U.S. Department of Transportation
Federal Highway Administration

Report Development Participant Guide

Contents

1. Disclaimer

2. Introduction to Using the Participant Guide

The Participant Guide helps you get started with the process of creating ad-hoc reports and quickly navigate through the various key processes of report development.

The options selected for use in this guide are for instructional purposes to showcase the different scenarios for designing a report. Field selections, other than the ones used in this guide, could possibly lead to a varied workflow and may not be covered in this guide. For additional information on the application, refer to the User Guide or Masterworks Online Help available with the application.

Note: You may notice screenshots containing information added throughout the document, even in places where a new empty screen would typically be displayed. This practice eliminates the need for multiple images, allowing a single screenshot to convey the essential details required to proceed with the work effectively.

3. Ad-hoc Reports

In Masterworks, the **Ad-hoc Reports** feature enables you to create custom reports quickly. You can easily access your databases and transform raw data into useful and readily understood information.

You can use either of the following ways to create a custom report:

- 3.1. Create a report using the New Instant Report option – You can create quick and simple reports in tabular format.
- 3.2. Create a report using the New Report option – You can design ad-hoc reports with one or more data sources and various graphical elements, such as charts, gauges, pivots, and so on.

Note: Data source refers to tables or views in the application database.

Ad-hoc Reports Permission Matrix

This section provides information on the roles and corresponding permissions for the respective forms.

Table 1: Ad-Hoc Reports

Role	Create	Edit	View	Delete
Administrator	Yes	Yes	Yes	Yes
Pay Item Team				
Project Viewer				
Design Component Lead				
Designer				
Lead Designer				
Design QA/QC				
Highway Design Manager				
Project Manager				
A/E Designer				
A/E Lead Designer				
A/E Manager				
Acquisitions				
Construction Component Lead				
Construction Admin Staff				
Construction Engineer				
Highway Construction Manager/QA QC				

Role	Create	Edit	View	Delete
Construction Operations Engineer				
Inspector				
Assistant Project Engineer				
Project Engineer A&E				

3.1. Creating Instant Ad-Hoc Reports

Prerequisites

The role of the logged-in user must be one of the following:

- Administrator
- Pay Item Team
- Project Viewer
- Design Component Lead
- Designer
- Lead Designer
- Design QA/QC
- Highway Design Manager
- Project Manager
- A/E Designer
- A/E Lead Designer
- A/E Manager
- Acquisitions
- Construction Component Lead
- Construction Admin Staff
- Construction Engineer
- Highway Construction Manager/QA QC
- Construction Operations Engineer
- Inspector
- Assistant Project Engineer
- Project Engineer
- Regional Engineer
- Assistant Project Engineer A&E
- Project Engineer A&E

For more information on role-specific permissions, refer to Ad-Hoc Reports Permission Matrix.

Overview

The **New Instant Report** feature enables you to create simple reports using a single data source. You can preview the report, filter the report information, and perform basic sum operations on numeric fields.

This section describes the steps to create an instant report.

Steps

1. In the module menu, click **Home**.
   The **Enterprise Dashboard** page is displayed.

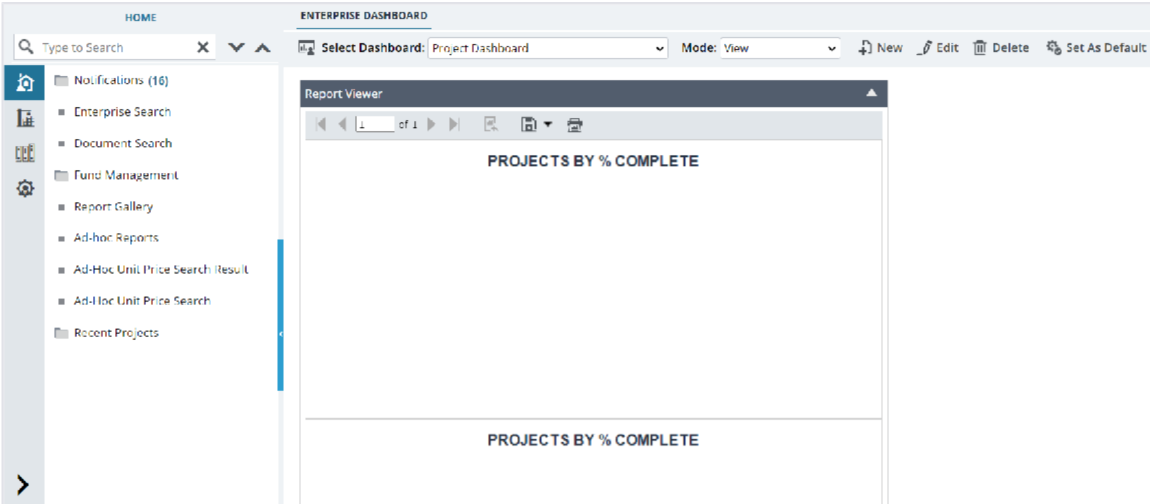


Figure 1: Enterprise Dashboard

2. In the navigation pane, click **Ad-hoc Reports**.
   The **REPORTS LIST** page is displayed.

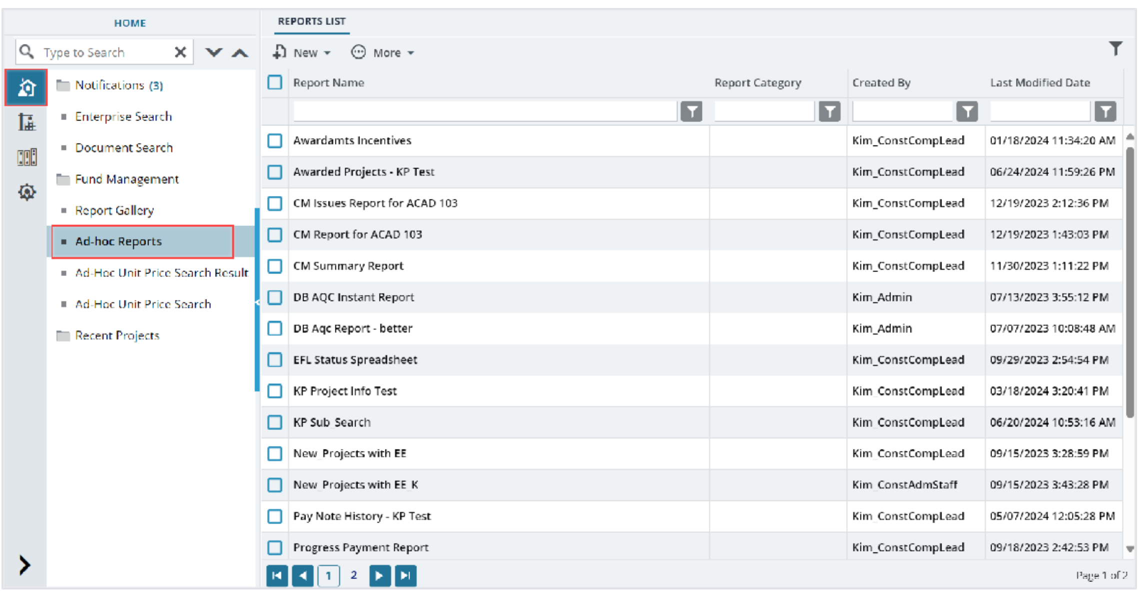


Figure 2: Reports List Page

3. Click **New**, and then click **New Instant Report**.

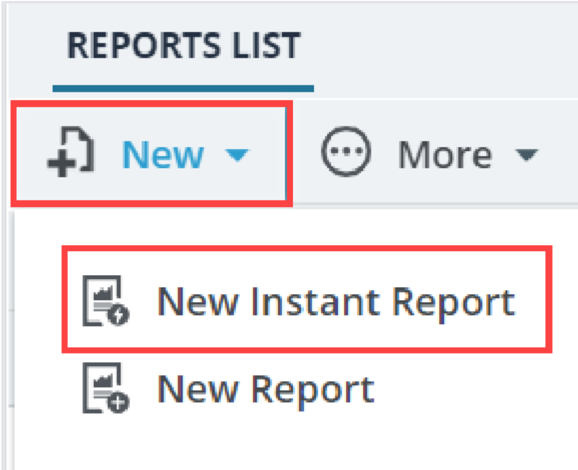


Figure 3:New Instant Report Option

The **INSTANT REPORT** page is displayed.

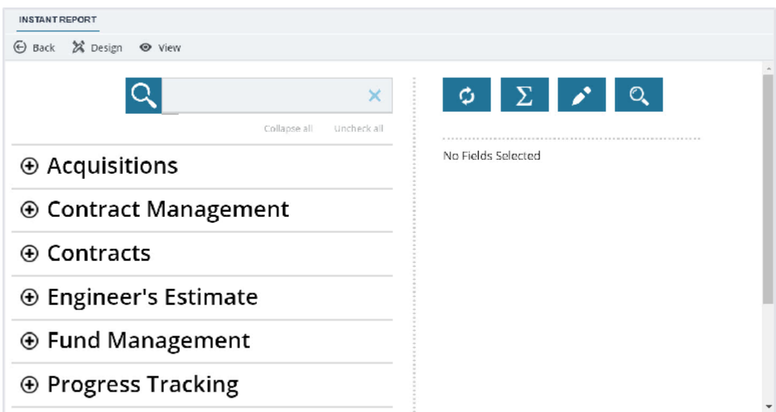


Figure 4: Instant Report Page

The page comprises two panes.

4. In the left pane, click ⊕ to expand the appropriate data source categories.
   The list of data sources in the categories is displayed. The available data sources are tables and views in the application database.

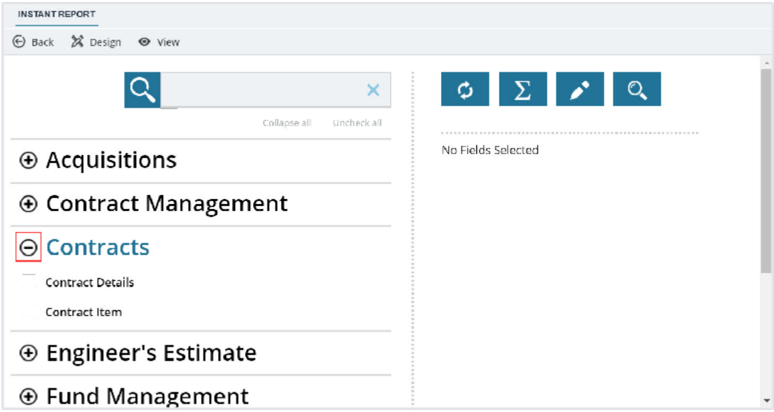


Figure 5: List of Data Source

5. Select the appropriate data source.

   The fields in the selected data source are displayed.

