Select a form at the left side which needs to be activated.

> **Note:**
> Click **Select** above the Search box and then select the check box to select all the forms.

3. Click the **Activate** button on the left side.

Figure 8-11 Activate Form



The selected form is activated and is displayed in **Dynamic Forms**.

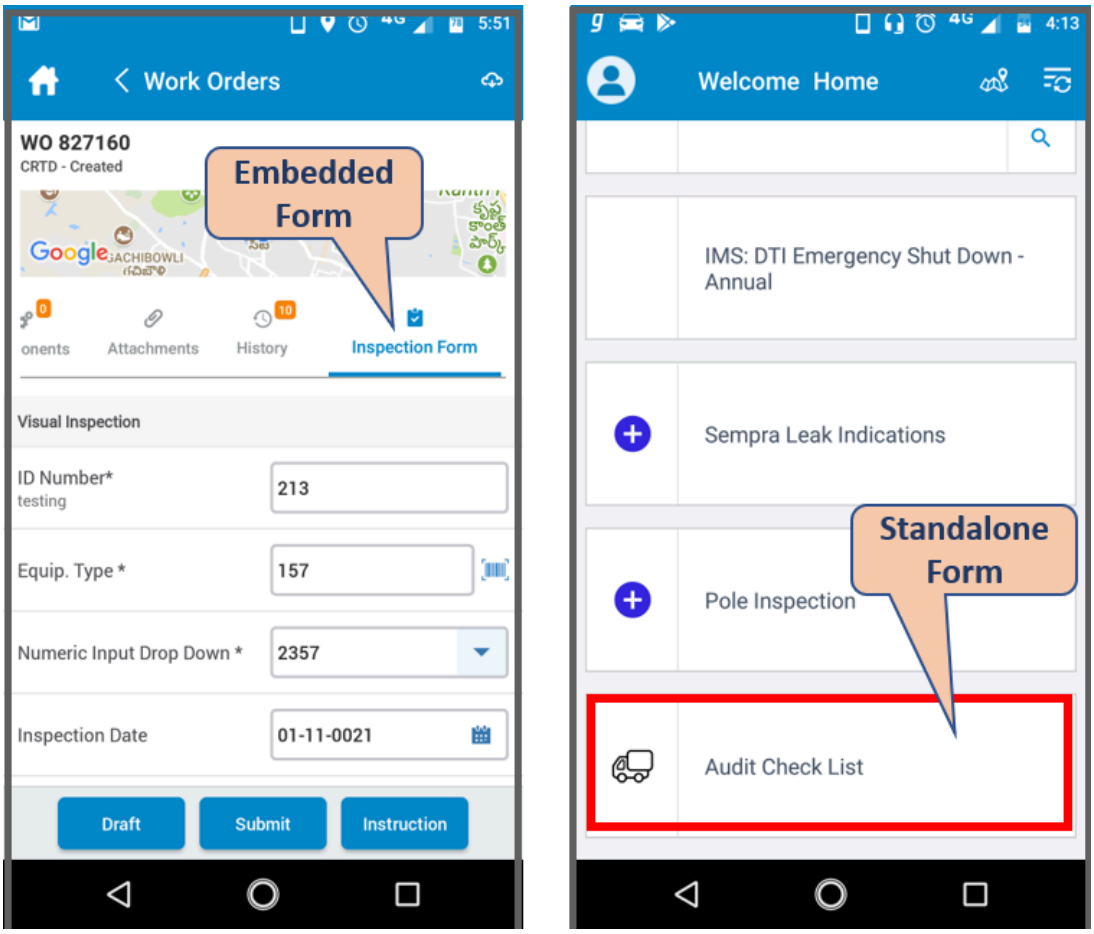
8.7. Configure Dynamic Forms and Form Fields

Use the **Dynamic Forms** menu to configure Embedded and Standalone forms and fields for the form to capture data like measurement readings and test results on the go.

As a dispatcher / supervisor / manager, create multiple forms and assign them to your team (field service technicians) who can capture and post data like measurement readings and test results on the go.

Embedded Forms are integrated to objects like Work Orders, Notifications, Equipment, and Functional Locations and appear as tabs while Standalone Forms configured appear new modules on the dashboard of the application.

Figure 8-12 Embedded and Standalone Forms



The corresponding table in SAP NetWeaver Gateway is **/INVCEC/DFORM**. Basic application configurations in this table are updated through the mWorkOrder Add-on / transport and you can update or enhance them using RACE™.

8.7.1. Create Dynamic Form

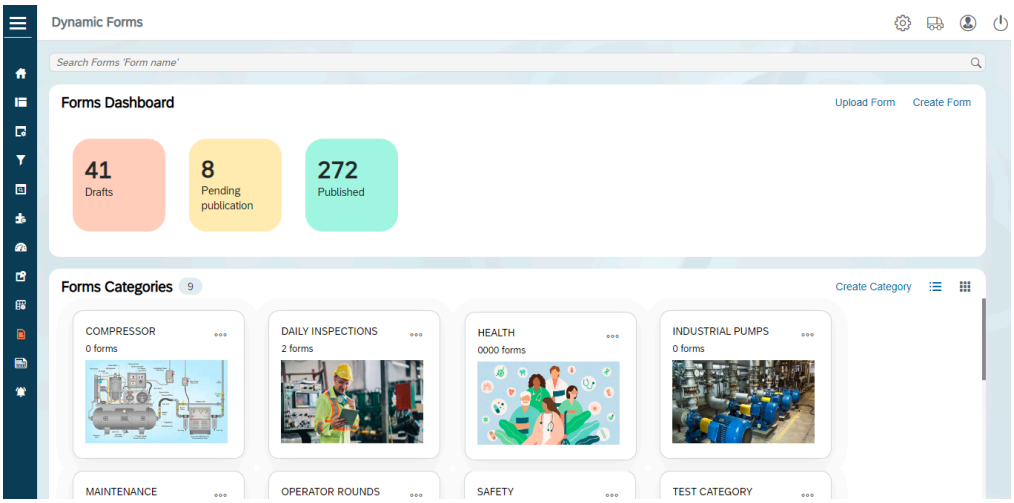
You can create dynamic forms with different fields, modify, and publish them. You can also group related fields in the form and expand and collapse them to view, which helps you easily identify the key sections and capture data quickly.

To configure Dynamic Forms:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

Figure 8-13 Dynamic Forms



2. Click the **Create Form** button at top right corner and click **Create Form** option. You can also create a Form using an existing template.
3. In the **Create Form** popup window, enter this information:

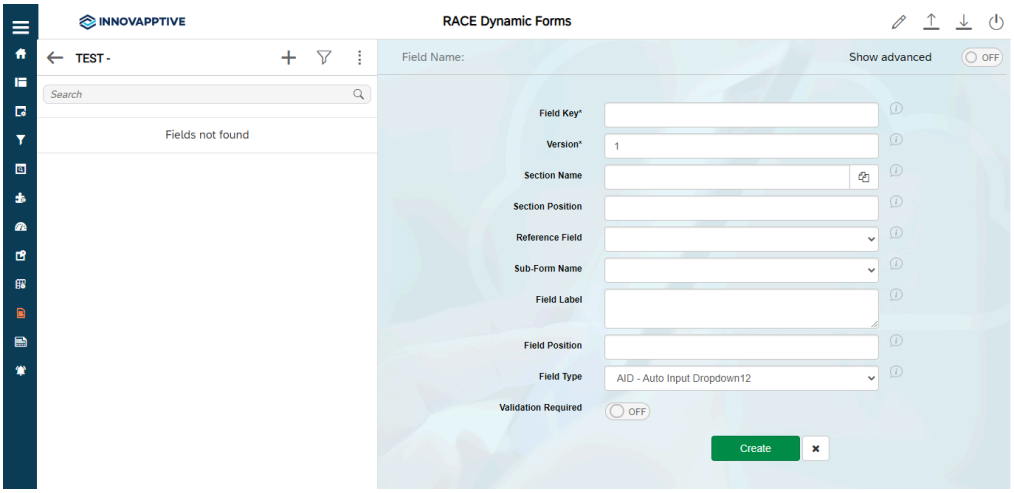
Table 8-1 Create Form attributes

Field	Description
Form Name	Unique ID or name to identify the form.
Form Description	Name of the Form shown on application UI.
Form Type	Type of Form like Single or Multi level.
Form Category	Category of the form. Once you select the category, the form automatically added to the selected category.

Field	Description
Attribute	Select the attributes like Plant, Order Type and Material for which the Form is applicable. Depending on the values you select, app filters the forms list shown to the field technician.

4. Click **Create**.

Figure 8-14 Dynamic Form Fields



5. In the **Create New Form Fields** pane, enter the following information:

Table 8-2 Dynamic Forms configuration attributes

Field	Description
Field Key	Unique identifier for the form to perform validations.
Valid From	Date from when the Form parameters are applicable.
Valid To	Date after which the Form parameters are not valid.
Version	Version number of the Form.

Field	Description
Section Name	Select the Section where the field appears on the form. Section contains a group of fields that share the same purpose, for styling and organization of form data.
Section Position	Position of Section on the Form layout.
Reference Field	Select Reference field for the form field. Reference field defines relationship between fields like defining Currency units related to Quantity values.
Sub-Form Name	To maintain navigation inside the form and it is maintained same as forms.
Field Label	Enter the text to be shown on the application UI.
Field Position	Position for the field compared to other fields on the form.
Placeholder	Text to describe the field like type or description.
Field Type	Element type for form field like Dropdown, text field. Following are a few of the supported field types for forms: **Table 8-3 UI Field Types** **Field Type ID** / **Field Type** / **Purpose** LF / Label Field / Displays only field value. DL / Date Label / Displays field value of type Date.

Field	Description		
	Field Type ID	**Field Type**	**Purpose**
	CB	Check Box	To enable and disable the check box.
	DD	Drop-Down	Allows to select of a value from a drop-down list of values.
	DF	Date Field	Allows to select a date.
	TF	Text Field	Allows to enter free text.
	SF	Scan Field	Scans a barcode or a enter free text.
	ID	Input Drop-Down	Allows to either select a value from a drop-down list of values or a enter free text.
	ARD	Array Field Line Display	Allows to add sub-form inside a field of a form.

Field	Description		
	Field Type ID	**Field Type**	**Purpose**
			Note: Select the form in the Sub-form field if you configure this field type. You can attach attachments, signatures, and images in the sub-forms. When you convert the sub form into PDF, the attachments and signatures also appear in the PDF.
	TIF	Time Field	Allows to add time.
	TIL	Time Label	Allows to add label for time.

Field	Description		
	Field Type ID	**Field Type**	**Purpose**
	TV	Text View	Allows to add text fields with more characters.
	GAI	Geo-Location Address Input	Allows to add the current location of device in the field.
	GAL	Geo-Location Address Label	Fetch the location of device and display in form.
	SGF	Signature Field	Allows to add signature.
	SMF	Sum Field	Calculates the field values and shows the sum in the form.
	NF	Numeric Field	Allows to enter a numeric value in a free text field.
	CL	Check Label	Displays a Check Box.

Field	Description		
	Field Type ID	**Field Type**	**Purpose**
	DDM	Drop Down Multi Selection	Allows to select multiple values from a list of values.
	IDM	Input Drop-Down Multi Selection	Allows to select either multiple values from a list of values or enter multiple values as free text.
	ATT	Attachment	Allows to add images as attachments to the form.
	DOC	Document	Adds a reference document in line with the form field.
	IMG	Image	Adds an image in line with the form fields.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Field Type ID</th><th>Field Type</th><th>Purpose</th></tr>
<tr><td>VI</td><td>Visible Input</td><td>Shows the possible values for the field on the screen but not as a list.</td></tr>
<tr><td>RT</td><td>Rating</td><td>Shows a scale to record or capture the readings.</td></tr>
</table>
</td></tr>
<tr><td>DD Dependency Fields</td><td>Select the Dependent field on the transaction screen that facilitates filtering of the field values.

Note:
Displayed only if the Field Type is set to DD - Drop Down or ID - Input Dropdown.</td></tr>
<tr><td>DD Values</td><td>Values for dropdown form elements in json format.</td></tr>
<tr><td>Dropdown Table</td><td>Source table from where the dropdown field values are populated.</td></tr>
<tr><td>Active</td><td>To show/hide the field on the form.</td></tr>
<tr><td>Overview</td><td>Enable/disable the form field in Overview section of the transaction screen.</td></tr>
<tr><td>Detail</td><td>Enable/disable to show the form field in Detail section of the transaction screen.</td></tr>
</table>

Field	Description
Default Value	Value to be populated in the form field.
Field Instruction	User instructions relevant to the field.
Field Color	Defines the color of the field on the Form in the UI.
Mandatory	To show the extension as Mandatory field on the transaction screen.
Follow up Indicator	To mandate the follow-up process for this Form.
Validation Required	To configure validation rules for the form field.
UI Validation	Specify the validations for user entered values. **Note:** This field is displayed only if the **Validation Required** is enabled.
UI Validation Message	Enter the alert message to be displayed if the UI validation is applicable. **Note:** This field is displayed only if the **Validation Required** is enabled.
API Type	Indicates the type of data source such as RFC, BOR, ODATA services. Currently we support only RFC, BOR.
System Name	Origin of the data source like SAP ECC and CRM.
API Name	Data provider that carries the data sets of the API.

Field	Description
API Field	Name of the field in the data source to be associated with form field. For example, you would want to retrieve Vendor details based on the Purchasing Document. Here, Vendor field is the API Field.
API Keys	Indicates the relation between API and the document. For the API field (Vendor), Purchasing Document is the API Key field.

6. Click **Create**.
   In this scree, you can,
   - Search fields using Search field on the left section.
   - Click Filter  icon to filter the fields.
   - Click the ellipses button to view **Version History** of the form, **Update**, **Copy**, and **Deactivate** the form.
   - Select **ON/Off** on the right section to show or hide advanced fields.

8.7.2. Build dynamic form using data from existing forms

Create a Form using existing form as a Template. Form Templates are defined in **Dynamic Forms** (Dynamic Form Templates) module of Admin section which can be accessed by tapping  icon on the top right of the screen.

To create a Form using Template:

1. Click **Dynamic Forms** on the left panel.
2. Click the **Add**  icon next to the search field and click **Create New Form from Template**.
3. In the **Copy forms from template** window, select the form to copy the properties.
4. Click **Copy**.

8.7.3. Add form fields by copying fields from existing forms

Configure additional fields on the form or copy fields from an existing form.

To create form fields using template:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. In the Form details screen, click the **Add** icon next to the search field and click **Copy from existing Form**.

> **Note:**
> Click **Create New Form Field** to add new form field properties manually.

4. In the **Select Form Name** window, click on the **Form** from where the fields are copied.
5. In the **Copy from existing Form** window, select the fields to copy to your Form.
6. Click **Create**.

