

**Oracle® Financial Services Investigation
Hub**

Administration and Configuration Guide

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Document Control

This section provides the revision details of the document.

Version Number	Revision Date	Changes Done
8.0.7.0.0	Created: April 2019	Created first version of Investigation Hub Administration Guide for 8.0.7.0.0 Release.

This document provides functional information about the Investigation Hub application and enables you to navigate through the various sections of the application. The latest copy of this guide can be accessed from the Oracle Help Center ([OHC](#)) Documentation Library.

About this Guide

This guide explains the concepts provides conceptual information about for the Oracle Financial Services Investigation Hub application, and provides gives comprehensive instructions for system administration, as well as for daily operations, and maintenance. This section focuses on the following topics:

- [Who Should Use this Guide](#)
- [Scope of this Guide](#)
- [How this Guide is Organized](#)
- [Where to Find More Information](#)
- [Conventions Used in this Guide](#)
- [Abbreviations Used in this Guide](#)

Who Should Use this Guide

This guide is intended for administrators and implementation consultants. Their roles and responsibilities, as they operate within Studio, include the following:

- **Implementation Consultant:** Installs and configures Investigation Hub application at a deployment site. The consultant also installs and upgrades any additional Oracle Financial Services solution sets, and requires access to deployment-specific configuration information. For example, machine names and port numbers.
- **System Administrator:** Configures and maintains the system. The System Administrator maintains user accounts and roles, monitors data management, archives data, loads data feeds, and performs post-processing tasks. In addition, the System Administrator also reloads cache.

Scope of this Guide

This guide describes the physical and logical architecture of the Investigation Hub application. It also provides instructions for maintaining and configuring Studio, its subsystem components, and any third-party software required for operations.

Crime and Compliance Studio provides an open and scalable infrastructure that supports rich, end-to-end functionality across all Oracle Financial Services solution sets. Studio's extensible, modular architecture enables a customer to deploy new solution sets readily as the need arises.

How this Guide is Organized

The Administration Guide includes the following chapters:

- [About Oracle Financial Services Investigation Hub](#) provides a brief overview of the Investigation Hub and its components.
- [Creating New CSV](#) provides instructions to create a new CSV file.
- [Loading the Graphs](#) provides instructions on loading graphs.
- [Executing the Notebook](#) provides information on executing the Notebook.

Where to Find More Information

This section identifies additional documents related to Crime and Compliance Studio application. You can access the following documents from Oracle Help Center ([OHC](#)) Documentation Library:

- *Oracle Financial Services Investigation Hub Release Notes Guide*
- *Oracle Financial Services Investigation Hub Installation Guide*
- *Oracle Financial Services Investigation Hub User Guide*

Conventions Used in this Guide

Conventions used in this guide and their associated meanings are listed in the following table.

Table 0–1 Conventions Used in this Guide

Convention	Meaning
Boldface	Boldface type indicates graphical user interface elements associated with an action (menu names, field names, options, button names), or terms defined in text or glossary.
<i>Italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates the following: <ul style="list-style-type: none">? Directories and subdirectories? File names and extensions? Process names? Code sample, that includes keywords, variables, and user-defined program elements within text
<variable>	Substitute input value

Abbreviations Used in this Guide

Abbreviations used in this guide are listed here.

Table 0–2 Abbreviations and their meaning

Abbreviation	Meaning
OFS	Oracle Financial Services

Table 0–2 Abbreviations and their meaning

Abbreviation	Meaning
T2T	Table to Table
AAI	Analytical Applications Infrastructure
PGX	Parallel Graph AnalytiX
PGQL	Property Graph Query Language
LHS	Left Hand Side