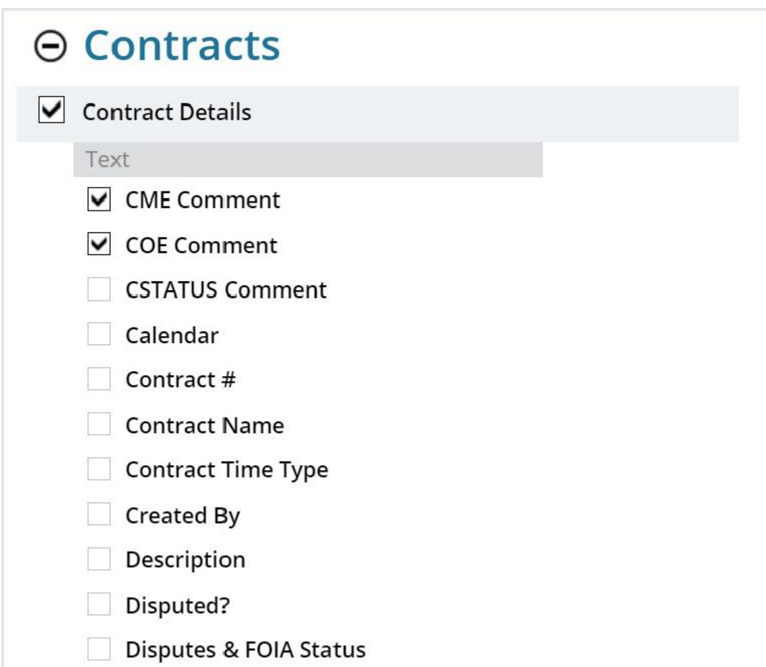


Figure 6: Selected Data Source

6. Select the appropriate fields to add columns in the report.
   The preview of the report is displayed in the right pane.

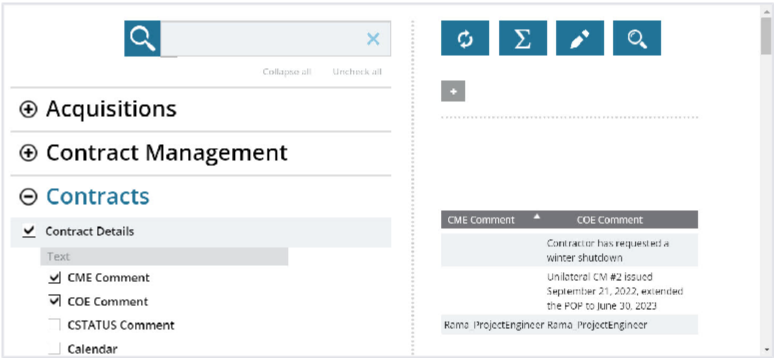


Figure 7: Preview of the Report

The column sequence in the report is based on the order in which the fields are selected.

Additionally, in the right pane, you can use the following functions:

Icon	Control Name	Description
	Add New Filter	To filter the records in the preview, perform the following steps: a. Click b. From the drop down list, select the filter criterion to add to the report. Available options are fields associated with the selected data source. Based on the selected field, a box is displayed below the filter. c. In the box under the filter header, enter or select the filter criterion. The values of the selected column are displayed as per the filter criterion.
	Update Preview	Click for the filter to take effect in the preview, if any.
	Add Subtotal	Click to add a subtotal at the end of each number column.
	Design Report	Click to enhance a report and include graphical elements to it. For information on designing a report, refer to Section 3.2. Designing Ad-hoc Reports.
	View Report	Click to view the report in the **REPORT VIEWER** page.

Note: To save or export your instant report, you must select either **View** or **Design** to navigate to the **REPORT VIEWER** or **REPORT DESIGNER** page, respectively.

7. Alternatively, to define field properties for the selected field, perform the following steps:
   a. Hover your mouse over the selected field, and then click .

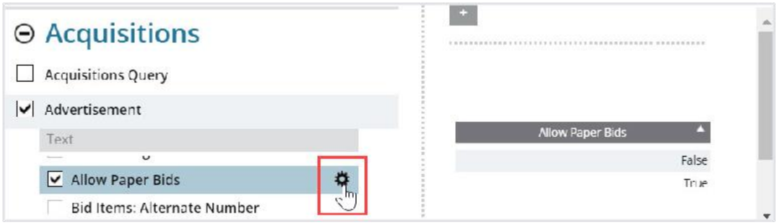


Figure 8: Settings Option

   b. Provide the appropriate information in the fields, as described in the following table:

Feature	Description
Description	By default, the name of the field is displayed. Optionally, enter a description for the field.
Format	Select the appropriate format for the selected field. Available formats are based on the data type.
Subtotal function	Select the appropriate function for calculation, such as Sum or Count. Available options in the list may vary based on the selected field.
Total	Select the check box to ensure the total value is displayed based on the selected field.
Visual Group	Select the check box to group records based on the selected field.
Multiline Header	Select the check box to make the header of the selected column multiline.
Label Justification Value Justification	To align the column header or column value of the selected field, click , and repeat the process until the appropriate alignment is selected. • L indicates left alignment. • R indicates right alignment. • M indicates middle alignment.
Width	Enter the width of the selected column.

   c. Click **OK**.

8. Optionally, to enhance a report and include graphical elements to it, in the toolbar, click **Design**.

   You are navigated to the Fields tab in the **REPORT DESIGNER** page.

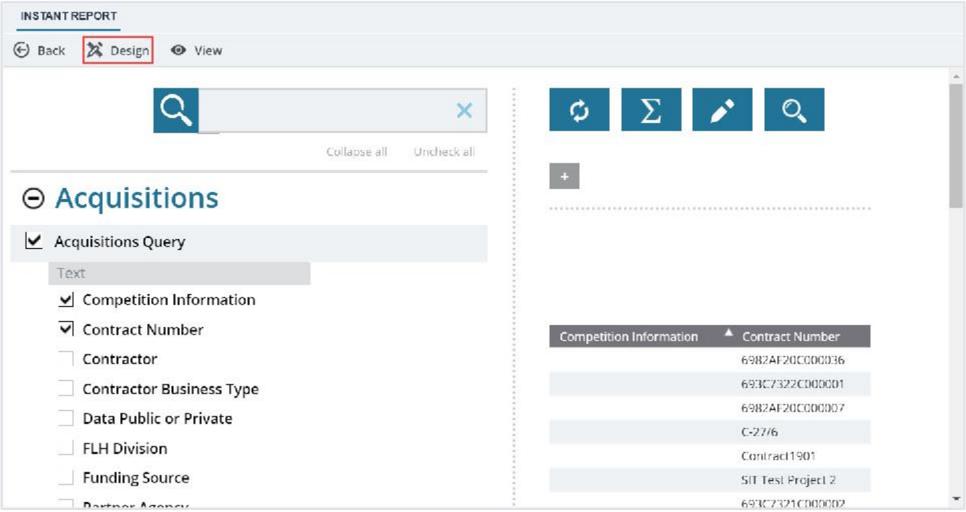


Figure 9: Design Option

For information on designing a report, refer to [Section 3.2. Designing Ad-hoc Reports]().

9. Click **View**.

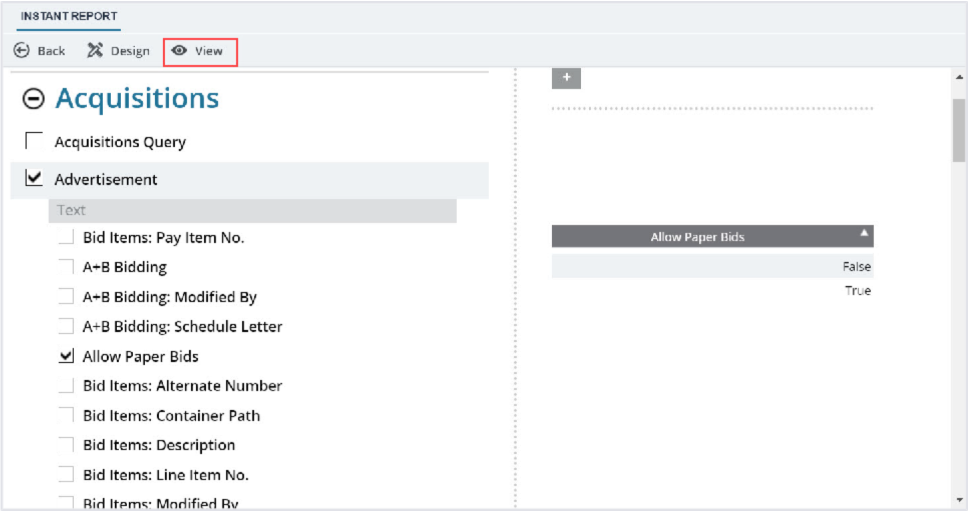


Figure 10: View Option

The **REPORT VIEWER** page is displayed.