8.7.4. Create forms using existing PDF forms

Configure an existing PDF document as fillable form and assign it to the user to capture the required data. This eliminates the need to manually create the form fields.

To create a form using PDF:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

2. Click the **Create Form** button at top right corner and click **PDF Form** option.
3. In the **Upload Form** pop up window, enter the following information:

Table 8-4 Create Form attributes

Field	Description
Form Name	Unique ID or name to identify the form.
Form Description	Name of the Form shown on application UI.
Form Type	Type of Form like Single or Multi level.
Form Category	Category of the Form.
Attribute	Select the attributes like Plant, Order Type and Material for which the Form is applicable. Depending on the values you select, app filters the forms list shown to the field technician.
Upload PDF Form	Click **Browse** button to upload the PDF form.

4. Click **Create**.

Note:
To update the form details or replace the attached PDF, click the **Update Form**  icon at the left side pane to modify the details in the Update Form pop up window.

8.7.5. Add reference documents or images to forms

Attach the reference documents or other files and images that help the mobile users complete their tasks without the need to manually check for reference files on other system or carry printed papers.

- To embed reference documents in the form, see Embed reference documents in the form *(on page 134)*.
- To add reference documents to the form, see Add reference documents to the form *(on page 136)*.
- To add images to the form, see Embed reference images in the form *(on page 141)*.

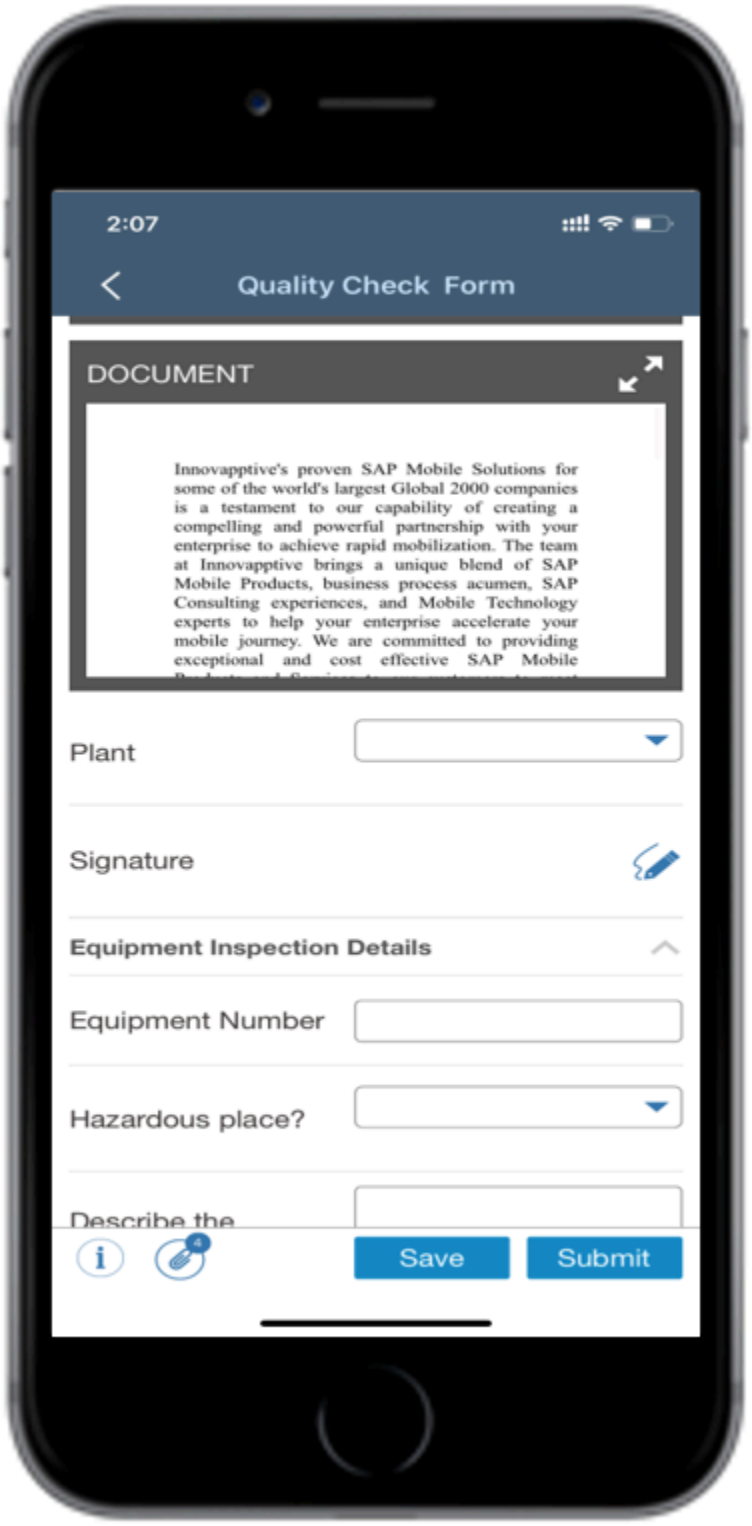
8.7.5.1. Embed reference documents in the form

Embed PDF, text document or excel sheets in the form. These quick reference documents give the mobile user an overview of the task in line with the form and make it easy for them to complete tasks on the form.

For example, you could embed reference documents like checklist or instruction manuals to help technicians carry out inspections. When filling the form, the personnel can check the reference files and identify other actions.

Document embedded in the form is displayed in the mobile application as:

Figure 8-15 Embedded Document in Form



To embed PDF or other files in the form:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field at the left side.
4. In the **Edit Form Fields** section, select DOC in the **Field Type** field.
5. In the **Upload File** field, browse and add the file.

> **Note:**
> **Upload File** field is displayed only if you select the **Field Type** value as DOC.

6. Click **Save**.

8.7.5.2. Add reference documents to the form

Attach additional reference files related to the tasks on the form. These files provide additional details of the task or asset to the mobile user.

> **Note:**
> These files are added to the Attachments section of the form in the mobile application.

To add documents or files to the form:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

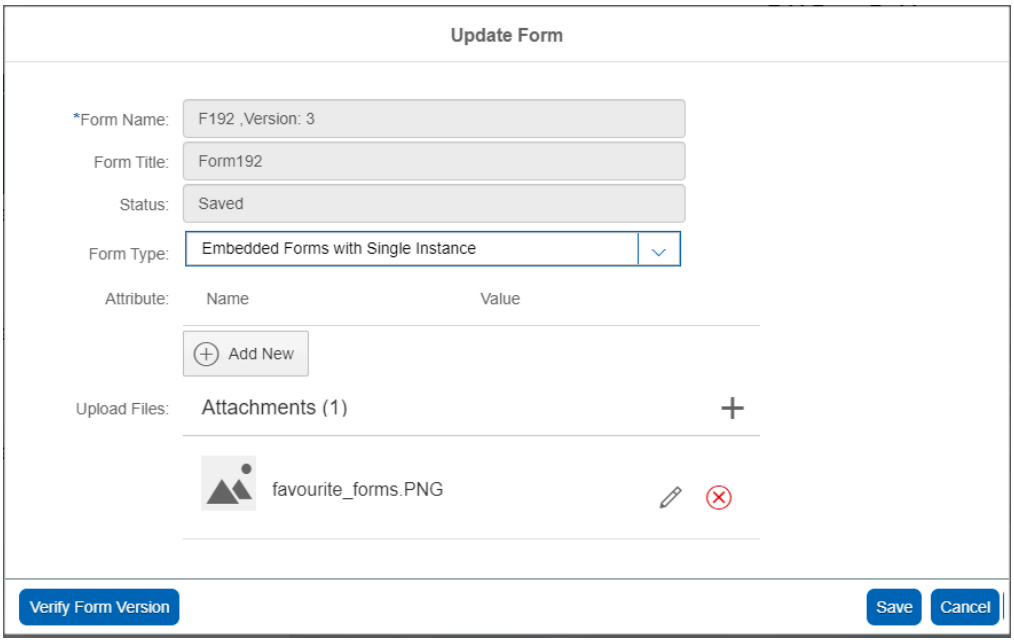
> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. In the **Form Details** screen, click the **Update Form** icon at the left side pane.

4. In the **Update Form** pop up window, click the **Add** + icon in the **Upload Files** section.

> **Note:**
> This option is displayed only for the existing forms and with this functionality you can,
> - Attach multiple documents to the single form and the document can be any format such as PDF, Excel, or Doc.
> - View the attached documents inside the form in the application.
> - Post the forms along with the attached documents to the backend.
> - Open the documents by clicking the hyperlink of the relevant document and view it in the third-party app.

Figure 8-16 Form Attachments



5. Browse and upload the file.

- To rename the attachment, click the Edit icon.

To remove the attachment, click the Delete icon.

6. Click **Save**.

   Result: To view the attachments added to the form on the mobile application, click the Attachments  icon. This icon is displayed only if the attachments are added to the form.

Figure 8-17 Form Attachments

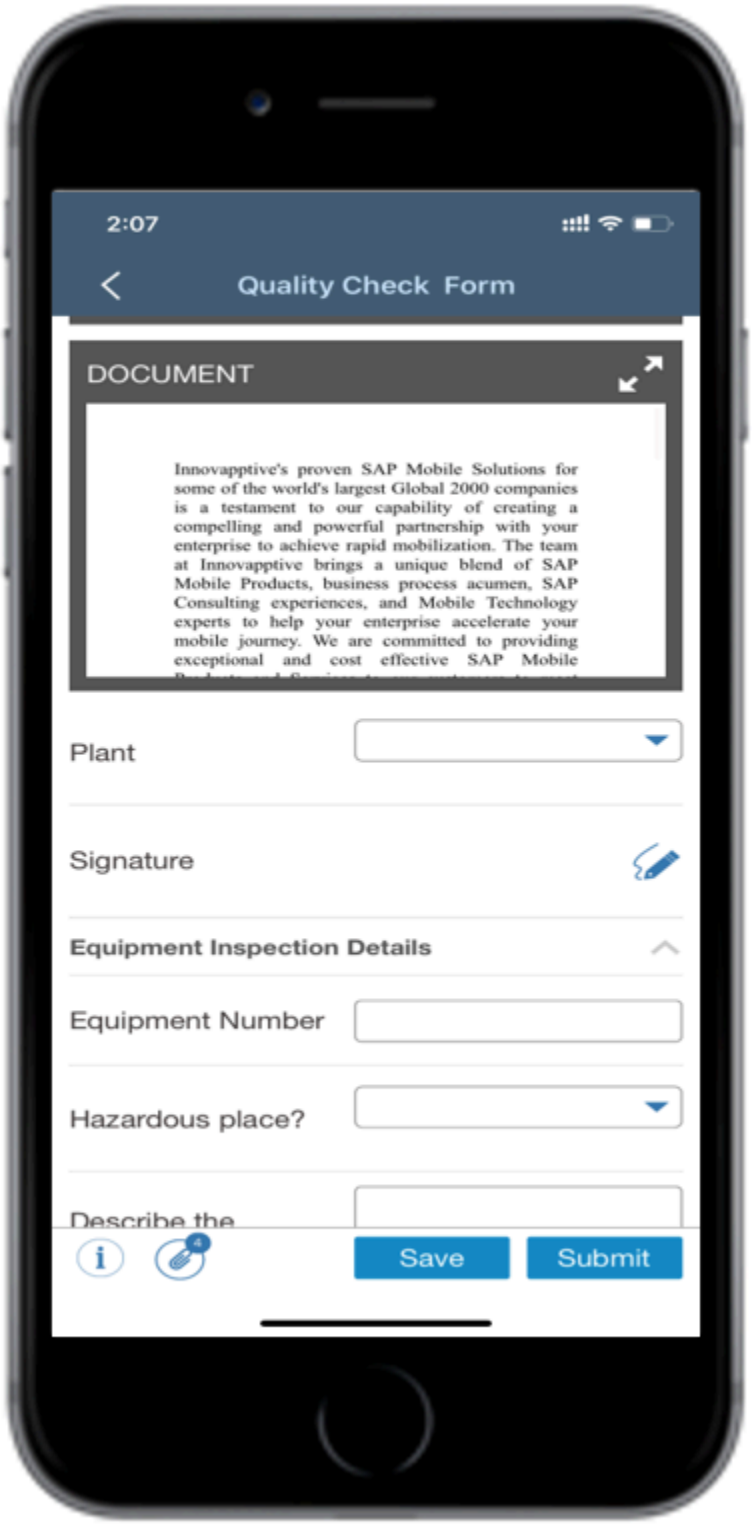
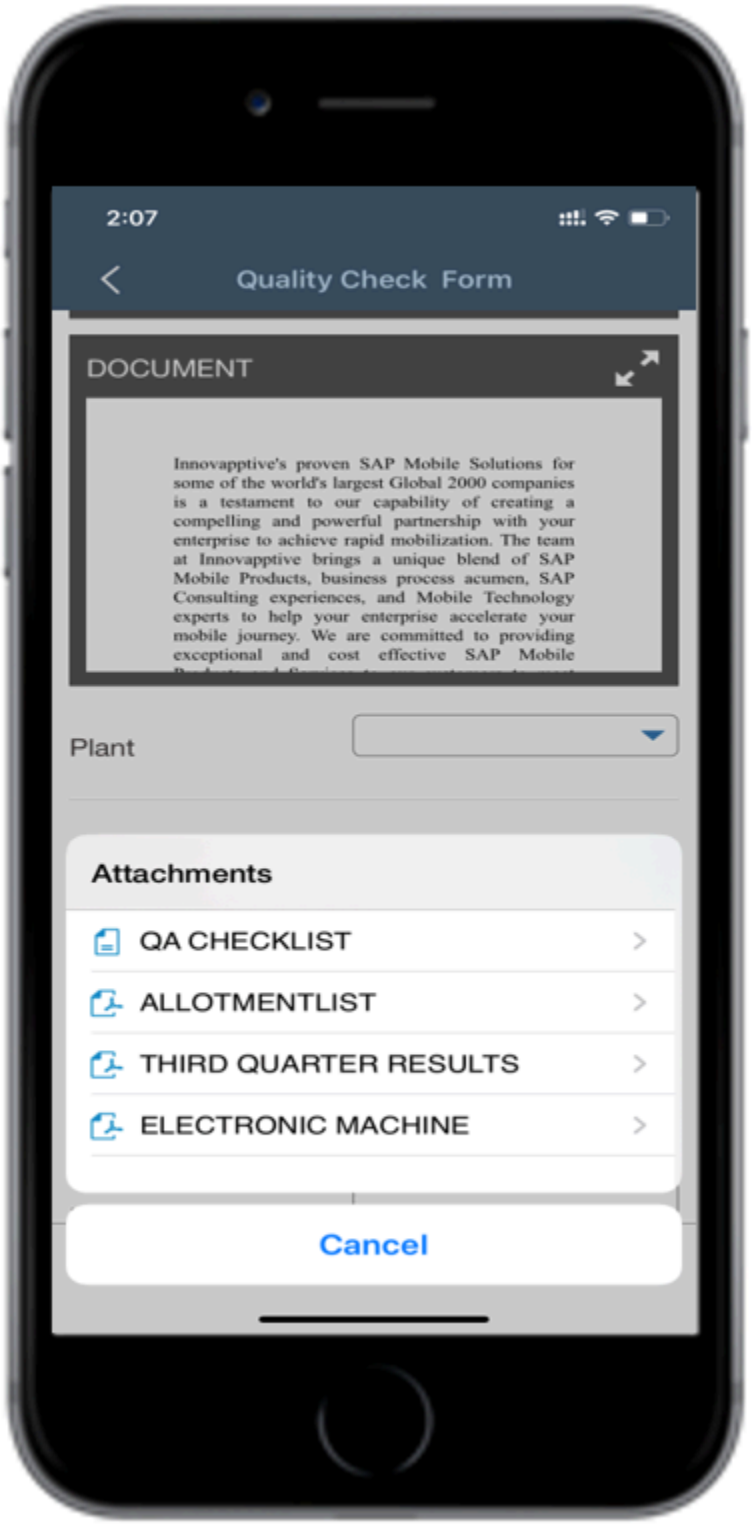


Figure 8-18 Form Attachments



8.7.5.3. Embed reference images in the form

Embed pictures/drawings in the form or in the form instructions section to help the mobile user understand the task and fill the form.

