

Oracle Financial Services Investigation Hub

Installation Guide

Release 8.1.2.6.0

February 2024

F49103-01

ORACLE®
Financial Services

OFS Investigation Hub Installation Guide

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Document Control

Table 1 lists the document control of this guide.

Table 1: Document Control

Version Number	Revision Date	Change Log
8.1.2.6.0	February 2024	Added the following sections: <ul style="list-style-type: none">• Pre-installation• Installation• Appendix
8.1.2.4.0	November 2023	Updated bug number for v8.1.2.4.5 in the Prerequisites section.
8.1.2.4.0	June 2023	Deprecated L2 and Generate Correlation Networks notebooks. Updated patch details in the Prerequisites section. Updated the note related to L2 user in the Importing IH Notebooks section. Removed the “Accessing IH Notebooks through Compliance Studio” section.
8.1.2.1.0	December 2022	<ul style="list-style-type: none">• Updated Bug ID for v8.1.2.1.0 in the Preparing for Installation section.• Added a new Executing ML Paragraph in L1 Notebook section.• OJET Upgrade (all UI elements are updated according to UI in the entire document).• Added a new patch details for Compliance Studio in the Prerequisites section.
8.1.2.0.0	August 2022	Removed the Jar file details in the Accessing IH Notebooks through Compliance Studio section.
8.1.2.0.0	April 2022	Added the Accessing IH Notebooks through Compliance Studio section.
8.1.1.1.0	December 2021	There is no content update from the previous version. Only the version number has been changed.
8.1.1.0.0	October 2021	This is the first version created for IH 8.1.1.0.0 release based on OFS Compliance Studio 8.1.1.0.0 release.

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1 Preface

This section provides supporting information for the OFS Investigation Hub application Installation Guide.

Topics:

- [Summary](#)
- [Audience](#)
- [Related Documents](#)
- [Conventions](#)
- [Abbreviations](#)

1.1 Summary

Before you begin the installation, ensure that you have access to the Oracle Support Portal with valid login credentials to notify us of any issues at any stage quickly. You can obtain the login credentials by contacting Oracle Support.

1.2 Audience

The Installation Guide is intended for system engineers responsible for installing and configuring the OFS Investigation Hub Application's components.

Prerequisites for the Audience

The document assumes that you have experience in installing Enterprise components and basic knowledge about the following is recommended:

- PGQL and PGX
- UNIX commands
- Database concepts

1.3 Related Documents

This section identifies additional documents related to the OFS IH application.

The following OFS IH documents are available in [Oracle Help Center Documentation Library](#):

- Oracle Financial Services Investigation Hub Administration and Configuration Guide
- Oracle Financial Services Investigation Hub User Guide
- Oracle Financial Services Investigation Hub Release Notes

1.4 Conventions

Table 2 lists the conventions used in this document.

Table 2: Conventions Used in This Guide

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 on the screen, or text you enter.

1.5 Abbreviations

Table 3 lists the abbreviations used in this document.

Table 3: Abbreviations Used in This Guide

Abbreviation	Meaning
OFS	Oracle Financial Services
ECM	Enterprise Case Management
IH/IHUB	Investigation Hub
HTTPS	Hypertext Transfer Protocol Secure
JDBC	Java Database Connectivity
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MOS	My Oracle Support
OS	Operating System
SFTP	Secure File Transfer Protocol
URL	Uniform Resource Locator
WAR	Web application Archive
JAR	Java Archive
PGX	Parallel Graph Analytics
PGQL	Property Graph Query Language
XML	Extensible Markup Language

2 Pre-installation

This section provides information about the tasks that must be performed before installing the Oracle Financial Service (OFS) Investigation Hub application.

Topics:

- [Prerequisites](#)
- [Download the Installer Kit](#)
- [Extract the Installer Kit](#)

2.1 Prerequisites

The installation of this application depends on prerequisites as described in the [Table 4](#).

Table 4: Prerequisites for Installing the IHub

Component	Version/Patch
Compliance Studio	<ul style="list-style-type: none">• Apply patch 35971472 (8.1.2.6.0)• Apply patch 36157465 (8.1.2.6.2) NOTE: To install Compliance Studio, see Oracle Financial Services Compliance Studio Installation Guide .
ECM	To install ECM, see OFS Enterprise Case Management Installation Guide .
ECM IHub	Apply patch 36031993 . NOTE: Apply this generic patch on ECM even if ECM IHub Integration is available.

