

HCLSoftware

HCL MyXalytics

Admin Guide

Version 6.6



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Document Revision History

This guide is updated with each release of the product or when necessary.

This table provides the revision history of this Admin Guide.

Version Date	Description
January, 2025	HCL_MyXalytics_v6.5_Admin_Guide
May, 2025	HCL_MyXalytics_v6.6_Admin_Guide

1. Preface

This section provides information about the HCL MyXalytics Admin Guide and includes the following topics:

- [Intended Audience](#)
- [About this Guide](#)
- [Related Documents](#)
- [Conventions](#)

1.1 Intended Audience

The document is intended for users involved with data reporting such as data reporters.

1.2 About this Guide

This guide contains an overview of FinOps. It summarizes HCL MyXalytics dashboard and FinOps admin modules.

1.3 Related Documents

The following documents can be referenced in addition to this guide for further information on HCL MyXalytics.

- Introduction to MyXalytics Guide
- MyXalytics User Guide
- MyXalytics Troubleshooting Guide

1.4 Conventions

The following typographic conventions are used in this document.

Table 1 – Conventions

Convention	Element
Boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary
<u>Underlined blue</u>	Indicates cross-reference and links
<i>Italic</i>	Indicates document titles, occasional emphasis, or glossary terms
Courier New (Font)	Indicates commands within a paragraph, URLs, code in examples, and paths including onscreen text and text input from users
Numbered lists	Indicates steps in a procedure to be followed in a sequence
Bulleted lists	Indicates a list of items that is not necessarily meant to be followed in a sequence

2. MyXalytics Overview

MyXalytics is a Unified Reporting & Dashboarding solution which helps organization by providing an unparalleled visibility into performance of IT systems and processes. It helps in providing people and organizations with the clarity they need to drive continuous operational improvements.

MyXalytics provided intuitive visualizations of data from multiple sources on a unified & role based/custom dashboard.

Enabled robust reporting of ITSM metrics, governance, and control; offered root cause analysis for all incidents.

Automated risk management approval workflow and real-time tracking of risks and remediation plans

Infused AI-driven predictive analytics to proactively flag potential breaches and crisis automated business reporting, brought down the manual efforts to zero, reduced SLA violations & improved IT environment predictability.

3. FinOps Overview

In a rapidly digitizing business paradigm, cloud platforms have emerged as an essential element for future-facing enterprises. This is also seeing enterprises move beyond private and public cloud platforms and opt for a hybrid cloud model for their business. Hybrid cloud offers you a range of benefits, including improved choice of services, increased speed of implementation and execution, and greater scalability. However, it also poses challenges around cloud cost visibility, optimization, and governance. Poor financial management, inadequate reporting capabilities and inability to predict the OPEX costs accurately are the realities of today's multi-cloud environments.

MyXalytics – FinOps our AI-driven Cloud FinOps Visibility and Insights product— helps you effectively visualize, manage, and optimize your multi-cloud spends.

Advantages of FinOps:

1. Unified Cloud Cost Visibility:
 - With granular visibility into all your cloud environments, capture, track the usage patterns over time, and leverage AI and Machine Learning to accurately forecast budgets and minimize deviations.
2. Cost Anomaly Detection:
 - Leverage AI-driven outlier analysis to identify anomalous cloud costs and get alerted via automated notifications using various channels like ITSM, Slack, ChatOps and others.
3. Cost Optimization:
 - Reduce the amount of time spent on analysing and optimizing your cloud spends by leveraging various techniques like rightsizing, scheduled instances, reserved / committed usage instances, waste elimination, and others.
4. Cloud Governance:
 - Ensure continuous security, compliance, and governance across your cloud environments through native advisory and security visibility and insights.
5. Task Allocation and Tracking:
 - Analyse and Identify problem areas, and assign them to concerned teams for resolution, with continuous tracking and updates.
6. Kubernetes Inventory and Overview:
 - Comprehensive view of cluster, node, namespace, and pod inventory counts, seamlessly integrated with their associated billing details and performance metrics.
7. Serverless Function Overview:
 - Detailed view of serverless functions, showcasing their inventory counts alongside related billing information and performance metrics.

4. Customer Onboarding

1. From the left menu go to Administration → Onboarding → Customer Onboarding.

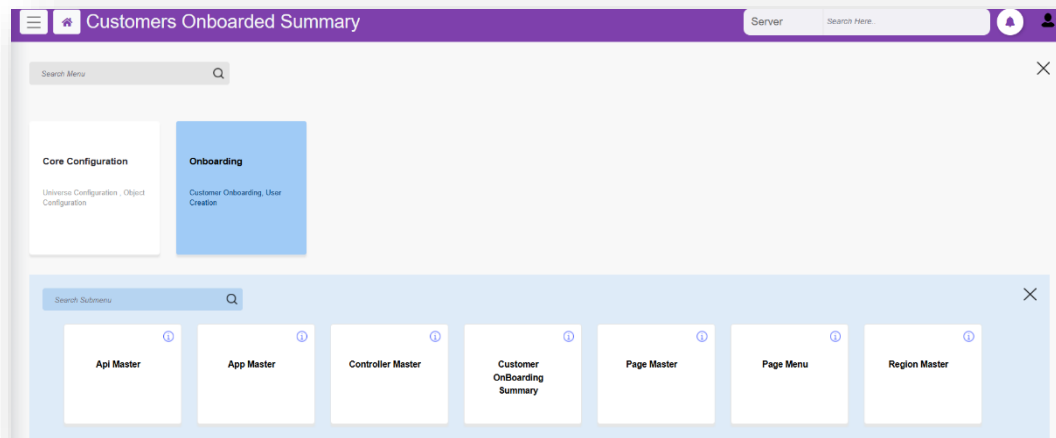


Figure 1 – Customer Onboarding

2. You will be redirected to the screen below.

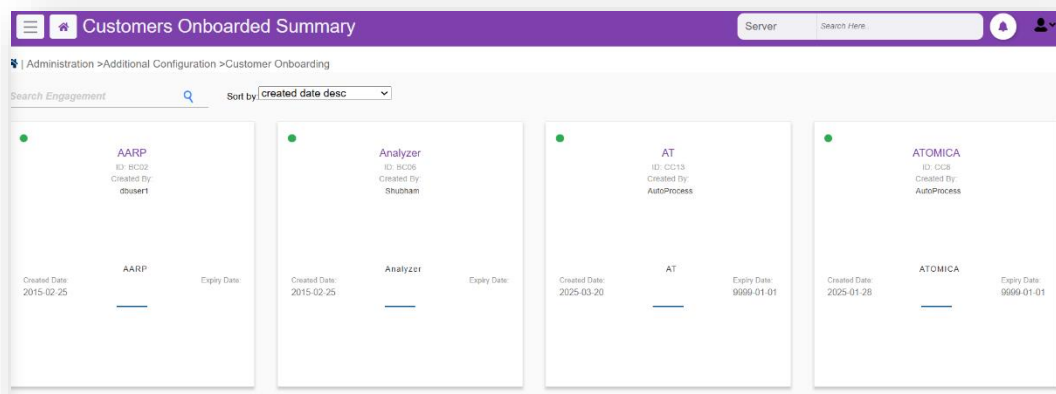


Figure 2 - Customer Onboarding (Cont.)

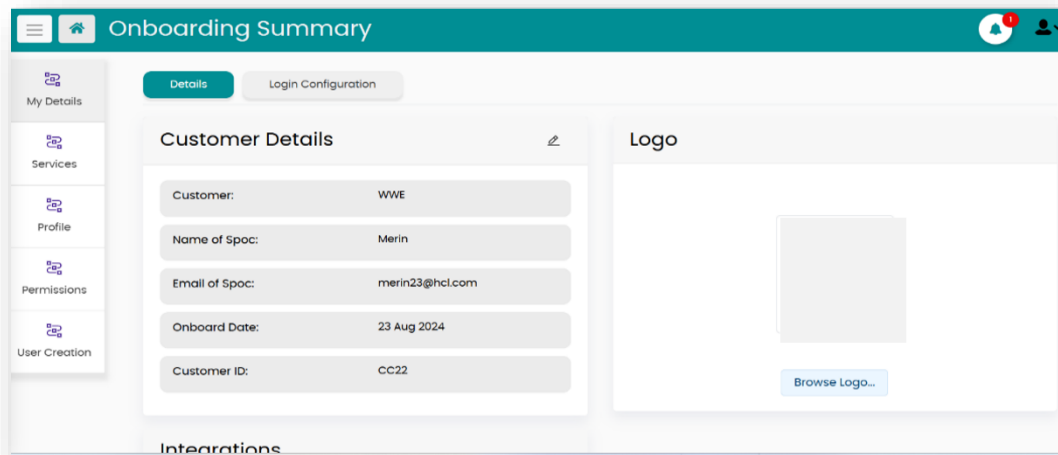


Figure 3 - Onboarding Summary

3. Users can be able to update the details by clicking the edit button.
 - Engagement Name
 - Spoc Name
 - Onboarding Date
 - Spoc Email
 - Customer Logo
4. Click on service Tab.

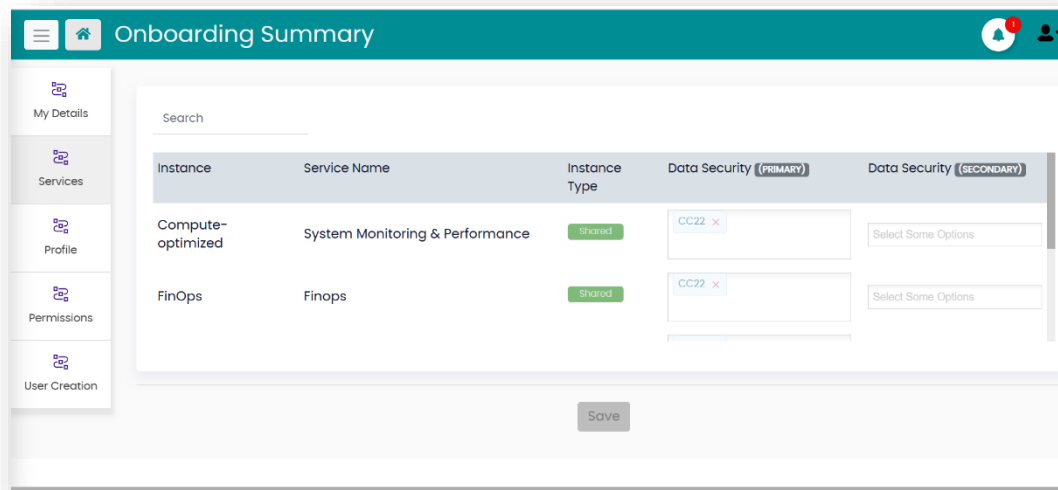


Figure 4 - Onboarding Summary (Cont.1)

5. In this screen give access to the tools for which you want to do the reporting and apply data security primary and secondary fields.
6. Click on Profile tab.

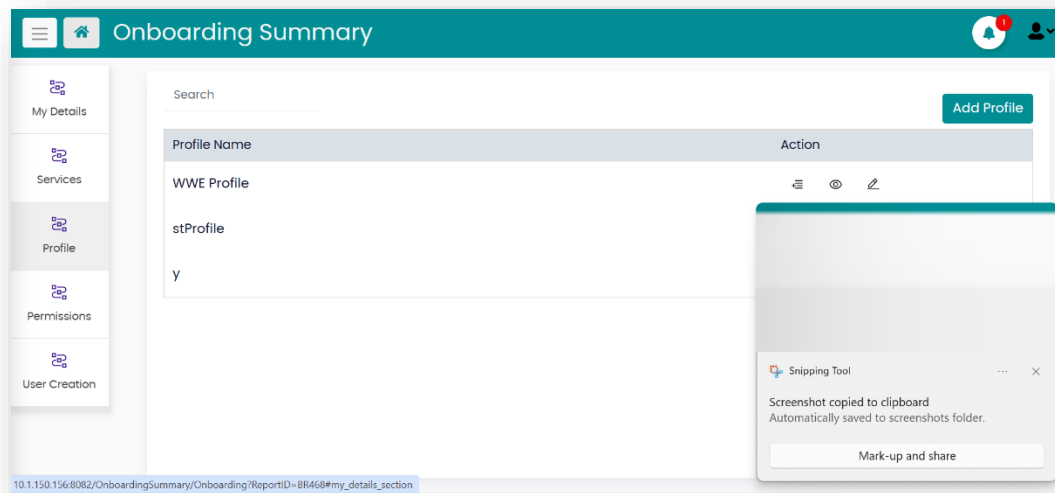


Figure 5 - Onboarding Summary (Cont.2)

7. In this screen you can create Profile for each tool and apply data primary and secondary data security to it.

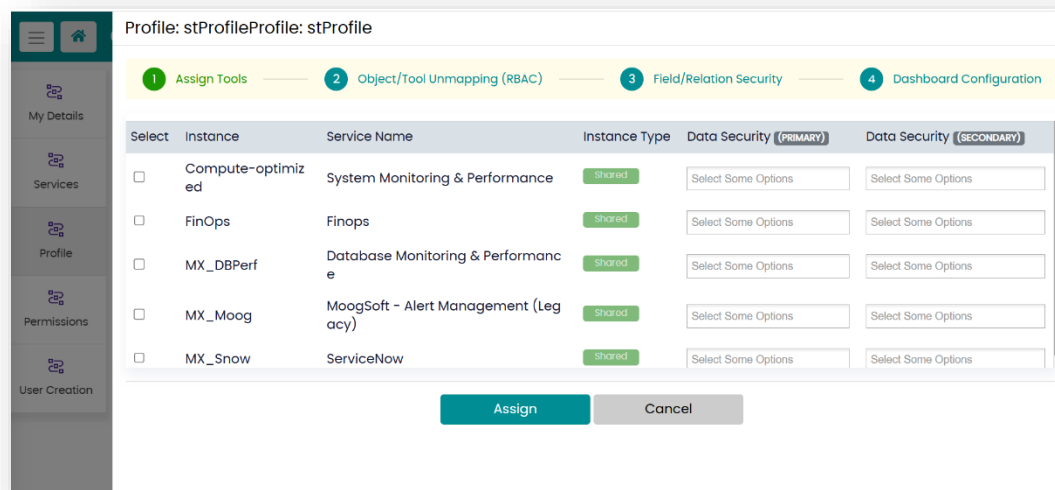


Figure 6 - Onboarding Summary (Cont.3)

8. Click on Object/Tool Unmapping (RBAC).

Profile: stProfileProfile: stProfile

1 Assign Tools — 2 Object/Tool Unmapping (RBAC) — 3 Field/Relation Security — 4 Dashboard Configuration

Data Source *
Select Tool

Data Set *
Select Object

Field
Select Field

Measure
Select Measure

Exclude

TOOL NAME	OBJECT/TABLE	FIELDS	MEASURES	ACTION
-----------	--------------	--------	----------	--------

Cancel Previous Next

Figure 7 - Onboarding Summary (Cont.4)

- Click on Field/Relation Security.

Profile: stProfileProfile: stProfile

1 Assign Tools — 2 Object/Tool Unmapping (RBAC) — 3 Field/Relation Security — 4 Dashboard Configuration

Data Source *
Select Tool

Data Set
Select Object

Field
Select Field

Field Security Value *

Add

Cancel Previous Next

Figure 8 – Field Relation Security

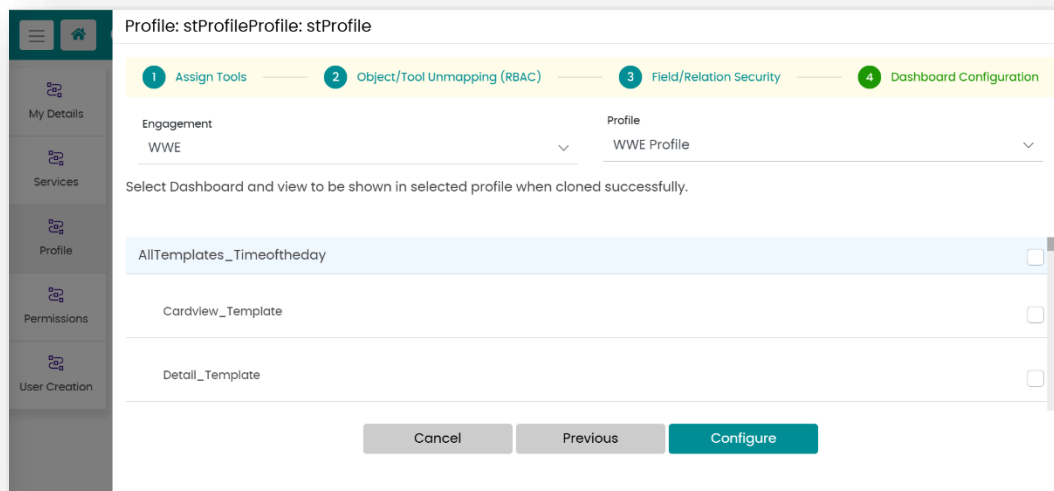


Figure 9 – Field Relation Security (Cont.1)

10. Click on delete icon profile delete.

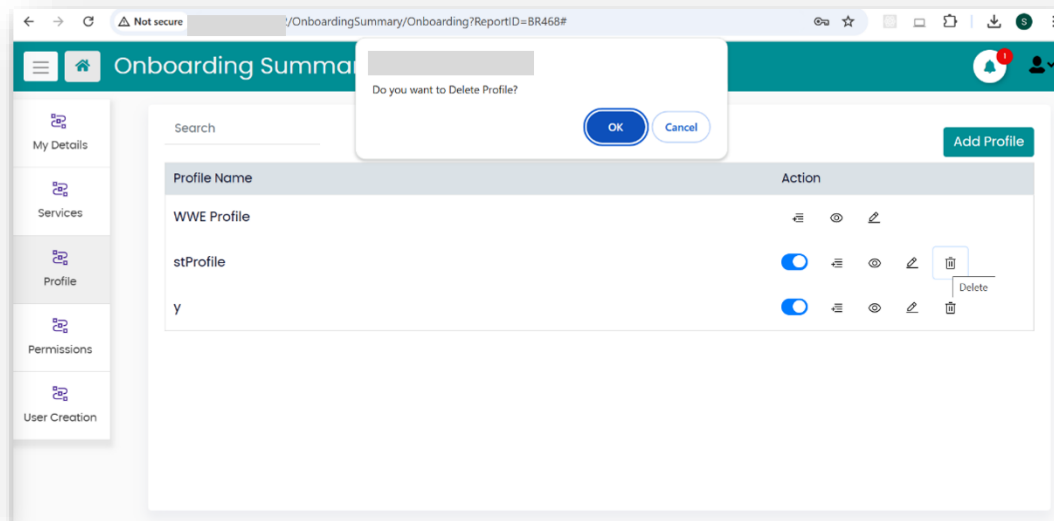


Figure 10 - Onboarding Summary (Cont.5)

11. Click on User creation Tab.

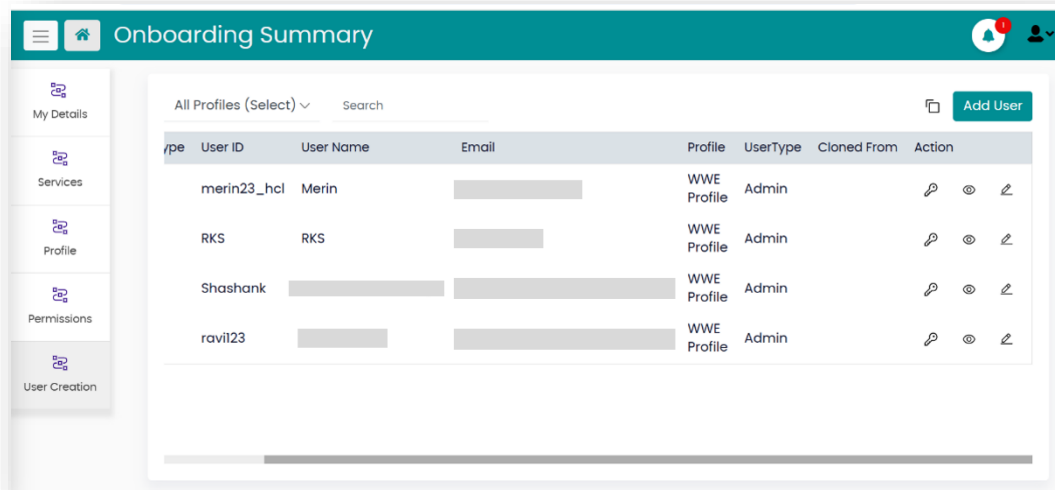


Figure 11 - Onboarding Summary User creation Tab

12. Click on add User.

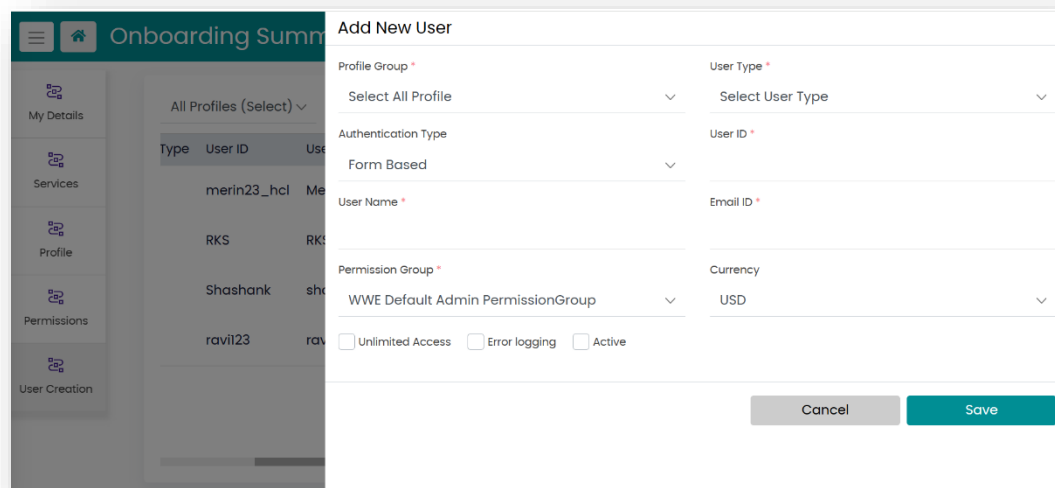


Figure 12 - Onboarding Summary add User

13. Click on clone User.

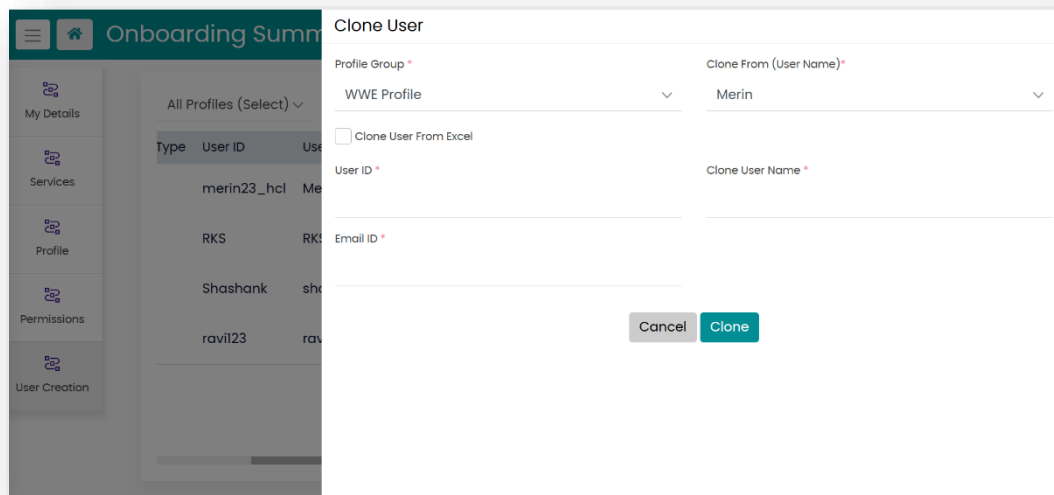


Figure 13 - Onboarding Summary clone User

- Reset a password, click the **Reset Password** icon.
 - Update user details, click the **Edit** icon.
 - Manage user profiles, click the **Manage Profile** icon.
14. In the OnBoardingSummaryPage under User Creation, we have introduced a "Manage Profile" button for users with the "User" and "Profile Admin" roles.
 15. Additionally, we have enhanced the user grid by adding columns for "Profile," which displays the user's current profile, and "UserType," indicating the profile type as Admin, User, Profile Admin, or Super Admin.
 16. The "Manage Profile" button provides a multi-select dropdown for selecting profile groups, with the user's original profile pre-selected and where the original and current profiles remain disabled to prevent unselecting.
 17. Selected profiles will appear in the Profile dropdown under Account Settings for respective users, allowing them to view these profiles upon logging in.

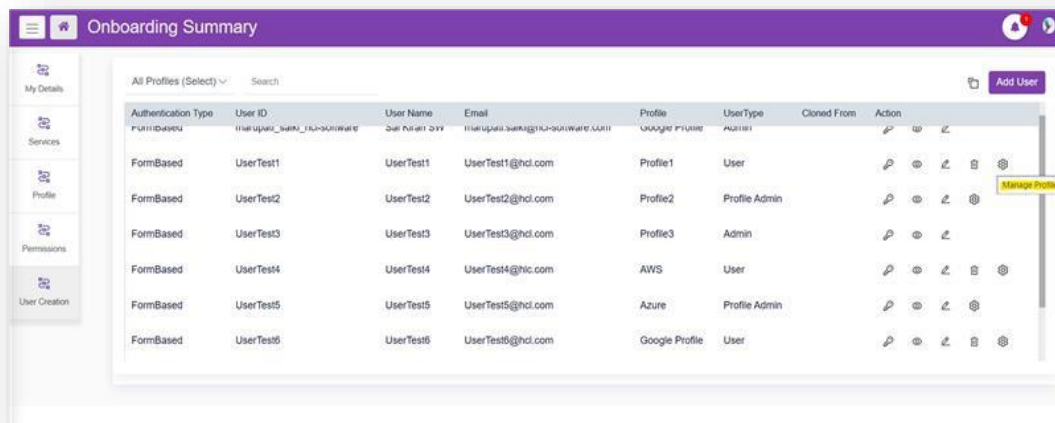


Figure 14 – On Boarding Summary Page User Creation

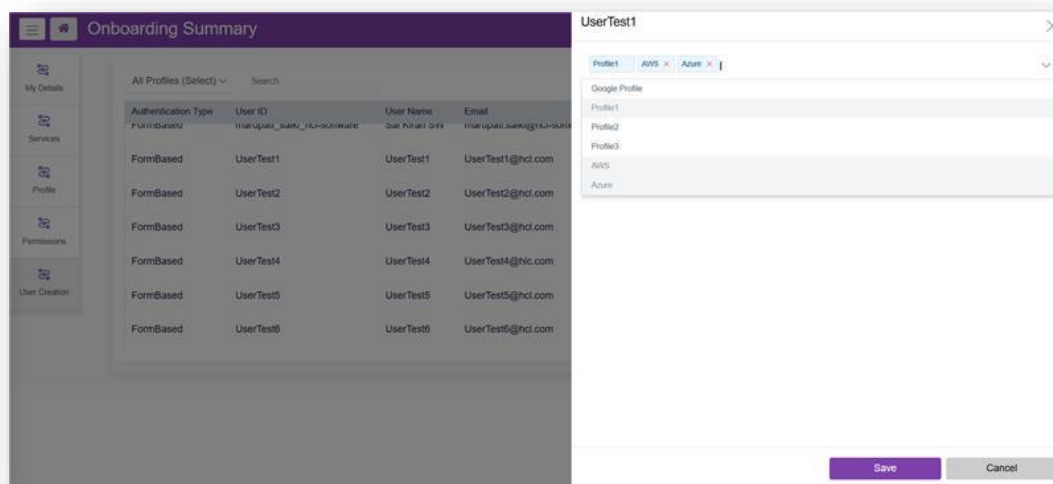


Figure 15 - On Boarding Summary User Test

Onboarding Permission

This screen is designed to manage and view permission groups associated with different user roles in the system. It allows administrators to control and configure permissions.

Once you open the Permission tab, the screen will appear as shown below.

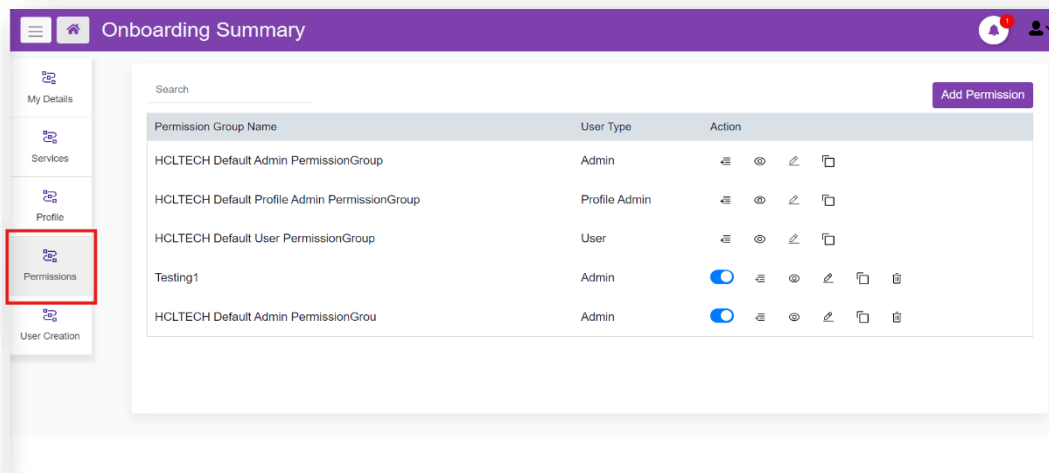


Figure 16 – Onboarding Permission

1. Search Bar:
 - Located at the top of the screen, the search bar is used to quickly find specific permission groups by their name.
2. Permission Group List: Permission Group Name:
 - Displays the name of the permission group (e.g., HCLTECH Default Admin Permission Group).
3. User Type:
 - Indicates the type of user associated with the permission group (e.g., Admin, Profile Admin, User).
4. Each row in the list includes the following action options.
 - Enable/Disable Toggle (Switch Icon).
 - Enables or disables the permission group for use.
 - Configure (Settings Icon).
 - Opens the configuration settings for the selected permission group and excluded menus
 - View (Eye Icon).
 - Allows you to view detailed information about the permission group.
 - Edit (Pencil Icon).
 - Opens the permission group in edit mode for modifications.
 - Copy (Copy Icon).
 - Create a duplicate of the permission group.
 - Delete (Trash Bin Icon).
 - Deletes the permission group from the system. (Not available for system-defined groups.)

To create a new permission group, follow these steps:

- Locate the Button: Navigate to the top-right corner of the interface.
- Click on the Button: Click on the button labelled "Create New Permission Group."
- Follow the Prompts: Complete the required fields and follow the on-screen prompts to finalize the creation of the new permission group.

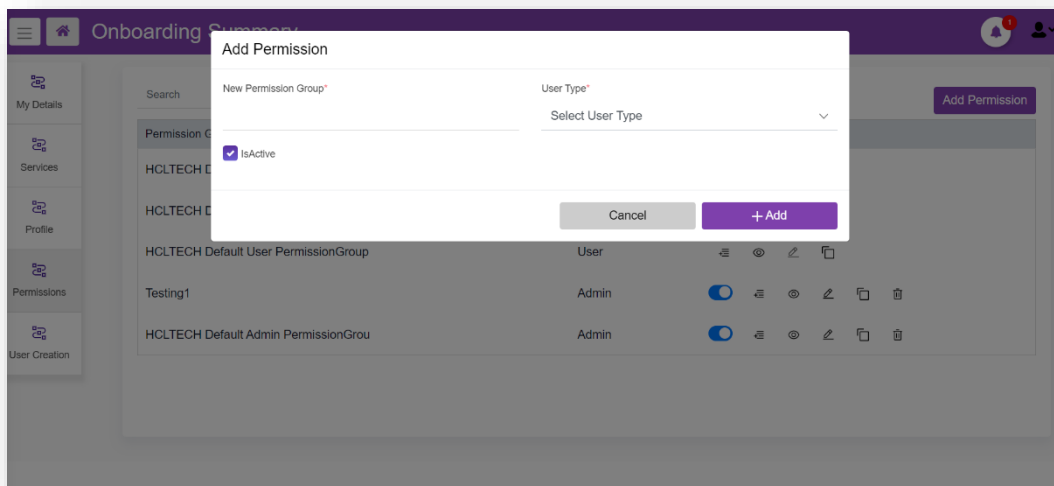


Figure 17 - Onboarding add Permission

5. Once you click the Configuration button, the screen will display as shown in the screenshot below.

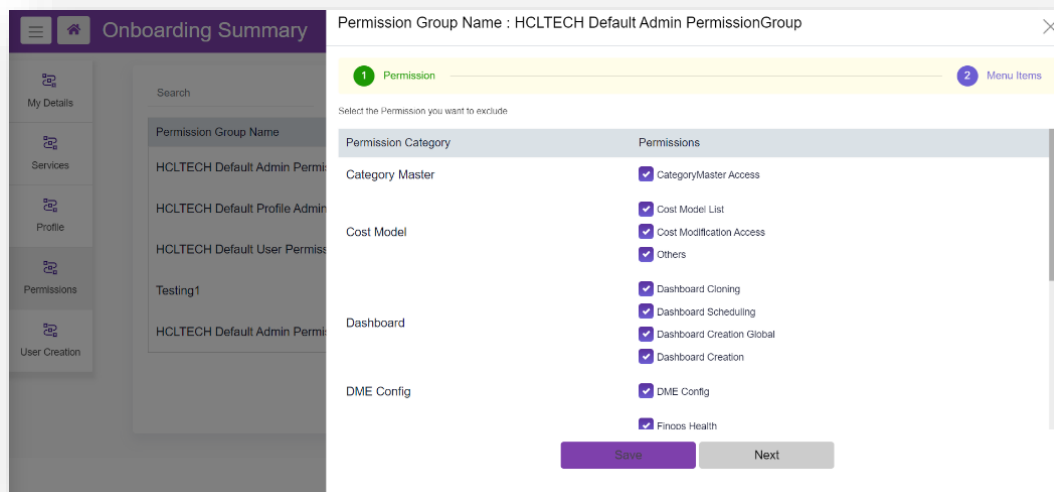


Figure 18 - Onboarding admin Permission group

6. After excluding whatever you don't want permission once to click the save button excluding permission saved into database. If you click the Next button it will redirect to the menu excluding tab, the screen will display as shown in the screenshot below.

