

# DQ Advanced

v15.4.x

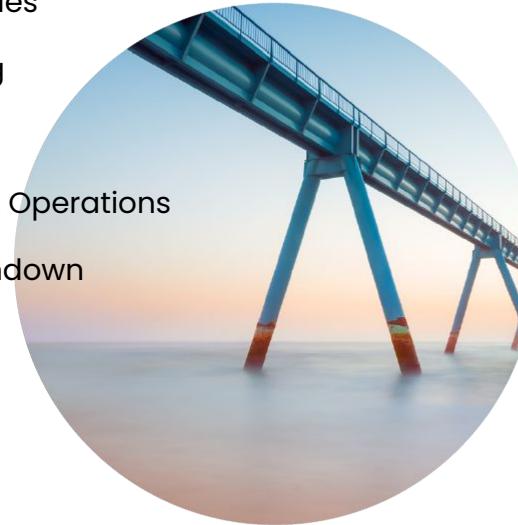


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# Agenda

## DQ Advanced

1. ONE Desktop Integration
2. Integration Steps
  - a. Metadata Steps
  - b. Data Quality Steps
3. Data Slices
4. Virtual Catalog Items
5. Component Rules
6. Post Processing
7. Data Export
8. Import & Export Operations
9. Snowflake Pushdown
10. DQ Firewalls



There are 4 practical lab exercises on this course.

# ONE Desktop Integration

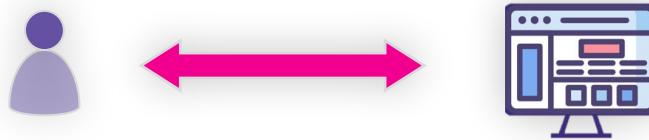


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# Typical Integration Scenarios (1/2)

## Standard User Interaction.

- Majority of user tasks can be performed **directly** in the **ONE Web application**:
  - **Consumes data**/information directly via the Web application.
  - Browse **Catalog items**, **Business Terms**, run **DQ evaluations**, create **Rules** etc.
- All activities are defined within a range of the predefined configuration of the Web Application.
- Any task outside the scope of the default features set require integration with the ONE Desktop.



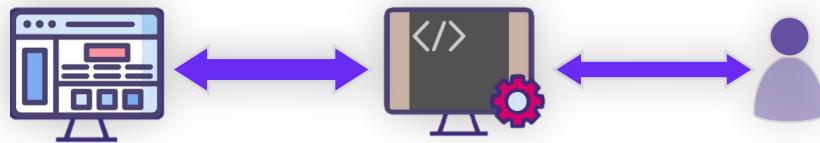
# Typical Integration Scenarios (2/2)

## Structure & Configuration Changes

- Involve ONE Desktop to support extended range of abilities.

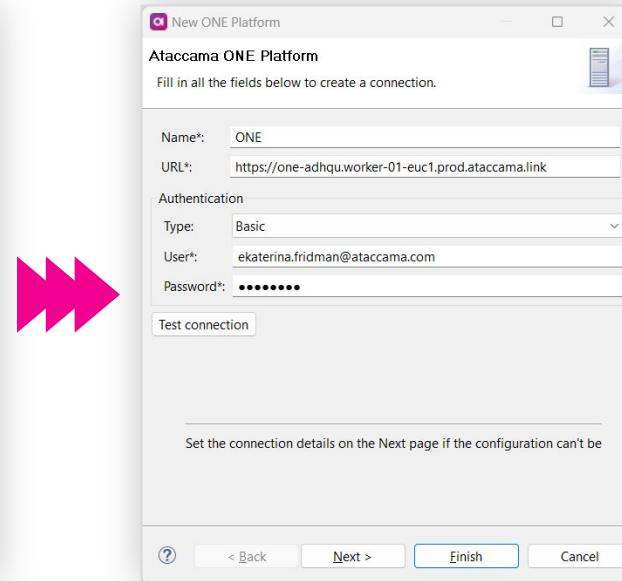
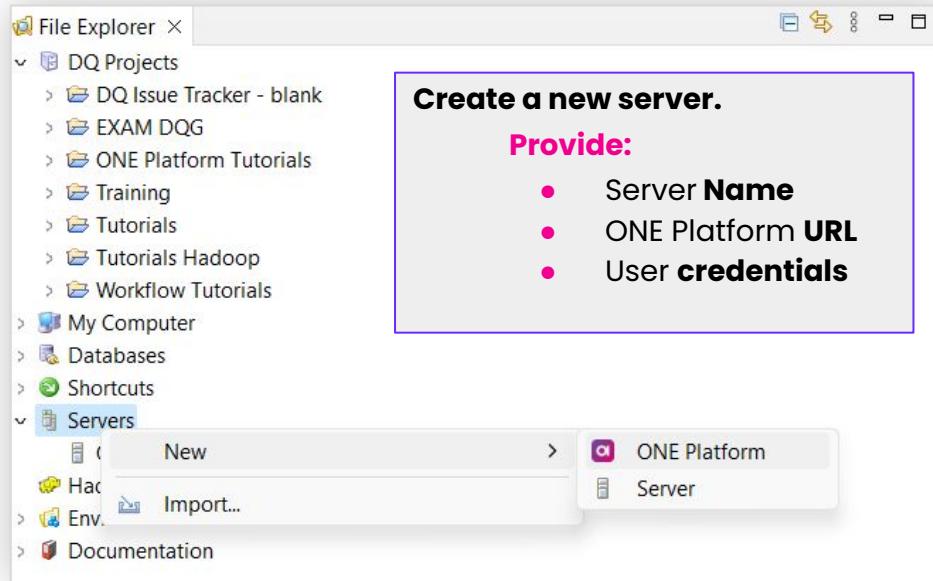
## ONE Desktop can be used to apply the following:

- Update the properties and metadata of the ONE Web Application structure.
- Create customized Catalog items (Virtual Catalog items).
- Export DQ Validation results out of the Web Application via post-processing plans.
- Access and consume data from existing Catalog Items.
- Read and process properties of entities existing in the ONE Web Application.



# Connect to Ataccama ONE Platform

In order to link the ONE Web application with the IDE, a server with the Implementation type of ONE Platform must be set up.



# ONE Server Definition

If the server configuration cannot be loaded after providing the ONE URL, enter the information yourself as a fallback option.

The screenshot shows the 'Edit Server' dialog box with the following fields:

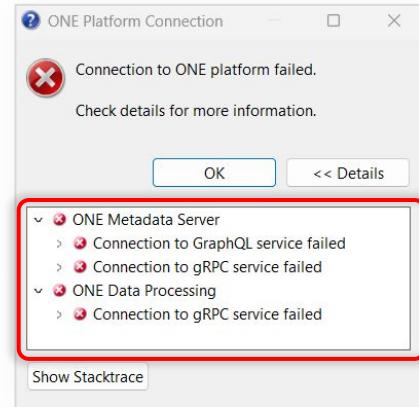
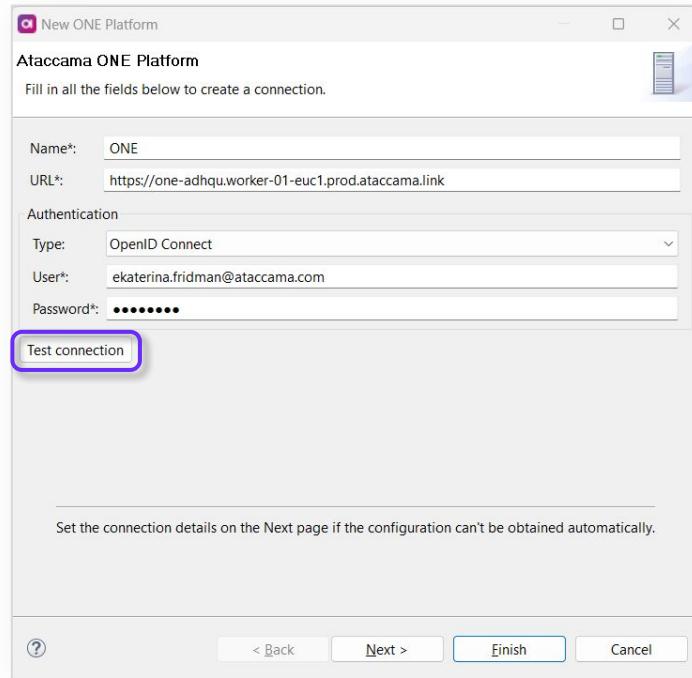
- Implementation:** Ataccama ONE Platform
- Name:** ONE
- URL\*:** https://one-adhqu.worker-01-euc1.prod.attaccama.link
- Authentication**:
  - Type: Basic
  - User\*: ekaterina.fridman@attaccama.com
  - Password\*: [REDACTED]
- ONE Metadata Server**:
  - GraphQL URL\*: https://one-adhqu.worker-01-euc1.prod.attaccama.link/graphql
- ONE Data Processing**:
  - Admin Console URL\*: https://dpm-one-adhqu.worker-01-euc1.prod.attaccama.link
  - gRPC host: dpm-grpc-one-adhqu.worker-01-euc1.prod.attaccama.link Port: 443  TLS
  - Public key:  
("kty": "EC", "crv": "P-256", "kid": "rghRMsTDlKHbqjsNugGIE\_UhvN72lupg6FKDu7Kqw", "x": "PDWqQ9D9IVSGSHvozY6IMc2C165fuhaxOxfwpm0", "y": "R3XK\_fnXrcGraDg6CfmRD91bMLXultm9uqU8XScyX4c", "alg": "ES256")
- Test connection** and **Load configuration** buttons
- Environment**: Default
- Finish** and **Cancel** buttons

Annotations with arrows point to specific sections:

- Default Connection details** points to the URL field.
- Metadata Core Details** points to the GraphQL URL field.
- Data Processing Configuration** points to the Admin Console URL field.
- Test if your modules have been configured properly** points to the Test connection button.
- Login credentials to the web application** points to the Authentication section.
- Configuration can be imported from a .runtimeConfig file or service URL** points to the Load configuration button.

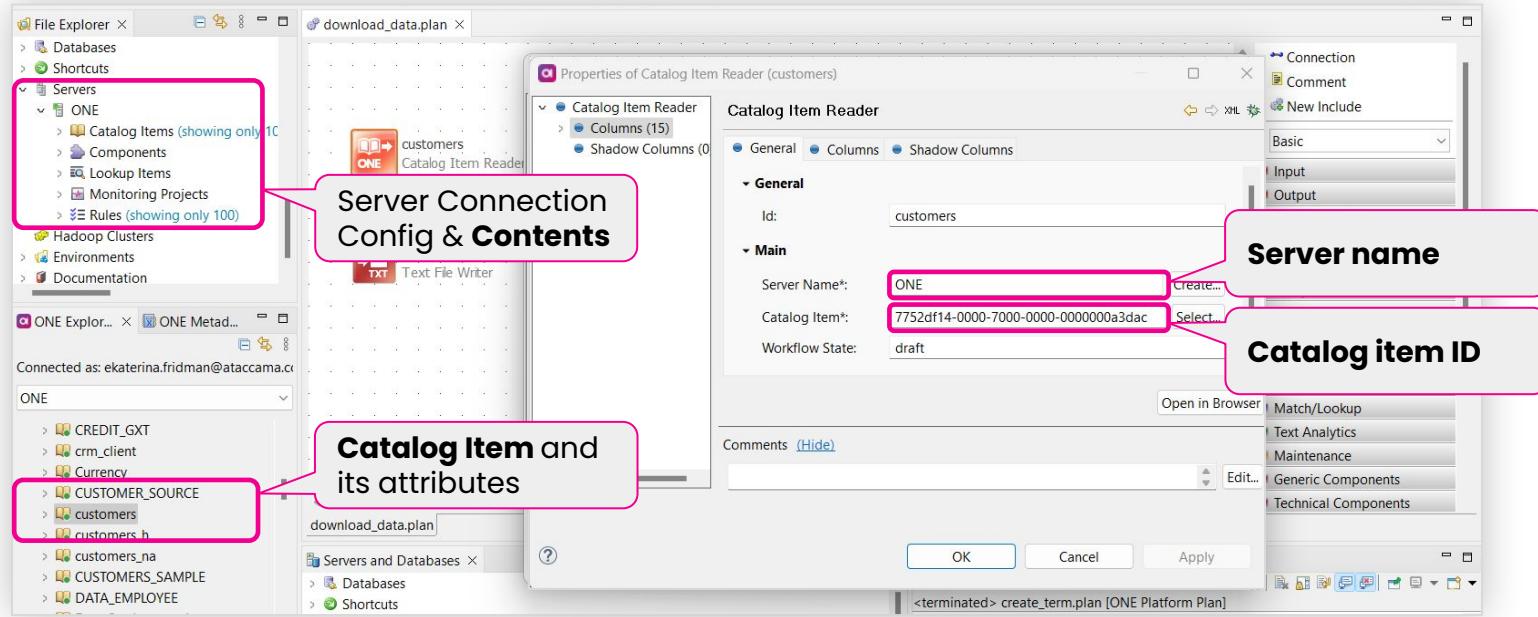
# ONE Server Definition

**Each server module is connected individually. You can still use some of ONE's features and not be successfully connected to all available services.**



# ONE Server Definition

Refer to the defined ONE Platform server connection whenever you use it for integration with the Web Application.



# ONE Web Application Browsing

Connecting to a ONE Web Application server, two view tabs will become available.



## ONE Explorer

- View details of existing **Catalog items**, Lookups or Rules, etc.
- Browse **metadata** and **properties** of all existing assets.
- Access each element directly in the web application via the attached link.



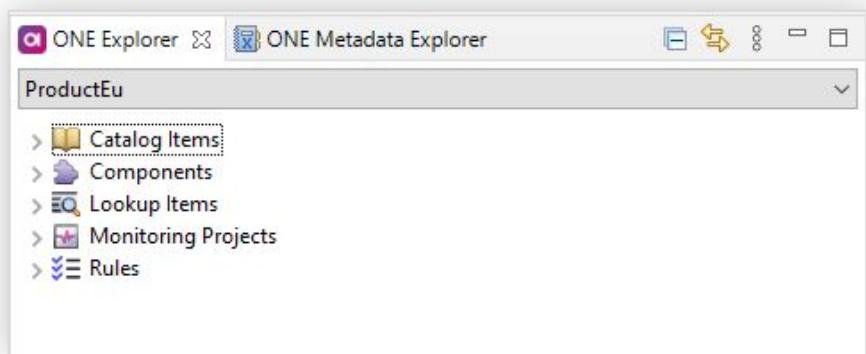
## ONE Metadata Explorer

- Access the **complete structure** of the ONE's platform **metadata**.
- Drill down to the details of any **property**.
- See how the **platform configuration** is deployed.

# ONE Explorer

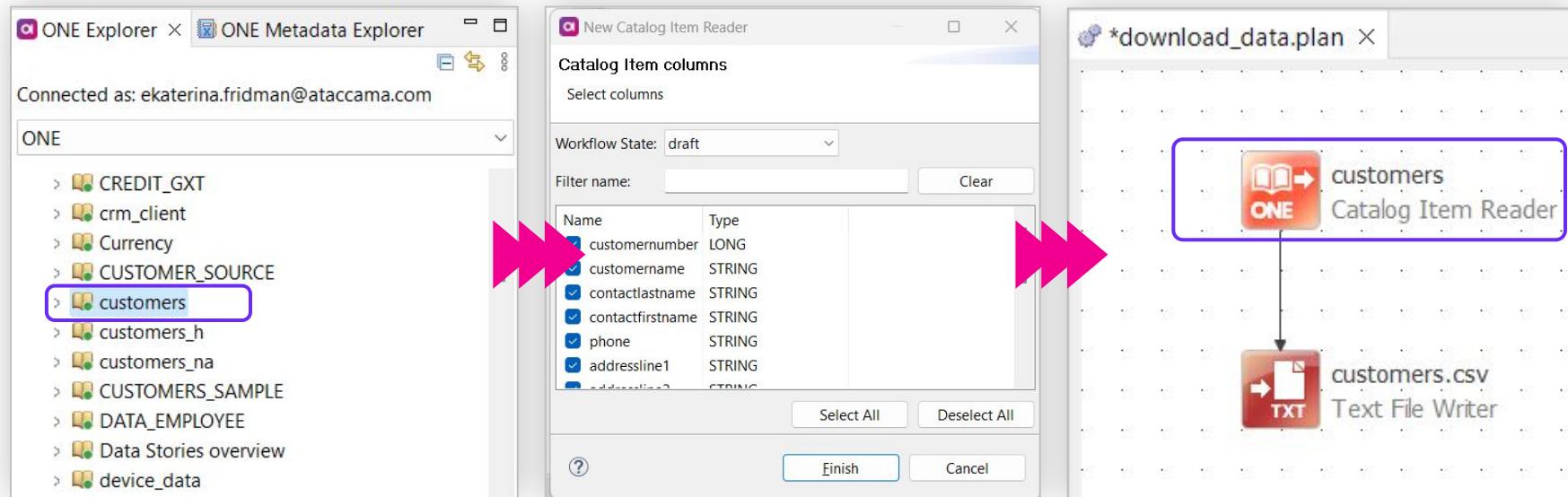
The ONE Explorer view allows you to work with the following:

- **Catalog Items**
  - Use any data content in your IDE plans
  - Modify and create Virtual Catalog Items.
- **Components**
  - Implement component's logic in the IDE.
- **Lookups**
  - Use Lookup files as resources.
- **Monitoring Projects**
  - Create post processing plans to export project results from the ONE Web App.
- **Rules**
  - Download a Rule from ONE and use its logic as a component in the IDE.



# ONE Explorer

To use an item in a ONE Desktop plan, simply Drag & Drop it from the view onto the canvas and configure it in the pop-up window.



# ONE Explorer

Through the ONE Explorer view, properties can also be explored directly.

The diagram illustrates the transition from the ONE Explorer interface to a detailed properties view. On the left, the ONE Explorer interface shows a list of catalog items, with the 'customers' item selected. A large pink arrow points from this selection to the right, where a detailed properties view for the 'customers' catalog item is displayed. The properties view includes fields like id, name, connection, description, owner, steward, originPath, etc., each with its corresponding value.

List of existing Catalog items

Defined properties and their values for the selected Catalog item

customers

Summary

profilingConfigurationInstances

anomalyHistory

aggregatedTerms

importLog

datainstances

schedules

id	5f463b19-0000-7000-0000-0000000519ca
name	customers
connection	5f463b19-0000-7000-0000-0000000518db
description	[{"type": "paragraph", "children": [{"text": "Represents customer data specifying:"}]}, {"type": "bulleted-list", "children": [{"type": "list-item", "children": [{"text": "contact information"}]}], "type": "list-item", "children": [{"text": "address"}]}], {"type": "list-item", "children": [{"text": "sales person as well as credit limit available to a client."}]}], {"type": "paragraph", "children": [{"text": "Geographical segmentation: worldwide."}]}
owner	68bfd3e1-0000-7000-0000-0000000913f6
steward	68bfd3e1-0000-7000-0000-0000000913eb
originPath	transactional_customer_data/customers
numberOfAttributes	15
numberOfRecords	122
tableType	TABLE
schema	transactional_customer_data
catalog	

# ONE Metadata Explorer

The **ONE Metadata Explorer** view displays the structure of the platform entities and their properties.

- Allows **browsing** of any platform's property
- Is **Read-only**

Note that it is not possible to **create** or **change** entities through this tab; any changes to be applied should be done either directly in the Web application or through ONE Desktop plans.



## Metadata Mode

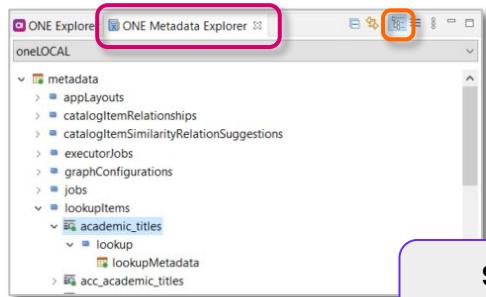
- Displays details of each **individual item**.
- Browses any **user's details, existing policies, applied rules**, etc.



## Metadata Presentation Mode

- Observes the **definitions of each item type**, which are relevant to all individual items of that type.
- Discovers how **parameters are configured** to be able to alter them in the **Web application**.