2.2 Download the Installer Kit

To download the software as a .zip folder, download the installer **36032001** for **v8.1.2.6.0** release from the [My Oracle Support \(MOS\)](#).

NOTE Copy the downloaded installer archive to the Download Directory (in Binary Mode) on the setup identified for OFS Compliance Studio installation.

2.3 Extract the Installer Kit

Once you downloaded the installer, copy the installer (in BINARY mode) to the system on which the OFSAA Infrastructure components will be installed.

NOTE You must be logged in to the UNIX operating system as a non-root user.

To extract the downloaded .zip file, follow the step:

1. Extract the `OFS_FCCIH_8.1.2.6.0.zip` file from the installer in the download directory using the following command:

```
unzip OFS_FCCIH_8.1.2.6.0.zip
```

3 Installation

Perform the following sections to complete the installation.

NOTE

Prerequisites

- Compliance Studio should be installed. The out-of-the-box graph; FINANCIAL_CRIME_GLOBAL_GRAPH should be executed before using IHub.
- ECM IHub integration is required. For more information, see the [Setting up ECM](#) section.

Topics:

- [Configuring PGX Interpreter for Investigation Hub](#)
- [Importing Notebooks](#)
- [ECM-IHub Integration](#)
- [Configuring ECM-IHub Integration](#)

3.1 Configuring PGX Interpreter for Investigation Hub

To configure PGX interpreter, follow these steps:

1. Obtain the zip file and extract (unzip) it on the Compliance Studio Linux Server at any path; this path is referred to as **<IHUB_INSTALLATION_PATH>**.
2. To extract the downloaded .zip files, execute the following command:

```
unzip OFS_FCCIH_<Version>.zip
```

3. Navigate to the **<IHUB_INSTALLATION_PATH>/bin** directory.
4. Open the `config.sh` file.
5. Edit the following parameter.

Update the value of **COMPLIANCE_STUDIO_INSTALLATION_PATH** parameter by providing the value of the path where Compliance Studio is installed.

Example: `/scratch/user/OFS_COMPLIANCE_STUDIO`

6. Save the file.
7. Execute `install.sh` file using the following command:

```
./install.sh
```

This will copy the `investigation_hub-<version>.jar` into PGX Interpreters' extralib path.

If older `investigation-hub-<version>.jar` is present, then the script will take a backup and update the jar.

Console output when older jar is backed up as given below.

```
bash $ ./install.sh
```

```
[INFO] creating backup of Investigation Hub's library
```

```
[INFO] Back up of Investigation Hub's library successful
```

```
[INFO] Removing Investigation Hub's library
```

```
[INFO] Removed Investigation Hub's library successfully.
[INFO] Copying Investigation Hub's library
[INFO] Copied Investigation Hub's library successfully.
[INFO] Please restart Compliance Studio
```

NOTE To restore the older jar, follow these steps:

1. Replace the `investigation_hub-<version>.jar` in the `<IHUB_INSTALLATION_PATH>/lib` directory with the backed-up jar present in the `<IHUB_INSTALLATION_PATH>/backup` directory.
2. Re-execute the `install.sh` script.

8. Restart Compliance Studio.

3.2 Importing Notebooks

The Investigation Hub contains the following notebooks:

- ECM Integration L1
- Special Investigation
- ECM Case Narrative

These notebooks are available in the `<IHUB_INSTALLATION_PATH>/notebook` directory. Copy of each notebook is present in `<IHUB_INSTALLATION_PATH>/notebook-with-source-code` directory. These copies contain code in each paragraph and can be used to deep-dive into implementation and customize it if required.

To import notebooks, follow these steps:

1. Navigate to the `<IHUB_INSTALLATION_PATH>/notebook` directory and download notebooks to the local directory.
2. Login to the Data Studio application.