About Oracle Financial Services Investigation Hub

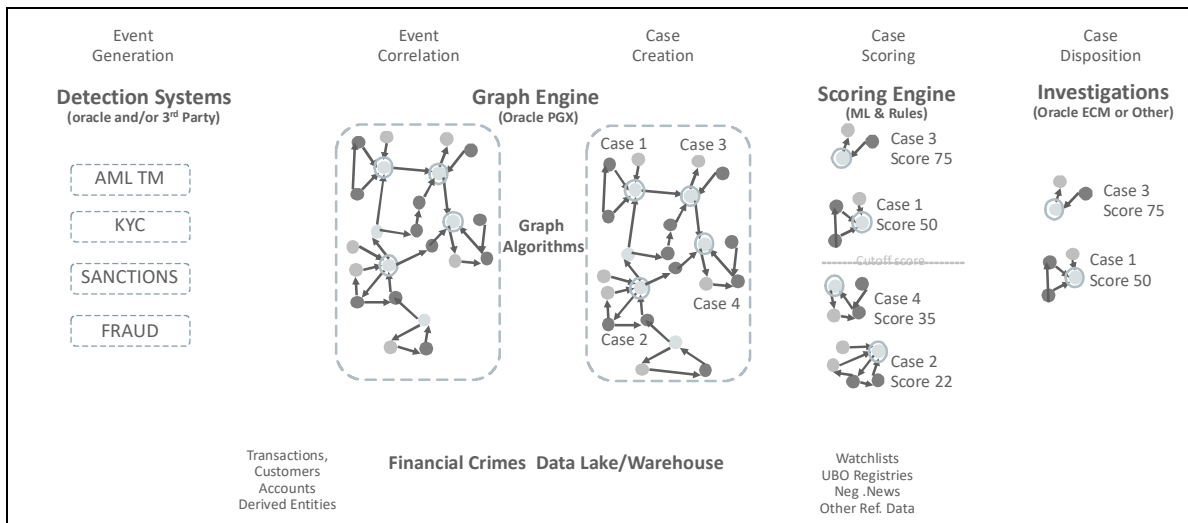
This chapter provides a brief overview of the Oracle Financial Services Investigation Hub (OFS IH) application.

Introduction

In order to effectively monitor anti-money laundering and anti-fraud programs in financial institutions, the most challenging need is to quickly detect and investigate financial crime data.

Oracle Financial Services Investigation Hub is a comprehensive analytics toolkit for detecting and investigating financial crimes. This application provides modular building blocks for developing advanced analytical applications to counter financial crime. The Investigation Hub application serves as a springboard for innovation in anti financial crime programs.

Investigation Hub uses Graph Analytics and Graph Query methods to investigate the case using various interpreters.



Administration and Configuration Activities

Configure the following Notebooks:

- **1_Graph_demo:** It loads the graph into memory and publishes it so other notebooks can access and use it.
- **2_Generate Correlated Networks:** It creates the correlated networks of related events (alerts) for Level 2 investigators as a starting point of their investigation. You can map this to existing cases, or use it to generate new cases.

This section covers the following topics:

- [Creating New CSV](#)
- [Loading the Graphs](#)
- [Executing the Notebook](#)

Creating New CSV

Data is loaded into graphs using CSV files. Based on your requirements, you can create a new CSV file to load data into graphs. For more information, see the [Creating New CSV](#).

Loading the Graphs

The Graph load operation is used to create the graph from the underlying data. For more information, see the [Loading the Graphs](#).

Executing the Notebook

The published scenario notebook can be scheduled for execution with a set of threshold values as required for generating alert or trends. For more information, see the [Executing the Notebook](#).

Creating New CSV

Data is loaded from CSV files to Investigation Hub (IH) for processing. You can create a new CSV file as per your requirements and load the data to graphs of IH. This chapter provides information on creating a new CSV file.

