AssetWORKS

Ad Hoc Reporting

User Interface Guide

Version 24.x
Last Modified: 24.0 | March 2024

Technical Support

AssetWorks provides several ways to connect with the Customer Support team. Be prepared to provide detailed information to the representative. If you are reporting an issue by email, include screen shots of your problem. This will provide the Customer Support representative with the information needed to respond quickly and effectively.

Customer Support is available Monday through Friday, 7:00 a.m. to 7:00 p.m., Eastern Time.

Telephone: 1-610-225-8300

Email: M5Support@AssetWorks.com

Website: Community.AssetWorks.com

The support website can be used to open issues, subscribe to user groups, and download documentation, as well as to access the latest AssetWorks news. For secure access to the website, contact Customer Support by calling the number above.

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Contents

Overview

The Ad Hoc Reporting tool allows users to create and execute their own customized reports within the M5 application. It is available as an add-on license.

The Ad Hoc Reporting tool must be licensed and installed as part of the M5 application. There is specific Ad Hoc Reporting application user security that must be configured prior to using this feature.

Ad Hoc enables you to access views of the M5 data to quickly transform raw data into useful and readily understood information.

You can:

- Extract the information you need from one or more related views.
- Format data into reports, charts, pivots, and gauges.
- View the resulting report and then print it.
- Export reports in several formats, including Microsoft Word, Microsoft Excel, and Adobe PDF.
- Implement custom layout reports through Forms.

Setup and Configuration:

Please see the *M5 Ad Hoc Izenda Install Guide* for more information regarding setup and configuration for the Ad Hoc module.

If this is your first time using Ad Hoc after the install OR you have just installed a new M5 patch update, please see the Ad Hoc Query Admin section of this document for synchronization instructions.

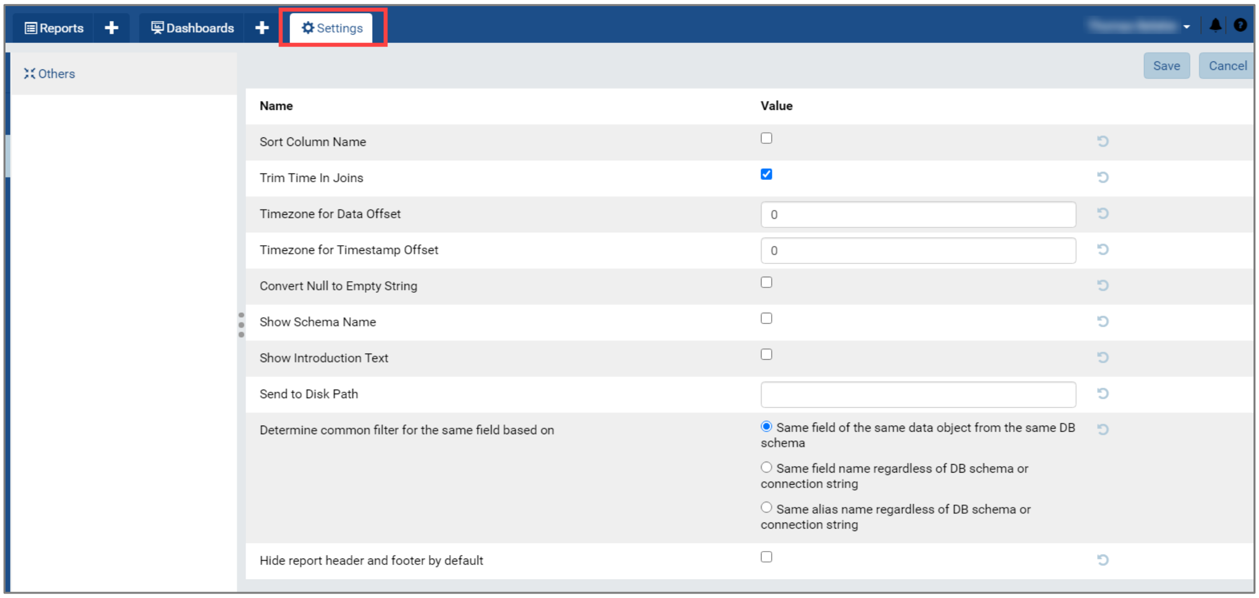
Ad Hoc permissions and access levels are configured using the following frames within the application:

- Role Maintenance
- Application User Maintenance
- Ad Hoc Group Maintenance

Ad Hoc maintenance and upkeep (system admin level) activities are carried out on the following frames within the application:

- Ad Hoc Object Maintenance
- Ad Hoc Query Admin
- Legacy Ad Hoc Query

Settings tab



Field	Description
Sort Column Name	If true (selected), then sort by position in database. If false (cleared), then sort in alphabetical order.
Trim Time in Joins	Sets whether joins using Date Time fields will use the time portion of the field.
Time Zone for Data Offset	Set the value indicating time zone offset for database data in Report Designer/viewer/dashboard for hours entered.
Convert Null to Empty String	If selected, system displays blank for any field containing NULL and blank for any field containing blank.
Show Schema Name	Select to show schema name together with data source name.
Show Introduction Text	Select to show introduction text in Report Designer on data source tab.

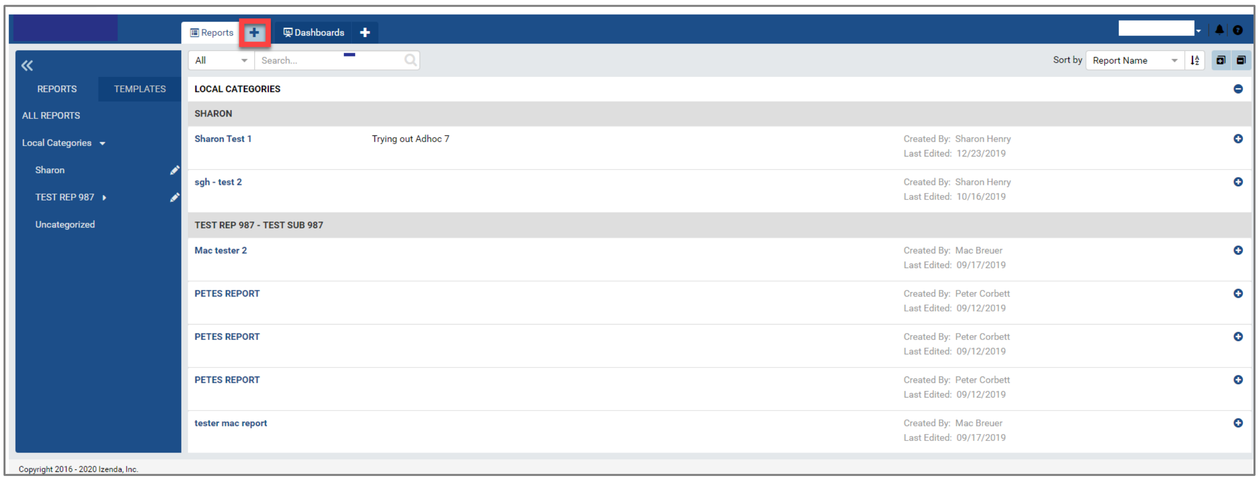
Field	Description
Send to Disk Path	Sets the path where files will be saved for any scheduled instances with a Send to Disk location specified.
Determine common filter for the same field based on	Choose how the system should consider whether different filters are to filter the same field or not so that they are eligible to be considered a common filter on the Dashboard tab.
Hide report header and footer by default	Select to hide report header and footer by default in Report Designer and Report Viewer.

Report Designer

The Ad Hoc Report Designer tab is accessed by searching for the *Ad Hoc Query* frame in M5 and navigating to that frame. Select the **Reports** tab to access the designer.

The report designer allows you to create, modify reports, and preview reports.

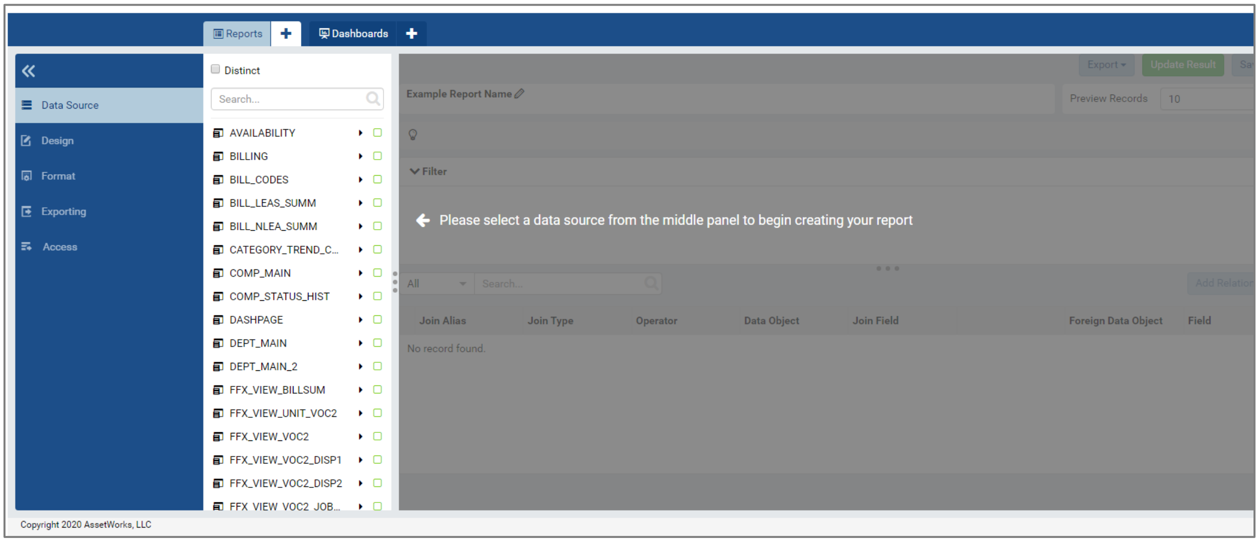
- There are two tabs at the top of the Ad Hoc Query page: **Reports** and **Dashboards**.
- To view a list of available, previously created reports, select the **Reports** tab.
- To create a new report, select the + icon on the **Reports** tab.



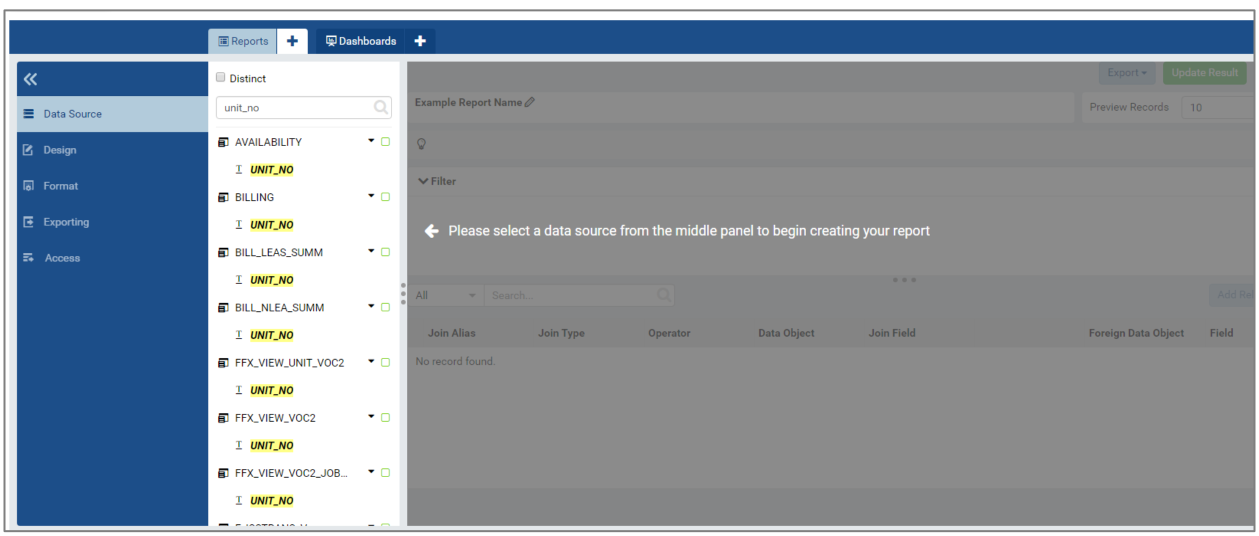
1. Data Sources

The [Report Designer/Data Source page]() allows you to:

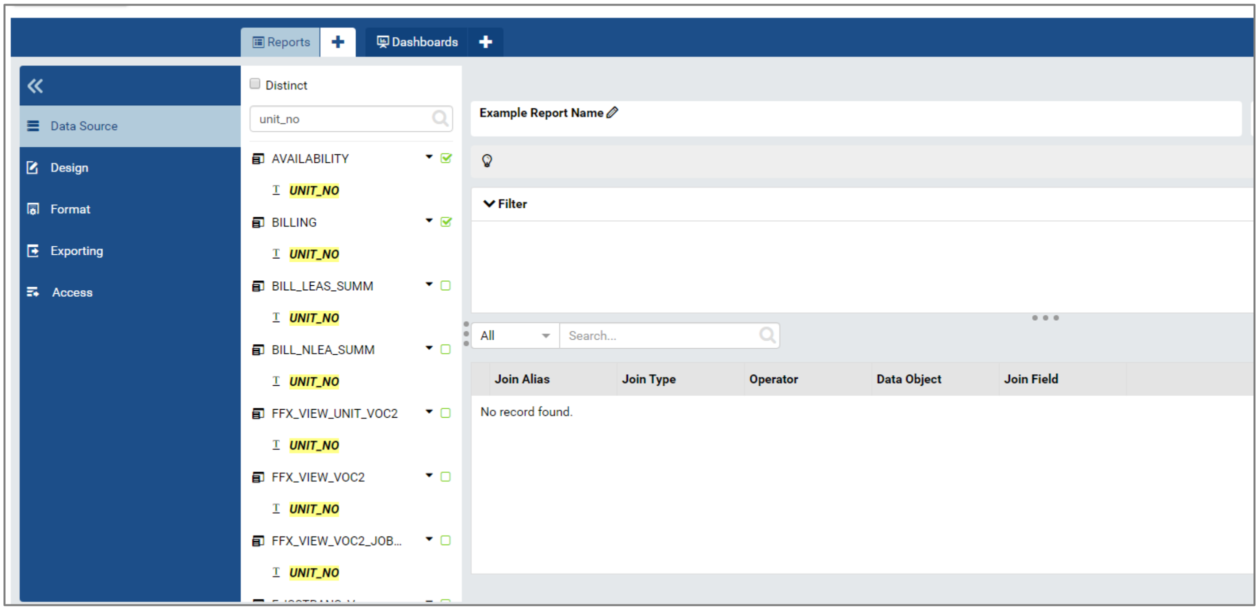
- Search for, view, and select data sources for your report.
- Set up and validates relationships between your data sources.