For example, when doing an inspection, the images provide a detailed view of the asset/ location to the personnel and help them to carry out inspections on the equipment.

Note:
To add an image in the instructions section of the form, create the form (instructions form) with a field of type IMG (Picture Field) and add the form as a sub-form to the form (parent) where you want to show the instructions.

To embed an image in the form:

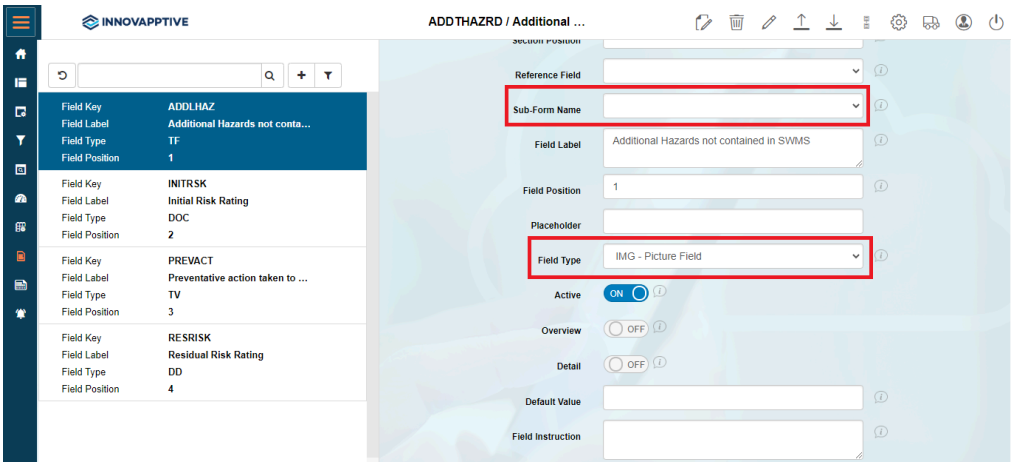
1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

   Note:
   You can also expand the Menu  and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, select IMG in the **Field Type** field.

   Note:
   To add the image to the instructions section of the form on the mobile application, select the form in the **Sub-Form Name** field.

Figure 8-19 Configuration for Embed Image in Form

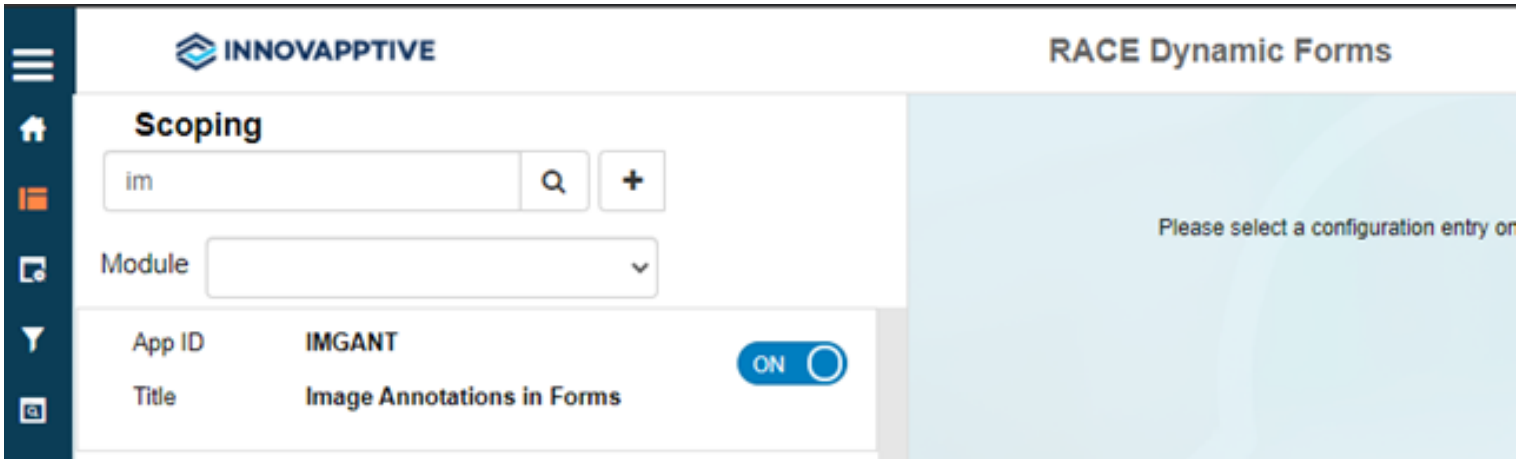


5. Browse and add the image file in the **Upload Image** field.

> **Note:**
> **Upload Image** field is displayed only if you select the Field Type value as IMG.

6. Click **Save**.

> **Note:**
> Image annotations is a feature where in captured images in the forms can be marked up with text, free-hand drawing with a variety of colors. You can undo these changes as well



8.7.6. Trigger email notifications from form using validations

Configure form fields to send an email notification to users when the business condition configured for the form field is successful.

For example, the material request email notification is sent to the inventory manager for motor spares replacement when the mobile user submits the inspection round form.

> **Note:**
> This functionality is available for both standalone and embedded forms.

To trigger email notification from form field:

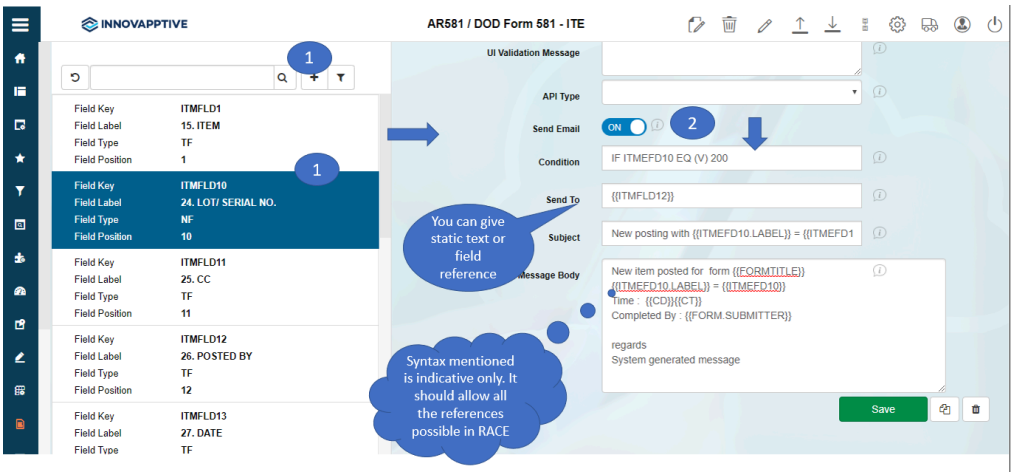
1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

   > **Note:**
   >
   > You can also expand the Menu  and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, turn ON the **Send Email** toggle switch.

   > **Note:**
   > To add the image to the instructions section of the form on the mobile application, select the form in the **Sub-Form Name** field.

Figure 8-20 Trigger email from form



5. Enter the validation in the **Conditions** field.
6. Enter the static text or field reference like {{FIELDKEY}} in the **Send To** field.
7. Enter the **Subject** and **Message Body** values.
8. Click **Save**.

8.7.7. Configure form field to populate dependent fields on the form

Populate dependent fields on the form when the user selects a value in the drop-down field. This eliminates the personnel to manually enter the values in fields when filling the form.

For example, you can configure to populate the Serial Number and Manufacturing Number fields depending on the Equipment selected.

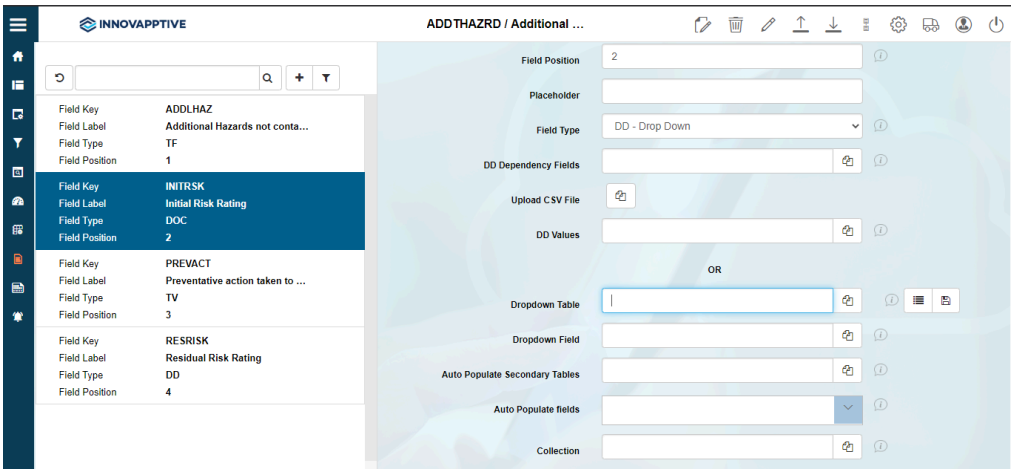
To populate dependent fields:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.

Figure 8-21 Populate Form Fields with Object



4. In the **Edit Form Fields** section, enter the following information:

Field	Description
Field Type	Select Drop Down
Dropdown Table	Source table from where the dropdown field values are populated.
Dropdown Field	Name of the SAP field to fetch data.
Auto Populate Secondary Tables	Additional table from where the dropdown field values are populated.
Auto Populate fields	Select the fields to populate.
Collection	
Text Required	

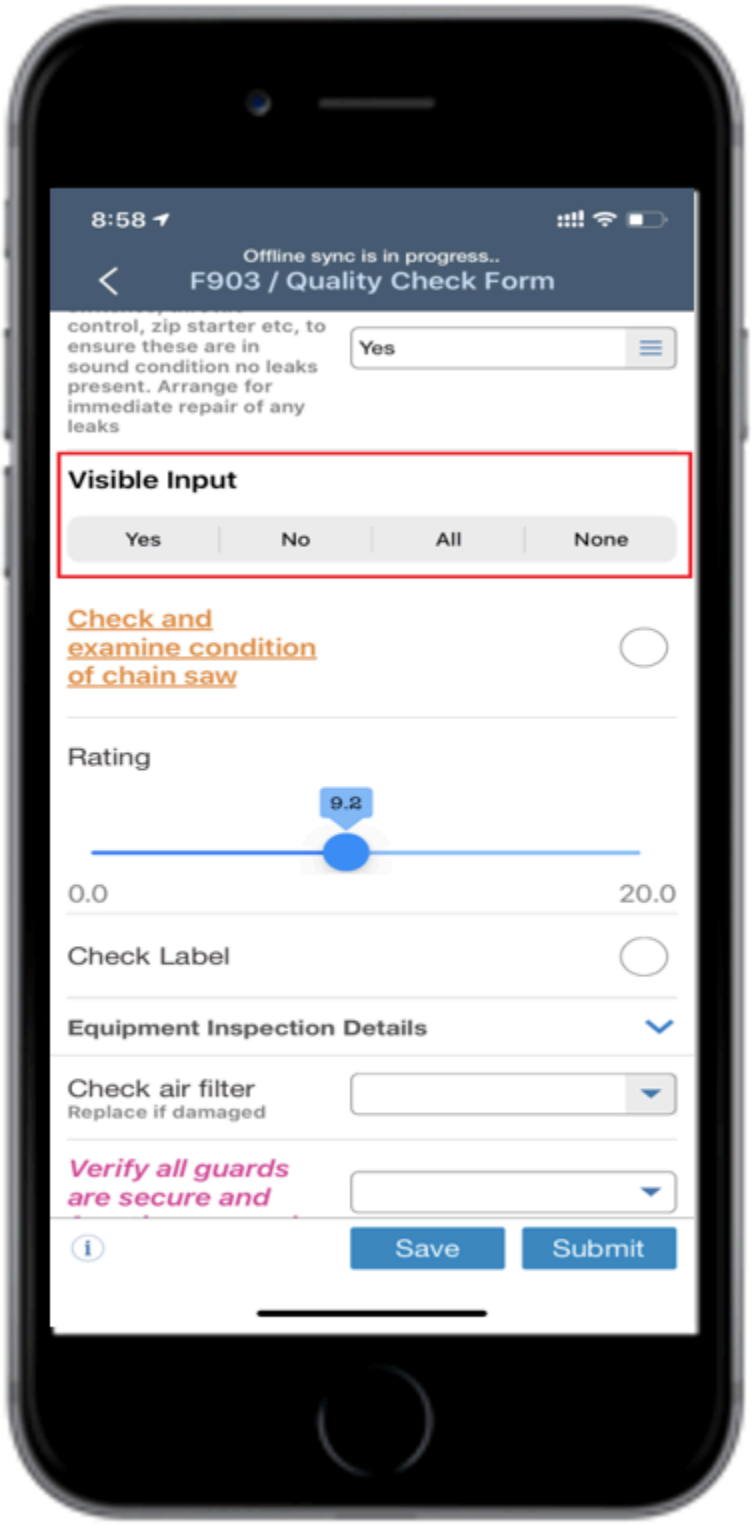
5. Click **Save**.

8.7.8. Configure form fields to show possible values in line with the field

Configure the form field (segmented control field) to show the available/ possible values on the screen so that the mobile user can tap on the value.

A segmented control field is similar to a drop down field but shows the available options on the screen instead of the list view. It is displayed in the mobile application as:

Figure 8-22 Visible Input Field



To configure visible input field:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu and click the **Dynamic Forms** option.