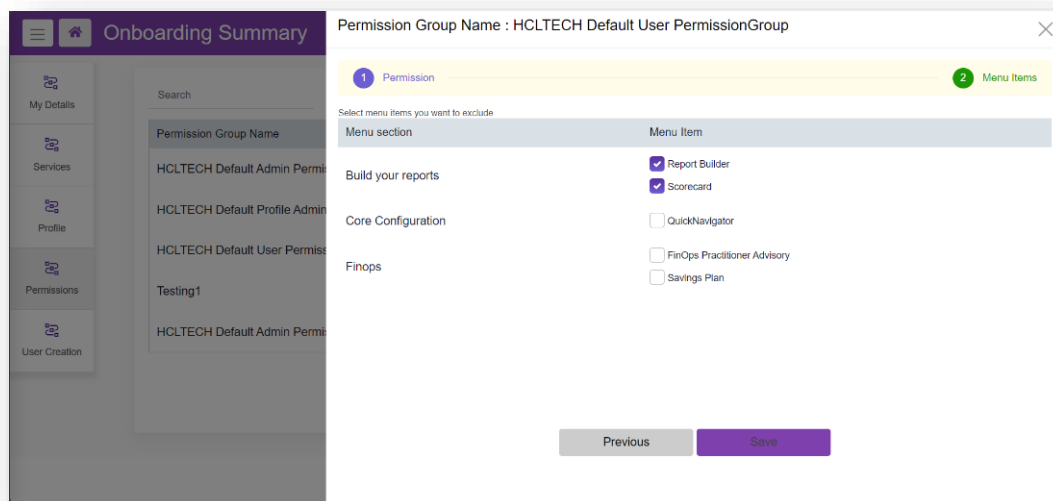


Figure 19 - Onboarding user Permission group

7. Once you exclude whatever you don't want from the menu, then click the save button excluded menu saved into database.

5. Reporting

1. Users can run and create custom reports using report builder screens for configuring widgets.
2. From the left menu go to Reporting → Build Your Reports → Report Builder or on the main homepage, click manage widget → Add Widget.

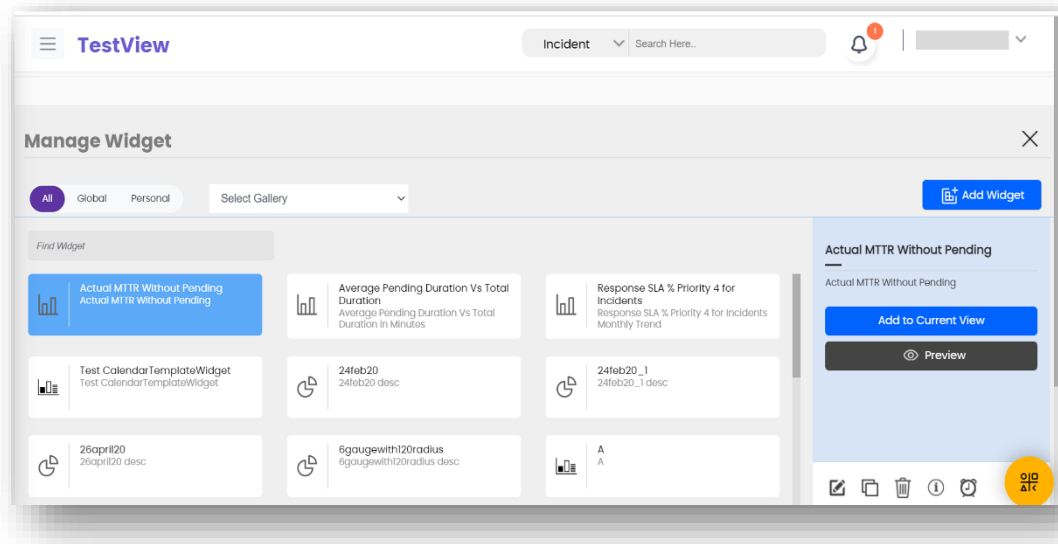


Figure 20 - Creating Custom Reports Using Report Builder

3. On clicking the icon below screen appears where user has data source type option to configure the report i.e. Summarized and Live data reporting.

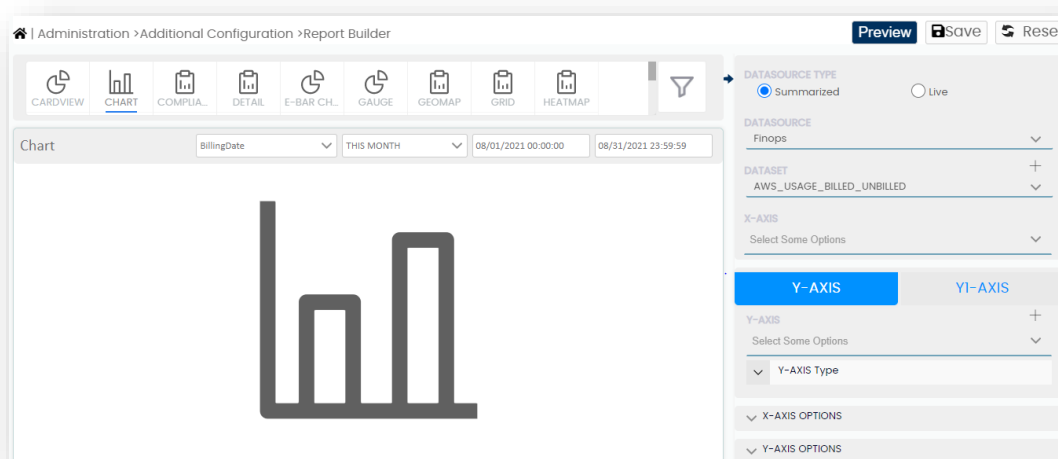


Figure 21 - Creating Custom Reports Using Report Builder (Cont.1)

4. The Dataset column populates the object which is created for reporting which is explained in next section of this document.

6. Object Creation in MyXalytics

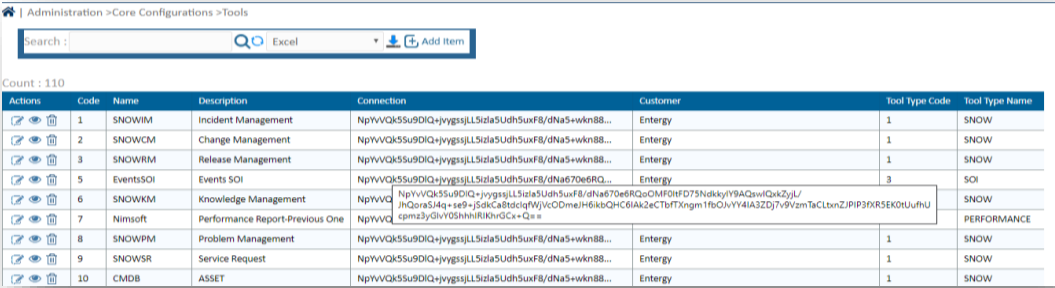
This section describes how to create an object in MyXalytics. All the links related to object creation will be available once you logged in into the account with admin rights.

Create an object in MyXalytics, perform the following steps.

6.1 Create a New Tools

We can create a new tool using the following steps:

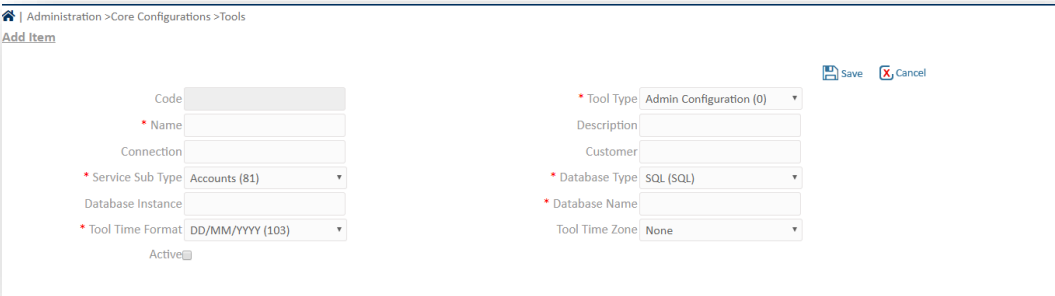
1. On the MyXalytics home page, go to Administration → Product Configurations → Tools.
2. The dialog box appears as shown below.



Actions	Code	Name	Description	Connection	Customer	Tool Type Code	Tool Type Name
	1	SNOWIM	Incident Management	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	2	SNOWCM	Change Management	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	3	SNOWRM	Release Management	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	5	EventsSOI	Events SOI	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa670e6RQ...	Entergy	3	SOI
	6	SNOWKM	Knowledge Management	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	7	Nimssoft	Performance Report-Previous One	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	8	SNOWPM	Problem Management	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	9	SNOWSR	Service Request	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW
	10	CMD8	ASSET	NpVvVQk55u9DIQ+jvygssjLL5tza5Udh5uxF8/dNa5+wn88...	Entergy	1	SNOW

Figure 22 - Creating a New Tool in MyXalytics

3. Click Add Item.
4. The Add Item screen appears.



Code

* Name

Connection

* Service Sub Type: Accounts (81)

Database Instance

* Tool Time Format: DD/MM/YYYY (103)

Active ☐

* Tool Type: Admin Configuration (0)

Description

Customer

* Database Type: SQL (SQL)

* Database Name

Tool Time Zone: None

Save Cancel

Figure 23 - Creating a New Tool in MyXalytics (Cont.1)

5. Select **Tool Type** from the pull-down menu.
6. Enter the **Name** and **Description** for the new tool.
7. Enter the connection string in the encrypted form in the **Connection** text box for the configuration database of the tool.
8. Enter the customer's name in the **Customer** textbox.
9. Select the **Service Sub Type** and the **Database Type** from the pull-down menus.
10. Enter ". DBO." prefix in the **Database Name** textbox.
11. Enter the Database Instance.
12. Select the **Tool Time Format** from the pull-down menu.

13. Select the **Tool Time Zone**, the format in which the source will provide the data from the pull-down menu.
14. Click **Save** to save the tool configuration.

6.2 Universe Object Master

In this section we expose the object for which we need to configure the universe, i.e. the environment for which data collection and reporting will happen.

1. Administration → Core Configuration → Universe Object Master.

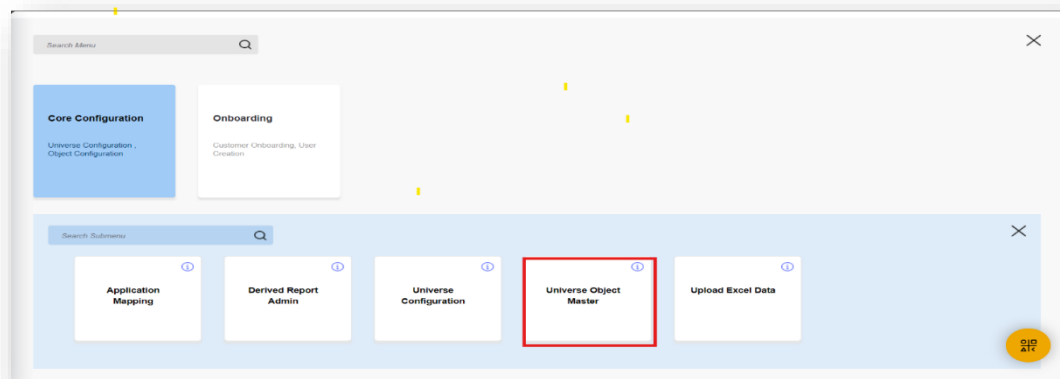


Figure 24 - Universe Object Master

2. Once you click the Universe Object tab, it will redirect it to Object Master.

6.3 Adding a new Object

1. Click on add new object button from the screen below.

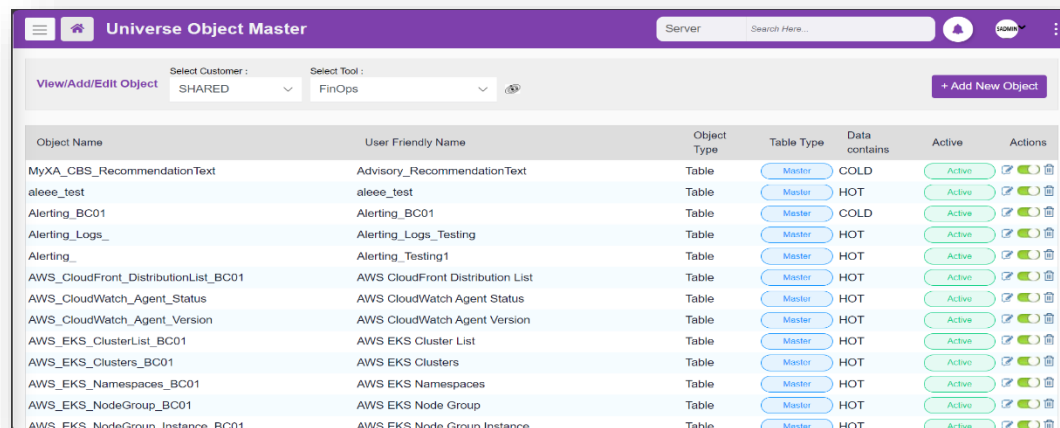


Figure 25 - Universe Object Master add new object

2. You will be redirected to the screen below.

Figure 26 - Universe Object Master add new object (Cont.1)

3. On this screen, follow the steps below to create an object.
 - Select the customer and tool for which you need to configure the universe.
 - Select the object type, i.e., the object can be a table, view, or query.
 - In the object name field, all objects present in the database linked to the selected customer and tool will be populated for tables and views. For queries, you need to write your custom query.
 - Enter a user-friendly name.
 - Select the table type, i.e., Master or Transaction.
 - Select the data contains field, i.e., Hot or Cold.
 - Select the access type, i.e., Global or Personal.
4. Click on Save.
 - If you want to enable Aggregation/Segregation for the object, click on Aggregation/Segregation Configuration; otherwise, click on Continue to Universe Configuration.
 - On clicking Aggregation/Segregation Configuration, you will be redirected to the screen below.

Figure 27 - Universe Object Master Universe Configuration

- In this screen you have the following sections.

5. Enable Segregation
 - Choose TableCutOver i.e. Monthly or Daily.
 - Choose date column on which data needs to be segregated.
6. Enable Aggregation
 - Choose TableCutOver i.e. Monthly or Daily.
 - Choose Granularity i.e. daily, hourly, half hourly etc.
 - Enter data retention i.e. for how many days data will be retained in the database.
7. Aggregation Detail
 - Choose column name on which data needs to be aggregated.
 - Choose aggregate function which will be applied on the selected column for aggregating the data.
 - Enter custom formula if required.
8. Click on submit.
 - If you want to schedule a job for the object, click on schedule job tab.
 - On the job clicking schedule job, you will be redirected to the screen below:

The screenshot shows the 'Schedule Job' configuration page in the 'Universe Object Master' application. The page title is 'SysDeviceInstance_CC8_Testing_12'. The navigation tabs are 'Object Configuration', 'Aggregation/Segregation Configuration', and 'Schedule Job'. The 'Schedule Job' tab is active. The form contains the following fields:

- Next Run Date(UTC) :** 11/16/2024 12:00:00 AM
- Previous Run Date(UTC) :** 11/15/2024 12:00:00 AM
- Last Processed Date of Previous Job :** 11/12/2024 12:00:00 AM
- Active :** ☒
- Job First Run Date(UTC) :** (empty field)
- Update Frequency :** Select (dropdown menu)
- Save** button

Figure 28 - Universe Object Master Universe Configuration (Cont.1)

9. On this screen you can schedule the job for exposed object aggregation/segregation. For this you need to configure the following fields and click on the save button.
 - Next Run Date.
 - Previous Run Date.
 - Last Processed Date of Previous Job.
 - Logging
 - Job First Run date
 - Update frequency

95 Percentile Workflow

- When creating a Universe object, if you select 'data contains object type', choosing the 'cold' option signifies it as a 'Performance Object', while selecting 'hot' designates it as a 'Non-Performance Object'.
- After creating the object, you need to set up aggregation or segregation. If you enable the 'Segregation' option and define granularity levels, the system will store percentile aggregation types for this object, such as 'Raw', 'Monthly', and 'Hourly'

Universe Configuration

In this section we configure the universe, i.e. the environment in which data collection will happen.

To go to this section from left menu go to.

1. Administration → Core Configuration → Universe Configuration.

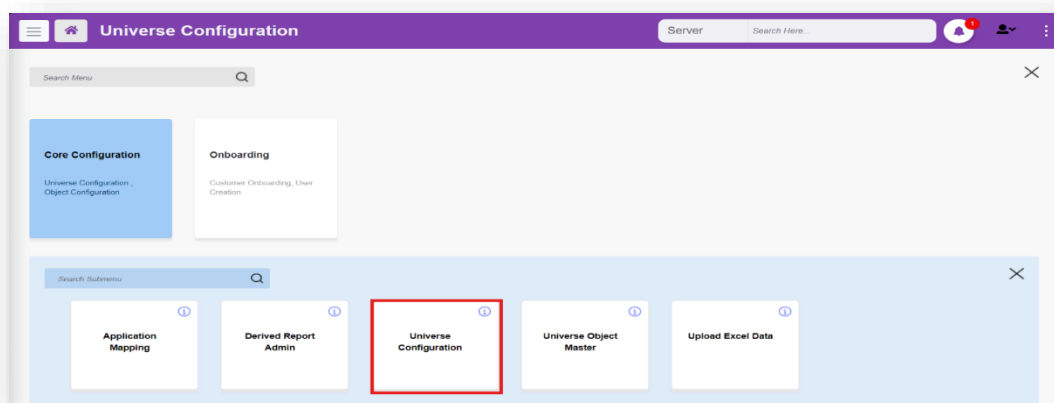


Figure 29 - Universe Object Master Universe Configuration (Cont.2)

2. Once you click the Universe Configuration menu, it will redirect to Object Configuration, which looks like the screen below

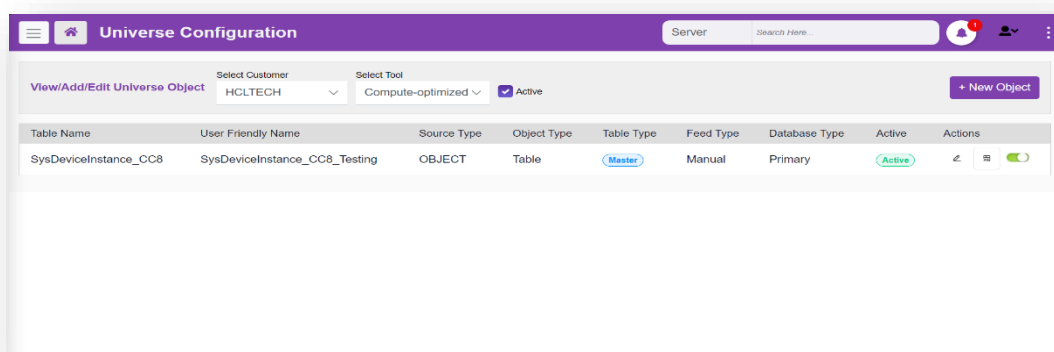


Figure 30 - Universe Object Master Universe Configuration (Cont.3)

3. Adding New Object

- If you want to create a new object, click on add the new object button in the above screen.
- You will be redirected to the screen below.

The screenshot shows the 'Universe Configuration' interface with the 'Add New Object' form. The form is organized into several sections:

- Customer:** A dropdown menu with 'HCLTECH' selected.
- Tool:** A dropdown menu with 'Compute-optimized' selected.
- Source Type:** Radio buttons for 'Live' (selected) and 'Summarized'.
- Object Type:** Radio buttons for 'Table' (selected) and 'View'.
- User Friendly Name:** A text input field containing 'SysDeviceInstance_CC8_Testing_21'.
- Table:** A dropdown menu with 'SysDeviceInstance_CC8_Testing_12' selected.
- Table Type:** A dropdown menu with 'Master' selected.
- Postfix Variable:** A dropdown menu with 'Select' selected.
- Feed Type:** A dropdown menu with 'Manual' selected.
- Object Data Type:** A dropdown menu with 'Select' selected.
- Checkboxes:**
 - ☒ Enable Reporting
 - ☒ Default Configuration
 - ☐ Timezone Conversion
 - ☒ Active
- Navigation Buttons:** 'Previous', 'Save', 'Save And Continue', and 'Next'.

Figure 31 - Universe Object Master Universe Configuration (Cont.4)

- Choose Customer.
 - Choose tool.
 - Choose source type i.e. Live or summarized.
 - Choose Object type i.e. Table, View or Query.
 - Choose the object which you have already exposed to in universe object master section.
 - Enter User friendly name.
 - Choose table type i.e. Manual or Transaction.
 - Choose feed type i.e. Manual or Auto.
 - Enable or disable the object from reporting.
 - Enable or disable the time zone conversion.
 - Choose Time zone.
 - Choose Object Data Type i.e. FinOps, billing, metric collection etc.
 - Enable or disable the default configuration.
4. Click on save and continue. Object is saved into data table then You will be redirected to add column screen.

Universe Configuration

Server Search Here...

Dataset Column Relation Measure/Metric Advanced

SysDeviceInstance_CC8_Testing_21

Not in Physical Table Custom Column Not in Universe

Column Name	Display Name	Data Type	Column Description	Dimension	Data Security	Primary	Filter	Visible	Active	Actions
Active	Active	Char	Active	☒	☐	☐	☐	☒	☒	
ArimaForec	ArimaForecastedJson	Varchar	ArimaForecastedJson	☐	☐	☐	☐	☒	☒	
ArimaLearn	ArimaLearnDate	DateTime	ArimaLearnDate	☐	☐	☐	☐	☒	☒	
ArimaLearn	ArimaLearnStatus	Varchar	ArimaLearnStatus	☐	☐	☐	☐	☒	☒	
Capacity	Capacity	Varchar	Capacity	☒	☐	☐	☐	☒	☒	
CIID	CIID	Numeric	CIID	☐	☐	☐	☐	☒	☒	

Previous Save Save and Continue Next

Figure 32 - Universe Object Master Universe Configuration (Cont.5)

5. In this screen the default columns will be loaded automatically with the following fields which can be changed.
 - Column Name
 - Display Name
 - Data Type
 - Column Description
 - Dimension
 - Data Security
 - Primary
 - Filter
 - Visible
6. Active
7. Click on Save buttons data is saved into tables.
8. If you want to add custom columns, click on the Add Custom Column button. You will be redirected to the custom column popup.

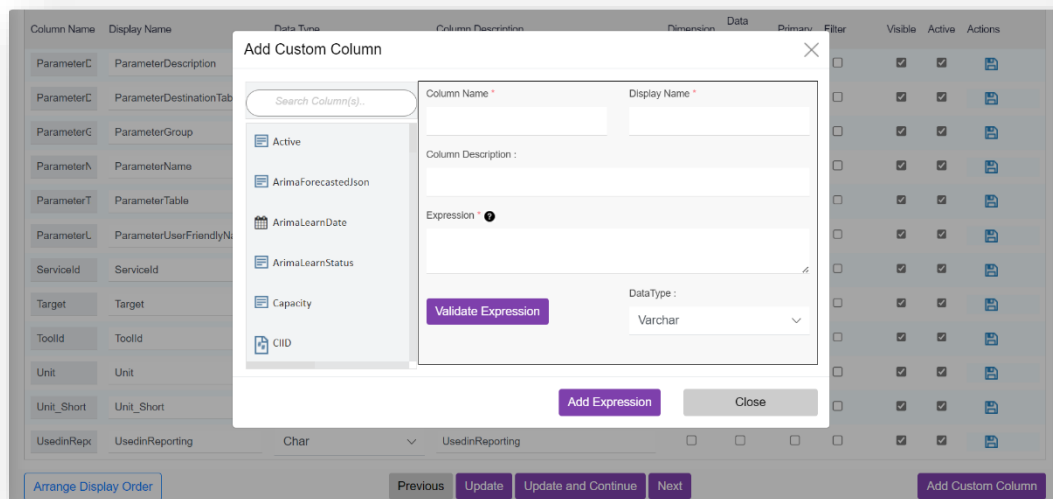


Figure 33 - Universe Object Master Universe Configuration (Cont.1)

9. Enter the data and click on Add Expression. The custom column will be added to the column section. Custom columns we can identify some highlight color like below screenshot.

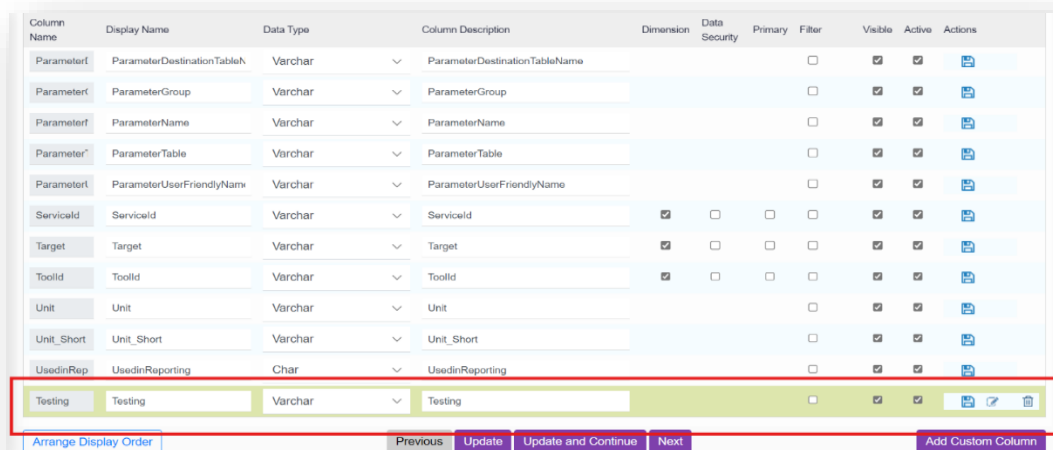


Figure 34 - Universe Object Master Arrange Display Order

10. If you want to change the order of the columns you need to click the Arrange Display Order button, Once click the Arrange Display Order button screen will populate like below.

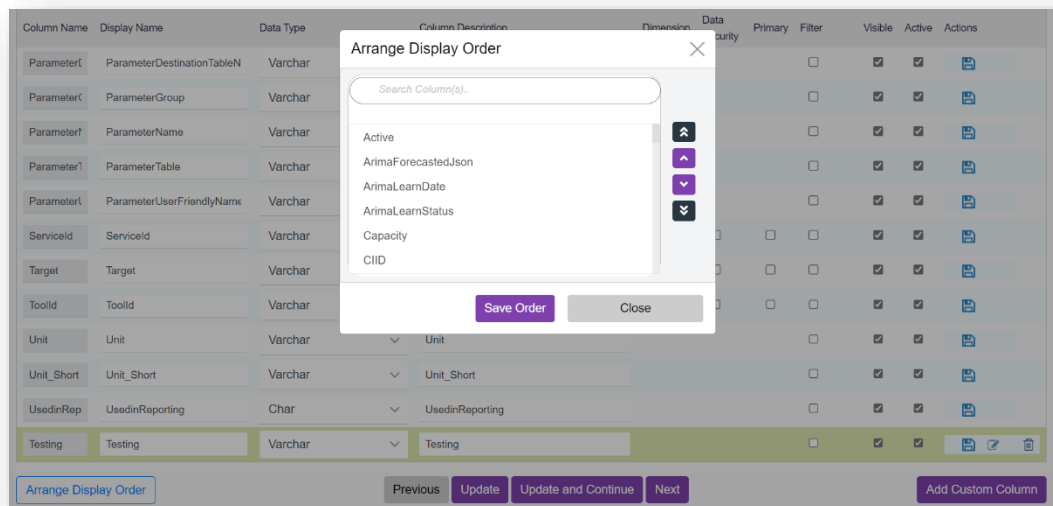


Figure 35 - Universe Object Master Arrange Display Order (Cont.1)

11. Once you clicked on Save Order button order of column will be updated in backend.
12. In columns section tab once you click the Save and Continue button, the columns will be saved into the backend tables, and you will be redirected to the Relation tab.

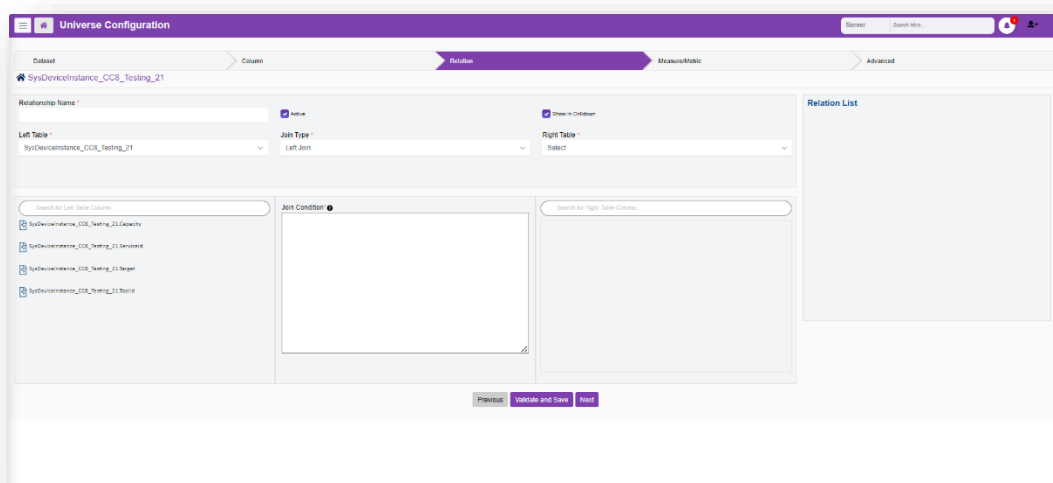


Figure 36 - Universe Object Master Relation tab

13. On this screen, you can join the left table, i.e., the table you are exposing, to any table that has already been exposed. You can enter the join condition in the block by dragging and dropping columns.
14. Click on save and continue. You will be redirected to Measure/Metric screen.

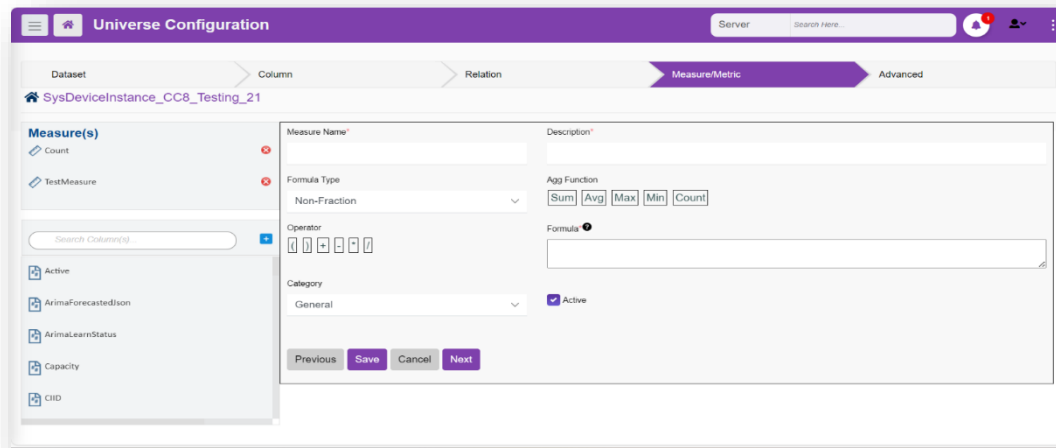


Figure 37 - Universe Configure Relation tab

15. In this screen you can configure the measures based on which you can create the report from the report builder screen. Following fields are entered in this screen.
 - Measure Name
 - Description
 - Formula Type
 - Custom formula which can be customized using added functions and operators.
16. If you want to delete the measure these delete options are available in admin users only not for all and if you want to search for a column using the search option, you can filter the columns.
17. Refer to the following screenshot to see the search and delete options.