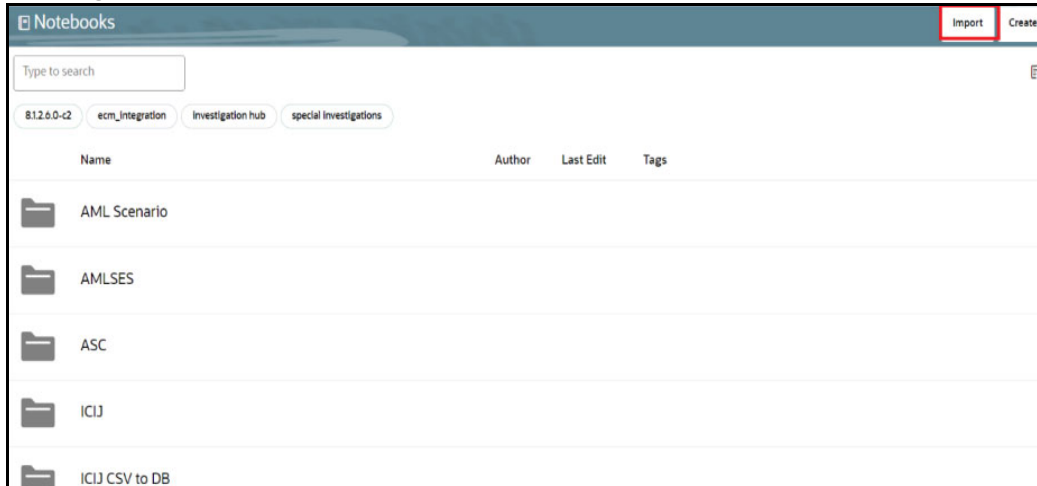
```
https://<Host_Name>:<Port_Number>/cs
```

Here `<Port_Number>` is **7008** for the Data Studio application installed on-premise.

NOTE If the user is logging in for the first time, then login to Compliance Studio first and then access the Data Studio.

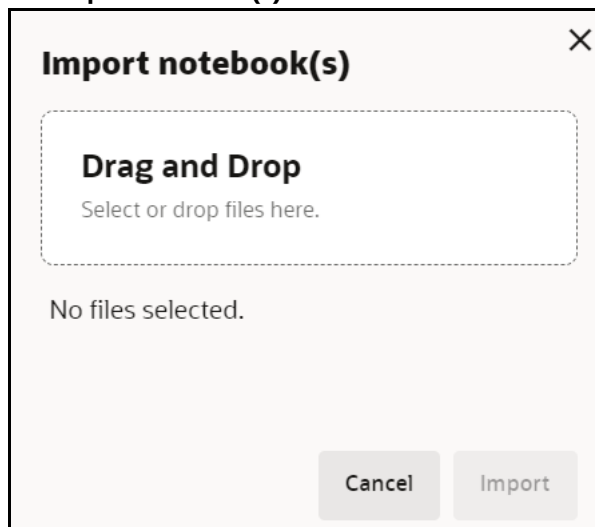
Once logged in, the Notebooks page is displayed.

Figure 1: Notebooks



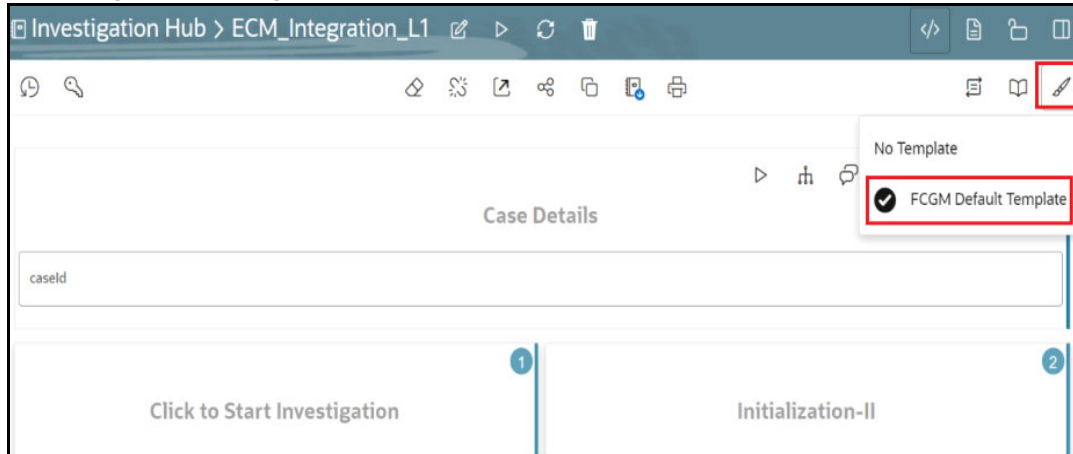
3. Click **Import**. The Import notebook(s) page is displayed.