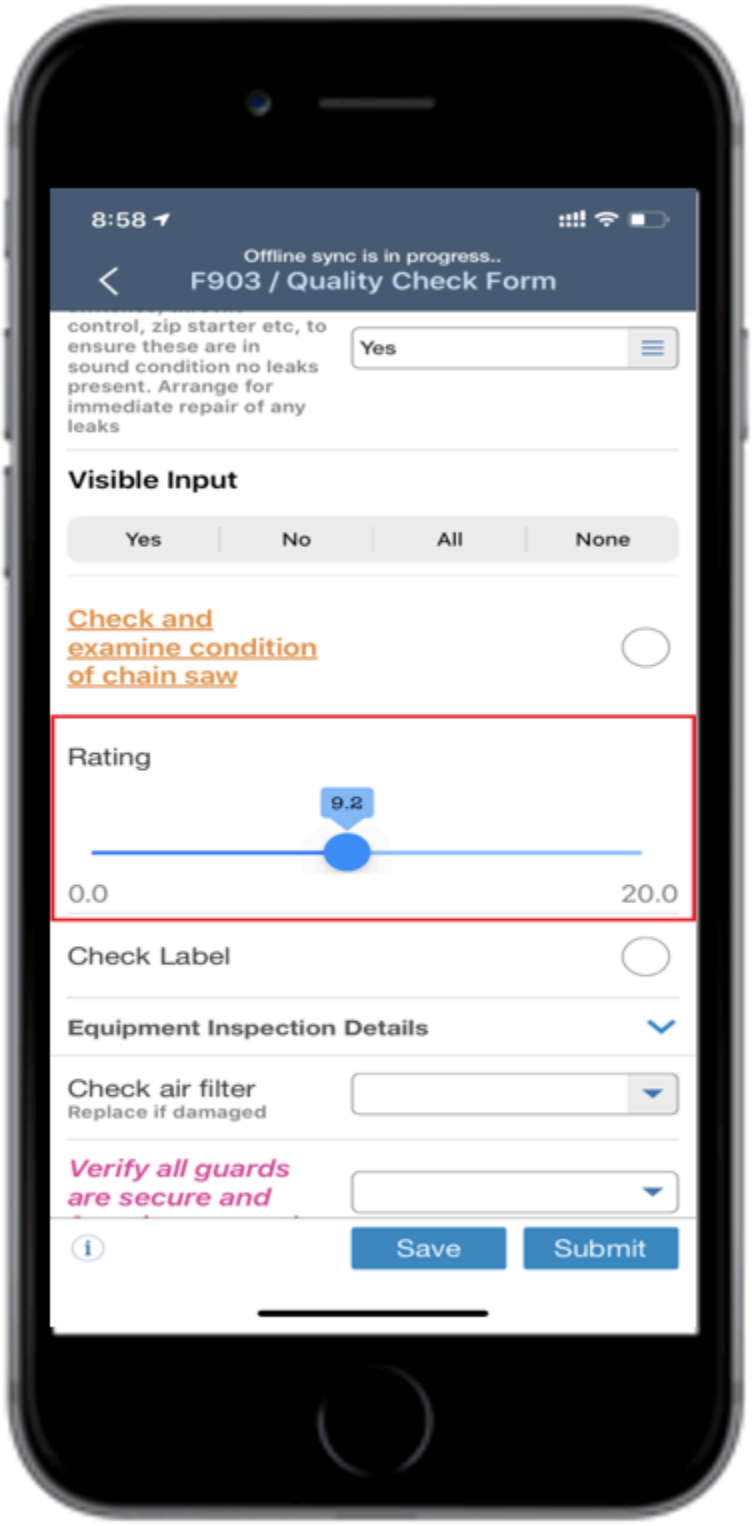
2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, select the **Field Type** as VI (Visible Input).
5. Click in the **DD Values** field to add possible values in the **Add Dropdown Values** window.
6. Click **Save**.

8.7.9. Configure form field to record measurement readings or ratings

Configure rating field on the form to show the values on a scale (slider) with minimum and maximum values so that the user can drag the slider to set the value.

For example, when filling the form, a technician could record the temperature or measurement and select the readings using the slider. This field is displayed in the mobile application as:

Figure 8-23 Rating Field on Form



To configure the rating field:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu  and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, select the **Field Type** as RT (Rating).
5. Enter the following values:
    - **Rating (Min)**: The minimum tolerance value for the field.
    - **Rating (Max)**: The maximum tolerance value for the field.
    - **Rating Interval**: Represents the value between the consecutive points on the scale.

      For example, if you enter *0.1* in this field, the value is increased by 0.1 if the user moves the slider to immediate point on the scale.
6. Click **Save**.

8.7.10. Trigger business object from form using validations

Configure form field to navigate to the business object like Notification when user action on the form does not meet the condition configured.

For example, when the personnel working on inspection or data collection tasks using forms in the mWorkOrder application, enters the Temperature value for the coolant below the threshold limit, the application navigates to the Notification Create screen where the user can fill the required details and create the notification.

To configure form field to trigger notification:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu  and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, turn ON the **Trigger Business Object** toggle switch.
5. In the **Conditional Logic** window, enter the validation for the form field.
6. Select While Filling Form or While Submitting Form in the **When to Trigger** field.
7. Enter the description in the **Info about the Trigger** field.

> **Note:**
> Description is shown as a pop up message on the mobile application.

8. Click **Save**.

8.7.11. Configure validations for form fields

Configure validations for form fields like hide, auto-populate, or disable fields depending on the value entered in another field, set fields as mandatory.

For more information on operators and expressions used to configure UI validations, see Build custom UI validations for form fields *(on page 151)*.

To configure validations for form fields:

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

> **Note:**
>
> You can also expand the Menu  and click the **Dynamic Forms** option.

2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section, turn ON the **Validation Required** toggle switch.

5. In the **Conditional Logic** window, enter the validation for the form field.
   You can configure the following conditions:
   - To hide the form field depending on the value in the dependent field(s).
   - To disable the form field depending on the value in the dependent field(s).
   - To mandate the user to fill the form field depending on the value in other field(s).
   - To show an error, warning, or an information depending on the value in other field(s).
6. Enter the text in the **UI Validation Message** field.

> **Note:**
> - This message is displayed on the pop up box in the mobile application.
> - This field is displayed only when you configure validations on the Mandatory/Optional and Error Handling tabs.

7. Click **Save**.

8.7.11.1. Build custom UI validations for form fields

Configure custom validations for the forms to suit your requirements.

On the Form Field details screen, turn ON the on the **Validation Required** field and navigate to the **Manual Validation** tab in the **Conditional Logic** window. Enter the string in the **UI Validation** field.

Following are a few examples of UI validation syntax:

Table 8-5 UI validation syntax

Validation Description	Validation syntax	Operator (#R)	Example
Date Validation	1:(D)(E) <PROPERTY> #R CD	EQ, NE, GT, LT, LE, GE	Shows error message if date selected in the field is current date
Mandatory Validation based on input in another field	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R EMPTY	EQ, NE	Prompts to enter Field1 if Field2 is empty

Table 8-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Value Validation	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if value in Field2 is 100
Value Validation with OR condition	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value1 OR <PROPERTY2> (V)Value2	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if the value in Field2 is 100 or Field3 is 50
Value Validation with AND condition	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value1 AND <PROPERTY2> (V)Value2	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if the value in Field2 is 100 and field3 is 50
Value Validation with between condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> BT (V)Value1 AND (V)Value2		Prompts to enter Field1 if the value in Field2 is between 100 and 300
Auto-populate value validation	1:(AP) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ (V)Value		Populates Field1 as 40 if the value in Field2 is 100
Auto-populate Date validation	1:(DAP) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ CD		Populates Field1 as 40 if current date is selected Field2
Auto-populate validation with OR condition	1:(AP) PROPERTY1 EQ (V)Value1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Populates Field1 as 40 if the value in Field2 is 50 or Field3 is 60

Table 8-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Auto-populate validation with AND condition	1:(AP) PROPERTY1 EQ (V)Value1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Populates Field1 as 40 if the value in Field2 is 50 and Field3 is 60
Disable Value Validation	1:(DI) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ (V)Value		Disable Field1 if the value in Field2 is 100
Disable Date Validation	1:(DDI) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ CD		Disable Field1 if the value in Field2 is current date
Disable validation with OR condition	1:(DI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Disable Field1 if the value in Field2 is 100 or Field3 is 200
Disable validation with AND condition	1:(DI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Disable Field1 if the value in Field2 is 100 and Field3 is 200
Hide Value Validation	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value		Hides Field1 if the value in Field2 is 100
Hide validation with OR condition	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Hides Field1 if the value in Field2 is 100 or Field3 is 200
Hide validation with AND condition	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Hides Field1 if the value in Field2 is 100 AND Field3 is 200

Table 8-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Regular Expression for Decimal Places	1:(RE) PROPERTY1 EQ ^([0-9]*)(.([0-9]{0,2})?)?$		Shows the value entered in field with two decimals like 127.34
Include Validation	1:(IN)(E) <PROPERTY1> IN (V)Value1 IF <PROPERTY2> #R <PROPERTY3>	EQ, NE, GT, GE, LE, LT	
Calculate difference between two Time fields	1:(TC) <PROPERTY1> #R <PROPERTY2>	SUB	
Calculate difference between two Date fields	1:(DC) <PROPERTY1> #R <PROPERTY2>	SUB	
Calculate difference between two fields	1:(F) <PROPERTY1> SUB <PROPERTY2>	SUB	Populates the result in the field for which the validation is configured
Add values in two fields	1:(F) <PROPERTY1> ADD <PROPERTY2>	ADD	Populates the result in the field for which the validation is configured
Validations with Addition and Division	1:(F) (<PROPERTY1> ADD <PROPERTY2>) DIV PROPERTY3	ADD, DIV	Populates the result in the field for which the validation is configured
Validations with Addition and Division - Complex	1:(F) (<PROPERTY1> ADD <PROPERTY2>) DIV (<PROPERTY3> ADD <PROPERTY3>)	ADD, DIV	Populates the result in the field for which the validation is configured

Table 8-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Auto-populate fields based on calculation	1:(AP) <PROPERTY1> EQ (V)100 IF (<PROPER-TY2> ADD <PROPER-TY3>) GT (V)3		Populate Field1 as 100 if the sum of Field2 and Field3 is greater than 20
Mandate fields based on calculation	1:(E) <PROPERTY1> EQ MANDIT IF (<PROPER-TY2> SUB <PROPER-TY3>) GT (V)3		Mandates Field1 if the difference between values in Field2 and Field3 is greater than 20

8.7.12. Trigger Business Objects from Forms

This configuration allows you to create a business object (notification or work order) from the from itself and assign the form to business object automatically.

To trigger business objects from forms:

1. Click  on the left and click **Dynamic Forms**.
2. In the Home screen, enter the name of the form in the **Search Forms** field or select a form from the **Drafts** or **Categories** section.
3. Click on the form field.
4. In the **Edit Form Fields** section,
    - Turn **ON** the **Validation Required** toggle switch.
    - In the **Business Object** field, select **NO-Notification**.
    - In the Conditions field, enter the condition. For example, 003 GT (V)60.

      003 = Field name

      GT = Greater than

(V) = Value

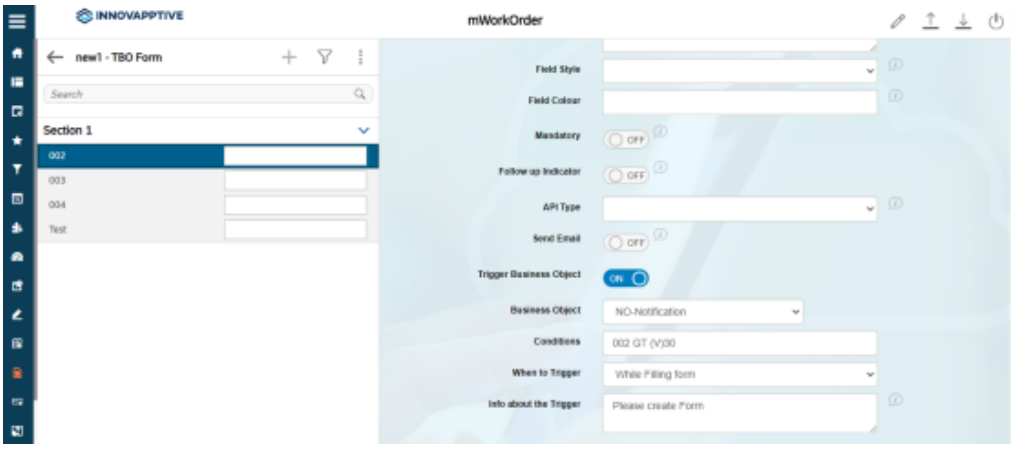
60 = Number

With the above condition, if you enter a value greater than 60 then a message is triggered to create a Notification.

- In the **When to Trigger** field, select **While filling the Form** or **While Submitting the Form**.

5. Click **Save**.

Figure 8-24 Trigger Business Object from the Form



8.8. Configure user access and role for dynamic forms

Configure access for the form so that the users (technician) can take specific actions on the Form and post the data to SAP.

You can assign the following access roles to users:

- **Submit**: Allows to draft or submit the form for approval.
- **Accept**: Allows to modify and accept the form.

To configure access role for the form:

1. Login to SAP ECC.
2. Go to transaction **/INVMGO/DOCFORM**.
3. Enter the following information:

Table 8-6 /INVMGO/DOCFORM attributes

Field	Description
Application Name	RACECLIENT
Form ID	Alphanumeric code to identify the Form.
User Role	Code of the role assigned to user for authorization.
Access	Indicates the user action on the form: ◦ Submit ◦ Accept ◦ Edit and Accept

4. Save the configuration settings.

8.9. Create New Versions, Edit and Publish RACE Dynamic Forms

With the forms versioning functionality you can modify a form and deploy it in production directly. This functionality eliminates the lengthy change management process of moving forms from development, to QA, and to production environments when changes are minimal.

A form has the following statuses:

- **Saved**: When you create a new form or when you create a new version from an existing form by clicking the **Duplicate Form Version** button, it goes into the **Saved** status. You can continue to edit the form in this state.
- **Verified**: Once the form is created or edited, it is verified by clicking the **Verify Form Version** button. The form then goes into the Verified status. Verification is normally done by another person who is responsible for that.
- **Published**: When the form is verified, publish it by clicking the **Publish Form Version** button. The form moves into the **Published** status. This **Published** from is seen in the mobile app.
- **Archive**: When you publish a version of a from, other versions go into the Archive status.

> **Note:**
> Only one version of a form will be in the **Saved**, **Verified**, and **Published** state. **Archived** state can have multiple versions as old versions are moved to this state. When you publish an **Archived** version and the state changes to **Published** and the existing published version moves to the archived state.