The following sections are covered in this chapter:

- [Creating a New CSV](#)

Creating a New CSV

To create a new CSV file:

1. Create an Excel file with required data and save it as .csv.

Shown here are examples of Excel and corresponding CSV file formats:

Sample of Edges Excel

FromID	ToID	Label	Info	Weight	Currency	Is Foreign	Is Path Th	Date
3001	3003	has accou	Account #.	0		FALSE	FALSE	1/1/1970
3001	3002	has accou	Account #.	0		FALSE	FALSE	1/1/1970
3006	3001	event on	FR - ACCT	0		FALSE	FALSE	1/1/1970
3005	3001	event on	AML - HRC	0		FALSE	FALSE	1/1/1970

Sample of corresponding Edge CSV

```
"201","203","is related to","Director of","0","","FALSE","FALSE","1/1/2000"
"204","203","is related to","Member of Board","0","","FALSE","FALSE","1/1/2000"
"204","205","is related to","Director of","0","","FALSE","FALSE","1/1/2000"
"206","205","is related to","Member of Board","0","","FALSE","FALSE","1/1/2000"
"206","2001","is related to","Director of ","0","","FALSE","FALSE","1/1/2000"
"21","2001","end to end wire","DECHONG-001","30000","USD","FALSE","FALSE","1/30/2018"
"21","2001","end to end wire","DECHONG-001","55000","USD","FALSE","FALSE","2/5/2018"
"21","2001","end to end wire","DECHONG-001","70000","USD","FALSE","FALSE","5/1/2018"
"21","2001","end to end wire","DECHONG-001","100000","USD","FALSE","FALSE","12/1/2018"
"21","2001","end to end wire","DECHONG-001","250000","USD","FALSE","FALSE","2/1/2019"
```

Sample of Nodes Excel

NodeID	Label	Original IC Name	Risk	Source	Date	Country	Jurisdiction	Is PEP	Entity Typ	Aliases	Industry	Customer	Account T	Category	External S	Further In	DB Client	Local Nam	Naics Codi	Tax ID	Reason	Rule Nam	Status	Domicile #	Registerer	Tax Count	DB Custom	Lexis Next	List
3001	Customer	CU0020	Harriet Br	5	NetRevea	2/12/2009	AUS	ANZ	No	Individual	Brownie	CR: Retail	Customer																
3002	Account	ACCC0020	Harriet Br	8	NetRevea	2/12/2009	AUS	ANZ	No	Individual	Brownie		CC																

Sample of corresponding Nodes CSV

```
"12","Customer","CU0012","Alexander Popivker","2","Mantas","1/1/2000","UK","UK","No","Individual","","","CR: Retail Customer"
"21","Account","ACC001","GUUD Holdings Ltd","4","Mantas","7/8/2016","US","AMER","","Company","","","BUS"
"22","Account","ACC002","GUUD Real Estate Ent","3","Mantas","1/3/1970","US","AMER","","Company","","","BUS"
"23","Account","ACC003","Gu Dan ","8","Mantas","11/30/1998","US","AMER","","Company","","","CHK"
"14","Customer","CU0014","Rose Cleaning Express","4","Mantas","7/8/2016","SN","APAC","No","Company","","","CI: Institutional Customer"
"13","Customer","CU0013","Martha Cecilia Hernandez Rodriguez","2","Mantas","1/3/1970","AU","APAC","No","Individual","","","CR: Retail Customer"
"101","Event","EV001","Guud Holdings Ltd","22","Mantas","8/17/2017","","APAC","CLOSED - FALSE POSITIVE"
"102","Event","EV002","Guud Holdings Ltd","75","Mantas","10/7/2016","","APAC","CLOSED - FALSE POSITIVE"
"103","Event","EV003","GUUD Real Estate Ent","59","Mantas","9/1/2018","","APAC","CLOSED - FALSE POSITIVE"
"104","Event","EV004","GUUD Real Estate Ent","79","Mantas","2/27/2019","","APAC","OPEN INVESTIGATION - RFI"
"105","Event","EV005","Gu Dan ","100","Mantas","11/8/2017","","APAC","SAR"
"207","External Entity","E993","Gu Dan ","20","BunDradstreet","1/1/1970","China","APAC","","Individual","unknown","Individual","","INDIVIDUAL"
```