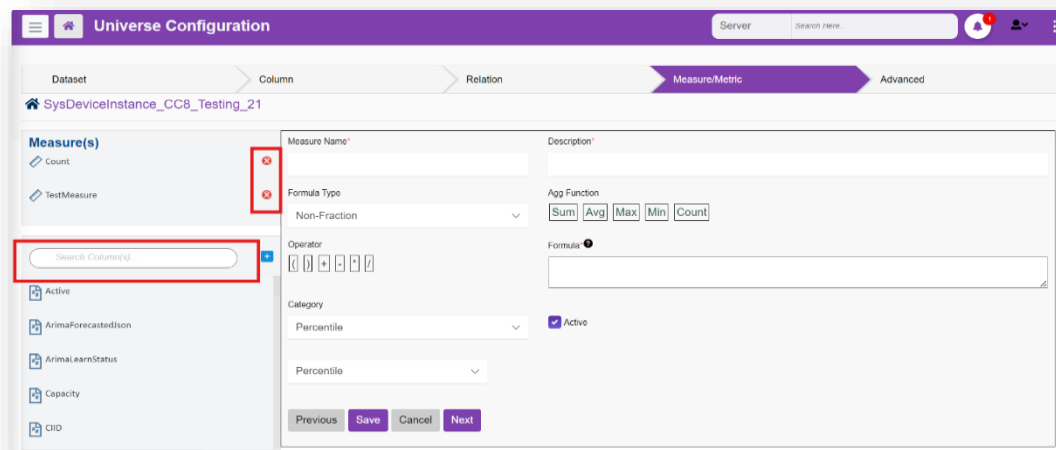


Figure 38 - Universe Configure Measure Metric

95 Percentile Workflow

1. For this object, a dataset needs to be created, and a custom column needs to be added in the column section.
2. In the custom column, we can enter an expression in the following format.

- PERCENTILE_DISC(#percentile#) WITHIN GROUP (ORDER BY cast ("datasum" / "datacount" as numeric (18,2))) OVER (PARTITION BY #GROUPBY#)
3. Refer to the following screenshot to see the custom expression.

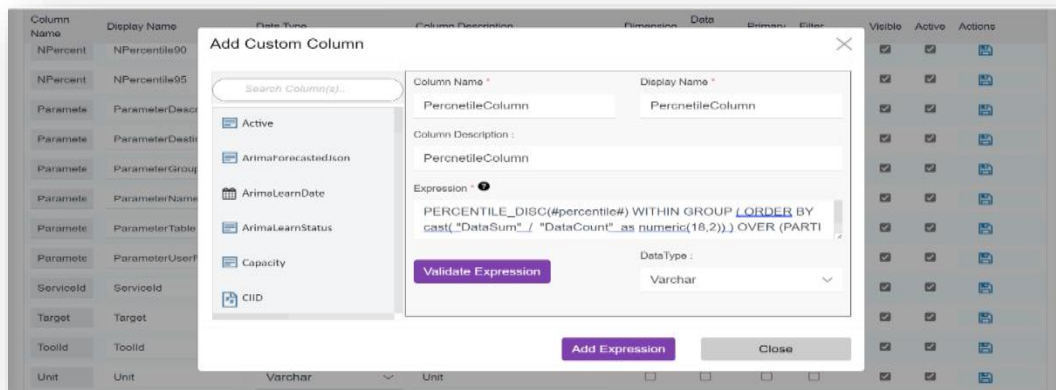


Figure 39 - Universe Configure Percentile Workflow

4. After entering the expression, we need to validate the query. If the query is valid, it needs to be inserted into the column tables. In the table column, we are inserting the custom column condition in backend.
5. After the column section is inserted, a measure for this column needs to be created for percentile column.
6. In the measure section, we need to select the category dropdown value as 'Percentile' to identify it as a Percentile measure. This Percentile measure is valid for only non-fraction formula types.
7. Refer to the following screenshot to see category dropdown value and non-fraction formula type.

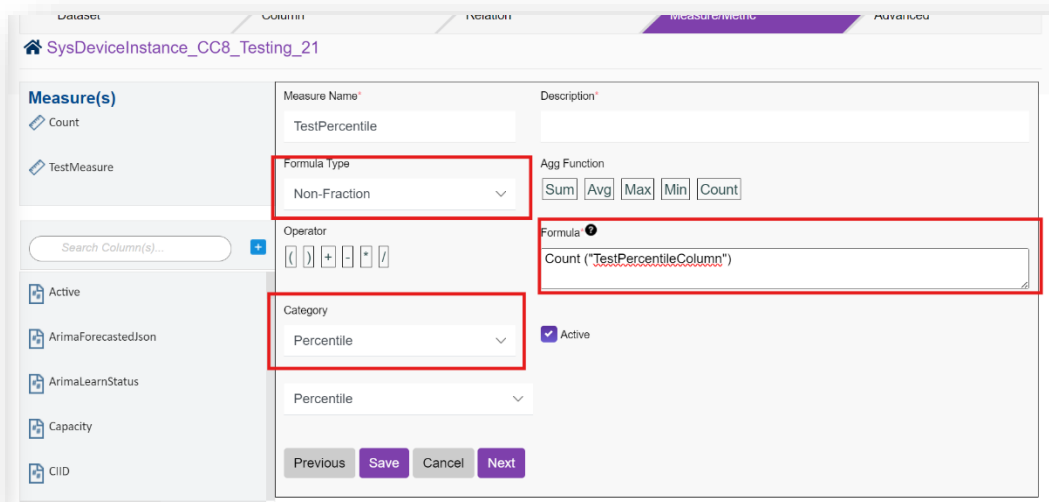


Figure 40 - Universe Configure Percentile Workflow (Cont.1)

8. After that, we need to check if the query is valid. If it is valid, it needs to be inserted into the measure table. If not, a validation message will be displayed on the front end.
9. After configuring these measures, you can go to the report builder screen and configure reports.

7. Upload Excel Data

The Excel Upload feature for admins allows administrators to upload and analyse data on an ad hoc basis. This feature aims to enhance operational efficiency by allowing SuperAdmin and Admin users to upload Excel files, create tables in the MS SQL database, and perform various actions on the uploaded data.

This ensures compliance with GDPR and operational efficiency. Users can upload files, configure tables, preview data, and handle GDPR consent seamlessly. Enhanced features and dynamic controls ensure a streamlined and user-friendly experience.

Navigate to this section from the left menu, follow these steps.

- Administration → Core Configuration → Upload Excel Data.

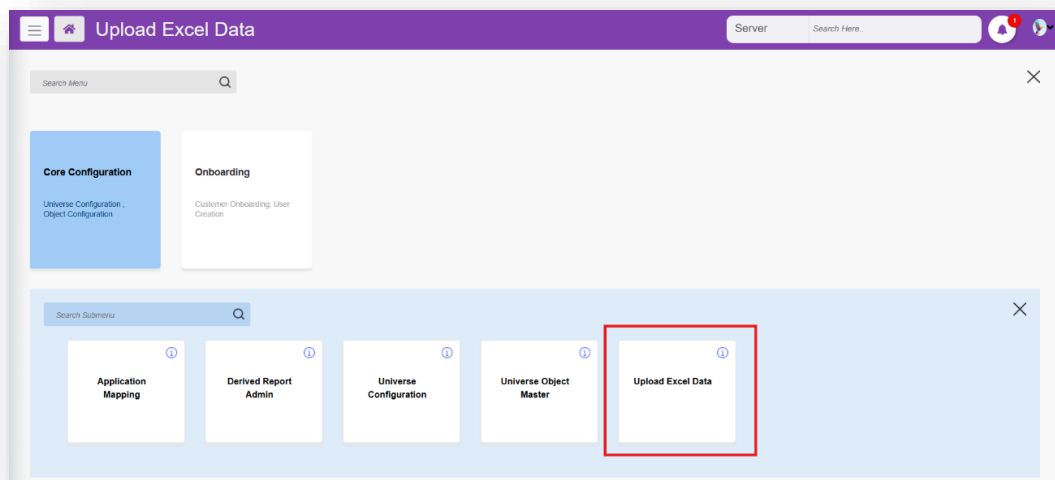


Figure 41 - Core Configuration Upload Excel Data

The functionality is divided into two main pages.

1. **Index Page** (/ExcelUpload/Index).
2. **Create Page** (/ExcelUpload/Create).

7.1 Access Control

- Only SuperAdmin and Admin users can access the Excel Upload functionality.
- Both pages are secured to ensure that unauthorized users cannot access or manipulate the data.

7.2 Page Descriptions

7.2.1 Index Page (/ExcelUpload/Index)

The Index page serves as the dashboard for managing uploaded Excel files and their corresponding tables.

Customer Name	Table Name	Table Type	Upload Mode	CreatedBy	CreatedOn	ModifiedBy	ModifiedOn	Actions
HCL	BulkData_Upload_15Apr2025	Ticket	Append	ManupatiSaikiranReddy	2025-04-15 12:17:42	ManupatiSaikiranReddy	2025-04-15 12:17:42	🔍 📄 🗑️ ⬇️
HCL	StudentData_Admin	Master	Insert And Update Old	SAdmin	2025-03-24 16:06:17	SAdmin	2025-03-24 16:06:17	🔍 📄 🗑️ ⬇️
HCL	StateData_Admin	Master	Insert And Update Old	SAdmin	2025-03-24 16:05:45	SAdmin	2025-03-24 16:05:45	🔍 📄 🗑️ ⬇️
HCL	StudentData_11March	Master	Insert And Update Old	pushkarsingh_gosai_	2025-03-11 14:30:52	pushkarsingh_gosai_	2025-03-11 14:30:52	🔍 📄 🗑️ ⬇️
HCL	EmployeeData_7March25	Ticket	Delete Previous And Insert New	pushkarsingh_gosai_	2025-03-07 12:50:32	pushkarsingh_gosai_	2025-03-07 12:50:32	🔍 📄 🗑️ ⬇️
HCL	UserData_7March25	Ticket	Delete Previous And Insert New	pushkarsingh_gosai_	2025-03-07 11:12:29	pushkarsingh_gosai_	2025-03-07 11:12:29	🔍 📄 🗑️ ⬇️
HCL	UserlocationData	Master	Delete Previous And Insert New	pushkarsingh_gosai_	2025-03-03 20:01:19	pushkarsingh_gosai_	2025-03-03 20:01:19	🔍 📄 🗑️ ⬇️

Figure 42 - Main page (Index Page)

Customer Name Dropdown: Displays a list of customer names specific to the user.

- **Module Dropdown:**
 - Displays different modules (databases) specific to the user for the selected customer.
- **Table Display:**
 - Lists all tables created by uploading Excel files.

Action Buttons Overview

1. **Upload:**
 - Opens a modal to upload data files (Excel format) to the server, supporting batch selection and table mode configurations.
2. **View Details:**
 - Displays records from a selected table, allowing batch-wise filtering and field-based data filtering within a modal.
3. **Delete Record Batch Wise:**
 - Opens a modal to delete records from a table by selecting a specific batch or all batches.
4. **Navigate to Universal Configuration Page:**
 - Redirects to the Universal Configuration page for selecting customers, tools, and viewing all tables, including uploaded ones with the prefix UPD_.
5. **Navigate to Report Builder Page:**
 - Redirects to the Report Builder for creating data visualizations by selecting charts, datasets, table names, and dimensions.
6. **Download File:**
 - Opens a modal to download table records in Excel format, with options to select specific batches or all batches.
7. **Upload New Data Button:**
 - Navigates to the Create page for uploading new data.

7.2.2 Create Page (/ExcelUpload/Create)

The Create page is used for uploading new Excel files and creating new tables in the MS SQL database.

1000 Records are temporarily uploaded from this 'BulkDataTransaction1.xlsx' for preview. If you wish to permanently save the records then please click on Save/Upload.

Customer Name: HCLSoftware
 Table Name: Enter The Table Name
 Table Type: Master
 Upload Mode: Insert And Update Old
 Primary Key: TransactionID

Save/Upload

varchar(100)	datetime	varchar(100)	varchar(100)	numeric	numeric	numeric
TransactionID	Date	CustomerName	Product	Quantity	UnitPrice(INR)	TotalPrice(INR)
TRX001	6/7/2024 12:00:00 AM	Ramesh Sharma	Laptop	2	50000	100000
TRX002	6/7/2024 12:00:00 AM	Priya Patel	Mobile Phone	1	25000	25000
TRX003	6/8/2024 11:00:00 AM	Ashish Singh	Television	1	40000	40000

Figure 43 - Create page

Features

- **Uploading New File:**
 - Users can upload a new Excel file (.xls, .xlsx, or .zip) using the file input control.
- **Preview:**
 - Before creating the table, users can preview the data to ensure it is accurate and as expected.
- **Table Configuration**
 - Provide a name for the new table and internally it will add "UPD_EngagementID" prefix and GUID postfix for uniqueness.
 - Select the type of table from options such as "Master", "Ticket", or "Time Series" for better data categorization. It considers as:
 - "Master" Table Type: Considered as "Ticket Data".
 - "Timeseries" Table Type: Considered as "Transaction Data".
 - "Ticket" Table Type: Considered as "Ticket Data".
 - Choose the mode for uploading data, with options to show or hide based on the table type.
 - If applicable, select a primary key for the table, which appears only when the upload mode is set to "Insert and Update Old".

8. GDPR Compliance

- **Enable GDPR Consent:**
 - Ensure compliance by detecting GDPR-sensitive columns and displaying a consent popup.
- **Display Consent Popup:**
 - Users are prompted to consent to GDPR-related data handling.
- **Record User Consent:**
 - Consent is recorded with a timestamp, user identity, and specific columns involved.

Workflow Excel Upload

1. Upload Excel File:
 - Users upload an Excel file and preview the data.
2. Configure Table:
 - Provide a table name, select the table type, upload mode, and set the primary key if required.
3. Preview Data:
 - Review the data to confirm its accuracy before finalizing and change the Datatype of the column if required.
4. GDPR Consent:
 - If GDPR-sensitive columns are detected, users must provide consent via a popup.
5. Save Table:
 - After previewing the data and consenting to GDPR, users save the table and are redirected to the Index page.

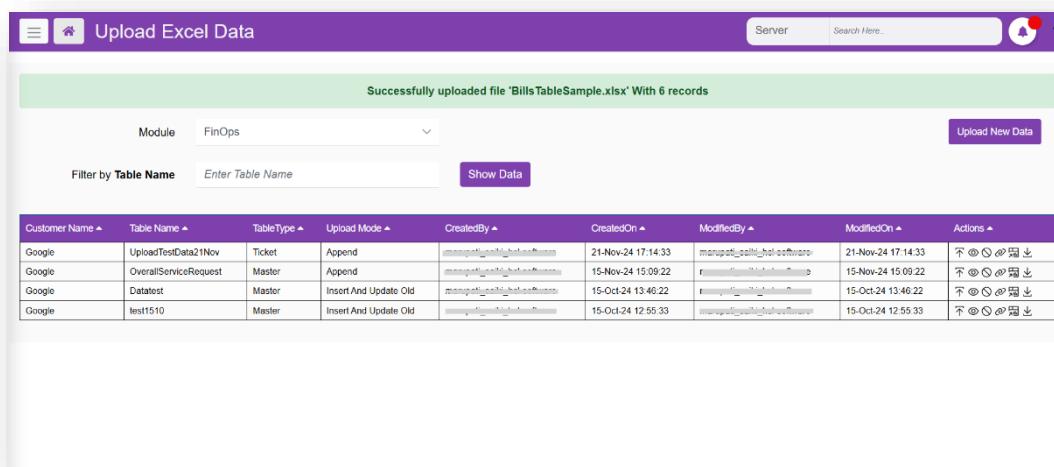


Figure 44 - Redirected to index page after clicking on Save Button

Action Buttons Explanation



Figure 45 - Action Buttons

We have six Action buttons:

1. Upload
2. View Details
3. Delete Record Batch Wise
4. Navigate to Universal Configuration page

5. Navigate to Report Builder page
6. Download File
 - Upload Action Button: The Upload action button provides a flexible and dynamic way to handle data uploads to either a new or existing batch in the table. Here's how the functionality works and what each mode entails.

Functionality

Upload Data to New or Existing Batch

1. New Batch:
 - You can create a new batch by selecting the appropriate options and uploading your data file.
2. Existing Batch:
 - You can add data to an existing batch by selecting the batch from the dropdown menu.

Upload Mode Handling for Existing table.

1. Append:
 - If the upload mode of the table is set to "Append", the uploaded data will be added to the existing table without altering any current data.
2. Delete and Update:
 - If the type is "Delete and Update", the existing data in the table will be deleted before the new data is uploaded, effectively replacing the old data with the new data.
3. Insert and Update Old:
 - If the existing table type is "Insert and Update Old", the uploaded data must have a unique column. This unique column will be used as the primary key when saving data for the first time. Subsequent uploads can either add new records or update existing records based on this primary key.

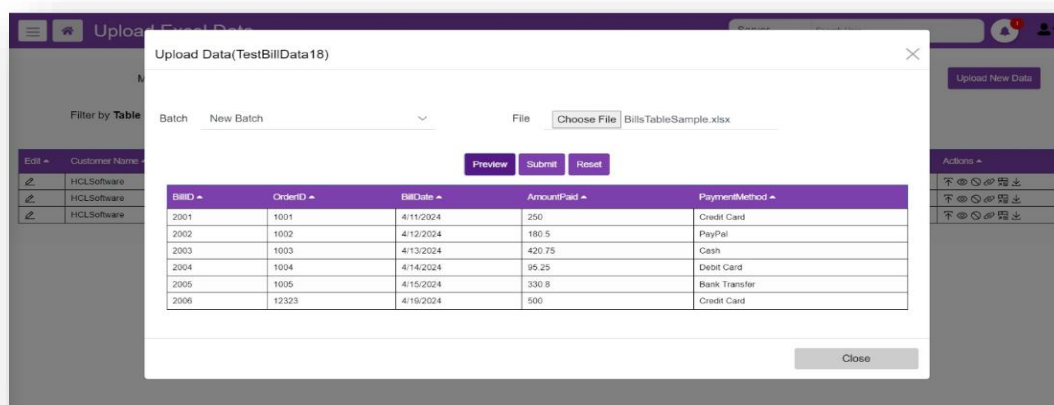


Figure 46 - Upload Action Button

Preview and save

1. Preview Button:
 - The Preview button allows users to see the data before finalizing the upload. It ensures the data structure matches expectations and provides a chance to verify the contents.

2. Save Action:

- When saving data the system first checks if the uploaded table's columns match the columns of the existing table. If they match, the data is saved accordingly, based on the chosen upload mode.

7.2.3 View Details Action Button

- The View Details action button allows users to fetch and display records from a selected table, either for all batches or a specific batch, with an additional option to filter the data based on specific fields.
- Here's how the functionality works

1. Functionality Fetching Data

- The system sends an AJAX request to fetch batch and table column information based on the selected table name
- The batch dropdown is populated with available batches, excluding the option 'All Batch'.
- The column dropdown is populated with table columns, excluding the option 'All Batch'.

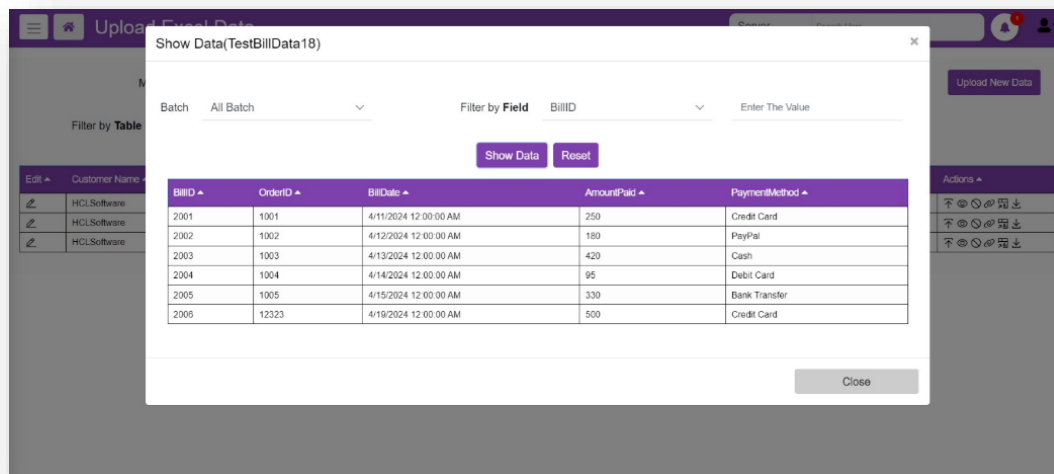


Figure 47 - View Details Action Button

2. Show Data Button

- Clicking the Show Data button triggers an AJAX request to fetch records based on the selected batch and optional field filter.
- The system processes the response to display the records on a dynamically created table within the modal.
- If no records are found, a message "No record found!" is displayed

3. Filter By Field

- Users can filter the data by selecting a column and entering a value to search for in that column.
- The filter allows precise data retrieval, helping users find specific records within the table.

4. Table Display

- The fetched records are displayed on a table with sortable columns.
- The table headers are dynamically created based on the fetched data.
- JSON data is added to the table as rows, and date values are formatted as needed.

7.2.4 Delete Record Batch Wise Action Button

The Delete Record Batch Wise action button enables users to delete records from a table either by batch or for all batches. This feature provides a convenient way to manage and clean up data efficiently. Below is the detailed description of the functionality.

Functionality

Fetching Batch Data

- An AJAX request is sent to fetch batch information based on the selected table name.
- The batch dropdown is populated with available batches, excluding the option 'All Batch'.

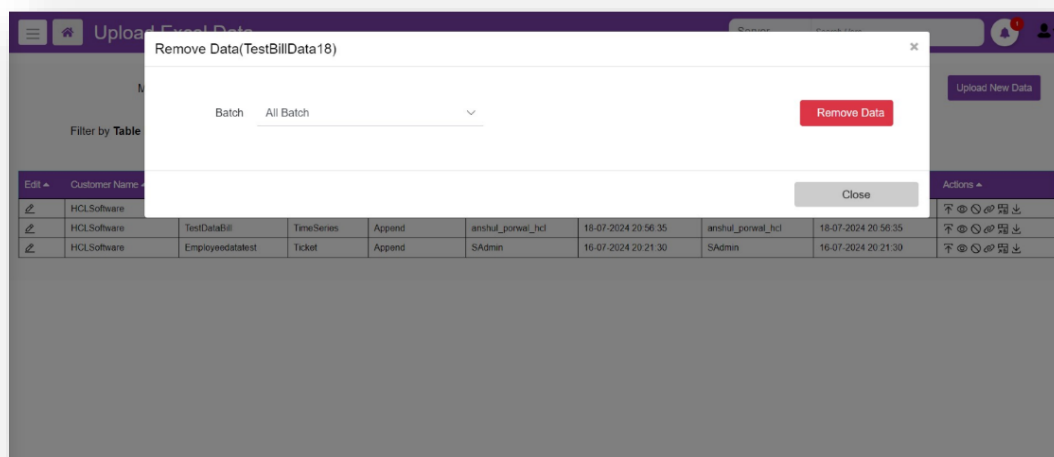


Figure 48 - Delete Record Batch Wise Action Button

1. Delete Record Button

- Clicking the Delete Record button triggers a confirmation dialog to ensure the user wants to proceed with the deletion.
- If confirmed, an AJAX request is sent to delete records based on the selected batch from the table.
- The server processes the request and returns a response indicating the success or failure of the operation.

Modal Configuration

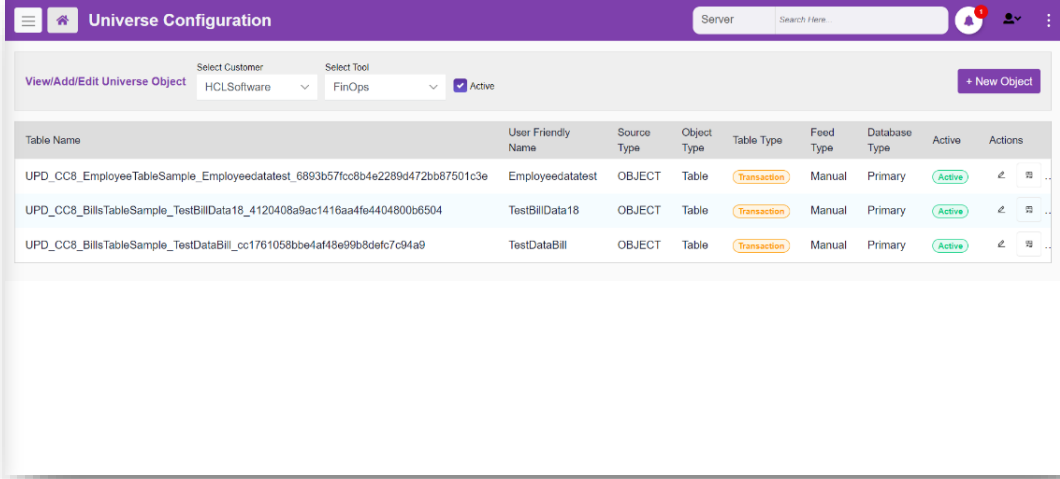
1. Modal Initialization:
 - When the Delete Record Batch Wise modal is opened.
2. The modal title is dynamically set based on the user-friendly name.
3. Batch options are fetched from the server and populated in the dropdown menu.
4. Batch Selection: Users can select a specific batch from the dropdown menu to delete records for that batch.

7.2.5 Navigate to Universal Configuration

This button redirects the user to the Universal Configuration page where further settings can be adjusted.

Functionality

1. Customer and Tool Selection:
 - On the Universal Configuration page, users must select a customer and a tool.
2. Table Display:
 - Users can view all tables as well as tables that have been uploaded with the prefix UPD_.



The screenshot shows the 'Universe Configuration' interface. At the top, there's a header with a menu icon, a home icon, the title 'Universe Configuration', a 'Server' dropdown, a search bar, and user profile icons. Below the header, there's a section for 'View/Add/Edit Universe Object' with dropdowns for 'Select Customer' (HCLSoftware) and 'Select Tool' (FinOps), an 'Active' toggle, and a '+ New Object' button. The main area contains a table with the following columns: Table Name, User Friendly Name, Source Type, Object Type, Table Type, Feed Type, Database Type, Active, and Actions. Three rows are visible, all starting with 'UPD_' in the Table Name column.

Table Name	User Friendly Name	Source Type	Object Type	Table Type	Feed Type	Database Type	Active	Actions
UPD_CC8_EmployeeTableSample_Employeeedatestest_6893b57fcc8b4e2289d472bb87501c3e	Employeeedatest	OBJECT	Table	Transaction	Manual	Primary	Active	⚙️ 🗑️
UPD_CC8_BillsTableSample_TestBillData18_4120408a9ac1416aa4fe4404800b6504	TestBillData18	OBJECT	Table	Transaction	Manual	Primary	Active	⚙️ 🗑️
UPD_CC8_BillsTableSample_TestDataBill_cc1761058bbe4af48e99b8defc7c94a9	TestDataBill	OBJECT	Table	Transaction	Manual	Primary	Active	⚙️ 🗑️

Figure 49 - Navigate to Universal Configuration

7.2.6 Navigate to Report Builder

This button redirects the user to the Report Builder for data visualization.

Functionality

1. Chart Selection:
 - Users can select different types of charts for data visualization.
2. Dataset and Table Selection:
 - Users can choose a dataset and a table name.
3. Dimension Selection:
 - Users can select dimensions for their reports to customize the data visualization.



Figure 50 - Navigate to Report Builder

7.2.7 Download File Action Button

The Download File action button allows users to download records from a table either by specific batch or all batches in Excel format. This feature is essential for data analysis, reporting, and backup purposes.

Below is the detailed description of the functionality.

Functionality

1. Fetching Batch Data

- An AJAX request is sent to fetch batch information based on the selected table name.
- The batch dropdown is populated with available batches, excluding the option 'All Batch' Download Data.

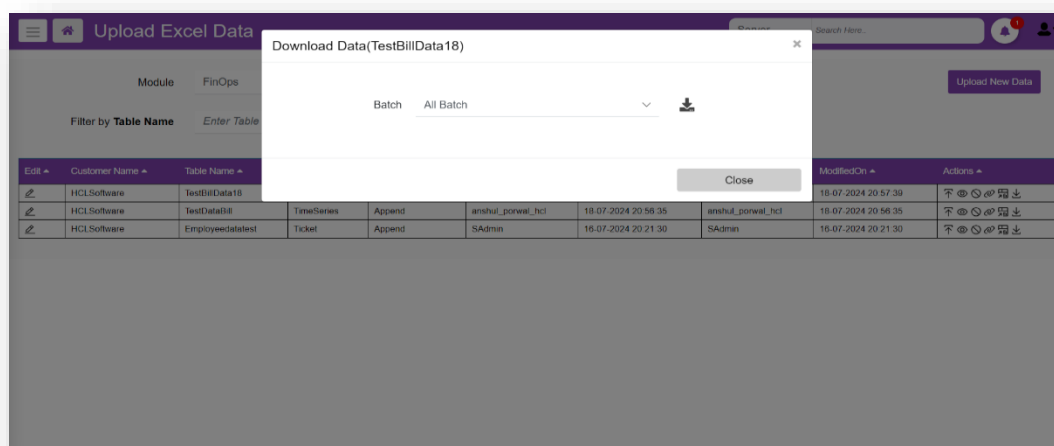


Figure 51 - Download File Action Button

- Clicking the download icon triggers the download process.
- The selected batch (or all batches if no specific batch is selected) is included in the query parameters of the download URL.
- The data is downloaded in Excel format.

7.3 Excel Upload Restrictions

1. File Format Restrictions
 - Only .xls and .xlsx Excel formats are supported.
 - Unsupported file formats (e.g., .csv, .ods) will be rejected.
2. File Size Limitations:
 - The maximum file size is 30 MB. Files larger than this will result in an error during upload.
3. Invalid File Name Characters:
 - File names with invalid characters (e.g., <>:"/\"/? *) are not accepted.
4. ZIP File Restrictions:
 - If uploading a ZIP file, it must contain only .xls or .xlsx files.
 - The total size of the ZIP archive cannot exceed 1 GB, and it should not have more than 10,000 entries.
5. Corrupted or Incomplete Files:
 - Corrupted or incomplete files will fail to upload correctly.
6. File Path Issues:
 - File paths with illegal characters or leading to unintended directories will be rejected.
7. Unsupported Data Structures:
 - Files with non-tabular data or unsupported formats may fail during processing.
8. Data Format Expectations:
 - Excel files must have a header row for proper data parsing.
 - Incorrect formatting or missing headers may lead to data extraction issues.
9. Column Naming Restrictions:
 - Do not include the following columns in the Excel file:
 - [CreatedBy], [CreatedOn], [ModifiedBy], [ModifiedOn], [Batch]
 - These columns are system-managed and should not be part of the uploaded data.
10. Empty or Null Data:
 - Files with empty rows or missing required data may cause errors during saving.
11. Invalid Data Types:
 - Columns must contain the correct data types (e.g., numeric for numbers, text for strings).
 - Mismatched data types will lead to file rejection or error highlighting.
12. Duplicate Entries:
 - The system checks duplicates based on column values and may reject or flag duplicate entries.
13. Data Preview:
 - A preview of the data is shown before saving. Issues like invalid columns or data types must be corrected before proceeding.
14. Table Name Conflicts:
 - If a table with the same name exists, the system will display an error: "Table name already exists."
15. GDPR Data Handling:

- Files containing personal data will be checked for GDPR compliance. Users must provide consent before saving any personal data.

16. Temporary Data:

- The uploaded data is stored temporarily in the session and cleared after a successful save.

17. Error Handling and Feedback:

- Common errors include missing data, invalid columns, or data type mismatches. Error messages will guide the user to correct the issues and re-upload the file.

7.4 Derived Query Admin

In the report builder screen when the selected template is Multi source you can use derived query admin console to configure the custom measures by joining data of 1 or more 1 table (max up to 4 tables are allowed)

Steps to follow.

- From the left menu go to Administration → Core Configuration → Derived Report Admin

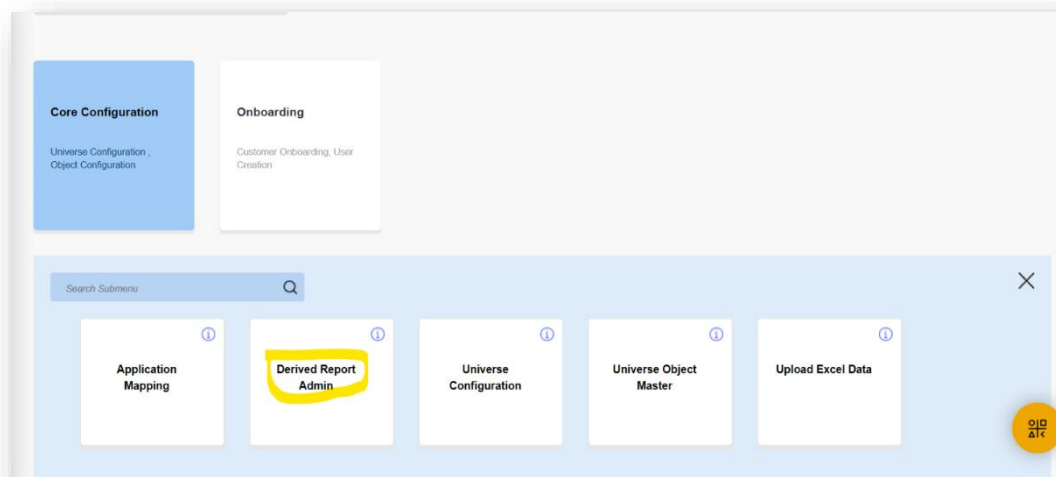


Figure 52 - Core Configuration Derived Report Admin

- You will be redirected to the screen below.