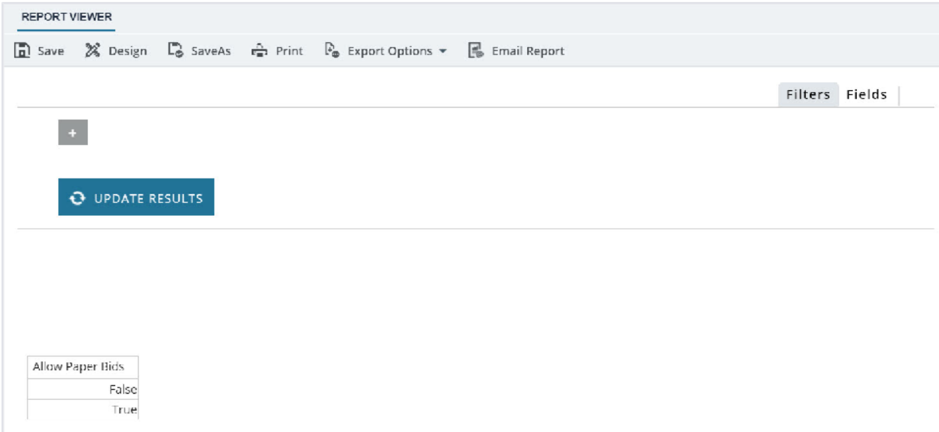


Figure 11: Report Viewer

10. To filter the records in the report, perform the following steps:
    a. Click .
    b. From the drop-down list, select the filter criterion to add to the report. Available options are fields associated with the selected data source. Based on the selected field, a box is displayed below the filter.
    c. To define a filter, hover your mouse over the search criterion, and then click .

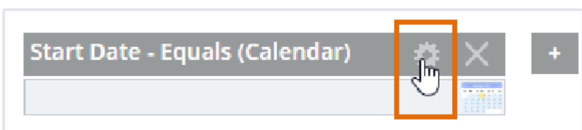


Figure 12: Settings Option

A dialog box is displayed.

    d. In the Description field, enter a description for the filter.
    e. From the Filter Operator drop-down list, select the appropriate operator.
    f. Click OK.
    g. In the box under filter header, enter or select the filter criterion.
    h. The values of the selected field are displayed as per the filter criterion.
    i. Click UPDATE RESULTS.
    j. The report is updated and displayed based on the data criterion entered or selected in the box.
    k. Optionally, to delete the filter, hover your mouse over the search criterion, and then click .

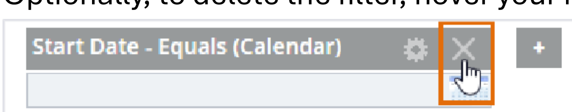


Figure 13: Delete

11. To add additional fields to the report, perform the following steps:
    a. Click the **Fields** tab.

b. In the left box, select the appropriate fields to add to the report, and then click . The selected fields are moved to the right box.
c. To remove a field from the report, in the right box, select the appropriate field, and then click .
d. To rearrange the fields in the report, in the right box, select the field to move, and then click **UP** or **DOWN**.
e. Optionally, to configure field properties, in the right box, select the appropriate field, and then click **FIELD PROPERTIES**.
   The field properties dialog box is displayed.
f. To provide the appropriate information for the respective fields, refer to **step 7b**.
g. Click **OK**.
h. Click **UPDATE RESULTS**.

   The report is updated and displayed.

12. In the toolbar, click **Save**.

    If you have not previously saved the report, a dialog box is displayed to enter the report name and select a category.
    Alternatively, click **SaveAs**.
    A dialog box is displayed to enter the report name and select a category.

13. In the **Input report name** field, enter the name of the report.
    Note: Refrain from using special characters such as ' (apostrophe) in the report name.
14. To categorize the report, from the **Category** drop-down list, select the category for the report. You can either select from the existing categories or create a new category.

    To create a new category, perform the following steps:

    a. From the **Category** drop-down list, select **(Create New)**. A dialog box to enter category name is displayed.

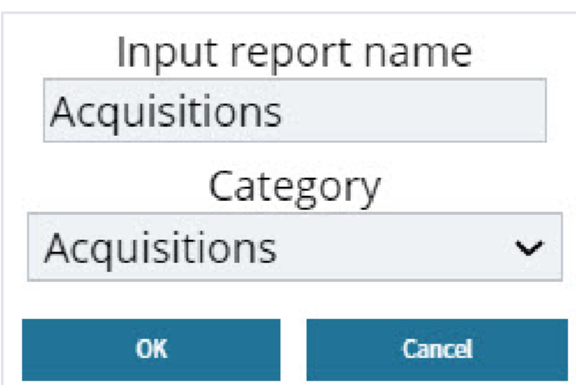


Figure 14: Report Name Dialog Box

    b. In the **New category name** field, enter the name of the category.

c. Click **Create**.

The category is created and displayed in the **Category** drop-down list.

d. Click **OK**.

15. In the navigation pane, click **Ad-hoc Reports.**

The report is available in the **REPORTS LIST** page.

3.2. Designing Ad-hoc Reports

Prerequisites

The role of the logged-in user must be one of the following:

- Administrator
- Pay Item Team
- Project Viewer
- Design Component Lead
- Designer
- Lead Designer
- Design QA/QC
- Highway Design Manager
- Project Manager
- A/E Designer
- A/E Lead Designer
- A/E Manager
- Acquisitions
- Construction Component Lead
- Construction Admin Staff
- Construction Engineer
- Highway Construction Manager/QA QC
- Construction Operations Engineer
- Inspector
- Assistant Project Engineer
- Project Engineer
- Regional Engineer
- Assistant Project Engineer A&E
- Project Engineer A&E

For more information on role-specific permissions, refer to Ad-Hoc Reports Permission Matrix.

Overview

The **Ad-hoc Reports** feature enables you to design and create your custom reports. You can share these customized reports with other users of the system.

Based on the requirement, you can use either of the following ways to create a report:

- The **Simple** mode enables you to design an ad-hoc report with a single data source.
- The **Advanced** mode enables you to design an ad-hoc report with multiple data sources.

The task sequence to design a custom report is:

1. Select the appropriate data sources.
2. Define the appropriate fields in the selected data view.
3. Specify report summary details to define calculations, grouping, and sorting.
4. Select various displays with charts.
5. Specify report style, formatting, and data filters.
6. Select the roles with whom you want to share the report.
7. View a preview of the report that you created.
8. Group your reports into custom categories.

Note: To prevent time out, it is recommended to regularly save the report when you create it.

Steps

1. In the module menu, click **Home**.
   The **Enterprise Dashboard** page is displayed.

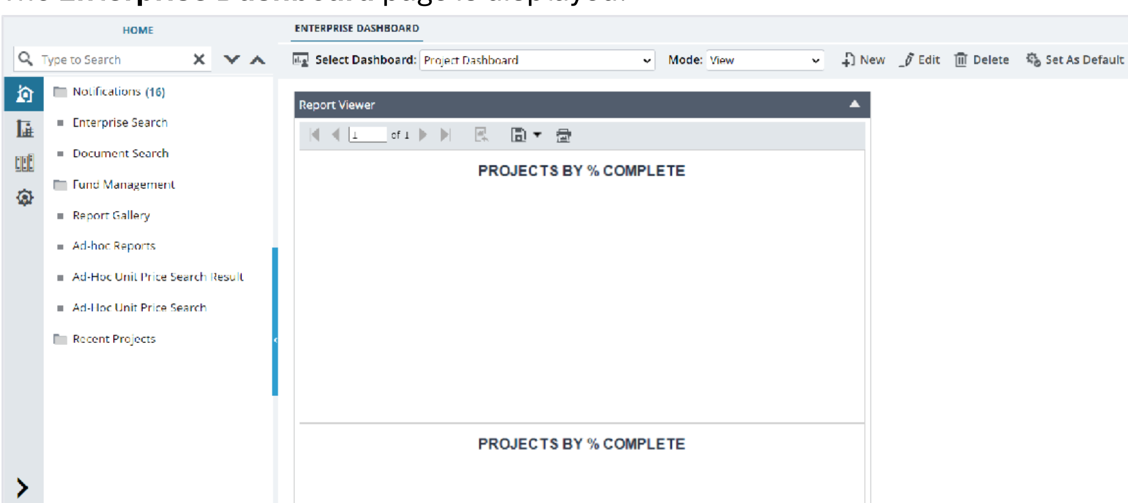


Figure 15: Enterprise Dashboard

2. Optionally, if you want to rename the report after saving it, perform the following steps:
    a. In the **REPORTS LIST** page, select the appropriate report, and then click **View**.

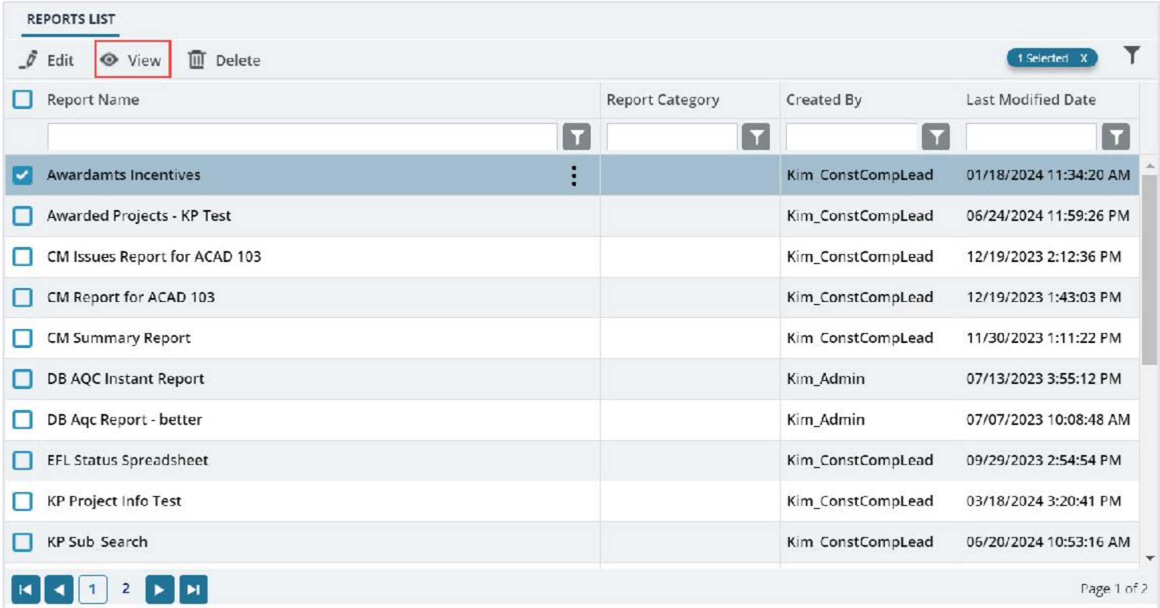


Figure 16: Reports List Page

The **REPORT VIEWER** page is displayed.