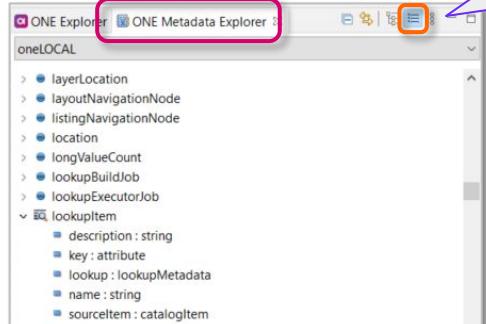
# ONE Metadata Explorer



Metadata mode:



Switch between two  
Metadata viewing modes



Metadata  
Presentation mode:



Displays individual element's properties:

A screenshot showing the properties of an 'academic\_titles' element. The title bar says 'academic\_titles'. The main pane shows a summary table with fields: id (58979841-1b67-4691-ba6d-3bfce4d70db) and name (academic\_titles). A 'lookup' tab is visible on the right.

Displays global properties of an element:

	Property	Value
Basic	description	string
Advanced	key [attribute]	
	anomalyExplanations [attributeAnomalyExplains]	
	category	string
	explanation	string
	state	string
	anomalyState [attributeAnomalyState]	
	catalogItemProfileGid	string
	feedback	string
	profiledAt	timestamp
	state	string
	catalogItem [attributeCatalogItem]	

# Topic Highlights

- The ONE Web Application functions independently but requires integration with the ONE Desktop to access its extended features.
- Integration scenarios in high level include:
  - Read and update the ONE metadata structure.
  - Export, consume and update the ONE assets.
- **Establishing a connection to the ONE server from the ONE Desktop is a prerequisite for all integration scenarios.**



# Memory Refresher #1

## ONE Desktop Integration

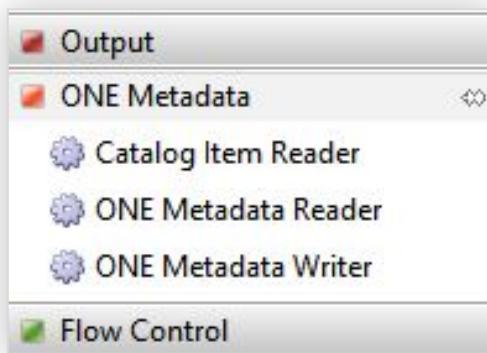


# Integration Steps



# ONE Metadata Steps

The following Steps categorized as ONE Metadata steps, can be used to communicate with the ONE web application from the ONE Desktop:



Catalog Item Reader	
 ONE	Provisions data extracted from any existing Catalog Item to be further used in plans.
ONE Metadata Reader	
 ONE	Reads metadata of any entity from the ONE Web application (e.g., <b>policies</b> , <b>user roles</b> , <b>status of any property</b> ...). Use it to extract important data for further processing via the IDE defined logic – components, workflows etc.
ONE Metadata Writer	
 ONE	Writes metadata of an entity to the ONE Web application and manages changes to it from the IDE perspective.



# Catalog Item Reader

- **Catalog Item Reader** step allows to read data from Catalog Items (e.g., tables, files) defined in the ONE Web Application.
- User can choose between the **Draft** or **Published** workflow states of the Catalog Item.
- Connection to the ONE Metadata Server is required.

**Catalog Item Reader**

Provisions data extracted from any existing Catalog Item to be further used in plans.

**Properties of Catalog Item Reader (customers)**

**Catalog Item Reader**

**General**

**Main**

Property	Value
Id	customers
Server Name*	ONE
Catalog Item*	5f463b19-0000-7000-0000-0000000519ca
Workflow State:	draft

# How to use Catalog Item Reader step? (1/3)

## ONE Web Application

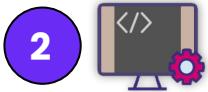


- Identify the **Catalog Item** whose data should **be imported from the Web Application**.

The screenshot shows the Ataccama Knowledge Catalog interface. On the left is a sidebar with various navigation options like Data Catalog, Catalog Items, Reports, Anomaly Overview, Data export projects, Master Data, Reference Data, Not Monitored, Sources, Term Suggestions, and Lineage Import. The main area is titled 'Sources > KS Training > postgres > public customers'. It has tabs for Overview, History, Data, Data Structure, Lineage, Data Quality, Profile & DQ Insights, Relationships, Data Export & Transformations, and Sample profiling. The 'Overview' tab is selected. Under 'Attributes', there is a list of columns: customernumber (Customer code), customername (Customer), contactlastname (Surname), contactfirstname (First name), phone (North American Phone Number), addressline1 (Street with number), addressline2 (Street with number), city (USAN City), state (USAN State), and postalcde (3841 Zip code). Each attribute has a green status icon and a percentage value. Below the attributes is a 'Data Quality' section showing Overall Quality at 23%, Validity at 23%, Completeness at 40%, and Accuracy at 27%. To the right of the main content are sections for Glossary terms, Summary (with fields for Description, Source, Origin, Table type, and Number of records), Stewardship, and Purpose.

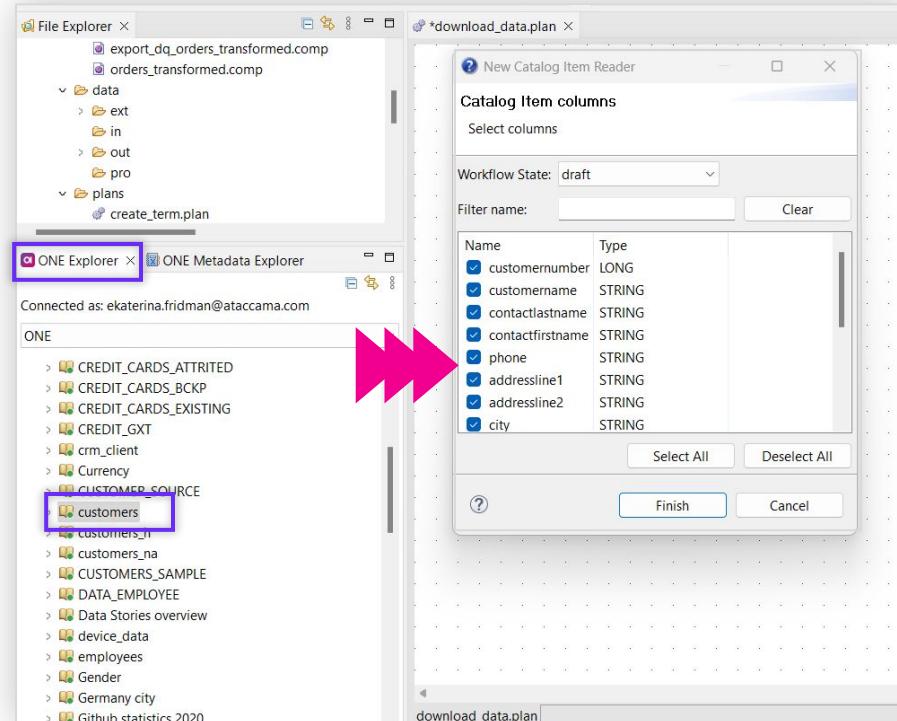
# How to use Catalog Item Reader step? (2/3)

ONE Desktop



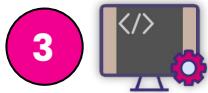
Catalog Item Reader step can be created in two ways:

- Directly from the **steps palette** which requires the step to be configured from scratch.
- By **drag & drop** action from the **ONE Explorer** tab which prepopulates the step with the configuration details of selected Catalog Item.

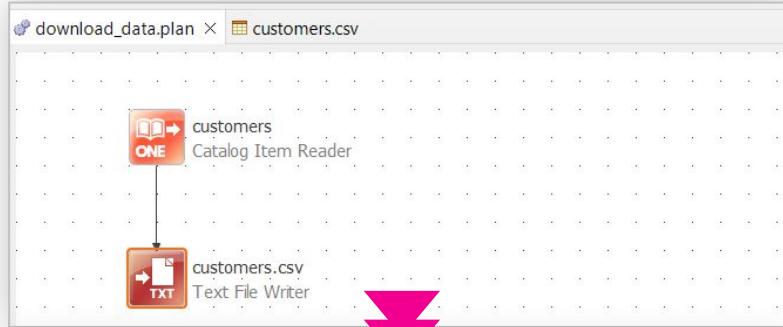


# How to use Catalog Item Reader step? (3/3)

## ONE Desktop



- Complete the plan with any logic as necessary.
- The final plan output will contain the Catalog Item's data and any further processing logic if defined.



The screenshot shows the Ataccama ONE Desktop interface displaying the contents of the "customers.csv" file. The data is presented in a table with the following columns: customernumber, customername, contactlastname, contactfirstname, and phone. The data rows are as follows:

	customernumber	customername	contactlastname	contactfirstname	phone
1	121	Baane Mini Imports	Bergulfsen	Jonas	07-98 9555
2	124	Mini Gifts Distributo...	Nelson	Susan	4155551450
3	128	Blauer See Auto, Co.	Keitel	Roland	+49 69 66 90 2
4	129	Mini Wheels Co.	Murphy	Julie	6505555787
5	131	Land of Toys Inc.	Lee	Kwai	2125557818
6	141	Euro+ Shopping Ch...	Freyre	Diego	(91) 555 94 44
7	144	Volvo Model Replica...	Berglund	Christina	0921-12 3555
8	145	Danish Wholesale I...	Petersen	Jytte	31 12 3555
9	146	Saveley & Henriot, ...	Saveley	Mary	78.32.5555
10	148	Dragon Souveniers,...	Natividad	Eric	+65 221 7555
11	151	Muscle Machine Inc	Young	Jeff	2125557413
12	157	Diecast Classics Inc.	Leong	Kelvin	2155551555

# How to use Catalog Item Reader step?(Summary)

1

ONE Web Application

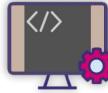


Identify the object

The screenshot shows the Ataccama Knowledge Catalog interface. On the left, there's a sidebar with various navigation options like 'Knowledge Catalog', 'Data Catalog', 'Reports', 'Anomaly Overview', etc. The main area is focused on the 'customers' catalog item. It displays attributes such as 'customernumber', 'customername', 'contactlastname', 'contactfirstname', 'phone', 'addressline1', 'addressline2', 'city', 'state', 'postalcode', and 'country'. Below this, there's a 'Summary' section with a count of 122 records. A 'Workflow State' section indicates the state is 'draft'. At the bottom, there's a 'Data Quality' section showing an overall quality of 23%.

2

ONE Desktop



Specify the object's properties

This screenshot shows the 'Catalog Item columns' configuration dialog. It lists columns from the 'customers' catalog item: customernumber, customername, contactlastname, contactfirstname, phone, addressline1, addressline2, city, and state. Each column has a checkbox next to it, all of which are checked. The 'Workflow State' is set to 'draft'. A red arrow points from the 'customers' catalog item in the background file explorer to the 'customers' entry in the catalog item columns dialog.

3

ONE Desktop

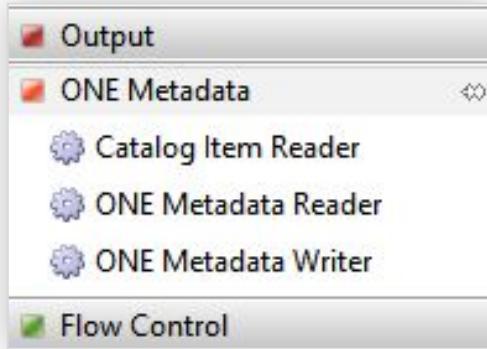


Construct the processing logic

The screenshot shows a workflow step named 'customers Catalog Item Reader'. This step is connected to a 'Text File Writer' step, which is outputting a file named 'customers.csv'. Below the workflow, a preview table shows sample data from the 'customers' catalog item. The table includes columns: customernumber, customername, contactlastname, contactfirstname, and phone. The data consists of 10 rows of customer information.

	customernumber	customername	contactlastname	contactfirstname	phone
1	121	Baane Mini Imports	Bergulfesen	Jonas	07-98 9555
2	124	Min Gifts Distribu...	Nelson	Susan	4155551450
3	128	Blauer See Auto, Co	Ketel	Roland	+49 69 66 90 2555
4	129	Mini Wheels Co.	Murphy	Julie	6505555787
5	131	Land of Toys Inc.	Lee	Kwai	2125557818
6	141	Euro+ Shopping Ch...	Freyre	Diego	(91) 555 94 44
7	144	Volvo Model Replica...	Berglund	Christina	0921-12 3555
8	145	Danish Wholesale...	Petersen	Jytte	31 12 3555
9	146	Savely & Henrot, ...	Savely	Mary	78.32.5555
10	148	Dragon Souvenirs,...	Natividad	Eric	+65 221 7555

# ONE Metadata Reader / Writer



**ONE Metadata Reader**



Reads metadata of any entity from the ONE Web application (e.g., **policies**, **user roles**, **status of any property**...). Use it to extract important data for further processing via the IDE defined logic – components, workflows etc.

**ONE Metadata Writer**

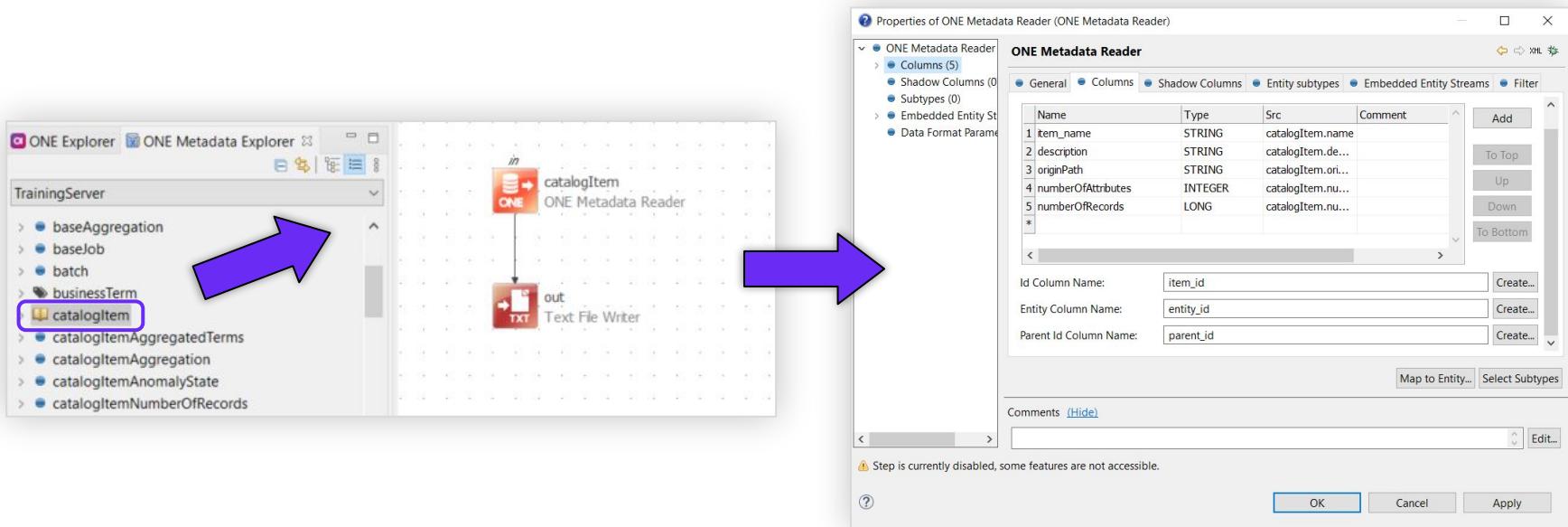


Writes metadata of an entity to the ONE Web application and manages changes to it from the IDE perspective.



# ONE Metadata Reader

- Can **read the structure** of any **object**, **element** or **property** that exists in the ONE Web application.
- By default, a **standard set** of object's **properties** can be **extracted**.
- Extracted information through this step is useful for **further processing** – exports, workflows, components etc.





# ONE Metadata Reader

## Typical examples of use include:

- **Create customized reports** in 3rd party tools to display DQ Rules results of your data.
- Create a **data transformation** plan, using data from the **MMM**.
- **Search the data** via **applied rules** by providing its name or input attributes.
- **Create reports** by combining information about a **data catalog** and its **profiling results**.



# ONE Metadata Reader

The step also allows creation of **Embedded Entity Streams** to:

- **Output additional elements** relevant to the **parent entity**.
- **Compute or extract** information that is **not part of the default** step's configuration.
- Simultaneously **process multiple** combinations of **attributes/properties** of each **object**.

ONE Explorer

TrainingServer

- businessTerm
- catalogItem
  - fileCatalogItem
  - mdmEntityCatalogItem
  - metastoreTableCatalogItem
  - rdmBaseCatalogItem
  - tableCatalogItem
  - virtualCatalogItem
  - aggregatedItems : catalogItemAggregation
  - anomalyState : catalogItemAnomalyState
  - attributes : attribute
    - attributesStatistics : attributesStatistics
  - catalogItemSource : catalogItemSource
  - connection : connection
  - description : richtext
  - dqEvalAggr : dqEvalAggr
  - importLog : importLog
  - name : string
  - numberOfAttributes : integer
  - numberOfRecords : integer
  - numberOfRecordsCC : catalogItemNumberOfRecords
  - originPath : string
  - owner : person
  - profilingConfigurationInstances : profilingConfigurationInstances
  - steward : person
  - termInstances : termInstance
- CatalogItemAggregatedTerms

MMM Reader Root Stream Config

General Entity subtypes Embedded Entity Streams

Name\*: attributes

Attribute\*: attributes

Columns:

Name	Type	Src
1 attribute_name	STRING	attribute.name

MMM Reader Root Stream Config

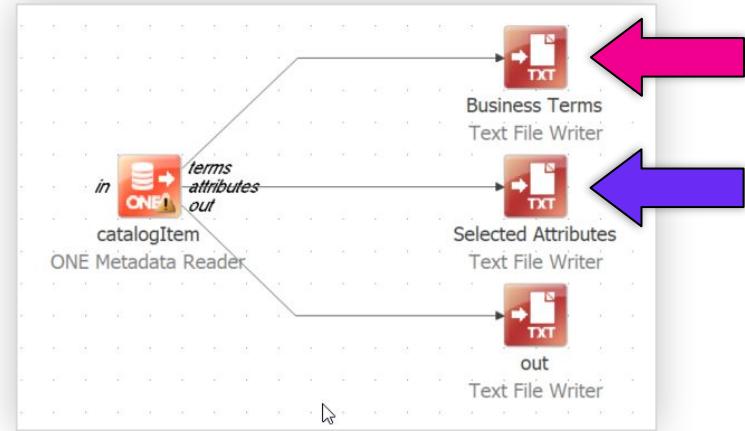
General Entity subtypes Embedded Entity Streams

Name\*: terms

Attribute\*: termInstances

Columns:

Name	Type	Src
1 displayName	STRING	termInstance.displayName





# ONE Metadata Writer

This step can modify the structure of the ONE Web application.

**It can be used in the following scenarios:**

- **Data Migration**
  - Manage the data and metadata from outside the ONE Web application
- **Integration**
  - Data and its structure is managed via external resources; the step can be used to integrate scheduling, version control, attribute mapping etc.
- **Structural changes**
  - Modify the configuration of the core itself – add properties, change behavior or include new processing parts. This can be orchestrated and triggered based upon specific conditions.



# ONE Metadata Writer

The following example demonstrates the configuration of the step for creation of a new business term:

The screenshot illustrates the configuration of a new business term using the ONE Metadata Writer tool. On the left, the 'Properties of ONE Metadata Writer (ONE Metadata Writer)' window is open, showing the 'General' tab selected. Under the 'Main' section, the 'Entity Type' is set to 'business term'. A modal dialog box titled 'ONE Metadata Writer' is displayed over the main window, specifically showing the 'Columns' tab. This dialog lists a single column named 'name' with the expression 'Product'. A large pink arrow points from this configuration to the 'Terms' table on the right, indicating the connection between the configuration and the resulting term definition.

**Properties of ONE Metadata Writer (ONE Metadata Writer)**

**ONE Metadata Writer**

General Columns Entity subtypes Advanced

**Main**

Id: ONE Me...