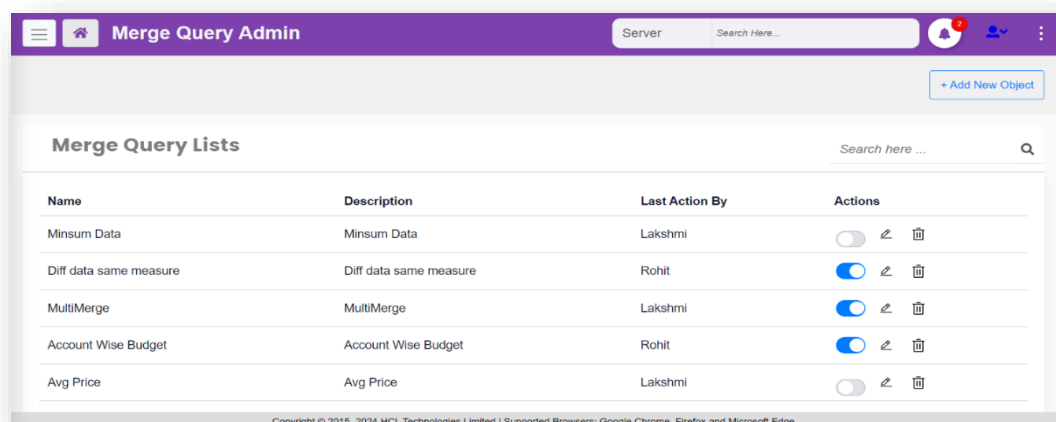


Figure 53 - Core Configuration Merge Query Admin

3. we added a new column, 'Last Action By.' This column will display the user who last modified an object or added a new one.
4. Click on Add New Object. You will be redirected to the screen below.

Figure 54 - Core Configuration Edit Query Admin

5. In this screen you need to configure the fields below.
 - Name- Name of the object
 - Description - Description of the Object
 - Access Type - i.e. Personal or Global
 - No. of Tables – i.e. 1,2,3 or 4
 - The Parent Report-Choose Base Object and the column which will be the left table for the join
 - Report based on No of tables other objects will be populated, choose the objects which will be the right tables for the join and choose their respective columns
6. Custom Measure:
 - You can create custom measures using the actual measures of the selected objects based on which you can create the report builder screen using multisource template
 - After creating a new measure, it will be saved in the "Measure(s)" list on the left side.

Measure(s)

[Estimate Cost] [Edit] [Delete]

Column(s)

- [Company wise charge...
- [Company wise revenu...
- [Company wise revenu...
- [Company wise revenu...

Measure Name* **Description***

Formula* () + - * /

Category* General ☒ Active

Save Save and Close Go To Report Builder Reset

Copyright © 2015, 2024 HCL Technologies Limited | Supported Browsers: Google Chrome, Firefox and Microsoft Edge

Figure 55 - - Core Configuration Custom Measure

8. Metric Collection

This module details how a user collects data from a source, applies conditions and formulas to the collected data. The data is collected according to the defined frequency.

The integration of the metric collection module involves three steps:

1. Database configuration
2. Metric creation
3. Install and run the service

8.1 Configuring the database

To configure the database used for metric collection perform the following steps.

1. Create KPI Data Configuration database on MyXalytics base configuration database server.
2. Execute the scripts for DDL and DML with the corresponding database release.

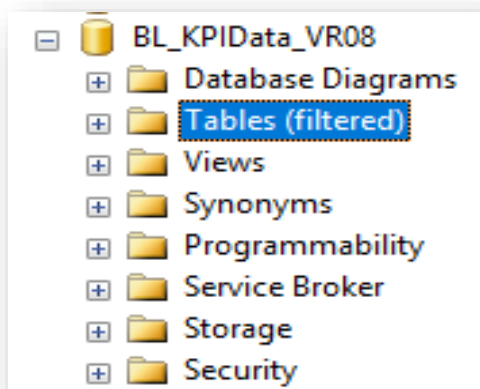


Figure 56 – KPI Data Configuration database

3. Make entries in the Productrelease and ProductReleasedetails table with the latest release info with current date.

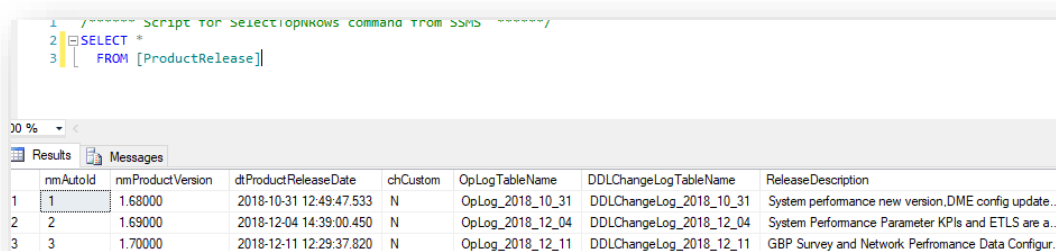


Figure 57 – KPI Data Configuration database (Cont.1)

4. Creating of Metric.

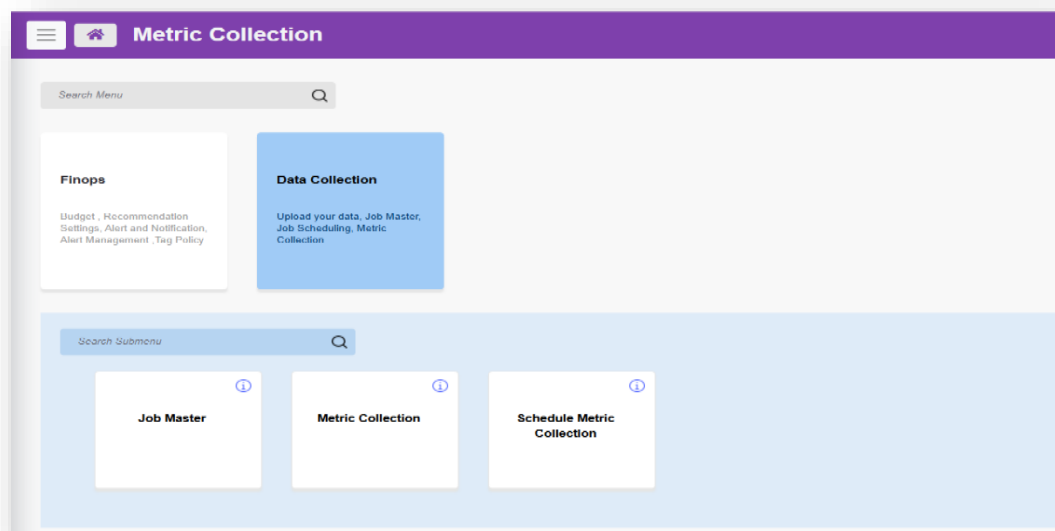


Figure 58 – KPI Data Configuration database (Cont.2)

5. To create metric, follow the steps below

- Open browser and enter the MyXalytics URL.
- Click Left Menu Configuration → Data Collection → Metric Collection.

The following screen appears.

Action	KPI ID	Customer Name	KPI Name	Module	Tool	Job Status	Last Modified by	Last Modified Date	Engagement ID
	B261	AARP	Test KPI for Doc					11/21/2024 2:45:11 PM	BC02
	C255	DB	Cloud Recommendation	Finops	FinOps	Scheduled		11/19/2024 6:16:40 PM	CC53
	B260	HOLTECH	Cloud Billing_Clone_222	Finops	FinOps	Scheduled	SAdmin	11/15/2024 1:05:22 PM	CC8
	C259	DB	AzureSecurityControls	Finops	FinOps	Scheduled	System	11/15/2024 9:13:10 AM	CC53
	C258	DB	AzureSecurityScores	Finops	FinOps	Scheduled	System	11/15/2024 9:13:10 AM	CC53
	C257	DB	AzureRUSAGEMETRIC	Finops	FinOps	Scheduled	System	11/15/2024 9:13:09 AM	CC53

Figure 59 – KPI Data Configuration Metric Collection

6. Click **Add item** to create a new KPI.
7. The **Metric Collection** dialog box appears.

Figure 60 – KPI Data Configuration Metric Collection (Cont.1)

The KPI creation consists of the following steps:

1. Define KPI

2. Data Collection
3. Formula Configuration
4. Scheduling

8.2 Defining the KPI

This section details how a user defines KPI by using the following steps.

1. On the **Metric Collection** screen, select the **KPI Master**. The KPI master fields appear on the right side of the screen.
2. Enter the name of the KPI for which the KPI is being made in the **KPI Name** field.
3. Describe the KPI for which the KPI is being made in the KPI Description field.
4. Select the Customer for which KPI is made from the pull-down menu.
5. Select the Tool from the pull-down menu such as SNOW, Remedy, and so on.
6. Select the Module of the tool (like SNOWIM, SNOWPM etc) from the pull-down menu.
7. Select the Collection Time Zone in which the KPI must be executed like India time zone, Europe time zone, China time zone etc.
8. Select the Orientation using the radio button. Select Positive, if going positive is good for the KPI or else select Negative.
9. If any exception needs to be made for the KPI, then mark Is Exception Needed field as Yes using the toggle button.

Figure 61 - Metric Collection screen, KPI Master

10. Click **Save**. It enables the **Continue** button.
11. Click **Continue**, and it navigates you **Metric Collection** screen

8.3 Data Collection

This section details how a user can define the source of collection using the following steps.

On the Data Collection screen, we have a dropdown labelled KPI Procedures that displays a list of registered stored procedures.

Once a stored procedure is selected, all its input parameters are dynamically populated as labels alongside corresponding dropdowns.

The dropdowns contain options based on the data types of the input parameters:

1. Date Parameters:
 - For date parameters, the dropdowns populate options like Start Time and @EndTime. If you want to enter a custom date value, select Custom in the dropdown. This will enable a text box beside the dropdown, where you can enter a valid datetime.

2. String Parameters:

- For string parameters, the dropdowns populate options such as:
 - @EngagementID
 - @EngagementName
 - @SharedEngagementID
 - @PrimarySecurityValue
 - @SecondarySecurityValue
 - @ServiceSubType
 - Custom
 - DoNotPass
- If you select Custom, a text box will be enabled next to the dropdown, where you can enter a valid string. For both date and string inputs, ensure that you provide values in the correct format. If you do not need to pass the parameter, select DoNotPass from the dropdown. Added Information icon and required filed * for each label.
- After selecting the appropriate option, click **Load Columns**.
- If we are making KPI for response SLA, we select the **SP**. Select SP, Incident, TaskSLA, and SLA tables from the select list:

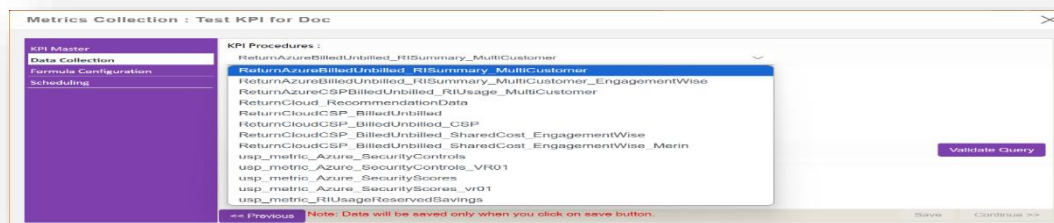


Figure 62 - Metric Collection screen, Load Columns

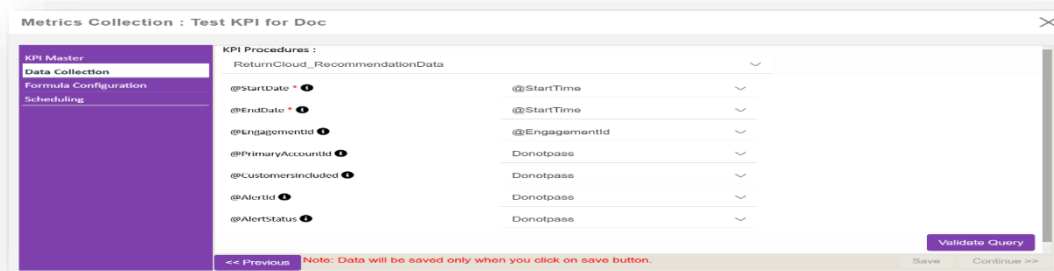


Figure 63 - Metric Collection screen, Load Columns (Cont.1)

- Click the **Load Columns** button.
- It shows the list of columns as shown below.

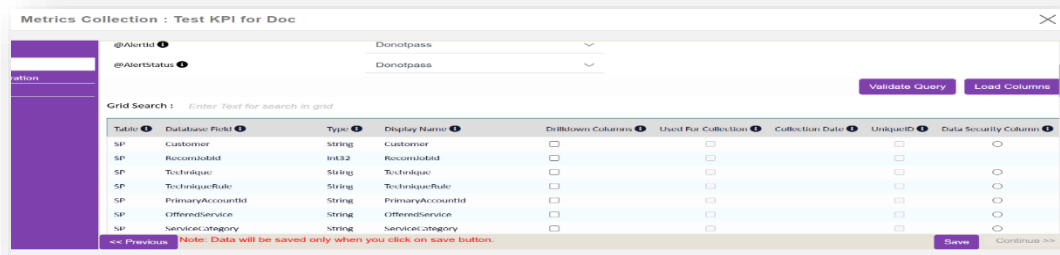


Figure 64 - Metric Collection screen, Load Columns (Cont.2)

8. Select the check box under the **Drilldown Columns** and **Column** next to the **Database Field** to be used as group by and column from the populated list.
9. If a user selects the source as **Custom Query** or **Stored Procedure**, then there will be an option to write the custom query or exec statement for stored procedure.
10. Validate the following points on the screen:
 - If the Tables are used as source, a maximum of 5 tables can be selected.
 - If the Stored Procedure is selected without validating the same, user cannot move forward.
 - Any number of drilldown columns and group by can be selected.
 - If a column is not selected as drilldown column, the same cannot be selected for group by.
 - Only one field can be selected as a Date Field and as a Unique Id column
11. After selecting all the drilldown columns and group by, click **Save**.
12. It enables the **Continue** button.
13. Click Continue.

8.4 Formula Configuration

This section details how to create any formula or measure and how to apply any filter.

The selected drilldown columns will remain available for use in measure. By default, a measure will be added which has the formula of Sum of Unique Id field. If a new measure is added, it is first validated and then added.

1. Measure Name:
 - The name of a measure to be calculated using the KPI. This is usually present in the formula present in Formula Builder Configuration screen
2. Formula:
 - The query which is used to calculate a particular Measure.
3. Filters:
 - This refers to the query to filter if some formula has a filter attached with the query. For example: While creating a KPI for TTR, a filter is used as "INC. Resolved at IS NOT NULL" and this can be verified by clicking "Validate Filter"
 - After adding the measures and filters, click Save and then click Continue.

Figure 65 - Metric Collection Formula Builder Configuration

Figure 66 - Metric Collection Formula Builder Configuration (Cont.1)

8.5 Scheduling

This section details how a user can schedule the collection.

At the backend, a service runs their respective jobs at a particular time.

The data will be collected on separate tables according to the selected table cutover.

Fill in the following details for scheduling a job:

1. Job Name:
 - The name of the job which a user gives to a particular KPI functionality.
2. Controller:
 - The name of the server on which the service will be running while execution.
3. Update Frequency:
 - The frequency at which the job is to be executed.
4. Data Collection Start Date:
 - The date to start the data collection in the KPI.
5. Schedule Time Zone:
 - The time zone to execute a job.
6. Table Cutover:
 - The frequency at which resultant tables will be made while the job is running/has executed.
7. Data Granularity Level:
 - The frequency at which the data will be “grouped by” in the resultant tables.

Figure 67 - Metric Collection Test KPI

8.6 Run KPI as Backdated

Backdate a KPI, follow the steps below:

1. Open browser and enter the MyXalytics URL.
2. Click Menu → Data Collection → Schedule Metric Collection.

Job Name	KPI Name	Next Run Time	Next Run From Date	Next Run To Date	Job Status	Action
Cloud Billing	Cloud Billing_Clone_222	11/16/2024 3:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 3:00:00 AM	Scheduled	Y
Azure Security Controls	AzureSecurityControls	11/16/2024 8:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 8:00:00 AM	Scheduled	N
Azure Security Scores	AzureSecurityScores	11/16/2024 9:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 9:00:00 AM	Scheduled	N
Azure Resources RI Usage Metric	AzureRIUSAGEMETRIC	11/16/2024 11:00:00 AM	11/15/2024 12:00:00 AM	11/16/2024 11:00:00 AM	Scheduled	N
Azure AWS RI Summary	AzureAWSRISUMMARYMETRIC	11/15/2024 2:00:00 PM	11/1/2024 12:00:00 AM	11/14/2024 11:59:59 PM	Scheduled	N
Cloud Recommendation	Cloud Recommendation	11/16/2024 6:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 6:00:00 AM	Scheduled	N
Cloud Billing	Cloud Billing	11/16/2024 3:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 3:00:00 AM	Scheduled	N
Azure Security Controls	AzureSecurityControls	11/16/2024 8:00:00 AM	11/1/2024 12:00:00 AM	11/16/2024 8:00:00 AM	Scheduled	N

Figure 68 - Schedule Metric Collection

3. Enable the Job to be rescheduled under the **Action** column using .

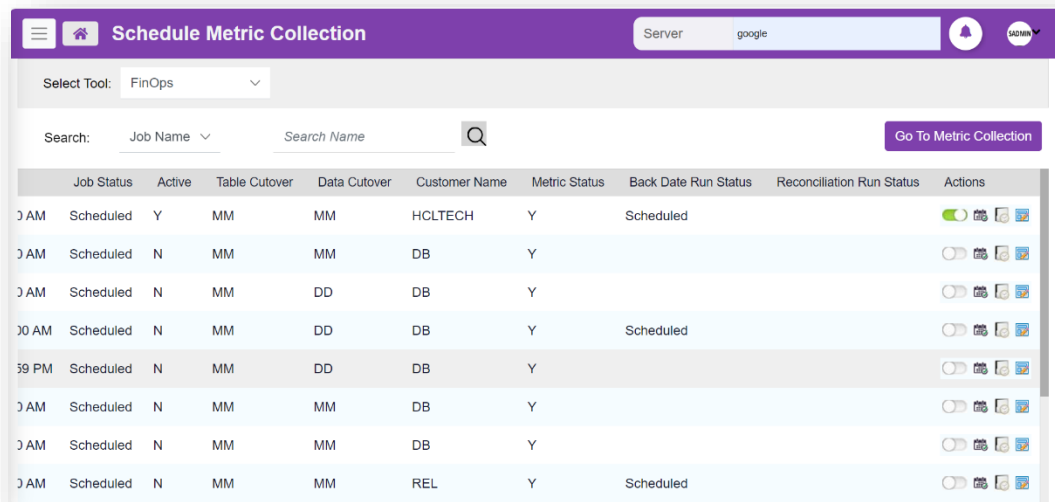


Figure 69 - Schedule Metric Collection (Cont.1)

- Click under the **Action** column to reschedule a Job.

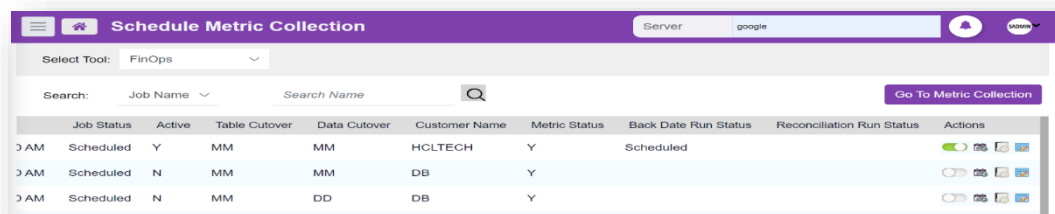


Figure 70 - Schedule Metric Collection (Cont.2)

- The **Backdate Collection** dialog box appears.

Backdate Collection: Cloud Billing

BackDate Collection Start Date*

11/21/2024 00:00:00

BackDate Collection End Date*

11/21/2024 23:59:59

Delete Previous Data

☐ Yes

Schedule Now

Go to Metric

Figure 71 - Schedule Metric Collection Backdate Collection

- Verify the following details of the Backdate Collection:
 - Backdate Collection Start Date:
 - The date to start the data collection.
 - Backdate Collection End Date:
 - The date to stop the data collection.
- Delete Previous Data:
 - Select **Yes**, to delete the previous data logs or **no**, to save the previous data logs.

- Click **Schedule Now** to schedule the job. The job starts when the service gets triggered next (Job triggers after every 10 minutes).

8.7 Exception Management

This section details how a user can mark any data as an exception or exclusion.

For example, if a ticket is breached and later it is found that it should not be treated as breached due to some reason, then the user can mark that ticket as Exception.

This can be done by users having an admin role, or if the user wants to exclude any ticket, the same can be excluded.

The screen for doing the exception management is explained below:

- The KPI marked for exception while creation can only be available for doing exception.
- How to mark KPI as an exception has been shown in the steps for creating KPI.
- The exception can be made on the final raw data drilldown screen of scorecard.
- In the case of KPI marked for exception and the logged in user id match with commentary users. Add Exception/Exclusion and Submit Exception/Exclusion button will be visible.

Report Name

SLA Report

Export to :

Excel



Add Exception/Exclusion

Submit Exception/Exclusion

Period	Priority	Assignment_Group	Assigned_To	Name	Country	Category	Stage	Configuration_Item	IncidentState	Company	Customer	Number	Subcat
5/31/2024 6:30:00 PM	Priority 1	iAutomate	Stacy ServiceDesk			Server	completed	ASM0005288 My Cloud	Closed		MTAAS	INC0013433	AIX
5/31/2024 6:30:00 PM	Priority 1	iAutomate	Stacy ServiceDesk			Server	completed	ASM0005289 My Cloud	Closed		MTAAS	INC0014374	AIX
5/31/2024 6:30:00 PM	Priority 1	iAutomate	Stacy ServiceDesk	Priority 1 response		Server	completed	ASM0005288 My Cloud	Closed		MTAAS	INC0013433	AIX
5/31/2024 6:30:00 PM	Priority 1	iAutomate	Stacy ServiceDesk	Priority 1 response		Server	completed	ASM0005289 My Cloud	Closed		MTAAS	INC0014374	AIX
5/31/2024 6:30:00 PM	Priority 1	Major Incident Management				Server		ASM0004951 HCL test	Assigned		MTAAS	INC0071305	AIX
5/31/2024 6:30:00 PM	Priority 1	Major Incident Management	Major Incident Manager			Server		ASM0004951 HCL test	Pending		MTAAS	INC0070135	AIX
5/31/2024	Priority	Major Incident	Mark Major					ASM0004951 HCL					

Figure 72 - Metric Collection (cont.1)

- Once the user clicks on Add Exception/Exclusion button below screen will be visible where user can add multiple exception/exclusion for each incident.

Unique Identifier	Summary	Approved	Exception	Exclusion	Remarks	Attachment
☐ INC0014373	SD	☐	☐	☐		--Select--
☐ INC0014373	SD	☐	☐	☐		--Select--
☒ INC0950548	MM IDOC INTF Error Automation Flow Failed	☒	☒	☐	testing	Image.jpg
☐ INC0950553	MM IDOC INTF Error Automation Flow Failed	☐	☒	☐	testing	Image.jpg
☐ INC0950554	MM IDOC INTF Error Automation Flow Failed	☐	☐	☐		--Select--

Upload Evidence ⓘ

Choose File No file chosen

Reset Save Close

Figure 73 - Metric Collection (cont.2)

Header Section

- Executed For:
 - Drop down to know the relevant year and month of raw data
- Filter:
 - In case users want to apply filters on raw data
- Main Table:
 - The main section contains a list of records with the following columns:
- Unique Identifier:
 - Displays the ID of the record (e.g., INC0014373).
- Summary:
 - A brief description of the issue or record (e.g., "MM IDOC INTF Error Automation Flow Failed").
- Approved Checkbox:
 - Check this box if the record is approved.
- Except for Checkbox:
 - Mark this box to flag the record as an exception.
- Exclusion Checkbox:
 - Mark this box to flag the record as an exclusion.
- Remarks:
 - A free text field to provide additional details or comments about the record.
- Attachment:
 - Use this dropdown to upload or view attached evidence files (e.g., Image.jpg).

Upload Evidence

- Choose File Button:

- Click to upload supporting evidence for a selected record.
2. No file chosen:
 - This text indicates that no file has been uploaded yet.

Action Buttons

1. Reset:
 - Clears any unsaved changes.
2. Save:
 - Saves your changes to the system.
3. Close:
 - Closes the dialog without saving changes.

Step-by-Step Guide

1. Select Records
 - Use the checkboxes in the first column to select the records you want to update.
2. Add Details:
 - For each selected record, update the appropriate columns:
 - Check Approved, Exception, or Exclusion based on the requirement.
 - Add relevant comments in the Remarks field.
 - Attach evidence using the Attachment dropdown or the Choose File button in the Upload Evidence section.
3. Save Changes:
 - Click the Save button to save all updates.
 - If you make a mistake, use the Reset button to clear changes.
4. Close the Dialog:
 - After saving, click Close to exit the interface.

Tips:

1. Ensure that you upload evidence for any record marked as an exception or exclusion to maintain compliance.
2. Use clear and concise comments in the Remarks field to aid in record tracking.

Save functionality.

The data gets saved in the respective Exception log table. The exception table for the KPI gets created when the service runs, and the summary tables are created.

The naming convention for the exception log table is:

1. EngId_KPIUniqueid_Exception_YYYYMMDDHH_Granularity_Tablecutover
 - For example: BC01_B134_KPIException_2020120100_Mthly_Mthly

The SP for saving data is:

1. For Exception – SaveExceptionDataForRawData
2. For Excusion – SaveExclusionDataForRawData

3. As it gets saved, admin needs to submit exception/exclusion to approve the incident. Admin can submit the request to approvers using the screen below.

Send Communication Section consists of three Sections.

1. Comments
 - Users can enter comments for adding exception.

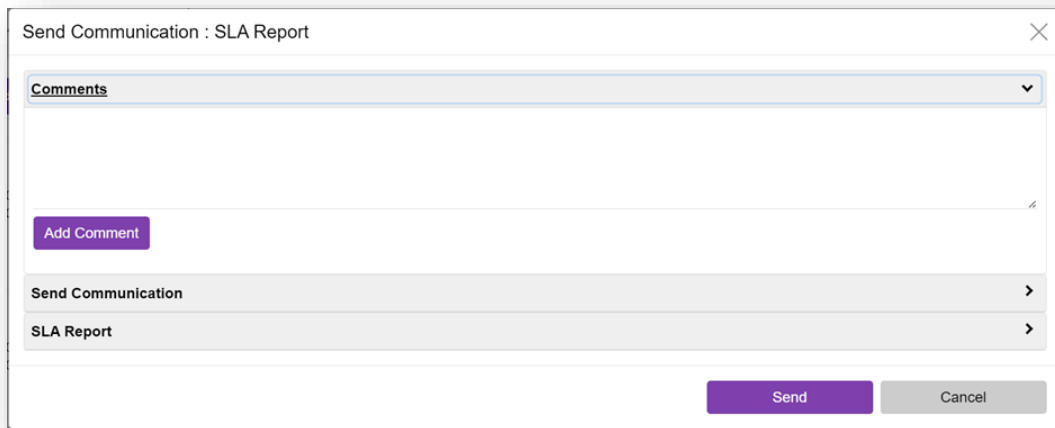


Figure 74 - Metric Collection (cont.3)

2. Send Mail
 - By default, Approver mail id will be visible in Mail to Section. User can enter below fields and click send mail; the mail will be triggered to approvers.

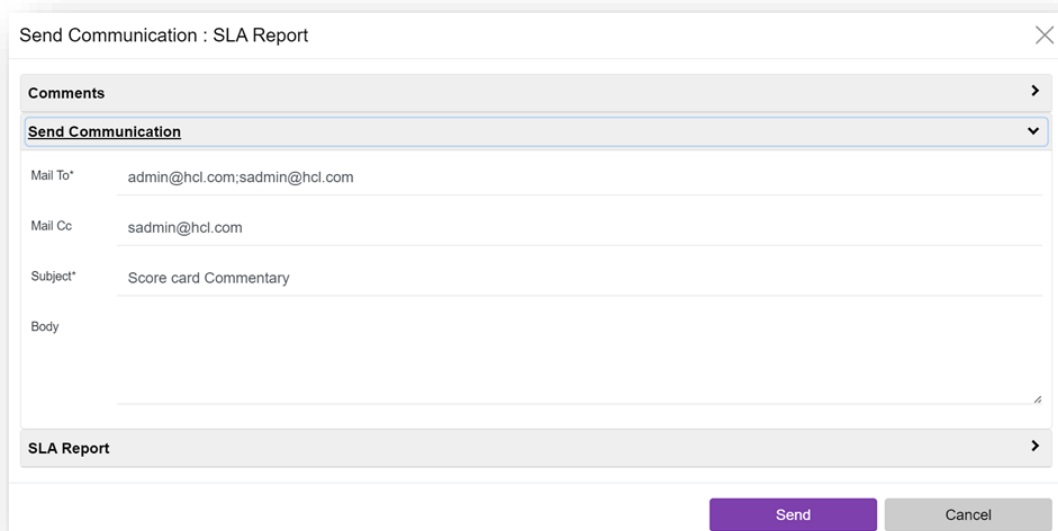


Figure 75 - Metric Collection (cont.4)

3. Report
 - User can view the added Exception/Exclusion in report section

Send Communication : SLA Report

Comments

Send Communication

SLA Report

Type	UniqueIdentifier	Remarks	CreatedOn	ExecutedFor
Exception	INC0950553	testing	2024-10-28 07:55:00	2024-06-01 00:00:00
Exception	INC0950548	testing	2024-10-28 07:51:00	2024-06-01 00:00:00

Send
Cancel

Figure 76 - Metric Collection SLA Report

- Once send communications to approver, below mail will be received to approvers.

HCL MyXalytics

Approval

Dear User,

Please approve the exceptions

2330.00 - Exception/Exclusion

Below are the tickets categorized under exception/exclusion pending for your approval.

Type	UniqueIdentifier	Remarks	Executed On	Requested By
Exception	INC0950548	testing	01 Jun 2024	S.Admin
Exception	INC0950553	testing	01 Jun 2024	S.Admin

To Approve and Reject please click here : [Approve/Reject](#)

If you have any questions, please write to us at myxalytics-support@hcl.com to get a first hand experience of our diligent support.

Regards

MyXalytics

Figure 77 – MyXalytics approval page

- To Approve/Reject Exception, Approvers can click on the link mentioned in mail. Then MyXalytics link will open in default browser with approval page. Below is a screenshot for reference.

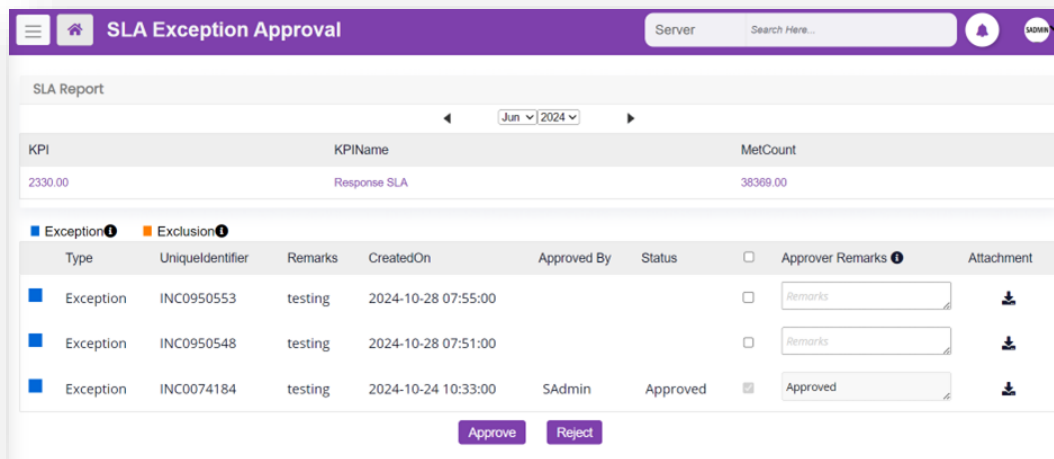


Figure 78 - Approving or Rejecting SLA Exceptions via Email in MyXalytics

6. This screen is used to view SLA metrics and approve or reject SLA exceptions. Follow the steps below for effective use.

Screen Components

1. SLA Report Section

- KPI: Displays the Key Performance Indicator value (e.g., 2330.00).
- KPI Name: Name of the KPI being tracked (e.g., "Response SLA").
- Met Count: Total count of SLA records that meet the criteria (e.g., 38369.00).
- Month and Year Selector: Use the dropdown to filter data for a specific month and year.