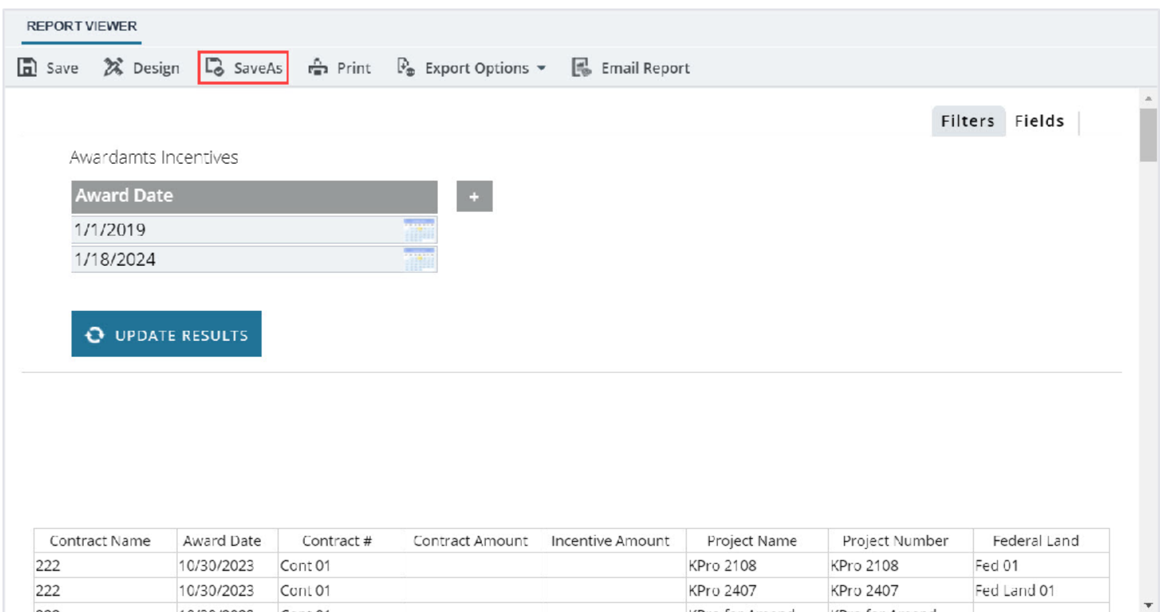


Figure 17: Report Viewer Page

b. Click **SaveAs.**

A dialog box is displayed with the details of the existing report.

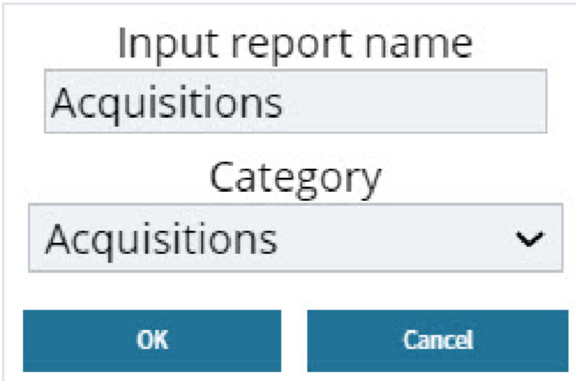


Figure 18: Report Name Dialog Box

c. In the Input report name field, enter the name of the report.

d. To update the category, refer to **step 14**.

3. In the navigation pane, click **Ad-hoc Reports**.

The **REPORTS LIST** page is displayed.

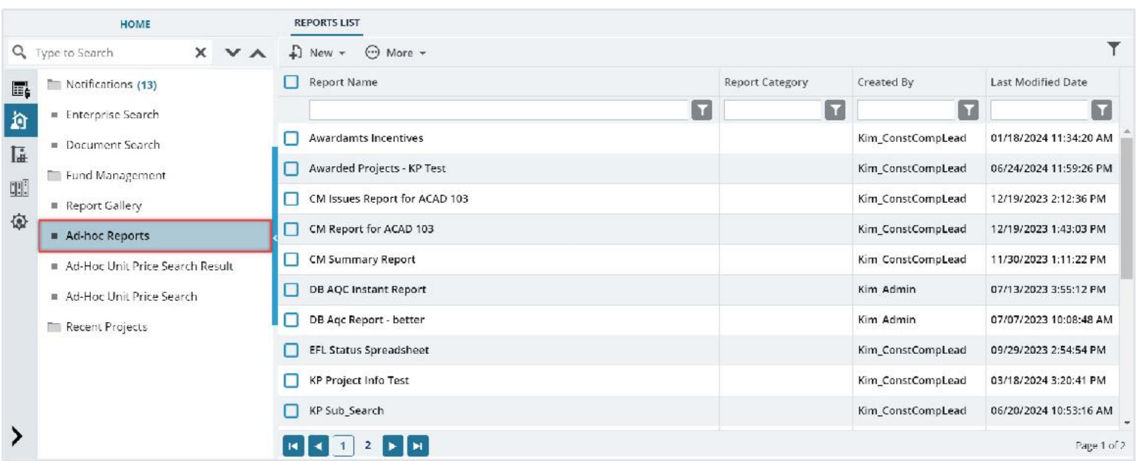


Figure 19: Reports List Page.

4. Click **New**, and then click **New Report**.

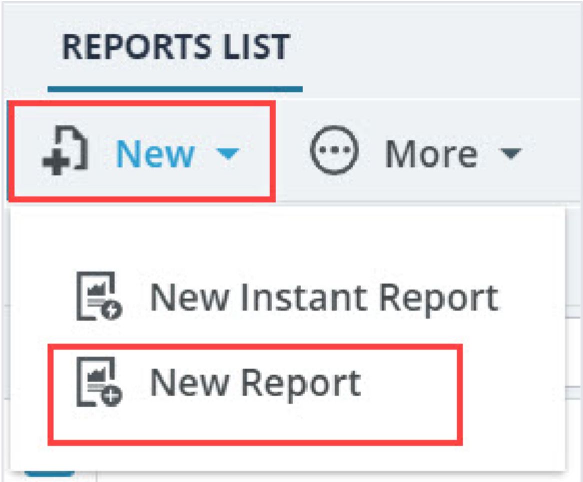


Figure 20: New Report Option

The **REPORT DESIGNER** page is displayed with different tabs to create and design a new report.

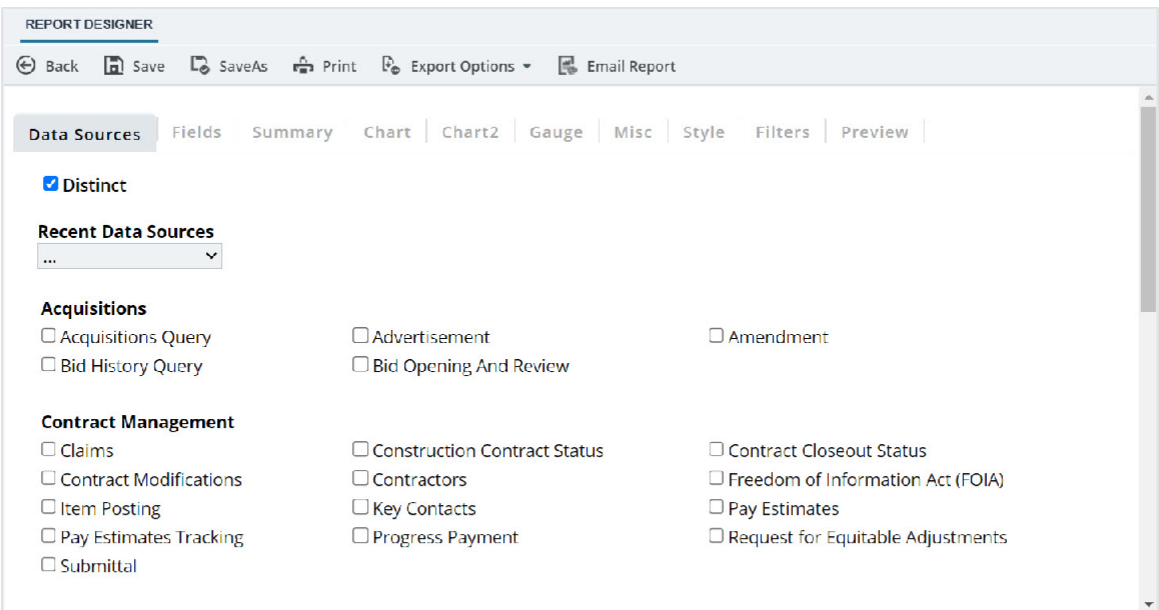


Figure 21: Report Designer Page

5. In the **Data Sources** tab, ensure the **Distinct** check box is selected, indicating that the distinct condition is applied to the report. It ensures that for multiple records with the same data, only one instance of the record is displayed in the report.
   Optionally, clear the **Distinct** check box to view all records including duplicate records.
6. To select data sources using the **Simple** or **Advanced** mode, perform either of the following steps:

- To add fields to the report from a single data source using the **Simple** mode, select the appropriate data source check box.
  Note: By default, the Data Sources tab is displayed in the Simple mode in which you can only select one data source.

The available data sources are tables and views of the application database. Alternatively, from the **Recent Data Sources** drop-down list, select the appropriate data source from the recently used data sources.

- To add fields to the report from multiple data sources using the **Advanced** mode, perform the following steps:

  a. Click the **Advanced** button at the bottom of the page.
  The **Advanced** mode is displayed.