Server Name\*: ONE

Entity Type: business term

Workflow State: draft

Parent Type: metadata

Load Entity Columns Select Subtypes

Comments (Hide) Edit...

OK Cancel Apply

**Terms**

Standard view Columns

Name	Type	Abbreviation
Product code	Business term	PC
Reused product	Business term	RUP
Product department	Business term	-
<b>Product</b>	<b>Business term</b>	<b>-</b>
Average revenue per product	Key performance indicator	-
Average price discount per product	Key performance indicator	-
Gross margin per product	Key performance indicator	-
Percentage of sales due to launched product/s...	Key performance indicator	-
Number of product focus groups conducted	Key performance indicator	-
Percentage of customers willing to promote yo...	Key performance indicator	-

# ONE Data Quality Steps

## Steps to export DQ Attribute, Catalog Item, and Monitoring Project Aggregation results:

- Data Modeling
- One Data Quality
  - DQ Attribute Aggregation Results
  - DQ Catalog Item Aggregation Results
  - DQ Monitoring Project Aggregation Results
  - DQ Monitoring Project Check Results
  - DQ Monitoring Project Filter Values
  - DQ Monitoring Project Results
  - DQ Rule Instance Results
  - DQ Term Aggregation Results
  - DQ Term Attribute Aggregation Results
- Generic Components

DQ Attribute Aggregation Results	
	Reads aggregation results of an attribute from ONE Web Application.
DQ Catalog Item Aggregation Results	
	Reads aggregation results of catalog item from ONE Web Application.
DQ Monitoring Aggregation Results	
	Reads monitoring project aggregation results from ONE Web Application.

# ONE Data Quality Steps

## Steps to export Monitoring Project Results, Check Results, and Filter Values:

The screenshot shows a sidebar menu under the heading "Data Modeling". The menu items are:

- One Data Quality
- DQ Attribute Aggregation Results
- DQ Catalog Item Aggregation Results
- DQ Monitoring Project Aggregation Results
- DQ Monitoring Project Check Results** (highlighted with a purple border)
- DQ Monitoring Project Filter Values** (highlighted with a purple border)
- DQ Monitoring Project Results** (highlighted with a purple border)
- DQ Rule Instance Results
- DQ Term Aggregation Results
- DQ Term Attribute Aggregation Results
- Generic Components

The diagram illustrates the three steps to export monitoring project results, check results, and filter values:

- DQ Monitoring Project Check Results**: Reads monitoring project check results from ONE Web Application.
- DQ Monitoring Project Filter Values**: Reads monitoring project processing filter values from the ONE Web Application.
- DQ Monitoring Project Results**: Reads monitoring project results from the ONE Web Application.

# ONE Data Quality Steps

## Steps to export DQ Rule Instance, DQ Term Aggregation, and DQ Attribute Aggregation Results:

- Data Modeling
- One Data Quality
- DQ Attribute Aggregation Results
- DQ Catalog Item Aggregation Results
- DQ Monitoring Project Aggregation Results
- DQ Monitoring Project Check Results
- DQ Monitoring Project Filter Values
- DQ Monitoring Project Results
- DQ Rule Instance Results
- DQ Term Aggregation Results
- DQ Term Attribute Aggregation Results
- Generic Components

DQ Rule Instance Results	
	Reads results of rule instances from ONE Web Application.
DQ Term Aggregation Results	
	Reads results of term aggregations from ONE Web Application.
DQ Term Attribute Aggregation Results	
	Reads results of term aggregation relevant to attribute from ONE Web Application.



# How to use ONE Data Quality Steps? (1/2)

This step allows you to read aggregated DQ results of attribute (phone) from item (customer):

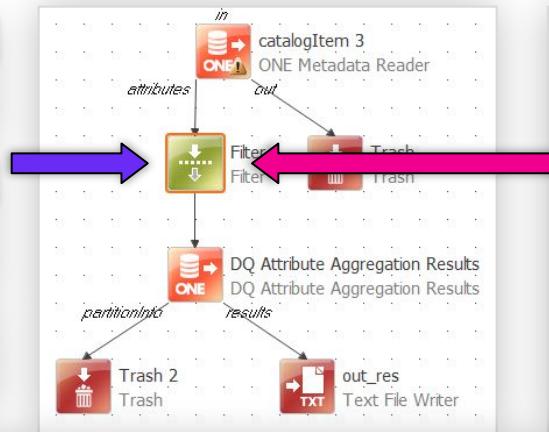
/catalogItem/68bfd3e1-0000-7000-0000-000000093123

Sources > training > postgres > public  
customers

/attribute/68bfd3e1-0000-7000-0000-000000093135

Sources > training > postgres > public > customers  
phone

Overall quality 32% Validity 32% Completeness 100%



Filter

General

Id: Filter

Other

Condition\*:

```
attribute_id = '68bfd3e1-0000-7000-0000-000000093135'  
and  
item_id = '68bfd3e1-0000-7000-0000-000000093123'
```

Comments (Hide)

	name	attribute_id	item_id	AggregationId	RuleI...	TotalCount	Result...	ResultName
1	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	cd4ad4c2-cf29-4bf1-91ef-42be0eeeb5b4	2	122	122	Passed
2	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	cd4ad4c2-cf29-4bf1-91ef-42be0eeeb5b4	2	122	0	Failed
3	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	0a2a2a64-ff0f-4e05-94c1-3413f09a50e0	2	122	39	Passed
4	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	0a2a2a64-ff0f-4e05-94c1-3413f09a50e0	2	122	83	Failed
5	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	3162ad0c-0000-7000-0000-000000ba2906	2	122	39	Passed
6	phone	68bfd3e1-0000-7000-0000-000000093135	68bfd3e1-0000-7000-0000-000000093123	3162ad0c-0000-7000-0000-000000ba2906	2	122	83	Failed



# How to use ONE Data Quality Steps? (2/2)

## String Completeness

### Completeness

This is a general rule checking for values that are essentially 'null' but have some sort of value stored.



## validation [North America] Phone Number

### Validity

Phone numbers data in the North American format



## Overall quality

32%

Passed

39

Failed

83

Total

122

Records

122

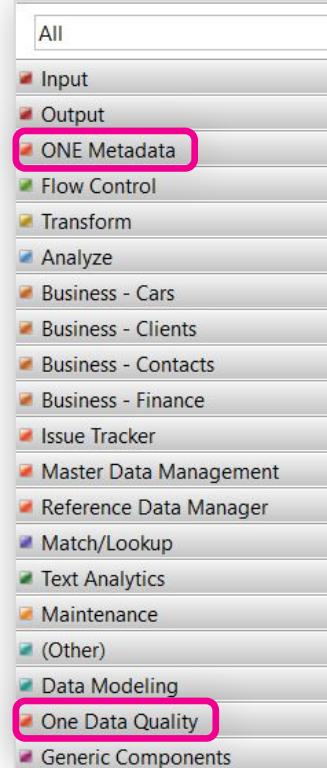
Checks

2

		AggregationId	RunInstanceCount	TotalCount	ResultCount	ResultName
1	phone	cd4ad4c2-cf29-4bf1-91ef-42be0eeeb5b4	2	122	122	Passed
2	phone	cd4ad4c2-cf29-4bf1-91ef-42be0eeeb5b4	2	122	0	Failed
3	phone	0a2a2a64-ff0f-4e05-94c1-3413f09a50e0	2	122	39	Passed
4	phone	0a2a2a64-ff0f-4e05-94c1-3413f09a50e0	2	122	83	Failed
5	phone	3162ad0c-0000-7000-0000-000000ba2906	2	122	39	Passed
6	phone	3162ad0c-0000-7000-0000-000000ba2906	2	122	83	Failed

# Topic Highlights

- As part of **integration scenarios**, two group of **steps** exist in the ONE Desktop:
  - Metadata steps**
  - Data Quality steps**
- Metadata steps** are used to:
  - Read** and **consume** catalog items data
  - Create, read, update and delete** metadata assets in bulk or an automated way.
- DQ steps** are used to **read** and **consume** the **Data quality related** information **outside** of the ONE Web application.



# Memory Refresher #2

## Integration Steps



# Data Slices



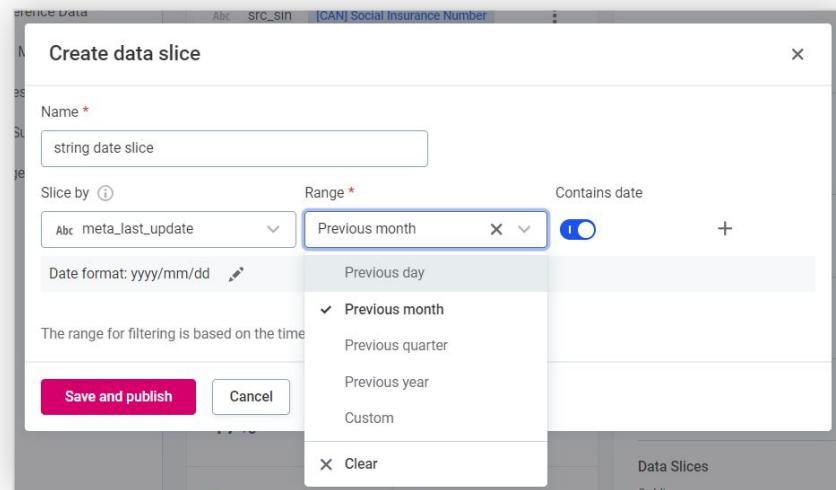
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# Data Slices – Overview

Using data slices, you can evaluate a **subset** of a **catalog item** based on selected **criteria** rather than process the entire item with every job: this is **optimal** both from computational and cost perspectives.

## Using data slices you can:

- **Slice a large volume** of data by a selected **attribute** and **run** monitoring **only** on this relevant subset of data.
- **Easily** define what the subset will be based on, for example, based on an attribute containing date information, or defined by country. This can be **dynamic** (that is, always based on the previous day or month) or ad hoc (based on a **specific range**).
- See **results** based on the data subset, including **historical** results.



# How to Create a Data Slice? (1/2)

## To create a data slice:

1. In **Data Catalog > Catalog Items**, select the catalog item for which you want to create a data slice.
2. Using the three dots menu, select **Create data slice**.
3. Provide a name for the new data slice.

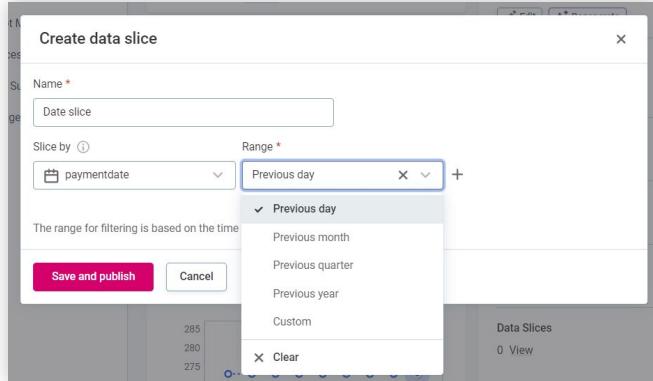
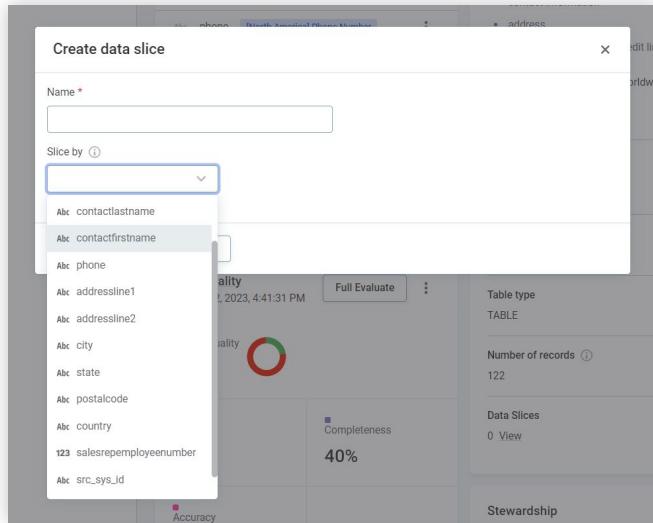
**Note:** You can also create data slices from the Data Slices section of the catalog item using the **Data Structure** tab or in **monitoring projects** where data slices are already active.

The screenshot shows the Ataccama Knowledge Catalog interface. On the left is a sidebar with icons for Home, Data Catalog, Sources, Term Suggestions, and Lineage Import. The main area displays the 'Sources > pgs\_testdata > tcd > transactional\_customer\_data' path. The 'customers' catalog item is selected. The 'Overview' tab is active, showing attributes like customernumber, customername, contactlastname, contactfirstname, phone, addressline1, addressline2, city, state, and postcode. A 'Data Quality' section at the bottom shows an overall quality of 23% with a red circle icon. To the right of the overview, there's a 'Schedule' section with a 'Create data slice' button highlighted with a pink border. Other buttons include 'Sample profiling', 'Configure Time Series', 'Export', 'Create Data Visualization', 'Create SQL Catalog Item', 'Add transformation', 'Load to ONE Data', 'Edit', 'Create DQ Firewall', and 'Request access'. Below the schedule section, there are tabs for 'Personal Data' and 'Glossary terms', and sections for 'Summary', 'Source', 'Origin', 'Table type', 'Number of records', 'Data Slices', and 'Stewardship'.

# How to Create a Data Slice? (2/2)

4. Select the **Slice by attribute**. This is the attribute by which the data will be filtered.
5. Specify the **Slice by criteria**, for example, the values you are interested in (in case of a String attribute), or a **date range** (in case of Date and Datetime attributes).
6. **Save and publish.**

**Note:** Only attributes of Date, Datetime, String, Integer, and Long data types can be selected.



# Viewing & Managing Data Slices

## After data slices are created:

- You can see this information on the catalog item **Overview** tab:
  - Look for Data Slices in the **Summary** section and select View to see details.
- Alternatively, navigate to the **Data Structure** tab and find the Data Slices section:
  - It is also possible to **create**, **edit**, and **delete** slices from this section. Use the three dots menu to edit or delete slices.

**Note:** If you edit a data slice already in use in a monitoring project, you see this warning :***"It is not possible to delete data slices used in a monitoring project."***

The screenshot shows the Ataccama Data Catalog interface. The top navigation bar includes 'Source' (dropdown), 'transactional\_customer\_d...', 'customers', and various buttons like 'Sample profiling', 'More', and a three-dot menu. Below the header, there are tabs: 'Overview' (selected), 'History', 'Data', 'Data Structure', 'Lineage', 'Data Quality', 'Profile & DQ Insights', and 'More'. The 'Overview' tab displays the 'Attributes' section, which lists columns: 'customernumber' (with '+2' items), 'customername' (with '+1' item), 'contactlastname' (with 'Surname' tag), 'contactfirstname' (with 'First name' tag), 'phone' (with '[North America] Phone Number' tag), 'addressline1' (with 'Street with number' tag), 'addressline2' (with 'Street with number' tag), 'city' (with '100%' completion and '[USA] City' tag), 'state' (with '[USA] State' tag), and 'postalcode' (with '100%' completion and '[USA] Zip code' tag). The 'Summary' section provides a brief description: 'Represents customer data specifying: contact information, address, sales person as well as credit limit available to a client. Geographical segmentation: worldwide.' It includes 'Edit' and 'Regenerate' buttons. The 'Data Quality' section shows a status of '23%' with a red circle icon, evaluated on August 22, 2023, at 4:41:31 PM, with a 'Full Evaluate' button. Below it, 'Validity' is at 23% and 'Completeness' is at 40%. The right sidebar contains sections for 'Glossary terms' (with 'Personal Data' and '+ Add Term' buttons), 'Source' (pgs\_testdata > tcd > transactional\_customer\_data), 'Origin' (postgres-testdata-svc), 'Table type' (TABLE), and 'Number of records' (122). A pink box highlights the 'Data Slices' section, which shows '1 View'.

# Using Data Slices & Supported Data Sources

Currently, Data Slices can only be used in Monitoring Projects:

- The items which need to be monitored in slices should be added to your monitoring project.
- At the **item level**, you can choose to activate monitoring on specific slices and select your desired ones.
- When you select "**Run monitoring**," it will run exclusively on the **selected data slices**. This applies to **all types of monitoring**, including DQ evaluation, structure checks, and anomaly detection.
- **Results** from these slices can be seen on the **Report** tab of the project.

The data slice functionality is supported for:

- Amazon Aurora MySQL
- Amazon Aurora PostgreSQL
- Amazon Redshift
- Azure Synapse Analytics
- Azure SQL Database
- Big Query
- SAP HANA
- MariaDB
- MySQL
- Oracle
- PostgreSQL
- MSSQL Server
- Snowflake
- Teradata

# How to run Monitoring Projects On Data Slices?

To run monitoring just on Data Slices rather than the whole item:

1. On your monitoring project **Configuration & Results** tab, select the desired catalog item.
2. Enable **Run monitoring project on data slice**.
3. Click Select.
4. Select the data slice you want to use, or **create** a new one.
5. Repeat steps 3 and 4 to add additional slices (if necessary).
6. **Publish** your changes.

**Note:** Once you run the monitoring project on a data slice of a catalog item, it is not possible to turn off Run monitoring project on **data slice**.

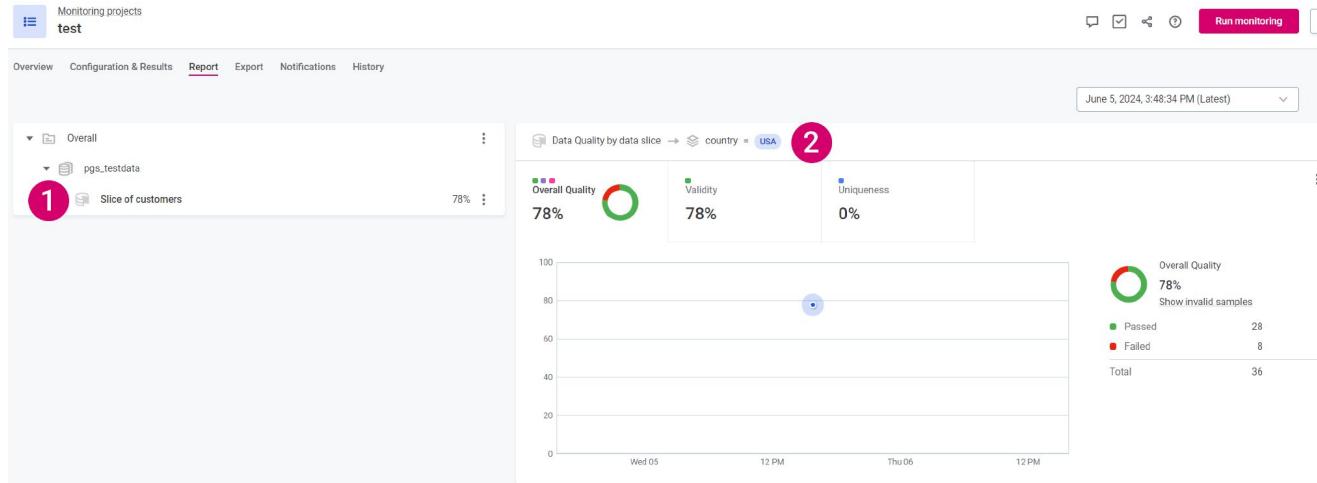
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Name	Terms	Filter by	Structure	Anomaly D.
123 customernumber			○ ▾	+ Make Mandatory + Enable
Abc customername			○ ▾	+ Make Mandatory + Enable
Abc contactlastname	Surname		○ ▾	+ Make Mandatory + Enable

# How to Read Monitoring Projects Results On Data Slices?

**To read monitoring results on data slices you need to switch to the Report tab after running the project:**

1. Expand the results view and select your data slice.
2. Details of the slice configuration can be found above the results for each run of the monitoring project.



