



Informatica® Cloud Data Quality  
December 2022

# Exception Management

Informatica Cloud Data Quality Exception Management  
December 2022  
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Publication Date: 2022-12-13

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# Preface

Refer to *Exception Management* to learn how to use a rule specification to identify exception records in your data set and to create an exception task from the profiling task that applies the rule specification that you configured to the data. An exception is a record that contains unresolved data quality issues.

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# CHAPTER 1

## Introduction to exception management

An exception record is a record that contains unresolved data quality issues. You can use a rule specification to identify exception records in your data set as part of an exception management process.

You might perform exception management towards the end of a data quality project. For example, you may run a deduplication and consolidation operation on a data set to identify and resolve duplicate records. However, you may be interested in the status of the records whose duplicate scores are on the border of the deduplicate threshold that the operation defined. You can configure a rule specification to identify the records with deduplicate scores below the deduplicate threshold and add exception indicators to the records.

Or, you may complete a pattern-based parsing operation and find that one or more key data columns still contain null data. You can configure a rule specification to flag the records that contain the null values and add exception indicators to the records.

In each case, the rule specification adds data columns to the records that contain the exception data. You can use a profile to review the records.

In the exception management process, you create an exception task from the profiling task that applies the rule specification to the data. At run time, the exception task selects the records that contain the exception data and writes the records to a target that you can download for further processing.

You may decide to process the data further in Informatica Intelligent Cloud Services. For example, you might run additional deduplication and consolidation operations on the data set with a lower deduplication threshold. Or, you may decide to manually review and update the records in another application.

## Exception management prerequisites

Before you and your team can perform exception management operations, you must ensure that you have the correct privileges and permissions on the exception tasks. You must also ensure that the exception task connector is enabled.

To enable all exception management operations, verify the following prerequisites:

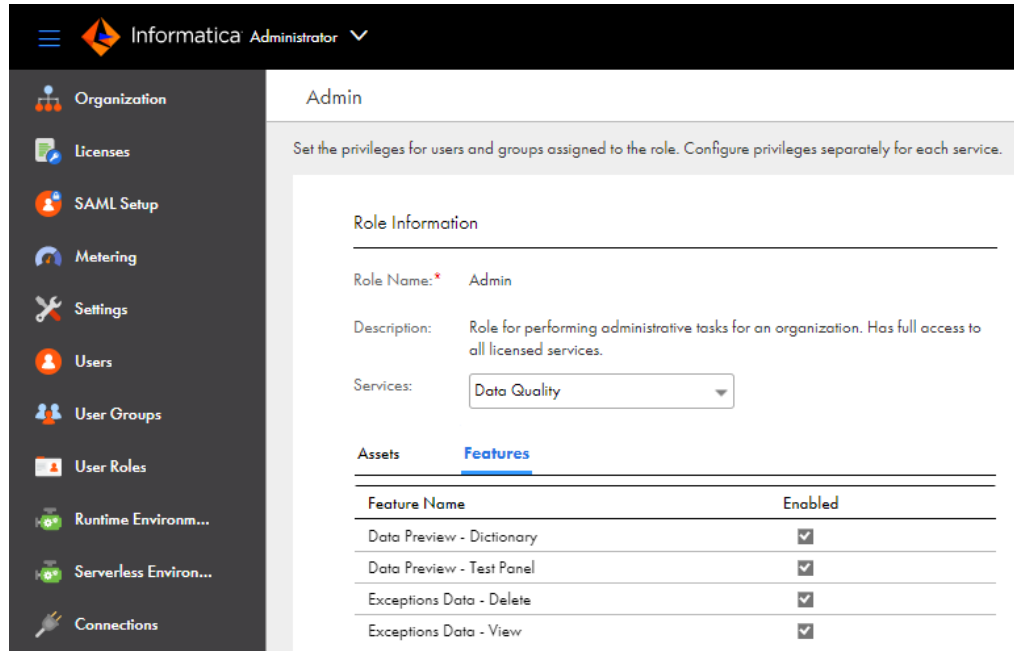
- Verify that the feature privileges for your user role include exception management.
- Verify that the asset privileges for your user role include exception tasks.
- Verify the exception task connector.
- Verify permissions for other users on the exception task assets that you create.