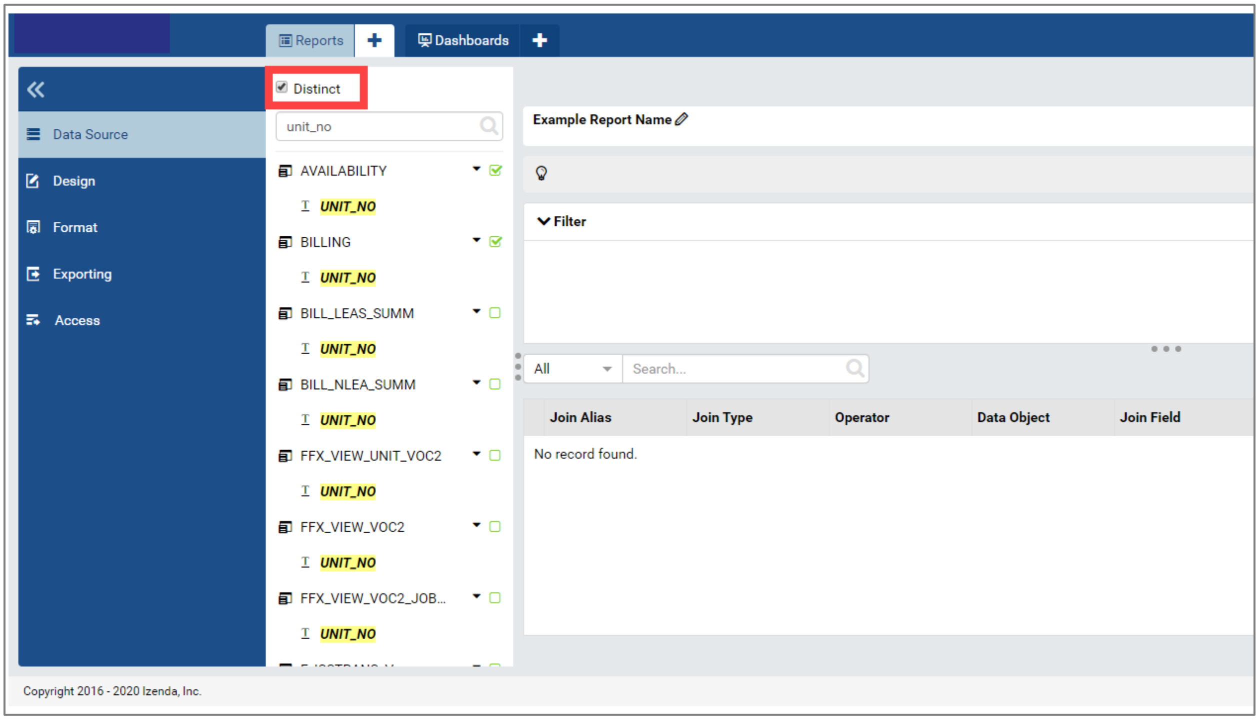
- Available tables and views display in the middle panel next to the left side menu.
- You can use the search box to quickly filter results.



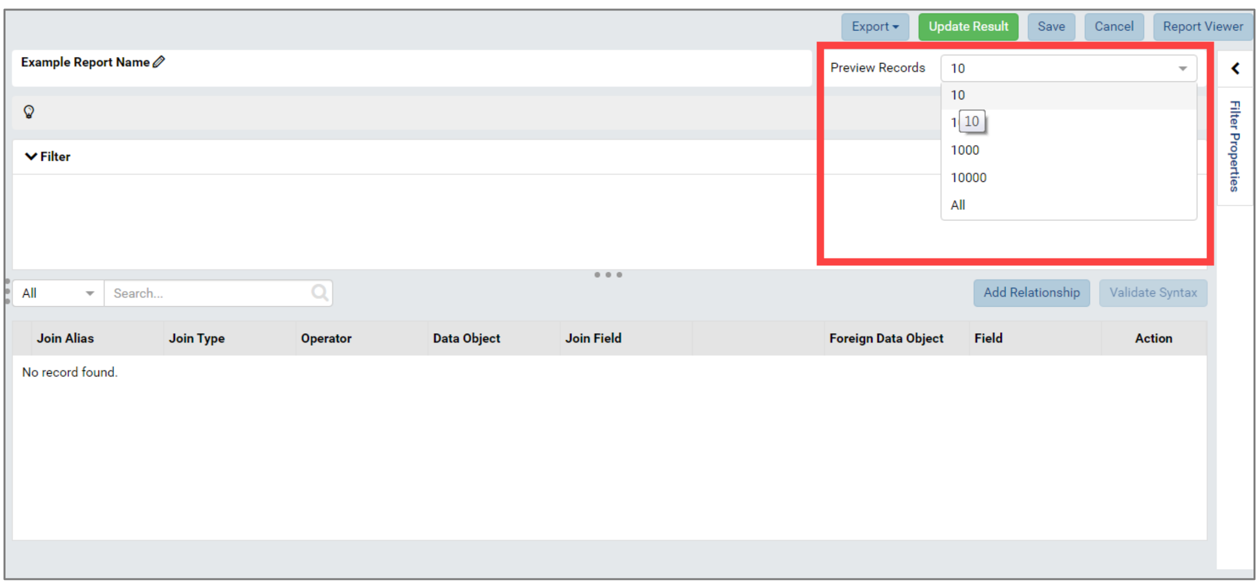
- To select a data source, select the green checkbox.
  - Existing relationships between selected data sources are automatically added to the relationship list in the Content Panel.
- To unselect a data source, clear the green checkbox.
  - Relationships between unselected data sources are automatically removed from the relationship list in the Content Panel.



- You can choose to set the report as **Distinct** by selecting the checkbox on top of the middle panel. If selected, this will force the report to return unique values only.
- If you want the report to return duplicate values, leave it clear.

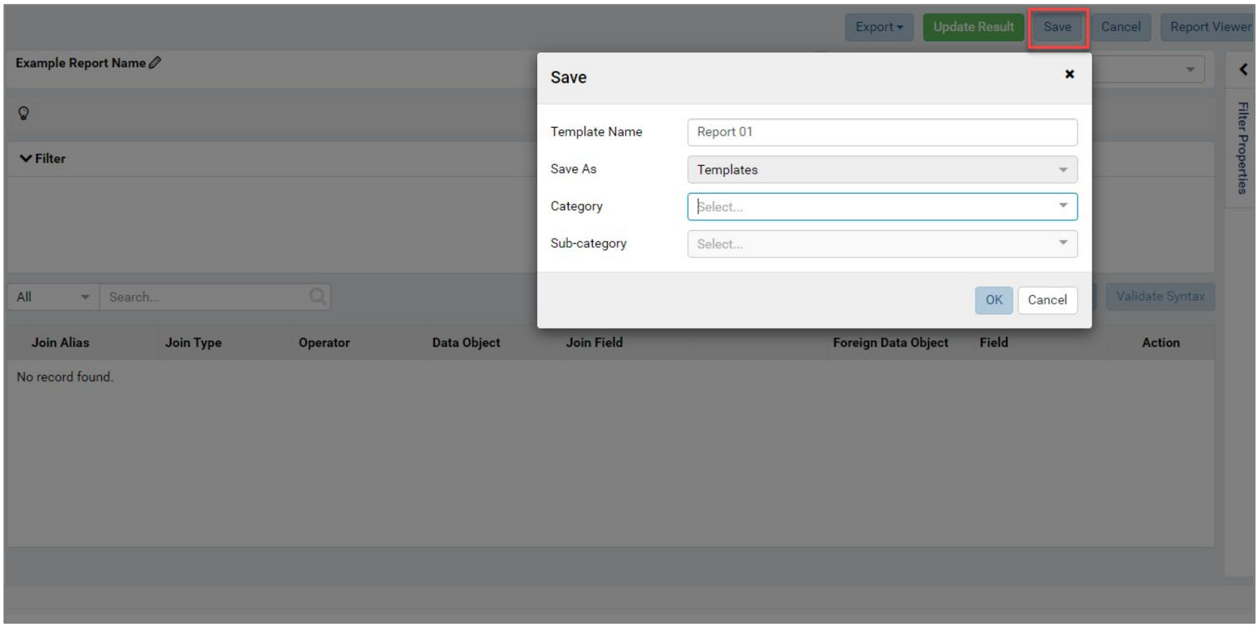


- Select the amount of preview records from the dropdown at the top of the screen.



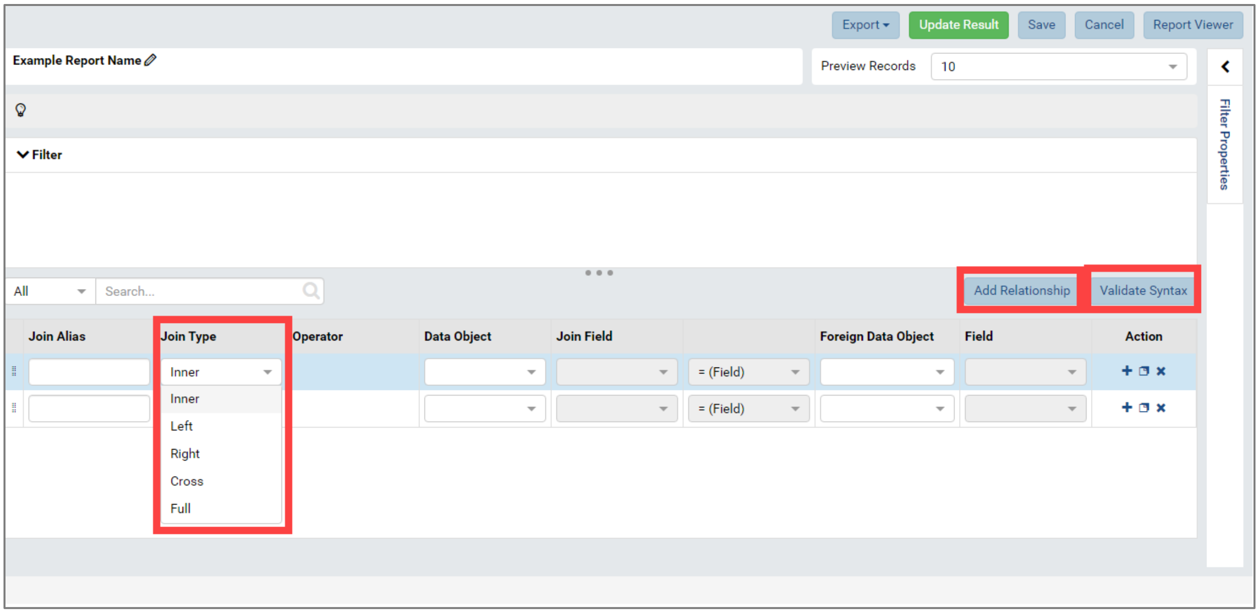
- To save the report, select the **Save** button at the top of the screen.

  If the report has more than one table or views, you will have to first edit and define the relationships to join them together. See the following page for information on join relationships for reports with more than one table or view.



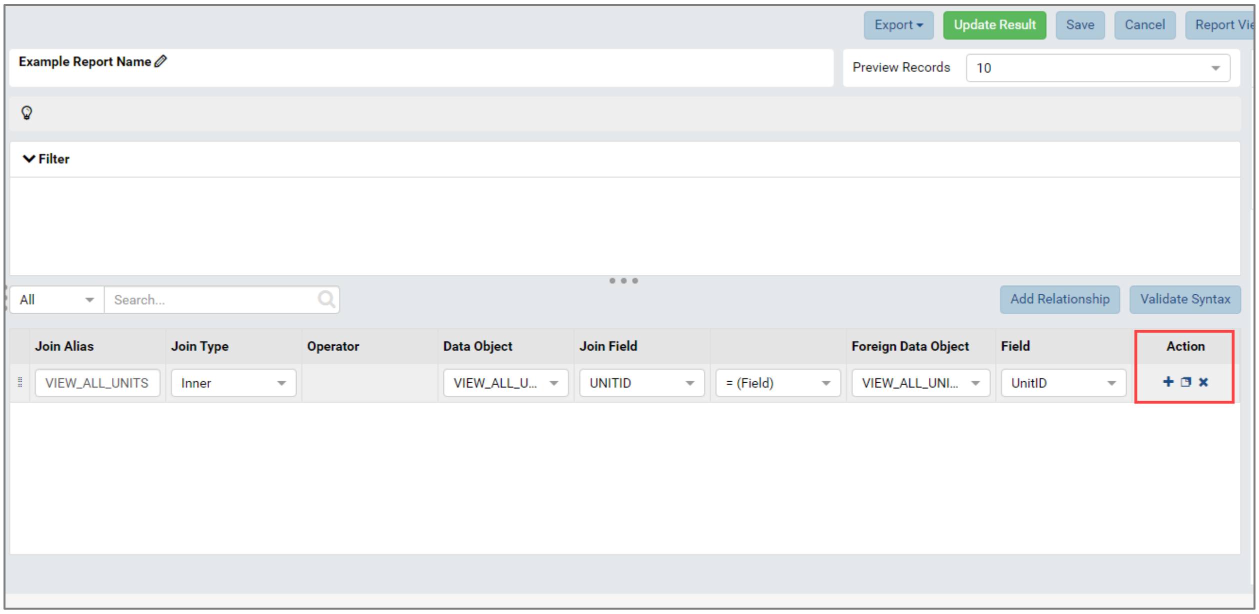
- Give the report a unique name. The report is saved as a **Template** initially. After you define any field on the **Design Page**, the **Report** option is then available.
- Select a **Category** and **Sub-Category** if necessary. You can also create new categories and sub-categories on the fly by entering new values in the fields.

  The report name must be unique. You cannot save the report with a duplicate name.