- Place these CSV files at following location:

<IH_Installation_Path>/Datasource

- Navigate to <IH_Installation_Path>/Datasource and modify the CONFIG.JSON file as mentioned in the following example. Here, you can modify the JSON file name. By default, it is provided as CONFIG.JSON.

```
{
  "name" : "Risk", "type" : "float",
  "name" : "Source", "type" : "string",
  "name" : "Date", "type" : "local_date",
  "name" : "Country", "type" : "string",
  "name" : "Jurisdiction", "type" : "string",
  "name" : "Status", "type" : "string",
  "name" : "List", "type" : "string",
  "name" : "Is PEP", "type" : "string",
  "name" : "Entity Type", "type" : "string",
  "name" : "Aliases", "type" : "string",
  "name" : "Industry", "type" : "string",
  "name" : "Customer Type", "type" : "string",
  "name" : "Category", "type" : "string",
  "name" : "External Sources", "type" : "string",
  "name" : "Further Information", "type" : "string",
  "name" : "DB Client ID", "type" : "string",
  "name" : "Local Name", "type" : "string",
  "name" : "Naics Code", "type" : "string",
  "name" : "Tax ID", "type" : "string",
  "name" : "Reason", "type" : "string",
  "name" : "Rule Name", "type" : "string",
  "name" : "Domicile Address Country", "type" : "string",
  "name" : "Registered Address Country", "type" : "string",
  "name" : "Tax Country", "type" : "string",
  "name" : "DB Customer Flag", "type" : "string",
  "name" : "Lexis Nexis Match Flag", "type" : "string",
  "name" : "Account Type", "type" : "string" ],
  "format" : "two_tables",
  "separator" : ",",
  "vertex id type" : "long",
  "edge_uris" : ["<path_to_datasource>/edges.csv"],
  "vertex_uris" : ["<path_to_datasource>/nodes.csv"],
  "local_date_format" : [ "M/d/yyyy", "M/d/yy", "yyyy-MM-dd" ]
}
```

Enter the path of CSV in the Config.json.

For example, "Test_uris" : ["<Path_to_datasource>"/Test.CSV"]

In the preceding sample JSON file, attributes of edges.csv and nodes.csv files will be populated automatically.

When you are creating a new CSV file, the attributes (column names of Excel) of this CSV file have to be manually entered in the CONFIG.JSON file in this format:

```
{"name" : "Tax Country", "type" : "string"},
```

Here,

Name should be same as attribute of CSV file

Type is the data type (string, float, boolean, etc)

Note: The limitations are:


- Column headers are not required in CSV files.
 - Last column of the CSV file cannot be blank (including space).
 - Update the blank columns of CSV file with Null or Space.
-
-

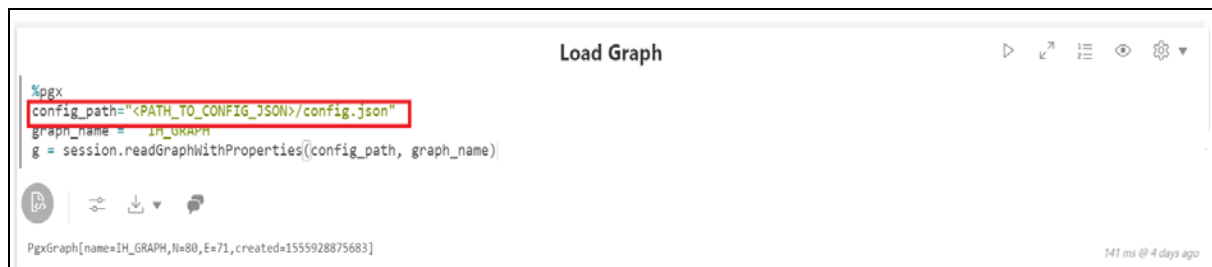
Loading Data to Graphs

Graph load is used to create the graph from the underlying data. It gives the .pgb file and config.json of the GLOBALGRAPH, which are further used in IH to view or query using PGQL and PGX interpreters. This chapter provides information on configuring graphs in the application.