To create new versions, edit and publish them:

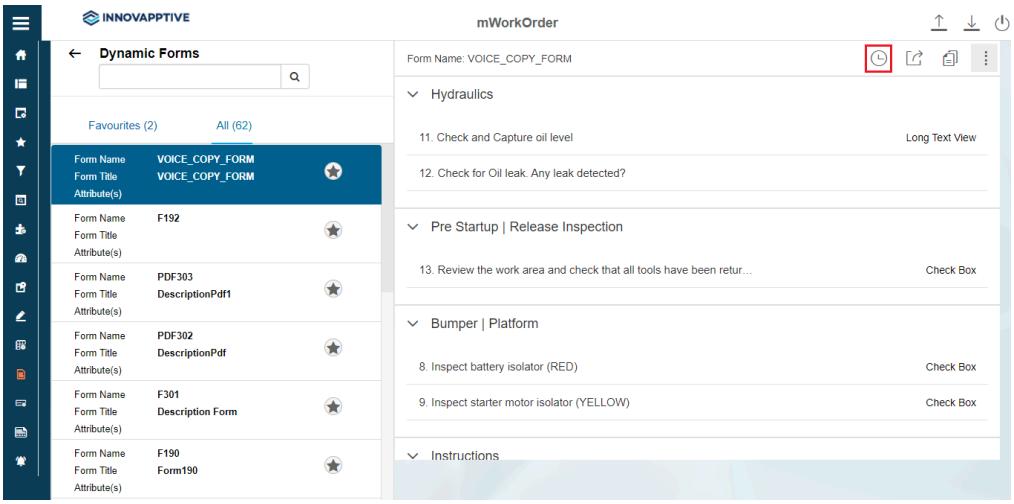
> **Note:**
> User with specific roles and related permissions can do tasks like create forms, and modify and publish them. For information, see User roles and authorizations for working with forms *(on page 162)*

1. Click the **Dynamic Forms** button on the left panel and click the **Dynamic Forms** option.

   > **Note:**
   > You can also expand the Menu  and click the **Dynamic Forms** option.

2. Select the form from **Drafts**, **Pending Publication** or **Categories** sections.
3. Click the **Form Version History**  icon.

Figure 8-25 Check Form Version History

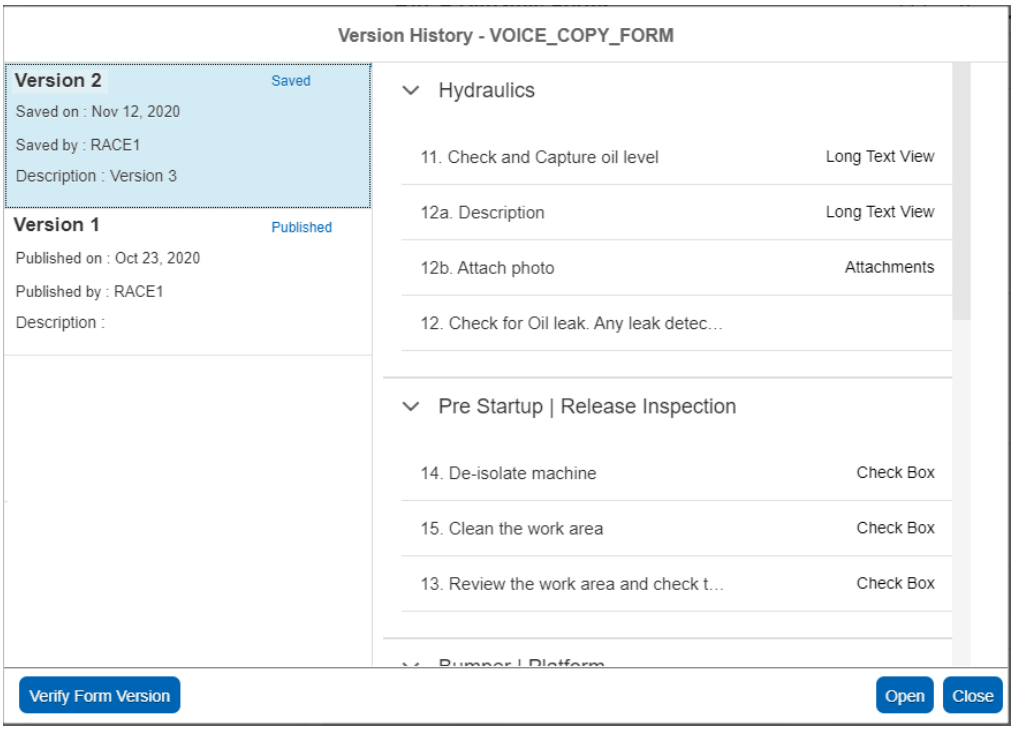


Note:

You can also click **Open Form** icon after selecting the form and click the **Update Form** icon at the left side to change the form status from Verified to Published and so on. The process is defined in the following steps.

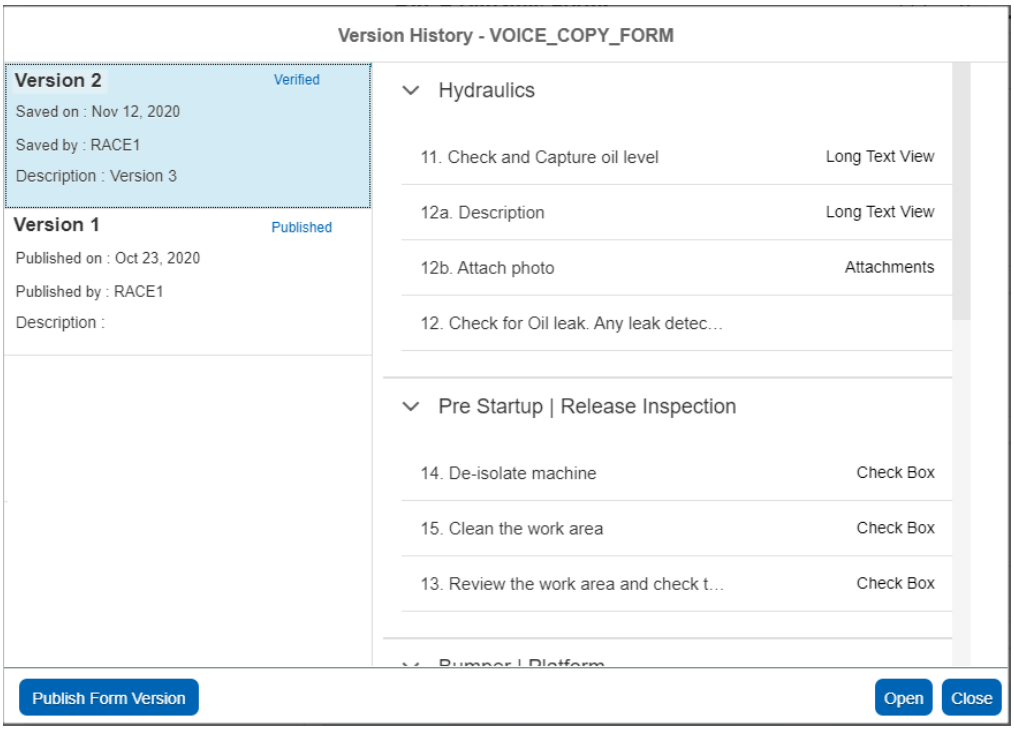
4. Select the version at the left side (for example, Version 2) which is in **Saved** status.

Figure 8-26 Verify Form Version



5. Click the **Verify Form Version** button.
6. Enter the **Version Description** in the **Confirmation** window.
7. Click **Yes**.
   The form version (Version 2) is verified successfully and is changed to Verified status.
8. Select the version (for example, Version 2) which is in **Verified** status.

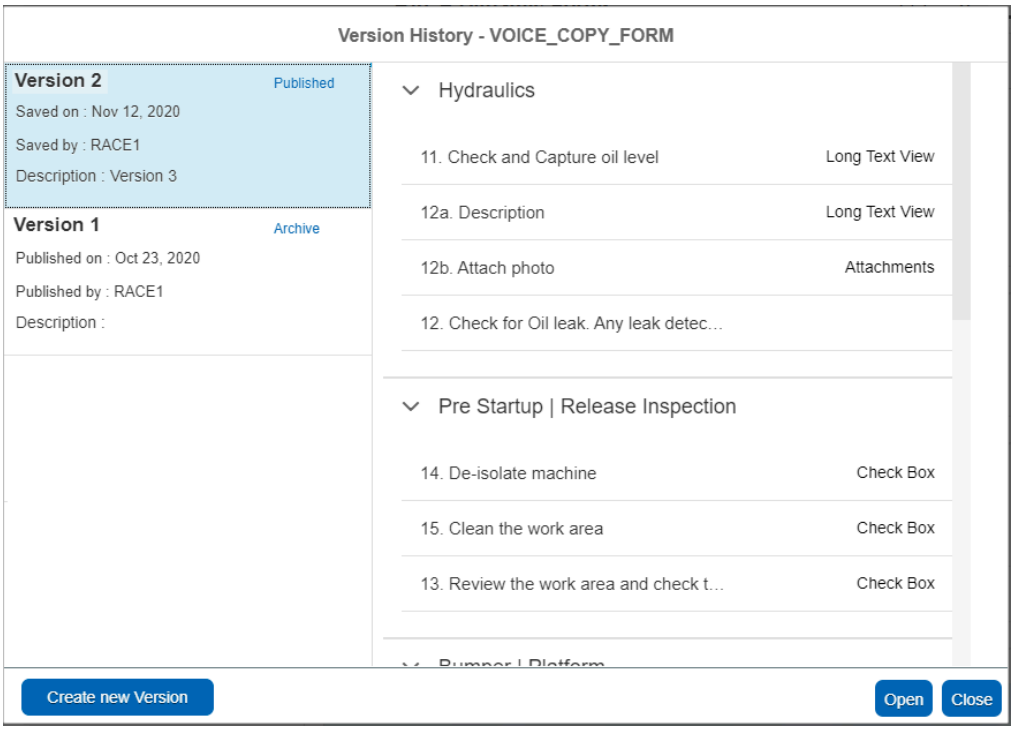
Figure 8-27 Publish Form



9. Click the **Publish Form Version** button.
10. Enter the **Version Description** in the **Confirmation** window.
11. Click **Yes**.

    The form version (Version 2) is published successfully and is changed to the **Published** status and the previous version (Version 1) is changed to the **Archive** status.

Figure 8-28 Form Published Status



You can view the published form in the mobile app.

12. Select the version (for example, Version 2) which is in the **Published** status.
13. Click the **Create new Version** button to create new version.
14. Enter the **Version Description** and click **Yes**.

    The new version is created and is changed to **Saved** status.

8.9.1. User roles and authorizations for working with forms

User roles with read and write authorizations are defined based on business requirements. These roles add a level of scrutiny and ensure that a form meets the needs of the business. A combination of the following roles can be used for the form creation and versioning processes.

- **Form Developer**: This role has authorization to create forms or update the existing ones which are in the **Saved** or **Verified** mode. Form Developer can create new versions or revert to older versions of a form. This role also provides authorization to the user to download a form and upload it to a different environment.
- **Form Admin**: This role, with version management access, can update an existing form that is in the **Saved**, **Verified** or in the **Published** mode.

  Power User: This role allows users to review the form. Users can review and inform the changes to the Form Developer role. Power User have access to the forms that are in the **Verified** or **Published** mode.

  End User: These users have access to those the forms that are in the **Published** mode.

  Test User: These roles can view the forms that are in the **Saved**, **Verified** or **Published** mode. Their role is to check the form before moving to **Verified** and **Published** modes.

Table 8-7 User Roles and Permissions in RACE Dynamic Forms

Role	Create	Save	Review	Publish
Form Developer	Yes	Read, Edit	Read, Edit	Read, Edit
Form Admin	NA	Read, Edit	Read, Edit	Read, Edit
Power User	NA	NA	Read	Read
End User	NA	NA	NA	Read
Test User	NA	Read	Read	Read

Table 8-8 User Roles and Permissions Devices for Technicians / Operators (Phone and Tablet)

Role	View Access
Power User	Published or Verified
End User	Published
Test User	Published, Verified, or Saved

8.10. Migrate forms from an older version (2009 and below) to a new version (2009 SP03 and above)

If you are on version 2009 or older, you must migrate using the following migration procedure to move to version 2009 SP03 and later versions.

To migrate form from version 2009 and older versions:

1. Move RACE TR.
2. Run the following program to update the forms with **Published** status (This is a one-time activity after migrating to a newer version of the application).

   Tcode: SE38

   Report Name: /INVCEC/FORM_TABLES_UPDATE

   New Customers: Available as part of 2009 SP03

   To update forms in mWorkOrder, select application as MWORKORDER.
3. Create the following roles and assign roles to users based on business requirements.

   Table 8-9 User Roles

User	Role	Description
Form Developer	Z_RDF_FORM_DEVELOPER	Role for RDF Form Developer
Form Admin	Z_RDF_FORM_ADMIN	Role for RDF Admin
Power User	Z_RDF_FORM_POWERUSER	Role for RDF Poweruser
Form EndUser	Z_RDF_FORM_ENDUSER	Role for RDF END User
Form TestUser	Z_RDF_FORM_TESTER	Role for RDF Tester

   User with specific roles and related permissions can do tasks like create forms, and modify and publish them. For information, see User roles and authorizations for working with forms *(on page 162)*

8.11. Optimize Performance and Define Offline Configuration Parameters

Use the **Performance** menu to define the performance optimization and offline configuration parameters for the application.

The corresponding Table in SAP NetWeaver Gateway is **/INVCEC/DATACONF** and the transaction code is **/n/INVCEC/DATACONF**. Configurations in this table are populated through the mWorkOrder Add-On transport, and can be updated or enhanced using RACE™.

To update a Data Configuration entry:

1. Click **Performance** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing configuration to populate the properties in the **Create Performance** section.
3. In the **Create Performance** section, enter this information:

Table 8-10 Performance configuration attributes

Field	Description
Module Name	Select the module to which the performance configuration is applicable.
Request	Select the Service collection that fetches data from SAP to mobile.
URL	Specify the additional filters to the existing entities.
Request Desc	Describe the Service collection that fetches data from SAP.
Data Format	Specify the data format like JSON or XML for the mobile application. **Note:** ◦ XML supports Delta and Skip token and is recommended for Transactional data. ◦ JSON supports only Skip token functionality and is recommended for Master Data.