2. Exception Table

- This section lists individual SLA exceptions or exclusions with the following columns:
- Type:
 - Indicates whether the entry is an Exception or Exclusion.
- Unique Identifier:
 - A unique ID for each exception (e.g., INC0950553).
- Remarks:
 - Displays the details or description (e.g., "testing").
- Created On:
 - The date and time when the exception was created.
- Approved By:
 - The name of the approver if already approved (e.g., "Admin").
- Status:
 - Shows approval status. You can select the checkbox to approve or reject records.
- Approver Remarks:
 - Input field to enter comments related to the action.
- Attachment:
 - Download icon to access evidence or support files.

3. Action Buttons

- Approve:
 - Approves the selected exceptions.
- Reject:
 - Rejects the selected exceptions.

How to Use the Screen

1. Step 1: Review SLA Metrics
 - Check the KPI, KPI Name, and Met Count to understand SLA performance for the selected period.
 - Use the Month and Year Selector to switch between different periods.
2. Step 2: Review Exceptions
 - Review the exceptions listed in the table.
 - For each entry, examine the Remarks and Created On values for details and context.
3. Step 3: View Supporting Attachments
 - If available, click the Download Icon in the Attachment column to review evidence or additional details.
4. Step 4: Act
 - To approve or reject an exception:
 - Select the checkbox under the Status column for the desired record(s).
 - Add your comments in the Approver Remarks field if necessary.
 - Click Approve to approve or reject to reject the selected exceptions.
 - Once exception/exclusion approved collection will be scheduled and count will be reduced from met count
5. Step 5: Verify Actions
 - Approved records will show the approver's name in the Approved By column and update their status to "Approved."

8.8 Configuring the Service

A user must install a service on the controller that was mapped at the time of creating the job for the KPI.

To configure a service, follow the steps below:

- Update the installed and uninstalled batch file in the executables folder with the path of the service.
- Update the **Connection String** and the **Error File** location in the app config file.

The connection string for all the tools in the ToolMaster table of KPIData database should be properly updated.

- Run the **install.bat** file, which will install KPIModuleController service on the server. If any service account is required, make the necessary changes.

IP Translation Configuration Service	Configures ...	Manual (Trigger start)	Local Syste...
IPsec Policy Agent	Internet Pro...	Running Manual (Trigger Start)	Network S...
KPIModuleController_VR01		Automatic	Local Syste...
KtmRm for Distributed Transaction Coordinator	Coordinates...	Manual (Trigger Start)	Network S...

Figure 79 – KPI Module Controller service

Start the Service

- Already configured jobs will be picked up at their scheduled time.
- To view the logs for a job in the **Schedule Metric Collection** screen, click  next to the required job.

Response	22-Nov-19 12:47:00 AM	21-Nov-19 12:00:00 AM	21-Nov-19 11:59:59 PM	Scheduled	N	Yearly	Monthly			 
TicketReductionData_New				Suspended	N	Yearly	Monthly			 

Figure 80 - Schedule Metric Collection screen

9. Steps to check Job status/run a job

To check the job status or run a job, follow the steps below:

1. On the MyXalytics homepage, under **Menu**, go to **Configuration → Data Collection → Job Master**.

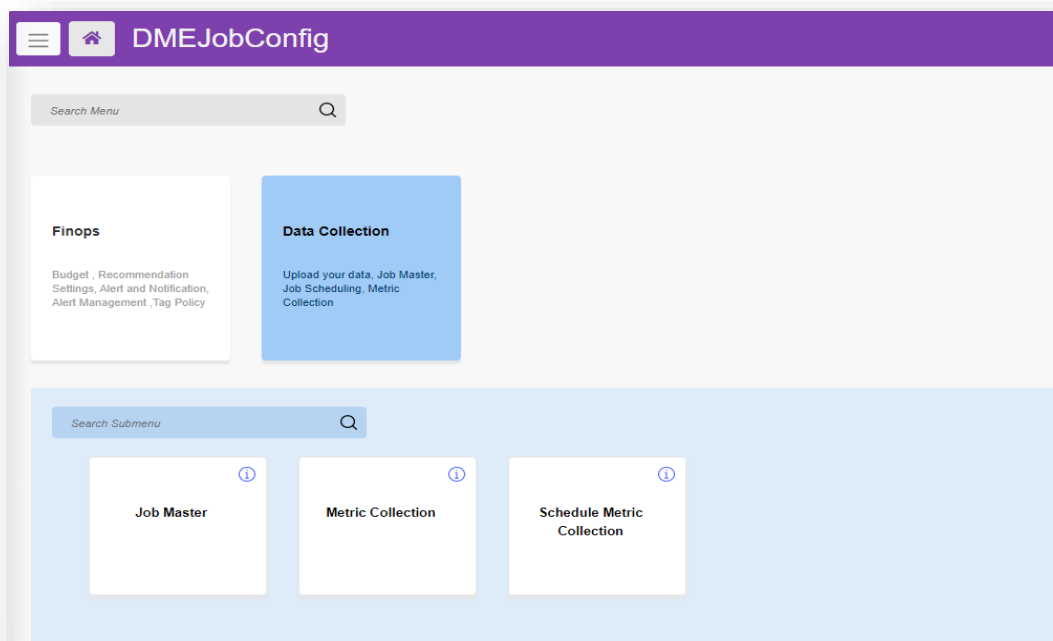


Figure 81 - Configuration Data Collection Job Master

2. The Job listing page appears with the Search.

The screenshot shows the 'Job Dashboard' with a search bar at the top. Below the search bar is a table with the following columns: Job Id, Job Name, Last Updated Record, Next Run Time, Job Type, Active, Job Status, and Actions. The table contains 10 rows of job data. The 'Actions' column for each row contains icons for edit, clone, and view logs.

Job Id	Job Name	Last Updated Record	Next Run Time	Job Type	Active	Job Status	Actions
C608	__DEX Application Errors	2024-Aug-13 08:12:51	2024-Sep-08 13:43:00	P	Fail	Fail	Edit Clone View Logs
C606	__DEX Application Experience	2024-Aug-13 06:12:50	2024-Aug-17 06:21:00	P	Fail	Fail	Edit Clone View Logs
C614	__DEX Application Info	2024-Aug-13 08:12:54	2024-Aug-17 07:54:00	P	Fail	Fail	Edit Clone View Logs
C607	__DEX Application Performance	2024-Aug-13 08:12:50	2024-Aug-17 07:28:00	P	Fail	Fail	Edit Clone View Logs
C605	__DEX Application Score	2024-Aug-13 08:12:50	2024-Aug-16 11:03:00	P	Fail	Fail	Edit Clone View Logs
C609	__DEX Application Usage	2024-Aug-13 08:12:51	2024-Aug-16 16:25:00	P	Fail	Fail	Edit Clone View Logs
C613	__DEX Application Versions	2024-Aug-13 06:12:53	2024-Aug-17 07:14:00	P	Fail	Fail	Edit Clone View Logs
C601	__DEX Computer Logon	2024-Aug-13 08:12:48	2024-Aug-17 04:05:00	P	Fail	Fail	Edit Clone View Logs
C602	__DEX Device Boot	2024-Aug-13 08:12:48	2024-Aug-17 04:00:00	P	Fail	Fail	Edit Clone View Logs
C619	__DEX Device Disks	2024-Aug-13 08:24:56	2024-Aug-16 11:03:00	P	Fail	Fail	Edit Clone View Logs

Showing 1 to 10 of 2,579 entries

Figure 82 - Configuration Data Collection Job Master (Cont.1)

3. To scale down your search for a specific job, the user can enter the **Job Name** in the search bar, and then click enter.
4. User can perform column the following action under the **Action** column.
 - To edit the job
 - To Clone the job
 - To view job logs

- To Schedule a job

C608	__DEX Application Errors	2024-Aug-13 08:12:51	2024-Sep-08 13:43:00	P	Fail	/ i d t e
C606	__DEX Application Experience	2024-Aug-13 08:12:50	2024-Aug-17 08:21:00	P	Fail	/ i d t e
C614	__DEX Application Info	2024-Aug-13 08:12:54	2024-Aug-17 07:54:00	P	Fail	/ i d t e

Figure 83 - Configuration Data Collection Job Master (Cont.2)

5. Edit the Job - Configure a Job

Job Settings

1

2

3

4

5

Configure Job

Configure Source

Configure Destination

Input Parameters

Mapping

Back To Jobs

Job Name: __DEX Application Errors

Configure Job

Job Name: __DEX Application Errors

Job Description: DEX Application Errors

Update Frequency: 1440

Data Latency: 240

Last Updated Record: 2024-08-13 08:12:51

Next Run Time: 2024-09-08 13:43:00

Job Frequency: Select

Execution Type: Select

Data Waiting Time: 14400

Chunk Data Duration: 14400

Max Retry: 2

Controller: Auto

CancelNext

Figure 84 - Configuration Data Collection Job Master (Cont.3)

6. Configure Source

Job Settings

1

2

3

4

5

Configure Job

Configure Source

Configure Destination

Input Parameters

Mapping

Back To Jobs

Job Name: __DEX Application Errors

Configure Source

Additional Settings

Data Source: DEX Source - Custom

Data Adapter: Select

Source Script: EXEC uspGetApplicationErrorsData! or DEX_V12 @@EngagementId 'BC01',@@FromDate '{{StartUpdateDateTime'}}',@@ToDate '{{EndUpdateDateTime'}}',@@DBName 'BI Insights.dcx',@@Customer 'HCL'

Source Data Offset (i.e. batch size):

Sql Date Format: yyyy-MM-dd HH:mm:ss

Transaction:

Is UnixTimeStamp?

Is Millisecond?

Date Format: yyyy-MM-dd HH:mm:ss

Save

BackCancelNext

Figure 85 - Configuration Data Collection Job Master (Cont.4)

7. Additional Settings – Rest API Config

The screenshot shows the 'DMEJobConfig' application interface. A 'Rest API Config' dialog box is open, displaying various configuration options for a REST API. The background shows a 'Job Settings' page with steps 1 (Configure Job) and 2 (Configure Source) visible.

Figure 86 - Configuration Data Collection Job Master (Cont.5)

8. Configure Destination

The screenshot shows the 'Configure Destination' step in the 'DMEJobConfig' application. The progress bar indicates that steps 1 and 2 are completed, and step 3 is the current active step. The 'Destination' section contains fields for 'Data Source' (set to 'DEX Destination - Custom'), 'Destination Entity Name', and 'Table Type' (set to 'Transaction'). A 'Save' button is located below these fields. At the bottom of the page are 'Back', 'Cancel', and 'Next' buttons.

Figure 87 - Configuration Data Collection Job Master (Cont.6)

9. Input Parameters

Job Settings

1 Configure Job > 2 Configure Source > 3 Configure Destination > 4 Input Parameters > 5 Mapping

Job Name: ___DEX Application Errors

Input Parameters

Do you want to configure the input parameters for this job? ☒

Source Entity Name

Entity Fields

Filter Condition

Data Size Per Request

Save

Back Cancel Next

Figure 88 - Configuration Data Collection Input Parameters

10. Mapping

Job Settings

1 Configure Job > 2 Configure Source > 3 Configure Destination > 4 Input Parameters > 5 Mapping

Job Name: ___DEX Application Errors

Mapping

+ Add Destination Column

+ Add Source Column

Source Column

Destination Column

Save

Job Id	Source Column	Destination Column	Source Table Id	Destination Table Id	Active	Action
C608	application_error_type_id	application_error_type_id	C395	C395	Y	
C608	collectiondate	collectiondate	C395	C395	Y	
C608	computeddate	computeddate	C395	C395	Y	

Back Cancel

Figure 89 - Configuration Data Collection Mapping

11. Add Destination Column

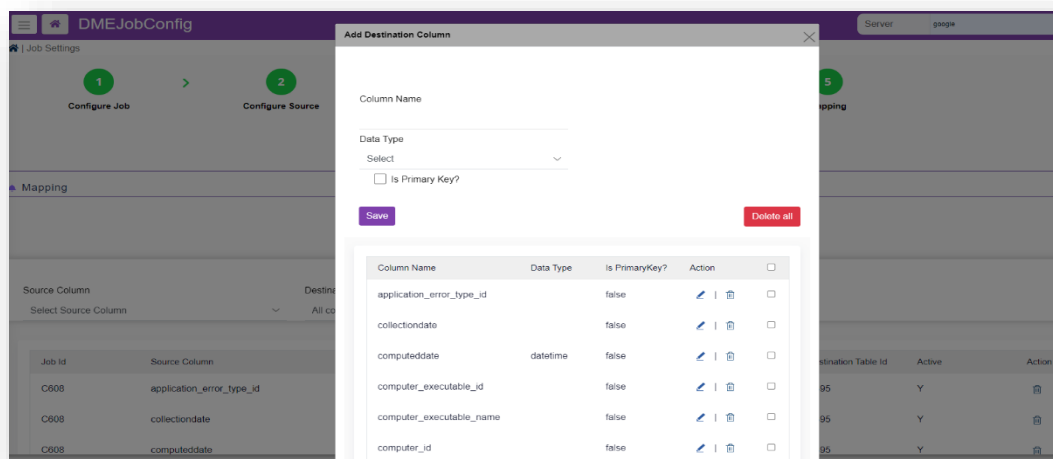


Figure 90 - Configuration Data Collection Destination Column

12. Add Source Column

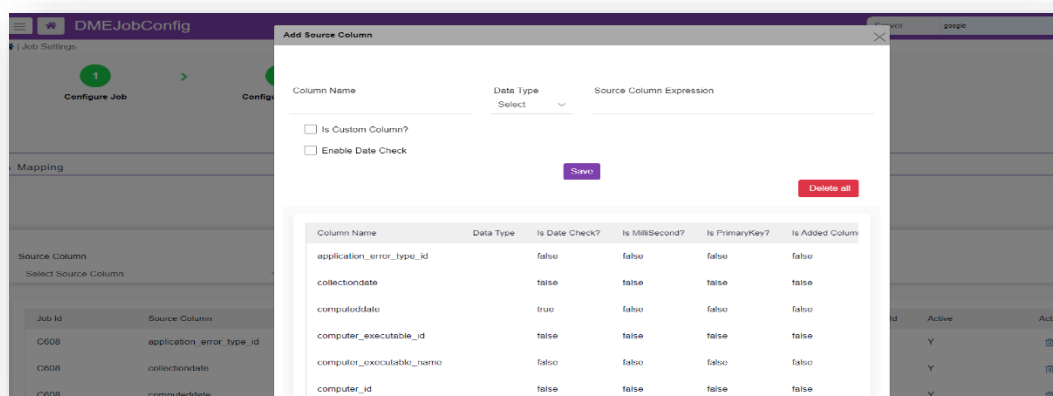


Figure 91 - Configuration Data Collection Source Column

13. To Clone a Job

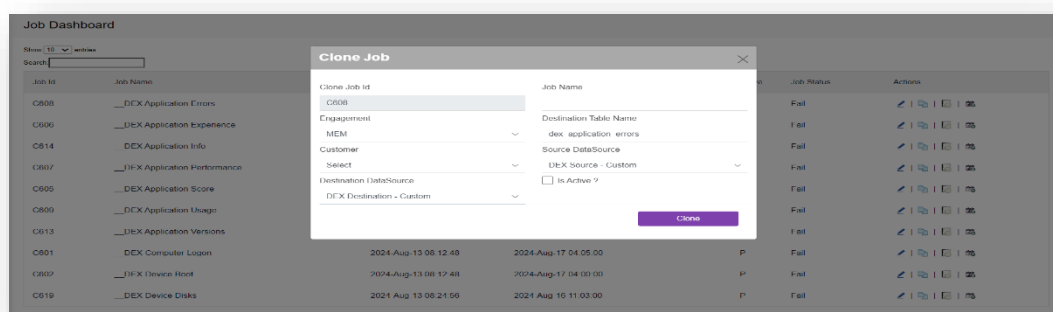


Figure 92 - Configuration Data Collection Clone a Job

14. View Job Logs

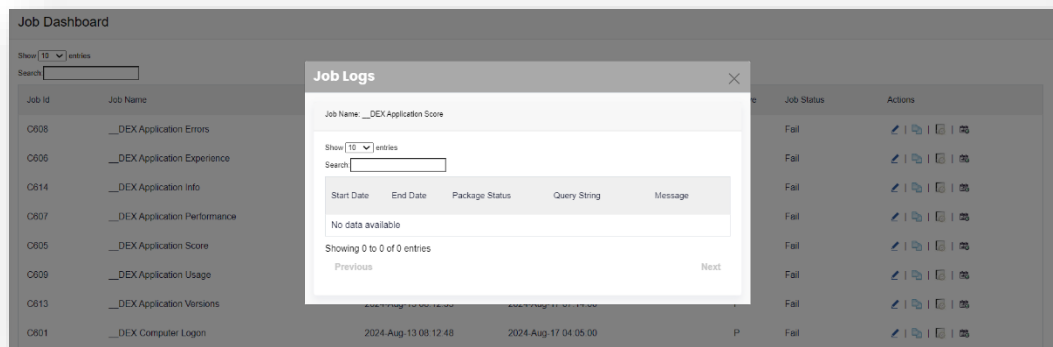


Figure 93 - Configuration Data Collection View Job Logs

15. To Schedule a Job

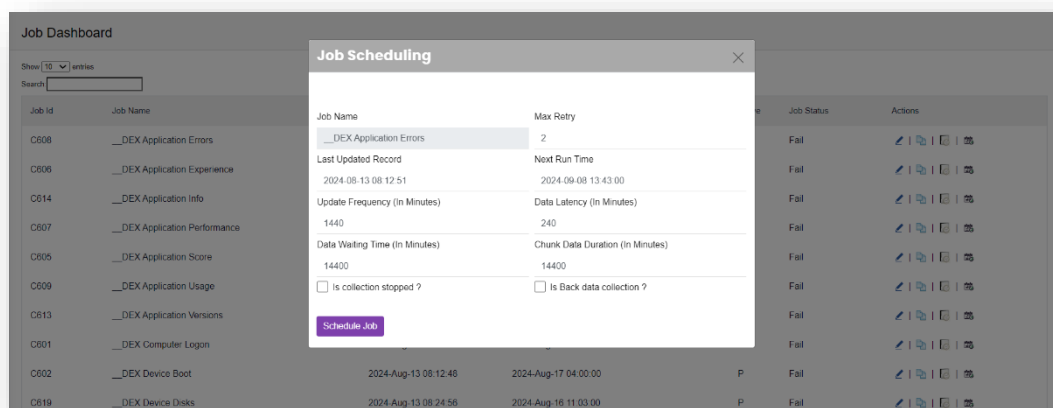


Figure 94 - Configuration Data Collection Schedule a Job

16. Create Data Source

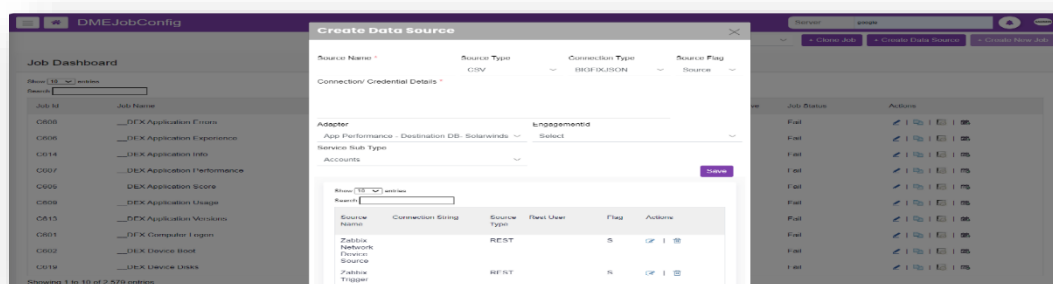


Figure 95 - Configuring Data Collection Creating a Data Source

17. To clone the Base jobs then use Clone Job Button, based on tools all base job will populated in the Modal Jobs Dropdown.

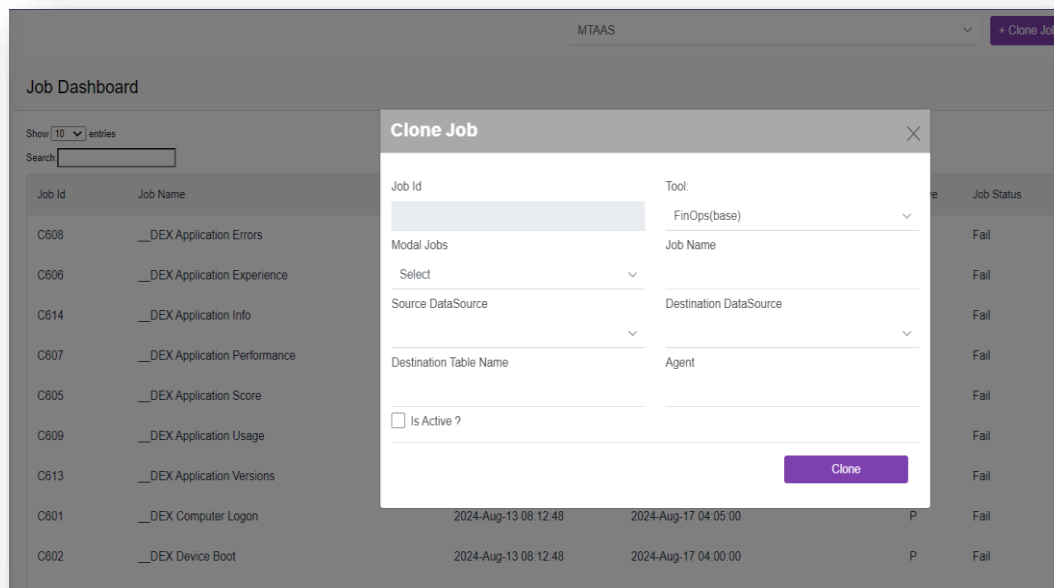


Figure 96 - CONFIGURING Data Collection Clone Job Button

10. SSO Configuration

10.1 Overview

This document explains how to configure single sign-on (SSO) and LDAP for authentication in MyXalytics application. SSO or LDAP combines the security and ease-of-use benefits with the advantages of leveraging your existing user management.

10.2 Pre-requisite

1. Configure your authority server to use one or more SSO identity providers.
2. Configure your authority server to use an LDAP server

10.3 Configure application to use Single Sign On or LDAP

10.3.1 Enable SSO/LDAP for a specific organization

MyXalytics support SAML authentication with the following SSO services:

1. Pingidentity
2. Adfs
3. Pingfederate

Users can configure only the tools that support all the above SSO services.

10.3.2 Configure database for SSO/LDAP

This section details how a user configures the database for enabling the SSO/LDAP authentication.

Use the following tables for authentication:

1. Admin_AuthenticationTypeMaster table
2. InstanceMaster table
3. Customers table
4. Users table
5. Admin_CustomerAuthenticationDetail table

To enable SSO/LDAP, follow the below steps to configure the above-mentioned tables.

Admin AuthenticationTypeMaster Table

This table includes the authentication type e.g. SSO or LDAP and you need to enter the values as per our authentication type.

1. If you want SSO authentication, then enter the AuthenticationName as SSO and generate a unique AuthenticationTypeCode as shown in the figure below.

nmAutold	AuthenticationTypeCode	AuthenticateName	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn
4	BC01	SSO	Y	N	HCLTECH\ nave...	2019-06-17 08:2...	HCLTECH\ nave...	2019-06-17 08:2...
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Figure 97 - Admin Authentication Type Master Table Configuration

- If you want LDAP authentication, then enter the AuthenticationName as LDAP and generate a unique AuthenticationTypeCode as shown in the figure below.

nmAutold	AuthenticationTypeCode	AuthenticateName	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn
4	BC01	LDAP	Y	N	HCLTECH\name...	2019-06-17 08:2...	HCLTECH\name...	2019-06-17 08:2...

Figure 98 - Admin Authentication Type Master Table Configuration (Cont.1)

- If you are configuring the database for the first time, then run the procedure dbo. CreateDefaultEcoSystemData without parameter. After running the procedure try to find out the data in the Instance Master, Users, and Customers. If you do not find the data in these tables, then run the procedure with parameter Exec dbo.CreateDefaultEcoSystemData @chCustom = 'N'.
- After running the procedure dbo. CreateDefaultEcoSystemData, we get the data explained in the InstanceMaster Table

InstanceMaster Table

- This table includes the connection string of the customer's database.
- In case of a single customer, the connection string mentioned in the web.config file and InstanceMaster table would be same as shown in the figure below.

nmAutold	Instanceld	InstanceName	ConnectionStr	Db Type
1	C1	BL_MyDB_VR02	9WUN9qKSDktvWEah6ULzS0ZSijHaxRMglnlt/16sCPsxX5vfGAbEWMN5r4Xrw2xdNICYGnPS4eMlw/s/NXdDZ7m1DRb1FJzpp5...	SQL

Figure 99 - Instance Master Table Configuration

- In case of different eco system(databases) for different customers, you will have different connection strings in InstanceMaster table as shown in the figure below.

nmAutold	Instanceld	InstanceName	ConnectionStr	Db Type
1	C1	BL_MyDB_VR02	9WUN9qKSDktvWEah6ULzS0ZSijHaxRMglnlt/16sCPsxX5vfGAbEWMN5r4Xrw2xdNICYGnPS4eMlw/s/NXdDZ7m1DRb1...	SQL
6	C3	BL_MyDB_VR02_Customer2	9WUN9qKSDktvWEah6ULzS0ZSijHaxRMglnlt/16sCPsxX5vfGAbEWMN5r4Xrw2xdNICYGnPS4eMlw/s/NXdDZ7m1DRb1...	SQL

Figure 100 - Instance Master Table Configuration (Cont.1)

- In this table, you have generated a unique Instanceld which is assigned to a specific customer, or we can InstanceMaster table, and the Customers table has the relationship.

Customers Table

- This table is a replica of Admin_CustomerMaster table but the difference between these table is vcConfigCustomerCode and vcInstancelD in the Customers table.
- This table is a replica of Admin_CustomerMaster table but the difference between these table is vcConfigCustomerCode and vcInstancelD in the Customers table.

3. vcInstanceId field of table Admin_CustomerMaster is linked to the InstanceId field of InstanceMaster table and the AuthenticationTypeCode of the Admin_AuthenticationTypeMaster is linked with the AuthenticationTypeCode of Customers. Refer the image below for your reference.

InstanceMaster Table

InstanceId	InstanceName	ConnectionStr	DbType
C1	BL_MyDB_VR02	{9WUN3qKSDktvWEah6ULz50ZSjHaxRMgNl//6aCPaxX5MfGAbEWIMN54Xw2xdNICYGrPS4eMlw/s/NXdDZ7m1DRb1...	SQL

Customers Table

vcConfigCustomerCode	vcCustomerCode	vcInstanceId	vcLogoPath	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn	AuthenticationTypeCode
C1	BC01	C1	/images/LogoImages/...	Y	N	HCLTECH\ naveenku	2019-05-31 10:32:52.390	Dashboard	2019-06-25 17:01:41.933	BC01

Admin_AuthenticationTypeMaster

AuthenticationTypeCode	AuthenticateName	chActive	chCustom
BC01	SSO	Y	N

Figure 101 - Instance Master Table Configuration (Cont.2)

Users Table

1. It is a replica of UserMaster table. Users table is associated with the Customers table. vcConfigCustomerCode field of Users table is associated with the vcConfigCustomerCode field of the Customers table.
2. Refer the image below for your reference.

Users Table

vcUserId	vcUserName	vcPassword	vcEmailid	vcConfigCustomerCode	nmValidateDays	nmValidateHrs
Admin	Admin	NULL	admin@hcl.com	C1	0	0

Customers Tables

vcConfigCustomerCode	vcCustomerCode	vcInstanceId	vcLogoPath	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn	AuthenticationTypeCode
C1	BC01	C1	/images/LogoImages/...	Y	N	HCLTECH\ naveenku	2019-05-31 10:32:52.390	Dashboard	2019-06-25 17:01:41.933	BC01

Figure 102 - UserMaster Table Replica and Customer Association

vcEmailid field of the Users table is being used for login into the application. It should be unique and can have different format other than email id i.e. you can replace vcEmail field value from **admin@hcl.com** to **Admin**. Also, the **vcAltUserId** field value of the **Users** table must be mapped to the **SSO** or **LDAP User Id** provided by the Customer.

Admin_CustomerAuthenticationDetail Table

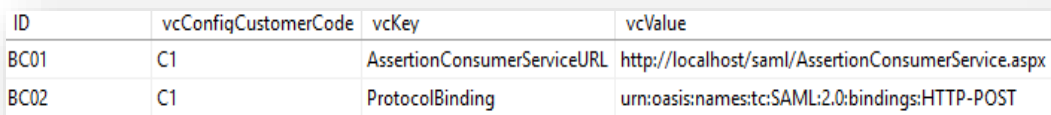
1. This table has information about the LDAP string in case of LDAP authentication and SSO key values pairs in case of SSO authentication.
2. This table is associated with the Customers Table.
3. **For LDAP authentication**, refer to the image below.



ID	vcConfigCustomerCode	vcKey	vcValue	chActive	chCustom
BC01	C1	LDAP	LDAP://DC=HC...	Y	N

Figure 103 - Admin Customer Authentication Detail Table Configuration

4. Admin_CustomerAuthenticationDetail table Image
 - Here, **vcConfigCustomerCode** is the customer Id for which you are configuring the LDAP authentication. Also, **vcValue** is the LDAP string shared by the customer.
5. **For SSO authentication**, enter the **Key Value** pairs in the **vcKey** and **vcValue** fields of Admin_CustomerAuthenticationDetail table. Refer the image below for your reference.



ID	vcConfigCustomerCode	vcKey	vcValue
BC01	C1	AssertionConsumerServiceURL	http://localhost/saml/AssertionConsumerService.aspx
BC02	C1	ProtocolBinding	urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST

Figure 104 - Admin Customer Authentication Detail Table Image Reference

6. Provide the following details to a Customer for SSO configuration:
 - Identifier (Entity ID)
 - Reply URL (Assertion Consumer service URL)
 - Sign on URL
 - User Attributes & Claims

11. Geo Health Data Modeling

11.1 Related Document

The following documents can be referenced in addition to this guide for further information on the DME platform. Geo Health will work with country data only.

- [DME Job Configuration \(Alerts, Sigs\)](#)
- [About These Jobs](#)
- [Job Clone via Job master console or direct to Procedure](#)
- [Universe Configuration for these jobs](#)
- [Reporting](#)

11.2 Prerequisite

First verify the source Data is there like Alerts/Sigs in MX_MoogDB

1. Verify the tables should be there in your databases.

```
Select * from MX_ModelMaster
Select * from MX_RuleConfiguration
Select * from GeoHealth_Master_EngagementId#
Select * from GeoHealth_Transaction_Staging_EngagementId#
Select * from GeoHealth_Transaction_EngagementId#
Select * from GeoCountry
```

2. Tables GeoHealth_Transaction_Staging_#EngagementId# and GeoHealth_Transaction_#Engagement# schema will be same
3. In transaction table columns will be mandatory.
 - NumberId – This is used to store alerts id (the unique id we can store here)
 - TransactionDate- Impacted history date
 - HealthStatus- to update health status
 - LeafNode – This is the last node of hierarchy data in case of alert this will be source column
 - TableType- This will identify Table type e.g. – Alerts/Sigs

If you are creating multiple jobs for alerts/Sigs impacted data process in same engagement, then change every job Table Type value

4. In Master table columns will be mandatory.
 - HealthStatus- to update health status
 - LeafNode – This is the last node of hierarchy data in case of alert this will be source column
 - TableType- this will identify Table type e.g. – Alerts/Sigs
 - Country- This will keep only country data.
5. Alerts and Sigs Job source- destination columns mapping will have been uploaded as below

Alerts Table Column	Open Sigs	Open Alerts	Source Col Name	Destination Col Name
signature		significance	significance	Column11
alert_id	sig_id	alert_id	alert_id	NumberId
source_id	hostname	source_id	source_id	Column1
external_id	customer	external_id	this will be come in Enga	this will be come in EngagementName column no need to add in config
manager	manager	manager	manager	Column2
source	hostname	source	source	LeafNode
severity	internal_priority	severity	severity	Column3
description	description	description	description	Column17
first_event_time	first_event_time	first_event_time	first_event_time	TransactionDate
last_event_time	last_event_time	last_event_time	last_event_time	dtColumn25
last_state_change	last_state_change	last_state_change	last_state_change	dtColumn26
state	status	state	state	Column4
custom_info	custom_info	custom_info	custom_info	Column16
Incident	Incident_Number	Incident	incident	Column5
ServiceId	ServiceId	ServiceId	ServiceID	Serviceid
ToolId	ToolId	ToolId	ToolID	Toolid
JobId	JobId	JobId	JobID	Jobid
class		class	class	Column7
agent		agent	agent	Column8
agent_location		agent_location	agent_location	Column9
type		type	type	Column10
significance		signature	signature	Column6
count		count	count	Column12
int_last_event_time				
owner		owner	owner	Column13
entropy		entropy	entropy	Column14
original_severity		original_severity	original_severity	Column15
nmAutoid			TableType	TableType
IsDataSync				
incident				
EngagementId				
EngagementName				
Mandatory columns	NumberId,TransactionDate,HealthStatus,LeafNode,TableType			

Figure 105 - Master Table Configuration: Mandatory Columns

6. MX_ModelMaster

- Create model entry to respective your objects.
- ClonedModelId will keep the value of base model while this will be part of auto onboarding.
- ModelId with start as Perfix 'BHM' for base while in customer it will be 'CHM'.