## Verifying exception task feature privileges

You can view and update the feature privileges for your role in Administrator.

1. Open Administrator, and select the **User Roles** page.
2. Select your user role.
3. On the **Services** menu, select **Data Quality**.
4. Select the **Features** tab.

The following image shows the Data Quality features on the tab:



5. Enable the following privileges:

- *Exceptions Data - Delete*
- *Exceptions Data - View*

The *Data Preview - Dictionary* and *Data Preview - Test Panel* features are necessary for many data quality operations. Select the features also.

**Note:** The exception task features are enabled by default on the Admin and Designer user roles. The Admin and Designer roles are system-defined roles. To change the feature privileges for users with a system-defined role, create a custom role and set the feature options that the users need.

## Verifying exception task asset privileges

You can view and update the asset privileges for your role in Administrator.

1. Open Administrator, and select the **User Roles** page.
2. Select your user role.
3. On the **Services** menu, select **Data Quality**.

- On the **Assets** tab, enable the *Exception Task* asset privileges.

The following image shows the Data Quality assets on the tab:

Asset Type	Create	Read	Upd...	Delete	Run	Set Permi...
Cleanse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deduplicate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dictionary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Exception Task	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Labeler	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Parse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rule Specification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Note:** The exception task privileges are granted by default to the Admin and Designer user roles. The Admin and Designer roles are system-defined roles. To change the feature options for users with either role, create a custom role and set the feature options that the users need.

## Verifying the exception task connector

You can view and update the status of the exception task connector in Administrator. To perform exception management, enable the connector.

- Open Administrator, and select **Runtime Environments**.
- On the **Runtime Environments** page, find the runtime environment in which you will run an exception task.
- Hover over the **Actions** icon for the runtime environment, and select the **Enable or Disable Services, Connector** option.

The **Enable/Disable Components in Agent Group** dialog box appears.

- Select the **Connectors** tab.
- Enable the *Data Quality Exceptions* option.

## Verifying permissions on an exception task

When you create an exception task, you inherit all permissions on the task by default. You can use the **Explore** page options to view and update the permissions that the task grants to you and to other users and groups.

- Open the **Explore** page.



2. Select the exception task.
3. Click the **Actions** icon for the exception task, and select **Permissions**.

The following image shows the **Permissions** dialog box for an exception task:

**Permissions: Exception\_Test**

Users and groups with permissions on the asset are listed here. Other users have no access to the asset. If no users or groups are listed, then this asset has no permissions restrictions.

Users		Groups							
<input type="checkbox"/>	User Name ▲	First Name	Last Name	Read	Update	Delete	Execute	Change Permissions	
<input type="checkbox"/>	dqchavkuser	test	user	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Add Remove

Save Cancel

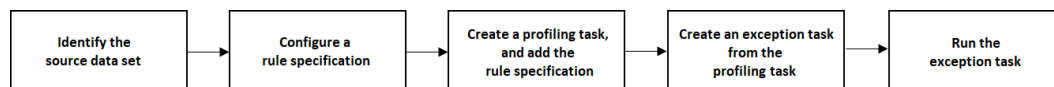
4. Review the Users and Groups lists, and select the user or group whose permissions you want to update. If the user or group name is not present, click **Add** to add them to the appropriate list.
5. Enable or disable the appropriate permissions on the user.

**Note:** Users and groups need Read and Execute permissions to download the exception data. Users and groups need Delete permission to delete the exception data associated with an exception job.

## Exception management process flow

To identify exception records in your data set, you perform steps in Data Quality and in Data Profiling.

The following image shows the steps involved in the exception management process:



**Note:** Although profiling tasks and exception tasks are reusable assets, you must ensure that the tasks are tailored to the data set that you select. You are likely to create a unique profiling task and exception task for each data set that you examine for exception data.

The exception management process includes the following steps:

1. Identify the data set that you will examine for exception records.  
You may decide to examine a data set that you previously updated but that may contain records with unresolved data quality issues.