# Data Slices



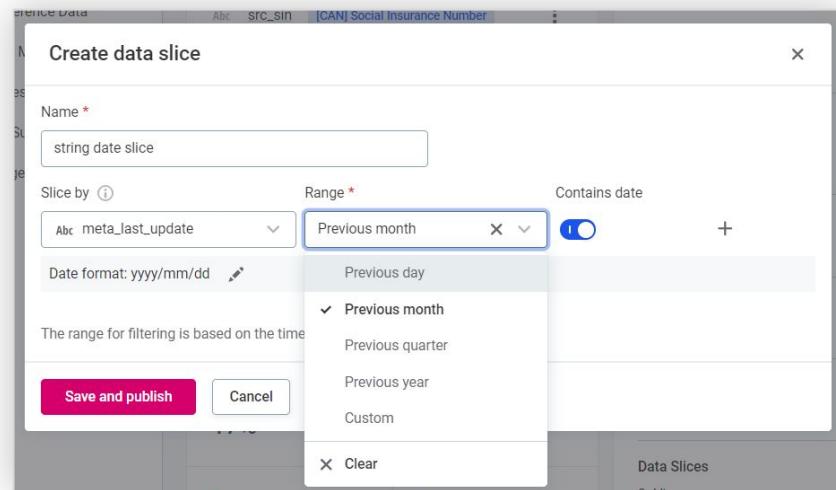
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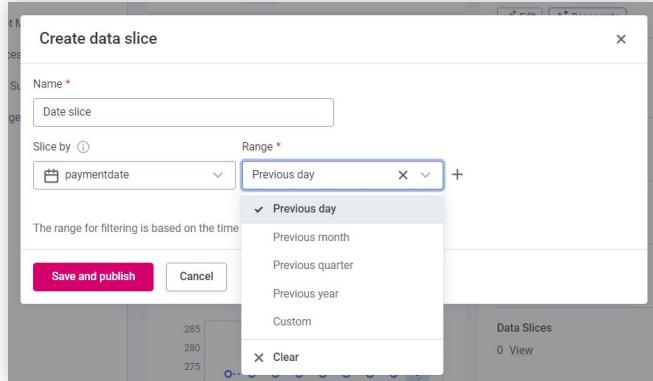
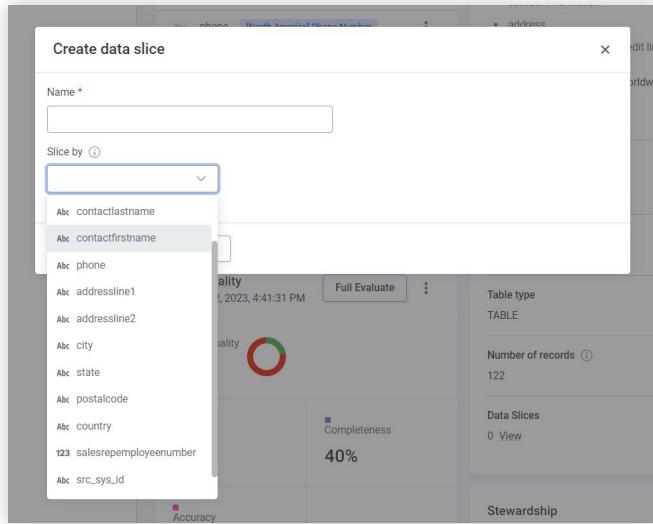
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# How to Create a Data Slice? (2/2)

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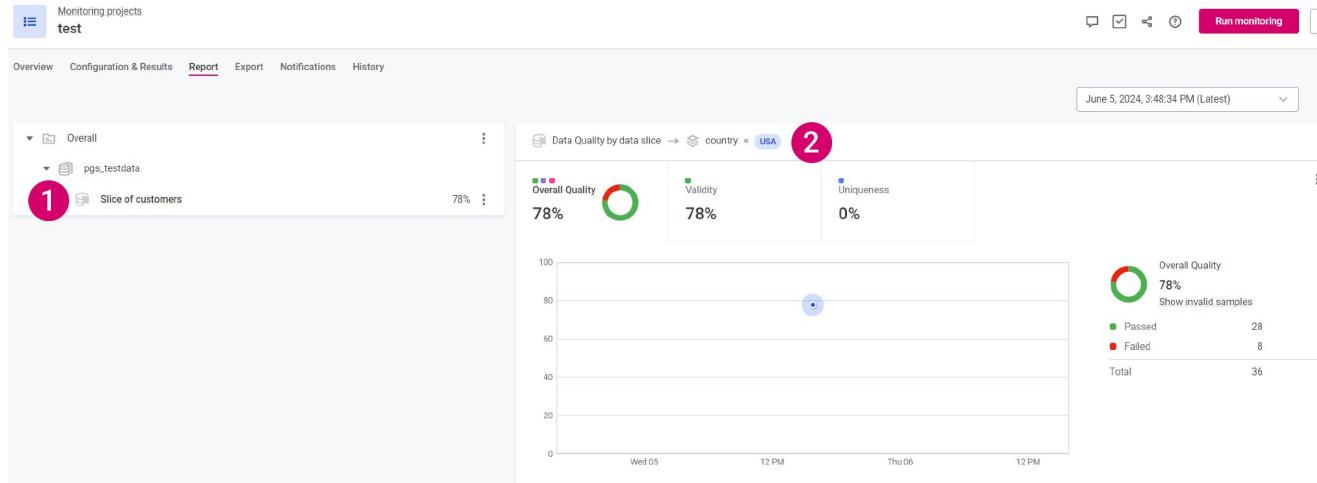
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# How to Read Monitoring Projects Results On Data Slices?

**To read monitoring results on data slices you need to switch to the Report tab after running the project:**

1. Expand the results view and select your data slice.
2. Details of the slice configuration can be found above the results for each run of the monitoring project.



# Memory Refresher #3 Data Slices



# What is the primary benefit of using data slices?

1. To reduce overall data storage costs
2. To filter and analyze specific subsets of data for better
3. To improve system security by isolating sensitive data
4. To enhance data synchronization across different databases

You can define a data slice to dynamically filter data based on attributes like the previous day or month.

1. True
2. False

# Topic Highlights

- Data slices process a subset of data based on criteria, optimizing cost and computation.
- Data slicing is useful for large, frequently updated tables by focusing on relevant subsets.
- Data slicing can be more flexible than SQL or virtual catalog items for specific use cases.
- Data slices can filter data by attributes like date or country, with dynamic or ad-hoc options.
- Currently, data slices can only be used in monitoring projects.
- Data slices can be created, edited, but not deleted if used in monitoring projects.
- Supported databases include Amazon Redshift, Azure Synapse, Snowflake, Oracle, and more.

# Memory Refresher #3 Data Slices



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4. To enhance data synchronization across different databases

You can define a data slice to dynamically filter data based on attributes like the previous day or month.

1. True
2. False

# Virtual Catalog Items



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# Data Catalog Items

- Contain **all data assets** and **metadata** that were loaded from **registered data sources** and **connections**.
- Might include **additional metadata** such as information about data quality, relationships, lineage, anomalies, etc.

The screenshot shows the Ataccama Data Catalog Items interface. At the top, there are filter buttons for 'Published', 'Unpublished', and 'All'. Below them is a search bar with placeholder text 'Type here to search full-text for Catalog items'. Further down are more filters for 'Terms', 'Data Quality', 'Data Source' (set to '00\_training'), 'Location', 'Number of Records', 'Profile Date', 'Anomalies', and a 'Clear filters' button. A callout box highlights the 'Overall Quality' column in the table, stating: 'Overall Quality provides information about the overall Data Quality of each Catalog Item'. Another callout box at the bottom left highlights the 'Catalog Items' section, stating: 'CI metadata can be found by navigating to the section Catalog Items.' The main table lists several catalog items with columns for Name, Terms, Anomalies, Overall Quality, # Attributes, # Records, Origin, Location, and Stewardship. The 'Overall Quality' column includes a progress bar and a percentage value (e.g., 23% or 100%).

Name	Terms	Anomalies	Overall Quality	# Attributes	# Records	Origin	Location	Stewardship
customers	Street with number, Personal Data +6	-	23%	15	122	postgres	00_training > postgres > public	
00_Orders_transformed	no terms assigned yet	-	-	9	326	manually created	00_training > Transformed_VCI	
products	00_Scale, 00_Product Line	-	100%	9	110	postgres	00_training > postgres > public	
00_Orders Cancelled	no terms assigned yet	-	-	2	6	postgres	00_training > SQL_items	
orders	no terms assigned yet	-	-	8	326	postgres	00_training > postgres > public	

**Overall Quality** provides information about the overall Data Quality of each Catalog Item

CI metadata can be found by navigating to the section Catalog Items.

# Virtual Catalog Items

Offers creating new catalog items from **different** types of **data sources** and **types not supported** by the ONE Web application, combine them with the existing ones, or just combine existing ones.

A

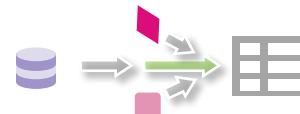
Filter



- Create a subset of existing catalog items.
- Manually determine which parts of data to use.
- Remove unwanted records (old, not compliant etc).

B

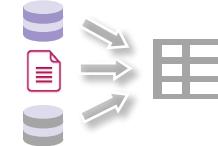
Cleanse / Prepare / Enrich



- Populate additional content beforehand.
- Prepare values to be delivered in higher quality.
- Apply transformations to improve data usability and consumption in the web application.

C

Join



- Merge business-relevant datasets.
- Normalize values using other tables.
- Join data coming from various definition types.

# Virtual Catalog Items

- All Virtual Catalog Items are **accessible** as any other **Catalog Items** in the Knowledge Catalog section.
- **Virtual catalog items** are defined as **"Manually created"** in the Knowledge Catalog section.
- **VCIs** can also be accessed via the **Knowledge catalog > Sources <Selected Source> -> Workspace -> <Selected folder>**.
- Catalog items tab in each source **reflects the number of virtual catalog items** stored in it.

The screenshot shows the Ataccama Knowledge Catalog interface for a source named "00\_training". The top navigation bar includes tabs for Overview, Data Observability, Connections, Catalog Items, and History. The "Catalog Items" tab is selected, showing a summary table with the following data:

Catalog Items	Tables	DQL query Catalog items	Virtual Catalog Items	Database locations	Schema locations
5	3	1	1	1	1

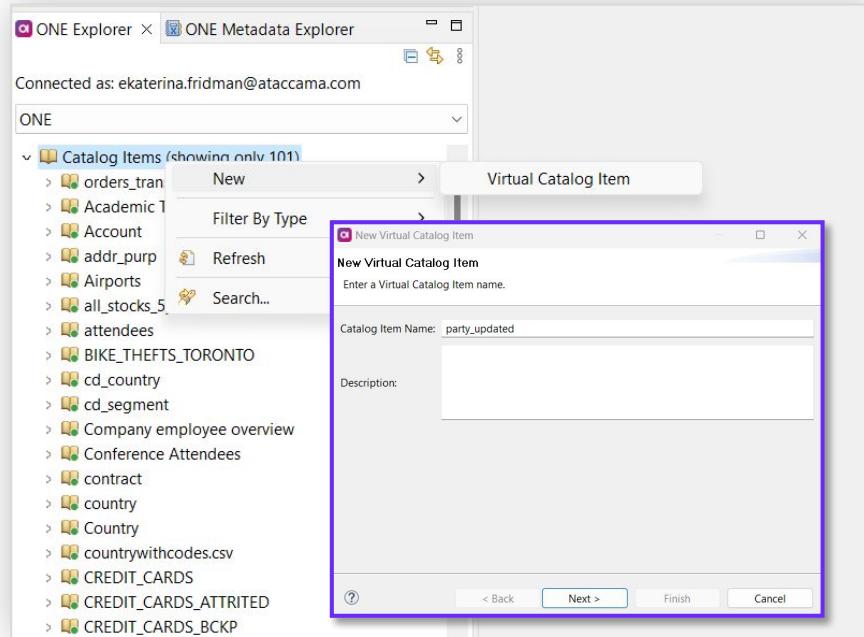
A purple box highlights the "Virtual Catalog Items" cell, which contains the value "1". Below this table is a "Summary" section with a "Deployment" button and an "+ Add" button. Further down are sections for "Stewardship" (with a note about assigning stewardship) and "Locations" (listing "postgres"). At the bottom is a "Workspace" section containing "SQL\_Items" and "Transformed\_VCI", with an "Add Folder" button. A purple box highlights the entire "Workspace" section.

# How to create a Virtual Catalog Item? (1/3)

## ONE Desktop

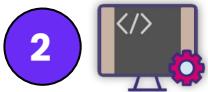


- Select **Catalog Items main node** using the **ONE Explorer** tab.
- As part of the process, select an **existing catalog item**(if applicable).
- **Add or Remove Columns.**
- Select a **Workspace** to store the **VCI**.

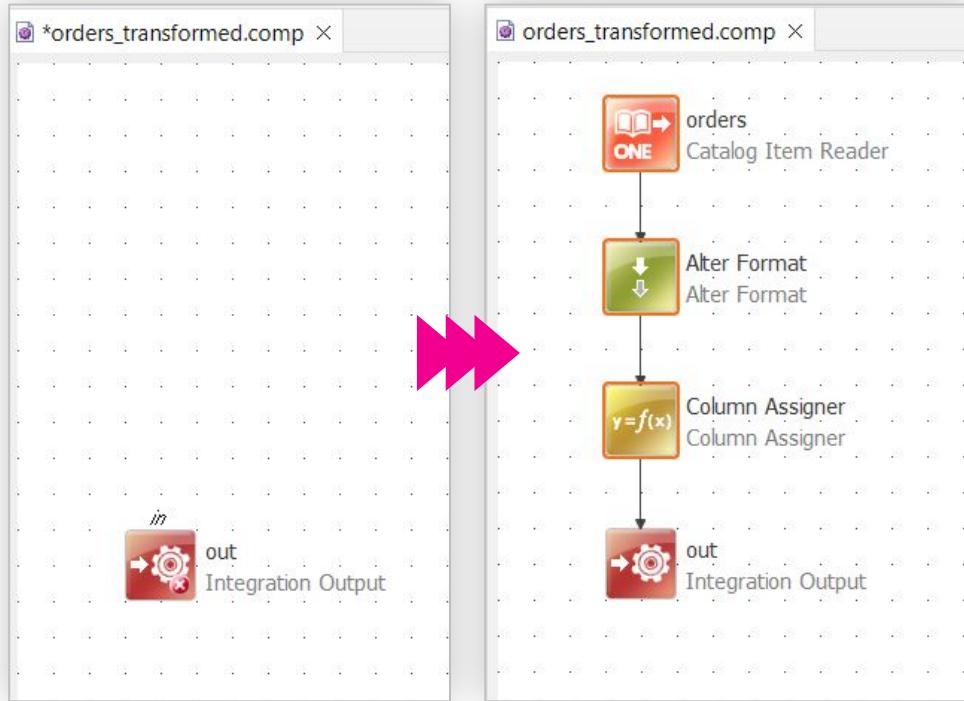


# How to create a Virtual Catalog Item? (2/3)

**ONE Desktop**

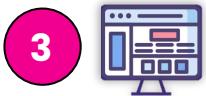


- **Edit** the resulting component in the ONE explorer tab and add the necessary steps depending on the business scenario.
- **Save and publish** the component in the **implemented** state will apply the changes to the web application.



# How to create a Virtual Catalog Item?(3/3)

## ONE Web Application



- The new virtual catalog item is available in Catalog Items and in the source you had selected to store the VCI.

The screenshot shows the Ataccama Knowledge Catalog interface. On the left is a sidebar with various icons for Data Catalog, Reports, Anomaly Overview, Data export projects, Master Data, Reference Data, Not Monitored, Sources, Term Suggestions, and Lineage Import. The main area is titled 'Sources > ks\_training > Transformed\_VCI KS\_Orders\_transformed'. It has tabs for Overview, History, Lineage, Data Quality, Profile & DQ Insights, Relationships, and Data Export & Transformations. The 'Overview' tab is active, showing a table of attributes: ordernumber, orderdate, requireddate, shippeddate, status, comments, customernumber, isactive, and processing\_time. Below this is a 'Data Quality' section with a note: 'Data Quality has not been evaluated yet. To evaluate Data Quality you need to either add Rules or add Terms that are connected with Rules to attributes of your interest.' To the right are sections for Glossary terms, Summary, Description, Source, Origin, Number of records, Component, Engine label, and Stewardship. At the bottom right is a 'Who is responsible for this asset?' section with a note: 'Assigning stewardship is recommended.'

# How to create a Virtual Catalog Item?

**ONE Desktop**

1

The screenshot shows the Ataccama ONE desktop environment. On the left, the 'Catalog Items' view is open, showing a list of existing catalog items like 'orders\_tran', 'Academic 1', and 'all\_stocks\_5'. A context menu is open over one of the items. On the right, a wizard dialog titled 'New Virtual Catalog Item' is displayed, asking for the 'Catalog Item Name' (set to 'party\_updated') and a 'Description' (set to 'A new modified version of the party data').

**ONE Desktop**

2

The screenshot shows the Ataccama ONE desktop environment with a component configuration window titled 'orders\_transformed.comp'. The window displays a flowchart with nodes: 'orders Catalog Item Reader', 'Alter Format Alter Format', 'Column Assigner Column Assigner', and 'Integration Output'. Arrows indicate the data flow from the reader through the alter format and column assigner to the output.

**ONE Web Application**

3

The screenshot shows the Ataccama ONE web application's 'Knowledge Catalog' interface. It displays the details of a virtual catalog item named 'KS.Orders\_transformed'. The 'Attributes' section lists various columns such as 'ordernumber', 'orderdate', 'requireddate', 'shippeddate', 'status', 'comments', 'customernumber', 'inactive', and 'processing\_time'. The 'Data Quality' section notes that quality has not been evaluated yet. The 'Source' is listed as 'ks\_transformed.vci' and the 'Origin' as 'manually created'.

- Go through the wizard and configure the **initial structure of the new VCI item**.

- **Add a logic** that will populate attributes with values.

- **Access** the new VCI in the **web application**.

# Difference Between Typical & Virtual Catalog Items

## Typical Catalog Item

- Shows **data** entities accessed by data source connections defined in the ONE Web application.
- Imports, profiles, and evaluates data in the **as-is** state without any applied modifications.
- Is created, evaluated and managed primarily in the **ONE Web application interface**.
- Provides live **preview** of data in the **Data tab**.
- Supports both **Full** and **Sample profiling**.
- Can be subjected to **all available checks** listed in Monitoring Projects.

## Virtual Catalog Item

- Can be used to **modify existing Catalog Items**.
- Allows the **creation** and **combination** of **different Catalog Items** regardless of their source/connection type.
- Is **configured** in the **ONE Desktop** and deployed to the web application.
- Doesn't provide **preview of data** in the data tab.
- Doesn't support **Sample Profiling**.
- Can't be used for **structural checks** in Monitoring projects.

# Topic Highlights

- In order to transform existing **Catalog Items**/create new Catalog Items from **external sources**, **VClS should be created**.
- In order to create **Virtual Catalog Items**, **Transformation components** are created and edited in the ONE Desktop.
- **Transformation Components** are accessible through **Data Quality> Components >Transformation Components** in the **ONE Web application**.
- After **publishing** the transformation component, the **VCI is accessible** in the Knowledge Catalog > Catalog Items.
- **Virtual Catalog Items** are also found under the specified **workspace** of the **source** you have selected while creating it.
- **Virtual Catalog** can be **profiled** and added to **monitoring projects**.