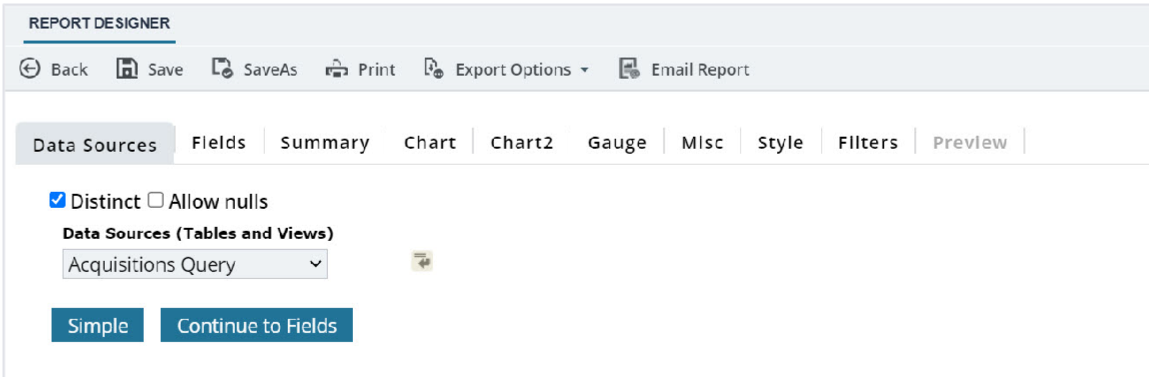


Figure 22: Advanced Mode

Note: There must exist at least one common field in the selected data sources to associate them.

  b. To select multiple data sources for the report, perform the following steps:
    i. From the **Data Sources (Tables and Views)** drop-down list, select the appropriate data source.
    ii. Click .
    A drop-down list is added.
    iii. From the newly added drop-down list, select the appropriate data source to associate with the initially selected data source.

    The common field in both the data sources are selected and displayed.

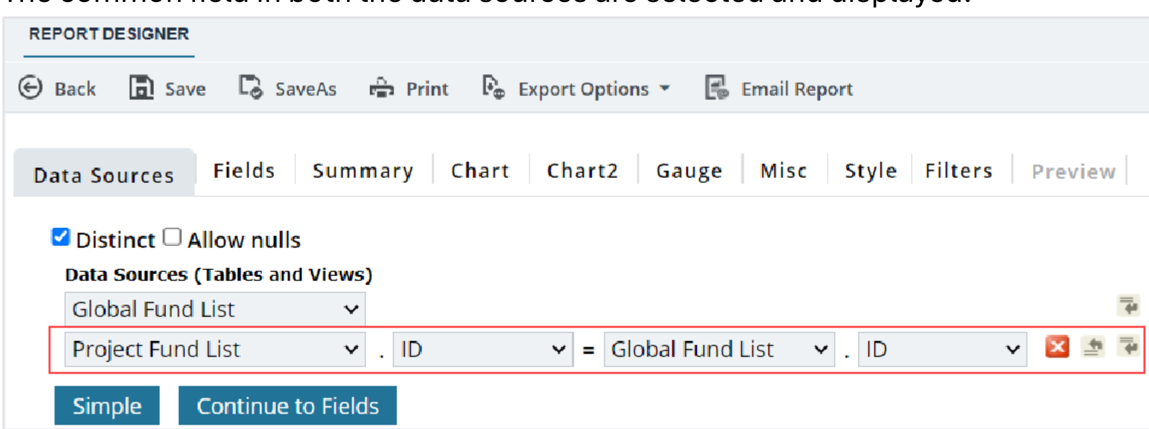


Figure 23: Report Designer

- The second drop-down list displays all the fields of the second data source selected.
- The third drop-down list, by default, displays the data source that was initially selected.
- The fourth drop-down list displays all the fields of the initial data source selected.

iv. From the second drop-down list, select the appropriate field of the second data source.

v. In the fourth drop-down list, select the appropriate field of the initial data source.
Note: Ensure the option selected in the second and the fourth drop- down lists are the same and have unique values.

vi. Use the following buttons to add data sources and delete existing rows:

- Click to delete the existing row.
- Click to insert a field above the existing data source.
- Click to a field below the existing data source.

vii. Repeat steps **5.b.ii** to **5.b.v** to add and connect multiple data sources.

viii. Select the **Allow nulls** check box to display all the records on the report including the records without values.

7. To select fields from the selected data sources, perform the following steps:
   a. Click **Continue to Fields** or click the **Fields** tab.

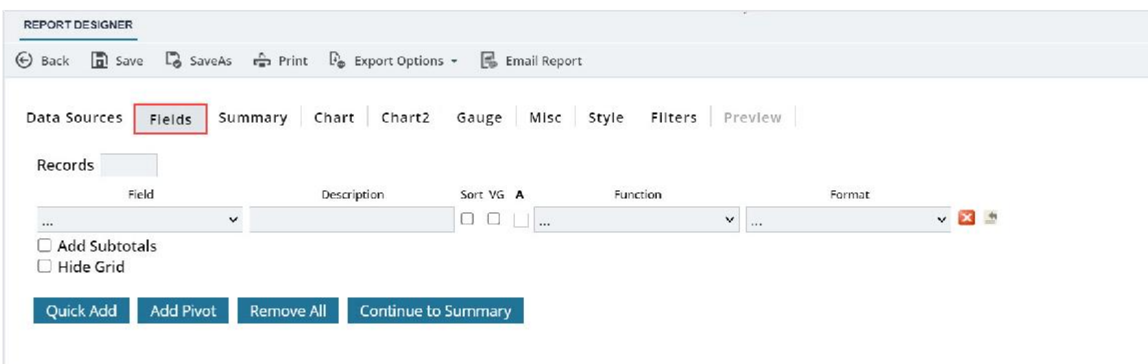


Figure 24: Fields Tab

   b. Provide the appropriate information in the **Fields** tab, as described in the following table:

Feature	Description
Records	Enter the maximum number of records that must be displayed on a report page.
Field	From the drop-down list, select the appropriate fields or use the **Quick Add** button to add multiple fields at a time.

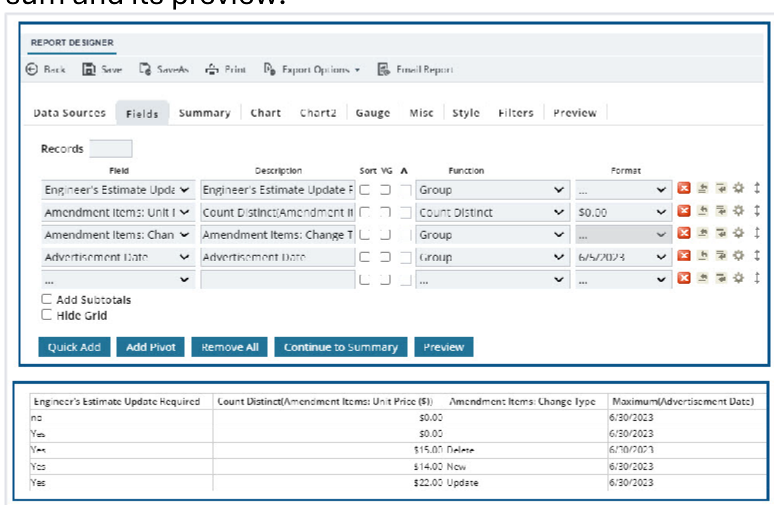
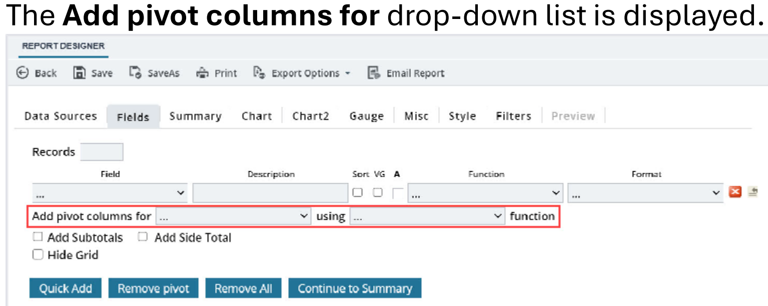
<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td></td><td>Available options are all the fields of the selected data sources.</td></tr>
<tr><td>Description</td><td>By default, it displays a title for the field.
Optionally, enter a new title for the field.</td></tr>
<tr><td>Sort</td><td>Select the check box to sort the field in ascending order on the report.
Click ⚙ to configure advanced properties for the field.
For more information on advanced properties, refer to Section 3.3. Advanced Field Settings.</td></tr>
<tr><td>VG</td><td>Select the check box to visually group your data based on the selected field.
Note: The Visual Group Style option within the Style tab defines the functionality of the Visual Group (VG) option.</td></tr>
<tr><td>A</td><td>Select the check box to select the appropriate arithmetic operator for the field.
This function performs basic calculations (+, -, x, %) and concatenation of text.
To change the arithmetic operator, click the box repeatedly until the required arithmetic function is displayed. The availability of operators varies based on whether the selected field is a numeric field, date field, and so on.
Note: The arithmetic function is applied to the selected field against the field above. Hence, you cannot use the arithmetic function in the first row.
Refer to the following image for the example arithmetic operation of sum and its preview:


Figure 25: Arithmetic Function</td></tr>
<tr><td>Function</td><td>From the drop-down list, select the appropriate function of the selected field.
Available options vary based on the type of data being accessed, such as numeric field, date field, and so on.</td></tr>
</table>

Feature	Description
Format	From the drop-down list, select the appropriate format to display the field values on the report. Available options are based on the data type.
Other Buttons	Optionally, corresponding to a row, use the following buttons to insert new fields, configure field properties, move fields, and delete existing rows: • Click to delete the existing row. • Click to insert a field above the existing field. • Click to insert a field below the existing field. • Click to configure advanced properties for the row. • For more information on advanced properties, refer to Section 3.3 Advanced Field Settings. • Drag to move the field up or down the order.
Records	Enter the number of records to be displayed in the summary on a report page.
Add Subtotals	Select the check box to include subtotal value in the report.
Hide Grid	The check box is applicable only for chart reports. Select the **Hide Grid** check box to display only the chart on the report without the field information table.
Quick Add	Click to add multiple fields to the report.
Add Pivot	The Pivot feature enables you to generate analytical data grids from within reports. The Pivot feature adds extra pivot columns to the right side of the report. This is useful for comparing data over multiple categorical dimensions. For example, a pivot table can be added when for every project, you want to view the monthly pay- outs through the pay estimates. To define inputs for the pivot table, perform the following steps: i. Click **Add Pivot**. The **Add pivot columns for** drop-down list is displayed.  *Figure 26: Pivot Columns* ii. From the **Add pivot columns for** drop-down list, select the appropriate field, and in the **function** drop-down list, select the appropriate function based on which pivot must be created.