Figure 2: Import notebook(s)



4. Click **Drag and Drop** and select the downloaded notebooks from the local directory.
5. Click **Open**. The selected notebooks are added to the Import notebook(s) page.
6. Click **Import**. These notebooks will be imported and available in the **Investigation Hub** folder.
7. Navigate to the **Investigation Hub** folder and click the required notebook. The following page is displayed.

Figure 3: Setting Default Template



8. Click **Update Notebook Template** and select **FCGM Default Template** to access the notebook.

NOTE This step is required only when the FCGM Default Template is not selected automatically.

3.2.1 Importing Notebook with Source Code

Users can import the notebook through source code for accessing the ihub notebooks.

NOTE This section is an alternative approach for importing the notebook and it is optional.

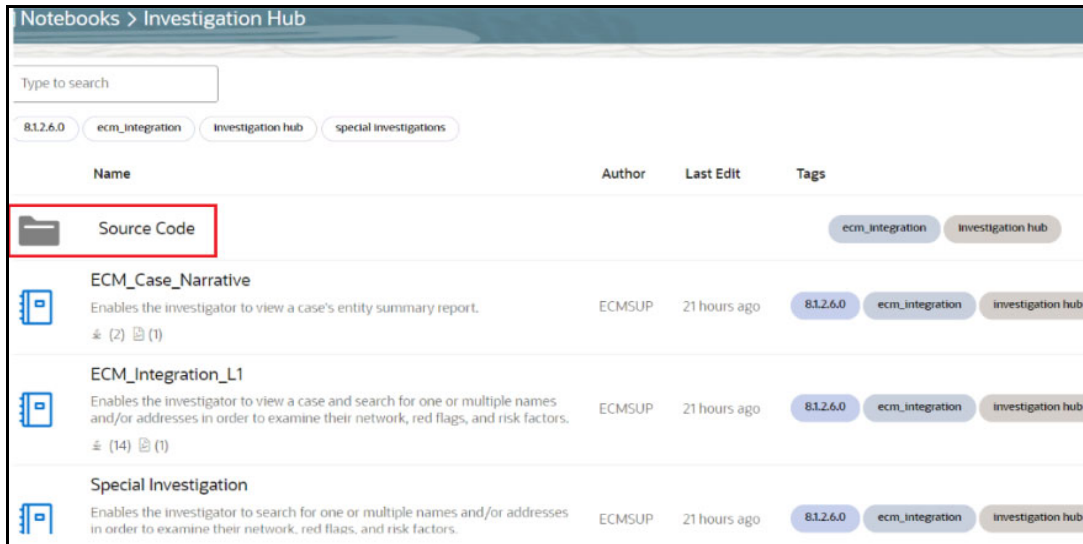
To import notebook-with-source-code, follow these steps:

1. Navigate to the `<IHUB_INSTALLATION_PATH>/notebook-with-source-code` directory.
2. Download notebooks to the local directory.
3. Import notebook-with-source-code using Compliance Studio's Data Studio.

Once imported, these notebooks will be available in the **Investigation Hub > Source Code** folder as shown below.

NOTE Contact [My Oracle Support \(MOS\)](#) for more information on the customization and maintenance of the source-code based notebooks.

Figure 4: Source Code



3.3 ECM-IHub Integration

This section describes instruction about how to set up ECM with IHub.

3.3.1 Setting up ECM

To set up ECM, follow these steps:

1. Download the ECM-IHub patch (**36031993**) as a zip file.
2. Copy the zip file to the ECM server and extract it to any directory in the ECM webapp server.
3. Open the "Readme.txt" file and follow the instructions to set up ECM which is present inside the extracted directory.

3.3.2 Trusting Compliance Studio's SSL Certificate

- Ensure ECM trusts Compliance Studio's SSL Certificate by following respective Web Server deployment.

NOTE There is an alternate way to trust Compliance Studio's SSL certificate. For more information, see the [Trusting Compliance Studio's SSL Certificate](#) section.

- Restart the OFSAA App Server and Web Server.

3.4 Generating SSO API Token

To generate the API token, follow these steps:

1. Navigate to the <COMPLIANCE_STUDIO_INSTALLATION_PATH>/mmg-home/bin directory.

- Execute the following script with any value as ECM API User.

```
./token-generator.sh ECM_API_USER
```

The value of SSO Token will be available in the `token.out` file of the same directory.