Table 2 - MX_ModelMaster

ModelId	BHM002
ModelName	GeoHealth_Master_#ENGAGEMENTID#
ModelObject	GeoHealth_Master_#ENGAGEMENTID#
Customer	MTAAS
EngagementId	BC01
TransObject	GeoHealth_Transaction_#ENGAGEMENTID#
ClonedByModelId	NULL

SQL insertion script:

```

INSERT INTO [MX_ModelMaster]
([ModelId], [ModelName], [ModelObject], [Customer], [vcSPGenerateModelData], [ModelChunk
Duration], [vcFilerCondition], [vcFilerConditionXML], [vcFilerReportCondition], [chActi
ve], [chCustom], [vcCreatedBy], [dtCreatedOn], [vcModifiedBy], [dtModifiedOn], [Engagemen
tID], [ProfileID], [TransObject], [ClonedByModelId])
VALUES
('BHM002', 'GeoHealth_Master_#ENGAGEMENTID#', 'GeoHealth_Master_#ENGAGEMENTID#', 'MTAA
S', NULL, NULL, NULL, NULL, NULL, NULL, 'Y', 'N', NULL, NULL, NULL, NULL, 'BC01', NULL, 'GeoHealth_Tran
saction_#ENGAGEMENTID#', NULL)

```

ClonedByModelId - <this will be used at the time of cloning>

MX_RuleConfiguration

Every rule will be associated with any respective ModelId and TableType will segregate which type of table rule is configured.

This table data will be part of cloning.

Table 3 - MX_RuleConfiguration

nmAutold	1
RuleId	B1
RuleName	Alerts Red_Rule
FilterCondition	(Column17 like '%Average (2 samples) disk free on %%' or Column17 like '% which is below the % threshold % out of total size %')
RuleStatus	2
RuleSequence	1
EngagementId	BC01
EngagementName	MTAAS
bActive	1
bCustom	0
CreatedBy	pinki.sainiaaaaaa
CreatedOn	30:00.0
ModifiedBy	
ModifiedOn	NULL
vcToolID	169
FilterConditionJSON	NULL
TableType	Alerts
ModelId	BHM002
ClonedByRuleId	Null

SQL Insertion Script

```
INSERT INTO [MX_RuleConfiguration]
([RuleId], [RuleName], [FilterCondition], [RuleStatus], [RuleSequence], [EngagementId], [EngagementName], [bActive], [bCustom], [CreatedBy], [CreatedOn], [ModifiedBy], [ModifiedOn], [vcToolID], [FilterConditionJSON], [TableType], [ModelId])
VALUES ('B1', 'Alerts Red_Rule', '(Column17 like '%Average (2 samples) disk free on %%' or Column17 like '% which is below the % threshold % out of total size %%')', 2, 1, 'BC01', 'MTAAS', 1, 0, 'user.name', 'May 29 2024 1:30:00:000PM', '', NULL, '169', NULL, 'Alerts', 'BHM002')
```

- Geo Health tables naming will be like below.

Table 4 - Geo Health tables

GeoHealth_Master_BC01	#Prefix#_Master_#EnagementId#
GeoHealth_Transaction_Staging_BC01	#Prefix#_Transaction_Staging_#EnagementId#
GeoHealth_Transaction_BC01	#Prefix#_Transaction_#EnagementId#

1. GeoHealth_Master_BC01
 - This data will be pushed manually on this table. Only health status will be updated through job.
 - The country column value will be used as used in GeoCountry in label field. So internally this will copy this country data into the original country and will update the country with Code value from GeoCountry table with the help of join in inner SP of dependent SP.
2. GeoHealth_Transaction_Staging_BC01
 - This table is used as DME destination table all actions will perform in this table
3. GeoHealth_Transaction_BC01
 - This is the final Impacted table where only impacted data will come
4. Geo Country
 - This table will keep entries geo Country name with customer user friendly NAME (in Label). This table will be releasing compliant table with all Geo Countries. Customers can change accordingly.

11.3 DME Job- Geo Health Overview

There are 2 Base jobs (B12737, B12738) configured one for alerts and another for Sigs.

Both are all of SQL type and engagement specific jobs.

- This job will fetch data from source Table-Alerts/sigs via Source Query and through Source-destination mapping open –alerts data will be pushed into staging table.
- Then finally dependent procedure will call and update Health status and rule id in Impacted table
- Then only Red or amber alerts in Impacted Table (GeoHealth_Transaction_BC01).
- Finally, based on the latest alert leaf, node wise health status will be updated from Impacted table to master table.
- At last staging table will be truncated/deleted
- All processes will be job wise and engagement wise
- For mapping screenshot is attached above.

Object Explorer

SQLQuery38.sql - 1..Ecnfig (as z415)*

SQLQuery37.sql - 1..Ecnfig (as z380)*

SQLQuery36.sql - ...MOOG08 (as a403)*

SQLQuery35.sql - 10...pinkl.sani (110)*

110 %

Results Messages

1

EngomentId

nmAutoid

vcJobId

JobName

JobDescription

LastUpdateDateTime

NextRunDate

BackDataCollectionStaDate

BackDataCollectionEndDate

isBackDataCollection

UpdateFre

BC01

11396

162737

Moog Alerts DataProcess

Moog Alerts DataProcess

2024-06-17 12:22:08 353

2024-06-17 12:23:36 927

NULL

NULL

1

nmAutoid

vcId

Name

ConnectionString

HostInstanceName

DatabaseType

ConnectionType

SourcePath

ProcessedPath

ErrorFilePath

IsFileCompressed

ToolOffset

ToolCountry

ToolCity

DSTApplicable

DSTML

17038

B49064

MoogDESource

NULL

SQL

DATABASE

NULL

NULL

NULL

N

NULL

NULL

NULL

NULL

NULL

1

nmAutoid

vcId

Name

ConnectionString

HostInstanceName

DatabaseType

ConnectionType

SourcePath

ProcessedPath

ErrorFilePath

IsFileCompressed

ToolOffset

ToolCountry

ToolCity

DSTApplicable

DSTML

10621

B52

MoogDEDestination

NULL

SQL

DATABASE

NULL

NULL

NULL

N

NULL

NULL

NULL

NULL

NULL

1

nmAutoid

vcTableId

TableName

SourceRNTTable

vcDataSourceId

SourceQuery

SourceQueryOrg

TableType

AliasName

ProcessedPathRef

11729

B13948

GeoHealth_Transaction_Dedicated

NULL

B49064

Select rc_probability custom_info entry.owner...

Select ServiceId, JobId, Drc_probability cus...

MASTER

NULL

NULL

1

nmAutoid

vcId

vcTableId

vcColumnId

ColumnName

DateCheck

DateFormat

isPrimaryKey

isMSBSelected

ColumnValue

ValueFormat

DataType

isAddedColumn

chActive

chCustom

vcCreatedBy

dCreatedOn

428505

B9972728

B13948

B25

ServiceId

N

N

N

NULL

B16

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

2

428506

B9972729

B13948

B26

JobId

N

N

N

NULL

B17237

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

3

428507

B9972730

B13948

B24

ToolId

N

N

N

NULL

B49064

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

4

428508

B9972731

B13948

B23

rc_probability

N

N

N

NULL

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

5

428509

B9972732

B13948

B22

custom_info

N

N

N

NULL

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

6

428510

B9972733

B13948

B21

entropy

N

N

N

NULL

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

7

428511

B9972734

B13948

B20

owner

N

N

N

NULL

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

8

428512

B9972735

B13948

B19

state

N

N

N

NULL

NULL

NULL

1

Y

N

pinkl.sani

2024-06-08 18:51

1

nmAutoid

vcTableId

TableName

TableAlias

vcDataSourceId

TableType

RetentionDay

IsRetentionEnabled

Active

chCustom

vcCreatedBy

dCreatedOn

vcModifiedBy

dModifiedOn

11071

B13348

GeoHealth_Transaction_Staging_BC01

B52

MASTER

NULL

0

Y

N

pinkl.sani

2024-06-08 18:51 19.787

2024-06-08 18:51

Query executed successfully.

10.1.162.100 (15.0 RTM)

as z380

MX_DMEConfig

00:00:00

96 row

Figure 106 - SQL Job Configuration and Data Processing Workflow for Alerts and Signals

Object Explorer

SQLQuery38.sql - 1..MConfig (sa (2415))*

SQLQuery37.sql - 1..MConfig (sa (4121))*

SQLQuery36.sql - ...MOOGD8 (sa (403))*

SQLQuery35.sql - 10... (pinkl.saini (110))*

100 %

Results

Messages

1	EngagementId BC01	nmAutoid 11662	vcJobId B12738	JobName SigsDataProcess	JobDescription SigsDataProcess	LastUpdateDate 2024-06-17 12:09:44.190	NextRunDate 2024-06-17 12:10:46.547	BackDataCollectionStartDate NULL	BackDataCollectionEndDate NULL	IsBackDataCollection N	UpdateFrequency 1	Data 5				
1	nmAutoid 17036	vcId B40064	Name MoogD8Source	ConnectionString NULL	HostInstanceName SQL	DatabaseType SQL	ConnectionType DATABASE	SourcePath NULL	ProcessedPath NULL	ErrorFilePath NULL	IsFileCompressed N	ToolOffset NULL	ToolCountry NULL	ToolCity NULL	DSTAApplicable NULL	DSTM NULL
1	nmAutoid 10621	vcId B52	Name MoogD8Destraion	ConnectionString NULL	HostInstanceName SQL	DatabaseType SQL	ConnectionType DATABASE	SourcePath NULL	ProcessedPath NULL	ErrorFilePath NULL	IsFileCompressed N	ToolOffset NULL	ToolCountry NULL	ToolCity NULL	DSTAApplicable NULL	DSTM NULL
1	nmAutoid 11495	vcTableId B13049	TableName GeoHealth_Transaction_Dedicated	SourceRntTable NULL	vcDataSourceId B40064	SourceQuery Select sig_id as alert_id,hostname as source_id...	SourceQueryOrig Select sig_id as alert_id,hostname as source_id...	TableName Master	AliasName NULL	ProcessedPathRel NULL						

1	nmAutoid 434675	vcId B9972770	vcTableId B13049	vcColumnId B25	ColumnNm SvcordID	DateCheck N	DateFormat N	IsPrimaryKey N	IsMBSecond N	ColumnValue 916	ValueFormat NULL	DataType NULL	IsAddedColumn Y	chActive Y	chCustom N	vcCreatedBy pinkl.saini	dtCreatedOn 2024-06-11 14:42	
2	434676	B9972771	B13049	B26	JobNm	N	N	N	NULL	B12738	NULL	N	1	Y	N	N	pinkl.saini	2024-06-11 14:42
3	434677	B9972771	B13049	B24	ToolId	N	N	N	NULL	B40064	NULL	N	1	Y	N	N	pinkl.saini	2024-06-11 14:42
4	434678	B9972772	B13049	B23	rc_probability	N	N	N	NULL	NULL	NULL	NULL	Y	N	N	N	pinkl.saini	2024-06-11 14:42
5	434679	B9972773	B13049	B22	custom_info	N	N	N	NULL	NULL	NULL	NULL	Y	N	N	N	pinkl.saini	2024-06-11 14:42
6	434682	B9972776	B13049	B19	state	N	N	N	NULL	NULL	NULL	NULL	Y	N	N	N	pinkl.saini	2024-06-11 14:42
7	434683	B9972777	B13049	B18	last_state_...	N	N	N	0	NULL	NULL	NULL	Y	N	N	N	pinkl.saini	2024-06-11 14:42
8	434685	B9972779	B13049	B16	last_event_...	N	N	N	0	NULL	NULL	NULL	Y	N	N	N	pinkl.saini	2024-06-11 14:42

1	nmAutoid 17337	vcTableId B13349	TableName GeoHealth_Transaction_Staging_BC01	TableAlias B52	vcDataSourceId MASTER	TableType NULL	RetentionDay NULL	IsRetentionEnabled NULL	Active Y	chCustom N	vcCreatedBy pinkl.saini	dtCreatedOn 2024-06-11 14:42	dtModifiedOn 02:913	dmCreatedOn pinkl.saini	dmModifiedOn 2024-06-11 14:42		
---	-------------------	---------------------	---	-------------------	--------------------------	-------------------	----------------------	----------------------------	-------------	---------------	----------------------------	---------------------------------	------------------------	----------------------------	----------------------------------	--	--

Query executed successfully.

10.1.162.100 (15.0 RTM) - sa (412) - MX DMFCNfg

00:00:00

60 rows

Figure 107 - SQL Job Configuration and Data Processing Workflow for Alerts and Signals (Cont.1)

11.4 Clone job without onboarding

Prerequisite

Once you board a customer then make some manual entries because this job is in

MX_MoogDB and this is not part of onboarding:

1. MX_MoogDb tool entry should be there in ToolMaster in dev its nmToolId is "169"
2. MX_EngagementToolMapping

```
INSERT INTO [MX_ENGAGEMENTTOOLMAPPING]
([vcEngagementID],[nmToolID],[nmServiceSubTypeID],[vcDataSecurityPrimary],[vcDataSecuritySecondry],[vcToolCustomerName],[vcSubCompanyName],[chCustom],[chActive],[vcCreatedBy],[dtCreatedOn],[vcModifiedBy],[dtModifiedOn])
VALUES
('#EngagementId#','#nmToolId#','#nmServiceSubTypeId#','#EngagementId#','','#EngagementId#','#nmToolId#','#nmServiceSubTypeId#','#EngagementId#','N','Y','Y','AutoProcess','Jun 6 2024 2:52:00:000PM','AutoProcess','Jun 6 2024 2:52:00:000PM')
```

MX_engagementtoolmapping

```
INSERT INTO [MX_ProfileToolMapping]
([vcEngagementID],[vcProfileID],[nmToolID],[nmServiceSubTypeID],[vcDataSecurityPrimary],[vcDataSecuritySecondary],[vcToolCustomerName],[chActive],[chCustom],[vcCreatedBy],[dtCreatedOn],[vcModifiedBy],[dtModifiedOn])
VALUES
('#EngagementId#','#ProfileId#','#ToolId#','#ServiceSubType#','#EngagementId#','Y','Y','System','Jun 6 2024 4:47:22:873PM','System','Jun 6 2024 4:47:22:873PM')
```

- If you want to do the same with existing users, then after doing all activity add Geo Health
- Dashboard to the respective user.
- By the above process report can check in that engagement and Engagement specific table
- will clone auto by DME clone job.

11.5 Clone job without onboarding-By Backend

First create 2 custom entries for new engagement in datasourcedetails for source and destination from base you can take help only.

1. vaultKey/ConnectionString/addaptorQuestionnaireJSON

```
EXEC [uspConfigureDMEJobClonedManually_VR01]
@ProductMode = 'C'
, @CloneJobId = '#BaseJobId#'
, @ClonedBy = '#CreatedBY#'
, @EngagementId = '#CustomerEngagementId#'
, @Customer = '#CustomerEngagementName#'
, @vcDestDataSourceId = '#CustomDestDataSource#', @vcSourceDataSourceId = '#CustomSourceDataSource#'
```

2. Explanation of input parameters:

- @ProductMode = if you want to clone this job in Custom Engagement then put its value as "C"
- @CloneJobId= Put the Base job id by which you want to clone this job.
- @ClonedBy =you can put you name/Userid here
- @EngagementId =Engagement id in which you want to clone this job
- @Customer = put the engagement name of that Customer
- @vcDestDataSourceId = put the newly create datasourcedetails-D id here
- @vcSourceDataSourceId = put the newly create datasourcedetails-S id here

Note: DME cloning you can do by Job master console please confirm to Raviteja if it's working fine then Create both datasourcedetails from console and then clone the job from jobmaster Page while you will use console the by StoreProcedure you can avoid.

11.6 Geo Health Object Universe configurations

1. Master objects

Dataset | Column | Relation | Measure/Metric | Advanced

Geo Health Master

Customer: SHARED | Tool: MX_Moog | Source Type: ☒ Live ☐ Summarized

Object Type: ☒ Table ☐ View | Table: GeoHealth_Master_#Engagement# | Postfix Variable: #Engagement#

User Friendly Name: Geo Health Master | Table Type: Master | Feed Type: Manual

☒ Enable Reporting | ☐ Timezone Conversion | Object Data Type: Alerting

☒ Default Configuration | ☒ Active

Previous | Update | Update And Continue | Next

Figure 108 – Universe Health objects

Universe Object Master | Server | Search Here...

Object Configuration | Aggregation/Segregation Configuration | Schedule Job

Geo Health Transaction

Customer: SHARED | Tool: MX_Moog | Object Type: ☒ Table ☐ View

Object Name: GeoHealth_Transaction_BC01 | User Friendly Name: Geo Health Transaction | Table Type: Master

Data Contains: Hot | Access Type: Global | Active: ☒

Back | Update | Cancel | Continue to Universe Configuration

Figure 109 - Geo Health objects

2. Universe Configuration

Universe Configuration | Server | Search Here...

Dataset | Column | Relation | Measure/Metric | Advanced

Geo Health Master

Customer: SHARED | Tool: MX_Moog | Source Type: ☒ Live ☐ Summarized

Object Type: ☒ Table ☐ View | Table: GeoHealth_Master_#Engagement# | Postfix Variable: #Engagement#

User Friendly Name: Geo Health Master | Table Type: Master | Feed Type: Manual

☒ Enable Reporting | ☐ Timezone Conversion | Object Data Type: Alerting

☒ Default Configuration | ☒ Active

Previous | Update | Update And Continue | Next

Figure 110 - Universe Configuration

Column Name	Display Name	Data Type	Column Description	Dimension	Data Security	Primary	Filter	Value	Active	Actions
Column6	Column6	Varchar	Column6	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Column7	Column7	Varchar	Column7	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Column8	Column8	Varchar	Column8	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Column9	Column9	Varchar	Column9	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
County	County	Varchar	County	☒	☐	☐	☒	☒	☒	☐ ☐ ☐
Creativity	Creativity	Varchar	Creativity	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Creation	Creation	DateTime	Creation	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Custom Info	Custom Info	Varchar	Custom Info	☒	☒	☐	☐	☒	☒	☐ ☐ ☐
Description	Description	Varchar	Description	☒	☒	☐	☐	☒	☒	☐ ☐ ☐
EngagementId	EngagementId	Varchar	EngagementId	☐	☒	Prime	☐	☐	☒	☐ ☐ ☐
EngagementName	Engagement Name	Varchar	EngagementName	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
Enquiry	Enquiry	Varchar	Enquiry	☒	☐	☐	☐	☒	☒	☐ ☐ ☐
HealthStatus	HealthStatus	Integer	HealthStatus	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
HealthStatusValue	HealthStatusValue	Varchar	HealthStatusValue	☒	☐	☐	☐	☐	☒	☐ ☐ ☐
J888	J888	NVarchar	J888	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
LeafNode	Resource Name	Varchar	LeafNode	☒	☐	☐	☒	☒	☒	☐ ☐ ☐
Level2	Department	Varchar	Level2	☒	☐	☐	☒	☒	☒	☐ ☐ ☐
Level3	Application	Varchar	Level3	☐	☐	☐	☒	☒	☒	☐ ☐ ☐
Level4	Order	Varchar	Level4	☐	☐	☐	☒	☒	☒	☐ ☐ ☐
Level5	Platform	Varchar	Level5	☒	☐	☐	☒	☒	☒	☐ ☐ ☐
Level6	Environment	Varchar	Level6	☒	☐	☐	☒	☒	☒	☐ ☐ ☐
Manager	Manager	Varchar	Manager	☒	☒	☐	☐	☐	☒	☐ ☐ ☐
ModifiedBy	ModifiedBy	Varchar	ModifiedBy	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
ModifiedOn	ModifiedOn	DateTime	ModifiedOn	☐	☐	☐	☐	☐	☒	☐ ☐ ☐
rmrmtid	rmrmtid	Integer	rmrmtid	☐	☐	☐	☐	☐	☒	☐ ☐ ☐

Figure 111 - Universe Configuration:

Universe Configuration

Server

Search Here...

Dataset

Column

Relation

Measure/Metric

Advanced

Geo Health Master (GeoHealth)

Relationship Name *

GeoHealth

☒ Active

☒ Show in Drilldown

Left Table *

Geo Health Master

Join Type *

Inner Join

Right Table *

Geo Health Transaction

Relation List

GeoHealth

Figure 112 - Universe Configuration (cont.2)

Universe Configuration

Server

Search Here...

🔔

👤

Dataset

Column

Relation

Measure/Metric

Advanced

Geo Health Master

Measure(s)

Count

Status

Search Column(s)...

Active

Agent

Agent Location

Alert Id

Application

Measure Name*

Status

Formula Type

Non-Fraction

Operator

+

-

*

/

%

Category

String

Text

Previous

Update

Cancel

Next

Description*

Status

Agg Function

Sum

Avg

Max

Min

Count

Formula

Min ("HealthStatusValue")

☒ Active

Figure 113 - Universe Configuration (cont.3)

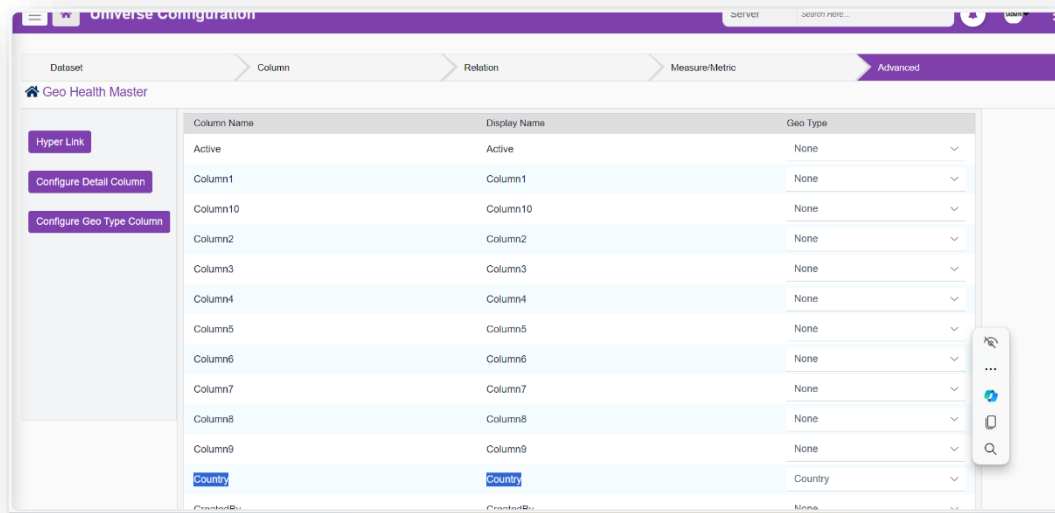


Figure 114 - Universe Configuration (cont.3)

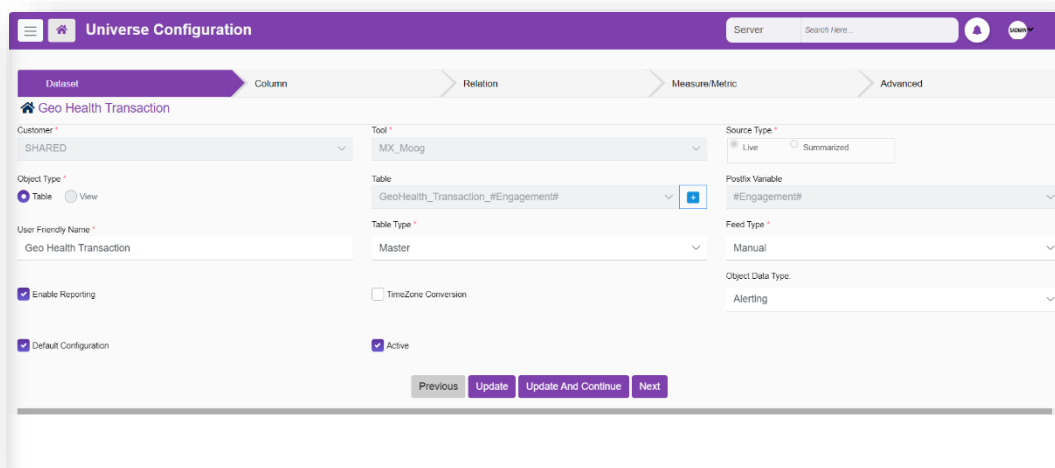
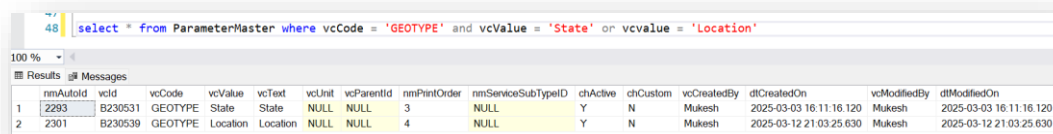


Figure 115 - Universe Configuration (cont.4)

11.7 State-level Visualization and Location-based Markers [DATABASE CHANGES]

11.7.1 Insert Rows for State and Location

- Database: MX_MYDB_6_50
- Action: Insert two new rows for State and Location, as Country is already available.



```
select * from ParameterMaster where vcCode = 'GEOTYPE' and vcValue = 'State' or vcValue = 'Location'
```

	nmAutoid	vcId	vcCode	vcValue	vcText	vcUnit	vcParentId	nmPrintOrder	nmServiceSubTypeId	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn
1	2293	B230531	GEOTYPE	State	State	NULL	NULL	3	NULL	Y	N	Mukesh	2025-03-03 16:11:16 120	Mukesh	2025-03-03 16:11:16 120
2	2301	B230539	GEOTYPE	Location	Location	NULL	NULL	4	NULL	Y	N	Mukesh	2025-03-12 21:03:25 630	Mukesh	2025-03-12 21:03:25 630

Figure 116 – Insert Rows for State and Location

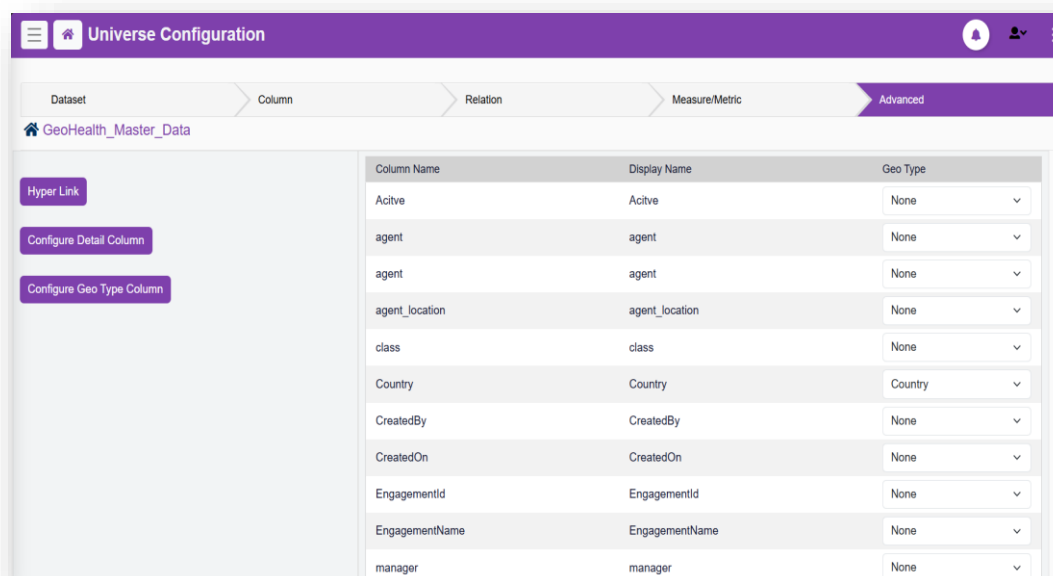
11.7.2 Universe Configuration

After setting up the dataset and columns in the Universe configuration:

1. Navigate to Advanced.
2. Select Configure Geo Type Column.
3. Map the correct columns to the Geo Type Dropdown.

Example:

- Country: As done previously, map the Country column to the Geo Type Dropdown.
- State: Map the State column to the State Geo Type.
- Location: For Location Geo Type, columns such as Location, City, Area, or Building can be used, which can then be configured using latitude and longitude from the Location Table.



Column Name	Display Name	Geo Type
Active	Active	None
agent	agent	None
agent	agent	None
agent_location	agent_location	None
class	class	None
Country	Country	Country
CreatedBy	CreatedBy	None
CreatedOn	CreatedOn	None
EngagementId	EngagementId	None
EngagementName	EngagementName	None
manager	manager	None

Figure 117 – Universe Configuration

State	State	State
City	Location	Location

Figure 118 – Universe Configuration (Cont.)

11.7.3 Location Table and [MX_GETGeoLocation] SP

When **Group By: Location** property is selected:

- The latitude and longitude values are mapped from the **Location Table** based on the **Engagement ID** (**EngagementId** column) which uses **[MX_GETGeoLocation]** Stored Procedure.
- Insert rows with **latitude** and **longitude** as per customer requirements or specific data needs.
- To retrieve the unique location associated with a particular state, map it using the **StateName** column.
- `select * from [Locations]`

43 `select * from [Locations]`

100 %

nmAutoid	LocationId	EngagementId	CountryCode	StateName	LocationName	LocationType	Longitude	ChActive	ChCustom	Latitude	CreatedBy	CreatedDate	ModifiedBy	ModifiedDate
39	39	39	RU	Tatarstan	Kazan	City	49.1221	Y	NULL	55.7962	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
40	40	40	RU	Chelyabinsk Oblast	Chelyabinsk	City	61.5731	Y	NULL	55.1608	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
41	41	41	IN	Uttar Pradesh	Lucknow	City	80.9462	Y	NULL	26.8467	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
42	42	42	IN	Uttar Pradesh	Noida	City	77.3910	Y	NULL	28.5355	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
43	43	43	IN	Maharashtra	Mumbai	City	72.8777	Y	NULL	19.0760	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
44	44	44	IN	Maharashtra	Pune	City	73.8567	Y	NULL	18.5204	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
45	45	45	IN	West Bengal	Kolkata	City	88.3639	Y	NULL	22.5726	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
46	46	46	IN	West Bengal	Darjeeling	City	88.2633	Y	NULL	27.0360	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
47	47	47	IN	Tamil Nadu	Chennai	City	80.2785	Y	NULL	13.0827	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527
48	48	48	IN	Tamil Nadu	Vellore	City	79.1324	Y	NULL	12.9167	Mukesh	2025-04-03 13:23:32.527	Mukesh	2025-04-03 13:23:32.527

Figure 119 – Location Table

11.7.4 Country Dropdown Values

When State Geo Type is selected in Group By:

- The values for the Country Dropdown are fetched from the ParameterMaster table.
- Almost all countries are already added.

Country Dropdown

Afghanistan

Figure 120 – Country Dropdown

- `select * from ParameterMaster where vcCode = 'GEOCOUNTRIES'`

The screenshot shows a database query result for the query: `select * from ParameterMaster where vcCode = 'GEOCOUNTRIES'`. The results are displayed in a table with the following columns: `nmAutoId`, `vcId`, `vcCode`, `vcValue`, `vcText`, `vcUnit`, `vcParentId`, `nmPrintOrder`, `nmServiceSubTypeID`, `chActive`, `chCustom`, `vcCreatedBy`, `dtCreatedOn`, `vcModifiedBy`, and `dtModifiedOn`. The data rows represent various countries, including Afghanistan, Albania, Algeria, Andorra, Angola, Antigua a., Argentina, Armenia, Australia, and Austria.

nmAutoId	vcId	vcCode	vcValue	vcText	vcUnit	vcParentId	nmPrintOrder	nmServiceSubTypeID	chActive	chCustom	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn
8	2303	B230541	GEOCOUNTRIES	Afghanistan	Afghanistan	NULL	1	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
9	2304	B230542	GEOCOUNTRIES	Albania	Albania	NULL	2	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
10	2305	B230543	GEOCOUNTRIES	Algeria	Algeria	NULL	3	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
11	2306	B230544	GEOCOUNTRIES	Andorra	Andorra	NULL	4	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
12	2307	B230545	GEOCOUNTRIES	Angola	Angola	NULL	5	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
13	2308	B230546	GEOCOUNTRIES	Antigua a.	Antigua a.	NULL	6	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
14	2309	B230547	GEOCOUNTRIES	Argentina	Argentina	NULL	7	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
15	2310	B230548	GEOCOUNTRIES	Armenia	Armenia	NULL	8	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
16	2311	B230549	GEOCOUNTRIES	Australia	Australia	NULL	9	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903
17	2312	B230550	GEOCOUNTRIES	Austria	Austria	NULL	10	NULL	Y	N	Mukesh	2025-04-03 08:52:10.903	Mukesh	2025-04-03 08:52:10.903

Figure 121 – Country Dropdown Values

11.7.5 Points to Remember

- Country-Level and State-Level Drillthrough:
- Enabled countries: India, United States, and Canada.

Note: If there is a name mismatch or font language discrepancy, the map may not populate.

- Based on customer requirements, additional countries will be enabled one by one.
- When Group By: State is selected, the Country dropdown value is used automatically to filter the dataset by the Country (Geo Type: Country - Last one if multiple Country Type is configured in Universe Configuration will override all the above one) to show only States belonging to that country.