Feature	Description
	Upon selecting the field from the **Add pivot columns** for drop-down list, the **Calculate cell values on** field is displayed. iii. From the **Calculate cell values on** drop-down list, select the appropriate value to be displayed inside the pivot. From the **function** drop-down list, select the appropriate function based on which pivot must be created. From the **format** drop-down list, select the appropriate format to display the field values on the pivot. iv. Optionally, corresponding to a row, use the following buttons to delete existing rows, insert new fields, and configure field properties: • Click to delete the existing row. • Click to insert a field below the existing field. • Click to configure advanced properties for the row. For more information on advanced properties, refer to Section 3.3. Advanced Field Settings. v. Optionally, to remove the pivot table, click **Remove Pivot.**
Add Side Total	**Note**: This field is available only if the Add Pivot feature is used. Select the check box to include side-total value in the report.
Remove All	Click to clear all the selections made in the **Fields** tab.
Continue to Summary	Optionally, click to continue to the next tab in the report design process, the **Summary** tab.
Preview	Click to preview the report in the **Preview** tab.

8. To include a summary of the necessary records to the report, perform the following steps:
   a. Click the **Summary** tab.

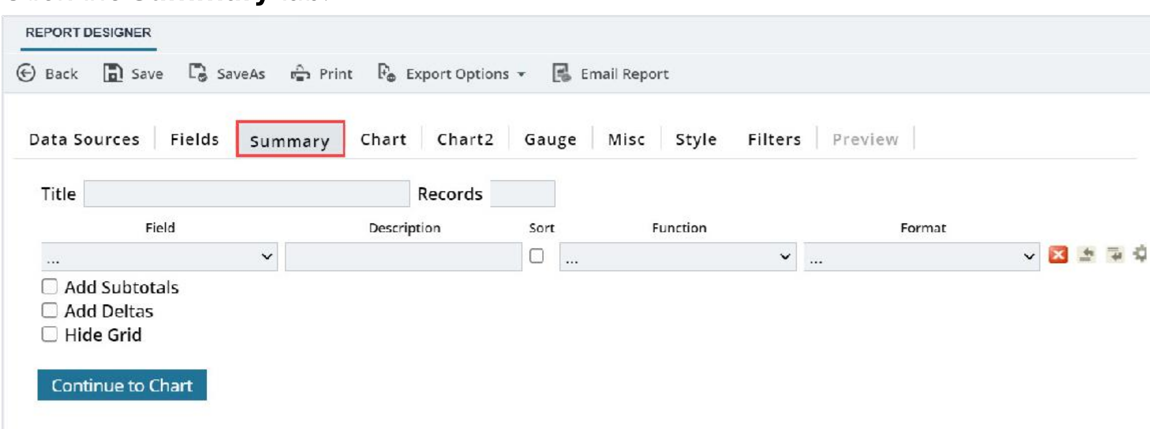


Figure 27: Summary Tab

   b. Provide the appropriate information to the properties available in the **Summary** tab, as described in the following table.

Feature	Description
Title	Enter the title of the summary.
Records	Enter the number of records to be displayed in the summary on a report page.
Field	Select fields to include in the summary.
Description	Enter the description of the selected field.
Sort	Select the check box to sort the field in ascending order in the summary of the report.
Function	From the drop-down list, select the appropriate function of the selected field. Available options vary based on whether the selected field is a numeric field, date field, and so on.
Format	From the drop-down list, select the appropriate format for display of the field values in the summary. The **Format** field is applicable for numeric functions.
Other Buttons	Optionally, corresponding to a row, use the following buttons to insert new fields, configure field properties, move fields, and delete existing rows: • Click to delete the existing row. • Click to insert a field above the existing field. • Click to insert a field below the existing field. • Click to configure advanced properties of the field. For more information on advanced properties, refer to Section 3.3. Advanced Field Settings. • Drag to move the field up or down the order.
Add Subtotals	Select the check box to display subtotals in the summary.
Add Deltas	Select the check box to display difference in values between the current row and the previous row. The difference value is displayed in a separate row.
Hide Grid	Select the check box to display only the chart in the summary without the field information table. **Note**: The **Hide Grid** check box is applicable only for chart summaries.
Continue to Chart	Optionally, click to continue to the next tab in the report design process, the **Chart** tab.
Preview	Click to preview the report in the **Preview** tab.

9. To add a Trend, Bar, Pie, or Funnel chart to the report, perform the following steps:
   Note: You can add a maximum of two charts to a report. Click **Chart2** tab to add the second chart.

a. Click the **Chart** tab.

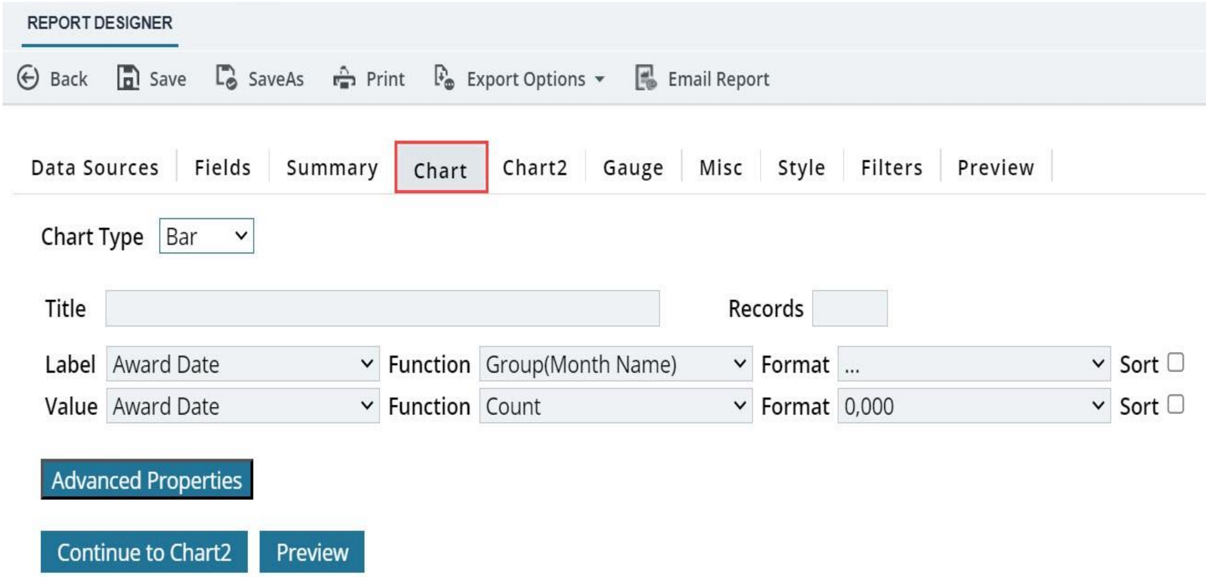


Figure 28: Chart Tab

b. Provide the appropriate information to the properties available in the **Chart** or **Chart2** tab, as described in the following table:

Feature	Description
Chart Type	From the drop-down list, select the appropriate type of chart to be displayed on the report. The properties fields to configure the chart are displayed. Available options are based on the option selected in the **Chart Type** drop-down list.
Title	Enter a title for the chart.
Records	Enter the number of records to be displayed on the chart.
Date	If the selected **Chart Type** is **Trend**, then select the time metric for the chart. The options in this field are detected automatically from the selected data sources.
Label	If the selected **Chart Type** is other than **Trend**, then select the appropriate label for the chart. The label of the chart is the name of the value on the chart. The label indicates the elements on the chart, such as the slice, bar, or time point.
Function	From the drop-down list, select the appropriate function for the selected label. Available options vary based on whether the selected label is a numeric field, date field, and so on.
Format	From the drop-down list, select the appropriate format for display of the values in the summary. **Note**: The **Format** field is applicable only for numeric functions.

Feature	Description
Sort	Select the check box to sort the field in ascending order in the report.
Sort (z-a)	Select the check box to arrange gauges in descending order.
Value	From the drop-down list, select the appropriate field value for the chart. The selected field value is the number that is displayed within each Label. The size of a pie slice, the size of a bar, or the height of a point on a line is represented by the values of this field.
Function	From the drop-down list, select the appropriate function of the selected value. Available options vary based on the whether the selected value is a numeric field, date field, and so on.
Format	From the drop-down list, select the appropriate format for display of the values in the summary. **Note**: The **Format** field is applicable only for numeric functions.
Sort	Select the check box to sort the field in ascending order in the chart of the report.
Advanced Properties	Click to configure advanced properties for the chart.
Continue to Chart2 or Continue to Gauge	Optionally, based on the tab you are in, click the button to continue to the next tab in the report design process.
Preview	Click to preview the report in the **Preview** tab.

10. To add a panel of gauges to the report, perform the following steps:
    a. Click the **Gauge** tab.

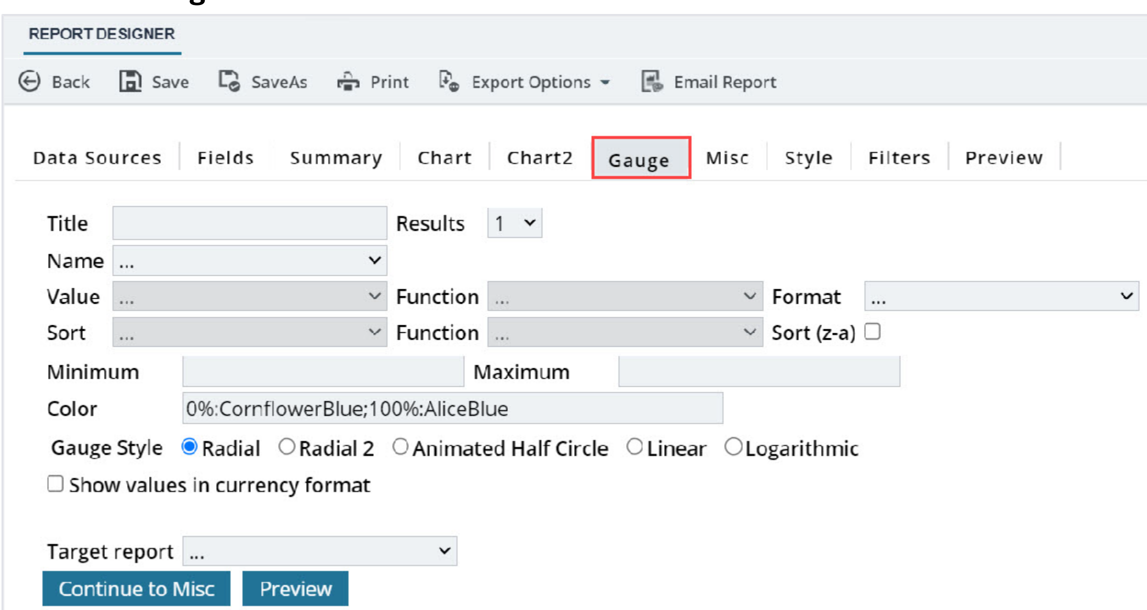


Figure 29: Gauge tab

b. Provide the appropriate information to the properties available in the **Gauge** tab, as described in the following table:

