Oracle® Financial Services Investigation Toolkit User Guide





Oracle Financial Services Investigation Toolkit User Guide, Release 8.1.2.9.0

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Document Control

The following table lists the document control of this guide.

Table Document Control

Version Number	Revision Date	Change Log
8.1.2.9.0	April 2025	Added the Configuration for Investigation Flow Template and Configuration for Investigation Flow Template chapters.



Preface

This section provides information of the Oracle Financial Services (OFS) Investigation Toolkit User Guide.

Audience

The OFS Investigation Toolkit User Guide is intended for end-users such as Data Analysts and Data Scientists.

Related Resources

This section identifies additional resources to the OFS Investigation Toolkit. You can access additional documents from the Oracle Help Center.

Abbreviations

The following table lists the abbreviations used in this document.

Table 1 Abbreviations Used in This Guide

Meaning
Oracle Financial Services
Analytical Applications Infrastructure
Parallel Graph Analytics
Property Graph Query Language
Left Hand Side
Oracle Financial Services Analytical Applications
Financial Crime Graph Model
Financial Crime Data Model
Structured Query Language
Enterprise Case Management
Anti-money Laundering
Behavior Detection
Out-of-the-Box

Documentation Accessibility

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Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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1

Overview

OFS Investigation Toolkit accelerates investigations by bringing relevant information sources together (including external API calls to sources such as Quantifind), and preventing the need for the manual collation of information from disparate sources (where data is not available in OFS Enterprise Case Management). OFS Investigation Toolkit automatically generates case narratives and insights, highlights risk factors, and red flags that are meaningful to the investigation, and recommends actions based on the scoring algorithms as required.

Investigation Toolkit comes with a selection of notebook templates for customers to adapt for their own Investigative needs. Multiple types of notebooks or configurations of the same notebook can be configured and are permission driven.

The Notebook templates available are:

- Investigation Flow Template Focused on case information, configurable narratives and highlighting of case risk factors. It follows the flow of a typical investigation.
- ECM Integration L1 Template Primarily for users who would heavily leverage the graph in their Case Investigations, expanding beyond the boundaries of the original case.
- Special Investigation Template Like the L1 Template but the starting point would be an entity name search rather than a case id.
- Case Narrative Template Simple template which does not include a graph but is focused on providing a case summary as a narrative.

The L1 and Special Investigations Notebooks are built on the Financial Crime Graph Model Schema which is configurable within OFS Compliance Studio and optionally provides the capability for matching to third-party sources of data like ICIJ and well as linking internal similar internal parties.

Key Features

Investigation Toolkit includes the following key features:

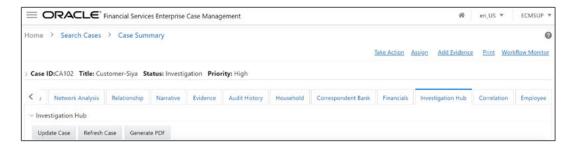
- Pre-built notebooks for case investigation and special investigation
- Configurable red flags and risk factors to highlight key areas for investigation
- Case summary in narrative format and case recommendation
- Exploration of the financial crimes global-graph using an interactive and visual Graph Explorer tool
- Integrates fully with FCDM (data can be loaded directly from Behavior Detection (AML) or ECM instance) and ICIJ data sources. It can be enhanced to support other data sources such as watchlist and company hierarchy data
- Built on OFS Compliance Studio, which includes a highly scalable in-memory Oracle Graph Analytics Engine (PGX), AI, and machine learning
- Integrated with Quantifind API for additional information on case entities



1.1 Investigation Toolkit UI

The following is an image of the Investigation Toolkit screen.

Figure 1-1 Investigation Toolkit UI





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Access the Investigation Toolkit Notebook

Users can select cases from the case list page and then access Investigation Toolkit for the case in ECM.

To access the Investigation Toolkit tab from ECM, follow these steps:

- 1. Log in to the OFS ECM application.
- 2. Search for a case.
- Click the desired Case ID.
- 4. Go to the Investigation Toolkit tab.

The Notebook with Case ID will open, and the user can start the investigation.



- Based on the user role mapping, the notebook will be opened.
- The Investigation Toolkit tab is enabled for the AML Case Type.

Investigation Process Flow Using Investigation Toolkit Notebooks

The investigation process flow is based on the Investigation Toolkit notebooks.

This section describes the investigation process flow based on the following Investigation Toolkit notebooks.



The investigation process flow depends on the notebook mapped for the investigator's role and case type.

- Process Workflow Based on ECM Integration L1 Notebook
- Process Workflow Based on ECM Case Narrative Notebook
- Process Workflow Based on Special Investigation Notebook
- Process Workflow Based on Investigation Flow Template

3.1 Process Flow Based on ECM Integration L1 Notebook

As soon as a case is investigated, the case ID is populated, and the paragraphs are triggered for auto-execution.

To investigate ECM Integration L1 notebook, follow these steps:



For more information about each paragraph in the L1 notebook, see the ECM Integration L1 Notebook section.

1. To re-run the investigation, execute the Case Details paragraph. It will automatically execute all other dependency paragraphs (Search for Non-Case Entities, Initial Screening Results, Entity Summary Risk Report, All Transactions for Focal Entities, Graph Result of the Entity Search) until the graph is visible. The user can investigate the results of all dependent paragraphs if they do not have any other entities to search.

Figure 3-1 Case Details

Case Details



- Enter required details in the Search for Non-Case Entities paragraph and execute to search for any additional entity.
- 3. The Initial Screening Results paragraph will show the details of matched entities (case and searched entities). Re-execute to update configurations like "Top Critical Matches", "No. of pre-hops to load", and so on.
- 4. The Entity Summary Risk Report paragraph will show the summary of focal entities related to the case. To get a summary of additional entities, enter comma-separated entity id and re-execute the paragraph.
- 5. The All Transactions for Focal Entity(s) paragraph shows the transaction related to the Case's focal entity. Users can visualize the result in multiple charts to analyze it. To update the minimum and maximum amount, update the values and re-execute the paragraph.
- The Graph Result of the Entity Search paragraph displays the case and additional entities graph till configured number of hops.

The graph on the screen is referred to as a visible graph. Users can manipulate the graph by expanding any high-risk entities or parties on unusual transactions to better understand the context and associated risk.



After updating any input in the paragraph, execute/re-execute the paragraph and execute the paragraphs listed in Step 7.

- Users can execute all the following paragraphs to get a better understanding during the investigation.
 - Reference Data Sources
 - Countries
 - Risk Factors
 - Red Flags
 - All Transactions in Visible Graph
 - Network Disposition Score
 - Network Disposition Score Breakdown

Note:

Re-execute the **Reference Data Sources** paragraph to update the results of these paragraphs after changes in the visible graph in the **Graph Result of the Entity Search** paragraph.

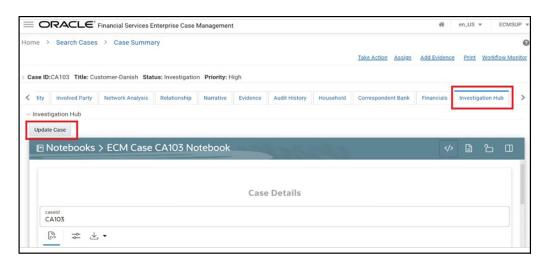


You can add entries that are not linked to the case from graph by updating a case.

To update a case:

- a. Navigate to the Investigation Toolkit tab in a case.
- Add entities by expanding any entity or delete entities by dropping from the visible graph.
- c. Click **Update Case** to add the account, customer, transaction, and external entities.

Figure 3-2 Updating a Case



Note:

On updating a case, all the customers, accounts, derived entities, and transactions that are part of the visible graph and are not already part of the case are added to the case.

3.2 Process Workflow Based on ECM Case Narrative Notebook

As soon as a case is investigated, the case ID is populated, and the following paragraphs are triggered for auto-execution.

To investigate ECM Case Narrative notebook, follow these steps:

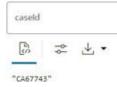
Note:

For more information about each paragraph in the Case Narrative notebook, see the ECM Case Narrative Notebook section.

- Execute the Case Details paragraph. It will automatically execute the Entity Summary Risk Report paragraph.
- Entity Summary Risk Report paragraph will show the summary of focal entities related to the case. To get a summary of additional entities, enter comma-separated entity ID and reexecute the paragraph.

Figure 3-3 Case Details

Case Details



3.3 Process Workflow Based on Special Investigation Notebook

To investigate using a Special Investigation notebook, follow these steps:



For more information about each paragraph in the SI notebook, see the Special Investigation (SI) Notebook section.

- Execute the Click to Start Investigation paragraph.
- 2. Enter required details to investigate in the Input Search Results paragraph and execute it.
- The Initial Screening Results paragraph will show the detail of matched entities. Reexecute to update configurations like "Top Critical Matches", "No. of pre-hops to load", and so on.
- 4. The Entity Summary Risk Report paragraph is used to get summary of searched entity enter comma-separated entity ID and re-execute the paragraph.
- 5. The **Transaction Analysis** paragraph shows the transaction related to searched entities. Users can visualize the result in multiple charts to analyze it. To update the minimum and maximum amount, update the values and re-execute the paragraph.
- 6. The **Graph Result of the Entity Search** displays the searched entities graph till configured no. of hops. The graph on the screen is referred to as visible graph.

Users can then manipulate the graph by expanding any high-risk entities or parties on unusual transactions to better understanding of the context and associated risk.



After updating any input in the paragraph, execute/re-execute the paragraph and execute all the below paragraphs.

- Users can execute all the following paragraphs to get a better understanding which helps for investigation.
 - Reference Data Sources
 - Countries
 - Risk Factors
 - Red Flags
 - All Transactions in Visible Graph



- Network Disposition Score
- Network Disposition Score Breakdown
- Recommendation



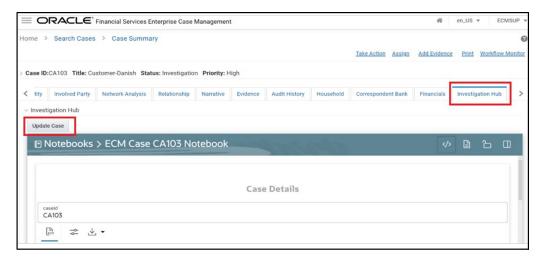
Re-execute the **Reference Data Sources** paragraph to update the results of these paragraphs after changes in visible graph in the **Graph Result of the Entity Search** paragraph.