12. DME- Shared daily Job MTD

1. Azure/AWS billing data to be collected on daily basis in MTD mode instead of daily incremental. Customers want billing data to match cloud consoles daily. As for data reconciliation, it runs in the first week of the month.
2. There are two jobs in shared cost, one is monthly, and the other is for daily.
3. Daily shared cost job runs for 1 day (n-1). Ideally, BLOB and AWS CSV files run on MTD frequency, this should also run on MTD frequency and not just for 1 day.
4. Shared Daily job will be by default MTD. This configuration will be in jobMaster additionsettings with key-value "CollectionStrategy"."MTD"}

13. Topology Data Modeling (Data Creation)

1. This template is handled on 3 levels and for each level the data is mapped based on the column Level (which is connection between each node not basis on drillthrough levels).
2. Mandatory columns are Parent, ParentType, Child, ChildType and Level.
3. Other columns like Datavalue/Latency (Measure), Status (Dimension) are optional.
4. Datavalue/ Latency (Measure) will be used to show the latency between each node on Level 3 which can be configured on universe configuration.
5. Up to 2 levels the Types column will not be used but from the beginning of level 3 the types are used to showcase the information like name, details etc. (including the last node of the level 2).

Table Schema

```
CREATE TABLE [dbo].[topologydataset] (
[sno] [int] IDENTITY (1,1) NOT NULL,
[Parent] [varchar](max) NULL,
[Child] [varchar](max) NULL,
[ParentType] [varchar](max) NULL,
[ChildType] [varchar](max) NULL,
[DataValue] [int] NULL,
[Level] [varchar](max) NULL,
[Status] [varchar](max) NULL,
PRIMARY KEY CLUSTERED
(
[sno] ASC
) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON
[PRIMARY]
) ON [PRIMARY] TEXTIMAGE_ON [PRIMARY]
GO
```

6. In 1st Level – Always starts with single Node (parent) and spreads to multiple Nodes (Child). We can create n number of unique children with the same parents.

Table 5 - ParentType, ChildType

Parent	Child	ParentType	ChildType	Level/Connection
SIC	LDAP	SIC	LDAP	1
SIC	DNS	SIC	DNS	1

- Example: level 1 connection (parent to child)

Sic ➔ ldap

1. Clicking on Least Node (child) in 1st Level, will move to level 2
2. In 2nd Level – Based on the least node (child) clicked it will show their corresponding data nodes on two level hierarchy-based relation.
3. (Parent -> Child -> Grandchild)
4. Create the row with new unique child values to map them in level column, we can create n number of unique children with the same parent.

Table 6 - ParentType, ChildType (Cont.1)

Parent	Child	ParentType	ChildType	Level/Connection
LDAP	DFW	LDAP	DFW	2
LDAP	AZR	LDAP	AZR	3
LDAP	HLB	LDAP	HLB	4

Parent → Child

Table 7 - ParentType, ChildType (Cont.2)

Parent	Child	ParentType	ChildType	Level/Connection
HLB	hlbwelmop001.corp.standa rd.com	HLB	Server	4

Child → GrandChild

- With the new value created, use the same value for the grandchild creation also for mapping them. So, the data flow will look like,
 - Example
 - Level 4 connection (PARENT -> CHILD -> GRANDCHILD)
 - LDAP -> HLB -> hlbwelmop001.corp.standard.com
- Clicking on Least Node in 2nd Level (Grandchild), will move to level 3 which shows the full hierarchy of the data.
- In 3rd Level – Based on the least node (grandchild) clicked it will show the full view of the hierarchy relation between each node, from one server to ending at another server.
- We can have different ending/destination servers from the source server which we have clicked on level 2 at least node.
- And based on the Measure/Latency selected it flows between each node.
- Each set of server flows of network is handled by the value used on the second level with decimal points.
 - Example
 - Level 4.1 and 4.2, 4.3 etc. connection (Full Hierarchy)
 - hlbwelmop001.corp.standard.com -> Vlan -> Aci Fabric -> ... -> server 1 - 4.1 Level (set 1)
 - hlbwelmop001.corp.standard.com -> vlan -> Aci Fabric -> ... -> server 2 - 4.2 Level (set 2)
- As like we can create n number of levels using the decimal point (like 4.3 set, 4.4 set) for this level with the same server Name clicked on 2nd Level least node. From there the data will be passed on to different destinations and servers.
- Any Node is the same in both the set 1 or set 2 or any other set, it will create only one Node, and each set will point towards the unique single node if there is any relation between them in level 3.

Table 8 - ParentType, ChildType (Cont.3)

Parent	Child	ParentType	ChildType	Level/Connection
hlbwelmop001.corp.standard.com	hlb93180cor_hsrp_vlan64.standard.com [xxx.xx.xx.x]	Server	VLAN	4.1
hlb93180cor_hsrp_vlan64.standard.com [xxx.xx.xx.x]	HLB93180LF221 (ACI Fabric)	VLAN	ACI Fabric	4.1
HLB93180LF221 (ACI Fabric)	10.96.1.204	ACI Fabric	Switch Point	4.1
10.96.1.204	Paloalto Firewall	Switch Point	Firewall	4.1
Paloalto Firewall	hlbasr1001xbp.standard.com [xxx.xx.xx.x]	Firewall	Switch Point	4.1
hlbasr1001xbp.standard.com [xxx.xx.xx.x]	hlbasr1001xbp Business Partner Router	Switch Point	BP Router	4.1
hlbasr1001xbp Business Partner Router	hlbasr1001azr01_vl1206.standard.com [xxx.xx.xx.x]	BP Router	VLAN	4.1
hlbasr1001azr01_vl1206.standard.com [xxx.xx.xx.x]	hlbasr1001azr01 Azure Cloud connect Router	VLAN	AZR Router	4.1
hlbasr1001azr01 Azure Cloud connect Router	azrwaddcp020.corp.standard.com	AZR Router	Server	4.1
hlbwelmop001.corp.standard.com	hlb93180cor_hsrp_vlan64.standard.com	Server	VLAN	4.2
hlb93180cor_hsrp_vlan64.standard.com [xxx.xx.xx.x]	[xxx.xx.xx.x] HLB93180LF221 (ACI Fabric)	VLAN	ACI Fabric	4.2
[xxx.xx.xx.x] HLB93180LF221 (ACI Fabric)	xxx.xx.xx.x	ACI Fabric	Switch Point	4.2
xxx.xx.xx.x	HLB PaloAlto Firewall	Switch Point	Firewall	4.2
HLB PaloAlto Firewall	hlb93180corb_vl800_gatenet.standard.com	Firewall	VLAN	4.2
hlb93180corb_vl800_gatenet.standard.com	[xxx.xx.xx.x] hlb93180corb Core switch	VLAN	Switch Point	4.2

[xxx.xx.xx.x] h1b93180corb Core switch	h1b1001dcirtr01-te0/1/1.standard.com	Switch Point	Router	4.2
h1b1001dcirtr01-te0/1/1.standard.com	[xxx.xx.xx.x] h1b1001dcirtr01 HLB-DFW Inter-connect router	Router	Inter Router	4.2
[xxx.xx.xx.x] h1b1001dcirtr01 HLB-DFW Inter-connect router	dfw93180corb-eth1/23.standard.com	Inter Router	Switch Point	4.2
dfw93180corb-eth1/23.standard.com	[xxx.xx.xx.x] dfw93180corb DFW core switch	Switch Point	Core Switch	4.2
[xxx.xx.xx.x] dfw93180corb DFW core switch	dfw5260fwprod-vlan628.standard.com	Core Switch	VLAN	4.2
dfw5260fwprod-vlan628.standard.com	[xxx.xx.xx.x] DFW Paloalto Firewall	VLAN	Firewall	4.2
[xxx.xx.xx.x] DFW Paloalto Firewall	dfw93180bfl192(vrf:aci-prod).standard.com	Firewall	ACI Leaf	4.2
dfw93180bfl192(vrf:aci-prod).standard.com	[xxx.xx.xx.x] dfw93180bfl192	ACI Leaf	Leaf	4.2
[xxx.xx.xx.x] dfw93180bfl192	DFW Border Leaf (ACI Fabric)	Leaf	ACI Fabric	4.2
DFW Border Leaf (ACI Fabric)	dfwwaddcp011.corp.standard.com	ACI Fabric	Server	4.2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	LEVEL 1		Level/Connection		LEVEL 2									Level/Connection		LEVEL 3								Level/Connection
2																								
3																								
4																								
5																								
6																								
7																								
8																								
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Figure 122 –Over all Data Mapping

Measure creation

In universe configuration, based on the column created for the data to show case in between the nodes in 3rd level, we use the formula.

```
Sum ("ColumnName")
```

1. The screenshot attached below refers to more information.

The screenshot shows the 'Universe Configuration' window with the 'Measure/Metric' tab selected. On the left, under 'Measure(s)', 'Latency' is selected. Below it is a search bar 'Search Column(s)...' and a list of columns: 'Child', 'ChildType', 'DataValue', 'Level', and 'Parent'. The main configuration area for 'Latency' includes: 'Measure Name*' (Latency), 'Description*' (Latency), 'Formula Type' (Non-Fraction), 'Agg Function' (Sum, Avg, Max, Min, Count), 'Operator' (mathematical symbols), 'Formula*' (Sum("DataValue")), 'Category' (General), and an 'Active' checkbox which is checked. At the bottom are buttons for 'Previous', 'Update', 'Cancel', and 'Next'.

Figure 123 – Universe Configuration (cont.4)

2. Make sure to use the user-Friendly name for the columns/dimensions/group by as same as the table schema's column name which is mandatory since it is case sensitive.

14. Service Now – Certificate based Authentication (DME)

Pre-requisite: We need a .pfx file.

1. Step 1: Create a vault key as mentioned below adaptorQuestionnaireJSON:

- **InstanceURL** -> https://your-instance.service-now.com/api/now/table
- **AuthType** -> Enter "Certificate" for certificate base authentication eg: Certificate
- **CertificateFile** -> Replace .pfx Certificate file name with extension eg: certificate.pfx
- **CertificatePassword** -> Enter Certificate password which was used in above steps.

```
[{"InstanceURL": "*****api/now/table", "AuthType": "Certificate", "CertificatePassword": "*****", "CertificateFile": "*****", "EngagementName": "DEX", "EngagementId": "BC01"}]
```

2. Step 2: Configure your certificate file path in Sourcepath of datasourcedetails-Source

eg -C:\SERVICENOW\CERTIFICATE\#EngagementId#\#InstanceId#.

- "C" -this capture which is in fileLocation in app.config in DME service.
- #EngagementId# - this will replace by Datasource-source engagement id
- #InstanceId# - this will replace by Datasource-source instanceid if its null there then default will be "I1"

3. Step 3: In job configuration, if in any job sub URL is /incident then use ConnectionType in datasourcedetails - Source as JSONV1. If your job is already in working state with other authentication, then no need to modify ConnectionType.

You only need to modify it if you are getting a JSON parse issue after getting a response from API.

nmAutoid	vcJobId	JobName	JobDescription	LastUpdateDateTime	NextRunDate	BackDataCollectionStartDate	BackDataCollectionEndDate	isBackDataCollection	UpdateFrequency	DataLatency
3811	B13579	DEX Incident-Certificate Base	DEX Incident	2025-03-17 10:31:47.000	2025-03-17 10:47:22.107	NULL	NULL	N	10	0

Figure 124 – Object Explorer

Postman Configuration to Test API:

- Click on add certificate -> enter Instance name in Host.
- Choose .pfx file and PassPhrase as below:

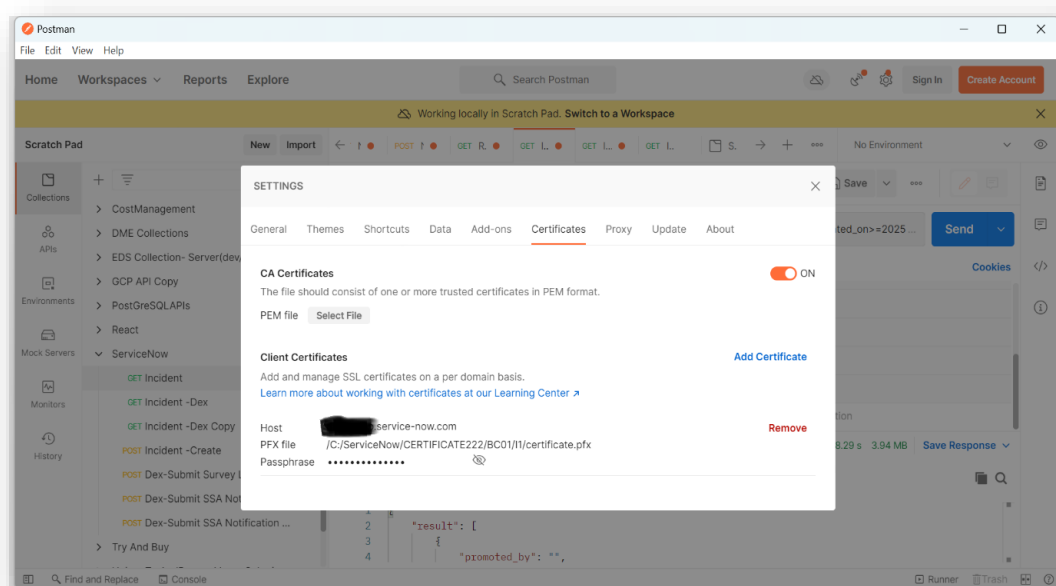


Figure 125 – Add Certificate

15. Service Now – OAuth Authentication (DME)

Pre-requisite:

Follow the step 1 as below:

1. To generate a token refresh token is required which expires and needs to be identified with the respective person who will share credentials or generate this by point 1.
2. You need a valid refresh token if you don't have or the token is expired. Please follow step 1 to generate refresh token and then update in vault. This is the recurring activity which you have to perform below expiry date

Step 1: Service Now-Bearer Token for OAuth 2.0

- Register the app
- Navigate to System OAuth > Application Registry > Create an OAuth API endpoint for external clients.

The screenshot shows the 'Application Registries - Authorization Grant Flow [Default view*]' form in ServiceNow. It includes a blue information box with OAuth client application details, followed by input fields for Name, Client ID, Client Secret, Redirect URL, Logo URL, and Comments. On the right, there are dropdowns for Application and Accessible from, a checkbox for Active, and input fields for Refresh Token Lifespan and Access Token Lifespan. Update and Delete buttons are at the bottom.

OAuth client application details.

- Name: A unique name.
- Client ID: Client ID automatically generated by ServiceNow OAuth server.
- Client Secret: Client secret for the OAuth application. Leave it empty for auto-generation.
- Refresh Token Lifespan: Time in seconds the Refresh Token will be valid.
- Access Token Lifespan: Time in seconds the Access Token will be valid.
- Redirect URL: The redirect URLs authorization server redirect to. They must be absolute URLs and they are comma separated.

[More Info](#)

* Name: Application:

* Client ID: Accessible from:

Client Secret: Active: ☒

Redirect URL: * Refresh Token Lifespan:

Logo URL: * Access Token Lifespan:

Comments:

4000 characters remaining of 4000 characters

Figure 126 – Application Registry

Name	Definition
Name	Name of the registered app
Client ID	client id of the registered app
Client Secret	client secret of the registered app
Redirect URI	Authorization code is returned to this URI. This is usually the endpoint of the registered app. The screenshot has <i>login.do</i> for demo purposes
Authorization Code Life Span	The lifespan of the authorization code. Extend the lifespan if required. It expires in 60 seconds by default.

Access Token Life Span	The lifespan of the access token
Refresh Token Life Span	The lifespan of the refresh token

- Generate Authorization Code

Authorization code requires a user login. Use these steps to generate an authorization code.

- Access the authorization endpoint. This requires response type, redirect Url, and client id:

Sample:

`https://<Instance_Name>.service-`

`now.com/oauth_auth.do?grant_type=authorization_code&redirect_uri=https://<Instance_Name>.service-`
`now.com/login.do&client_id=<CLIENT_ID>&response_type=code&state=123`

- The user is redirected to oauth login page: /oauth_login.do

Figure 127 – Oauth Login Page

- Enter valid credentials.
- User needs to either Allow/Deny the request.

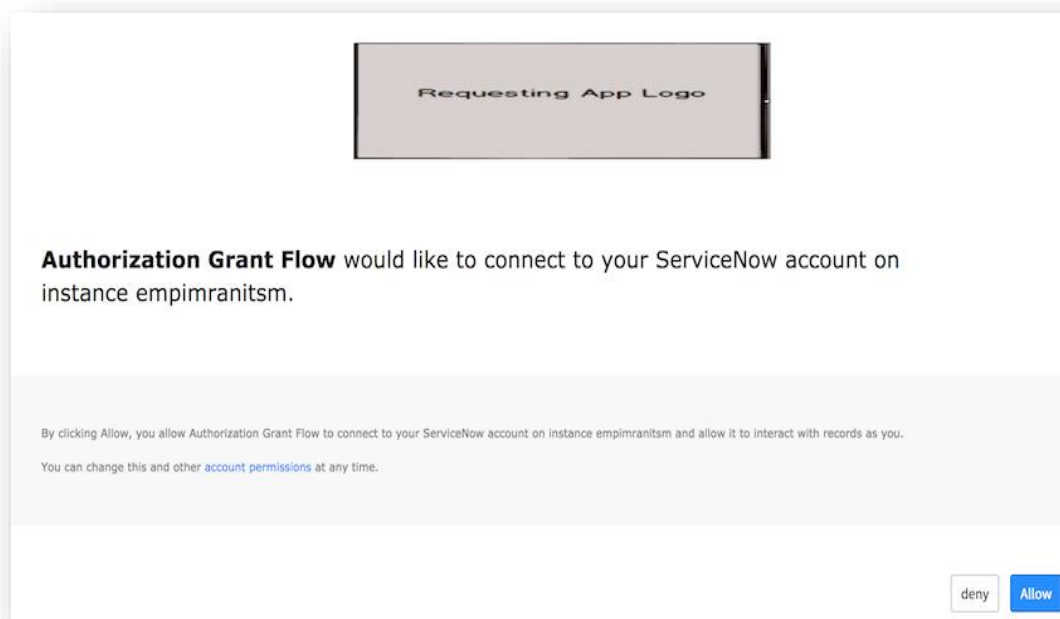


Figure 128 – Allow/Deny Request

- Authorization code is returned to redirect URL after clicking Allow.
- `https://<INSTANCE_NAME>.service-now.com/login.do?code=iz8efjPNK-4Q_ZOS3DcEqcJa9oXo1uLhpltv30PhaeknEfGWMF2haVCpYwGLg7cXzVpYqkMnkHF242VuFe8ZCQ&state=123`
- Authorization code is valid for 60 seconds by default.
- Copy the code as this will be used in the next steps.

3. Generate Bearer Token

oauth_token.do supports post (form URL encoded) to generate an access token. This requires **code**, **redirect URL**, **client id**, **client secret**, and **grant type** to generate an access token.

- You can use Postman to generate the Bearer Token.
- Postman
 POST `https://<Instance_Name>.service-now.com/oauth_token.do`
 Body [x-www-form-urlencoded]
 Update "redirect_uri", "grant_type", "code", "client_secret" & "client_id" here

Step 2: Create a vault key as mentioned below adaptorQuestionnaireJSON

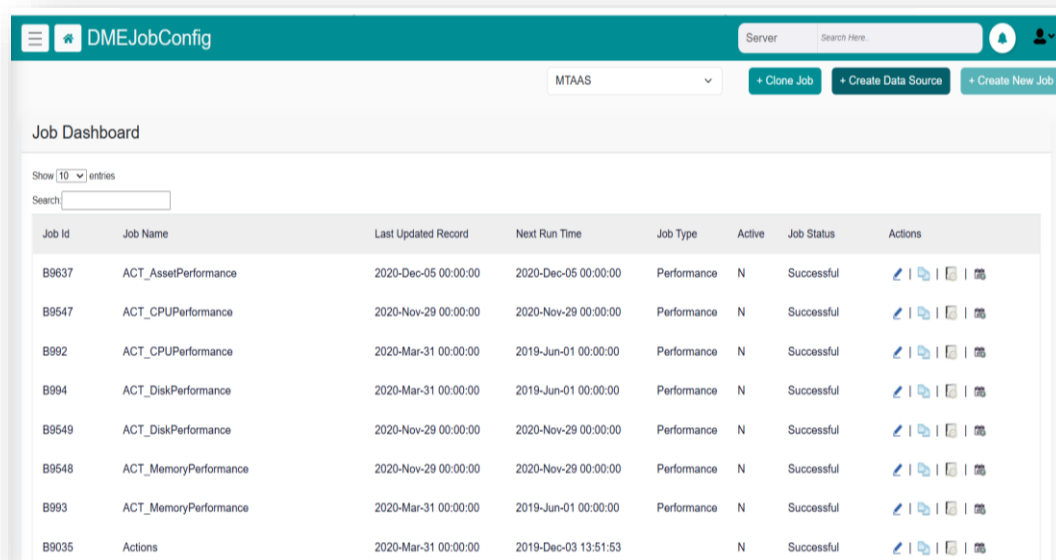
- **InstanceURL**-> replace your instance name in <your-Instance>
- **AuthType** -> Enter "OAUTH" for oAuth authentication eg: OAUTH
- **ClientId** -> Replace client id in <ClientId>
- **ClientSecret** -> Replace client secret in <ClientSecret>

- **TenantId** -> Replace instance name in place of <your-instance>
- **GrantType** -> refresh_token
- **RefreshToken** -> Replace refresh token in <RefreshToken>
- **ResourceURL** -> Replace instance name in place of <your-instance>

Eg:

```
[{"InstanceURL":"https://#your-Instance#.service-
now.com/api/now/table","AuthType":"OAUTH","ClientId": "#ClientId#","ClientSecret":
"#ClientSecret#","TenantId":
"https://#your-
instance#.servicenow.com/oauth_token.do","GrantType":"refresh_token","RefreshToken"
:"#RefreshToken#","ResourceUrl":"https://#your-instance#.service-
now.com","EngagementName": "#EngagementName#","EngagementId": "#EnagagementId#" } ]
```

Step 3: Click on Create Data Source to add/update any datasourcedetails



The screenshot shows the 'Job Dashboard' in the DMEJobConfig application. At the top, there's a header with 'DMEJobConfig', a 'Server' dropdown, and buttons for '+ Clone Job', '+ Create Data Source', and '+ Create New Job'. Below the header, there's a 'Job Dashboard' section with a search bar and a table of jobs. The table has columns: Job Id, Job Name, Last Updated Record, Next Run Time, Job Type, Active, Job Status, and Actions. The table contains 8 rows of job data.

Job Id	Job Name	Last Updated Record	Next Run Time	Job Type	Active	Job Status	Actions
B9637	ACT_AssetPerformance	2020-Dec-05 00:00:00	2020-Dec-05 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B9547	ACT_CPUPerformance	2020-Nov-29 00:00:00	2020-Nov-29 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B992	ACT_CPUPerformance	2020-Mar-31 00:00:00	2019-Jun-01 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B994	ACT_DiskPerformance	2020-Mar-31 00:00:00	2019-Jun-01 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B9549	ACT_DiskPerformance	2020-Nov-29 00:00:00	2020-Nov-29 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B9548	ACT_MemoryPerformance	2020-Nov-29 00:00:00	2020-Nov-29 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B993	ACT_MemoryPerformance	2020-Mar-31 00:00:00	2019-Jun-01 00:00:00	Performance	N	Successful	Edit Clone Delete Refresh
B9035	Actions	2020-Mar-31 00:00:00	2019-Dec-03 13:51:53		N	Successful	Edit Clone Delete Refresh

Figure 129 – Create Data Source

- Type datasourcename in search to search the specific datasourcedetails then click on edit to modify.

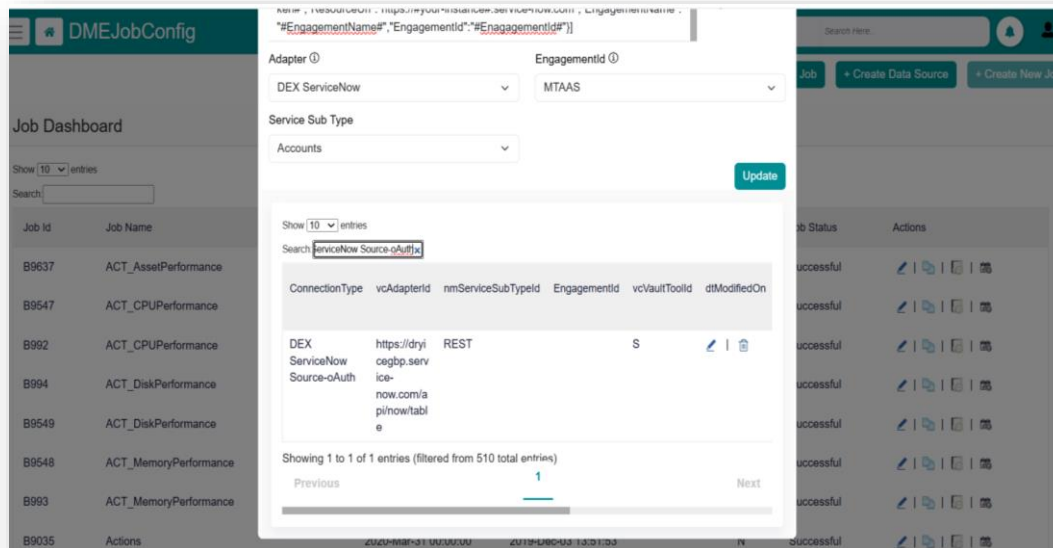


Figure 130 – Create Data Source (Cont.)

- After edit/update your adapterQuestionnaireJson in Connection/Credentials Details then saving it will convert into vault key and will update vault key in datasourcedetails.

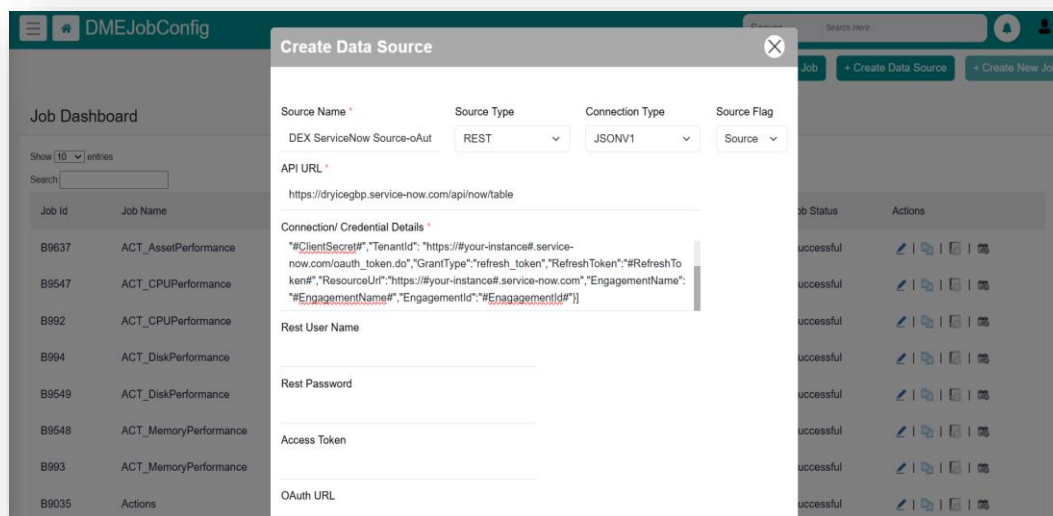


Figure 131 – Create Data Source

Step 4: In your existing/cloned/new job, make sure in RestAPIConfigs “AuthorizationTokenRequired” should be 1.

nmAutId	vcId	Name	ConnectionString	HostInstanceName	DatabaseType	ConnectionType	SourcePath	ProcessedPath	ErrorFilePath	IsFileCompressed	ToolOffset	ToolCountry	ToolCity	DSTApp
3395	B31040	DEX ServiceNow Source-oAuth			REST	JSONV1								

Figure 132 – RestAPIConfigs

Step 4: In job configuration if in any job subURL is /incident then use ConnectionType in datasourcedetails - Source as JSONV1.

If your job is already in working state with other authentication, then no need to modify ConnectionType. Only need to modify it if you are getting a JSON parse issue after getting a response from API.

Postman Configuration to Test API:

- First generate token and then this token will be used to call API

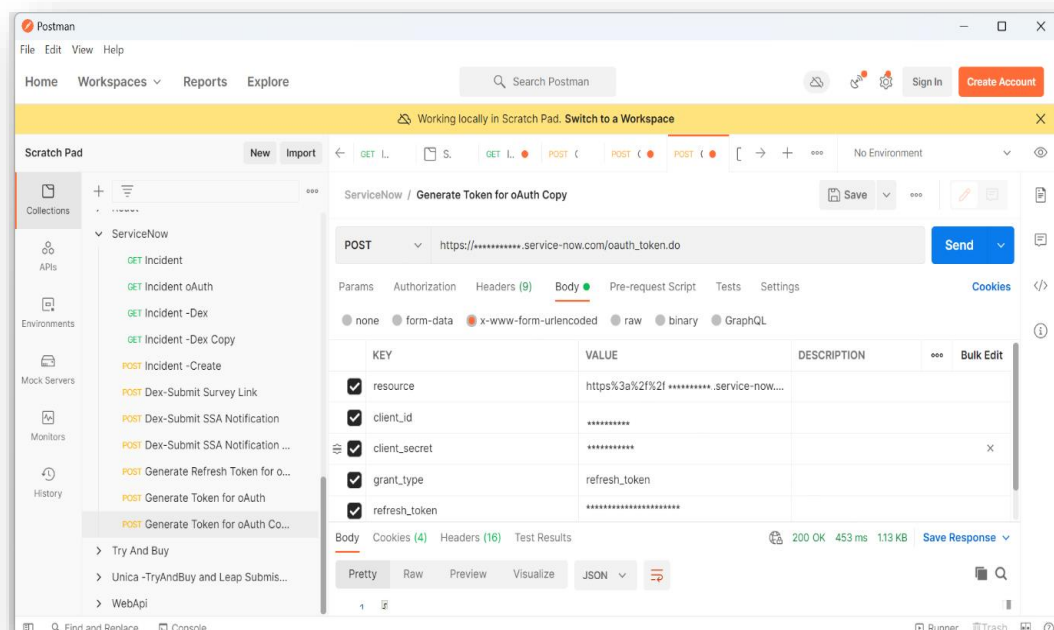


Figure 133 – PostMan Configuration

16. Cache Refresh – DME

APPID, SecretKey and UserMail will come from Appmaster from the Core database. These credentials will create a token to login webapi to call cache endpoints.

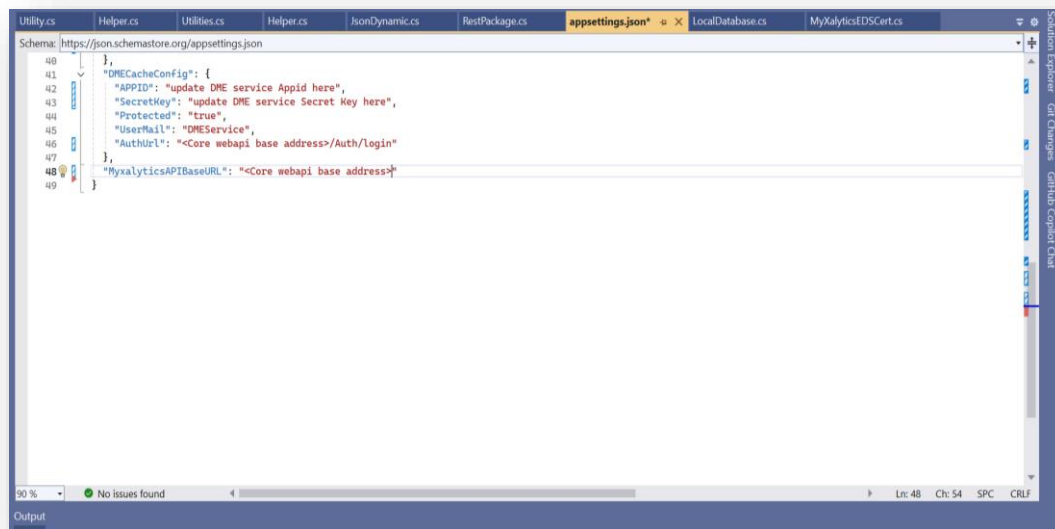


Figure 134 – App Settings JSON

DME Job Configuration:

- Cache Refresh Api will be called once all job cycle is completed SUCCESSFUL / PARTIALSUCCESSFUL /SCHEDULED
- To refresh cache for a particular job, configure in additionalsettings = "{CacheRefresh:true, RefreshObject:"GCP_Disks"}"
- If CacheRefresh = TRUE, then only this will go for cache refresh. You can update pipe separated objects into RefreshObject (self-object and dependent object)

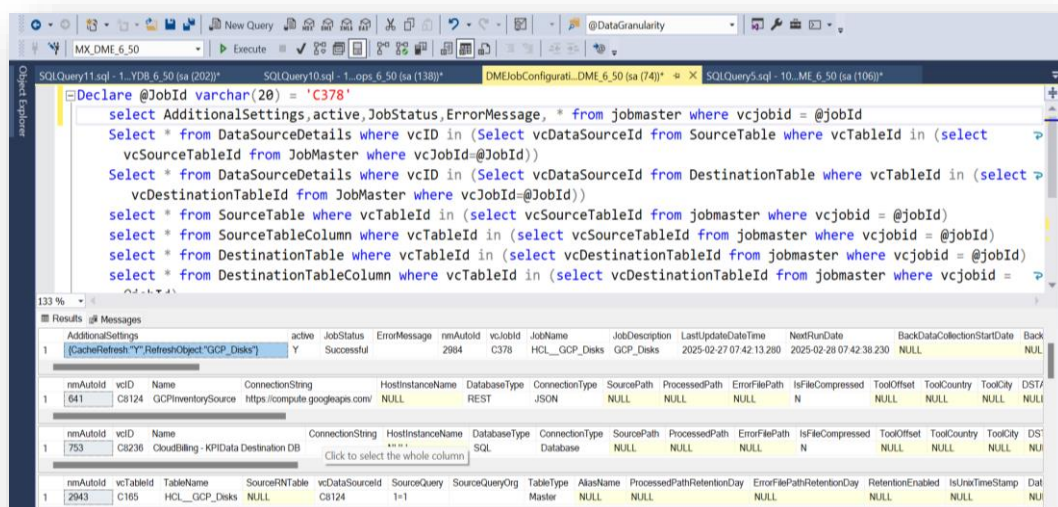


Figure 135 – DME Job Configuration

- Added Additional settings button with Information Icon

The screenshot shows the DMEJobConfig form with a purple header. The form is divided into two columns. The left column contains fields for 'Additional Delete Condition', 'Pre Execution Script', 'Customer Name' (with a dropdown), and 'Object Type' (with a dropdown). The right column contains fields for 'Pre Execution Data Source' (with a dropdown), 'Post Execution Script' (with a text area), 'Job Type' (with a dropdown), and 'Job Execution TimeOut (Minutes)' (with a text field). At the bottom of the left column is a purple button labeled 'Additional Settings' with an information icon. At the bottom of the right column is a checkbox labeled 'Is Active?'. Below the form are three buttons: 'Save', 'Cancel', and 'Next'.