# Memory Refresher #4

## Virtual Catalog Items

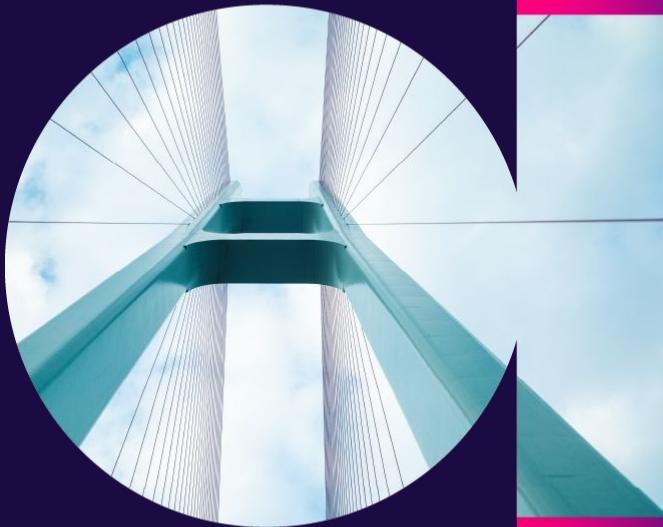


# Lab Exercise #1

## ONE Desktop Integration



# Component Rules



# Rule Logic Types

## Detection

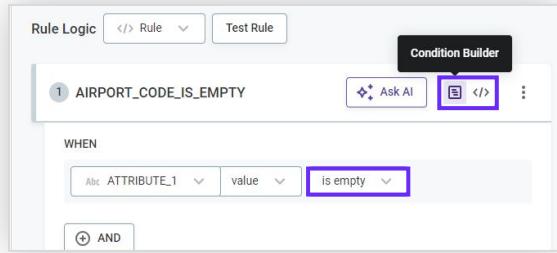
- Are used to **detect glossary terms** of Catalog Item attributes.
- Can be **combined with AI to detect terms** in Catalog Items.
- **Cannot be used in monitoring projects.**
- **Cannot be used in Catalog Items** for evaluating the quality of the data.
- **Cannot be downloaded** and used as components in ONE Desktop plans.
- **Can be created in the web application only** – component detection rules are not possible.

## DQ Evaluation

- Are used to **evaluate data quality** of Catalog Items.
- Can be used **in projects to monitor the quality** of data.
- **Can be used in Catalog Items** by attaching to relevant glossary terms.
- **Can be downloaded** and used as components in ONE Desktop plans.
- **Can be created in the web application** or through **Validation Components** in **ONE Desktop**.

# How to implement Rule Logic in ONE?

Condition Builder



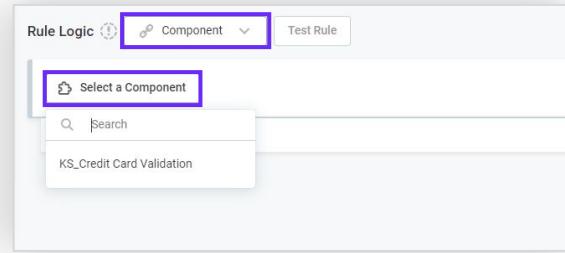
- Uses **simple logical operators** to implement the rule logic.
- **Multiple conditions** can be applied in a rule.
- Applicable to both **Detection** and **DQ rules**.

Advanced Expression



- Uses **expressions** and **functions** to develop **more complex rule logic**.
- Requires some **knowledge of expressions**.
- Applicable to both **Detection** and **DQ rules**.

Component



- Uses **Validation Components** created in **ONE Desktop**.
- Only applicable to **DQ Evaluation Rules**.

# How to create a Component Rule? (1/4)

## ONE Web Application

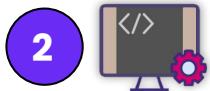


- First a Validation **Component** should be created in the **ONE Web Application**.
- Input variables should be defined.
- The Workflow state should be switched to **Ready for Implementation** before Publishing the changes.
- Results explanations can be provided for INVALID situations.(The default explanations are **VALID** and **INVALID**.)

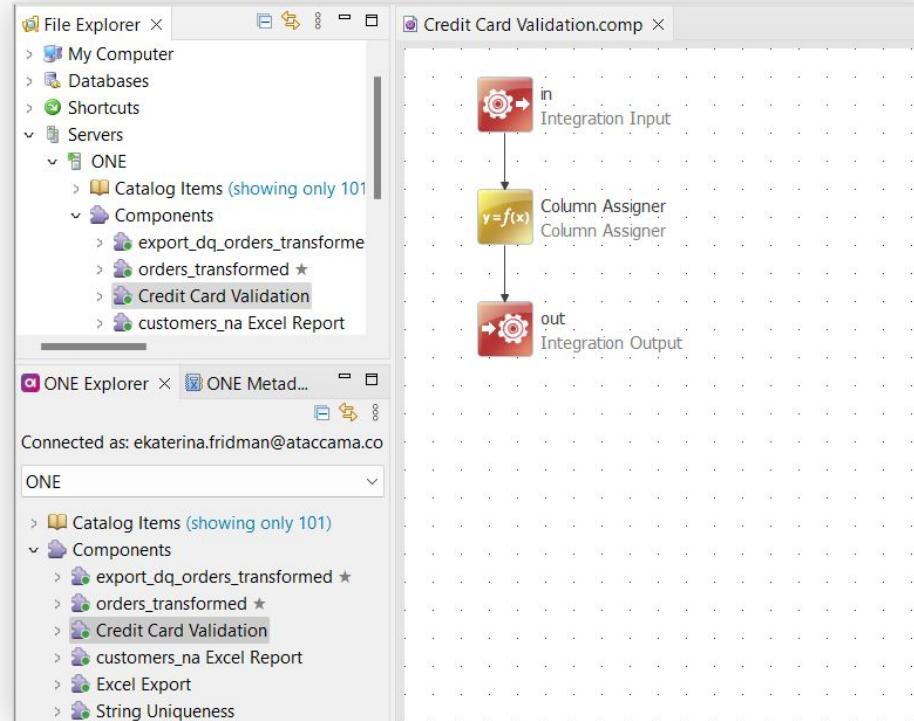
The screenshot shows the Ataccama ONE Web Application interface. On the left, a sidebar menu lists various Data Quality components: Rules, Components (which is selected and highlighted with a purple box), Validation components, Transformation components, Post processing components, Transformation plans, DQ Firewalls, Monitoring projects, Reconciliation projects, and Lookup items. The main panel displays a 'Components' page for 'KS\_Credit Card Validation'. The page has tabs for Overview, History, Implementation (which is selected and highlighted with a purple box), and Occurrence. Under the Implementation tab, there is an 'Input Attributes' section with a 'VALUE' field and a dropdown set to 'String'. To the right, under 'Implementation State', a dropdown is set to 'Ready for implementation' (also highlighted with a purple box). Below this, there is a 'Description' section with a large text area for logic description, which contains the text: 'A rule to validate credit card number to 16 characters long, after removing non-numeric characters'. Further down, there is an 'Explanations' section with two entries: 'Explanation' with 'VALID' and 'Explanation' with 'INVALID'.

# How to create a Component Rule? (2/4)

## ONE Desktop

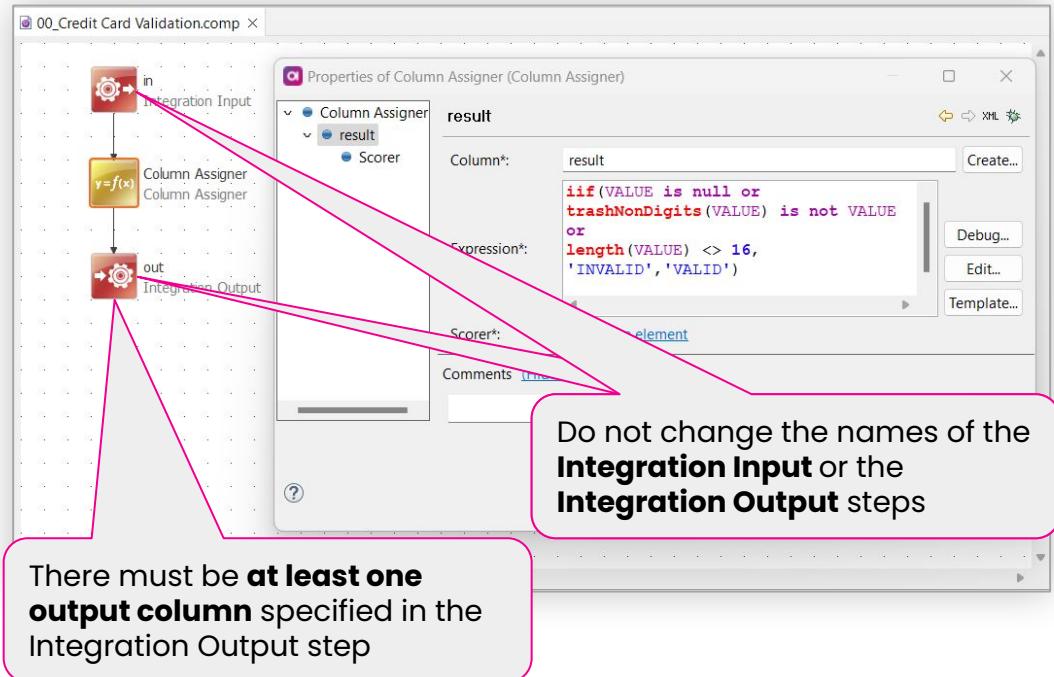


- Once a component is defined in the web application, it becomes visible in **ONE Desktop** via the **ONE Explorer** tab under the **Components**.
- Here, the component file can be edited and its logic can be developed.



# How to create a Component Rule? (3/4)

- Keep the **Integration Input** and **Output untouched**.
- In order to develop the logic, different types of **steps** can be inserted.
- The **result** can either be **VALID**, **INVALID** or any predefined explanation for invalid situations
- Once the logic is created, the component needs to be **Saved and Published**.



# How to create a Component Rule? (4/4)

## ONE Web Application



- Create a DQ Rule.
- Choose the Rule type as **Component** during the Rule Logic Implementation.
- Then, choose from the list of all available **Validation Components**.
- **Map the input attributes** to input columns of the component as the attribute names defined in the ONE Web application might be different (e.g. 'VALUE' / 'ATTRIBUTE\_1').
- Map each **Explanation** with a **Result**. The list of available results depends on the selected rule dimension.

DQ Evaluation Rule

Inputs

ATTRIBUTES 1

VALUE  abc String

+ Add Term

+ Add Attribute

Rule Logic  Component  Test Rule

KS\_Credit Card Validation

1 Input Attributes Map Component Inputs to Rule Inputs

Component Input	Rule Input
abc VALUE	→ VALUE

2 Rule Logic KS\_Credit Card Validation

3 Explanations

Explanation	Result
VALID	Valid
INVALID	Invalid

# How to create a Component Rule?

1

ONE Web Application



2

ONE Desktop



3

ONE Web Application



- Create a **Validation component** and define its properties e.g. Name, Description, Inputs etc.
- Edit the **predefined component** and **complete** it based on the **Rule's logic requirements**.
- Create a **new Rule** and use the **component** in the **Rule Logic implementation**.

# Components

The ONE Desktop application is required to create and edit the components of the ONE Web application.

## There are three types of Components:

- **Transformation** – To create Virtual Catalog Items.
- **Validation** – To configure DQ rule logics.
- **Post Processing** – To export DQ results for post processing analysis.

The screenshot shows the Ataccama ONE Web application interface. On the left is a sidebar with various icons and sections: Data Quality, Rules (Detection Rules, DQ Evaluation Rules), DQ Dimensions, Components (which is highlighted with a purple box), Transformation plans, DQ Firewalls, Monitoring projects, Reconciliation projects, and Lookup items. The main area is titled "Components" and has tabs for Published, Unpublished, and All. It includes a search bar, a state filter, and a table view. The table has columns for Name and State, showing five rows: "Excel Export" (IMPLEMENTED), "KS\_Credit Card Validation" (IMPLEMENTED), "KS\_Orders\_transformed" (IMPLEMENTED), and "customers\_na Excel Report" (IMPLEMENTED). A pink arrow points from the sidebar's Components section to a callout box containing the note about validation component creation.

Name	State
Excel Export	IMPLEMENTED
KS_Credit Card Validation	IMPLEMENTED
KS_Orders_transformed	IMPLEMENTED
customers_na Excel Report	IMPLEMENTED

**Note:** The creation of the Validation Components can be initiated only in the web application itself.

# Topic Highlights

- To develop the logic of DQ rules outside of the ONE Web Application, **component rules** are created.
- Creating a Validation components is necessary to define a component rule.
- Validation components are created in the ONE Web Application and edited in the ONE Desktop.
- Validation components are accessible through **Data Quality> components > Validation components** in the ONE Web application.
- In order to implement a component rule, **Component** should be selected as the Rule Logic.
- Implementing a component rule, the inputs and explanations of the component should be mapped to those of the rule.
- Component rules have the capabilities of other **DQ** rules.

# Memory Refresher #5

## Component Rules



# Lab Exercise #2

## DQ Component Rules



# Post Processing



# Monitoring Project Results

## Post-Processing

To store and further utilize monitoring project results, you need to define post-processing jobs.

### There are three options available:

- **Transformation plans:** With transformation plans, you can apply transformations such as filter, split, join, transform, and add or delete attributes before exporting results to a file or ONE Data.
- **Post-processing plans:** Results can be sent to ONE Desktop and used there as an input for plans consisting of multiple post-processing steps that adapt your data to the desired form.
- **Data remediation plans:** Using data remediation plans, users can load data, metadata, and DQ results from monitoring projects into ONE Data for data remediation. Data remediation plans are designed for the specific use case of importing issues for manual resolution.



**Note:** All three plan types run with each run of the monitoring project. When post-processing options are defined, they can be found in the **Export** tab of the monitoring project.

# Monitoring Project Results

## Post-Processing

### Which plan should I use?

- Use transformation plans to apply key transformations and functions to your results and preview outputs in real-time, all without leaving the ONE web application.
- If you are proficient with ONE Desktop and need access to an extended range of transformation options, consider post-processing plans.
- Use data remediation plans for the specific use case of importing issues for manual resolution in ONE Data.



**Note:** All three plan types run with each run of the monitoring project.

When post-processing options are defined, they can be found in the **Export** tab of the monitoring project.

# Post-Processing Transformation Plans

- Provide the ability to export data and **DQ evaluation results**.
- Can be configured as an extension of reports from **Monitoring Projects**.
- **Post-processing plans** are created directly in the **ONE Web application** by selecting the respective **Catalog Items** within a given **Monitoring Project**.
- DQ results can then be **downloaded from the Export tab** of the Monitoring project.

The screenshot shows the Ataccama ONE web application interface. On the left, a sidebar menu includes options like Data Quality, Monitoring projects (which is highlighted with a purple box), Transformation plans, DQ Firewalls, Monitoring projects (another entry under Monitoring), Reconciliation projects, and Lookup items. The main content area is titled 'Monitoring projects KS\_Training project' and shows tabs for Overview, Configuration & Results, Report, Export (which is underlined in red), Notifications, and History. Under 'customers', there is a component named 'ks\_export\_dq\_orders\_transformed' with a 'Configure' button. Below it, a section titled 'Post-processing results' displays a file link: 'shared/export/2024-05-31/customers/order\_transformed.xls' with a size of '67.5 KB'. A large blue arrow points from this link to a callout box containing the text: 'DQ results can be configured to be downloaded from the web application.' To the right of the interface is a sample Excel spreadsheet with columns A through M. The data includes order numbers, dates, comments, invalid rules, and scores, with several rows flagged for review.

	A	B	F	K	M
1	ordernumber	orderdate	comments	invalid_rules	score
2	10100	1/6/2003		String Completeness:	250
3	10101	1/9/2003	Check on availability.		0
4	10102	1/10/2003		String Completeness:	250
5	10103	1/29/2003		String Completeness:	250
6	10104	1/31/2003		String Completeness:	250
7	10105	2/11/2003		String Completeness:	250
8	10106	2/17/2003		String Completeness:	250
9	10107	2/24/2003	Difficult to negotiate with customer. We nee		0
10	10108	3/3/2003		String Completeness:	250
11	10109	3/10/2003	Customer requested that FedEx Ground is t		0

# Post-Processing

## Creating a Transformation Plan

To do post processing through a Transformation plan:

1. In the **Configuration & Results** tab of your **Monitoring Project**.
2. Select the options menu for the **catalog item** you wish to report on.
3. Click **Add post-processing transformation**. As part of the process, provide a name for the plan.

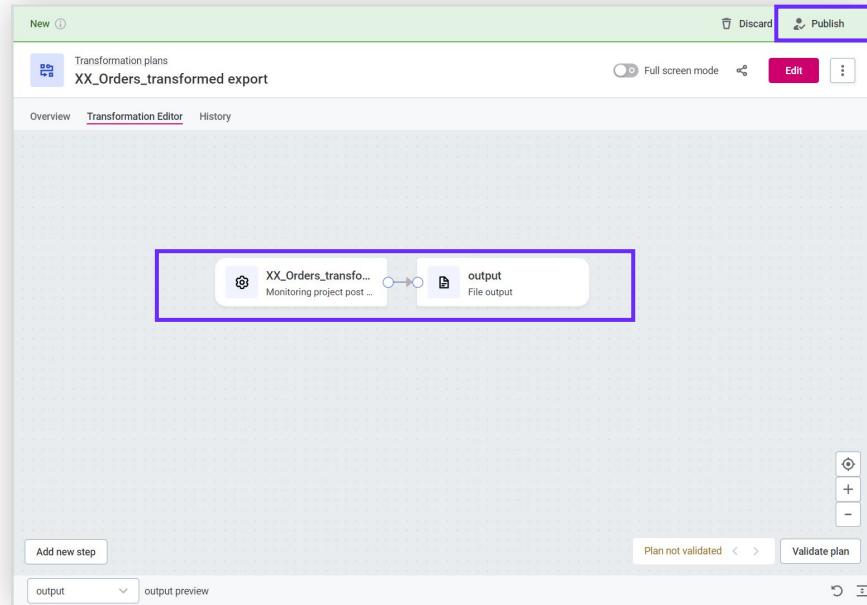
The screenshot shows the Ataccama Monitoring Project interface. On the left, there is a list of catalog items under the 'customers' category in the DEV environment. The items include 'customers\_na', 'mainframe\_export', and 'SUPPLIER'. Each item has a summary table with metrics like '2 checks', 'DQ Issues Detected', and 'suggestions'. A context menu is open over the 'customers\_na' item, with the 'Add post-processing transformation' option highlighted by a red box and a pink arrow pointing to a modal dialog. The dialog is titled 'Add post-processing transformation' and contains a field 'DQ plan name' with the value 'XX\_Orders\_transformed export'. There are 'Confirm' and 'Cancel' buttons at the bottom.

catalog item	environment	checks	DQ Issues Detected	suggestions	23%	23%	40%	100%	27%	postgres-testdata-svc
customers	DEV	2 checks	⚠️ DQ Issues Detected	2+ suggestions	15	122				postgres-testdata-svc
pgs_testdata > tcd > transactional_customer_data										
Personal Data										
customers_na		17	⚠️ DQ Issues Detected	11+ suggestions	20%	20%	66%	Not calculated yet	Not calculated yet	tcd_north
pgs_testdata > tcd_north_america > tcd_large		1,003,505								
Personal Data										
mainframe_export		12	⚠️ DQ Issues Detected	3+ suggestions	1%	18%	27%	Not calculated yet	100%	postgres-testdata-svc
pgs_testdata > tcd > transactional_customer_data		5,941								
Personal Data										
SUPPLIER		7	⌚ 1 DQ Check	Check for Rule suggestions	Not calculated yet	Not calculated yet	Not calculated yet	Not calculated yet		
Snowflake > DEMO_CONTENT > TPCH_SF10										

# Post-Processing

## Creating a Transformation Plan

- The generated **post-processing plan** will consist of an **input** (the DQ results for this catalog item), and an **output** (in CSV format), and can be used as-is once **published**.
- As this is a Transformation plan, further steps can be added to **filter** or **transform** the results, as discussed previously in DQ Foundation.



# Post-Processing

## Editing Transformation Plans

- The post-processing plans themselves can be found in **Data Quality > Transformation plans**.
- In common with other **transformation plans**, double click the plan's name to open it, allowing you to edit, add, or remove steps from the plan. Essentially, **post-processing plans** are a special type of **transformation plan**, created for the purpose of DQ data export.