You can add entries that are not linked to the case from graph by updating a case.

To update a case:

- a. Navigate to the Investigation Toolkit tab in a case.
- Add entities by expanding any entity or delete entities by dropping from the visible graph.
- c. Click **Update Case** to add the account, customer, transaction, and external entities.

Figure 3-4 Updating a Case



Note:

On updating a case, all the customers, accounts, derived entities, and transactions that are part of the visible graph and are not already part of the case are added to the case.

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3.4 Process Flow Based on Investigation Flow Notebook

To investigate using an Investigation Flow Notebook, follow these steps:

Note:

For more information about each paragraph in the Investigation Flow notebook, see the Investigation Flow Notebook section.

- Execute the Investigation Flow Notebook paragraph.
- 2. Enter the case ID in the Case Details paragraph and execute it.
- 3. The **Case Information** paragraph displays the case details.
- 4. Enter the number of events in the **Entities per page** field that you want to see on the **Event Summary** paragraph and execute it.
- 5. Enter your remarks about the event and execute the **Event Remarks** paragraph.
- Enter the number of entities you want to view in the Entities per page field on the Entity Summary paragraph and execute it.
 - The **Customer Entity**, **Account Entity**, and **External Entity** sections are populated with the details. Expand an entry to view the details.
- In the Entity type selection for update paragraph, Select Entity Provider from the dropdown list.
- Select the required entity from the Select entity id(s) to add/update the value(s) dropdown menu and the action required from the Select action drop-dow menu in the Entity selection for update and execute it.
- To override an entity values, enter the entity details in the Entity Override/Reset paragraph and execute it.
- 10. Enter the entity remarks in the Entity User Remarks and execute the paragraph.
- 11. Enter the number of entries you want to view in the section in the **Entities per page** in the **Risk Factors** paragraph and execute it.
- **12.** Enter the number of entries you want to view in the section in the **Prior Case Information** paragraph and execute it.
- 13. Enter you remark for the prior case in the **Prior Case Remark** paragraph and execute it.
- 14. Select the transaction aggregation attributes and use slider to set the number of transaction to be displayed in the Consolidated Transactions paragraph and execute it.
- 15. Select the required filter to filter the transaction in the Transaction Filters paragraph and execute it.
- **16.** To view the transactions of the case execute the **Raw Transactions** paragraph.
- Enter your remarks for the transaction in the Transactions Remark paragraph and execute it.
- **18.** Select the trends from the **Select flag(s) for possible transaction trends** drop-down menu in the **Transaction Trend** paragraph and execute it.
- 19. Provide a justification for the transaction trend selected in the Transaction trend justification field and execute the Transaction Trend Justification paragraph.
- 20. View the relationship between entities in the Case Graph paragraph.
- 21. To assign the case to a category, select a category from the Select flag(s) for possible case category drop-down menu in the Case Categorization paragraph and execute it.



- 22. Provide a justification for the categorization of the case in the **Case categorization** justification field in the **Case Categorization Justification** paragraph and execute it.
- 23. Provide additional comments for the case in the **Additional comments** field and execute the **Additional Comments** paragraph.
- 24. Provide your conclusion for the case in the **Conclusion** field and execute the **Conclusion** paragraph.
- 25. View any restricted words used in the remarks provided earlier for the events and to rerun the checks execute the **Restricted Word Usage** paragraph.
- **26.** The **Summary** paragraph shows the summary of the case and the events associated with the case.
- **27.** To synchronize the narrative execute the **Narrative Sync** paragraph.



4

Common Features

This topic describes common feature in the Investigation Toolkit notebooks.

4.1 Managing the Notebooks

A notebook acts as a frame for Paragraphs.

The following sections describe the features and tasks common across notebooks:

- Common Screen Elements in Notebooks
- Exporting a Notebook
- Invalidating Session
- Deleting a Notebook

Common Screen Elements in Notebooks

The following table describes the common screen elements in a notebook that can be used to perform various actions on a notebook.



Some icons may not be visible as the visibility is controlled based on configurable parameters.

Table 4-1 Common Screen Elements in Notebooks

Button	Icon	Action/Description
Modify Notebook	C	Click this button to modify the details of a notebook such as name, description, and/or tags.
Hide Code	>	Click this button to hide or show the Code Section in all the paragraphs in a notebook.
Show Result		Click this button to hide or show the Results Section in all the paragraphs in a Notebook.
Read Only	a	Click this button to set the notebook to Read-only mode. NOTE: The notebook is protected from edit, clear result, delete, reset session, run paragraphs, and share in Read-only mode.

Table 4-1 (Cont.) Common Screen Elements in Notebooks

Button	Icon	Action/Description
Write	A	Click this button to set the notebook to Write mode.
Show Panel		Click this button to show or hide the Paragraph Settings Bar Commands, Results Toolbar, and Settings Dialog for a selected paragraph in a panel to the right of the notebook.
Run Paragraphs	D	Click this button to execute all the paragraphs in a notebook in sequential order. For more information, see Run All Notebook Paragraphs. You can view the results in various formats. For more information, see Managing the Results.
Invalidate Session	8	Click this button to reset any connection or code executed in a notebook.
Delete Notebook	Û	Click this button to delete a notebook.
Clear Result		Click this button to clear results for all the paragraphs in a notebook. Warning: This action clears all the results. You must run the paragraphs again to view the results.
Clear Paragraph Dependencies	25	Click this button to remove all defined paragraph dependencies.
Open as Embedded Window	2	Click this button to open a notebook in Embedded window. This allows a notebook to be embedded inside another webpage.
Share Notebook	&	Click this button to share a notebook with another user, user group, or role.
Clone Notebook	C)	Click this button to create a copy of a notebook. All paragraphs in the current notebook are replicated in the new notebook. The cloned notebook is created with the default name, Copy of <current name="" notebook="">.</current>



Table 4-1 (Cont.) Common Screen Elements in Notebooks

Button	Icon	Action/Description
Export Notebooks	C.	Click this button to export a notebook to your computer as a DNSB file.
Print Notebook	6	Click this button to print a notebook in the PDF format and save it in your local machine.
Layout	Zeppelin 💢	Click this button to set the preferred layout, Zeppelin, or Jupyter.
Default Template	Default 🗐	Click this button to apply the overall look and feel of the notebook using the default template.
Default View	Default ⊞	Click this button to switch between Default, Simple, and Report views.
Versioning	Versioning (C)	You can use this option to create versions for your notebook, which helps you analyze the changes based on the version control.
Attach Credentials	0	You can use this option to attach credentials (a wallet and a password) to the notebook to enable secure data access.

4.1.1 Exporting a Notebook

The Export notebook feature enables you to export notebooks available in OFS Investigation Toolkit to your local machine.

Notebooks are exported in the OFS Investigation Toolkit Notebook (*.dsnb) file format, which can be saved and shared.

Exporting a Notebook to PDF

Users can export individual notebooks into a pdf format. To export individual Notebooks, follow these steps:

- 1. Click the Notebook that you want to export. The selected Notebook is opened.
- 2. Run Export to PDF paragraph.
- 3. Click on Export to PDF. The Notebook is downloaded to your local machine in.pdf format.

4.1.2 Invalidating Session

You can invalidate the session to reset the notebook session.

To invalidate session, follow these steps:

Open the notebook.

2. Click Invalidate Session . This will invalidate/reset the session.

4.1.3 Deleting a Notebook

You can delete a notebook.

To delete the notebook, follow these steps:

- Open the notebook.
- 2. Click **Delete**. The Delete notebook? confirmation dialog box is displayed.
- 3. Click Confirm. The selected notebook will be deleted.

4.2 Managing Paragraphs

A paragraph is a piece of code that can be executed to obtain the result.

In OFS Investigation Toolkit, paragraphs offer a workbench to author code or a query using various interpreter-friendly scripting languages supported in OFS Investigation Toolkit.

The following sections describe the features and tasks common across paragraphs:

- Common Screen Elements in Paragraphs
- Paragraph Dependencies
- Run All Notebook Paragraphs

Common Screen Elements in Paragraphs

The following table describes the elements in the Paragraph Settings Bar that can be used to perform various actions on individual paragraphs in a notebook.

Table 4-2 Elements in Paragraph Settings Bar

Button	Icon	Action/Description
Run Paragraph	D	Click this button to execute the code or query in a paragraph. After execution, you can view the result in various formats. For more information, see Managing the Results.
Enter Dependency Mode	ιħ	Click this button to add or remove dependent paragraphs. Paragraphs with dependent paragraphs are executed in the dependency order. For more information, see Paragraph Dependencies.
Comments	Þ	Click this button to add comments to a paragraph.
Expand	⊌ ⁷	Click this button to expand a paragraph and view the paragraph in full-screen mode.



Table 4-2 (Cont.) Elements in Paragraph Settings Bar

Button	Icon	Action/Description
Show/Hide Line Numbers	1= 2=	Click this button to show or hide line numbers in the code in a paragraph. NOTE: This button is applicable only to the code section.
Visibility	•	Click this button to manage the visibility settings in a paragraph. It controls how a paragraph may be viewed by the author and other users who have access to the notebook.
Settings	\$ →	Click this button to perform the following actions: Resize the width of a paragraph. Change the order of placement of the paragraphs by moving them up or down. Clear the paragraph result. Open the notebook in Embedded window. Clone the paragraph. Delete a paragraph.

4.2.1 Paragraph Dependencies

The Paragraph Dependencies feature allows you to add dependencies between paragraphs.

The dependents of a paragraph are automatically executed after the original paragraph itself or any graph manipulation on the original paragraph is executed.

To create paragraph dependencies, follow these steps:

- 1. Click the **Dependency** icon in the Paragraph Settings Bar of a paragraph. The Dependency Mode window is displayed.
- 2. Select or deselect paragraphs to add or remove them as dependents.

The order in which the paragraphs are selected appears as a number over the selected paragraphs. The number indicates the order in which the dependent paragraphs will be executed.