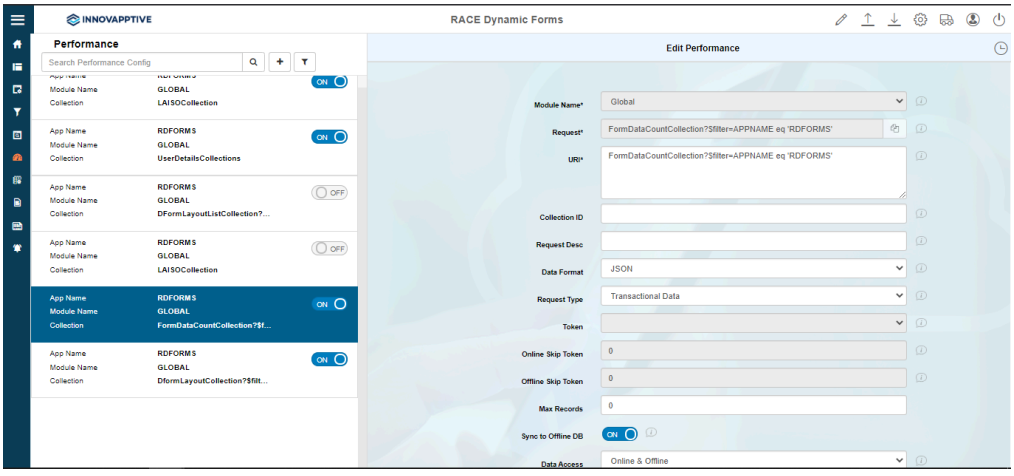
Field	Description
Request Type	Select whether the data is Dynamic, Master or Transactional. This is for information purpose only.
Token	Select the Token type used for subsequent calls of the Collection. For example, Skip token is used to load specified size of data while Delta token is used to load only delta data on subsequent requests. **Note:** This field is enabled only if Data Format is **XML**.
Online Skip Token	Enter the number of Collection records that must be fetched when the device is connected to the network. The Collection call fetches data records in increments of the Page Size. **Note:** This field is enabled only if Skip Token is implemented.
Offline Skip Token	Enter the number of Collection records that must be fetched when the device is not connected to the network. The Collection call fetches data records in increments of the Page Size. **Note:** This field is enabled only if Skip Token is implemented.

Field	Description
Max Records	Define the maximum number of records to be fetched into the mobile application.
Load More	This is applicable only for Skip Token category. If Load More is enabled, the Collection records are retrieved with the Load More capability based on the Page Size.
Sync to Offline DB	Helps you select whether the Collection data is retrieved and available when the device is not connected to the network.

Data Access	Select the option to enable data retrieval. Possible values:
	a. Offline
	b. Online & Offline
	Following is the data access and retrieval process for each of these options.
	
	Offline: User initiates Data Retrieval Call
	`> Is data available in App Offline Store of device?`
	`> YES – Retrieve data from Offline Store`
	`> NO – Service call to SAP`
	`> Is Network available?`
	`> YES – Service call to SAP`
	`> NO – No records found`
	
	Online & Offline: User initiates Data Retrieval Call
	`> Is Network available?`
	`> YES – Service call to SAP`
	`> NO – Retrieve data from Offline Store`
	`> Is data available in App Offline Store of device?`
	`> YES – Retrieve data from Offline Store`
	`> NO – No records found`

Field	Description
Filter Condition	Enter the condition/logic to filter data in a collection.
Access Category	Enable/disable extension field based on user access: ◦ T-Transaction Code ◦ U-User Group ◦ R-Role ◦ A-Authorization Object.
Access Value	This field is used for data related to security. Based on the access category, data in this field needs to be maintained. For example, if you maintain a transaction code in the **Access Category** field then you must enter the t-code name in this field. Module/feature is displayed in the mobile application only if the user has access to the transaction code.

Figure 8-29 Performance configuration



4. Click **Save**.

   Innovapptive recommends you to:

- Configure Master Data in JSON, Skip Token, Load More and Offline Only as:
  - Master data does not change as often compared to transactional data. Synchronizing master data and accessing it only from offline store helps improve the application performance and user experience.
  - Load More allows loading smaller packets of large volume of data thereby allowing user to only search for and work with smaller pools of data until request for additional data is initiated.
- Configure Transaction Data in XML, Delta Token and Offline Only as:
  - Transaction data changes regularly, XML and Delta Token capabilities improve the delta data synchronization.
  - Offline Only access improves the application performance and user experience. Although for smaller volumes of transaction data, Online & Offline is recommended for real-time data availability and backend data validations to improve the accuracy of transaction data processing.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains fields configured to optimize app performance with attributes like Module Name, Request and Request Type.

8.12. Assign Embedded form to dynamic screen (tab)

Once you configure a form and fields for the form, you can assign the form to the transaction screen.

To add form to dynamic screen:

1. Click **Screens** on the left panel.
2. Select the Dynamic screen where you want to view the form details. See Create Custom Tabs (Screens) *(on page 102)* to create a dynamic screen.
3. Do the following configurations:

Table 8-11 Embedded Form attributes

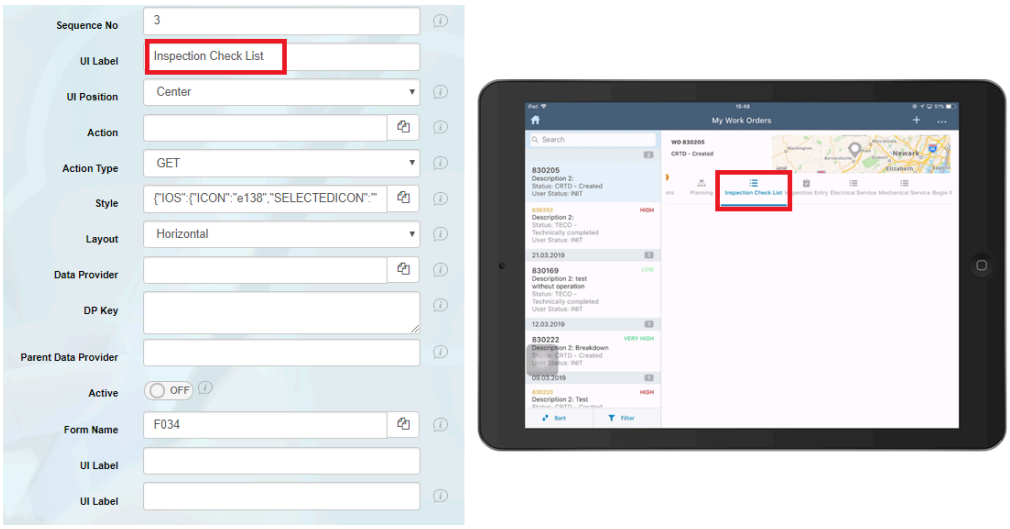
Field	Value
Module	Name of the module where the dynamic screen is configured.

Field	Value
Screen	Name of the screen where the embedded form is configured.
Screen Type	Dynamic Tab
Screen Area	Body
Element	Tab
Element Type	Multi Form Tab
Action Type	GET
Layout	Horizontal
Form Name	Enter the name of the forms or click  to select the forms in **Choose Forms** pop up window.

4. Click **Save**.
5. Configure the form in the ECC table /INVMGO/DOCFORM. Configure access role for dynamic forms *(on page)*.

Dynamic form is displayed in the mobile app as:

Figure 8-30 Dynamic Screen - Embedded Form



8.13. Configure Standalone dynamic form

The created form can be used as a standalone form too

To configure Standalone form:

1. Click **Scoping** on the left panel.
2. Click the Add  icon next to the search field.
3. Do the following configurations:

Table 8-12 Dynamic Form - Scoping

Field	Value
Type	Dynamic Form
System ID	ECC
Module Name	Name of the module where the dynamic screen is configured.
App ID	Unique identity (alpha numeric) to specify the ID for the application.
Description	Description of the dynamic form
Title	Title of the dynamic form
Action	Define the action to be performed when user clicks on the element (tiles, buttons, icons, etc.) on the screen. Click  icon to define Action Type and Screen Name on the **Choose Actions** window.
Active	ON

4. Click **Create**.
5. Click **Screens** on the left panel.
6. Select the Dynamic screen where you want to view the form details. See Create Custom Tabs (Screens) *(on page 102)* to create a dynamic screen.
7. Do the following configurations:

Table 8-13 Standalone Form attributes

Field	Value
Module	Name of the module where the dynamic screen is configured.
Screen	Name of the screen where the Standalone form is configured.
Screen Type	Create Screen
Screen Area	Body
Element	Form
Element Type	Header Form
Action	Select Screen Name
Layout	Horizontal
Form Name	Enter the name of the forms or click  to select the forms in **Choose Forms** pop up window.

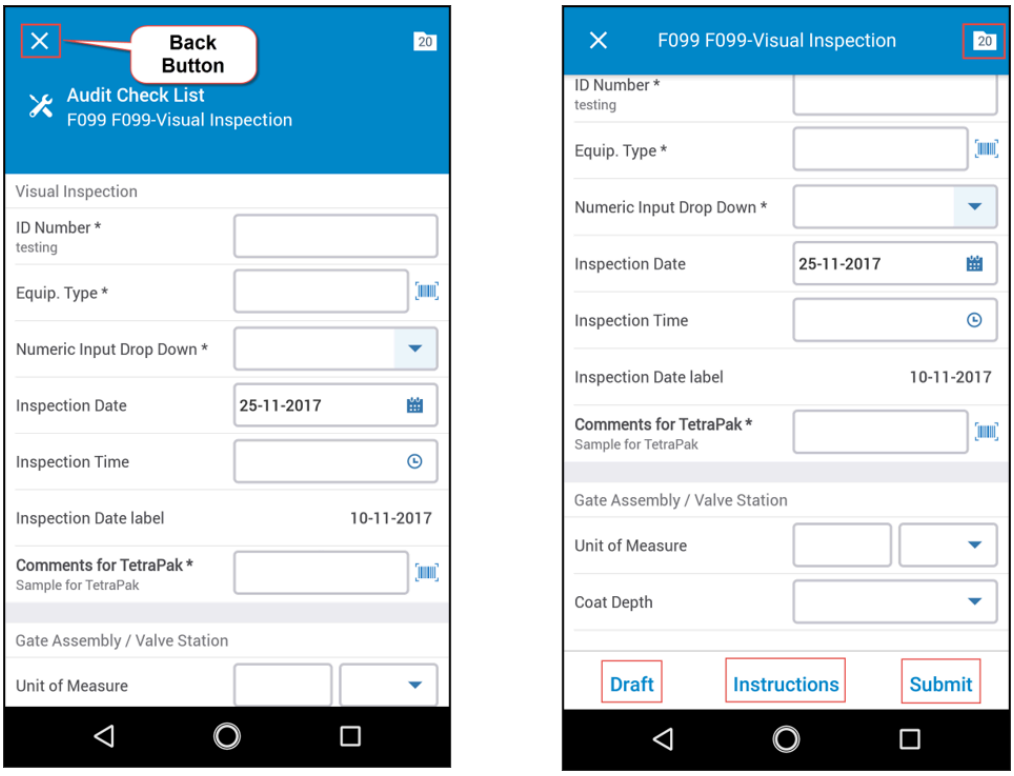
8. Click **Save**.

Note:
Similarly, configure the screen components like buttons for the form.

9. Configure the form in the ECC table /INVMGO/DOCFORM. See Configure access role for dynamic forms *(on page)*.

Standalone forms are displayed in the mobile app as:

Figure 8-31 Dynamic Screen - Standalone Form



9. Configure validations for fields

Configure validations for UI fields like hide, auto-populate, or disable fields depending on the value entered in another field, set fields as mandatory.

On the Form Field details screen, turn ON the on the **Validation Required** field and navigate to the **Manual Validation** tab in the **Conditional Logic** window. Enter the string in the **UI Validation** field.

Following sections provide you with operators and expressions with syntax for a few examples to build UI validations to suit your requirements.

Table 9-1 UI Validation - Operators

Operator	Description
EQ	Equal
NE	Not Equal To
GT	Greater Than
LT	Less Than
LE	Less Than or Equal To
GE	Greater Than or Equal To
ADD	Addition
SUB	Subtraction
MUL	Multiplication
DIV	Division

Table 9-2 UI Validation - Expressions

Validation Description	Syntax
(E)	Error validation
(W)	Warning validation
(V)	Value
(AP)	Auto Populate
(DAP)	Date Auto populate

Table 9-2 UI Validation - Expressions (continued)

Validation Description	Syntax
(DI)	Disable
(DDI)	Date Disable
(M)	Mandatory
(RE)	Regular Expression
(D)	Date Validation
#R	Operator
CD	Current Date
(F)	Formula Validation
(DC)	Date Calculation
(TC)	Time Calculation
(WC)	Week Day Calculation

9.1. Syntax to configure validations for fields

To configure UI validation for an extension, enter the string in **UI Validation** field on **Extension** or **Search** field details screen. Following table shows the syntax for few validations:

Table 9-3 UI Validation Syntax

Validation Description	Validation Key	Syntax
Hide Destination field depending on value in the Source field	HI	1: (HI) SAP FieldName1 IF SAP FieldName2 (V)SAP FieldName2Value
Auto-populate the Destination field depending on value in the Source field	AP	1:(AP) <PROPERTY1> EQ (V) IF <PROPERTY2> EQ (V)YES
Auto-populate the Date field	DAP	1:(DAP) <PROPERTY1> EQ (V) IF <PROPERTY2> EQ CD

Table 9-3 UI Validation Syntax (continued)

Validation Description	Validation Key	Syntax
Disable the Destination field depending on value in the Source field	DI	1:(DI) PROPERTY1 IF PROPERTY2 #R EMPTY AND/OR PROPERTY3 EQ
Disable the Date field depending on value in the Source field	DDI	1:(DDI) PROPERTY1 IF PROPERTY2 EQ CD
Make a field as Mandatory	M	1: (M)(E) <PROPERTY> #R MANDIT IF <PROPERTY> #R EMPTY
Show an error when the field value is not specified.	E	1:(E) <PROPERTY> EQ MANDIT IF <PROPERTY> #R (V)Value1, (V)Value2 OR <PROPERTY> #R (V)Value
		1:(E) <PROPERTY> EQ MANDIT IF <PROPERTY> #R (V)Value1, (V)Value2 AND <PROPERTY> #R (V)Value 4: (D)(E) <PROPERTY> #R CD
Regular Expression	RE	1:(RE) PROPERTY1 EQ Regular Expression
Prompt if the value entered in the field is current date	D	1:(D)(E) <PROPERTY> #R CD

Following are a few scenarios to show how UI validations works:

Table 9-4 UI Validation - Scenarios

Validation Description	Syntax
Empty/Null Validation	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> EQ EMPTY
Value Validation with EQ condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> EQ (V)Value

Table 9-4 UI Validation - Scenarios (continued)

Validation Description	Syntax
Value Validation with OR condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> EQ (V)Value1 OR <PROPERTY3> (V)Value2
Value Validation with AND condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> EQ (V)Value1 AND <PROPERTY2> (V)Value2
Value Validation with between condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> BT (V)Value1 AND (V)Value2
Auto-populate validation with OR condition	1:(AP) PROPERTY1 EQ (V)Value1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3
Prompt to enter Activity field if the Network value is specified	1. **UI Validation**: 1:(E) AUFPL EQ MANDT IF NPLNR NE EMPTY. This Boolean expression means that 'AUFPL (Activity field) is Mandatory if NPLNR (Network field) is not equal to Blank'. 2. **UI Validation message**: 1:(E) Please enter the Activity value **Result**: App shows the error message: 'Please enter the Activity value', if you do not enter value in **Activity** field when the **Network** field has a value.
Prompt to enter the WBS Element if Special Stock Indicator is Q	1. **UI Validation**: 1:(M)(E) PS_PSP_PNR MANDIT IF SOBKZ EQ (V)Q. This Boolean expression means that 'WBS Element (PS_PSP_PNR) is Mandatory if the Special Stock Indicator (SOBKZ) value is equal to 'Q''. 2. **UI Validation message**: 1:(E) MESSAGE Fill the WBS Element value

Table 9-4 UI Validation - Scenarios (continued)

Validation Description	Syntax
	Result: App shows the message: 'Fill the WBS Element value' if you enter the Special Stock Indicator value as 'Q'.