Loading the Graph

To load the data into the graphs:

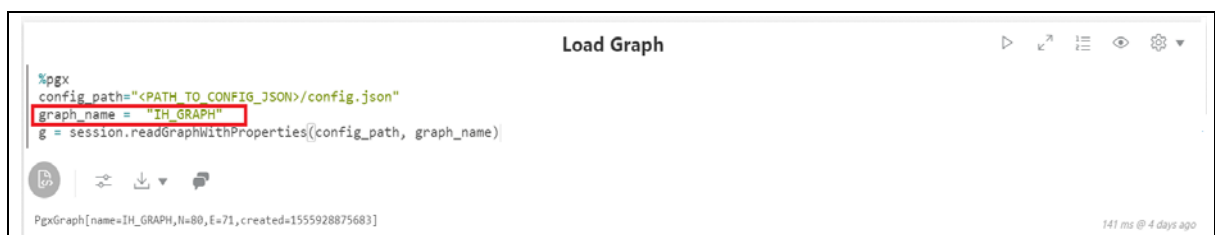
1. Log in to the Investigation Hub application.
2. Navigate to the **1_Graph_demo** notebook.
3. Click the plain icon  appearing on the left of **Load Graph** section and paste the copied path for **config_path** attribute as displayed in the following example:



```
%pgx
config_path=<PATH_TO_CONFIG_JSON>/config.json
graph_name = IH_GRAPH
g = session.readGraphWithProperties(config_path, graph_name)
```

PgxGraph[name=IH_GRAPH,N=80,E=71,created=1555928875683] 141 ms @ 4 days ago

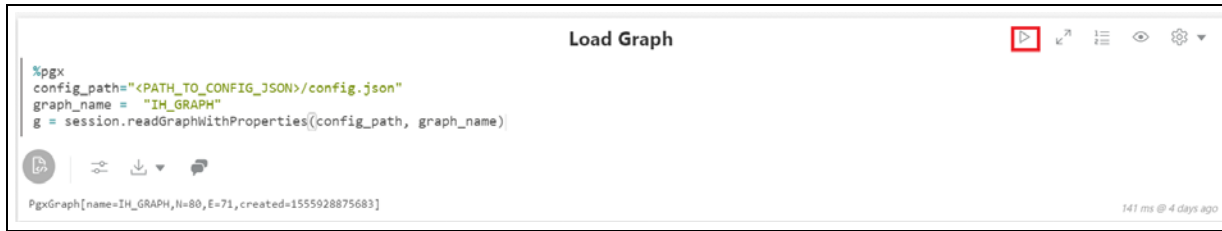
4. Enter the name of the graph for the **graph_name** attribute.



```
%pgx
config_path=<PATH_TO_CONFIG_JSON>/config.json
graph_name = 'IH_GRAPH'
g = session.readGraphWithProperties(config_path, graph_name)
```

PgxGraph[name=IH_GRAPH,N=80,E=71,created=1555928875683] 141 ms @ 4 days ago

5. Click **Execute Paragraph** to execute **Load Graph** paragraph.



6. Navigate to **2_Generate Correlated Networks** notebook.
7. Enter the graph name in the Load the Global Graph section as shown here. This graph name should be same as mentioned in 1_Graph_demo (refer to step 4).



8. Click **Execute Paragraph** to execute **Load the Global Graph** paragraph.



The graphs will be loaded in IH.

Executing the Notebook


This chapter provides information on executing the notebook for Investigation Hub.

This chapter covers the following sections:

- [Executing the Notebook](#)

Executing the Notebook

To execute the notebook:

1. Navigate to the Investigation Hub application.
2. Click the plain icon  appearing on the left.