3. Click Save.

The changes are saved. Every time a paragraph is executed or graph actions are applied, its dependent paragraphs will be executed automatically.

4.2.2 Run All Notebook Paragraphs

A paragraph is a piece of code that can be executed to obtain the result. Notebook execution includes the execution of all paragraphs.

To run all the paragraphs in a notebook, follow these steps:

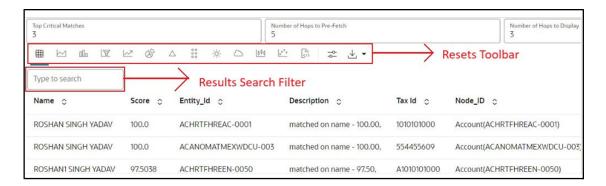
Click Run Paragraphs in the Notebook Toolbar.



All the paragraphs will execute in order from top to bottom. If a paragraph was deleted during the Run Paragraphs job execution, it is ignored and paragraph execution continues for the rest of the paragraphs.

4.3 Managing Results

After executing a paragraph, the result is displayed in the Results section.



The following sections describe the features of the Paragraph Results section:

- Results Formats
- · Results Search Filter
- Data Visualization
- · Customizing Result Settings

Results Formats

The following table describes the various result formats supported in OFS Investigation Toolkit.

Table 4-3 Result Formats in Studio

Chart	Icon	Action/Description
Table Chart	#	Click this button to view results in tabular format.
Area Chart		Click this button to view results in the area chart format.
Bar Chart	Ша	Click this button to view the results in bar chart format.
Funnel Chart	A	Click this button to view the results in the funnel chart format.
Line Chart	<u>~</u>	Click this button to view the results in line chart format.
Pie Chart	&	Click this button to view the results in pie chart format.



Table 4-3 (Cont.) Result Formats in Studio

Chart	Icon	Action/Description
Pyramid Chart	Δ	Click this button to view the results in pyramid chart format.
TreeMap Chart	00	Click this button to view the results in tree map format.
Sunburst Chart	*	Click this button to view the results in sunburst chart format.
Tag Cloud Chart	۵	Click this button to view the results in tag cloud chart format.
Box Plot Chart	[000	Click this button to view the results in the plot chart format.
Text	(C)	Click this button to view the results in text format.
Settings	⇒	Click this button to customize the results based on the selected format. Enter the required values for the General, Visualization, and Text settings.
Download As	. ✓	Click this button to download the result in the following format: Raw: Available for all formats. SVG Format: Available for Graph and Visualization formats.

Results Search Filter

The Results Search Filter is available only in Table Format. This feature instantly searches for an entered value in the results.

4.3.1 Data Visualization

In OFS Investigation Toolkit, data visualization provides insight into transactions.

You can view the transactions in the following formats:

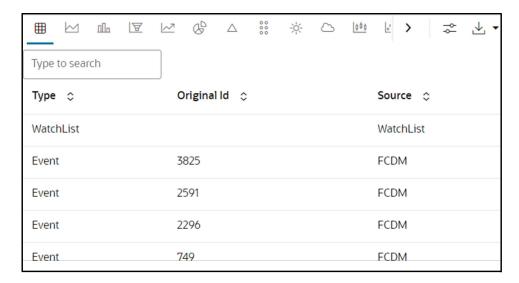
- Table
- Area Chart
- Bar Chart
- Funnel Chart
- Line Chart
- Pie Chart



- Pyramid Chart
- Treemap Diagram
- Sunburst Diagram
- Tag Cloud
- Box Plot
- Scatter Plot
- Map Visualizer
- Text

Table

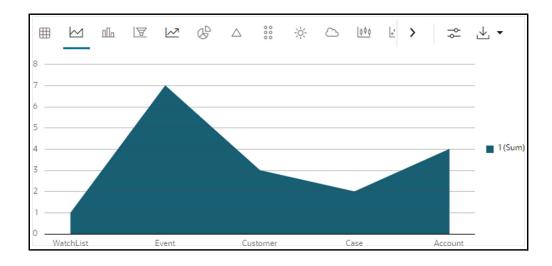
OFS Investigation Toolkit allows you to visualize your data in the form of a Table Diagram. The table can be sorted by column in ascending or descending order. Additionally, the table can be filtered for a specific search term. Rows that do not contain this term are hidden from view and the remaining rows highlight the location of the search term within the row.



Area Chart

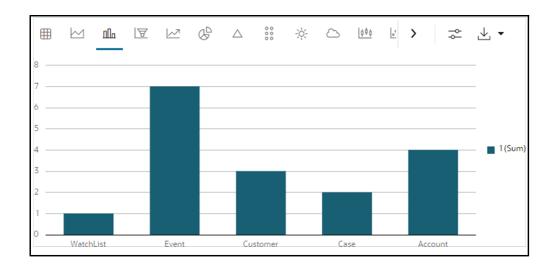
OFS Investigation Toolkit allows you to visualize your data in the form of an Area Chart.





Bar Chart

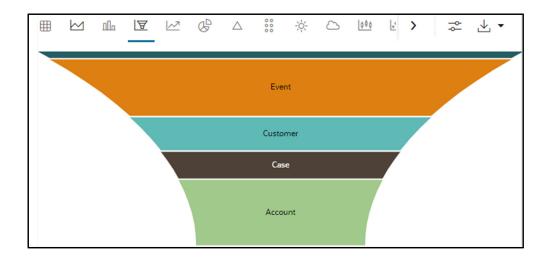
OFS Investigation Toolkit allows you to visualize your data in the form of a Bar Chart.



Funnel Chart

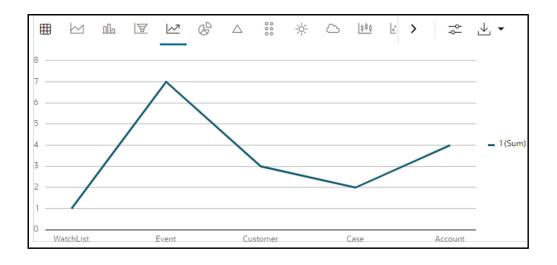
OFS Investigation Toolkit allows you to visualize your data in the form of a Funnel Chart.





Line Chart

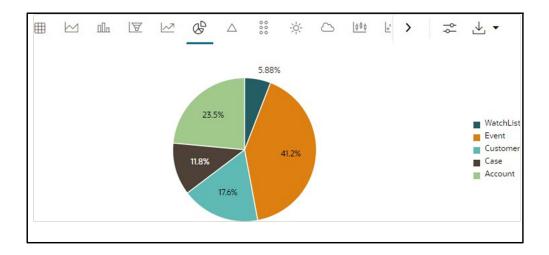
OFS Investigation Toolkit allows you to visualize your data in the form of a Line Chart.



Pie Chart

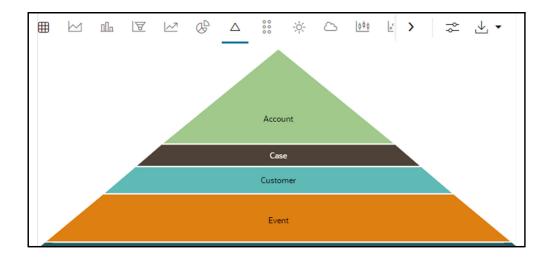
OFS Investigation Toolkit allows you to visualize your data in the form of a Pie Chart.





Pyramid Chart

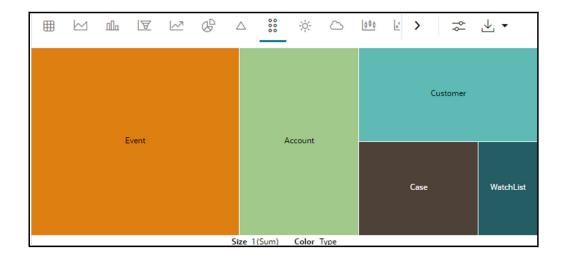
OFS Investigation Toolkit allows you to visualize your data in the form of a Pyramid Chart.



Tree Map Diagram

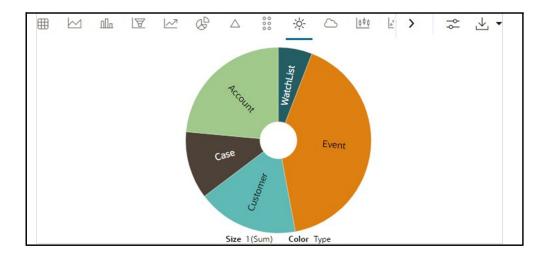
OFS Investigation Toolkit allows you to visualize your data in the form of a Tree Map Diagram.





Sunburst Diagram

OFS Investigation Toolkit allows you to visualize your data in the form of a Sunburst Diagram.



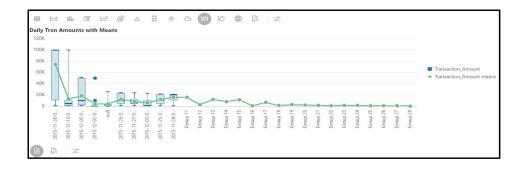
Tag Cloud

OFS Investigation Toolkit allows you to visualize your data in the form of tags. The tag cloud operation is used to identify the spots where there are more flags.

Box Plot

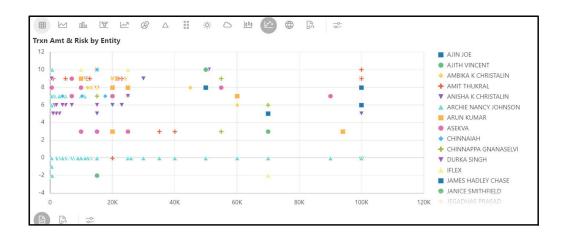
OFS Investigation Toolkit allows you to visualize your data in the form of a Box Plot.





Scatter Plot

OFS Investigation Toolkit allows you to visualize your data in the form of a Scatter Plot.



Map Visualizer

OFS Investigation Toolkit allows you to visualize your data on top of a Map.

4.3.2 Customizing Result Settings

You can configure how results display in notebook paragraphs.

To customize the result format, follow these steps:

- 1. Navigate to the Notebooks page.
- Click the required result format for a paragraph in the Result section and then click Settings. The Settings window is displayed and contains the following category:
 - General
 - Visualization
 - Text
- Select a category and enter the required values for that category. The result is customized as per the entered values.