Feature	Description
Title	Enter the title of the gauge.
Results	From the drop-down list, select the number of results to be displayed in the panel of gauges. A maximum of 12 gauges can be displayed on a report.
Name	From the drop-down list, select the appropriate field for the gauge.
Value	From the drop-down list, select the value for the gauge.
Function	From the drop-down list, select the appropriate function of the selected value. Available options vary based on whether the selected value is a numeric field, date field, and so on.
Format	From the drop-down list, select the appropriate format to display the field values on the report. Available options vary based on the data type.
Sort	From the drop-down list, select the appropriate field based on which you want to arrange the gauges.
Function	From the drop-down list, select the appropriate function of the selected value. Available options vary based on whether the selected sort value is a numeric field, date field, and so on
Sort (z-a)	Select the check box to arrange gauges in descending order.
Minimum	Enter the minimum value of the gauge.
Maximum	Enter the maximum value of the gauge.
Color	Enter details of colors for each percentage on the gauge. Additionally, enter details about transitioning of the colors between the mentioned colors.
Gauge Style	Click the appropriate option.
Show values in currency format	If the selected field is a currency field, then select the check box to add currency format to the gauge.
Target report	Select the sub-report to be displayed when you hover over the gauge on the report.
Effect	If the **Target** report is selected, then select the appropriate effect for the sub-report.
Continue to Misc	Optionally, click to continue to the next tab in the report design process, the **Misc** tab.
Preview	Click to preview the report in the **Preview** tab.

11. To configure title, header, footer, and other necessary details for the report, perform the following steps:
    a. Click the **Misc** tab.

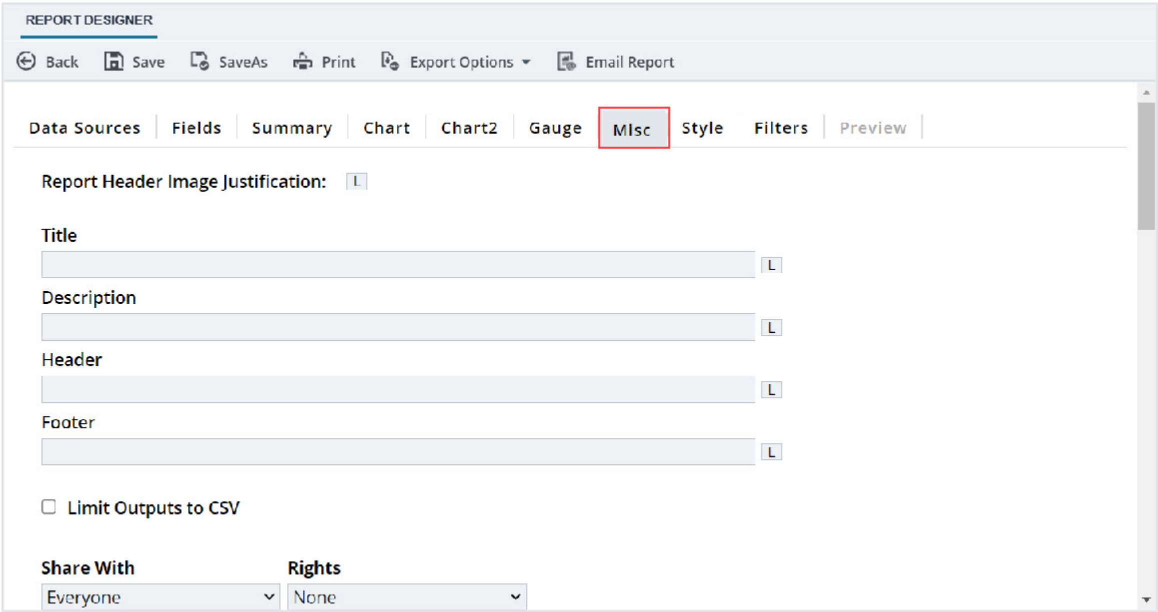


Figure 30: Misc Tab

    b. Provide the appropriate information to the properties available in the Misc tab, as described in the following table:

Feature	Description
Report Header Image Justification	Click and select the appropriate report header justification. **Note**: • L indicates left alignment. • R indicates right alignment. • M indicates middle alignment. To change the function, click the box repeatedly until the appropriate function is displayed.
Title	Enter the title of the report, and then click to set the alignment of the title on the report.
Description	Enter the description of the report, and then click to set the alignment of the description on the report.
Header	Enter the header, and then click to set the alignment of the header on the report.
Footer	Enter the footer, and then click to set the alignment of the footer on the report.
Limit Outputs to CSV	Select the check box to view the above configured data of the report only when exported as a CSV file.
Share With	From the drop-down list, select the appropriate roles with whom you want to share the report.

Feature	Description
	Users with the selected roles can now generate this report. Available roles are the roles assigned to you at the enterprise level. **Note**: Selecting the **Everyone** option shares the report with users in the roles that are assigned to you. For example, if you are assigned the Project Manager and the Director role, and you have shared a report using the **Everyone** option, then the report is visible to users with either the Project Manager role or the Director role.
Rights	Corresponding to the selected roles with whom the report is shared, select any of the following options, as applicable: • **None**: This option specifies there are no rights to view or modify the report. • **Full Access**: This option provides the rights to view, modify, and save changes made to the report. • **Read Only**: This option provides the rights to view, add, or remove filters, and modify the existing filter values. Users can modify the design of the report and save it as a new report but cannot overwrite the existing report. • **View Only**: This option provides the rights only to generate the report and the report cannot be modified. • **Locked**: This option provides the rights only to view and modify existing filter values. Users cannot add or remove filters or fields. The changes made to the report cannot be saved.
Owner	By default, the name of the logged-in user is displayed. Optionally, enter the name of the owner of the report.
Drill Down Keys	From the drop-down list, select the column names that must be displayed in the sub-report.
Ignore First Key	Select the check box to ignore displaying the first key value selected from the **Drill-Down Keys** field in the sub-report.
Schedule	Select time and date for delivery of the report.
Repeat Type	Select the schedule for repeat delivery of the report.
Send Email as	Select the mode of sending the report by email.
Recipients	Enter the email addresses of recipients, separated by commas.
Continue to Style	Optionally, click to continue to the next tab in the report design process, the **Style** tab.
Preview	Click to preview the report in the **Preview** tab.

12. To configure the necessary styles for the report, perform the following steps:
    a. Click the **Style** tab.

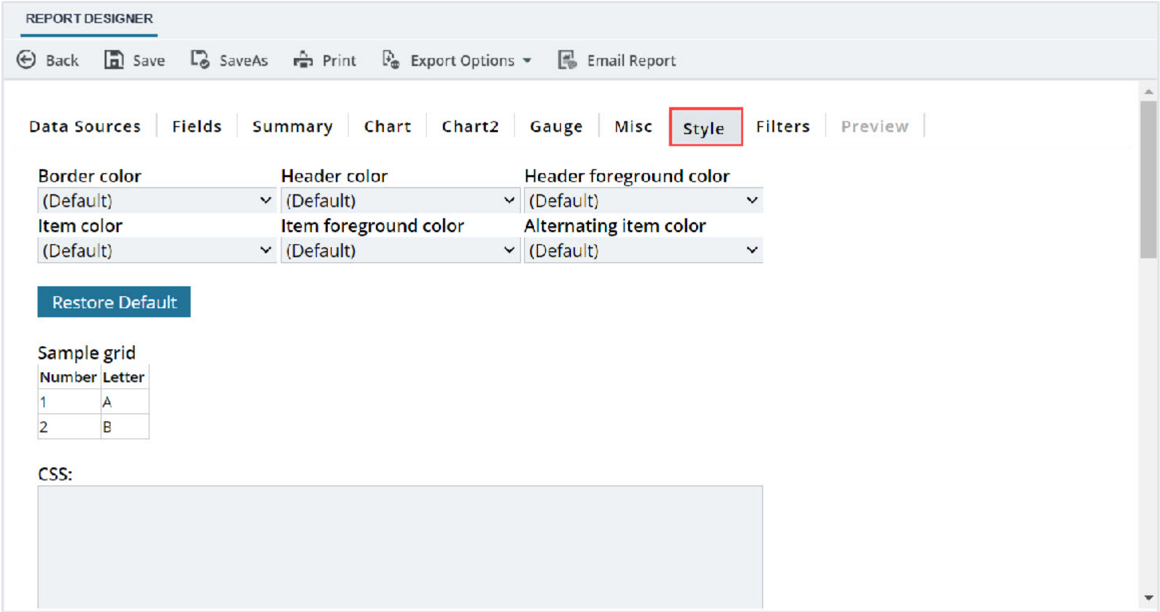


Figure 31: Style Tab

    b. Provide the appropriate information to the properties available in the **Style** tab, as described in the following table:

Feature	Description
Border color	From the drop-down list, select the appropriate color for the grid cells in the report. Based on the options selected in these fields, the Sample grid displays the preview of the changes.
Header color	
Header foreground color	
Item color	
Item Foreground color	
Alternating item color	
Restore Default	Click **Restore Default** to revert all the previously mentioned controls' settings back to their defaults.
CSS	You can define any custom CSS to be used on the report inside the text box. You can use the browser object inspector to discern CSS class names used on the grid so you can override them.
Landscape printing (PDF)	Select the check box to generate PDF outputs for the reports from the report viewer in landscape mode. Otherwise, the report is printed in portrait mode.
Show page number	Select the check box to display the page number on all page-dependent printed reports. This is not applicable to the report viewer or to XML, XLS, and CSV exports.