Figure 136 – DMEJobConfig

Feature: Enhanced Additional Settings Panel

Overview:

A new "**Additional Settings**" button has been introduced in the DMEJobConfig form to allow users to configure the job execution.

Key Enhancements:

- Provides access to extended configuration options without cluttering the main interface.
- Includes contextual help (i icon) for user guidance on available settings.
- Improves modularity and usability of job configuration workflows.
- When the **Additional Settings** button is clicked, a separate modal pop-up opens with the default dropdown populated.

Dropdown for Setting Selection

- **Inline Input Fields** for numeric, string, float, Multiselect, and dropdown, check box, boolean, and JSON data types should populate.
- **Add/Remove Buttons** (+ / -) to manage multiple custom settings.
- **Submit/Cancel** for finalizing changes.
- Finally, the selected saved in JSON format in Additional settings column in Jobmaster table.

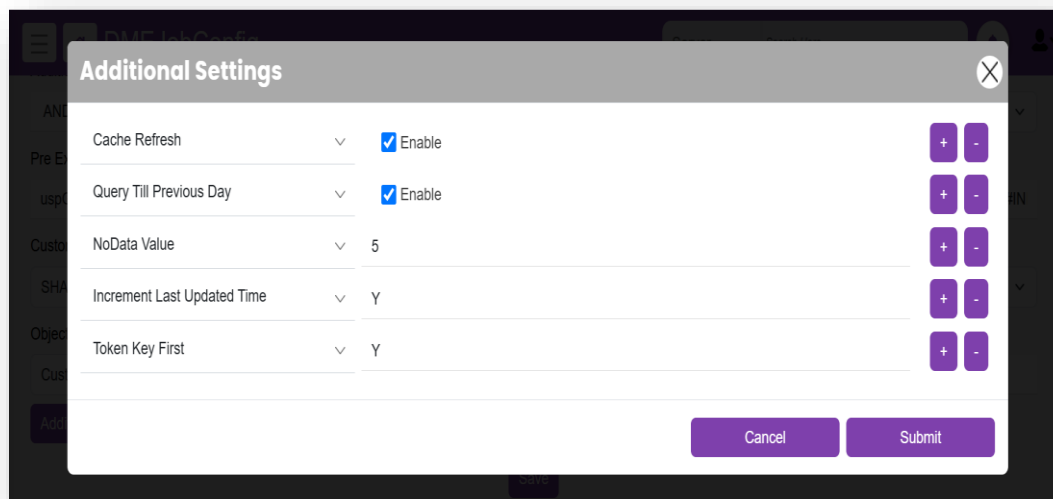


Figure 137 – Additional Settings

DME Job logging for Cache:

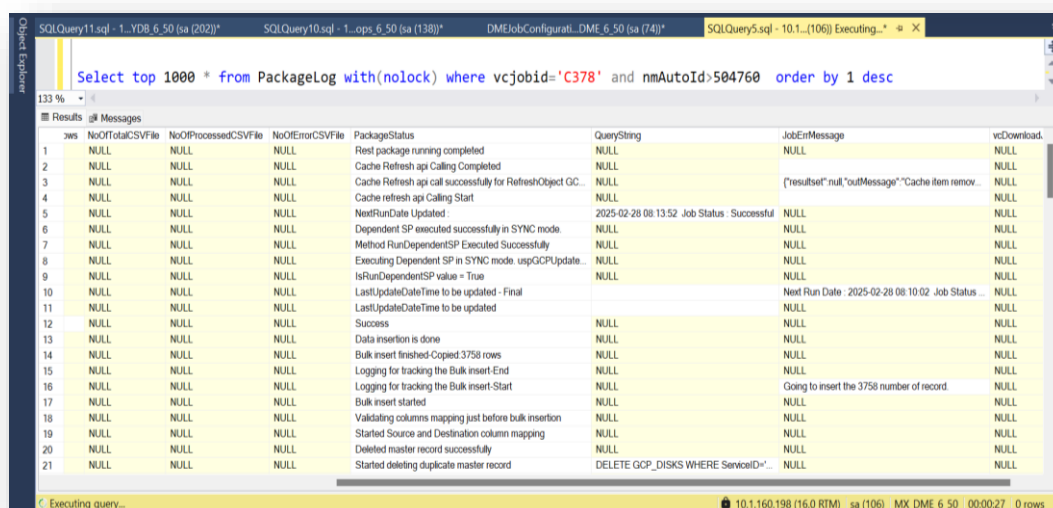


Figure 138 – Job Logging

If API returning not found exception, then it look as below:

Scheduled

```
Select top 1000 * from PackageLog with(nolock) where vcjobid='C378' and nmAutoId=504760 order by 1 desc
```

```
Select top 1000 * from PackageLog with(nolock) where vcjobid='C374' order by 1 desc
```

	EndDate	AffectedRows	NoOfTotalCSVFile	NoOfProcessedCSVFile	NoOfErrorCSVFile	PackageStatus	QueryString	JobErrorMessage	vcDownload
1	53.243	2025-02-27 14:02:53.243	NULL	NULL	NULL	Rest package running completed	NULL	NULL	NULL
2	47.930	2025-02-27 14:02:47.947	NULL	NULL	NULL	Cache Refresh api - Exception	NULL	One or more errors occurred (NotFound)	NULL
3	59.100	2025-02-27 14:01:59.117	NULL	NULL	NULL	Cache refresh api Calling Start	NULL	NULL	NULL
4	40.163	2025-02-27 13:56:40.163	NULL	NULL	NULL	IsRunDependentSP value = True	NULL	NULL	NULL
5	39.593	2025-02-27 13:56:39.593	NULL	NULL	NULL	LastUpdateDateTime and NextRunDate updated	Next Run Date : 2025-02-28 14:57:00 Job Statu...	NULL	NULL
6	38.940	2025-02-27 13:56:38.940	NULL	NULL	NULL	LastUpdateDateTime to be updated - Final	Next Run Date : 2025-02-28 14:57:00 Job Statu...	NULL	NULL
7	38.620	2025-02-27 13:56:38.620	NULL	NULL	NULL	LastUpdateDateTime to be updated	NULL	NULL	NULL
8	38.177	2025-02-27 13:56:38.177	1	NULL	NULL	Success	NULL	NULL	NULL
9	37.853	NULL	NULL	NULL	NULL	Data insertion is done	NULL	NULL	NULL
10	37.533	2025-02-27 13:56:37.533	NULL	NULL	NULL	Bulk insert finished-Copied 1 rows	NULL	NULL	NULL
11	37.207	2025-02-27 13:56:37.207	NULL	NULL	NULL	Logging for tracking the Bulk insert-End	NULL	NULL	NULL
12	34.280	2025-02-27 13:56:34.280	NULL	NULL	NULL	Logging for tracking the Bulk insert-Start	NULL	Going to insert the 1 number of record	NULL
13	33.937	2025-02-27 13:56:33.937	NULL	NULL	NULL	Bulk insert started	NULL	NULL	NULL
14	33.493	2025-02-27 13:56:33.493	NULL	NULL	NULL	Validation columns mapping just before bulk insert	NULL	NULL	NULL

Query executed successfully. 10.1.160.198 (16.0 RTM) sa (106) MX_DME_6_50 00:00:00 137 rows

Figure 139 – API Returning not found Exception

If web API is stopped:

Scheduled

```
Select top 1000 * from PackageLog with(nolock) where vcjobid='C378' and nmAutoId=3613911 order by 1 desc
```

	NoOfTotalCSVFile	NoOfProcessedCSVFile	NoOfErrorCSVFile	PackageStatus	QueryString	JobErrorMessage	vcDownloadJobId
1	NULL	NULL	NULL	Rest package running completed	NULL	NULL	NULL
2	NULL	NULL	NULL	Cache Refresh api - Exception	NULL	One or more errors occurred (No connection could be established to the server or the user does not have the right to perform this action.)	NULL
3	NULL	NULL	NULL	Cache refresh api Calling Start	NULL	NULL	NULL
4	NULL	NULL	NULL	NextRunDate Updated :	2025-03-01 08:51:03 Job Status : Successful	NULL	NULL
5	NULL	NULL	NULL	Dependent SP executed successfully in SYNC mode	NULL	NULL	NULL
6	NULL	NULL	NULL	Method RunDependentSP Executed Successfully	NULL	NULL	NULL
7	NULL	NULL	NULL	Executing Dependent SP in SYNC mode uspGCPUpdate	NULL	NULL	NULL
8	NULL	NULL	NULL	IsRunDependentSP value = True	NULL	NULL	NULL
9	NULL	NULL	NULL	LastUpdateDateTime to be updated - Final	Next Run Date : 2025-03-01 08:46:10 Job Statu...	NULL	NULL
10	NULL	NULL	NULL	LastUpdateDateTime to be updated	NULL	NULL	NULL
11	NULL	NULL	NULL	Success	NULL	NULL	NULL
12	NULL	NULL	NULL	Data insertion is done	NULL	NULL	NULL
13	NULL	NULL	NULL	Bulk insert finished-Copied 3719 rows	NULL	NULL	NULL
14	NULL	NULL	NULL	Logging for tracking the Bulk insert-End	NULL	NULL	NULL
15	NULL	NULL	NULL	Logging for tracking the Bulk insert-Start	NULL	Going to insert the 3719 number of record	NULL
16	NULL	NULL	NULL	Bulk insert started	NULL	NULL	NULL
17	NULL	NULL	NULL	Validating columns mapping just before bulk insert	NULL	NULL	NULL
18	NULL	NULL	NULL	Started Source and Destination column mapping	NULL	NULL	NULL
19	NULL	NULL	NULL	Deleted master record successfully	NULL	NULL	NULL
20	NULL	NULL	NULL	Started deleting duplicate master record	DELETE GCP_DISKS WHERE ServiceID=...	NULL	NULL
21	NULL	NULL	NULL	Final no of rows to be inserted :	NULL	3719	NULL
22	NULL	NULL	NULL	Initiated Master Insert Initiated Devent - End	NULL	Completed Min Date : Completed Max Date : 0...	NULL

Query executed successfully. 10.1.160.198 (16.0 RTM) sa (106) MX_DME_6_50 00:00:06 88 rows

Figure 140 – API Stopped

17. Cache Refresh – Metric

APPID, SecretKey and UserMail will come from Appmaster from the Core database. These credentials will create a token to login webapi to call cache endpoints for metric.

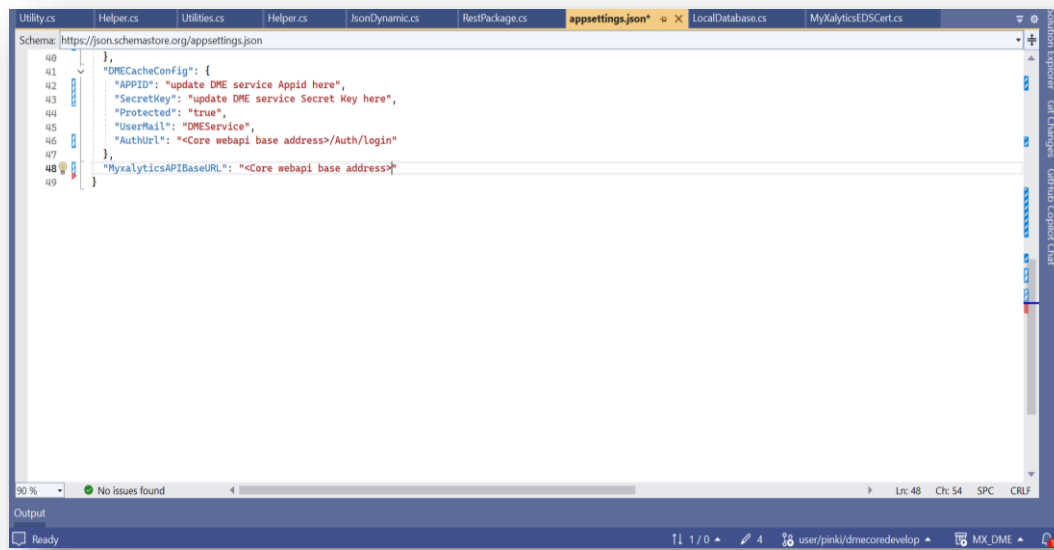


Figure 141 – App settings JSON

Metric Job Configuration:

To refresh cache for for a particular job, configure in additionalsettings = {CacheRefresh:true}

If CacheRefresh = true then only this will go for cache refresh.

Module: Metric Collection

Feature: Additional Settings

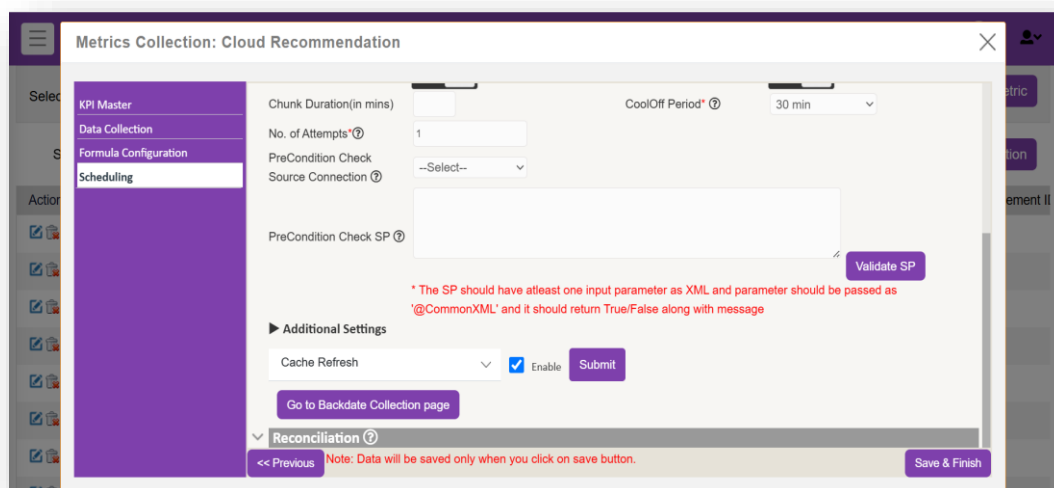


Figure 142 – Metrics Collection

A new **Additional Settings** section has been introduced under the **Scheduling** tab of the Metric Collection.

Additional Settings – Functionality Overview

- **Checkbox Option for Cache Refresh**

A checkbox is provided to enable or disable the *Cache Refresh* feature.

 - When checked, the system sets CacheRefresh: true
- **Submit Button**

The **Submit** button saves the configuration defined under *Additional Settings* for the specific metric collection job.
- **Application of Settings**

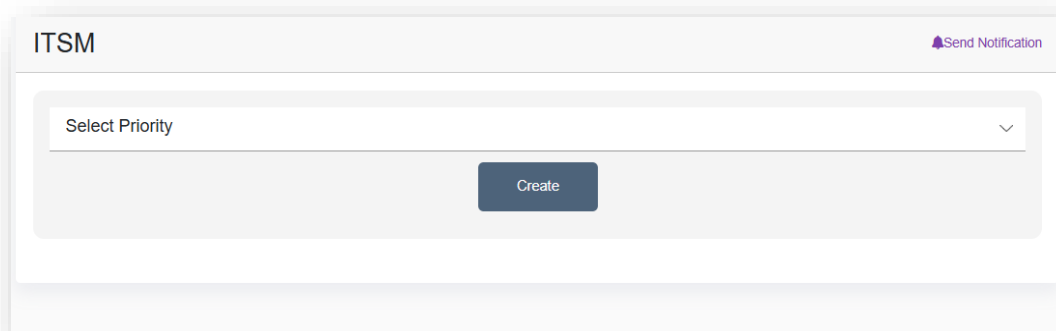
The configurations are only applied after clicking the **Submit** button.
- **Save & Finish**

After adding or updating any Additional Settings, click Save & Finish to finalize the job configuration.

 - This action updates the selected values in the database in JSON format for that metric job in Additional settings column.

18. Event Dashboard – ITSM

Navigation: Configuration > Compliance > Event Dashboard



The screenshot shows a web interface for ITSM. At the top, there's a header bar with the text 'ITSM' on the left and a 'Send Notification' button on the right. Below the header is a main content area. In this area, there's a form. The form has a dropdown menu labeled 'Select Priority' and a blue button labeled 'Create'.

Figure 143 – ITSM

Users can create a ticket in the ticketing tool (like ServiceNow) for a selected alert. They have the option to choose the priority level and then click on Create to generate a ticket in the ticketing tool according to the configured settings. To configure these settings, follow the steps outlined below:

1. Create a JSON object with the following structure and associated values.

```
{ "UserId": "<UserId>", "Password": "<password>", "BaseUrl": "<BaseURL>", "SubURL": "<SubURL>", "AuthType": "Bearer", "MethodType": "POST", "Port": 443, "ParamType": "application/JSON", "HashValue": "" }
```

2. Retrieve the EDS_ID associated with the above configuration by calling the EDS SETDATA API.
3. Insert the ToolName, EngagementID, and vcMetadata (EDS_ID) into the table MX_EngagementWiseTicketToolConfig as shown below:

The screenshot shows a SQL query execution window with the following query: `select * from MX_EngagementwiseTicketToolConfig where vcCode='ITSMINCIDENT'`. The results table contains two rows of data.

	rmAutoid	rmToolId	vcToolName	vcEngagementId	vcMetadata	vcAdditionalDetail	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn	vcCode
1	1	149	MX_Snow	BC01	B7A6B72C-E90E-4CDE-808A-C8BB488C1946	NULL	Admin	2025-02-07 17:37:53.377	Admin	2025-02-07 17:37:53.377	ITSMINCIDENT
2	4	149	MX_Snow	CC9	B7A6B72C-E90E-4CDE-808A-C8BB488C1946	NULL	Admin	2025-02-07 17:37:53.377	Admin	2025-02-07 17:37:53.377	ITSMINCIDENT

Figure 144 – ITSM Incident

19. Event Dashboard – SSA Notification

Navigation: Configuration > DEX > EventDashboard

The screenshot displays the SSA Notification interface. On the left, there are three alerts under the 'Application Migration' category, each with a Windows logo and a red warning icon. The alerts are for 'Critical Alert1 recommended Migrated To :Microsoft® Windows® Operating System_10.0.22621.3235 for the Device Name: LAPTOP-RI53OK88' (71 Days ago), 'Critical Alert1 recommended Migrated To :Microsoft® Windows® Operating System_10.0.22621.3235 for the Device Name: DESKTOP-VU7EJBO' (71 Days ago), and 'Alertingtest recommended Migrated To :Microsoft Office_16.0.14326.22053 for the Device Name: LAPTOP-RI53OK88' (71 Days ago). On the right, there is a form with 'Assign To' (---Select---), 'Status' (UnAssigned), and a 'Remark' field. Below the form are 'Submit' and 'Cancel' buttons. At the bottom, there is a 'View Work Logs' link, an 'ITSM' section with a 'Send Notification' button, and a 'Select Priority' dropdown with a 'Create' button.

Figure 145 – SSA Notification

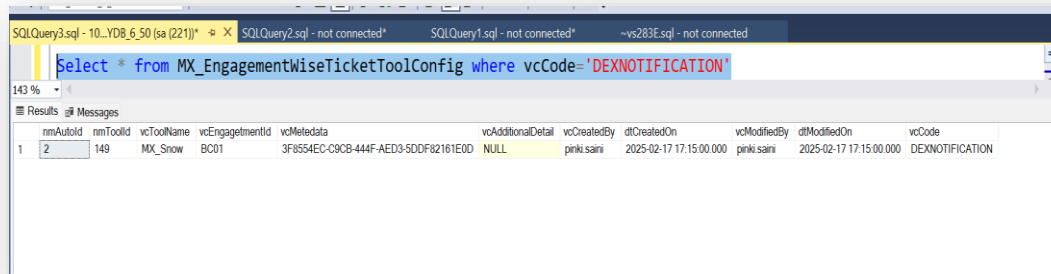
Users can send the SSA notification to devices by clicking on “Send Notification”. To configure these settings, follow the steps outlined below:

1. Create a JSON object with the following structure and associated values replace value of (userid#, #password#, #BaseURL#, #subURL#) before vault key creation.

```
{
  "Userid": "<#userid>",
  "Password": "<#password>",
  "BaseUrl": "<#BaseURL>",
  "SubURL": "<#suburl>",
  "AuthType": "Basic",
  "MethodType": "POST",
  "Port": <port>,
  "ParamType": "application/xml",
  "HashValue": "",
  "BodyContent": "<?xml version='1.0' encoding='UTF-8'?><BES xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance' xsi:noNamespaceSchemaLocation='BES.xsd'><SingleAction><Title>#DESCRIPTION#</Title><Relevance><![CDATA[(if (windows of operating system) then (exists key whose
```

```
((it as string = \\\"IBM BigFix Self Service Application\\\" OR it as string = \\\"IBM
BigFix Self-Service Application\\\" OR it as string = \\\"BigFix Self-Service
Application\\\") of value \\\"DisplayName\\\" of it AND value \\\"DisplayVersion\\\"
of it as string as version >= (\\\"3.1.0\\\" as version)) of key
\\\"HKLM\\\"\\\"Software\\\"\\\"Microsoft\\\"\\\"Windows\\\"\\\"CurrentVersion\\\"\\\"Uninstall\\\" of
x32 registry) else if (mac of operating system) then (exists application
\\\"BigFixSSA.app\\\" whose (version of it >= \\\"3.1.0\\\")) else false) AND (exists
line whose (it = \\\"disableMessagesTab: false\\\") of file (if (windows of operating
system) then (pathname of parent folder of parent folder of client) & \\\"\\\"\\\"BigFix
Self Service Application\\\"\\\"resources\\\"\\\"ssa.config\\\" else
\\\"/Library/Application
Support/BigFix/BigFixSSA/ssa.config\\\")))></Relevance><ActionScript
MimeType=\\\"application/x-Fixlet-Windows-Shell\\\">//Nothing to
do</ActionScript><SuccessCriteria
Option=\\\"RunToCompletion\\\"/><Settings><PreActionShowUI>true</PreActionShowUI><P
reAction><Text><![CDATA[<p>#MAILBODY#</p>]]></Text></PreAction></Settings><Target><
ComputerID>#DEVICEID# </ComputerID></Target><MIMEFieldSingleAction><Name>action-ui-
metadata</Name><Value>{\\\"type\\\":\\\"notification\\\",\\\"sender\\\":\\\"#USEREM
AIL#\\\",\\\"expirationDays\\\":3}</Value></MIMEFieldSingleAction></SingleAction></
BES>\\\",\\\"Params\\\": {\\\"output\\\": \\\"JSON\\\" },\\\"AcceptType\\\":\\\"\\\"}
```

2. Retrieve the EDS_ID associated with the above configuration by calling the EDS SETDATA API.
3. Insert the ToolName, EngagementID, and vcMetadata (EDS_ID) into the table MX_EngagementWiseTicketToolConfig as shown below:



The screenshot shows a SQL query window with the following query: `Select * from MX_EngagementWiseTicketToolConfig where vcCode='DEXNOTIFICATION'`. The results are displayed in a table with 11 columns: nmAutoid, nmToolId, vcToolName, vcEngagementId, vcMetadata, vcAdditionalDetail, vcCreatedBy, dtCreatedOn, vcModifiedBy, dtModifiedOn, and vcCode. One row of data is shown.

nmAutoid	nmToolId	vcToolName	vcEngagementId	vcMetadata	vcAdditionalDetail	vcCreatedBy	dtCreatedOn	vcModifiedBy	dtModifiedOn	vcCode
2	149	MX_Snow	BC01	3F8554EC-C9CB-444F-AED3-5DDF82161E0D	NULL	pinkis.saini	2025-02-17 17:15:00.000	pinkis.saini	2025-02-17 17:15:00.000	DEXNOTIFICATION

Figure 146 – Tool Configuration

20. Auto Onboard User Default

- AppAuthenticationMode = “Dedicated”

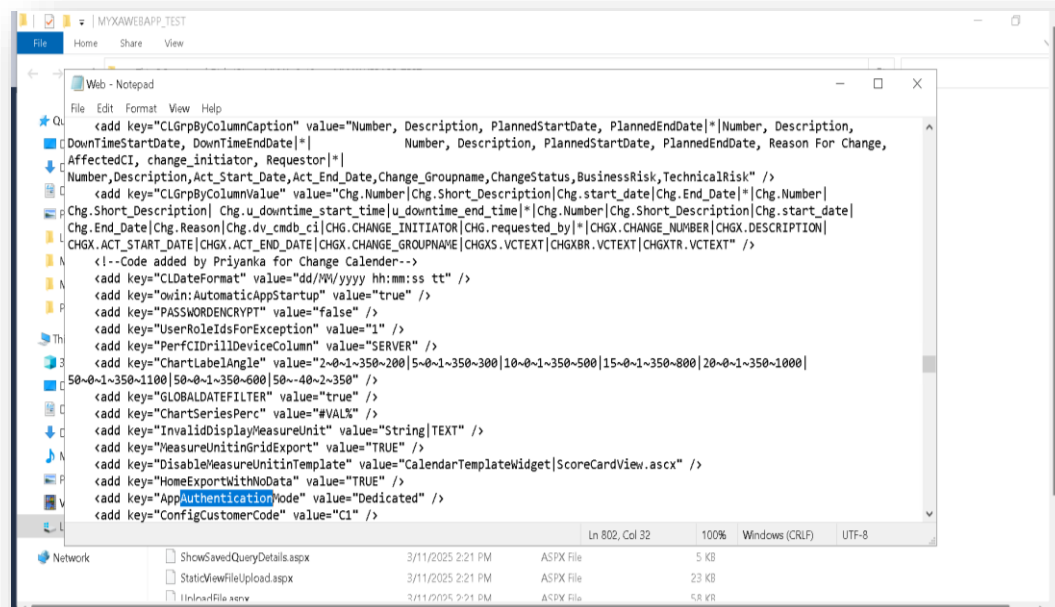


Figure 147 – App Authentication Mode

- On click URL redirects SSO login

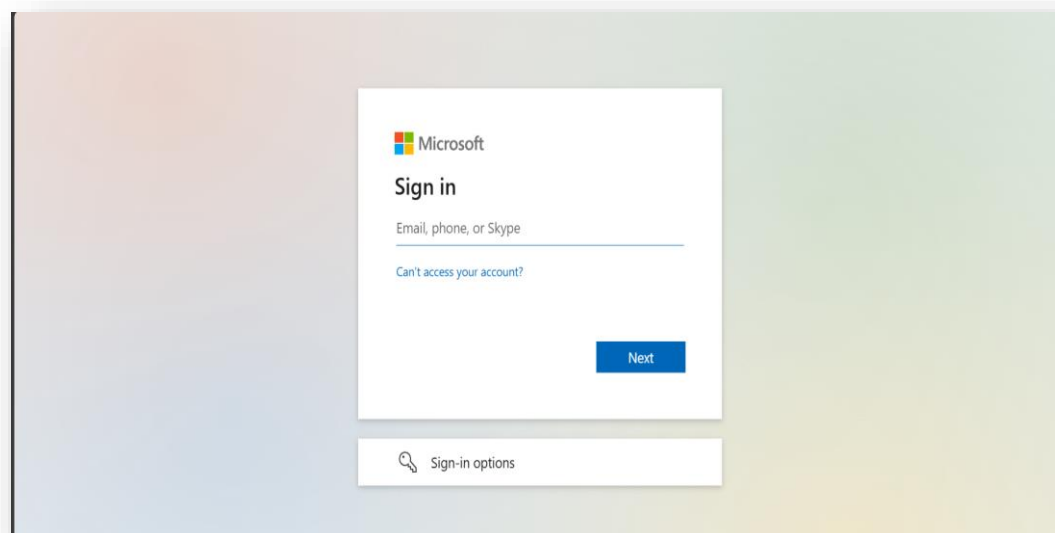


Figure 148 – Sign-in Page

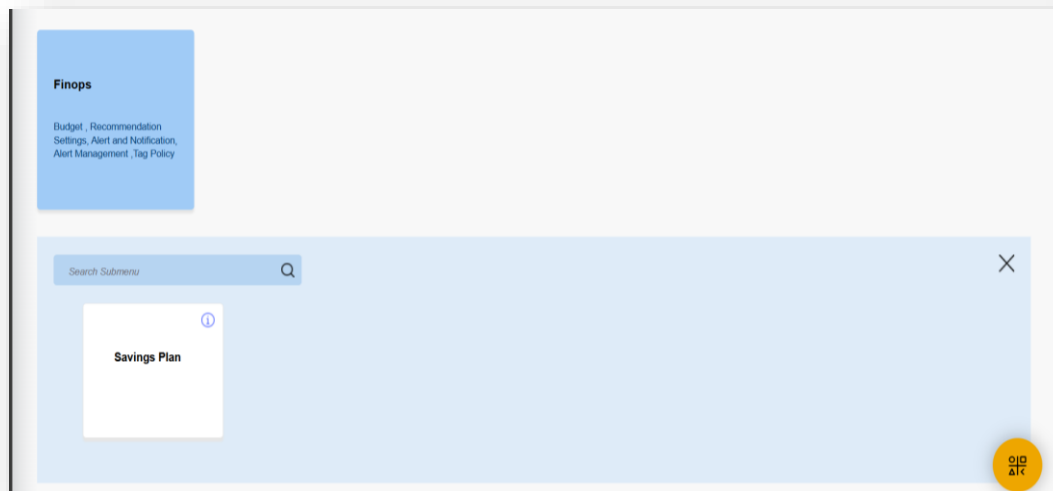


Figure 149 – Onboard User Default

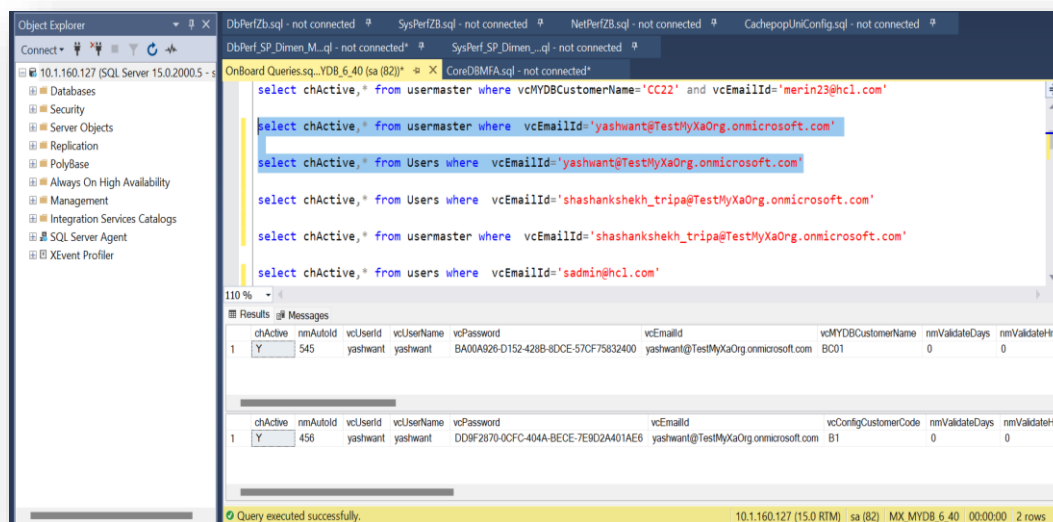


Figure 150 – Onboard Queries

21. Support

For any additional queries, please reach out to us at teammyxalyticsps@hcl-software.com

HCLSoftware

hcltechsw.com