4.4 Graph Details

This section provides information on the graph details such as the action performed on a graph, nodes in a graph, and so on.

Graph Types

The following graph types are supported in OFS Investigation Toolkit.

- Result Graph: The graph is generated/created with nodes and edges related to Case_id
 or searched entity or both Case_id and searched entity according to the number of hops
 provided in the Number of Hops to Pre-Fetch field in the Initial Screening Results
 paragraph.
- Visible Graph: The graph is visible to the user in the Graph Result of Entity Search
 paragraph result. The visible graph changes as per the user's actions. If the user drops/
 expands a node or edge, the visible graph will be updated with nodes and edges.

Graph Highlights

The default graph template is FCGM template. For more information, see the Managing Template section in the Oracle Financial Services Compliance Studio User Guide. Table 10 describes highlights in the graph as follows:

Table 4-4 Graph Highlights

Button/Icon	Action/Description
	Click this icon to search entity.
	Click this button to view customers.
	Click this icon to view closed events.
	Click this icon to view open events.
	Click this icon to view accounts.
	Click this icon to view open cases.
	Click this icon to view institutions.

4.4.1 Working with Graph Nodes

4.4.1.1 Repositioning Nodes

The Network Graph page allows you to move nodes around the screen, using the drag and drop feature, to reposition them.

To reposition nodes, follow these steps:

- 1. Navigate to the Network Graph in a notebook.
- 2. Select a node to reposition and click it.
- 3. Drag and Drop the node to the required position.



Note:

The graph only uses a specific portion of the browser window to display the graph. Dragging a node beyond a certain point towards the right side of the browser hides the portion of the graph dragged beyond that point. However, you can use the Zoom Out feature on the Graph Toolbar to view the hidden portion again.

4.4.1.2 Collapsing and Expanding Nodes

This option allows you to hide all outgoing links and nodes to which these outgoing links are connected from the node being collapsed. The collapsed node remains on the graph and the node icon changes to indicate that the node is in a collapsed state.

To collapse nodes, follow these steps.

- 1. Navigate to the Network Graph in a notebook.
- Select a node to collapse and right-click the node. An option menu is displayed.
- 3. Select the Collapse option from the menu. The outgoing links are hidden on the page.

Note:

- If any child node has at least one incoming link from any other node, the child node and its child network are not collapsed. But the link from the collapsed node to the child node is hidden and the icon of the collapsed node changes to indicate that the node is in a collapsed state.
- On the Node menu of a collapsed node, the Collapse option changes to Expand. If the user collapses a node but has no impact on the graph (that is, if no part of the graph is hidden), the Node menu remains unchanged. There is no restriction on how many nodes can be collapsed on a graph.

To expand the node, select **Expand** from the menu. The outgoing links are then restored on the page.

Note:

The Collapse option does not appear for outer nodes. Outer nodes are nodes that do not have any outgoing links.

4.4.1.3 Viewing the Node Details

This section allows you to view the current information associated with the selected node.

To view the node details, follow these steps:

- Navigate to the Network Graph in a notebook.
- Select a node and right-click. An option menu is displayed. The Node Details window is displayed with the current information associated with the selected node. This includes the Properties and Risk details of the node.

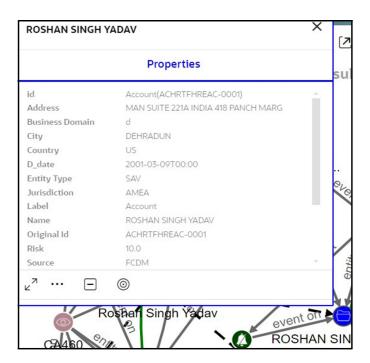


4.4.1.4 Deleting a Node

You can drop a node to from a network graph view the result on On-screen data.

To delete a node, follow these steps:

- Navigate to the Network Graph in a notebook.
- Right- click on any node as shown in the following figure and click Drop Delete selected vertices.



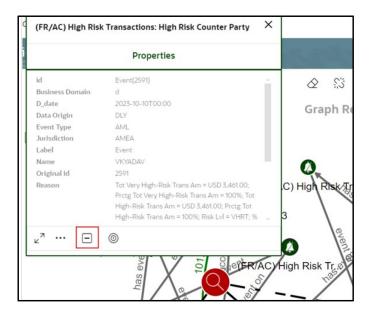
4.4.1.5 Removing an Edge

You can remove and edge from a network graph to view the result on On-screen data.

To remove an edge, follow these steps:

- 1. Navigate to the Network Graph in a notebook.
- 2. Right- click on any edge and click **Drop Delete** selected vertices.





4.4.1.6 Hiding an Edge

You can hide an edge from a network graph to view the result on On-screen data.

To hide an edge, follow these steps:

- 1. Navigate to the Network Graph in a notebook.
- Click on any edge. The edge highlights is enable. Click on the same edge to disable.For example
 - Enabled

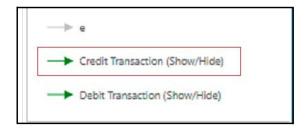


Disabled



In addition, you can perform Show/Hide for the Transactions in the same way.

Show



Hide





ECM Investigation Toolkit Messages

This section shows the expected messages in ECM while using Investigation Toolkit Tab.

5.1 User Access

Users have two types of access:

- Read-only Access: Where the user can open the case notebook in view-only mode and they cannot perform any operation on the notebooks.
- **Executable Access:** Where the user can open the case notebook and perform various operations on the notebooks.

Read-only and Execute Access

Read-only access depends on M_LOCK and READ_ONLY_FLAG parameters.

Table 5-1 Read-only and Execute Access

READ_ONLY_FLAG	M_LOCK	CASE_STATUS	ACCESS_TYPE
Υ	-	-	READ
N	Υ	-	READ
N	N	READ_ONLY case status	READ
N	N	NOT READ_ONLY case status	EXECUTE

Case Status: This f_get_cs_ih_case_status function is used to decide whether the user should have read-only or execute access. This function also can be customized to add additional conditions

5.2 Messages based on User Access Validation

List of different messages for validations.

Read-only Mode

Read-only User

If there is an entry in the KDD_REVIEW_OWNER_CSETYP_RDONLY table, then user will only be able to see the notebook in view only mode and restricting the user to make any changes in the notebook. ("OWNER_SEQ_ID" can be found in the KDD_REVIEW_OWNER table.

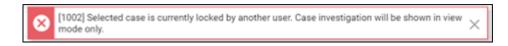
Figure 5-1 Message for Read-only User



Case Locked by Another User

When the notebook is already locked/opened by one user and another user wants to open the same notebook, the second user will only be able to see the notebook in view mode only.

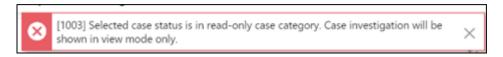
Figure 5-2 Message for View Mode



Case Status in Read-only Type

For a case ID, the value of case status is "Closed", then the user will only be able to see the notebook in view mode only and users cannot make any changes in the notebook.

Figure 5-3 Message when Case Status is Closed



Execute Mode

If users having execute access, then no error messages will be displayed.

Investigation Toolkit Tab

Open a New Case

Scenario:

- User: EXECUTE
- Condition: When the Investigation Toolkit tab is opened for first time.

Figure 5-4 Message for First time Case Investigation



Re-open the Case After Some Time

Scenario for Same User:



- User: EXECUTE
- Condition: When the Investigation Toolkit tab is re-opened after some time by the same user.

Figure 5-5 Message when Re-opened the Case by Same User



Scenario for Another User:

- User: EXECUTE
- Condition: When the Investigation Toolkit tab is re-opened after some time by another user.
- Explanation: The session is invalidated to initialize PGX session.

Figure 5-6 Message when Re-opened the Case by Another User

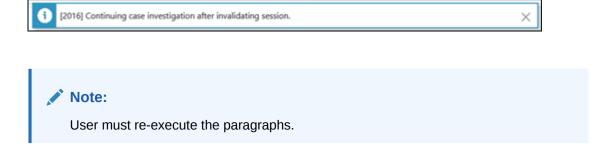


Re-open the Case After Some Day

Scenario:

- User: EXECUTE
- Condition: When the Investigation Toolkit tab is re-opened after some day.
- Explanation: The session is invalidated and case id will be reinitialized as the session will be in invalid mode.

Figure 5-7 Message when Re-open the case After Some Day



Validation Check for SSO_Token



- User: EXECUTE
- Condition: When SSO_Token is invalid or provided the wrong value.
- Explanation: The session will verify token for authorization when a new case or existing case is opened.

Figure 5-8 Message when SSO Token is Invalid



Common Messages when a Case is Opened While the Case is Locked/Read only by Another User

ECM case screen displays the below message on selection of the case.

Figure 5-9 Message when Case is Locked by Another User





On Investigation Toolkit Tab, access control displays below message (as described above).

Figure 5-10 Message when Case is Locked by Another User



OR

Figure 5-11 Message when Case is Locked by Another User



Other messages will be displayed based on other conditions.

Case Investigation in View Only Mode

Scenario:

- User: READ / LOCK
- Condition: When Investigation Toolkit tab is opened and another user was working on the case investigation earlier in the Investigation Toolkit.
- Explanation: Current case investigation is displayed in view only mode.

Figure 5-12 Message When Case is Locked by Another User



Case Investigation in View Only Mode but Case is yet to be Investigated in Investigation Toolkit

Scenario:

- User: READ / LOCK
- Condition: When Investigation Toolkit tab is opened but another user has not worked on the case investigation earlier in Investigation Toolkit.
- Explanation: Since the notebook was not created for this case, Investigation Toolkit can neither have anything to display nor allow user to start the new investigation.
- Steps:
 - There should not be any template cloned for the user (If accidentally the Case id and notebook id mapping has removed from fcc cm caseid nb mapping table).
 - The user should have only read only access to the case.

Figure 5-13 Message for Case Investigation is Yet to Started



Case Investigation in View Only Mode but Case is yet to be Investigated in Investigation Toolkit

- User: READ / LOCK
- Condition: When Investigation Toolkit tab is opened but another user has not worked on the case investigation earlier in Investigation Toolkit.
- Explanation: Since the notebook was not created for this case, Investigation Toolkit neither has anything to display nor allow user to start new investigation.