Feature	Description
Show date and time	Select the check box to display the date and time on all page-dependent printed reports. This is not applicable to the report viewer or to XML, XLS, and CSV exports.
Use pagination	Select the check box to enable the report viewer to use paging.
Add bookmark for each visual group	Select the check box to enable bookmarks on each visual group.
Page Break After Visual Groups (PDF)	Select the check box to enable each visual group to receive its own page when exported. This is not applicable to the report viewer or to XML, XLS, and CSV exports.
Minimize Grid Width	Select the check box to enable adjusting the margins of the data grid to match the size of the data. This can result in columns that are not uniform size.
All field headers bold	Select the check box to enable all field headers to be in bold.
All field headers italic	Select the check box to enable all field headers to be in italics.
Remove Headers for CSV Export	Select the check box to remove headers for CSV exports.
Enable Responsive Grid	Select the check box to enable the report layout to change dynamically based on the size of the screen.
Columns Width	Enter the column width for the reports.
Visual Group Style	From the drop-down list, select how you want the visual groupings to be displayed.
Items Per Page (In Viewer)	Enter the number of items to be shown per page in the report viewer.
Pivot columns per exported page	Enter the number of pivot columns to be displayed in each exported page. Optionally, select the check box against **Split all columns** to split all the columns, and select the check box against **Page break on split** to enable a page break on splitting the columns.
Report order	It enables you to set the order of items to be included in the report (Summary, Chart, Gauge, Map, and Detail). **Note**: The detail grid is the one created on the **Fields** tab.
Field|Value column pairs	From the drop-down list, select the field value style for multiple columns displaying on one row.
Show main report in Field | Value style	Select the check box to enable the entire detail grid to be shown using the defined field value style.
Show summary report in Field | Value style	Select the check box to enable the summary grid to use the defined field value style.

Feature	Description
Continue to Filters	Optionally, click to continue to the next tab in the report design process, the **Filters** tab.
Preview	Click to preview the report in the **Preview** tab.

13. To add multiple filters for a report, perform the following steps:
    a. Click the **Filters** tab.

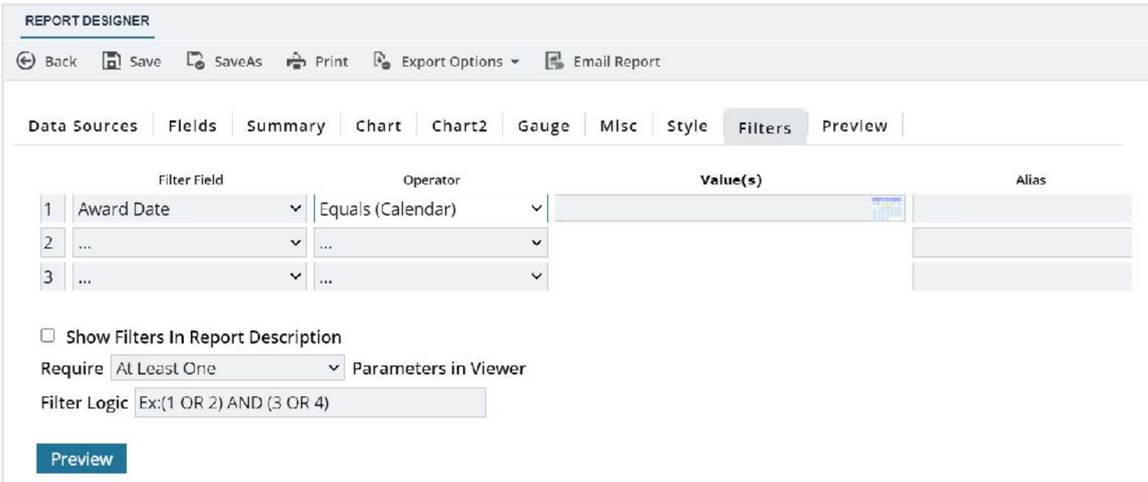


Figure 32: Filters Tab

    b. Provide the appropriate information to the properties available in the Filters tab, as described in the following table:

Feature	Description
Filter Field	From the drop-down list, select the appropriate field for the filter.
Operator	From the drop-down list, select the appropriate operator for the filter.
Value(s)	Based on the selected operator, from the drop-down list, enter or select the appropriate value for the filter. **Note**: This feature is not applicable for **Boolean** operators and the generic operators (top three options) in the list.
Alias	Enter the alias of the filter.
Blank	Select the check box to ensure the filter retrieves the information that matches the value entered or selected in the **Value(s)** field and also data that has a null value in that field..
Param	Select the check box. This will display the filtered report in the report viewer and allow the user to change the filter value. If it is not checked, then the filter will not be visible to the user and the user will not be able to change the filter.
Require	Select the check box to set mandatory rules for the filter.

Feature	Description
Other buttons	Optionally, corresponding to a row, use the following buttons to delete existing rows, insert new fields, and move fields: • Click to delete the existing row. • Click to insert a filter above the existing field. • Click to insert a filter below the existing field. • Drag to move the field up or down the order.
Show Filters In Report Description	Select the check box to add the filters being used to the Description field of the report when the report is viewed in the Report Viewer or is exported.
Require	From the drop-down list, select the appropriate parameters. You can select any of the following options: • **All** - All the field filters must be selected. • **At Least One** - Any one of the filter fields must be selected. • **The First** - The first filter field must be selected. • **The First Two** - The first two filter fields must be selected.
Filter Logic	Enter logic for the filter using Boolean Logic.
Preview	Click to preview the report in the **Preview** tab.

14. Click **Save**.

    If you have not previously saved the report, a dialog box is displayed to enter the report name and select a category.
    Alternatively, click **SaveAs**.

    A dialog box is displayed to enter the report name and select a category.

    a. In the **Input report** name field, enter the name of the report.
       Note: Refrain from using special characters such as ' (apostrophe) in the report name.
    b. To categorize the report, from the **Category** drop-down list, select the category for the report. You can either select from the existing categories or create a new category.

To add a new category, perform the following steps:

i. From the **Category** drop-down list, select **(Create New)**.

A dialog box to enter category name is displayed.

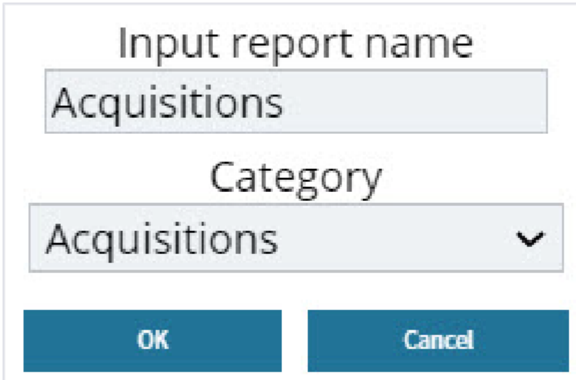


Figure 33: Report Name Dialog Box

ii. In the **New category name** field, enter the name of the category.

iii. Click **Create**.

The category is created and displayed in the **Category** drop-down list.

iv. Click **OK**.

15. In the navigation pane, click **Ad-hoc Reports**.

The report is available in the **REPORTS LIST** page.

3.3. Advanced Field Settings

Advanced field settings provide more granular control over what data is displayed in the report. You can access these settings by clicking the gear icon to the right of any row on the **Fields** tab or the **Summary** tab in the report designer.

1. Provide the appropriate information in the properties available in the **Advanced Properties** dialog box, as described in the following table:

Feature	Description
Column Group	Enter a label to this column that can work over multiple consecutive columns. Any other column that shares the same label will be included in the grouping.
Break Page After VG (PDF)	Select the check box, as applicable. If this check box is selected and this field is also a visual group, then it generates a page break in a printed report every time this field has a different value.
Multiline Header	Select the check box to enable a header to be multi-lined if the length of the header is longer than the set width of the column. Each space between words works as a line breaker.
Hide this field	Select the check box to hide the field from the display when you generate the report. This is useful for using expressions on multiple fields but when only one of the fields should be displayed.
Separator	Select the check box to break out Analysis Grid by this field. The function is identical to VG in a normal table. Since VG is used to define the hierarchy of the Analysis Grid, the **Separator** option must be used to visually group the Analysis Grid.
Sort (z-a)	Select the check box to sort the field in descending order.
Italic	Select the check box to show the column in italics.
Bold	Select the check box to show the column in bold.
Width	Enter the width of the column.
Label Justification	Click and set the column label to the left, right, or middle of the row.
Value Justification	Click and set the value of the field to the left, right, or middle of the row.
Subreport	Select the drill-down sub-report. The list contains only reports that have a drill-down key set for them. **Note**: The **Automatic** option attempts to choose a sub- report by matching the drill-down key to the selected field and cannot discern between two sub-reports that use the same drill-down key.
Drill-Down Style	From the drop-down list, select the appropriate style. Available options are: • **Link** – opens in same browser window. • **Link(New Window)** – opens in new browser window.

Feature	Description
	• **Embedded** – embeds the drill-down results into the main report. • **Popup** – opens the results on a pop-up screen. • **Combo key** - Used in combination with one of the above. When this setting is chosen for the second drill-down key, the value of both fields will be passed from the main report to the sub- report.
Url	Enter a custom Url to redirect to when the value in this cell is clicked.
Subtotal Function	Select a function for subtotals displayed with the field. The default value is "Sum". This only applies to the bottom sub-totals and not the side sub-totals. If set to **Expression**, then **Subtotal Expression** box is displayed allowing you to set an expression for the subtotal. This functions in the same fashion as the typical expression box.
Gradient Cells Shading	Select the check box to use a gradient color for cells shading.
Text Highlight	Enter a range to highlight the text.
Cell Highlight	Enter a range to highlight the cell.
Value Ranges	Enter the values for number ranges. (i.e., setting this to 0 to 10: Under will display the text "Under" when it encounters a value between 0 and 10 for that column).
Expression	Enter a customized mathematical or SQL expression to show as the value for the column cells.
Expression type	Select the data type of the field. This is most useful when you are generating output with an expression and need to specify a data type.
Group By Expression	Select the check box to include this field in the group by statement of the query. This is functionally the same as the Group function, except applicable to expression output within a field rather than to the field itself.

2. Click **OK**.