Multiple Data Sources

- When selecting multiple data sources, you must define their relationships to join them together.
- The options are:
  - **Inner (Direct) Join:** Selects rows from two tables such that the value in one column of the first table also appears in a column of the second table.
  - **Left (First Exists) Join:** The Left Outer Join known also as Left Join returns all rows from the left table in the Left Outer Join clause, no matter if the joined columns match. A field in a result row will be null if the corresponding input table did not contain a matching row.
  - **Right Join:** The Right Outer Join known also as Right Join returns all rows from the right table in the Right Outer Join clause, no matter if the joined columns match. A field in a result row will be null if the corresponding input table did not contain a matching row.
  - **Cross Join:** A cross join will return a result table where each row from the first table is combined with each row from the second table.
  - **Full Join:** The Full Outer Join known also as Full Join returns all rows from Both the Right Outer Join & Left Outer Join. A field in a result row will be null if the corresponding input table did not contain a matching row.
  - You can use the **Validate Syntax** button to make sure you have constructed a valid SQL statement before proceeding with the report.



- Action buttons:
    - The **+** icon is for adding **Key Joins**.
    - The **Copy** icon allows you to copy a relationship.
    - The **X** icon allows you to delete a relationship.

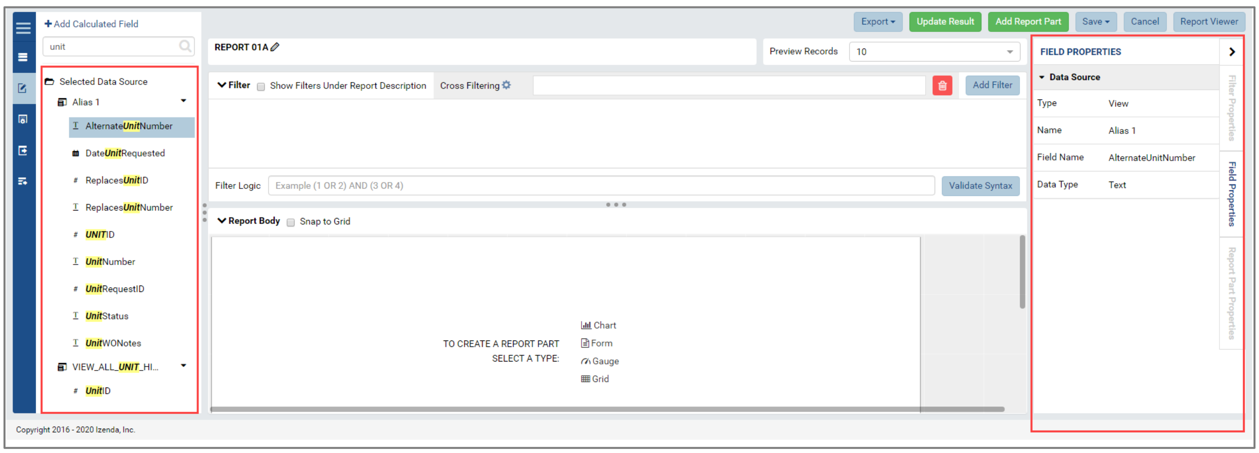
More information about the Report Designer/Data Sources can be found here.

2. Design

The Report Designer/Design page allows you to:

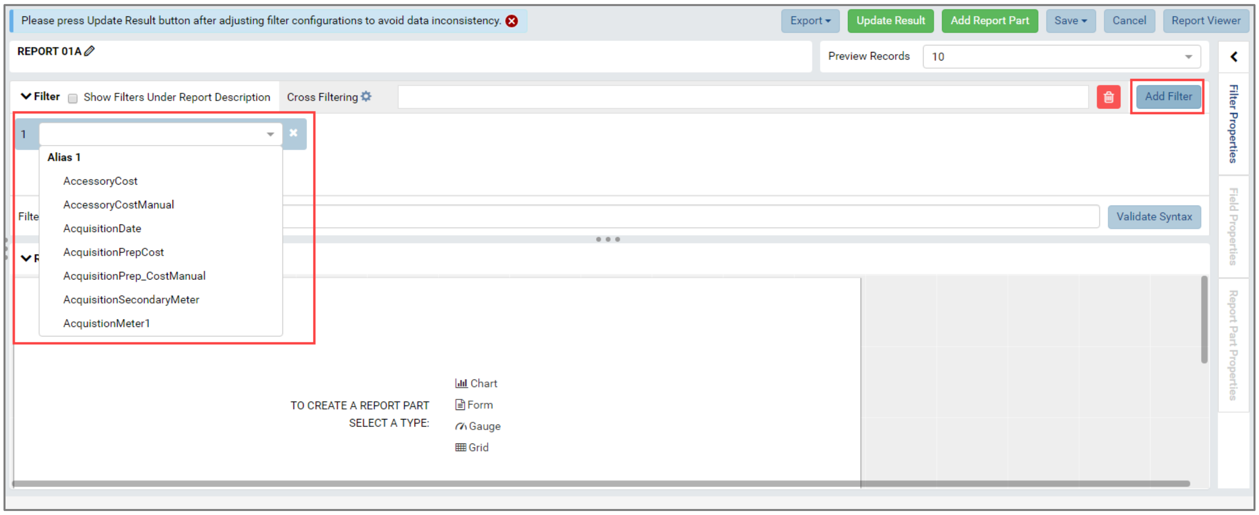
- View field properties.
- Add or edit calculated fields.
- Add or edit report parts.
- Add or edit data source fields.
- Define report filters.

View Data Source Fields

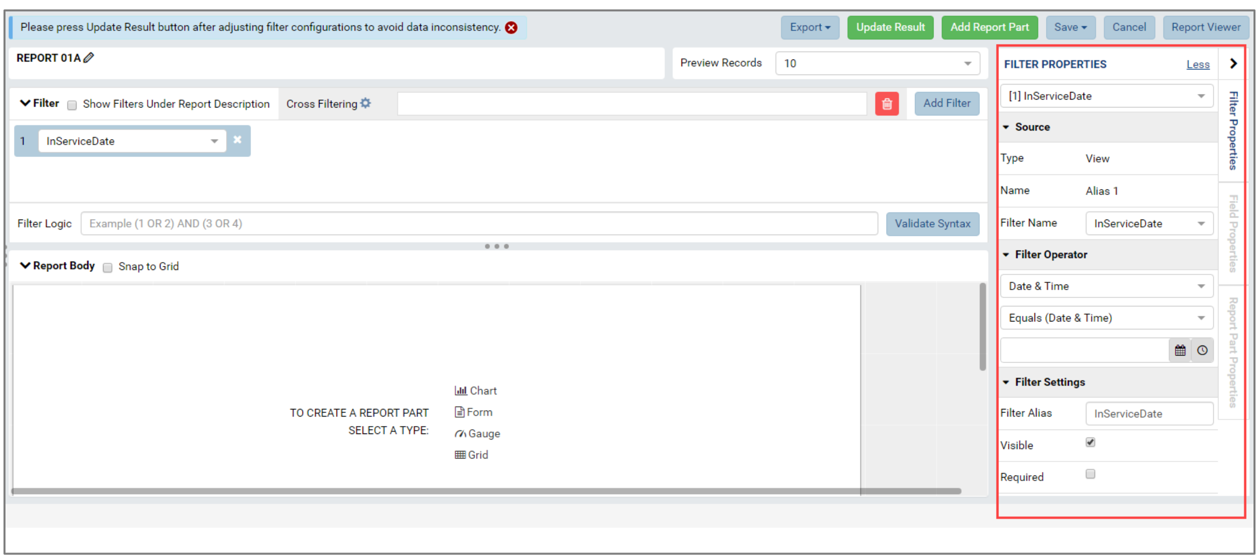


- Data sources display in the middle panel under **Selected Data Source** group.
- To expand a source's fields, select it. The fields display icons representing their data type.
- You can also search for fields in the **Search** box at the top of the panel.
- Selecting a field displays the **Field Properties** panel on the right side of the screen.

Add Report Filters



- Select the **Add Filter** button.
- Select a field from the **Filter** dropdown menu.
  - Selected filters can be dragged and dropped in the *Filter* section to arrange them as needed.



- You can configure the **Filter Properties** in the panel on the right side of the screen by selecting the **<** icon and selecting the **Filter Properties** tab.
- You can define the **Source, Operator, Settings,** and **Formatting**.
- In the **Settings** section you can define the alias, visibility, and requirement settings for the filter.

Building Complex Filter Logic

In cases where a simple match-all condition is not enough, you can construct complex filter logic if necessary.

For example, you may have three filters:

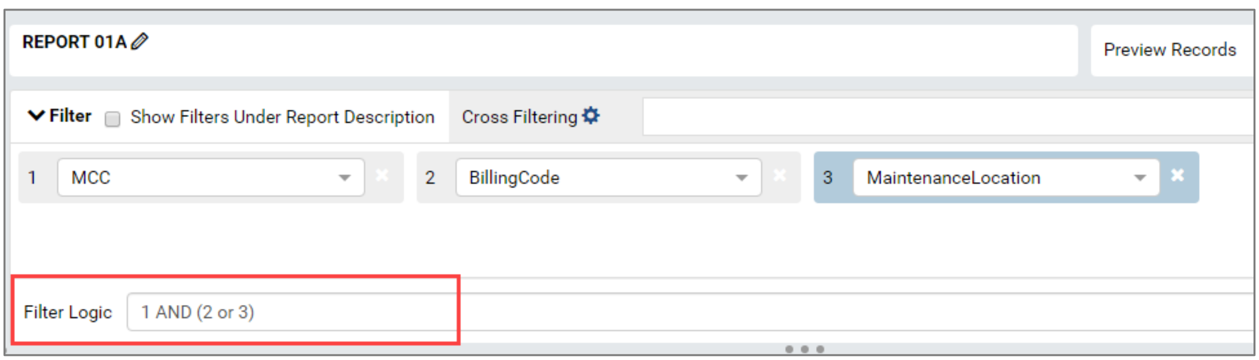
1. MCC
2. Billing Code
3. Maintenance Location

And you want to return all units with an MCC of 01, a Billing Code of 12, and a Maintenance Location of FM.

You can enter those values and you will get all units that match the 01, 12, AND FM values.

But what if you want to view all units that have an MCC of 01 AND a Billing Code of 12 OR a Maintenance Location of FM?

You can use the complex filter logic to accomplish this task.



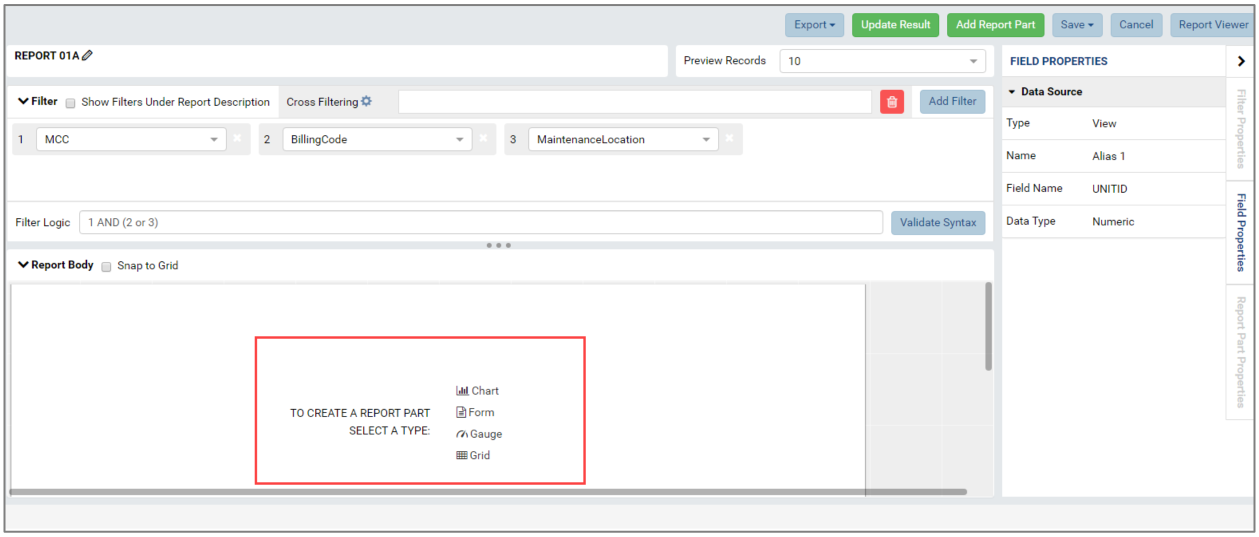
- In the **Filter Logic** field, enter 1 AND (2 or 3). This will display results that match both the value in filter 1 AND that match either value in filters 2 or 3.

Apply Cross Filtering

Select the **Cross Filtering** button to apply cross filtering. This allows you to drill up and down in multiple report parts. For each action, the report filters related parts automatically.

This functionality is only available on charts or gauges that have more than one x-axis field defined or when you have multiple report parts.

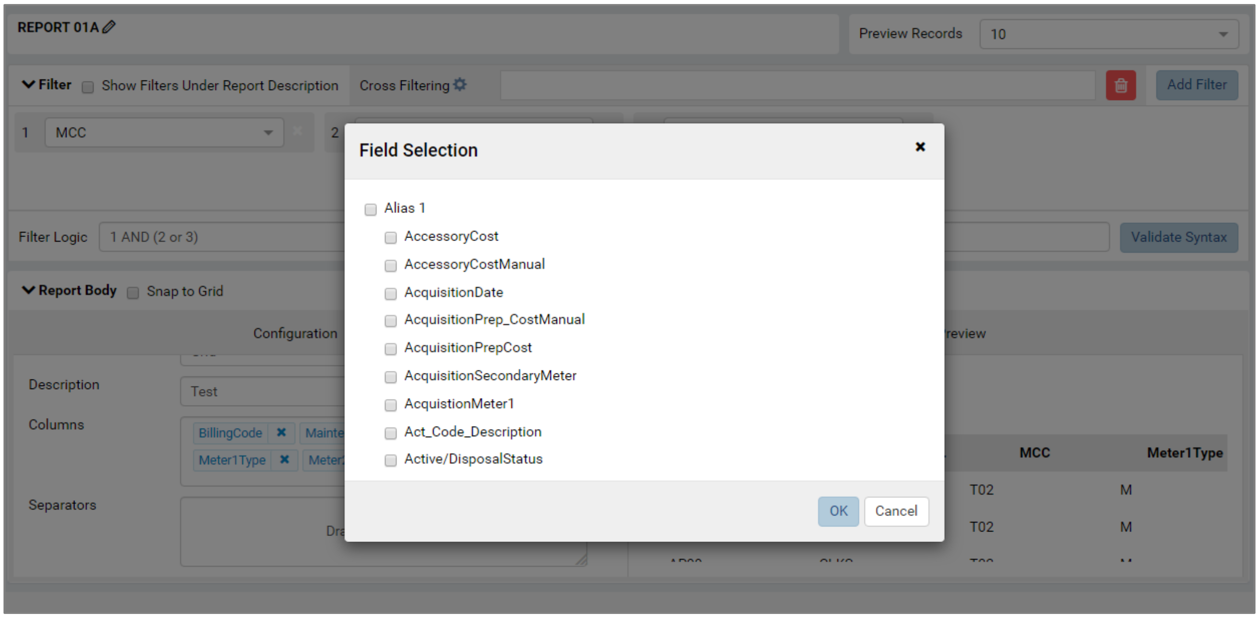
Manage Report Parts



- Built-in report parts include:
  - Chart
  - Form
  - Gauge
  - Grid
- You can add a new report part by selecting the type you want or selecting the **+** icon anywhere else in the report grid section.
- You can copy, delete and resize report parts using the report grid.