Figure 5-14 Message when Case Investigation is Missing



Template Change

Scenario:

User: EXECUTE

Condition: Template change

Figure 5-15 Message when Template has Changed



- Steps:
 - Change the template notebook id in these fcc_cm_ctype_nb_mapping and fcc_cm_nb_groups tables:

Scenario:

- User: READ / LOCK
- Condition:
 - Template change
 - Case is not opened after template change
- Explanation:
 - Steps:
 - * In Execute mode Open Investigation Toolkit tab and make the case as read only. Change the template notebook id in these fcc_cm_ctype_nb_mapping and fcc_cm_nb_groups tables.
 - * Open the same case in Read-only mode.

Figure 5-16 Message when Template has Changed and need Permission to Create Investigation



Configuration Issue for Missing Template ID Mapping

- User: EXECUTE
- Condition: Either the template id is not mapped or user do not have permission for this template id.
- Explanation: On such identification, Investigation Toolkit will not show any screens
 - Steps:
 - * In ECM Atomic schema, provide null for V_CASE_SUB_TYPE column in the FCC_CM_CTYPE_NB_MAPPING table.
 - * If wrong template ID for groups has updated in the fcc_cm_nb_groups table and case is in Executable state.



Figure 5-17 Message when Template ID is Missing



- User: READ / LOCK
- Condition:
 - Missing template id mapping or removed user group for that template id.
 - The case is already investigated in Investigation Toolkit.

Figure 5-18 Message when Investigation Template is Missing



Missing Case Notebook in Data Studio

Scenario:

- User: EXECUTE
- Condition: Previous case specific notebook is missing in Data Studio. It may be an accidental mistake by an admin user / the system.
- Explanation: On such identification, new case investigation will be started based on the current template.
 - Steps:
 - * Investigation in progress a point of time
 - * Notebook should be in Execute state
 - * Accidentally the cloned notebook has deleted from the Data Studio

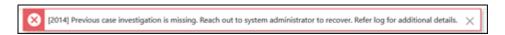
Figure 5-19 Message when Previous Case Investigation is Missing



- User: READ / LOCK
- Condition: The case was investigated in Investigation Toolkit but the notebook is missing in the Data Studio. It may be an accidental mistake by an admin user/system.
- Explanation:
 - Steps:
 - Investigation in progress a point of time/then read only Case
 - Accidentally the cloned notebook has deleted from the Data Studio



Figure 5-20 Message when Previous Case Investigation is Missing



Configuration Issue for Invalid Template ID

Scenario:

- User: EXECUTE
- Condition: Either wrong template id or the template notebook is missing
- Explanation: On such identification, new case investigation will be started based on the current template.
 - Steps:
 - * When provided an invalid template ID in these FCC_CM_NB_GROUPS and FCC CM CTYPE NB MAPPING tables
 - * Open a new case/closed case

Figure 5-21 Message when Case Investigation Template is Missing



If a closed case is re-opened with an invalid template Id, the below error will be displayed.

Figure 5-22 Message when Previous Case Investigation and Investigation Template is Missing



- User: READ / LOCK
- Condition: The case was investigated in Investigation Toolkit but the notebook is missing in the Data Studio. It may be an accidental mistake by an admin user / system.
- Explanation:
 - Steps:
 - Make the case as Read-only.
 - * When provided an invalid template ID in these FCC_CM_NB_GROUPS and FCC_CM_CTYPE_NB_MAPPING tables
 - Open a new case

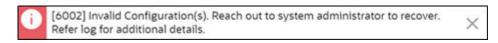


Figure 5-23 Message when Case Investigation is not yet Started and it requires Permission



- User: EXECUTE
- Condition: When any of the configurations are missed or provided an invalid value
- Explanation: The session verifies the configurations before loading the Investigation Toolkit tab

Figure 5-24 Message when Configured Invalid Configuration



Scenario:

- In case of error while opening the Investigation Toolkit tab, the error will be additionally displayed in the center of the screen.
- Whenever there is any error message, the same message will be displayed in center of the Notebook.

Figure 5-25 Error Message Displaying



5.3 Re-Initialize Case

This button is enabled for user having the execute permission.

On successful re-initialize, the following message will be displayed.

Figure 5-26 Message for Re-initialing the Case



- Condition: No Paragraph(s) is/are under Execution.
- Explanation: Since no tasks are under execution, then notebook will be re-initialized.

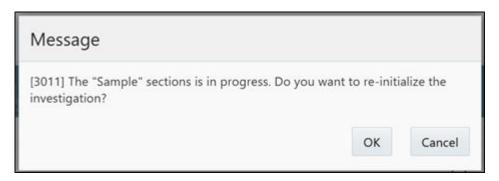
Figure 5-27 Message when Re-initialing the Case



Scenario:

- Condition: Only one paragraph is under execution.
- Explanation: If there is a paragraph under execution, ECM will display the confirmation dialog box to re-initialize the investigation.

Figure 5-28 Message when one Paragraph is Executed



Scenario:

- Condition: When user click Re-Initialize Case and then click OK in the Confirmation dialog box to re-initialize the case.
- Explanation: Once the user confirms, it will invalidate the session and execute the procedures and then run the notebook.

Figure 5-29 Message for Re-Initialize Case





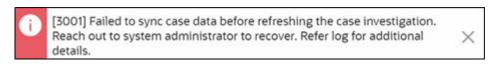
- Condition: If users click Cancel to re-execute.
- Explanation: ECM will continue to complete the queued task.

Figure 5-30 Message when Re-Initialize Case Cancelled



- Condition: When REFRESH_CASE_PRE_PROC fails
- Explanation: If users click Re-initialize Case, the REFRESH_CASE_PRE_PROC will be executed and it shows the error when execution fails

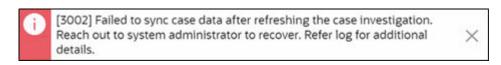
Figure 5-31 Message for Refreshing Case



Scenario:

- Condition: When REFRESH_CASE_POST_PROC fails
- Explanation: If users click Re-initialize Case, the REFRESH_CASE_POST_PROC will be executed and it shows the error when execution fails

Figure 5-32 Message for Refreshing Case



5.4 PDF Generation

Successful message is shown below.

Figure 5-33 Success Message for File Upload



A

About Investigation Toolkit Notebooks

Users can access the ECM Integration L1, Special Investigation (SI), ECM Case Narrative, and Investigation Flow notebooks in the Investigation Toolkit application.

A.1 ECM Integration L1 Notebook

This notebook enables Level 1 case Investigators to access additional rich information about a case such as a case summary, a detailed narrative about case entities, a graph view of a case, and so on. Allows the investigator to explore a case, including graphs, risk factors, and red flags.



Administrators can disable graph-based analysis. If disabled, the user will get the result till the **Entity Summary Risk Report** paragraph. For more information on configuration changes, see the Oracle Financial Services Investigation Toolkit Administration and Configuration Guide.

You can take the following actions using paragraphs in the ECM_Integration_L1 notebook:

- View Case Details
- Start the Investigation
- Search for Non-Case Entities
- View the Initial Screening Results
- View the Entity Summary Risk Report
- View the All Transactions for Focal Entity(s)
- View All Transactions in Visible Graph
- View the Case Graph (and Searched Entities)
- View the Reference Data Sources
- View the Countries
- View the Risk Factors
- View the Red Flags
- View the Network Disposition Score
- View the Network Disposition Score Breakdown
- Export Investigation Details to PDF

A.1.1 View Case Details

The View Case Details paragraph contains the Case ID where an investigator can investigate.

This Case ID will be populated automatically when a notebook is opened from a case.

Figure A-1 Case Details Paragraph

Case Details



A.1.2 Start the Investigation

The Start Investigation paragraph should be executed to initialize the investigation process and configurations.

By default, it initializes the investigation process, configurations and displays the Initialization successful message.

To execute the paragraph, follow these steps:

- 1. Navigate to the notebook that is assigned for a particular user role.
- 2. Execute **Click to Start Investigation**paragraph to start the investigation process.

The initialization successful message is displayed.

Figure A-2 Start Investigation Paragraph



A.1.3 Search for Non-Case Entities

Execute the Search for Non-Case Entities paragraph to search additional entities based on "Tax ID", "Name", "Address", and "Date" to consider them as part of the investigation of the case.

To search the non-case entities, follow these steps:

1. Navigate to the Search for Non-Case Entities paragraph.

Figure A-3 Search for Non-Case Entities Paragraph





2. Enter the search criteria in the Search for Non-Case Entities paragraph as described in the following table.

Table A-1 Search for Non-Case Entities Paragraph Details

Field	Description
Tax ID	Tax ID of the entity that needs to be searched. (For example, customer's tax ID). You must enter the complete Tax ID to get the exact search result.
Name	Name of the entity that needs to be searched. This filters name of the entity that matches the search criteria.
Address	Address of the entity that needs to be searched. This filters address of the entity that matches the search criteria.
Date	 Filters entities based on the following conditions: Customer's add date Account open date Derived Entity's last activity date
Use Date	Allows users to enable or disable the Date field. To use the Date field for search, select the Use Date? check box. By default, it is deselected.
Empty the Existing Entities List	Removes the already searched records and adds only new records to search. To remove old searched records, select the Empty the existing entities list? check box. By default, it is deselected.
Minimum Match Score Cutoff in %	Users can set the cutoff value to define the matching criteria. The records that match (equivalent or more than) the configured cutoff score value will be displayed in the search results with the score. NOTE: The Default value is 50% and Maximum value is 100%.
Target search entities (selected targets are used for "Name" and "Address" matching)	If user searches using a Name or Address, Target entities to search should be selected for searching only in those target entities. For example: Searching for Name of Customer then target entity Customer, and Account can be selected. NOTE: Searching for Name/Address at least one target entity should be selected.

Note:

- Users can add combinations of four fields (Tax_id, Name, Address, and Date).
- Users can add multiple records to search.

A.1.4 View the Initial Screening Results

The View Initial Screening paragraph allows you to define the conditions based on which the initial screening results are filtered and fetched. Result will be table of top critical matches generated from search results.

The following table describes the conditions to be defined based on which initial screening results are displayed.