2. In Data Quality, configure a rule specification asset to identify and update the exception records in the data set.

The rule specification has the following characteristics:

- The rule specification includes one or more rule statements that define the conditions in which a record qualifies as an exception. For example, a record may be an exception if a given input field is null.
  - At least one rule statement includes an action that adds the status value *Invalid* to the records that satisfy the conditions for exception data.
  - The action properties define the exception data to add to the records.
3. In Data Profiling, create a data profiling task and add one or more rule specifications as rules to the task. Include the rule specification that you configured to find and update exception records. Configure the profiling task to read the data set that contains the exception records.
  4. Create an exception task from the profiling task. You can create an exception task in Data Profiling or in Data Quality.

Add one or more rules from the profiling task to the exception task. Include the rule specification that you configured earlier to find and update exception records.

5. Run the exception task, and review the job summary on the **My Jobs** page. Use the link in the summary to download the data that the exception task generated.

You can run the exception task in Data Profiling or Data Quality. Run a single exception task at a time.

You can view the status of your exception jobs from the **My Jobs** page in Data Quality, Data Integration, and Data Profiling.

## Identifying the source data set

As the first step in an exception management process, you select the data set in which you expect to find exception records. The structure of the data set that you select determines the configuration of the assets that you use in exception management.

For example, you might decide to search the output from an earlier data process for records that contain unresolved data quality issues. The data might include records that contain duplicate information, or records with incorrect or non-standard data values, or records with null values in one or more columns. To begin the exception management process, you identify the columns across the data set that are likely to contain that data quality issues that you're interested in. You'll select the columns in the assets that you configure.

The assets that you configure for exception management read the data set in the following ways:

- A rule specification analyzes one or more columns and generates status values that report on the quality of the column values. You select one or more rule specifications in a profiling task.
- An exception task selects records from the data set based on the status that the rule specifications report. You create the exception task from the profiling task that includes the rule specifications.

**Note:** You configure a rule specification with *inputs* that represent the columns in the source data set. Create an input for each column in the data set that you want to analyze. The data properties that you configure for rule specification inputs must match the data properties of the corresponding columns in the data set.

# Creating a rule specification

A rule specification maps the objective of a business rule into asset logic. Configure the different elements in the rule specification to represent the data that the business rule applies to and the steps that the business rule must perform.

For example, in an exception management project, the business rule objective is the identification of exception records. The key configurable element in a rule specification for exception management is the rule statement or statements that define an *Invalid* status value as an action.

1. Click **New > Rule Specification**. Data Quality opens the **Rule Specification** page.

2. On the **Definition** tab, enter a name for the rule specification.

3. Optionally, enter a description.

**Tip:** Enter a summary of the underlying business rule as the description.

4. Select the location in which to save the rule specification.

Because you are creating the asset, you can ignore the Asset References fields. A new asset contains no asset references.

5. Save the rule specification.

Data Quality replaces the Asset References fields with fields that include the creation date and the name of the asset creator.

6. Select the **Configuration** tab.

Data Quality displays the configuration workspace for the rule specification. The Configuration tab includes the **Design** panel and the **Properties** panel.

Optionally, click the **Inputs** tab in the **Properties** panel to add one or more inputs.

7. On the **Properties** panel, click the **Rule Logic** tab to configure the a rule statement.

Configure the following elements in the rule statement:

- Input. The condition reads the input that you add.
- Operator. The operator specifies the type of comparison operation that a condition performs.
- Condition. A condition is a data operation that a rule statement specifies for the input data values.
- Action. An action specifies the output from a rule statement.  
To add exception data to the records that the rule statement identifies as exceptions, you must configure an action with the status value of *Invalid*. Use the action properties to add descriptive data to the records.

You can add multiple rule statements if required to identify exception records.

8. Save the rule specification.

## Exception data options

You can configure an action to add exception data to a record. The data that you add allows a downstream user to find exception records and to understand the reasons why a record is an exception.

Use the **Configure Exception Data** dialog box options to define the exception data. The action properties enable the dialog box when you select **Invalid** as a status value in the action.

The following image shows the options on the **Configure Exception Data** dialog box:

The dialog box contains the following options:

1. **Add Exception Details.**  
Indicates whether the rule statement adds exception data to records. The rule statement can add exception data to a record if it assigns *Invalid* as a status value to the record. You specify the exception data in the **Exception priority** and **Exception description** fields.  
Select the option to add the exception data. The option is cleared by default.
2. **Exception priority.**  
Indicates the priority of the data quality issue that defines the record as an exception.  
You can select one of the following options:
  - Minor
  - Major
  - Critical
3. **Exception description.**  
Describes the data quality issue that defines the record as an exception. You enter the description, for example "Potential Duplicates."