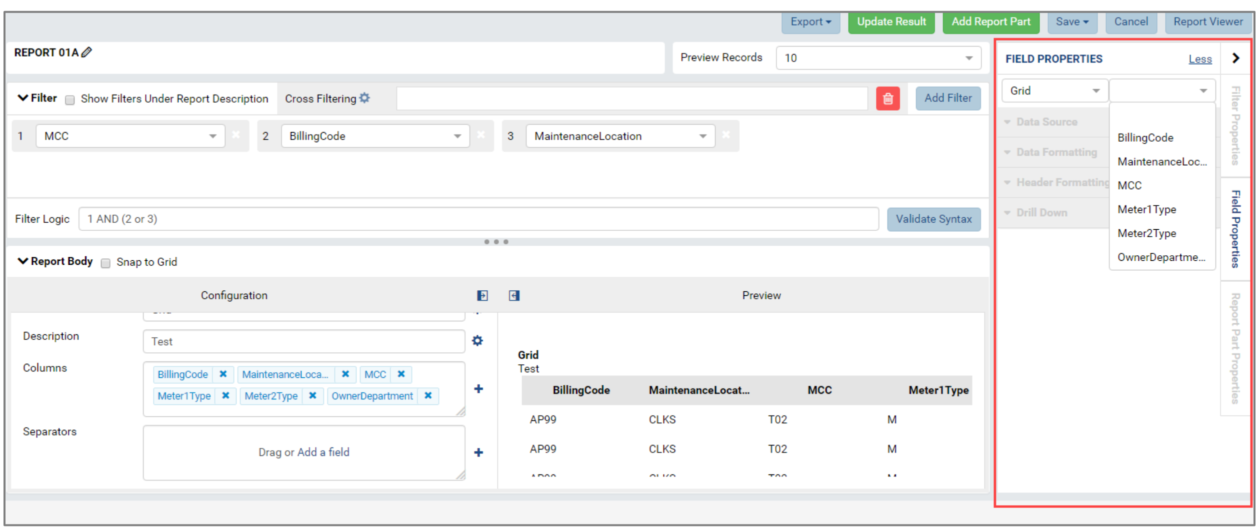
A more in-depth review of each report part is available through Izenda's user documentation.

Field Properties



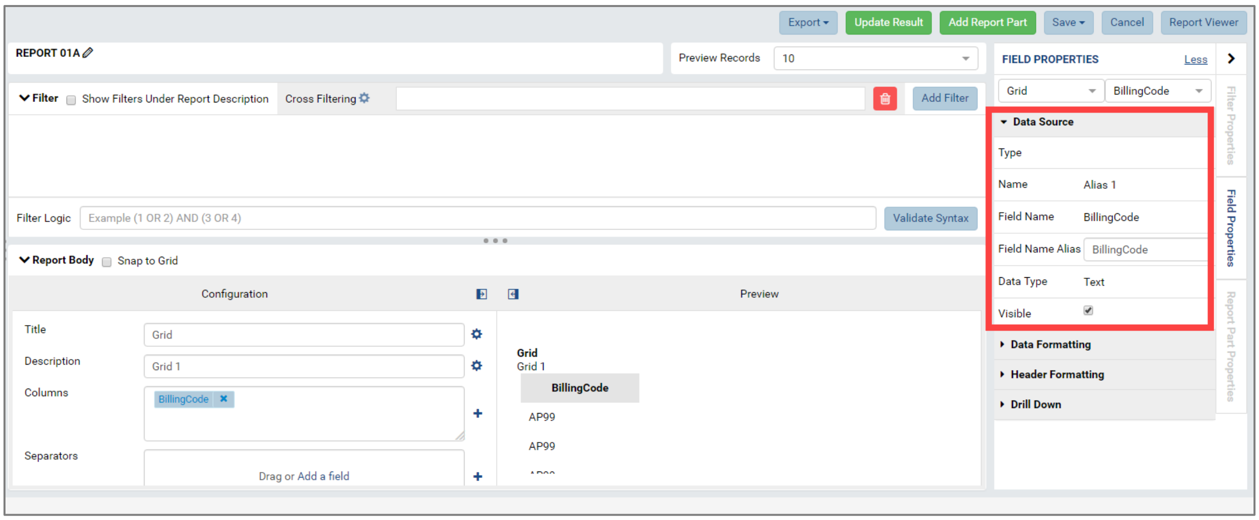
After a report part has been added to the grid (report body), you can edit your data source fields.

- Select a data source field inside the report body or you can expand the right-side panel and select the **Field Properties** tab and select *Grid* from the dropdown.
- A list of available fields displays in the dropdown next to it. The available fields display based on the values entered in the *Columns* box in the *Configuration* panel.



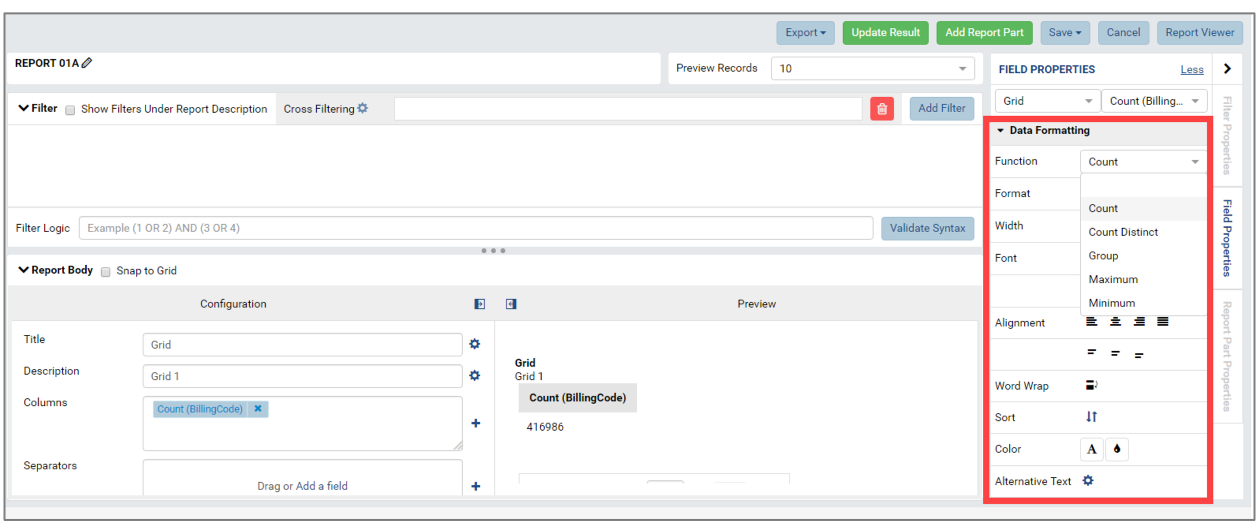
- There are four sections in this panel
    1. Data Source
    2. Data Formatting
    3. Header Formatting
    4. Drill Down

Data Source



- In this section you can edit two fields:
    1. Field Name Alias
    2. Visibility check box

Data Formatting



- In this section you can:
  - Apply a function to the field.
  - Format the display.
  - Choose font size, text effects, text color.
  - Set alignment.
  - Sort (sorting).
  - Subtotal and grand total settings.

Functions:

Name	**Description**
. . .	No function used.
Average	Averages the values in a column.
Count	Counts the number of values in a column.
Count Distinct	Counts the number of distinct values in a column.
Maximum	Takes Maximum value of a field.
Minimum	Takes Minimum value of a field.
Sum	Sums the values in a column.
Sum Distinct	Sums the rows with distinct values in a column.
Group	Groups field values together for aggregating.
Group (Day)	23; day of month .
Group (Month)	3; instead of March.
Group (Year)	2019
Group (Month Name)	July
Group (Date)	7/4/2019
Group (Day of Week)	Sun or Mon
Group (Year & Month)	2019 -07
Group (Year & MN)	2019 - Jul

Name	Description
Group (Week)	Jul 01 – Jul 07 (Sunday to Saturday of Week).
Group (Year & Quarter)	2019–Q3
Days Old	342 (Number of Days from Today's Date).
Sum (Days Old)	782 (Sums the Number of Days from Todays Date).

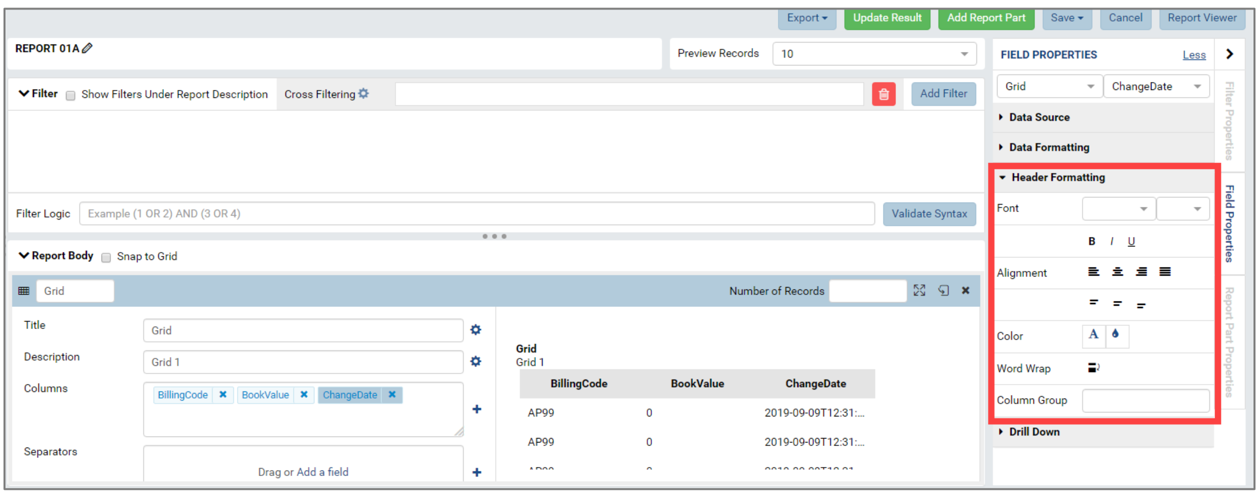
Numeric Formats

Name	Description
. . .	Displays the number as it is stored in the database.
0,000	Displays as a whole number.
0,000.00	Displays with two decimal places.
$0.00	Displays as currency with two decimal place.
$/100	Displays the Number / 100 In currency format.
0.0	Displays with one decimal place.
0.00	Displays with two decimal places.
0.000	Displays with three decimal places.
0%	Displays the number as a percentage.
% of Group (with rounding)	Same as % of Group but rounds to closest tenth (ex. 1.11547% would be 1.1%).
% of Group	Calculates the percentage of the row value to the entire group of values.
Gauge	Shows value in a Linear Gauge instead of a numerical value.
Gauge (variable)	Shows values in a Linear Gauge which changes format due to values.
Dash Gauge	Shows values in a Linear Gauge which changes format due to values.

Date/Time Formats

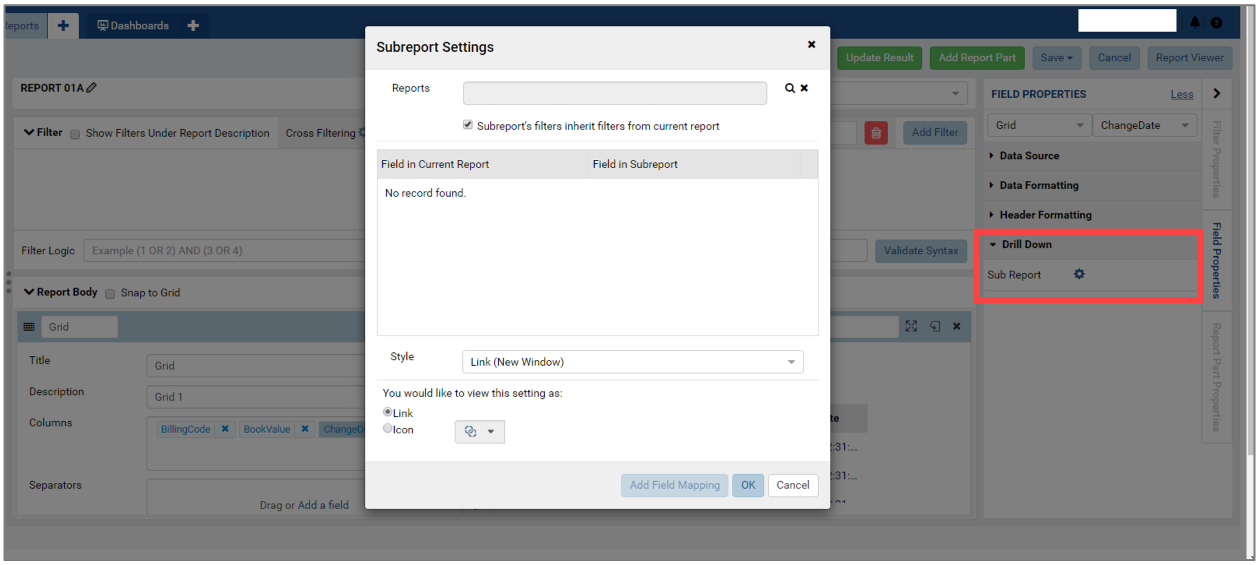
Name	Description
. . .	Displays the date as it exists in the database.
Short Date	Displays date using the mm/dd/yyyy format.
Long Date	Displays the day of the week, month, numeric day, and the year.
Short Time	Displays time as hh:mm AM/PM.
Long Time	Displays time as hh:mm:ss AM/PM.
Full (short)	Displays the Long Date format, followed by the Short Time format.
Full (long)	Displays the Long Date format, followed by the Long Time format.
D&T (short)	Displays the Short Date format, followed by the Short Time format.
D&T (long)	Displays the Short Date format, followed by the Long Time format.