NOTE If any changes in the `public.key` and `private.key` files, then user need to re-generate the SSO API token.

3.5 Configuring ECM-IHub Integration

NOTE Prerequisite: Apply the ECM IHub patch (36031993).

Investigation Hub is integrated with ECM to enable Case Investigators to access additional rich information about a case such as a case summary, a detailed narrative about case entities, graph view of a case, and so on, which is otherwise not available in ECM.

Users need to configure as described in the [Table 5](#).

Table 5: Configuration Table for ECM-Ihub Integration

Schema	Table Name	Description
Atomic Schema	FCC_CM_STUDIO	Compliance Studio details
Atomic Schema	FCC_CM_NB_ROLES	ECM User roles for IHub
Atomic Schema	FCC_CM_CTYPE_NB_MAPPING	ECM Roles and Notebook Mapping

NOTE For more information about configuring parameters of these tables see the following sections.

3.5.1 Configuring the FCC_CM_STUDIO Table

Update the following database table in ECM by replacing the placeholders with the user-specified values to integrate IHub with ECM.

[Table 6](#) describes the placeholders that must be replaced with the required values, which will replace the corresponding rows in the FCC_CM_STUDIO database table.

Table 6: FCC_CM_STUDIO

Key	Placeholder	Description
url	##URL##	Replace the placeholder with the Compliance Studio URL. For example: <code>https://<Host_Name>:7008/cs</code>
api_version	##api_version##	The API version number is 20230913.
Authentication Details		
SSO	##SSOHEADER##	Set the API SSO Token value. For value of API SSO Token, see the Generating SSO API Token section. NOTE: Remove value of the key, "password", i.e., set it to null.

Table 6: FCC_CM_STUDIO

Key	Placeholder	Description
username	##USERNAME##	Set the username. For quick access one can set user details with DSUSRGRP role. NOTE: <ul style="list-style-type: none"> It is not recommended mode and will be removed in the future release. This can be used only in the FCC_AAI mode in the Compliance Studio.
password	##PASSWORD##	For quick access one can set user details with DSUSRGRP role. Set the encrypted value of the above user's login password. To encrypt the password, see the Generating Encrypted Password section. NOTE: <ul style="list-style-type: none"> It is not recommended mode and will be removed in the future release. This can be used only in the FCC_AAI mode in the Compliance Studio.

3.5.2 Configuring the FCC_CM_NB_ROLES Table

The roles and precedence mapping are required for investigating cases through the notebook added in the FCC_CM_NB_ROLES table. By default, CMSUPRVISR, CMANALYST1, and CMANALYST2 roles with precedence 1,2,3 are added to the [Table 7](#).

Table 7: FCC_CM_NB_ROLES

Table Entry	Description
V_USERROLE	The user role is required to investigate cases through the notebook.
N_PRECEDENCE	Precedence of the role. For the role, the lower value has more priority. For example, if the user has two roles, the role with the least value is prioritized.

NOTE To add custom roles, add roles to the FCC_CM_NB_ROLES table and set the precedence accordingly.

3.5.3 Configuring FCC_CM_CTYPE_NB_MAPPING Table

[Table 8](#) describes the placeholders that must be replaced with the required values, which will replace the corresponding rows in the FCC_CM_CTYPE_NB_MAPPING database table. This provides access to

the Investigation Hub tab in ECM for the default out-of-the-box ECM user roles, CMANALYST1, CMANALYST2, and CMSUPRVISR.

Table 8: FCC_CM_CTYPE_NB_MAPPING

Placeholder	Description
##CASE_TYPE##	<p>Replace the placeholder with the case type for which Investigation Hub tab is enabled.</p> <p>For example: AML_SURV</p>
##notebookId##	<p>Replace the placeholder with the notebook ID of the IH notebook that must be cloned for all the cases of the specified case type and user role.</p> <p>To copy the notebook id, follow these steps:</p> <ol style="list-style-type: none"> 1. Navigate to the Data Studio URL (<a href="https://<Data Studio server hostname>:<DataStudioPort>/cs">https://<Data Studio server hostname>:<DataStudioPort>/cs Example, <a href="https://<testserver.oracle.com>:7008/cs">https://<testserver.oracle.com>:7008/cs 3. Navigate to the path where L1 notebook were imported through Compliance Studio. 4. Click ECM_Integration_L1 Notebook. The notebook window is displayed. 5. Copy notebook id from the URL <a href="https://Testserver:7008/?root=notebooks&notebook=<Notebook ID>">https://Testserver:7008/?root=notebooks&notebook=<Notebook ID> For example, https://Testserver:7008/?root=notebooks&notebook=abcde12 <p>Notebook ID: abcde12</p>