## Creating a profiling task

You can create and run a profiling task to view and analyze the content and structure of a source object.

1. In Data Profiling, click **New**.
2. In the **New** dialog box, click **Data Profiling Task**.  
The **Profile** page contains a **Definition** tab and a **Schedule** tab.
3. On the **Definition** tab, enter the asset, source, and profile details. Select the data set that in which you expect to find exception records. You can also choose columns and add a filter for the profiling task. Select the columns that may contain the exception data.

Based on the source object and the attributes that you choose, Data Profiling adds a **Rules** tab to the profiling task.

4. On the **Rules** tab, add one or more Data Quality assets as rules to the profiling task.
  - You can add a cleanse, labeler, parse, or rule specification asset to view the impact of the corresponding data quality operations on the source data.
  - Select a rule specification that can add exception management data to the source data.

**Note:** The properties on one or more of the inputs that you defined in the rule specification must match the columns that contain the exception data.
5. On the **Schedule** tab, optionally choose a runtime environment and schedule. You can also change the default email notification options and advanced options for the profile run as necessary.
6. Choose one of the following options to save and run the profiling task:
  - Click **Save** to save the profiling task.
  - Click **Run** to save and run the task. You run the task to generate a profile of the source data.
  - Save the profiling task and choose a schedule on the **Schedules** tab to run the profiling task.

## Creating an exception task

To create an exception task, you use a data profiling task that contains a rule specification that can identify exception data. Use Data Profiling or Data Quality to create an exception task.

1. From the **Explore** page, open a profiling task.

**Note:** Ensure that the profiling task contains a rule specification that can identify exceptions.
2. Select the **Create Exception Task** option from the **Menu**.

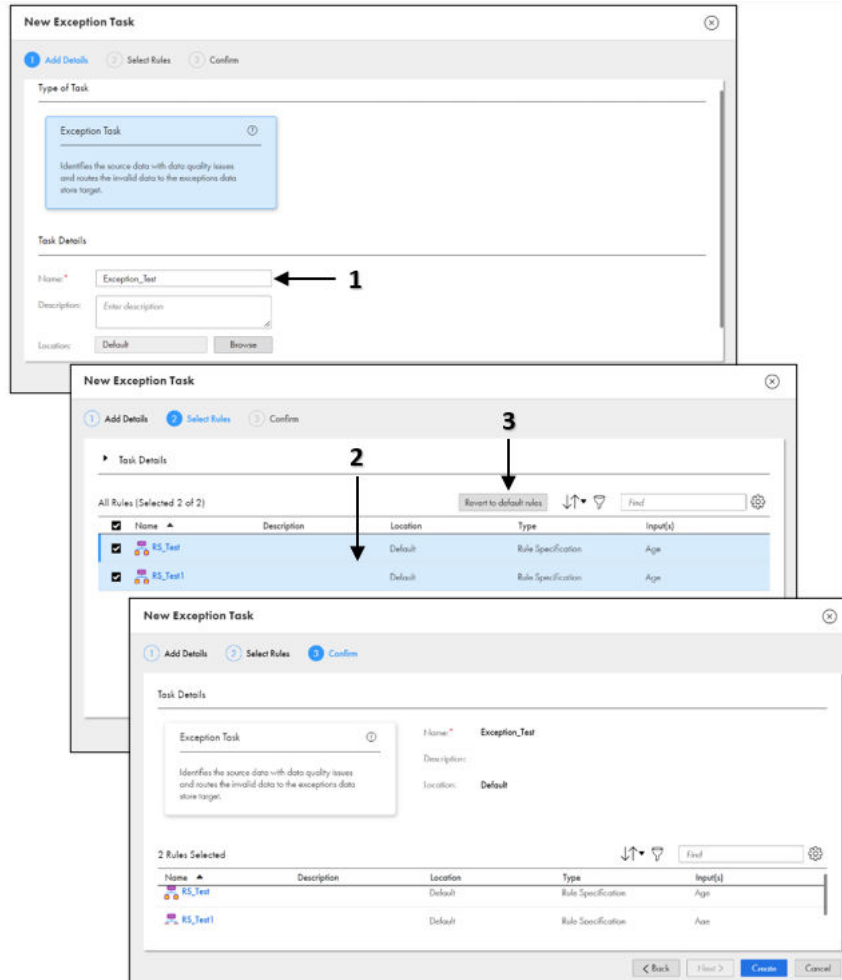
The **New Exception Task** dialog box appears.
3. On the **Add Details** page, configure the following fields:
  - Name. Enter a name for the exception task.
  - Description. Optionally, enter a description.
  - Location. Select the location in which to save the exception task.
4. Click **Next**.
5. On the **Select Rules** page, you can select one or more rule specifications from the profiling task. Select at least one rule specification that can identify exceptions.