Table A-2 Initial Screening Results

Field	Description
Top Critical Matches	The value to decide how many matches you want to view in the search result output for each search condition. NOTE: The default value is 3.
Number of Hops to Pre-Fetch	The number of hops that the search result graph can be expanded. NOTE: The default value is 5.
Number of Hops to Display	The number to decide how many hops must be displayed in the search result graph. NOTE: The default value is 3.

Figure A-4 Initial Screening Results Paragraph



A.1.4.1 Search for Input Results

Execute the Search for Input Results paragraph to search additional entities based on "Tax ID", "Name", "Address", and "Date" to consider them as part of the investigation of the case.

To search the input results, follow these steps:

- 1. Navigate to the Search for Input Results paragraph.
- 2. Enter the search criteria in the Input Results paragraph as described in the following table.



Table A-3 Search for Input Results Paragraph Details

Field	Description
Tax ID	Tax ID of the entity that needs to be searched. (For example, customer's tax ID). You must enter the complete Tax ID to get the exact search result.
Name	Name of the entity that needs to be searched. This filters name of the entity that matches the search criteria.
Address	Address of the entity that needs to be searched. This filters address of the entity that matches the search criteria.
Date	Filters entities based on the following conditions: Customer's add date Account open date Derived Entity's last activity date
Use Date	Allows users to enable or disable the Date field. To use the Date field for search, select the Use Date? check box. By default, it is deselected.
Empty the Existing Entities List	Removes the already searched records and adds only new records to search. To remove old searched records, select the Empty the existing entities list? check box. By default, it is deselected.
Minimum Match Score Cutoff in %	Users can set the cutoff value to define the matching criteria. The records that match (equivalent or more than) the configured cutoff score value will be displayed in the search results with the score. NOTE: The Default value is 50% and Maximum value is 100%.
Target search entities (selected targets are used for "Name" and "Address" matching)	If user searches using a Name or Address, Target entities to search should be selected for searching only in those target entities. For example: Searching for Name of Customer then target entity Customer, and Account can be selected. NOTE: Searching for Name/Address at least one target entity should be selected.

Note:

- Users can add combinations of four fields (Tax_id, Name, Address, and Date).
- Users can add multiple records to search.

A.1.5 View the Entity Summary Risk Report

The Entity Summary Report paragraph gives the summary report of the focal entities related to the case.

The Entity Summary Report paragraph allows you to view the historical summary (in text format) of the case. This information includes the Customer Summary, Account Summary, Compliance Summary, Risk Factor & Red Flags.

Users can add non-case entities (from the search results) to the Risk Report by adding Entity ID in the **Additional Entity IDs** field.

You can add multiple entity IDs separated by a comma(,). The result will be a summary of Case details with additional searched entities.

To view the risk summary of an entity, navigate to Entity Summary Risk Report paragraph.

The following figure shows a sample of the summary of an entity.

Figure A-5 Entity Summary Risk Report



A.1.6 View All Transactions for Focal Entities

This paragraph shows all transactions related to focal entities of a case from Result Graph.

In addition, you can filter the transaction details based on the transaction amount specified in the following fields:

- **Minimum Transaction Amount**: The user can enter the minimum transaction amount from which transactions will be shown. The default value is 0.
- Maximum Transaction Amount: The user can enter the maximum transaction amount to which transactions will be shown. The default value is 1000000.

The result will be the table of all the transactions related to the case entities. To view the transaction details, navigate to the Transaction Analysis paragraph.

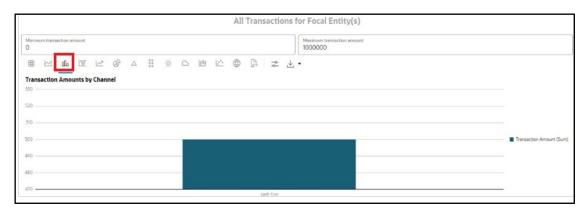
You can view these transactions in the table format as shown in the following image.

Figure A-6 All Transactions for Focal Entity(s) Paragraph (Table Format)



If you want to view in bar chart, click Bar Chart and view these transactions as shown in the following image.

Figure A-7 All Transactions for Focal Entity(s) Paragraph (Bar Chart Format)



For more information on various formats, see Data Visualization.

A.1.7 View the Case Graph (and Searched Entities)

This paragraph allows you to view the network graphical representation of the case and its associated entities. This paragraph displays the case graph along with the graph for the non-case entities searched in the Input Search Results paragraph.

A typical network graph shows nodes and edges. Nodes are entities such as a customer or account. Each node can join to zero, one or many other nodes via a link called an edge which represent relationships between edges, transactions or connecting nodes via similarity edges created by matching. Each type of node is associated with a specific icon on the graph. Graph Details describes the icon displayed on the graph for each type of node.

When the Investigation Toolkit tab is opened for the first time, it displays the following details:

- The case node and five hops from the case node to include all the events, customers, derived entities, accounts, and transactions that are the focal entities and impact the case.
- Additional nodes and edges that provide case context such as relationship and similarity edges to include external data sources.
- If the user searches for additional entities in the above paragraph, the graph will show the matched entities and connected nodes and edges.
- The user is then able to manipulate the graph by expanding any high-risk entities or parties
 on unusual transactions to obtain better understanding of the context and risk associated
 with the case. The analyst can also remove entities and transactions which are not
 pertinent to the case to provide a snapshot of only the pertinent information.

When a graph shows the relevant information, the case narrative and other paragraphs can be re-run to provide updated summary information. The following figure shows the sample graph.

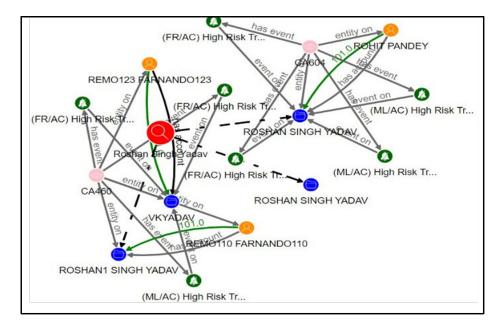
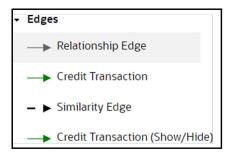


Figure A-8 Graph Result of Entity Search

The following figure shows the edges available in this graph.

Figure A-9 Edges



You can perform many actions on a graph. For more information, see the Graph Details section.



You must re-execute the paragraph after any modification to view the results in the subsequent paragraphs.

A.1.7.1 Network Evolution Settings

Network Evolution helps to visualize evolution of the network graph based on numeric or date-based properties.

The following figure shows the sample graph.

Rule 1

Modes

entity on

Rapil Sharma

Kapil Sharma

Kapil Sharma

Raghavendra Amarnath...

Kapil Sharma

Raghavendra Amarnath...

Kapil Sharma

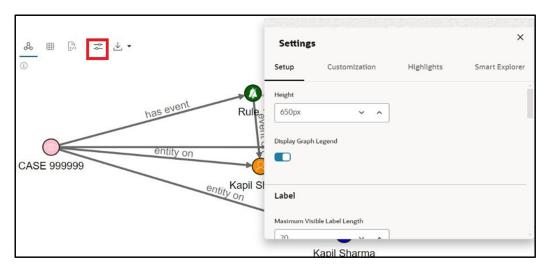
Coed Transaction (Show)Helde)

Debt Transaction (Show)Helde)

Figure A-10 Sample Graph

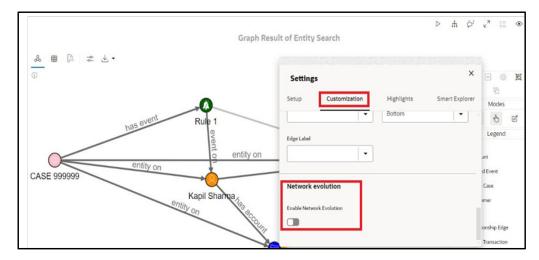
1. Click the **Settings** icon to view the setting options.

Figure A-11 Graph Result



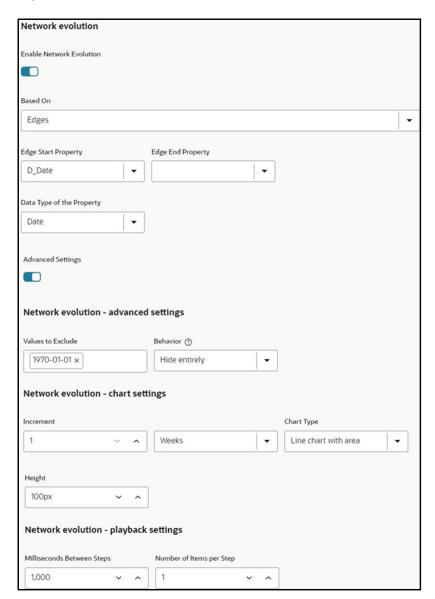
2. Click the **Customization** tab and navigate to the **Network Evolution** option.

Figure A-12 Customization Tab



3. Move the toggle switch to the right to enable the Network Evolution setting. The Network Evolution window is displayed.

Figure A-13 Network Evolution



Network Evolution provides the customization options as mentioned in the following table.

Table A-4 Network Evolution Fields and Descriptions

Field	Description
Based On	Select a type from the drop-down list based on which network evolution is to be performed. The available options are Vertices, Edges, Vertices and Edges.
Edge Start Property	Name of the property to use for the edge filtering; the time frame must be shown after the Edge Start property.
Edge End Property	Name of the property to use for the edge filtering; the time frame must be shown before the Edge End property.



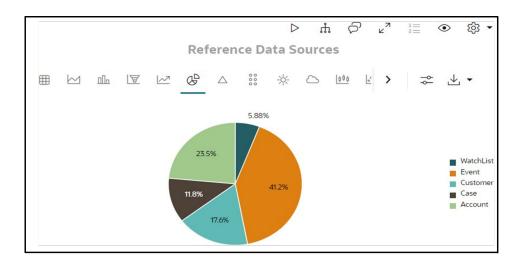
Table A-4 (Cont.) Network Evolution Fields and Descriptions

Field	Description
Data Type of the Property	Select the data type property. NOTE: Network Evolution currently supports Date and Integer datatypes.
Values to Exclude	Multi-Select for graph values that should not be visualized in overview or general. This option provides an easy way to filter vertices or edges.
Behavior of Excluded Values	Excluded values can be either excluded from both the graph and the overview or hidden on the overview but always rendered on the graph, even if the selected time frame excludes them.
Increment	The aggregate step is used for the overview chart.
Time Unit	Unit of time for the Increment when the property's Data Type is a date. The available options are Second, Minute, Hour, Day, Week, Month, and Year.
Chart Type	The type of chart used for the overview of the network evolution.
Height	The height of the chart on the bottom for network evolution.
Milliseconds Between Steps	How often does the playback advance in ms (minimal value 500).
Number of Items per Step	How many steps are taken per timeout during playback.