Header Formatting



- You can format header settings, such as font, font size, alignment, color, word wrap, and column group.

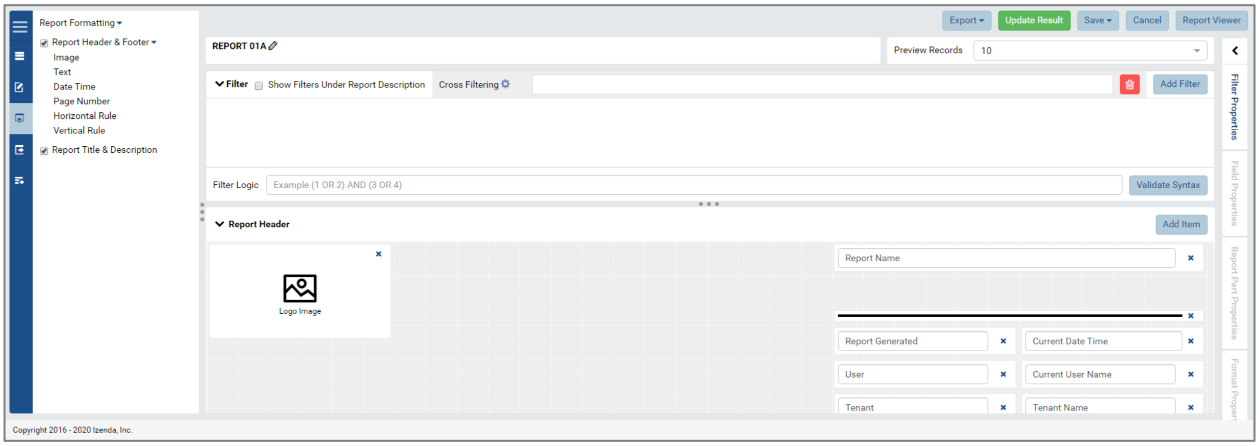
Drill Down



- The *Drill Down* section allows you to configure sub reports.

More information on the Report Designer/Designer section can be found [here](#).

3. Format



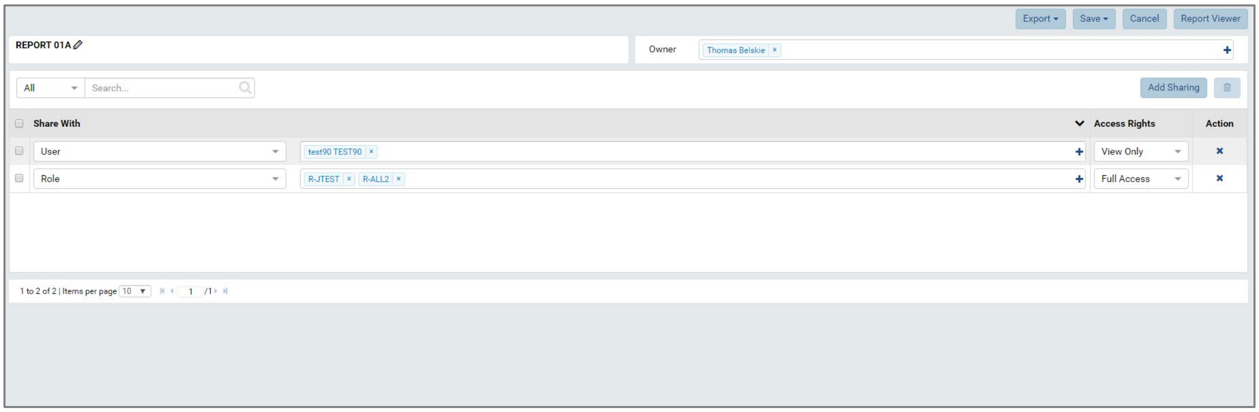
The [Report Designer/Format]() page allows you to:

- Format the layout for the report's header and footer.
- Enter a title and description.
- Enter additional report items:
    - Image (URL-based only)
    - Text
    - Date/Time
    - Page Number
    - Horizontal Rule
    - Vertical Rule

4. Exporting

The Exporting page allows you to view a generated preview of the report as well as export the query execution SQL to a .txt file.

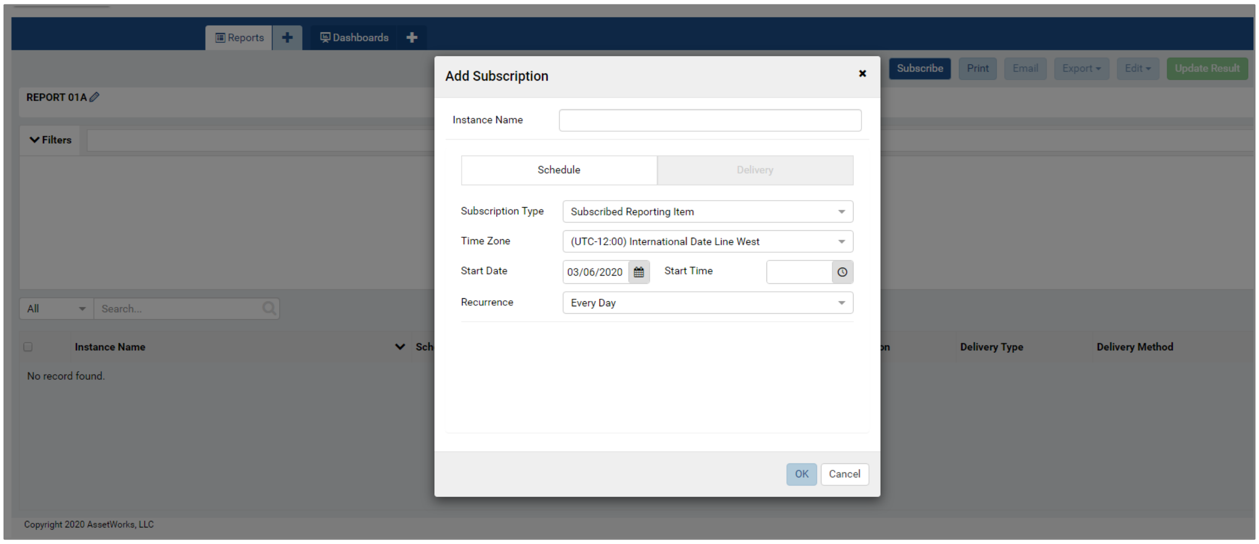
5. Access



The Report Designer/Access page allows you to:

- View and edit report owner.
- View list of sharing's.
- View, edit, or remove who the report is shared with.
- To add a sharing, select the **Add Sharing** button, select **Everyone, User, or Role**, select the appropriate entities to share with, then set **Access Rights**.
- You can delete/revoke access by selecting the **X** icon.

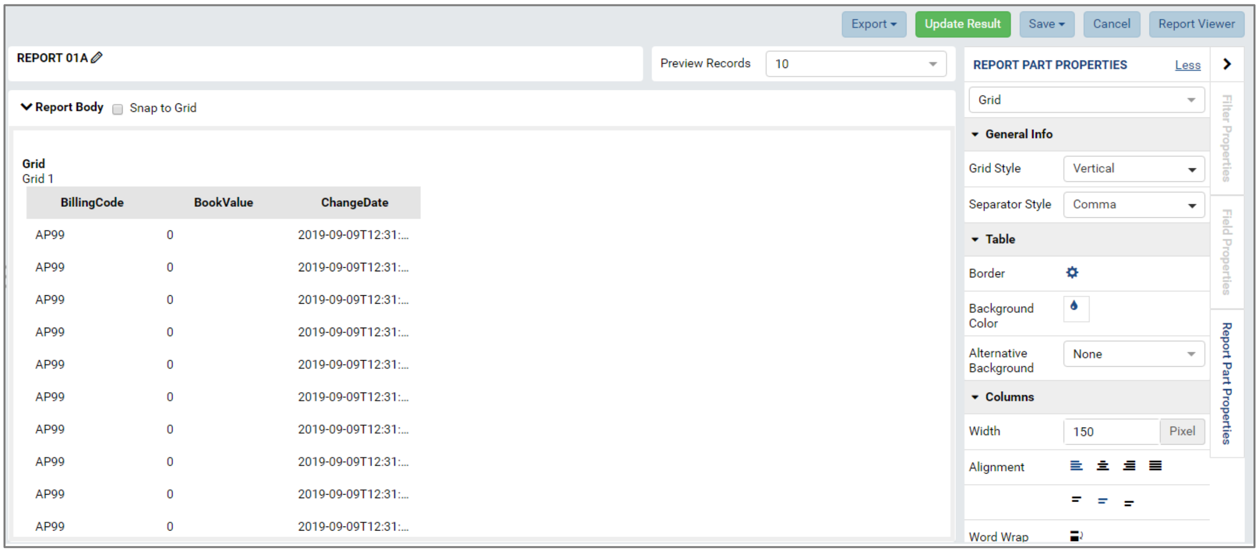
6. Report Viewer



The Report Viewer option allows you to:

- View report output.
- Schedule the report by using the **Subscription** functionality.
- Export to a variety of file formats.
- Print the report.
- Hide header and footer.
- Email a report.

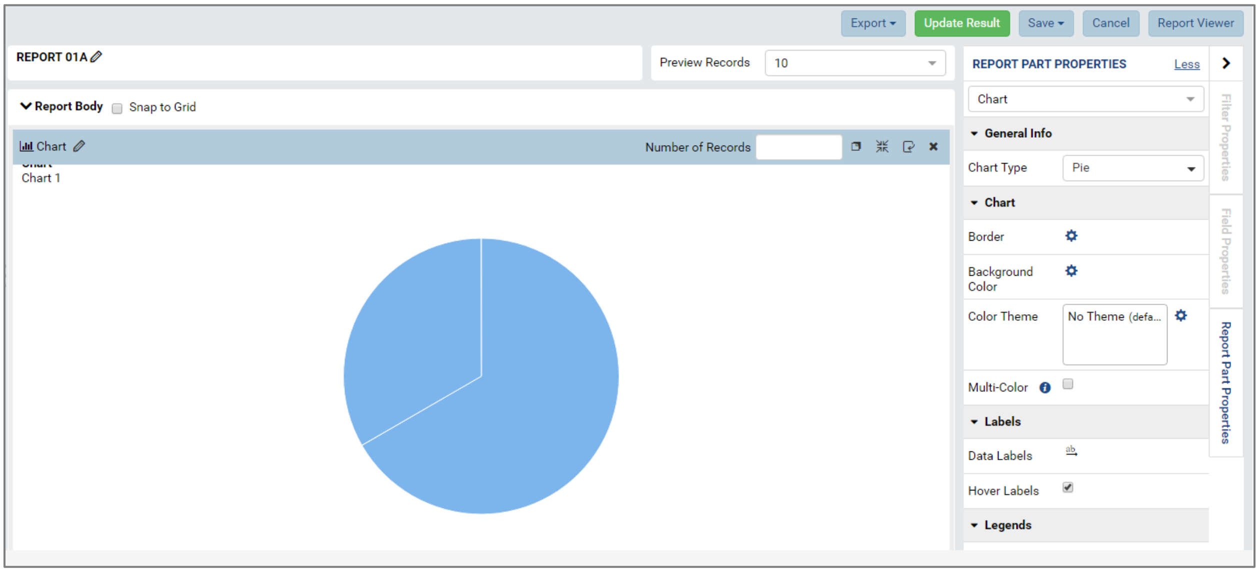
7. Grid – Report Part



The Report Designer/Grid page is a report type available for use on the report grid or report body section. It supports four different styles: vertical, horizontal, pivot, and drill-down.

Report Part Properties are edited in the right-side panel.

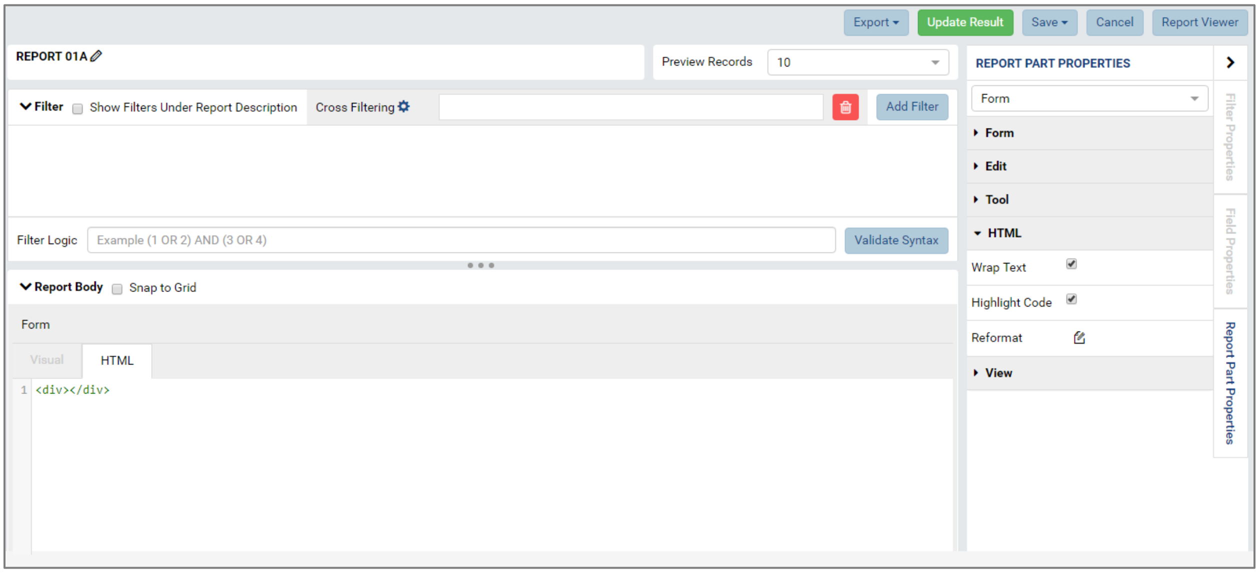
8. Chart – Report Part



The Report Designer/Chart page is a report type available for use on the report grid or report body section. It displays data using graphical symbols, options include pie charts, line charts, and bar charts.

Report Part Properties are edited in the right-side panel.