By default, the **Select Rules** page displays and selects all of the rules. You can expand the Task Details to view the details of the task.
6. Click **Next**.
7. On the **Confirm** page, review the task details and the selected rules, and click **Create**.

## Exception task configuration options

When you create an exception task, you select one or more rule specifications to apply to the data.

The following image shows the options on the **New Exception Task** dialog box:



The dialog box contains the following options:

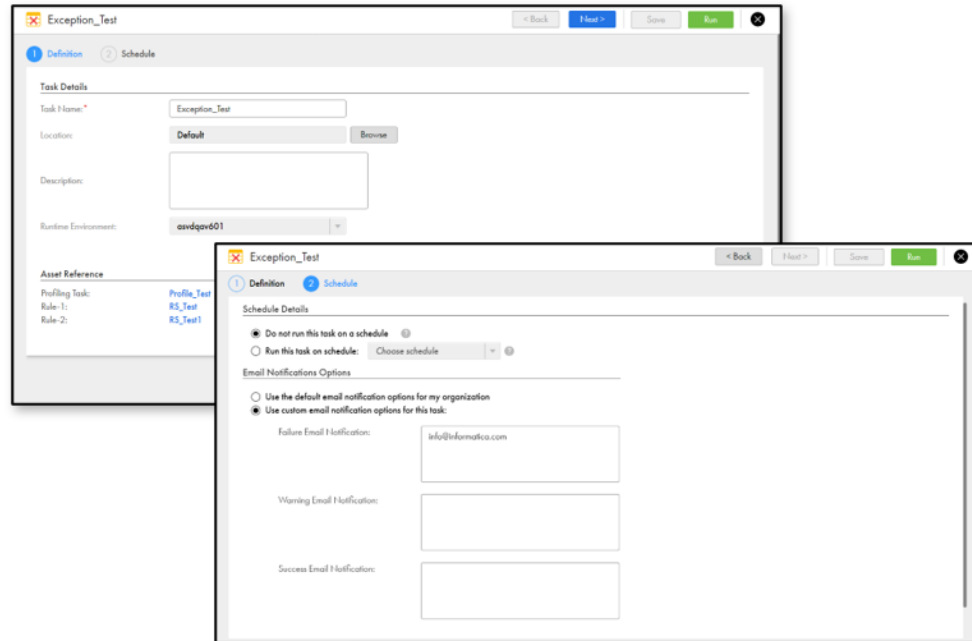
1. Exception Task name.  
Specifies the name of the exception task that you create.
2. Rules option.  
Displays the rule specifications that you can select. By default, the exception task selects all of the rule specifications available on the profiling task. You can select one or more rule specifications.
3. Revert to default rules.  
Selects all of the rule specifications from the profiling task.

# Running an exception task

After you create an exception task, you can run the exception task manually or on a schedule. Use Data Quality or Data Profiling to run the exception task that you create. At run time, the exception task applies the rule specifications that you selected to the data set and writes the exception records to a file that you can download.

1. From the **Explore** page, open the exception task that you created.

The following image shows the job execution options in an exception task:



2. On the **Definition** page, verify the task details and the asset references.

The asset references identify the profiling task from which you created the exception task. The profiling task identifies the data set that the exception task reads. The asset references also identify the rule specifications that run on the data set.

3. Click **Next**.
4. On the **Schedule** page, optionally define a schedule and an email notification option for the exception job. For information about the task schedule options, see [“Schedule and email notification options” on page 16](#).
5. Click **Save**.
6. Click **Run**.