9.2. Build custom UI validations for form fields

Configure custom validations for the forms to suit your requirements.

On the Form Field details screen, turn ON the on the **Validation Required** field and navigate to the **Manual Validation** tab in the **Conditional Logic** window. Enter the string in the **UI Validation** field.

Following are a few examples of UI validation syntax:

Table 9-5 UI validation syntax

Validation Description	Validation syntax	Operator (#R)	Example
Date Validation	1:(D)(E) <PROPERTY> #R CD	EQ, NE, GT, LT, LE, GE	Shows error message if date selected in the field is current date
Mandatory Validation based on input in another field	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R EMPTY	EQ, NE	Prompts to enter Field1 if Field2 is empty
Value Validation	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if value in Field2 is 100
Value Validation with OR condition	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value1 OR <PROPERTY2> (V)Value2	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if the value in Field2 is 100 or Field3 is 50

Table 9-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Value Validation with AND condition	1:(E) <PROPERTY1> #R MANDIT IF <PROPERTY2> #R (V)Value1 AND <PROPERTY2> (V)Value2	EQ, NE, GT, GE, LE, LT	Prompts to enter Field1 if the value in Field2 is 100 and field3 is 50
Value Validation with between condition	1:(E) <PROPERTY1> EQ MANDIT IF <PROPERTY2> BT (V)Value1 AND (V)Value2		Prompts to enter Field1 if the value in Field2 is between 100 and 300
Auto-populate value validation	1:(AP) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ (V)Value		Populates Field1 as 40 if the value in Field2 is 100
Auto-populate Date validation	1:(DAP) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ CD		Populates Field1 as 40 if current date is selected Field2
Auto-populate validation with OR condition	1:(AP) PROPERTY1 EQ (V)Value1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Populates Field1 as 40 if the value in Field2 is 50 or Field3 is 60
Auto-populate validation with AND condition	1:(AP) PROPERTY1 EQ (V)Value1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Populates Field1 as 40 if the value in Field2 is 50 and Field3 is 60
Disable Value Validation	1:(DI) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ (V)Value		Disable Field1 if the value in Field2 is 100

Table 9-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Disable Date Validation	1:(DDI) PROPERTY1 EQ (V)Value IF PROPERTY2 EQ CD		Disable Field1 if the value in Field2 is current date
Disable validation with OR condition	1:(DI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Disable Field1 if the value in Field2 is 100 or Field3 is 200
Disable validation with AND condition	1:(DI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Disable Field1 if the value in Field2 is 100 and Field3 is 200
Hide Value Validation	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value		Hides Field1 if the value in Field2 is 100
Hide validation with OR condition	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 OR PROPERTY3 EQ (V)Value3		Hides Field1 if the value in Field2 is 100 or Field3 is 200
Hide validation with AND condition	1:(HI) PROPERTY1 IF PROPERTY2 EQ (V)Value2 AND PROPERTY3 EQ (V)Value3		Hides Field1 if the value in Field2 is 100 AND Field3 is 200
Regular Expression for Decimal Places	1:(RE) PROPERTY1 EQ ^([0-9]*)(.([0-9]{0,2})?)?$		Shows the value entered in field with two decimals like 127.34
Include Validation	1:(IN)(E) <PROPERTY1> IN (V)Value1 IF <PROPERTY2> #R <PROPERTY3>	EQ, NE, GT, GE, LE, LT	

Table 9-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Calculate difference between two Time fields	1:(TC) <PROPERTY1> #R <PROPERTY2>	SUB	
Calculate difference between two Date fields	1:(DC) <PROPERTY1> #R <PROPERTY2>	SUB	
Calculate difference between two fields	1:(F) <PROPERTY1> SUB <PROPERTY2>	SUB	Populates the result in the field for which the validation is configured
Add values in two fields	1:(F) <PROPERTY1> ADD <PROPERTY2>	ADD	Populates the result in the field for which the validation is configured
Validations with Addition and Division	1:(F) (<PROPERTY1> ADD <PROPERTY2>) DIV PROPERTY3	ADD, DIV	Populates the result in the field for which the validation is configured
Validations with Addition and Division - Complex	1:(F) (<PROPERTY1> ADD <PROPERTY2>) DIV (<PROPERTY3> ADD <PROPERTY3>)	ADD, DIV	Populates the result in the field for which the validation is configured
Auto-populate fields based on calculation	1:(AP) <PROPERTY1> EQ (V)100 IF (<PROPERTY2> ADD <PROPERTY3>) GT (V)3		Populate Field1 as 100 if the sum of Field2 and Field3 is greater than 20

Table 9-5 UI validation syntax (continued)

Validation Description	Validation syntax	Operator (#R)	Example
Mandate fields based on calculation	1:(E) <PROPERTY1> EQ MANDIT IF (<PROPER-TY2> SUB <PROPER-TY3>) GT (V)3		Mandates Field1 if the difference between values in Field2 and Field3 is greater than 20

10. Optimize Performance and Define Offline Configuration Parameters

Use the **Performance** menu to define the performance optimization and offline configuration parameters for the application.

The corresponding Table in SAP NetWeaver Gateway is **/INVCEC/DATACONF** and the transaction code is **/n/INVCEC/DATACONF**. Configurations in this table are populated through the mWorkOrder Add-On transport, and can be updated or enhanced using RACE™.

To optimize performance and define offline configuration parameters:

1. Click **Performance** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing configuration to populate the properties in the **Create Performance** section.
3. In the **Create Performance** section, enter this information:

Table 10-1 Performance configuration attributes

Field	Description
Module Name	Select the module to which the performance configuration is applicable.
Request	Select the Service collection that fetches data from SAP to mobile.
URL	Specify the additional filters to the existing entities.
Request Desc	Describe the Service collection that fetches data from SAP.
Data Format	Specify the data format like JSON or XML for the mobile application.

Field	Description
	Note: ◦ XML supports Delta and Skip token and is recommended for Transactional data. ◦ JSON supports only Skip token functionality and is recommended for Master Data.
Request Type	Select whether the data is Dynamic, Master or Transactional. This is for information purpose only.
Token	Select the Token type used for subsequent calls of the Collection. For example, Skip token is used to load specified size of data while Delta token is used to load only delta data on subsequent requests. **Note:** This field is enabled only if Data Format is **XML**.
Online Skip Token	Enter the number of Collection records that must be fetched when the device is connected to the network. The Collection call fetches data records in increments of the Page Size. **Note:** This field is enabled only if Skip Token is implemented.

Field	Description
Offline Skip Token	Enter the number of Collection records that must be fetched when the device is not connected to the network. The Collection call fetches data records in increments of the Page Size. **Note:** This field is enabled only if Skip Token is implemented.
Max Records	Define the maximum number of records to be fetched into the mobile application.
Load More	This is applicable only for Skip Token category. If Load More is enabled, the Collection records are retrieved with the Load More capability based on the Page Size.
Sync to Offline DB	Helps you select whether the Collection data is retrieved and available when the device is not connected to the network.

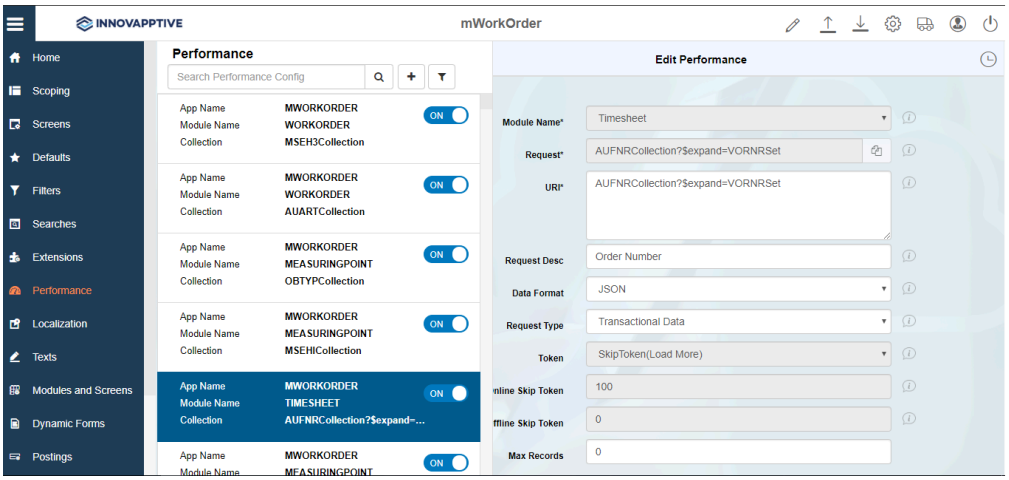
Data Access	Select the option to enable data retrieval. Possible values:
	a. Offline
	b. Online & Offline
	Following is the data access and retrieval process for each of these options.
	
	Offline: User initiates Data Retrieval Call
	
	`> Is data available in App Offline Store of device?`
	`> YES – Retrieve data from Offline Store`
	`> NO – Service call to SAP`
	`> Is Network available?`
	`> YES – Service call to SAP`
	`> NO – No records found`

Field	Description

	Online & Offline: User initiates Data Retrieval Call
	`> Is Network available?`
	`> YES – Service call to SAP`
	`> NO – Retrieve data from Offline Store`
	`> Is data available in App Offline Store of device?`
	`> YES – Retrieve data from Offline Store`
	`> NO – No records found`

Filter Condition	Enter the condition/logic to filter data in a collection.
Access Category	Enable/disable extension field based on user access: ◦ T-Transaction Code ◦ U-User Group ◦ R-Role ◦ A-Authorization Object.
Access Value	This field is used for data related to security. Based on the access category, data in this field needs to be maintained. For example, if you maintain a transaction code in the **Access Category** field then you must enter the t-code name in this field. Module/feature is displayed in the mobile application only if the user has access to the transaction code.

Figure 10-1 Performance configuration



4. Click **Save**.

   Innovapptive recommends you to:

   - Configure Master Data in JSON, Skip Token, Load More and Offline Only as:
     - Master data does not change as often compared to transactional data. Synchronizing master data and accessing it only from offline store helps improve the application performance and user experience.
     - Load More allows loading smaller packets of large volume of data thereby allowing user to only search for and work with smaller pools of data until request for additional data is initiated.
   - Configure Transaction Data in XML, Delta Token and Offline Only as:
     - Transaction data changes regularly, XML and Delta Token capabilities improve the delta data synchronization.
     - Offline Only access improves the application performance and user experience. Although for smaller volumes of transaction data, Online & Offline is recommended for real-time data availability and backend data validations to improve the accuracy of transaction data processing.

Note:
For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains fields configured to optimize app performance with attributes like Module Name, Request and Request Type.

11. Define localization Entries

Use the **Localization** menu to define the local language translation for UI fields.

The corresponding Table in SAP NetWeaver Gateway is **/INVCEC/UILABELT** and the transaction code is **/n/INCEC/UILABELT**. Application configurations in this table are populated through the mWorkOrder Add-on transport and you can update them using RACE™.

To add/change a translation entry:

1. Click **Localization** on the left panel.
2. Click **Add**.

   You can also select an existing record and click the **Copy**  icon to populate the properties to **Add Translation entry** window and modify them.
   Add Translation entry pop-up window appears.
3. Select the **Language**, **Module Name**, **Screen Name**.
4. Enter the **Field Name** and the translation in the **UI Label** field.
5. Enter the **Field Name**.
6. Click **Create**.

   You can do the following:
   - Sort or filter existing translations: Click the column header and select **Sort Ascending** or **Sort Descending**. Enter a value in the **Filter** field to search the translation values.
   - Change a translation: Select and change the **UI Label** value and click the **Save**  icon.
   - Remove a translation: select the record and click the **Delete**  icon.

> **Note:**
> For recommended settings, see the RACE™ Preset Configuration spreadsheet. This spreadsheet contains fields with attributes like Module Name, Screen, UI Label and Field Name.

12. Maintain GIS Maps Access Tokens and License Keys

Use the **GIS Maps** menu to maintain GIS maps License keys and Access tokens.

The corresponding Table in SAP NetWeaver Gateway is **/INVCEC/MAPCONFI**. Configurations in this table are populated through the mWorkOrder Add-On transport and can be updated or enhanced using RACE™.

To define GIS Map configuration entry:

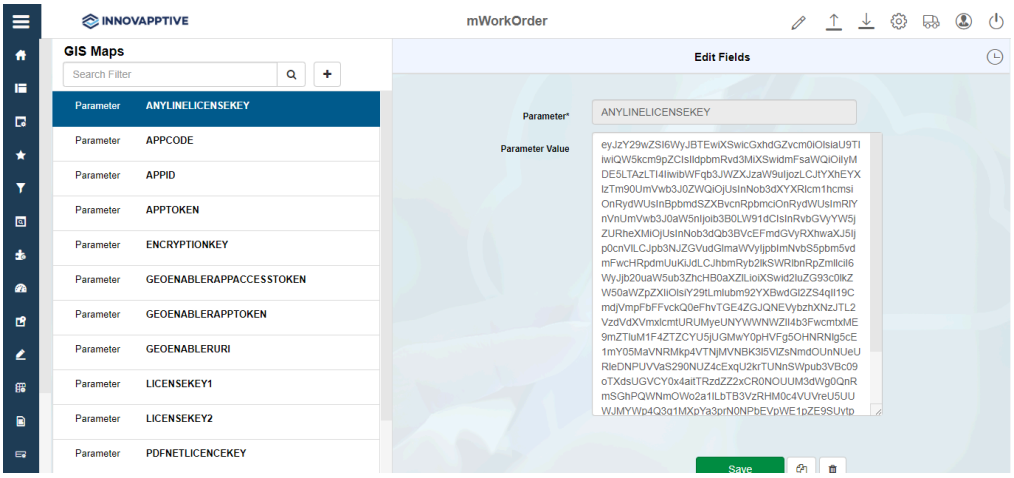
1. Click **GIS Maps** on the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Filter field to populate the properties in the **Create Maps Field** section.
3. In the **Create Maps Field** section, enter this information:

Table 12-1 GIS Maps configuration attributes

Field	Description
Parameter	Enter the Parameter to be configured.
Parameter Value	Indicates the value of the Parameter.