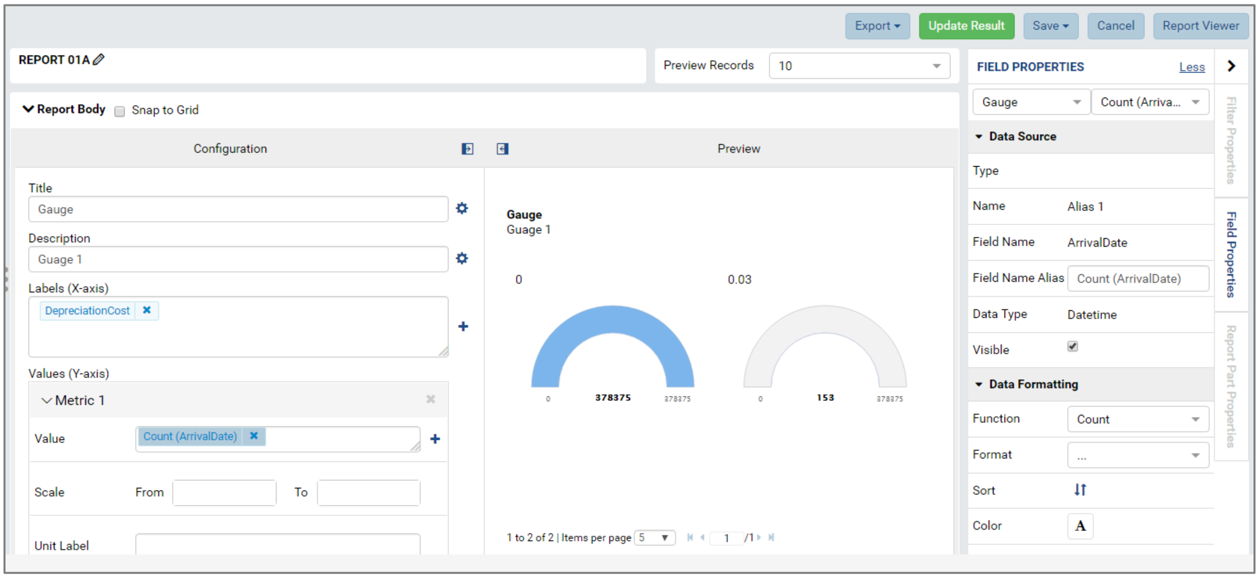
9. Form – Report Part



The Report Designer/Form page is a report type available for use on the report grid/report body section.

Report Part Properties are edited in the right-side panel.

10. Gauge – Report Part



The Report Designer/Gauge page is a report type available for use on the report grid or report body section. This type of report displays data using a speedometer-like graphic.

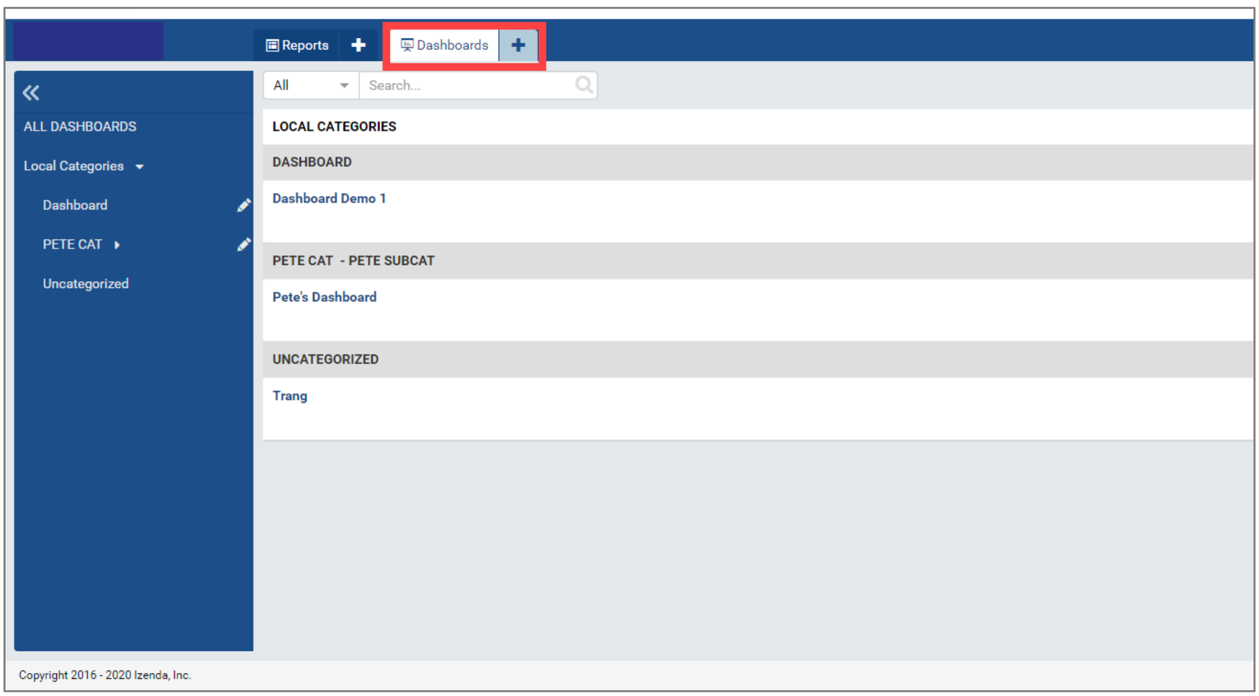
Report Part Properties are edited in the right-side panel.

Dashboard Designer

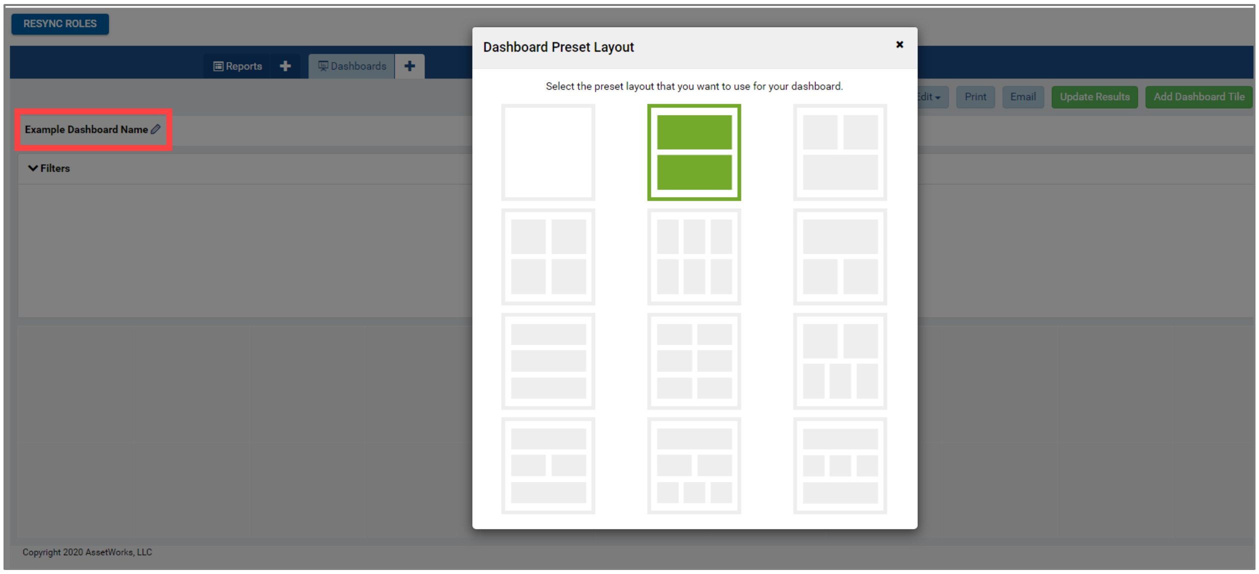
Dashboards are collections of report parts. You can pull one or more parts of one or more Izenda reports into a dashboard and arrange them in a custom manner.

The Dashboard Designer page allows you to:

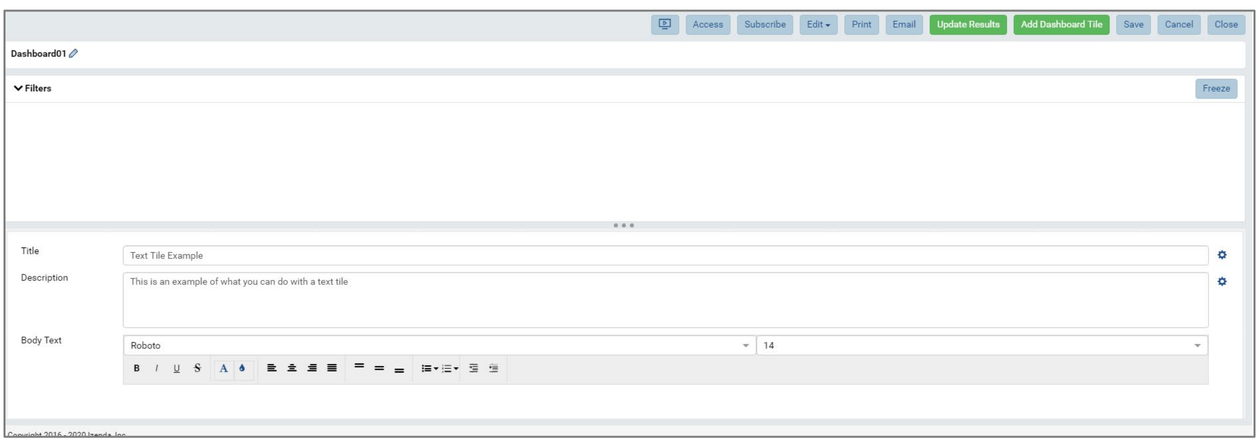
- Use preset layouts or customize layout.
- Add report parts.
- Edit description and background.
- Copy and move dashboards.
- Use presentation mode.
- Configure sharing access.
- Manage subscriptions and schedules.
- Print, e-mail dashboards.
- Manage filters.

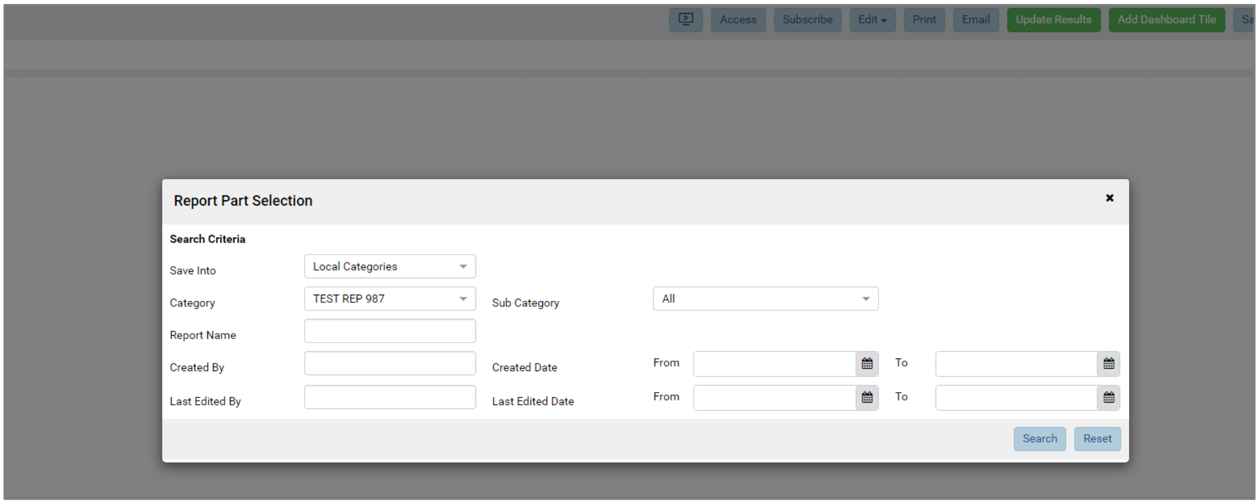


- To create a new dashboard select the **+** icon.
- You can select a blank layout or one of the preset options from the popup.

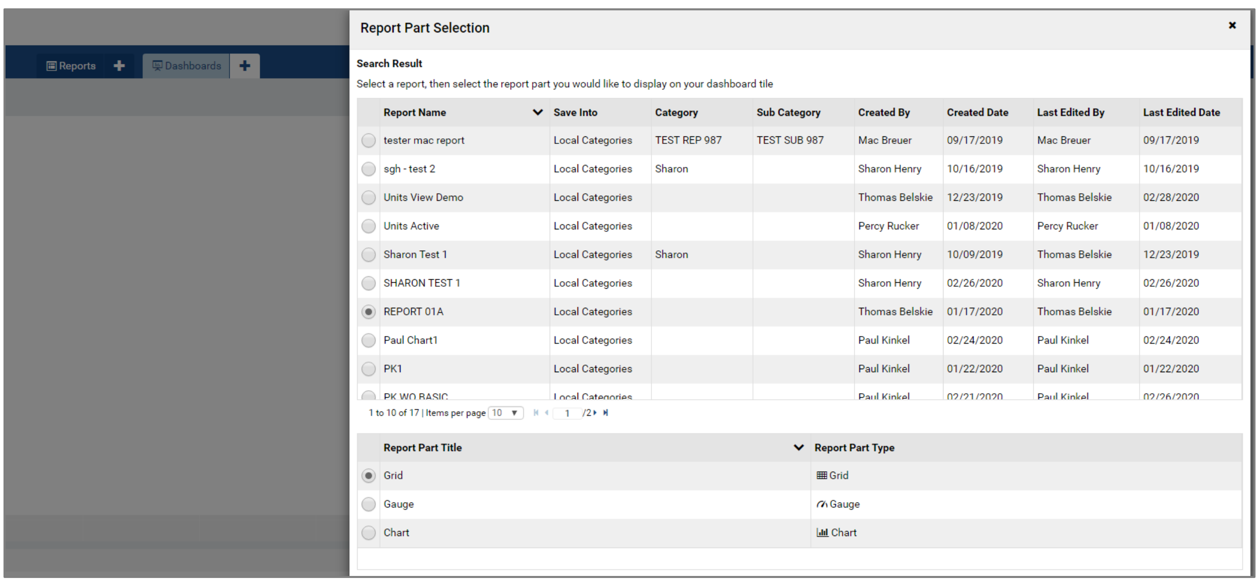


- You can also rename the dashboard by selecting the **pencil** icon next to the dashboard name.
- You can add additional tiles by selecting the **Add Dashboard Tile** button to the left of the **Save** button.
- Each dashboard tile has two options for type:
    1. Report Part
    2. Text





- To add a report part, select the **Report Part** option in the tile.
- The **Report Part Selection** pop-up displays, you can search through available parts here. Enter criteria and select **Search**.
- A list of available reports displays.