The exception task writes the exception records that it identifies to an the exception data store. You can download the records from the **My Jobs** page when the task completes.

**Note:** You can view the database connection for the exception data store on the **Connections** tab in Administrator.

## Schedule and email notification options

You can run an exception task manually, or you can use schedules to run the task at a time or interval that you specify. You can also select the users to notify about the outcome of a job that runs an exception task.

Configure schedules and notifications on the **Schedule** page.

### Schedule Details

You can configure the options on the **Schedule Details** panel to run an exception task on a schedule.

The following table describes the options that you can choose in the **Schedule Details** panel:

Option	Description
Do not run this task on a schedule	Choose the option if you want to manually run the exception task.
Run this task on a schedule	Choose a schedule to run the exception task. You can create, view, edit, and delete schedules in Administrator. To delete a schedule for an exception task, you must dissociate or delete the assets linked to the schedule.

### Email Notification Options

You can configure the email notification options to notify users about the outcome of a job that runs an exception task. You can configure the task to send email notifications when an exception task completes successfully, when a task completes with one or more warnings, and when the task job fails.

The following table describes the email notification options that you can choose for an exception task:

Option	Description
Use the default email notification options for my organization	Choose to send the notifications to the default email addresses that your organization specifies for each type of job outcome. The <b>Organization</b> tab in Administrator lists the email recipients for each outcome. For more information, see <i>Administrator</i> in the Administrator help.
Use custom email notification options for this task	Choose to send the notifications to one or more email addresses based on the job outcome. You can enter one or more email addresses for each type of outcome. Use a comma to separate multiple email addresses for a given type of outcome.

## Exception task outcomes

The exception task writes the exception records that it identifies to the exception data store. You can download the records that the task identifies as exceptions. You can also retrieve the session log for the job in which the task ran.

When you download the exception records, you can analyze or resolve the data quality issues that records contain in a separate data process. If your organization no longer needs the exception records, you can delete the records and associated exception data from the exception data store.

To download exception records and delete exception data, your user role must have the *Exceptions Data - View* and *Exceptions Data - Delete* feature privileges. Additionally, you must have *Read* and *Execute*



permissions on an asset to download the asset, and you must have *Delete* permission on an asset to delete the asset.

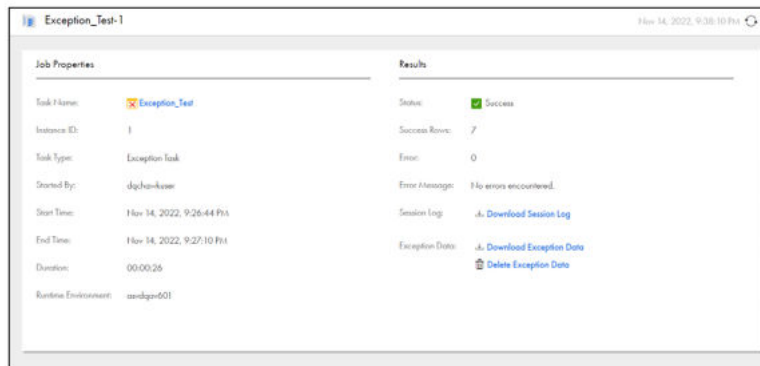
## Downloading and deleting exception data

You can download the exception records that an exception job identifies. If you no longer need the records, you can delete the records and the associated exception data from the exception data store.

Perform the operations on the **My Jobs** page. You can open the page in Data Quality, Data Profiling, or Data Integration. You can also view the details of the exception task job on the **My Jobs** page.

1. Open the **My Jobs** page. The **My Jobs** page lists all of the jobs that you run.
2. On the **My Jobs** page, click the job name. The page displays detailed information about the exception job.

The following image shows the details of an exception job:



3. In the Results area on the exception job page, you can perform the following operations:
  - To download the exception data associated with the exception job, click **Download Exception Data**. You can download the data in a comma-separated or Microsoft Excel format.
  - To delete the exception data that the job identifies, click **Delete Exception Data**.
  - To download the session log for the exception task job, click **Download Session Log**.

**Note:** You can stop and resume a job on the **My Jobs** page.

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