Figure 12-1 GIS Maps configuration



4. Click **Create**.

13. Set color-coding for Work Orders

Use the **Color-Coding** menu to define color code of the work orders in the work order list screen.

To configure the color code:

1. Click **Color Coding** on the left panel.
2. Click the **Add**  icon next to the search field.

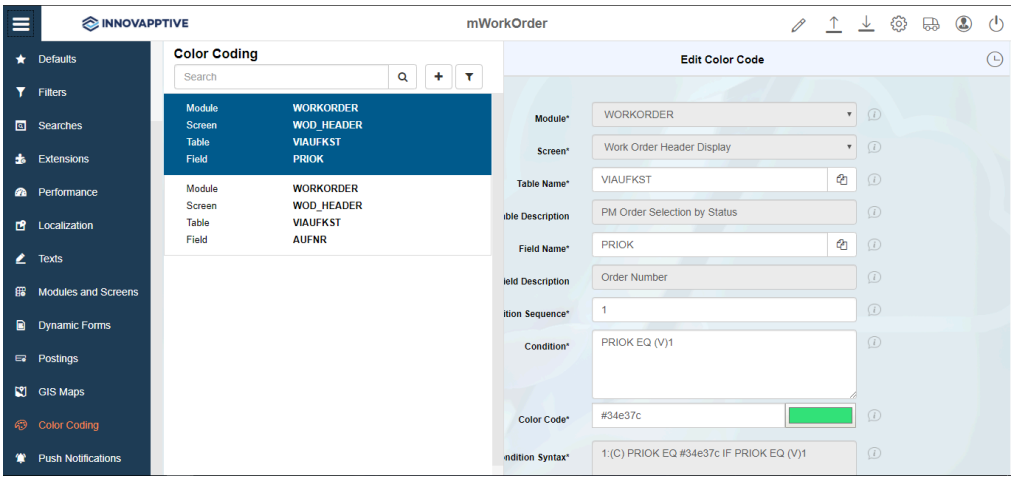
   You can also click the **Copy**  button on the details pane of an existing Filter field to populate the properties in the **Create Color Code** section.
3. In the **Create Color Code** section, enter the following information:

Table 13-1 Color Coding configuration attributes

Field	Description
Module	Select the Module where the color code is configured.
Screen	Select the name of the screen where the color code is configured.
Table Name	Select the table from where the data is retrieved.
Table Description	Auto-populated based on the **Table Name**.
Field Name	Select the standard field in the SAP Table.
Field Description	Populated based on the **Field Name**.
Condition Sequence	Sequence to execute the condition.
Condition	Condition to apply color code to the field.

Field	Description
Color Code	Hexa decimal code to define the color of the field.
Condition Syntax	Syntax/format to define the **Condition**.

Figure 13-1 Color Coding attributes



4. Click **Create**.

14. Configure Push Notifications

Use the **Push Notifications** menu to configure the push notifications actions and other attributes.

To configure the push notification:

1. Click **Push Notifications** on the left panel.
2. Click the **Add**  icon next to the search field.

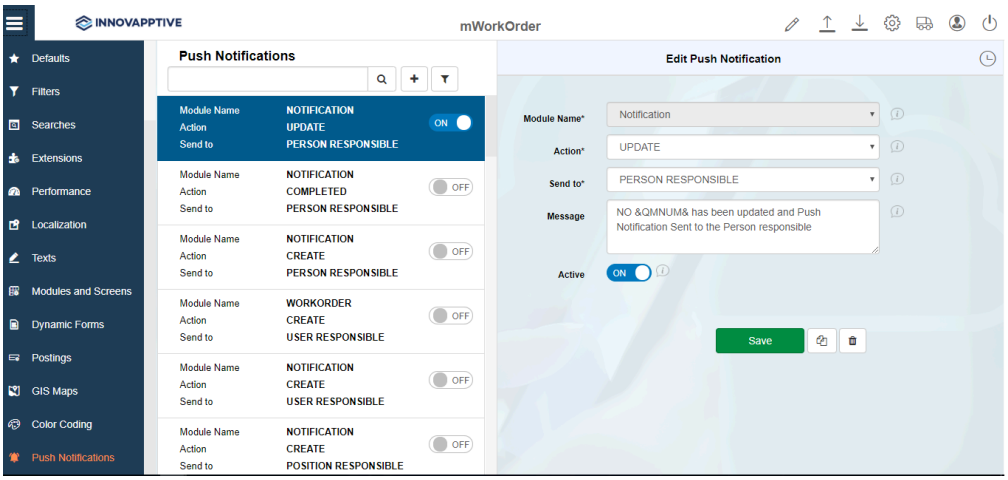
   You can also click the **Copy**  button on the details pane of an existing Filter field to populate the properties in the **Create Push Notification** section.
3. In the **Create Push Notification** section, enter the following information:

Table 14-1 Push Notifications configuration attributes

Field	Description
Module Name	Select the name of the Module where the push notification is configured.
Action	Select the type of action for which user gets notified. Possible values: ◦ Create ◦ Update ◦ Released ◦ Completed
Send To	Select the group or person responsible who is notified of the **Action**.

Field	Description
Message	Enter the Push Notification Message to be shown on the mobile application.
Active	To enable or disable the push notification.

Figure 14-1 Push Notification



4. Click **Create**.

15. Configure Risk Matrix

Configure Risk Matrix based on parameters defined by your organization to assess the Overall Risk associated with an incident by defining probable occurrence of risk incident and corresponding consequences with respect to safety, environment, asset damage/deferment and people. This helps you prioritize Notifications and accelerate the measures to be taken.

Do the following configurations to use Risk Matrix:

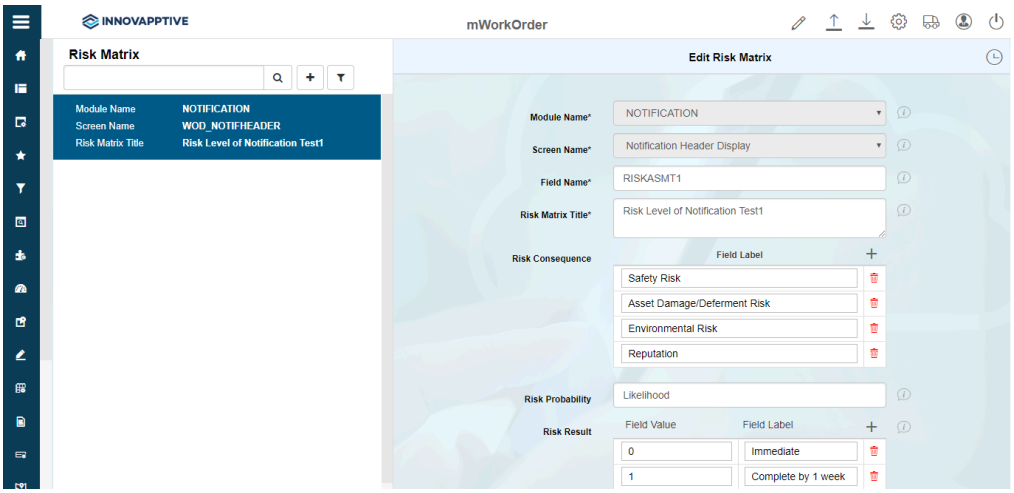
1. Click **Risk Matrix** in the left panel.
2. Click the **Add**  icon next to the search field.

   You can also click the **Copy**  button on the details pane of an existing Filter field to populate the properties in the **Create Risk Matrix** section.
3. In the **Create Risk Matrix** section, enter the following information:

Table 15-1 Risk Matrix configuration attributes

Field	Description
Module Name	Select the name of the Module where the Risk Matrix is configured.
Screen Name	Select the name of the screen where the Risk Matrix is configured.
Field Name	Field for which the Risk Matrix is configured.
Risk Matrix Title	Title of the Risk Matrix.
Risk Consequence	Add possible consequences associated with the Risk.
Risk Probability	Enter text to indicate the probable occurrence of the Risk.
Risk Result	Define the Results for the combination of **Risk Consequence** and **Risk Probability**.
Risk Matrix Json	Json string is populated after you configure the Risk Matrix. This can be saved for future use.

Figure 15-1 Risk Matrix attributes



Click **Configure Risk Matrix** to do the additional configurations.

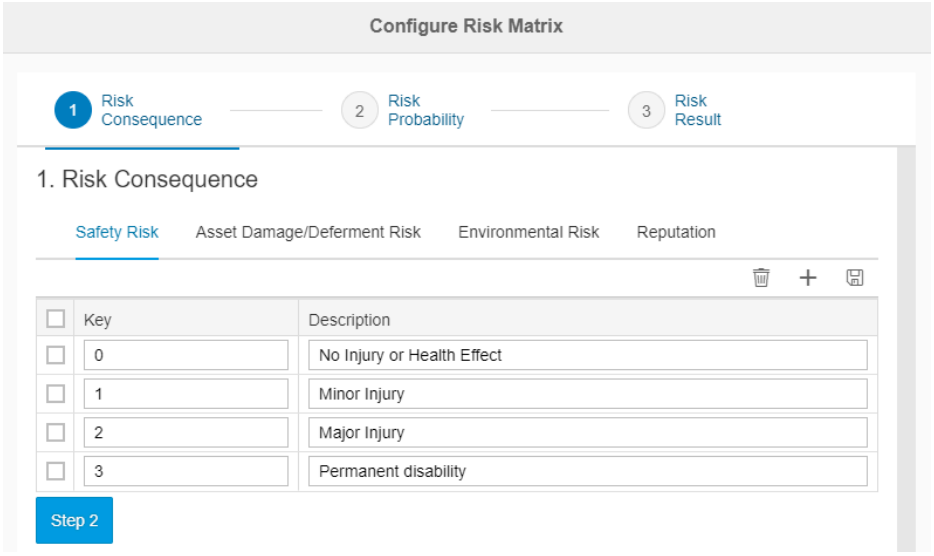
a. Define the probable impact (low, medium and high) of incident in the **Risk Consequence** section for categories like:

- Safety Risk
- Asset Damage/Deferment Risk
- Environmental Risk
- Reputation

For example, you can set No impact as '0' and High impact as '3' on a scale of 0-3.

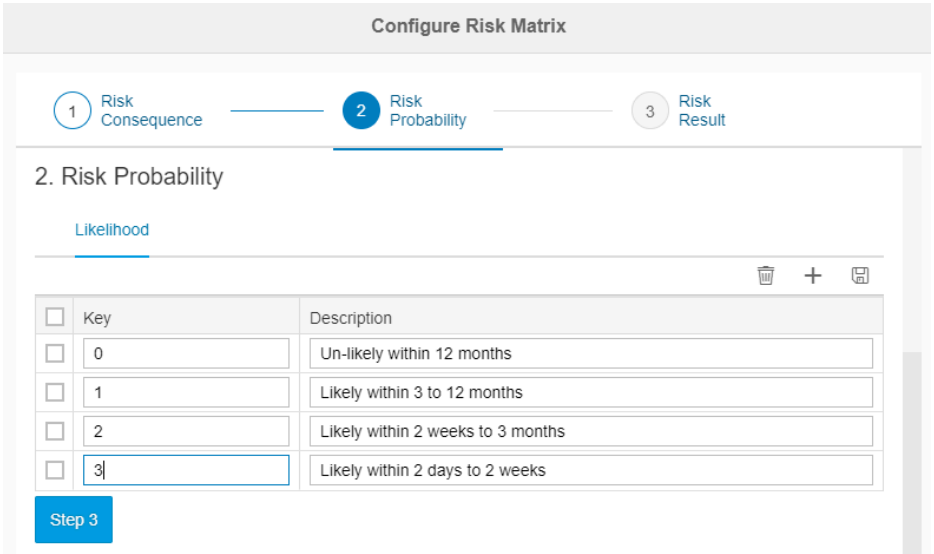
Note:
Consequences Categories are populated as defined in **Risk Consequence** field on **Create Risk Matrix** screen.

Figure 15-2 Risk Consequence



b. Define the possibilities of risk occurrence in the **Risk Probability** section. For example, you can set 'Likely to occur in 1-2 days' as High and 'Likely to occur in 3 to 12 months' as Low possibility on a scale of 0-3.

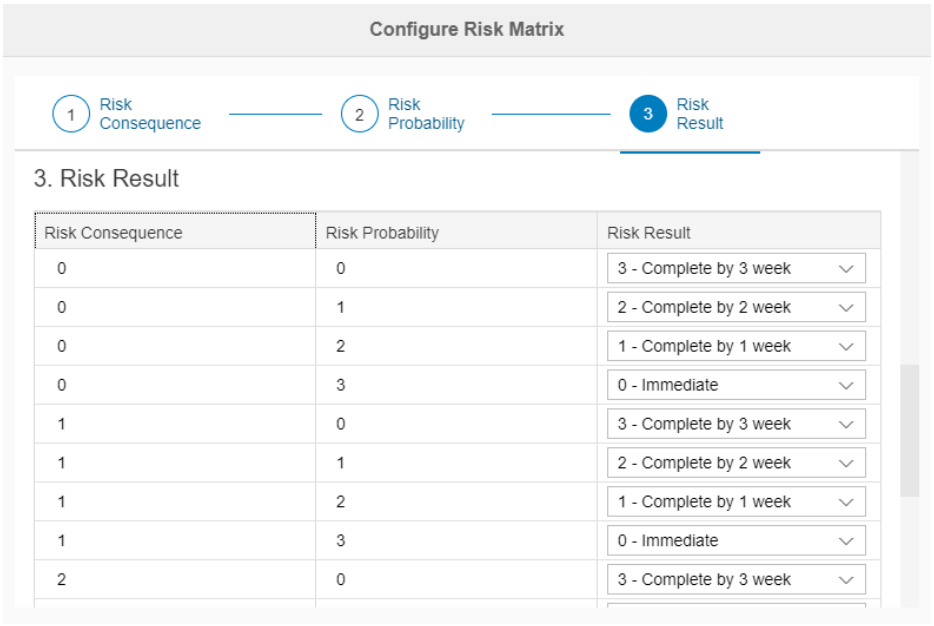
Figure 15-3 Risk Probability



c. Set the type of Risk Result indicating Action Type like Immediate, within a Month or 3 Months for the combination of Risk Consequence and Risk Probability in the **Risk Result** section.

> **Note:**
> Priority for actions items in **Risk Result** dropdown is displayed as defined in **Risk Result** field on **Create Risk Matrix** screen.

Figure 15-4 Risk Result combination



d. Click **Submit**.

4. Click **Create**.