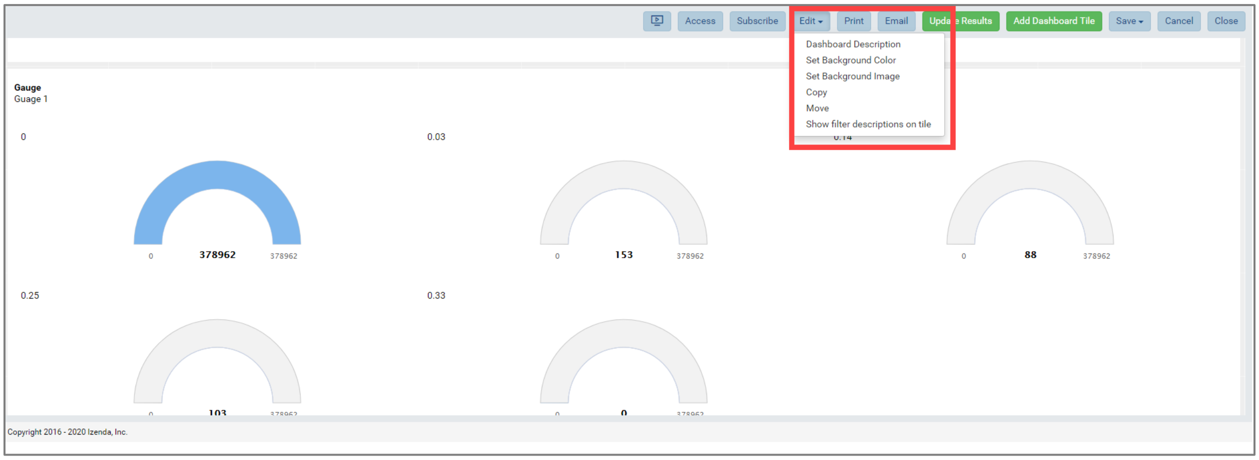


- Select the radio button next to the report from which you want to add a report part.
- A list of available report parts displays below the report list.
- Select the radio button next to the report part you want to add.

  You can only add one report part per tile. If you want to add multiple parts from the same report, you will have to add a tile to the dashboard for each one.

- Select **Ok** to add the part to your dashboard.

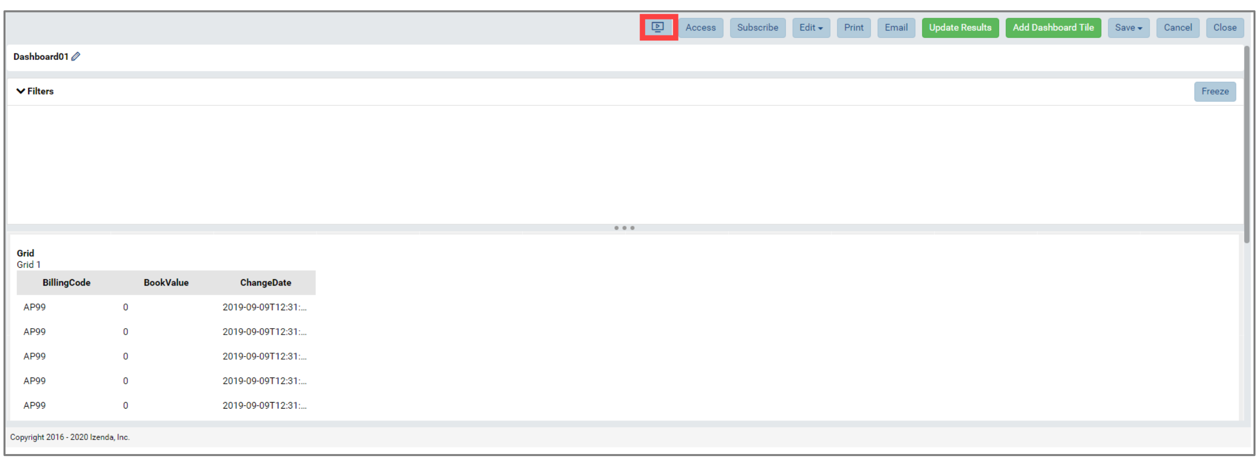
Edit Dashboard



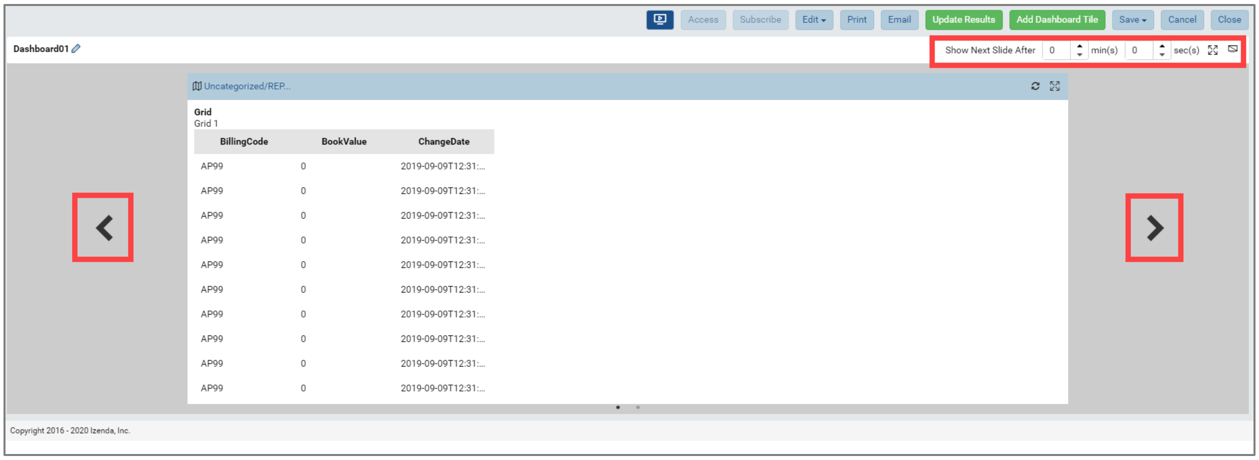
The Edit dashboard menu allows you to:

- Edit the description.
- Set a background color and image.
- Copy or move the dashboard.
- Show or hide filter descriptions.

Presentation Mode

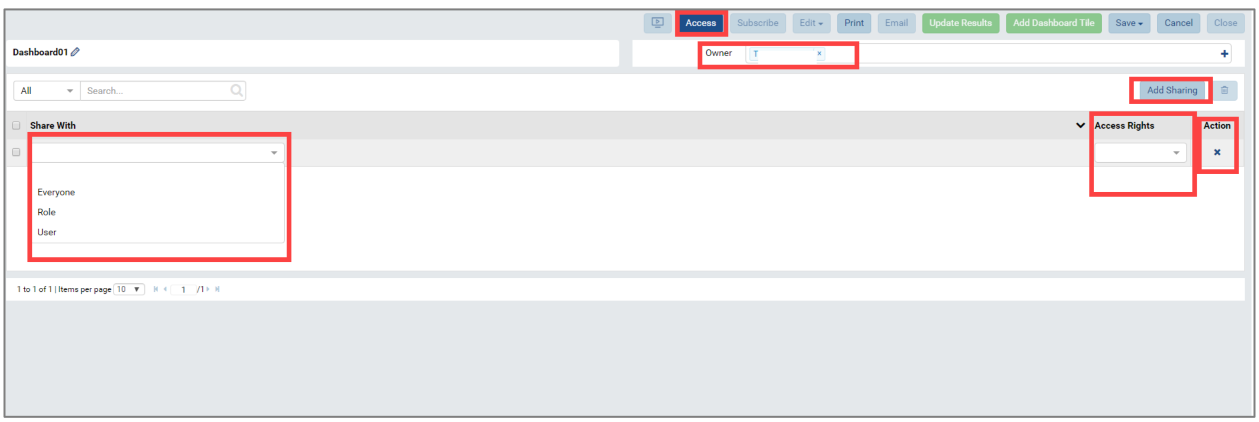


- Select the **play** icon to enter **Presentation Mode**.
- This mode allows each dashboard tile to take a turn being displayed for a set amount of time.



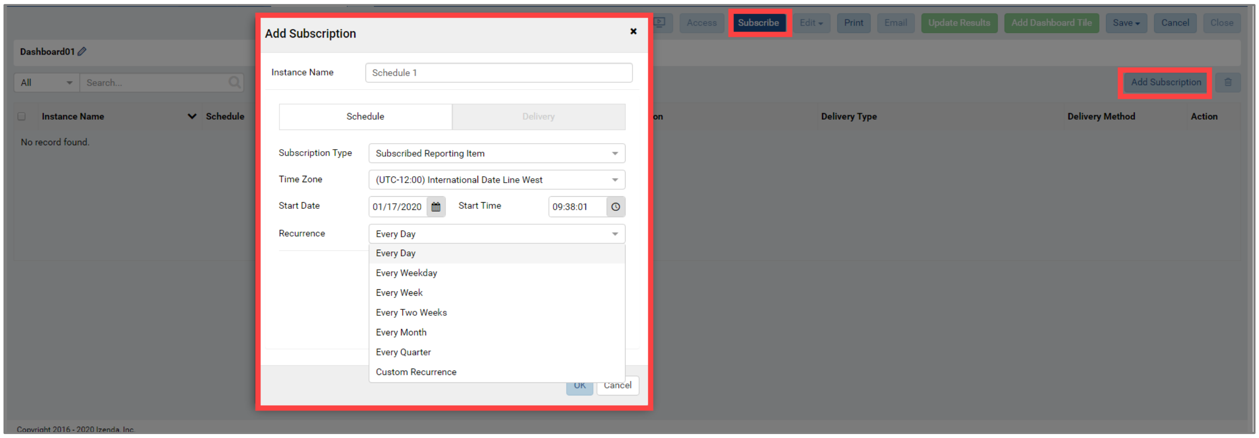
- Use the **<** and **>** arrow buttons to switch between tiles or enter a time interval in the section highlighted in the above screen shot.
- Select the **Full Screen** button to start the presentation.

Configure Sharing/Access



- Select the **Access** button to open the **Sharing** screen.
- Select the **Add Sharing** button to add a new sharing setting for the dashboard.
- Select who to share with (Everyone, Role, User).
- Set **Access Rights** for the sharing.
- User the **X** button to delete or remove a sharing.
- Select **Save** when finished.

Subscriptions/Scheduling



- Select the **Subscribe** button at the top of the screen to open the **Subscriptions** page.
- This functionality is like report subscription/scheduling functionality.
- Select the **Add Subscription** button to launch the Scheduling/Delivery pop-up.
- After entering **Schedule** and **Delivery** information, select **OK** to proceed add subscription.

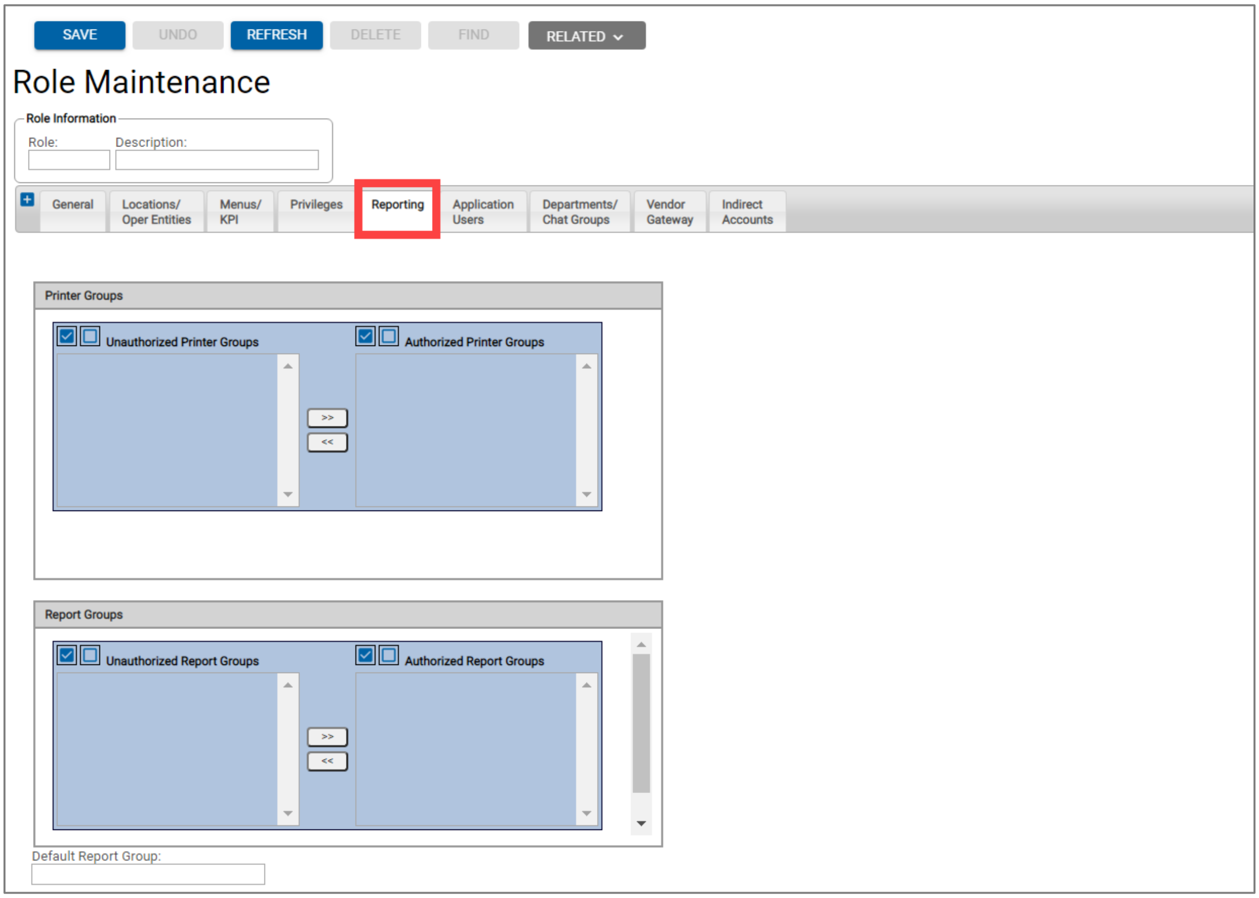
Other Options

- You can also **Print** dashboards by selecting the **Print** button.
- You can **Email** dashboard by selecting the **Email** button
- Select the **Update Results** button to refresh the dashboard and display the most current version/information.
- The **Cancel** button allows you to cancel any current editing action on the dashboard that has not yet been saved.
- Select **Close** to exit the Dashboard Designer and return to the Dashboard List.