- 4. Click **Play Network Evolution** to view the network evolution in the graph.
- 5. Click **Reset Network Evolution** to reset the network evolution of the graph.

A.1.8 View Reference Data Sources

The Reference Data Sources paragraph shows reference data sources of the entities present in the Visible Graph.



You can view these transactions in various formats. For more information on formats, see the Data Visualization section.

For more information on Visible Graph, see Graph Types.

A.1.9 View Countries

The Countries paragraph shows countries of entities present in the Visible Graph.

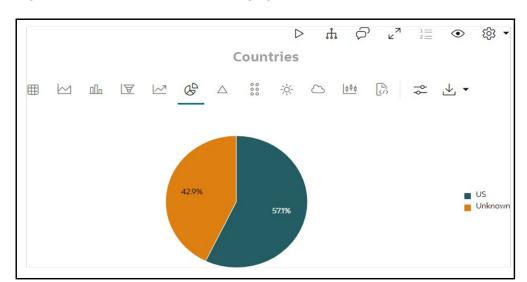


Figure A-14 Countries Details Paragraph

You can view these transactions in various formats. For more information on formats, see the Data Visualization section. For more information on Visible Graph, see Graph Types.

A.1.10 View Risk Factors

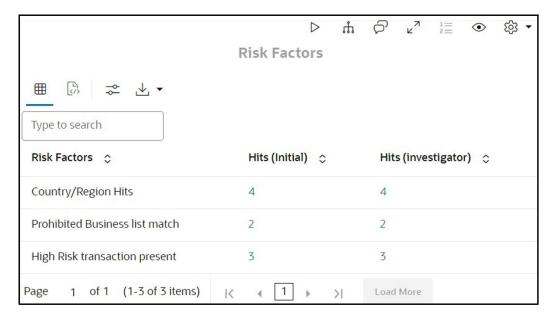
The Risk Factors paragraph shows the risk factor details of entities present in the Visible Graph.

To view the risk factor details, navigate to the Risk Factor paragraph. The following figure shows the sample risk factor details.

- Hits (Initial): Fetches the information from Result Graph for each item in the Risk Factors.
- Hits (Investigator): Fetches the information from the Visible Graph for each item in the Risk Factors.



Figure A-15 Risk Factors Paragraph



You can view these transactions in various formats. For more information on formats, see the Data Visualization section.

For more information on Visible Graph, see Graph Types.

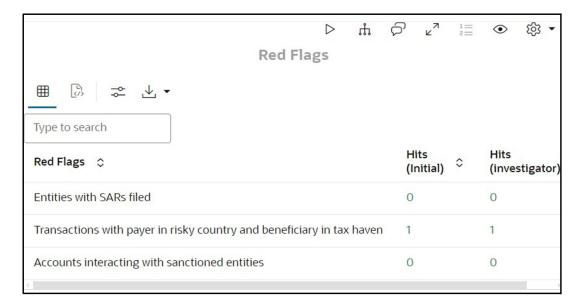
A.1.11 View Red Flags

This paragraph shows the red flag details of entities present in the Visible Graph.

To view the red flag details, navigate to the Red Flags paragraph. The following figure shows the sample red flag details.

- Hits (Initial): Fetches the information from Result Graph for each item in the Red Flags.
- Hits (Investigator): Fetches the information from the Visible Graph paragraph for each item in the Red Flags.

Figure A-16 Red Flags Paragraph



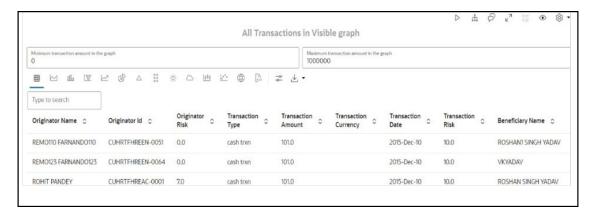
You can view these transactions in various formats. For more information on formats, see the Data Visualization section.

For more information on Visible Graph, see Graph Types.

A.1.12 Viewing the All Transactions in Visible Graph

This paragraph displays information on transactions that are available in Visible Graph. The following figure shows all transactions in the visible graph.

Figure A-17 All Transactions in Visible Graph

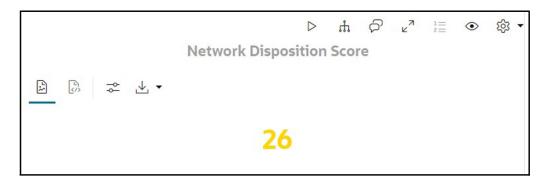


A.1.13 View the Network Disposition Score

This paragraph shows the network disposition score of entities present in the Visible Graph.

To view the network disposition score, navigate to the Network Disposition Score paragraph.

Figure A-18 Network Disposition Score Paragraph Details



For more information on Visible Graph, see Graph Types.

A.1.14 View the Network Disposition Score Breakdown

This paragraph shows the details of the network disposition score of entities present in the Visible Graph.

To view the network disposition score breakdown, navigate to Network Disposition Score Breakdown paragraph.

Figure A-19 Network Disposition Score Breakdown Paragraph

A.1.15 Export Investigation Details to PDF

Use the Export to PDF option to save the notebook.

For more information, see Exporting a Notebook to PDF.



A.2 ECM Case Narrative Notebook

Users can view the summary report of the focal entities related to the case without using the L1 Case Notebook with graph.

You can take the following actions using paragraphs in the ECM Case Narrative notebook:

- View Case Details
- View the Entity Summary Risk Report
- Export Investigation Details to PDF

A.2.1 Viewing Case Details

ThisParagraph contains Case ID where an investigator can investigate. This Case ID will be populated automatically when a notebook is opened from Case.

For more information, see the Viewing Case Details section for the L1 Notebook which has the same functionality.

A.2.2 Viewing the Entity Summary Risk Report

This paragraph gives the summary report of the focal entities related to the case.

For more information, see the Viewing the Entity Summary Risk Report section for the L1 Notebook which has the same functionality.

A.2.3 Export Investigation Details to PDF

Use the Export to PDF option to save the notebook.

For more information, see Exporting a Notebook to PDF.

A.3 Special Investigation (SI) Notebook

Special Investigation notebook enables the investigator to search for one or multiple names and/or addresses to examine the network, red flags, and risk factors without using a case as the starting point.



Administrators can disable graph-based analysis. If disabled, the user will get the result till the **Entity Summary Risk Report** paragraph. For more information on configuration changes, see the Oracle Financial Services Investigation Toolkit Administration and Configuration Guide.

You can take the following actions using paragraphs in the Special Investigation (SI) notebook:

- Start the Investigation
- Search for Input Results



- View the Initial Screening Results
- View the Entity Summary Historical Report
- View the Transactions Analysis
- View the Graph Result of the Entity Search
- View the Reference Data Sources
- View the Countries
- · View the Risk Factors
- View the Red Flags
- View All Transactions in Visible Graph
- View the Network Disposition Score
- View the Network Disposition Score Breakdown
- View the Investigation Recommendation
- Export Investigation Details to PDF

A.3.1 Starting the Investigation

This paragraph should be executed to initialize the investigation process and configurations.

A.3.2 Searching for Input Results

Execute this paragraph to search additional entities based on "Tax Id", "Name", "Address", and "Date" to consider them as part of the investigation.

For more information on this paragraph, see the Search for Non-Case Entities section for the L1 Notebook which has the same functionality.

A.3.3 Viewing the Initial Screening Results

This paragraph allows you to define the conditions based on which the initial screening results are filtered and fetched. Result will be table of top critical matches generated from search results.

For more information on this paragraph, see the View the Initial Screening Results section for the L1 Notebook which has the same functionality.

A.3.4 Viewing the Entity Summary Historical Report

Users can view the summary of an entity using entity id. Users can get the entity id from the output result of the Initial Screening Results paragraph by searching for required inputs in the Input Search Results. The result will be a summary of additional searched entities.

For more information on this paragraph, see the View the Entity Summary Risk Report section for the L1 Notebook which has the same functionality.

A.3.5 Viewing the Transactions Analysis

This paragraph shows all transactions related to the searched entity.



For more information on this paragraph, see the Viewing the All Transactions for Focal Entity(s) section for the L1 Notebook which has the same functionality.

A.3.6 Viewing the Graph Result of the Entity Search

This paragraph allows user to view the network graphical representation of the searched entity that wasdisplayed in the Entity Search paragraph.

For more information on this paragraph, see the View the Case Graph (and Searched Entities) section for the L1 Notebook which has the same functionality.

A.3.7 Viewing the Reference Data Sources

This paragraph shows the reference data sources of the entities present in the Visible Graph.

For more information, see the View Reference Data Sources section for the L1 Notebook which has the same functionality.

A.3.8 Viewing the Countries

This paragraph shows the countries of entities present in the Visible Graph.

For more information, see the View Countries section for the L1 Notebook which has the same functionality.

A.3.9 Viewing the Risk Factors

This paragraph shows the risk factor details of entities present in the Visible Graph. You can search for a specific risk factor.

For more information, see the View Risk Factors section for the L1 Notebook which has the same functionality.

A.3.10 Viewing the Red Flags

This paragraph shows the red flag details of entities present in the Visible Graph. You can search for a specific risk flag.

For more information, see the View Red Flags section for the L1 Notebook which has the same functionality.

A.3.11 Viewing the All Transactions in Visible Graph

This paragraph displays information on transactions that are available in Visible Graph.

For more information, see the Viewing the All Transactions in Visible Graph section for the L1 Notebook which has the same functionality.