The screenshot shows the Ataccama Data Quality interface. On the left, a sidebar menu includes options like Data Quality, Rules, DQ Dimensions, Components, Transformation Plans (which is highlighted with a purple box), DQ Firewalls, Monitoring Projects, Reconciliation Projects, and Lookup Items. The main area is titled "Monitoring projects Customer DQ report". It displays an "Overview" section with a summary of data quality issues: 4 tables, 51 attributes, 46 checks, and 20% overall quality. Below this is a "Structure" panel showing a tree view of data sources: "customers" (DEV, Personal Data, 2 checks, 15 rows, 122 columns), "customers\_na" (Personal Data, 17 rows, 1,003,505 columns), and "mainframe\_export" (Personal Data, 12 rows, 5,941 columns). A "Transformation Editor" window is open, showing a flowchart of a transformation plan named "XX\_Transformation\_Plan\_Customer\_DQ\_Report". The flowchart consists of a "Filter data step" (with a condition "isnull(cust\_id) is not null and country is 'US'") connected to a "Plan not validated" node. A tooltip for the "Filter data step" says "Filter". On the right side of the editor, there are buttons for "Discard", "Publish", "Origin", and a context menu with items like "Configure Anomaly Detection", "Create DQ Firewall", and "Add post-processing transformation" (which is also highlighted with a purple box). Other menu items include "Add data remediation plan", "Delete", and "PostgreSQL resources".

# Post-Processing Post-Processing Plans

**DQ evaluation Results of Monitoring projects can be sent to ONE Desktop:**

- To be used as an input for plans consisting of multiple post-processing steps that adapt your data to the desired form.
- To export these records to an external database, or a custom business intelligence tool, etc.

The screenshot shows the Data Quality interface. On the left, a sidebar menu includes 'Data Quality' (selected), 'Rules', 'Components' (expanded to show 'Validation Components', 'Transformation Components', 'Post Processing Components'), 'Monitoring Projects' (selected and highlighted with a red box), 'Reconciliation Projects', and 'Lookup Items'. The main area displays a 'Monitoring projects' card for '00\_Training projects' with tabs for 'Overview', 'Configuration & Results', 'Report', 'Export' (selected and highlighted with a red box), 'Notifications', and 'History'. Under 'Configuration & Results', it shows a component named '00\_Orders\_transformed' with a 'Configure' button. A modal dialog titled 'Post-processing results' is open, showing a download link for 'shared:/export/2023-06-27/00\_Orders\_transformed/orders.xls' (75.5 KB). A large pink arrow points from this dialog to a separate table on the right.

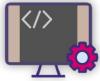
	A	B	F	K	M
1	ordernumber	orderdate	comments	invalid_rules	score
2	10100	1/6/2003		String Completeness:	250
3	10101	1/9/2003	Check on availability.		0
4	10102	1/10/2003		String Completeness:	250
5	10103	1/29/2003		String Completeness:	250
6	10104	1/31/2003		String Completeness:	250
7	10105	2/11/2003		String Completeness:	250
8	10106	2/17/2003		String Completeness:	250
9	10107	2/24/2003	Difficult to negotiate with customer. We need	String Completeness:	0
10	10108	3/3/2003		String Completeness:	250
11	10109	3/10/2003	Customer requested that FedEx Ground is u	String Completeness:	0

DQ results can be configured to be downloaded from the web application.

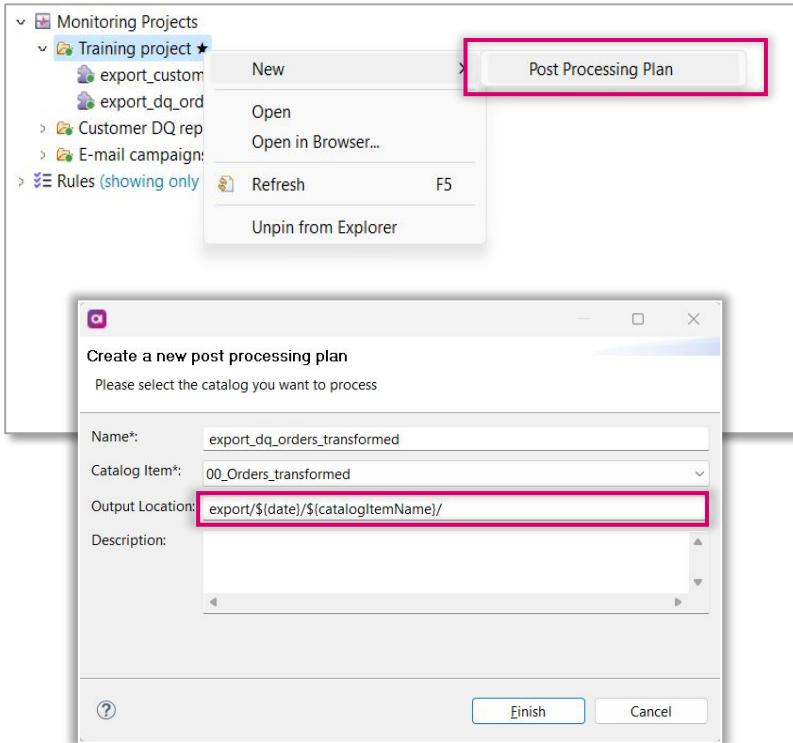
# Post-Processing

## Creating a Post-Processing Plan

### 1 ONE Desktop



1. In ONE Desktop, navigate to **Monitoring Projects**.
2. Find the required project and right-click the project name.
3. Select **New > Post processing plan**.
4. In **Create a new post processing plan**, provide the following:
  - a. **Name:** Name for the Post Processing Plan.
  - b. **Catalog Item:** The catalog item in the monitoring project for which you want to create the post-processing plan.
  - c. **Output Location:** The output location for CSV files produced from post-processing plans (if applicable).



# Post-Processing

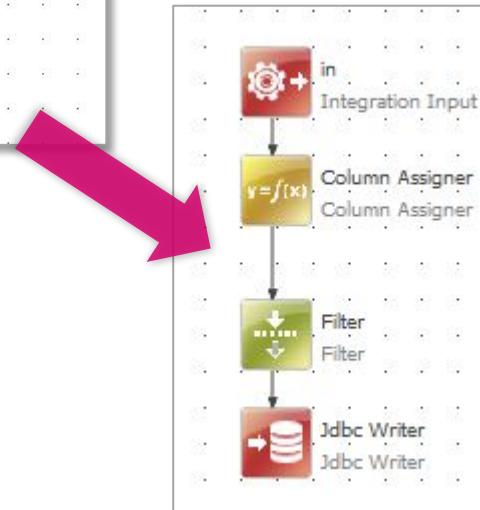
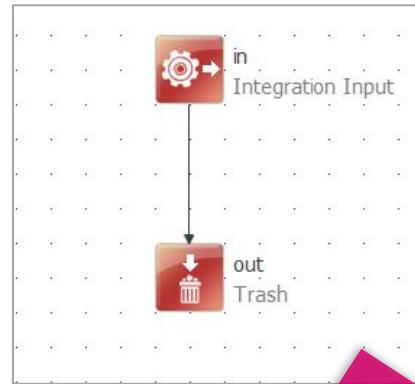
## Creating a Post-Processing Plan

### ONE Desktop

2



5. Click Finish and Navigate to **Components**.
6. Right-click the newly-created component and select **Edit component**:
  - a. Remove the Trash step.
  - b. Insert the necessary steps to develop the logic of the post processing scenarios.
  - c. Insert a proper writer step can be added before saving the changes.
7. Right-click the newly-created component, change the state to **Implemented** before **Publishing** the component.



# Exporting DQ Results

**Post-processing plans can be found in the Export tab of your Monitoring Project:**

- You need to **Run monitoring** in order for the results to become available.
- To download these results, simply click on the **download button** of the desired post-processing results, and it will be downloaded to your computer.

The screenshot shows the Ataccama Monitoring Project interface for the 'KS\_Training project'. The 'Export' tab is selected. Under the 'customers' transformation, there is a post-processing result named 'XX\_Transformation\_Plan\_Customer\_DQ\_Report' with a download icon highlighted with a red box. Below it, there are two shared files: 'shared:/US\_issues\_output.csv' (28.41 KB) and 'shared:/US\_issues\_output.csv.metaData' (5.53 KB). Under the 'XX\_Orders\_transformed' transformation, there is another post-processing result named 'XX\_Orders\_tran' with a download icon highlighted with a red box. Below it, there are two shared files: 'shared:/XX\_Orders\_tr' (215.24 KB) and 'shared:/XX\_Orders\_tr' (4.07 KB). A table below shows the results for the 'XX\_Orders\_transformed' transformation:

	A	B	F	K	M
1	ordernumber	orderdate	comments	invalid_rules	score
2	10100	1/6/2003		String Completeness:	250
3	10101	1/9/2003	Check on availability.	String Completeness:	0
4	10102	1/10/2003		String Completeness:	250
5	10103	1/29/2003		String Completeness:	250
6	10104	1/31/2003		String Completeness:	250
7	10105	2/11/2003		String Completeness:	250
8	10106	2/17/2003		String Completeness:	250
9	10107	2/24/2003	Difficult to negotiate with customer. We nee	String Completeness:	0
10	10108	3/3/2003		String Completeness:	250
11	10109	3/10/2003	Customer requested that FedEx Ground is t	String Completeness:	0

# Topic Highlights

- In order to **export** monitoring project results, **transformation**, **post-processing** or **remediation plans** should be created and configured.
- **Post-processing plans** are created and edited in the **ONE Web application**.
- Post processing plans are accessible through **Data Quality>Transformation plans** in the **ONE Web application**.
- After **creating an export plan**, the monitoring project should be run to be able to access the result.
- Different types of **export plans** are created **per Catalog Item**.
- **Post-processing results** include **scores** and **explanation codes** per monitored record.

# Memory Refresher #6

## Post Processing



# Lab Exercise #3

## Post Processing



# Data Export

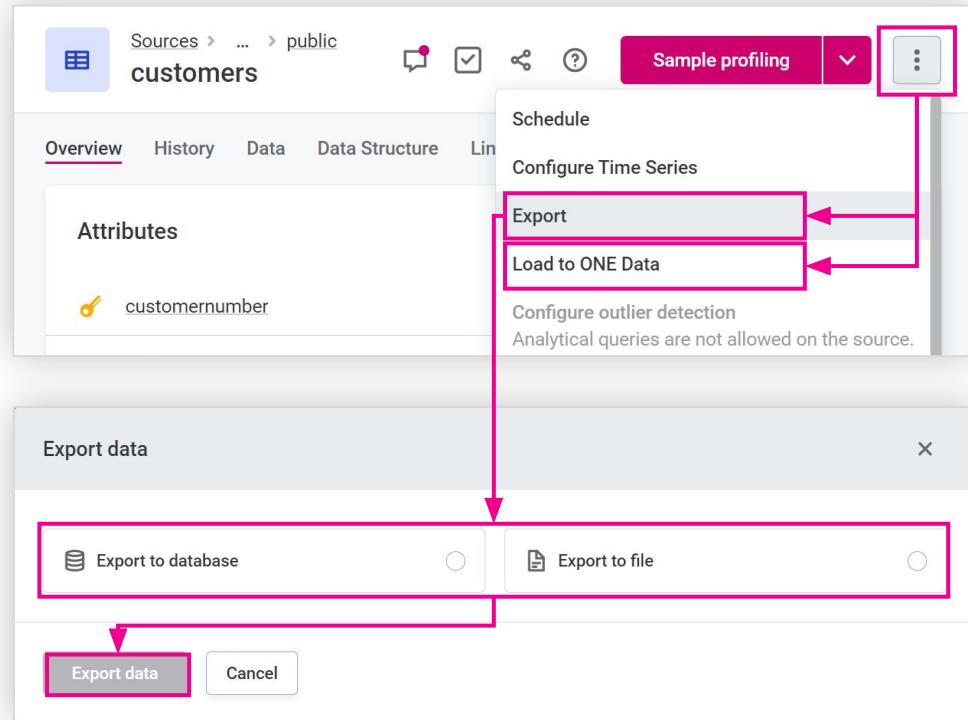


# Data Export

**Data Export** allows you to **export** data from Catalog Items and use it **outside of the platform**.

**Available data export options are:**

- Export Data to a **CSV/TXT File**.
- Export Data to a **Database**.
- Load to **ONE Data**.



# Export Data to a Database (1/2)

**There are prerequisites to configure export into database - read and write credentials:**

1. Navigate to **Sources** and choose your source.
2. On the **Connections tab**, select **Show details** from the options menu.
3. Add **Write Credentials** and set Write credentials as **Default**.
4. Check that you have already set **Read Credentials as default**.

The screenshot shows the Ataccama Sources interface for a source named "pgs\_test...". The "Connections" tab is selected. A context menu is open over a connection named "tcd\_north\_america", with the "Show details" option highlighted by a purple box. Below, the "Credentials" section shows a "training\_materials\_read" credential marked as "Default". Another context menu is open over this credential, with "Remove default" highlighted by a purple box. The "Write credentials" section shows a "training\_materials\_write" credential marked as "Default". A third context menu is open over this credential, with "Instant delete" highlighted by a purple box.

# Export Data to a Database (2/2)

**Create a Table in the source system with a corresponding Catalog Item in ONE:**

1. Select a **Catalog Item** and push **Export** from the more options menu.
2. Choose **Export to database**.
3. Create a new project, and provide meaningful **name** and optional **description**.
4. Select the **export source**, then click **Next**.
5. Select the **export target**, then click **Next**.
6. Double-check the parameters to make sure the project is correctly configured.
7. **Save & run** the project.

Data type	Name	Validity	Terms	Evaluated
<input checked="" type="checkbox"/>	customernumber	-		February 20, 2024, 2:52:14 PM
<input checked="" type="checkbox"/>	Abc	customername	-	February 20, 2024, 2:52:14 PM
	Abc	phone		February 20, 2024, 2:52:14 PM

1. Select target \*

Select the target data source where you want to export the data.

ks\_training

2. Select connection \*

Select the connection in the target data source where you want to export the data.

postgres

3. Specify location \*

Browse your connection to find the table where you want to copy data. It might not be possible to write into all tables.

# Export Data to File

A File with CSV extension will be created and available for downloading for the next 24 hours.

## To export a catalog item data to a file:

1. Select a **Catalog Item**.
2. Select **Export** in the **more options menu**.
3. Choose **Export to file**.
4. Select **attributes to export**.
5. Set the **Name** and the **file type**.
6. Select **Export**.
7. **Download** the file.

The screenshot shows the Ataccama interface for exporting data. It consists of two main sections: 'Select attributes' and 'Name your file'.

**Select attributes:** This section allows you to choose which attributes to export. A search bar at the top contains the text 'Fulltext customer'. Below it is a table with columns: Data type, Name, Validity, Terms, and Evaluated. Two rows are selected: 'customernumber' (Data type: Fulltext, Name: customernumber, Validity: -, Evaluated: February 20, 2024, 2:52:14 PM) and 'customername' (Data type: Fulltext, Name: customername, Validity: -, Evaluated: February 20, 2024, 2:52:14 PM). The entire table area is highlighted with a purple border.

Data type	Name	Validity	Terms	Evaluated
Fulltext	customernumber	-		February 20, 2024, 2:52:14 PM
Fulltext	customername	-		February 20, 2024, 2:52:14 PM

**Name your file:** This section allows you to name the exported file. A text input field contains the name 'customers'. The entire 'Name your file' section is highlighted with a purple border.

**Select file type:** This section allows you to choose the file type. It includes a sub-section 'Export current dataset into delimited text file' and four radio button options: 'CSV (Comma separated)' (selected), 'CSV (Semicolon separated)', 'TSV (Tab separated)', and 'TXT (Tab separated)'. The entire 'Select file type' section is highlighted with a purple border.

**Export** (button)

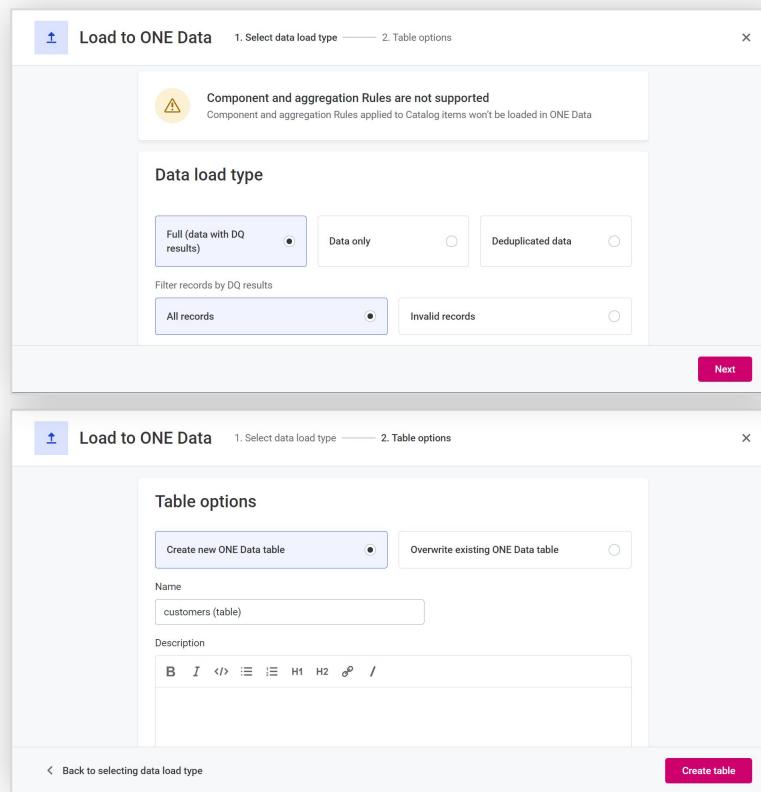
# Load to ONE Data

A **Dataset** will be created in **ONE Data** which can be used for different purposes such as reference data in validity and detection rules.

## To export a catalog item data to ONE Data:

1. Select a **Catalog Item** and push **Load to ONE Data** from the more options menu.
2. Choose **export type** (E.g : If you selected Full (data with DQ results) and then All records or Invalid records).
3. Enter a **unique name** for the table and optionally a description.
4. Select **Create** table.
5. Your table is then ready for use.

**Note:** Full (data with DQ results) loads, Component and aggregation Rules are not supported.



# Data Export projects

All export projects can be found in **Data Catalog >> Data Export Projects**.

The screenshot shows the Ataccama Data Catalog interface. On the left is a dark sidebar with various icons and menu items. The main area is titled "Data Export Projects". It features a search bar and two tables. The first table, "Standard view", has columns: Name, Last run result, Target, Source, Available for download, Last run, and Project state. It lists two projects: "orders\_export\_file" and "KS\_customers\_export\_db", both completed. The second table, "Hidden columns", is currently empty. A pink box highlights the "Master Data" item in the sidebar and the two completed projects in the main table.

Name	Last run result	Target	Source	Available for download	Last run	Project state
orders_export_file	Completed	↓	orders	23 hours left	June 3, 2024, 9:49:47 AM	Ready to run
KS_customers_export_db	Completed	ks_customers_phone	customers	-	June 3, 2024, 9:56:46 AM	Ready to run

# Topic Highlights

- **Export** projects in One Web application allow us to export data to 3 different sources:
  - **ONE Data**
  - **Database**
  - **CSV/TXT Files**
- **To export data** into Database it is necessary to configure **source** and a **connection** to that source in One Web application. Furthermore, **write credentials** should be define and set as **default**.
- It is possible to **limit** exported data for **each type of export**.

The screenshot shows the Ataccama Data Export Projects interface. On the left, there is a sidebar with a dark purple header containing the Ataccama logo and several icons. Below the header, the sidebar lists various catalog items: Reports, Anomaly Overview, Data export projects (which is selected and highlighted in blue), Master Data, Reference Data, Not Monitored, Sources, Term Suggestions, and Lineage Import. The main area has a light gray header with the title "Data Export Projects" and a search bar. Below the header is a toolbar with "Standard view" and "Hidden columns" buttons. The main content is a table with the following data:

Name	Last run result	Target	Source	Available for download	Last run	Project state
orders_export_file	Completed		orders	23 hours left	June 3, 2024, 9:49:47 AM	Ready to run
KS_customers_export_db	Completed	ks_customers_phone	customers	-	June 3, 2024, 9:56:46 AM	Ready to run

# Memory Refresher

## #7

# Data Export



# Lab Exercise #4

## Data Export (Optional)



# Import and Export Between Multiple ONE Instances



# Exporting Terms

Glossary terms can be easily transferred between ONE instances using the out of the box export plan.