Table 9 describes the placeholders that must be replaced with the required values, which will replace the corresponding rows in the FCC_CM_CTYPE_NB_MAPPING table. You can modify the permissions granted to a user role by changing the default assigned values, “Y” or “N”, to restrict the actions that a user role can perform in the Investigation Hub tab.

Table 9: FCC_CM_CTYPE_NB_MAPPING

Table Entry	Description
V_NB_TOOL- BAR	<p>Set the values as N. The “N” indicates to deny the permission.</p> <p>“Y” indicates to grant permission to the user role for the actions that can be performed on a notebook such as Publish Notebook, Clear Result, Share Notebook, and so on.</p>
V_ADD_PARA	<p>Set the values as N. The “N” indicates to deny the permission and the interpreter toolbar is not visible to the user.</p> <p>“Y” indicates to grant permission to the user role to add new paragraphs to a notebook.</p>
V_PARA_ACTIONS	<p>Set the values as Y. The “Y” indicates to grant permission to the user role for the actions that can be performed in a paragraph such as Execute Paragraph, Enter Dependency Mode, Comment, and so on.</p> <p>‘N’ indicates to deny the permission.</p>

Table 9: FCC_CM_CTYPE_NB_MAPPING

Table Entry	Description
V_PARA_CODE	Set the values as N . The “N” indicates to deny the permission. ‘Y’ indicates to grant permission to the user role to view the paragraph code in the IH notebook.

To add a new user role who needs access to the Investigation Hub tab in ECM, you must insert new entries for that user role, case type, and notebook ID in the FCC_CM_CTYPE_NB_MAPPING table as follows:

```
Insert into FCC_CM_CTYPE_NB_MAPPING (V_USERROLE,V_CASETYPE,V_NOTE-
BOOK_ID,V_CREATED_DATE,V_CREATED_BY,V_UPDATED_BY,V_UPDATED_DATE,V_N-
B_TOOLBAR,V_ADD_PARA,V_PARA_ACTIONS,V_PARA_CODE) values
('<User_Role>','##CASE_TYPE##','##note- bookId##',null,null,null,null,'N',
'N', 'Y', 'N')
```

4 Appendix

Topics:

- [Trusting Compliance Studio's SSL Certificate](#)
- [Generating Encrypted Password](#)
- [Notebook Cleanup](#)

4.1 Trusting Compliance Studio's SSL Certificate

To generate SSL certificate, see **Import the certificate to JDK security** section in the [OFS Compliance Studio Installation Guide](#).

4.2 Generating Encrypted Password

To generate an encrypted password, follow these steps:

1. Navigate to the `<OFS_COMPLIANCE_STUDIO_INSTALLATION_PATH>/deployed/ficdb/bin` directory.
2. Check value of the env variable for **FICDB_HOME** and **JAVA_BIN** is set.

If not, then set it using the following command:

```
export FICDB_HOME=<OFS_COMPLIANCE_STUDIO_INSTALLATION_PATH >/deployed/ficdb
export JAVA_BIN=$JAVA_HOME/bin
```

NOTE Ensure that the **JAVA_HOME** is set; otherwise, set the value of **JAVA_BIN** again.

3. Execute the following script and provide the value to be encrypted as an argument.

```
./FCCM_Studio_Base64Encoder.sh <value to be encrypted>
```

4.3 Notebook Cleanup

If the user wants to delete a notebook or particular case in the notebook from the Data Studio screen, the case ID and notebook ID mappings have to be removed from the `FCC_CM_CASEID_NB_MAPPING` table in the ECM atomic schema.

To cleanup the notebook, follow these steps:

1. Log in to the Data Studio screen.
2. Click **Select Notebooks** and select the notebook to be deleted.
3. Click **Delete Notebooks**. The selected notebook is deleted.

OFSAA Support

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