A.3.12 Viewing the Network Disposition Score

This paragraph shows the network disposition score of entities present in the Visible Graph.

For more information, see the Viewing the Network Disposition Score section for the L1 Notebook which has the same functionality.

A.3.13 Viewing the Network Disposition Score Breakdown

This paragraph shows the details of the network disposition score breakdown of entities present in Visible Graph.

For more information, see the View the Network Disposition Score Breakdown section for the L1 Notebook which has the same functionality.

A.3.14 Viewing the Investigation Recommendation

This paragraph displays the recommendation for the searched entity to the user based on the scores.

Using this paragraph, the Investigator can investigate the case details and take further action. To view the investigation recommendation, navigate to the **Recommendation** paragraph.

Figure A-20 Viewing the Investigation Recommendation



An Investigator can print or save the notebook after viewing the investigation recommendation.

A.3.15 Exporting Investigation Detail to PDF format

Use the Export to PDF option to save the notebook.

For more information, see Exporting a Notebook to PDF section for the L1 Notebook which has the same functionality.

A.4 Investigation Flow Notebook

The Investigation Flow Template is a reusable, structured framework that guides compliance analysts through the end-to-end investigation process. It standardizes data analysis, documentation, and reporting, ensuring consistency, auditability, and efficiency across different types of compliance investigations.

A.4.1 Case Details

Provide the Case ID in the paragraph to investigate a case.

Figure A-21 Case Details





A.4.2 Case Information

The Case Information paragraph gives you the details of the case.

The Case Information paragraph gives details about the case such as the case id, title, reviewer, jurisdiction, creation date and description.

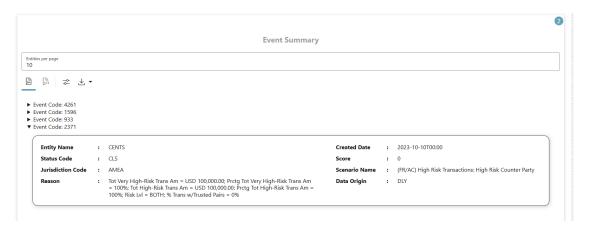
Figure A-22 Case Information



A.4.3 Event Summary

This paragraph displays the event summary details.

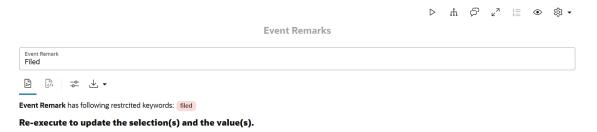
Figure A-23 Event Summary



A.4.4 Event Remarks

This paragraph allows the user to enter their own comments on the events.

Figure A-24 Event Remark

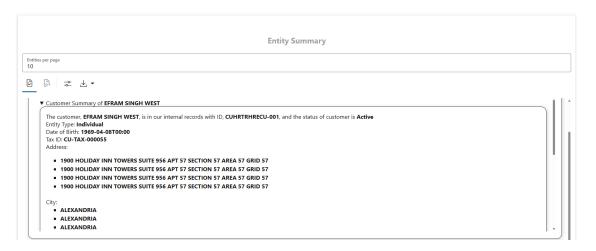


A.4.5 Entity Summary

This paragraph displays the details of the entities.

Provide the number of entities you want to see at a time on the page. Expand the Customer Summary section to view the customer details. Similarly, in the **Account Entity** section, expand the Account Summary of a customer. If there are external entities, this is listed on **External Entity** section.

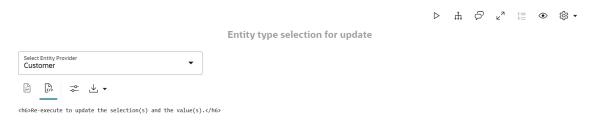
Figure A-25 Entity Summary



A.4.6 Selection Entity Type

Users can select the entity type based on their preferences. The available options are Customer, Account, and External Entity.

Figure A-26 Entity Type Selection for Update





A.4.7 Entity Selection for Update

You can override an entity value using this paragraph by updating it to a custom value or reset the value.

Select an entity that you want to update and select the **Update values** or **Reset values** option and then execute the paragraph.

Figure A-27 Entity Selection for Update



A.4.8 Entity Override/Reset

You can provide custom values for the entity details.

Using this paragraph, you can provide custom values for an entity.

Figure A-28 Entity Override/Reset



A.4.9 Entity User Remarks

Using this paragraph you can provide your comments for the entity.

Figure A-29 Entity User Remarks

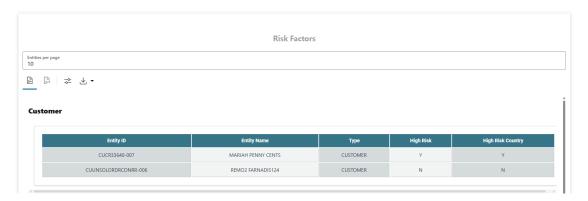




A.4.10 Risk Factors

This paragraph shows all the risks involved in the case.

Figure A-30 Risk Factors



A.4.11 Prior Case Information

This paragraph shows the prior information of the case.

Provide the number of records you want to see on the page and then run the paragraph.

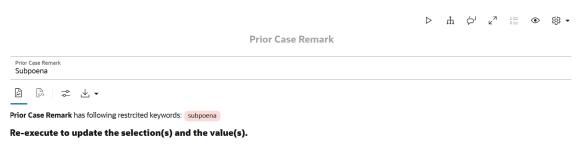
Figure A-31 Prior Case Information



A.4.12 Prior Case Remark

This paragraph allows you to enter comments on prior cases.

Figure A-32 Prior Case Remarks



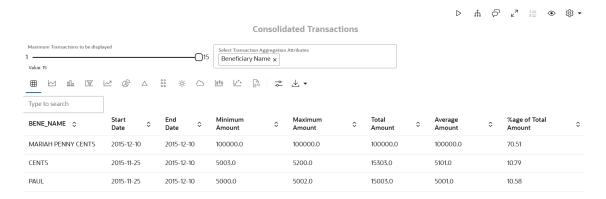


A.4.13 Consolidated Transactions

This paragraph consolidates multiple individual transactions into a single, summarized view, for reporting or analysis purposes.

Add the required fields in the **Select Transaction Aggregation Attributes** field to view the details. Use the slider to set the number of transactions to be displayed.

Figure A-33 Consolidated Transactions



A.4.14 Transaction Filters

This paragraph allows you to apply a filter to narrow the transaction results.

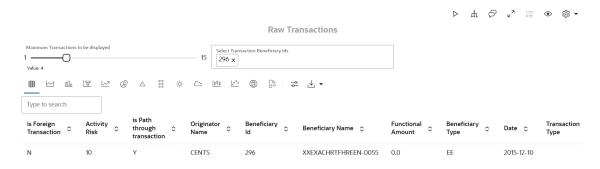
Figure A-34 Transaction Filters



A.4.15 Raw Transactions

This paragraph displays the unprocessed, unformatted data of the case.

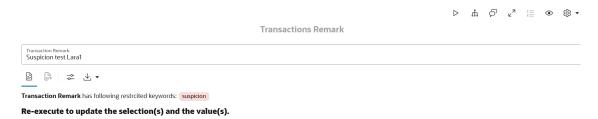
Figure A-35 Raw Transactions



A.4.16 Transactions Remark

This paragraph allows you to enter comments on the transactions on the case.

Figure A-36 Transactions Remark



A.4.17 Transaction Trend

Use this paragraph to assess the trend of transactions for the case.

Figure A-37 Transaction Trend



A.4.18 Transaction Trend Justification

This paragraph allows you to provide a justification on transaction trends within the case.

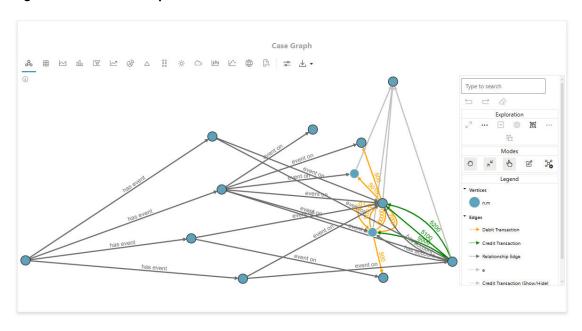
Figure A-38 Transaction Trend Justification



A.4.19 Case Graph

This paragraph shows the connections between various entities of the case.

Figure A-39 Case Graph



A.4.20 Case Categorization

In this paragraph you can categorize the case.

Figure A-40 Case Categorization



A.4.21 Case Categorization Justification

In this paragraph you can provide a justification for adding a particular case category.

Figure A-41 Case Categorization Justification





A.4.22 Additional Comments

This paragraph allows you to add additional comments on the case.

Figure A-42 Additional Comments



A.4.23 Conclusion

This paragraph allows you to enter a conclusion or any final comments on a case.

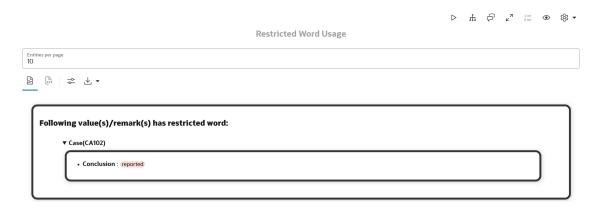
Figure A-43 Conclusion



A.4.24 Restricted Word Usage

This paragraph shows any restricted word mentioned in the case to allow you to correct these before the final Case Summary is created.

Figure A-44 Restricted Word Usage

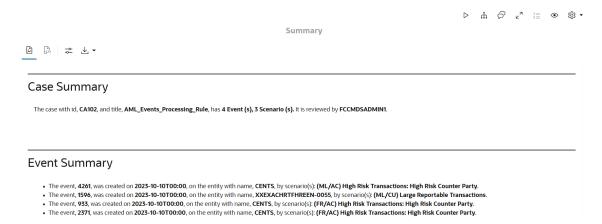




A.4.25 Summary

This paragraph is the final narrative summary of the case which incorporates case data with any user specific content which was entered while working through the Case Investigation.

Figure A-45 Summary



A.4.26 Narrative Sync

You can execute the Narrative Sync paragraph to sync narrative back to Enterprise Case Management.

Figure A-46 Narrative Sync

Narrative Sync

Narrative has been successfully synced.