The screenshot shows the Ataccama Business Glossary interface. On the left is a sidebar with various icons and a tree view of business domains: Business glossary, Terms (selected), Key performance indicators, Security Terms, Data Domains (Enterprise, Finance, Human Resources, Information Technology), Sales, Supply Chain, Term Reports, and Mapped to Catalog. A pink box highlights the 'Business Terms' icon in the sidebar, with a callout 'Navigate to the Business Glossary'. The main area is titled 'Business Terms' and shows a list of terms in 'Standard view': Supplier, Continent, Stock Symbol, Direction, Unique selling proposition, Certificate number, Advertising, Human-machine interface, Inventory, and Programmable logic controller. The 'Certificate number' and 'Advertising' rows have checkboxes checked. A pink box highlights these checkboxes with the callout 'Select the desired terms'. At the bottom of the list, there are buttons for 'Clear selection' and '3 items selected'. On the right side of the interface, there are buttons for 'Create', 'Flat listing', and 'Export'. A pink box highlights the 'Export' button with the callout 'Click on the Export button which subsequently shows up'. The Ataccama logo is in the bottom right corner.

Navigate to the Business Glossary

Select the desired terms

Click on the Export button which subsequently shows up

Name	Type	Abbreviation	Overall Quality	Stewardship	Definition
Supplier	Business Term	SUP	-	Supply Chain	A supplier is an entity that supplies goods and service...
Continent	Business Term	COT	-	Data Office	Any of the world's central continuous expanses of lan...
Stock Symbol	Business Term	SSB	-	Finance	A Stock Symbol is a unique series of letters assigned ...
Direction	Business Term	DIR	-	Data Office	Direction is an aspect of management that deals dire...
Unique selling proposition	Business Term	USP	-	Marketing	
Certificate number	Business Term	CN	-	Sales	
Advertising	Business Term	AD	-	Marketing	
Human-machine interface	Business Term	HMI	-	Manufacturing	The user interface connects a human user to a comp...
Inventory	Business Term	INV	-	Procurement	Materials or stock a business buys to sell or used t...
Programmable logic controller	Business Term	PLC	-	Manufacturing	A computer that has been modified or programmed t...

Clear selection    3 items selected

Create    Flat listing    Export

# Exporting Terms Configuration

To proceed with the export process, mandatory sections such as file name and Data security should be configured.

The screenshot shows the 'Export' dialog box with the following configuration:

- Link expiry:** The URL for the archive will be valid for 2h from the time of export.
- File type:** Created archive will be ZIP file type.
- File name:** 2024-06-03-1021-export-15.2.0.240521-137118-c2f55e-Term-with-dependencies
- Description:** A large empty text area for description.
- Export plan:** Describes what will be part of the export, including selected plans:
  - App layouts: Export of customized application screen layouts.
  - DQ Rules: Export of rules including dependences.
  - Essential application content: The application requires the essential content to install and start. It includes default MMM model and default metadata (search configurations, profiling configurations, DQ dimensions, types of relations, and email templates).
  - Export plans: Export of export plan.
  - Product demo content: This pack is for new clients on a small production project. The pack includes initial sample data sources with original data tables, imported, profiled, and processed tables in Catalog, pre-populated DQ projects and anomaly projects, and workflows in various states of completion. It does not include any test content.
  - SearchConfiguration with dependencies: Export SearchConfiguration and other dependencies.
  - Starter content for production installations: This content pack is installed for production use in cloud or in customer environments. The pack includes metadata (terms, rules, and policies), reference data (lookup tables and dimension tables), and sample data.
- Data security:** You can set whether the exported data will be protected and the strength of the encryption method that will be used.
  - 256-bit AES encryption
  - 128-bit AES encryption
  - ZIP 2.0 encryption
  - No encryption
- Get the password:**
  - By myself
  - Generate for me

Generated password: XQuWS-ojToK(jp)

Generate password
- Export button:** A large red button labeled 'Export'.

**Annotations:**

- The exported file link is expired in 2 hours after the export.** Points to the Link expiry section.
- The exported file will be of zip type** Points to the File type section.
- Specify a file name** Points to the File name input field.
- Select the Export Plan: Term with dependencies** Points to the 'Term with dependencies' radio button in the Export plan section.
- Click on the Export button** Points to the large red 'Export' button at the bottom right.
- You can set the encryption and password for the exported data** Points to the Data security and Get the password sections.

# Exporting Terms: Results

- The exported file should be downloaded to be subsequently imported to the target instance.
- Custom export plans can be created using the Create export button

The diagram illustrates the Ataccama interface for managing exports. On the left, a screenshot of the Manufacturing application shows the 'Latest jobs' section with three completed tasks: 'Export of data to archive 2024-02-21-0115-export-15.1.0.240129-116766-3f6326b1-Term-with-dependencies' (finished 2 minutes ago), 'DQ Evaluation of Catalog Item 'customers'' (finished about 22 hours ago), and 'Profiling of customers (Sample profiling)' (finished about 22 hours ago). A large pink arrow points from this screen to the right-hand Global Settings interface. On the right, the 'Global Settings' page is shown under 'Application Settings'. The 'Import And Export' tab is selected. A callout box labeled 'Go to the Export tab' points to this tab. Below it, the 'Exports' tab is selected, and a table lists the export job: '2024-06-03-1021-export-15.2.0.240521-137118-c2faf55e-Term-with-dependencies' (Status: Finished, Started: Jun 3, 2024, 10:43:17 AM, User: kyle.smith@ataccama.com). A callout box labeled 'Download the desired file' points to the download icon next to the archive link. Another callout box at the bottom right provides instructions: 'To access the exported file, go directly to **Global settings > Import And Export** or check **Minio**'.

You can track the export progress and until you get the **Export finished** notification.

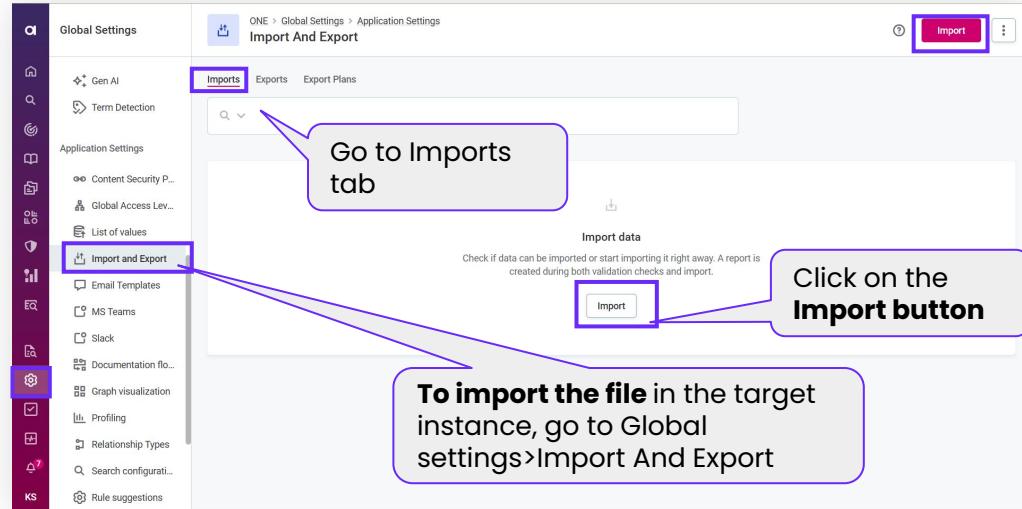
Go to the Export tab

Download the desired file

To access the exported file, go directly to **Global settings > Import And Export** or check **Minio**

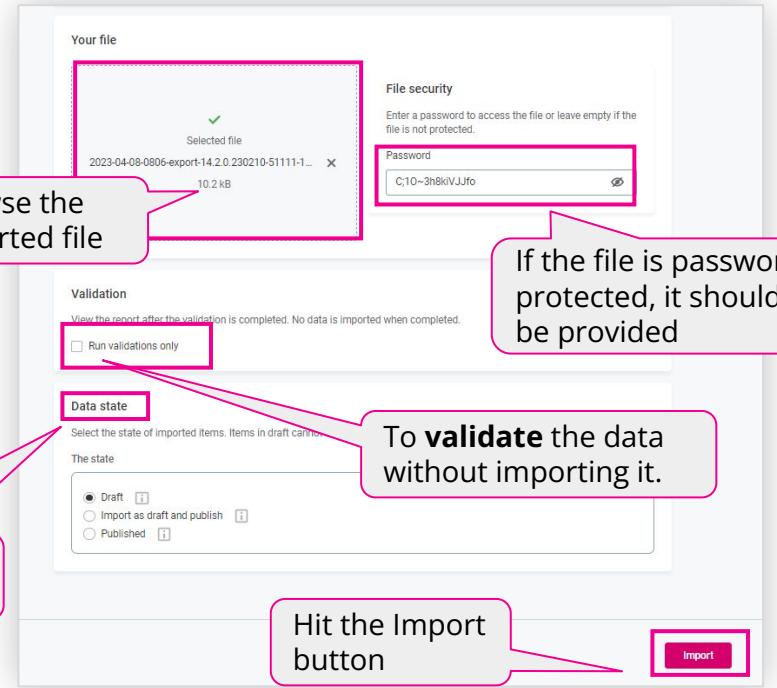
# Importing Terms

- **Import processes** are done in the **Import And Export section** regardless of the type asset being imported.
- In general, **permissions** are assigned on **imported data** based on the permissions of **the user who started** the import process.



# Importing Terms: Configuration

- **Exports** are imported in their **original format (ZIP)**, without extracting. They are then uploaded to ONE Object Storage, **where they are unpacked**.
- If the export is password-protected (all levels of data protection except No encryption), you need to supply the password to complete the import process.



# Importing Terms: Results

- If the import is finished **successfully**, new terms will **appear** in Business Glossary.
- If an entity **already exists** in the application, a new version of it is created **only if its data has been modified**.

The diagram illustrates the workflow for importing terms:

- Global Settings > Import And Export > Imports Tab:** You can check the status of Import job. A failed job (ArchiveName: 2023-04-08-0806-export-14.2.0.230210-511111, Status: Failed) is highlighted.
- Business Glossary > Terms:** You can check the results in the Business Glossary. A new term "term\_for\_import" is shown in the list.
- Business Glossary Results:** The imported term "term\_for\_import" is visible in the Business Glossary table.

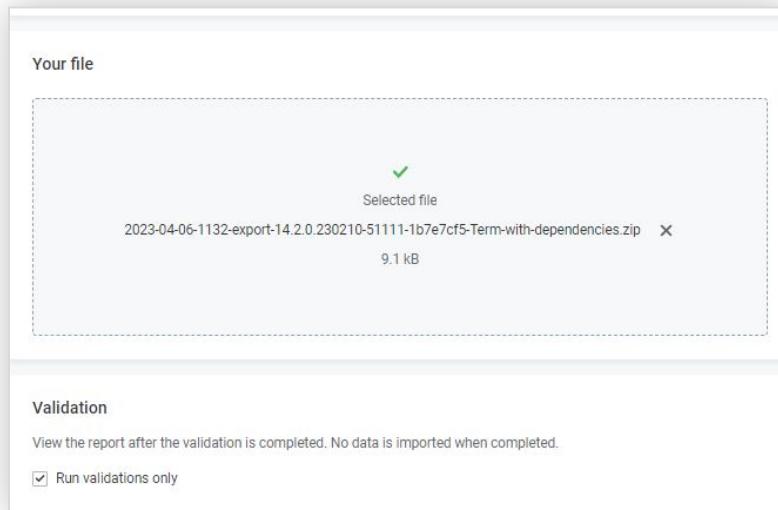
Annotations provide additional context:

- "You can click on the Error message for failed jobs" points to the failed import entry.
- "Here, you can see the records of imports" points to the list of imports in the Global Settings tab.
- "You can check the status of Import job in Global settings > Import And Export > Imports tab" points to the Global Settings navigation path.
- "You can check the results in the Business Glossary" points to the Business Glossary navigation path.

Name	Type	Abbreviation	Overall Quality	Stewardship	Definition
term_for_import	Business Term	-	-	-	manually created term for test
ks_products	Business Term	-	-	-	
ks_product	Business Term	-	-	-	

# Content Import: Validation

- There is the option **to only validate** the data **without importing** it.
- Choose the file for validation > select **Run validations only** and click **Validate**.
- If the export is password-protected, you will need to enter the **password** to complete the **validation**.



Your file

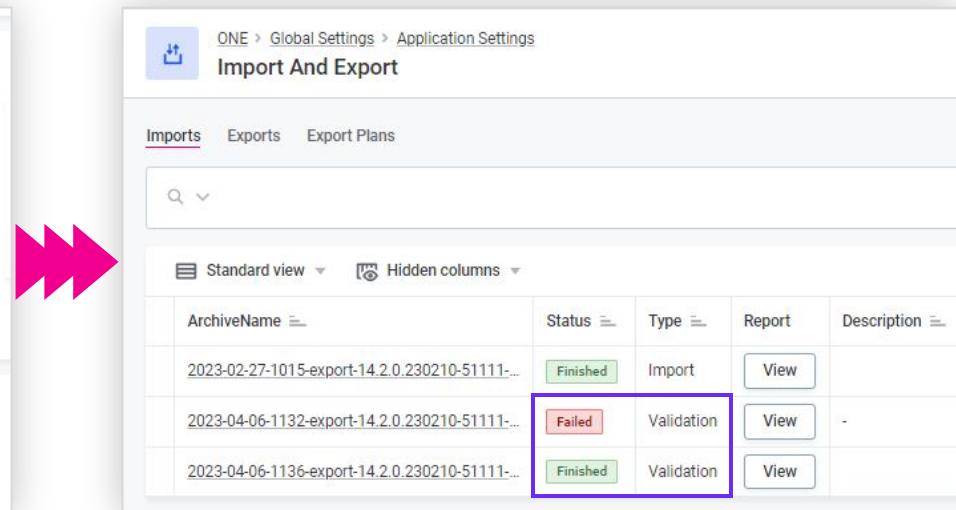
Selected file  
2023-04-06-1132-export-14.2.0.230210-51111-1b7e7cf5-Term-with-dependencies.zip 

9.1 kB

Validation

View the report after the validation is completed. No data is imported when completed.

Run validations only



ONE > Global Settings > Application Settings  
Import And Export

Imports    Exports    Export Plans

Standard view    Hidden columns

ArchiveName	Status	Type	Report	Description
2023-02-27-1015-export-14.2.0.230210-51111-...	Finished	Import	<button>View</button>	
2023-04-06-1132-export-14.2.0.230210-51111-...	Failed	Validation	<button>View</button>	-
2023-04-06-1136-export-14.2.0.230210-51111-...	Finished	Validation	<button>View</button>	

# Importing and Exporting Rules

- In order to **import** and **export** the rules, the process is similar to that of the terms.
- All users that are **Owners** or **Stewards** of **exported rules should also be present** in the instance where you want to import rules
- Export of rules does not include lookup files** used in the rules.
- If **lookup items** with exactly the same names **don't exist** in the target instance, the rules referencing them will be imported into the **draft state** and **will not pass the later validation** that is needed to move them into published state.

The screenshot shows the Ataccama Rules management interface. At the top, there is a navigation bar with a 'Create' button and a three-dot menu icon. Below the navigation, there are tabs for 'Published', 'Unpublished', and 'All'. A search bar is followed by a 'Flat listing' dropdown. Below these are three filter buttons: 'Terms', 'Input Attributes Terms', and 'Stewardship'. The main area is a table with columns: Name, Type, Dimension, Rule definition source, and a small icon. There are three rows in the table:

- Academic title (Detection, Dimension, Ataccama Default Rules)
- Airport code (Detection, Dimension, Ataccama Default Rules)
- Airport code (DQ Evaluation, Validity, Ataccama Default Rules)

At the bottom of the table, there are buttons for 'Clear selection' and 'Delete'. To the right of these is a red-bordered 'Export' button. A message at the bottom indicates '2 items selected'.

	Name	Type	Dimension	Rule definition source
⋮	Academic title	Detection		Ataccama Default Rules
⋮	Airport code	Detection		Ataccama Default Rules
⋮	Airport code	DQ Evaluation	Validity	Ataccama Default Rules

# Topic Highlights

- The Import and Export feature lets you transfer custom sets of your data assets between multiple ONE instances with a **compatible metadata model mode** (MMD).
- **What data** can be exported is configured using **export plans**.
- Currently, the feature is preconfigured for **glossary term**, **rules**, **application layouts**, and **search configuration** nodes as well as for **content packs**.
- You can **modify**, **download**, or **remove existing export plans**, or **create a new plan** to provide additional exports.
- Exports are imported in their original format (**ZIP**), without extracting. They are then uploaded to ONE Object Storage, where they are unpacked and sent back to the ONE.

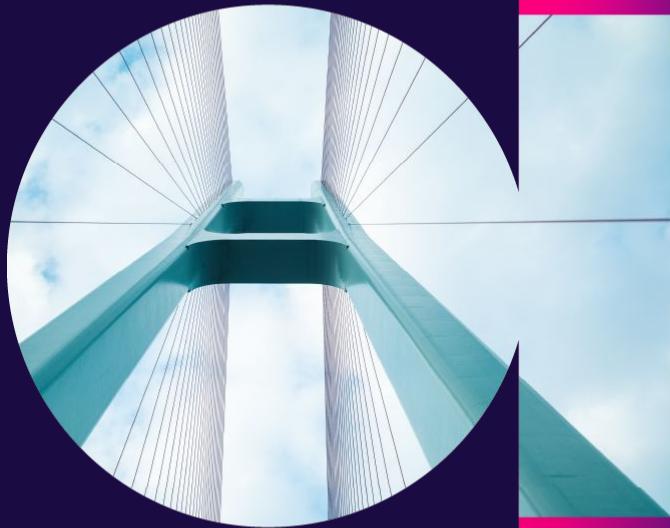
# Memory Refresher

## #8

# Import & Export



# Snowflake Pushdown



# Snowflake Pushdown

- Using **Snowflake Pushdown**, processing is done on the Snowflake side instead of the **ONE Web application DPE**.
- **Pushdown processing** can **improve performance, security, infrastructure usage** and **scalability**.
- Pushdown processing can be used for **Profiling, Data observability** (some functions), **DQ evaluation**, **Monitoring projects**.
- From user perspective results, appear the **same as regular processing**, unless the action is **not supported** by pushdown.

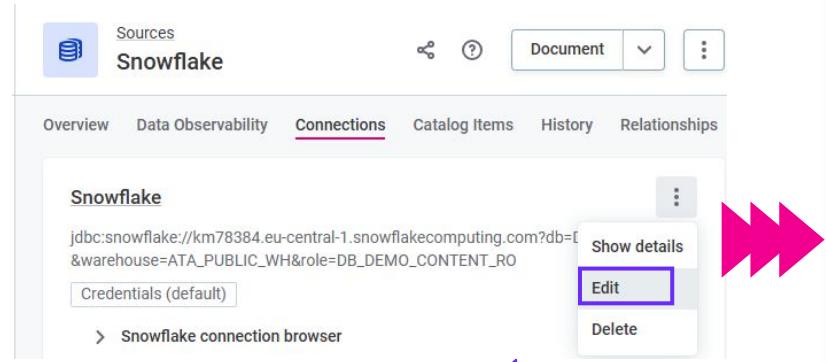
The screenshot shows the Ataccama Rules interface for configuring a 'My Snowflake test rule'. The 'Implementation' tab is selected. The 'Description' section contains a snippet of XML-like code. The 'Inputs' section lists 'IS\_SSN' under 'ATTRIBUTES'. The 'VARIABLES' section lists 'Abc IS\_SSN' and 'IS\_EMPTY'. The 'LOGIC' section shows a single condition: 'IS\_EMPTY'. A callout box with a purple border and the title 'Not supported:' lists the following items:

- Components
- Aggregation rules
- Post-processing,
- SQL catalog items,
- Some rule expressions

A tooltip at the bottom of the callout box states: 'This rule can't be applied on Snowflake with enabled pushdown.' The interface includes tabs for Overview, Implementation, Occurrence, and History, along with buttons for Edit, Test Rule, and Rule Logic.

# Enabling Snowflake Pushdown: Source level

You can **enable pushdown** processing, either  
when **creating a new source connection** or  
**editing an existing one**.