Please consult Izenda's user documentation for more information on Dashboards.

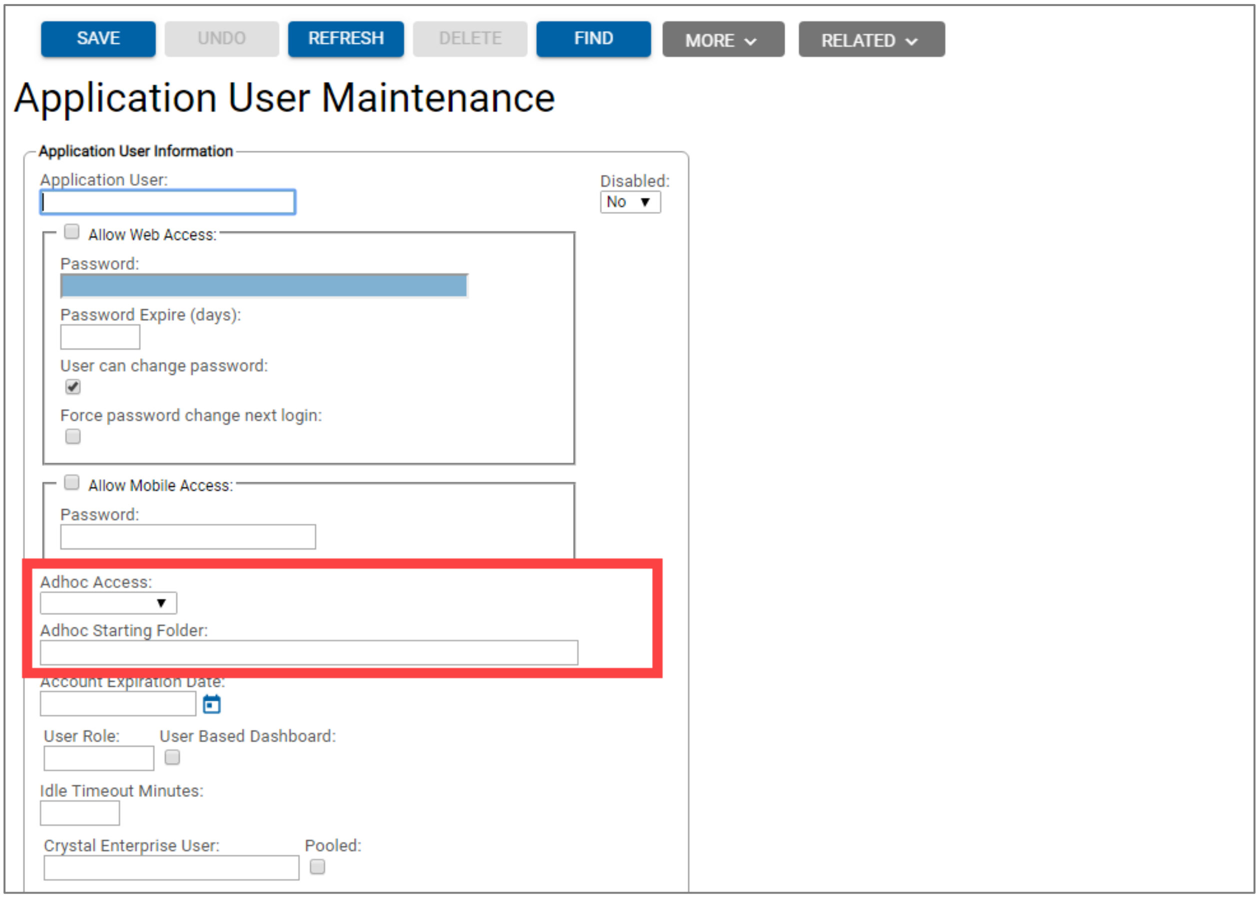
M5 Application Frames

Role Maintenance



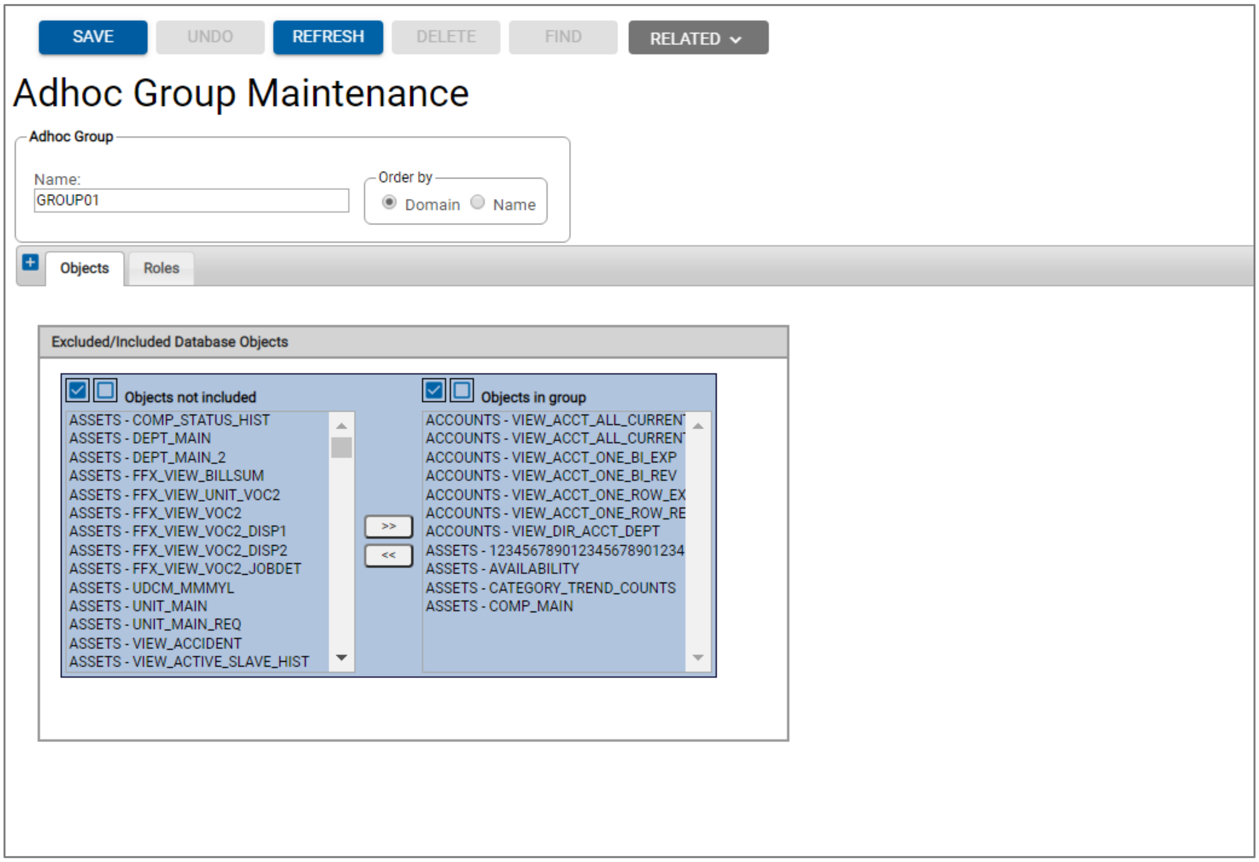
- You can configure **Ad Hoc Access Group** settings on the **Reporting** tab of the *Role Maintenance* frame. Groups are set up and configured using the *Ad Hoc Group Maintenance* frame.

Application User Maintenance



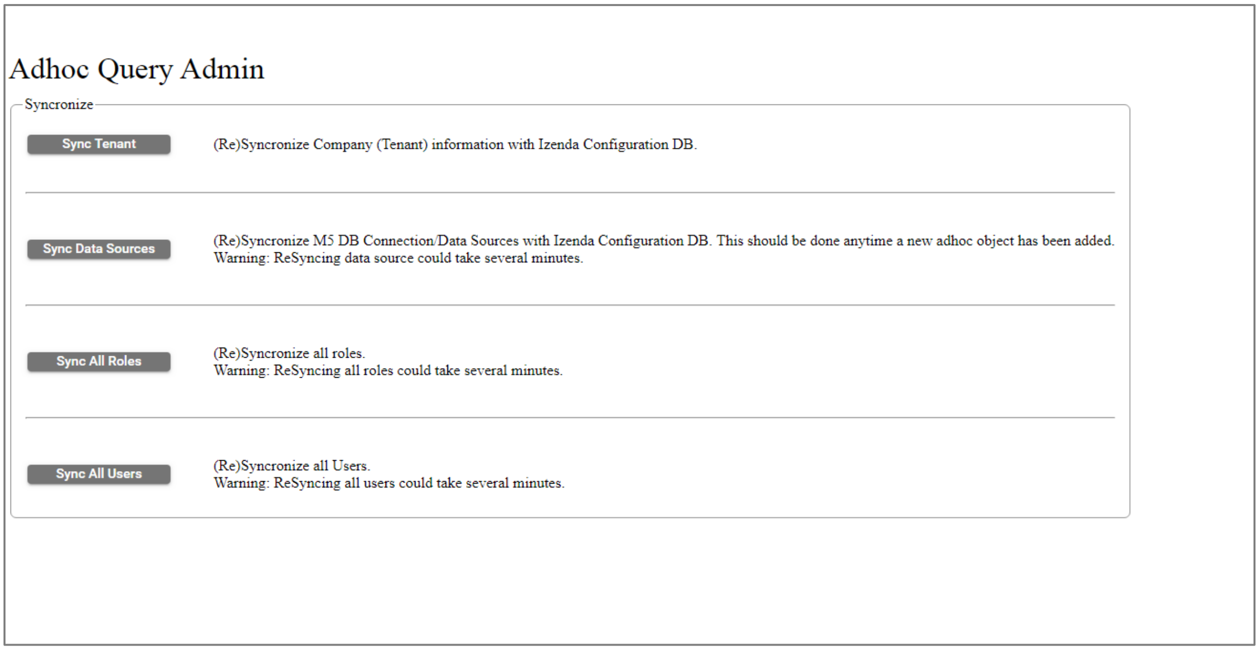
- **Ad Hoc Access** settings for individual users are set on the *Application User Maintenance* frame.
- **Options:** None, Run Reports, Create Reports, or Report Admin.

Ad Hoc Group Maintenance



- The *Ad Hoc Group Maintenance* frame allows you to create and configure access settings for your ad hoc groups.
- This frame also defines which views the users can use for reporting.
- The data sources for the ad hoc reports are views of the M5 data and display on the **Objects** tab.
- These data views allow you to manipulate and customize the data for reporting purposes without modifying the actual data.

Adhoc Query Admin



- The *Adhoc Query Admin* screen helps facilitate synchronizing data between M5 and the Izenda configuration database.

  ⚠ When Ad Hoc is initially installed or setup, an ad hoc admin user should go to the *Adhoc Query Admin* screen and select the buttons in the order they are on the frame (top to bottom). If the client is multi company, this will need to be done for each company.

- When a user navigates to the *Ad Hoc Query* frame, the tenant, data sources, roles (for that user only), and user information (for that user only) are synchronized if they haven't already been synchronized.

  Because the Data Source synchronization can take several minutes, it is best for an Ad hoc Admin to synchronize from the *Adhoc Query Admin* screen before any users navigate to the *Ad Hoc Query* frame.

- Each button calls a custom webservice endpoint:

  - **Sync Tenant** - Creates or updates a tenant in the Izenda Database. The tenant is used for the same purpose as M5 uses company. The tenant name or id is equal to the M5 company code. This typically only needs to be done when Ad Hoc is initially installed/setup. Running it more than once won't hurt but is not necessary. There is an M5 Param called: M5_PARAM 'ADHOCBI_TENANT_ID'. The default value for this parameter is the company code.

- **Sync Data Sources -** Creates or updates the connection string to the M5 database, the M5 database schema, the M5 views that can be used in a report.

  ⚠ This should be done when Ad Hoc is initially installed or set up. It should also be done anytime an M5 patch is installed (to ensure any changes to the M5 database schema are reflected in the Izenda database) or anytime a new object is added to the *Ad Hoc Objects* screen (so that object will be marked as usable on a report).

  This can take several minutes. For best results, an admin should run it here on this frame rather than let the token webservice endpoint create the data source.

- **Sync All Roles** - Creates or updates all roles in Izenda as defined on the M5 *Adhoc Group Maintenance* frame. Can be optionally run to create Roles in Izenda based on Ad Hoc Groups. Three Roles will be created in Izenda per Ad Hoc Group. One starting with A-, one starting with C-, one starting with R-.

  - For example, C-All. This should be run anytime Ad Hoc Objects are added to or removed from an Ad Hoc Group. The A-, C-, R- equate to the Ad Hoc access granted to a user on the Application User frame. It determines whether a user can create a report, or only view a report (A- = Report Admin, C- = Create Reports, R- = Run Reports).

  ⚠ If this is not run, the Roles that are assigned to a user will be synchronized the first time they navigate to the *Ad Hoc Query* frame. Is this why we see the gears running every time we enter this frame? The user can also re-synchronize their roles by selecting the 'ReSync Roles' button on that frame.

- **Sync All Users** - Creates or updates all users in Izenda as defined on the M5 *Application User Maintenance* frame. The user's information will be synchronized when they visit the *Ad Hoc Query* frame. An Admin may want to run this button when there are users that have been disabled. Those users will not be able to log in because they are disabled, but another user may be able to see the disabled user in the Ad hoc UI when doing things such as sharing a report with another user.

Additional Resources

- Calculated Field Expressions
- Grand Total and Subtotal
- Filter Operators
- Izenda Training Walkthroughs:
    - Creating Your First Report – Click Here
    - Adding to Your Report – Click Here
    - Styling Your Report – Click Here
    - Creating Your First Dashboard – Click Here

Updates

Release	Section	Description
23.2	All sections	Applied miscellaneous writing style updates throughout the document.
24.0	Setup and Configuration	Updated the reference to the M5 Ad Hoc Izenda Install Guide.