Sources

Snowflake

Connections

Overview Data Observability Catalog Items History Relationships

Snowflake

JDBC URL: jdbc:snowflake://km78384.eu-central-1.snowflakecomputing.com?db=DEMO\_CONTENT&warehouse=ATA\_PUBLIC\_WH&role=DB\_DEMO\_CONTENT\_RO

Credentials (default)

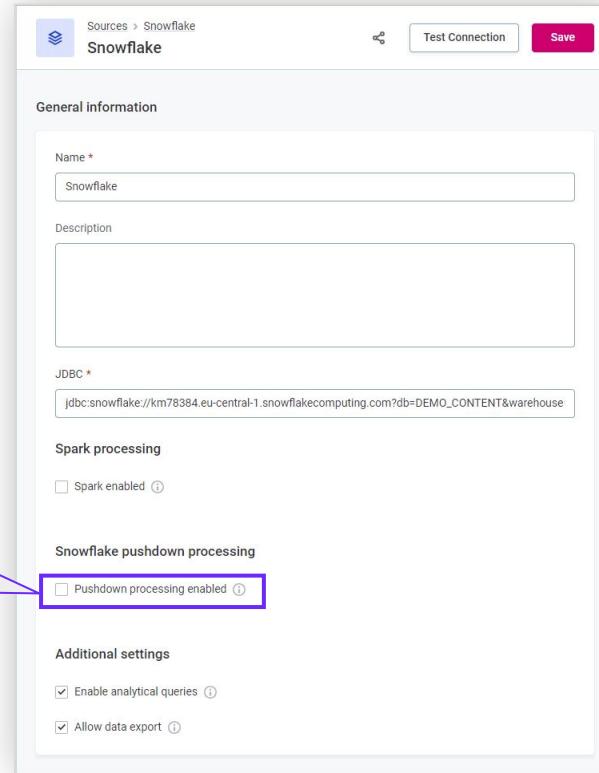
> Snowflake connection browser

Show details

Edit (highlighted)

Delete

At Source level select the  
Snowflake connection, and  
use the **more options menu**  
to select **Edit**



# Enabling Snowflake Pushdown: Item level

Pushdown processing can also be enabled on specific catalog items, terms, and monitoring projects.

At catalog item level select the required item, and use the more options menu to select Edit

SUPPLIER

Overview History Data Data S... D... D...

Attributes

123	S_SUPPKEY	
Abc	S_NAME	Supplier 77% Continent ✓
Abc	S_ADDRESS	82% International Airp... ✓ X +7
123	S_NATIONKEY	83% Customer ID ✓ X
Abc	S_PHONE	
123	S_ACCTBAL	85% BV_buyprice ✓ X +3
Abc	S_COMMENT	

Sample profiling ▾ ...

More options ▾

- Schedule
- Configure Time Series
- Create data slice
- Export
- Create SQL Catalog Item
- Create Data Visualization
- Add transformation
- Load to ONE Data
- Edit**
- Create DQ Firewall
- Request access



Knowledge Catalog Sources > ... > TPCH\_SF10 SUPPLIER Save

General information

Name \* SUPPLIER

Connection Snowflake

Description

Supplier

Number of attributes 7

Number of records 100000

Pushdown enabled

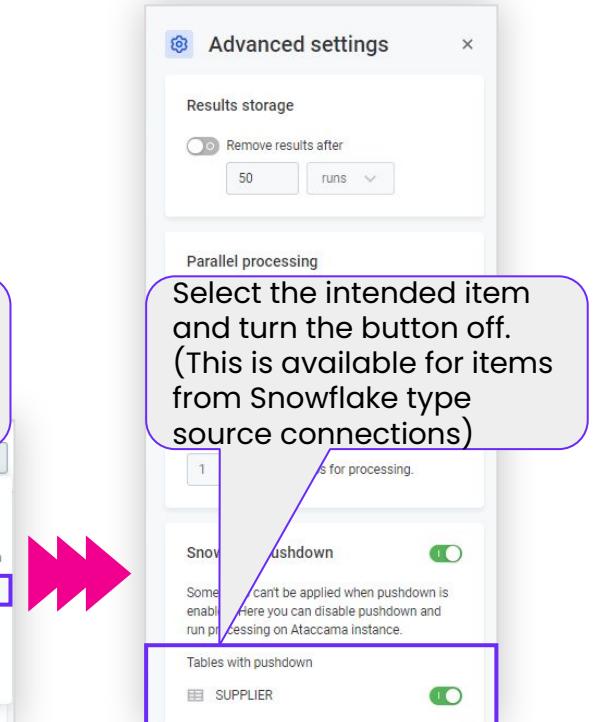
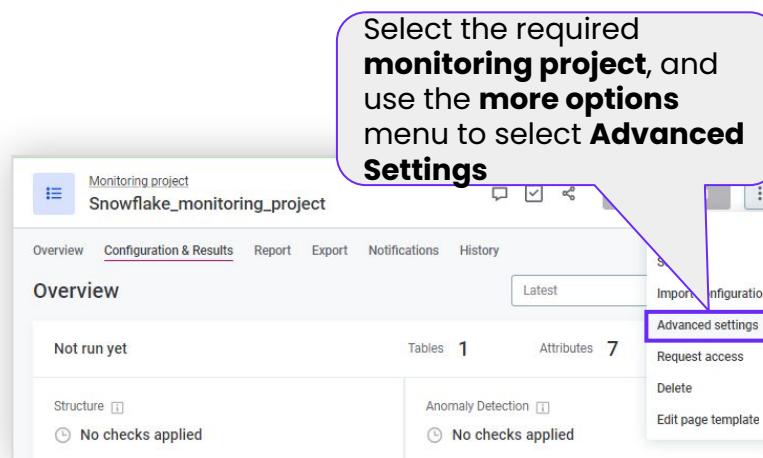
Table type TABLE

Schema TPCH\_SF10

A pink callout box contains the text: "Mark the checkbox (This is available for items from Snowflake type source connections)"

# Disabling Snowflake Pushdown

- When configuring monitoring projects, if you want to use a rule with a data quality function which is not supported for pushdown processing, **you can turn it off on a table-by-table basis.**
- To do this, select the **more options icon** and then **Advanced settings**. Pushdown processing can also be **enabled** on **specific catalog items, terms, and monitoring projects**.



ataccama

# Topic Highlights

- Snowflake pushdown processing shifts the processing workload to the Snowflake side rather than being handled by the ONE Web application DPE.
- **Benefits of Pushdown Processing:**
  - Pushdown processing delivers improvements in performance, security, infrastructure utilization, and scalability, making it a valuable approach for data processing.
- **Use Cases for Pushdown Processing:**
  - It finds application in various scenarios such as profiling, data observability (certain functions), data quality (DQ) evaluation, and monitoring projects.
- For scenarios where certain data quality functions are not supported, users can **selectively turn off pushdown processing** on a table-by-table basis through the Advanced Settings menu.

# Memory Refresher

## #9

# Snowflake

# Pushdown



# DQ Firewalls



# DQ Firewalls

- DQ Firewall projects are found in **Data Quality > DQ Firewalls**.
- DQ Firewall projects allow you to apply data quality rules to the data using API calls.
- Both GraphQL and REST options are available.
- You can maintain one central rule library and use Ataccama data quality evaluation rules on your data in real-time in the data stream.

The screenshot shows the Ataccama Data Quality interface. On the left, there is a sidebar with various icons and sections: Home, Search, Components, Transformation Plans, DQ Firewalls (which is highlighted with a purple box), Global Configuration, Monitoring Projects, Reconciliation Projects, and Lookup Items. The main area is titled 'DQ Firewalls' and contains a table with three rows of data:

Name	Description	Enabled	Service ID
Continent validation service	This service allows you to validate Continent in...	✓	POMQhnv9A7
Customers	Validates customer data. Applied rules include...	✓	k5u3rAQySW
ISIN Validation	ISIN codes have a total of 12 characters that c...	✓	NBffytktEr

## For example:

- You have an ETL pipeline in Python that processes data, and you want to make sure that it filters out invalid records. After defining the DQ rule in ONE, the pipeline for each record (or batch of records) can call the DQF endpoint, and records will be split up by their validity.

**Note:** Rule assignment and data quality evaluation is at the attribute level.

# DQ Firewalls\_

## Creation & Configuration (1/3)

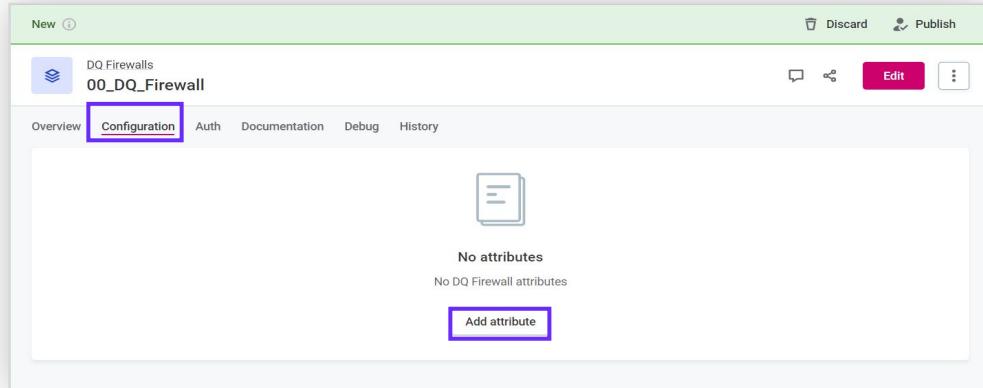
1. Go to **Data Quality > DQ Firewalls**.
2. Select **Create**.
3. Provide a **name** and a **description** (optional).
4. **Enable** the firewall if you want it to be available after publishing.
5. Select **Save**.

The screenshot shows two panels of the Ataccama Data Quality interface. The left panel is a 'Create DQ Firewall' dialog with fields for Name (00\_DQ\_Firewall) and Description (data quality firewall for training material purposes). The right panel is the 'Overview' tab of the 'DQ Firewalls' service, showing the Service Id (t0Ux2Hiiip), a status card indicating the firewall is Enabled (On), and the same description as the dialog.

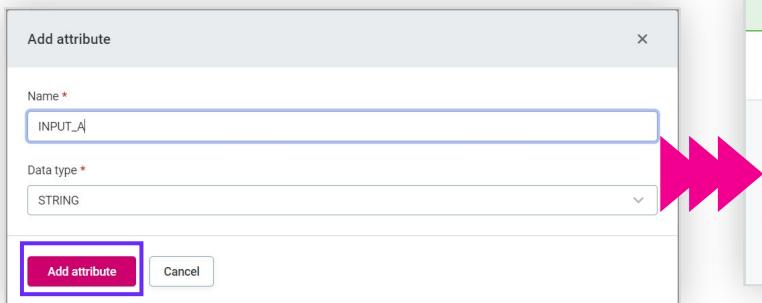
**Note:** A unique Service Id is automatically generated for every new firewall, this is not editable.

# DQ Firewalls\_ Creation & Configuration (2/3)

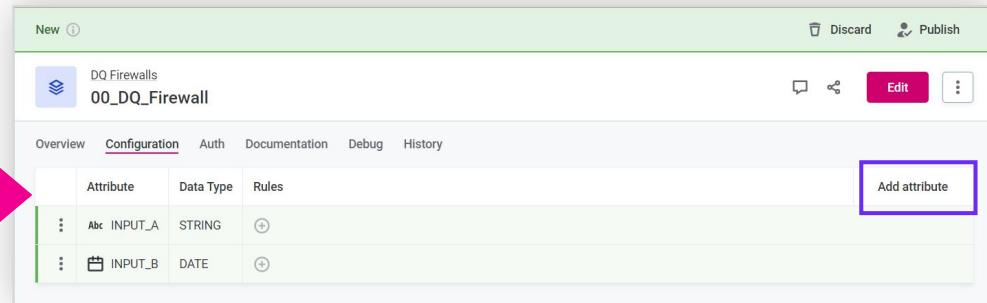
6. In the **Configuration tab**, click **Add attribute** button.
7. Specify the input **attribute name** and **data type**.
8. Select **Add attribute**.
9. Select **Add attribute** again to **add additional attributes**.



The screenshot shows the Ataccama interface for managing DQ Firewalls. The top navigation bar includes 'New', 'Discard', 'Publish', 'Edit', and a three-dot menu. Below the navigation is a header with the project name 'DQ Firewalls' and the specific item '00\_DQ\_Firewall'. The main area has tabs for 'Overview', 'Configuration' (which is selected and highlighted with a purple box), 'Auth', 'Documentation', 'Debug', and 'History'. A large central panel displays a document icon and the text 'No attributes' followed by 'No DQ Firewall attributes'. At the bottom right of this panel is a prominent 'Add attribute' button, also highlighted with a purple box.



The screenshot shows the 'Add attribute' dialog box. It has fields for 'Name \*' containing 'INPUT\_A' and 'Data type \*' set to 'STRING'. At the bottom are 'Add attribute' and 'Cancel' buttons, both highlighted with purple boxes. A large pink arrow points from this dialog to the 'Add attribute' button in the main configuration screen above it.



The screenshot shows the Ataccama interface after adding attributes. The 'Configuration' tab is still selected. A table in the center lists two attributes: 'INPUT\_A' of type 'STRING' and 'INPUT\_B' of type 'DATE'. Each row in the table has a delete icon ('+') at the end. At the bottom right of the table area is another 'Add attribute' button, highlighted with a purple box.

# DQ Firewalls\_ Creation & Configuration (3/3)

10. After adding input attributes, you need to **map rules to those attributes**.
- Select **+ Add rule** and assign rules from the list available.
  - To add multi-input rules, search for the rule and then select **Configure** to **map the DQ Firewall attributes to the rule attributes**.

**Note:** It is not possible to publish a firewall project without any rules assigned.

The screenshot shows two Ataccama DQ Firewall configuration pages. The top page is for a project named '00\_DQ\_Firewall'. It lists two input attributes: 'INPUT\_A' (String) and 'INPUT\_B' (Date). For 'INPUT\_A', a modal window titled 'Add rule to "INPUT\_A"' is open, showing a search bar with 'ks' and a list of rules. One rule, 'ks\_product\_line', is selected and highlighted with a red box. The bottom page shows the same project with the 'ks\_product\_line' rule assigned to 'INPUT\_A'. A red box highlights the 'Assign Rule' button for this row. Both pages have tabs for Overview, Configuration (which is selected), Auth, Documentation, Debug, and History.

# Additional Firewall Configuration

- DQ Evaluation Rules can be updated from the DQ Firewall configuration.
- Selecting the **Implementation tab** when viewing a **rule** opens a **read-only view**.
- Click on the **rule name** in the heading to be directed to the **rule page**, where it is possible to also edit implementation.

DQ Firewalls  
00\_DQ\_Firewall

Overview Configuration Auth Documentation Debug History

**1 rule is outdated.**  
Update 1 rule to the latest versions if required

	Attribute	Data Type	Rules
⋮	Abc INPUT_A	STRING	+ ks_product_line accuracy Academic title String Completeness
⋮	INPUT_B	DATE	+ Is Future Date Day Completeness

accuracy Currency

Configuration Description Implementation

IS\_ACCURATE

WHEN

Abc value value is from lookup acc\_currency

THEN

Result

Accurate No reference available Not Accurate

Score Explanation

Save Cancel

# Firewall Rule Changes

- If you edit or change the implementation of any rules applied to the firewall, you will be **notified of the outdated rule** and have the **option to update it**.

The screenshot shows the Ataccama DQ Firewalls configuration interface for a resource named "00\_DQ\_Firewall". The top navigation bar includes tabs for Overview, Configuration (which is selected), Auth, Documentation, Debug, and History. On the far right of the header are icons for messaging, sharing, editing, and more options.

A prominent message bubble in the center-left states: "1 rule is outdated. Update 1 rule to the latest versions if required". To the right of this message is a button labeled "Update for this DQ Firewall", which is highlighted with a red rectangular border.

The main content area displays a table of attributes:

	Attribute	Data Type	Rules	Add attribute
⋮	Abc INPUT_A	STRING	<span>+ ⚡</span> <span>💡 ks_product_line</span> <span>🔴 accuracy Academic title</span> <span>🟣 String Completeness</span>	
⋮	📅 INPUT_B	DATE	<span>+ ⚡</span> <span>🟡 Is Future Date</span> <span>🟣 Day Completeness</span>	

# Authentication Methods

To evaluate data quality via API using DQ Firewalls, **authentication methods must be configured.**

**There are three possible ways to define who can invoke each DQ firewall project API:**

- **API Key:** Anybody who presents valid API Key can invoke the service.
- **Persons:** Any user selected can invoke the service.
- **Roles:** All members with these roles can invoke the service. Having a single role is enough; the user does not have to have all of the roles selected.

**To add authentication methods:**

- Select the **Authentication tab**, and configure one or several of the following authentication methods:
  - **API key:** The key will be generated automatically, but you need to provide a name.
  - **Persons:** Assign permissions based on users of the app.
  - **Roles:** Assign permissions to groups based on Keycloak roles.

New authentication method

Authentication type

Api key Persons Roles

Name \*

Api key \*

Be sure to do a backup of your access token. It will not be available to you later.

Zk7AINVwHK4c0eqJfxk192D0U3b1jy5kiVai4YiduyNG43BFgS

Save Cancel

# Global Configuration

- You can **add global authentication methods**, then enable them within the project by checking the box.
- To view details, select **Data Quality > DQ Firewalls > Global Configuration**.

The screenshot shows the Ataccama Data Quality interface. On the left, a sidebar menu includes options like Rules, Detection Rules, DQ Evaluation Rules, DQ Dimensions, Components, Transformation plans, DQ Firewalls (with Global Configuration selected), Monitoring projects, Reconciliation projects, and Lookup items. The main panel is titled 'Edited' and shows a 'DQ Firewalls' project named '00\_DQ\_Firewall'. The 'Auth' tab is selected. A purple box highlights the 'Enable global authentication method' checkbox, which is checked. Below it is a button labeled 'Add authentication method'. A large callout box on the right says 'No Auth methods' and 'No Auth methods have been added yet.' The top navigation bar includes 'View published version', 'View changes', 'Discard', 'Publish', and an 'Edit' button.

**Note:** When global authentication is enabled, the methods themselves aren't visible in the Auth tab for individual projects.

# Testing Rules

- Using the **Debug tab**, you can test different input values and see if your rules are functioning correctly.
- **Debug tests all rules** included in your firewall project concurrently.
- The result is the **Overall result**, so all rules of DQ dimensions that contribute to overall quality must **pass** for the result to be Passed.
- **Score** will show the **combined score** for results.

The screenshot shows the Ataccama DQ Firewall interface. The top navigation bar includes 'DQ Firewalls' and '00\_DQ\_Firewall'. On the right, there are 'Edit' and 'More' buttons. Below the navigation, a menu bar has tabs: 'Overview', 'Configuration', 'Auth', 'Documentation', 'Debug' (which is highlighted with a pink border), and 'History'. A large table below the menu has two columns: 'INPUT\_A' and 'INPUT\_B'. The first row contains 'Motorcycles' and 'January 2, 2024'. The second row contains 'Toronto' and 'January 10, 2024'. The third row contains 'Classic cars' and 'January 25, 2024'. At the bottom left of this table area is a button labeled 'Add row'. To the right of the table is a results section with a pink border. It has a table with columns 'Result' and 'Score'. It lists three rows: one 'Passed' row with a green dot and a score of 0, and two 'Failed' rows with red dots and scores of 1000000 and 0 respectively. Each row has a trash icon at the end.

Result	Score	
Passed	0	
Failed	1000000	
Failed	0	

# Topic Highlights

- DQ Firewall projects enable the application of data quality rules to the data through API calls.
- **Enable** the firewall to make it accessible after publish.
- **Three possible ways to define who can invoke each DQ firewall project API:**
  - **API Key**
  - **Persons**
  - **Roles**
- **When global authentication is enabled**, the Auth tab in individual projects does not display the methods themselves.
- During debugging, the outcome is the **overall result**, meaning that all rules of DQ dimensions contributing to the overall quality must successfully pass for the result to be marked as "**Passed**."

# Memory Refresher #10

## DQ Firewalls



# DQ Advanced

v15.2.x



ataccama