



PARTNER

SAP BTP Data-to-Value Hands-on Exercise Series

DV200 Exercise02 – Creating a Data Flow with Data Builder of SAP Data Warehouse Cloud

This document will guide you step by step on the process of creating a Data Flow to combine the archived historic book sales order (2011~2019) from Amazon S3 and live book sales order (2020~2021) from SAP S/4HANA Cloud, persist the output result into a local table in SAP Data Warehouse Cloud as a complete analytical dataset of book sales orders.

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DISCLAIMER

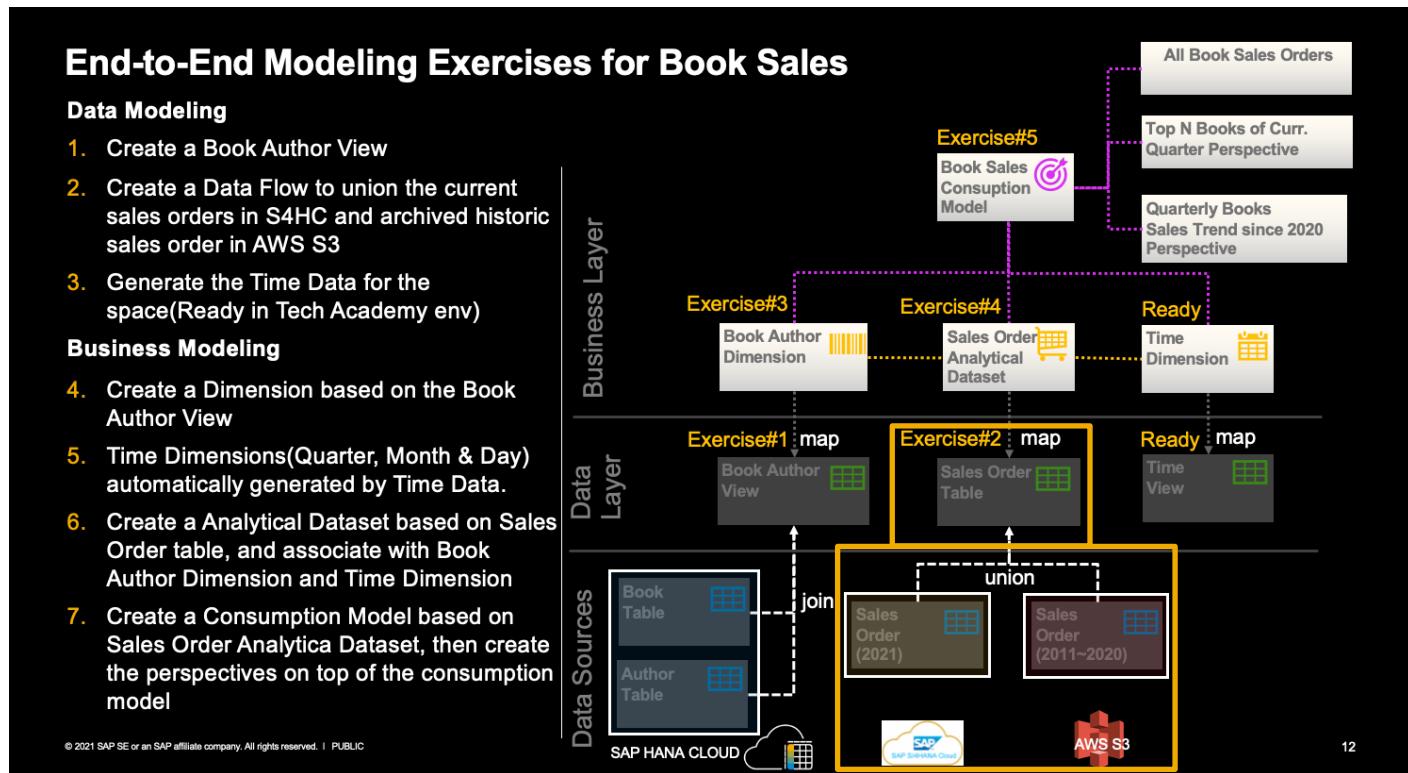
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OBJECTIVE

The objective of this exercise is to provide the steps needed to create a Data flow using S/4 HANA Cloud and Amazon S3 as source.

SCENARIO

In this session we will use the scenario as seen in Demo #2 in the below image:



In this session we will create a Data Flow View using Data Builder. We will use the the SAP S/4 HANA Cloud and the Amazon S3 connections to access respectively:

- The CDS View C_SALESDOCUMENTITEMDEX_1 from S/4 HANA Cloud filtered SDDocumentCategory by Order ('C') as Live Sales Order Data of the bookshop.
- The archived Sales Order Data of the bookshop from the Amazon S3.

ENVIRONMENT ACCESS

Before proceeding with the exercise, please obtain the Tenant details and Login Credentials of SAP Data Warehouse Cloud provided to you as instruction below.

SAP Data Warehouse Cloud (to login SAP Data Warehouse Cloud and perform the exercise):

- Tenant URL
- Username: Your assigned User ID
- Password: Your assigned User Password

For the Bootcamp participants, please use the SAP Data Warehouse tenant provided by SAP, and your assigned user id and password.

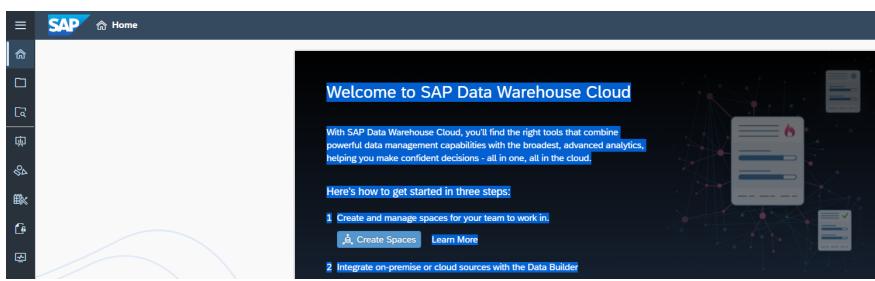
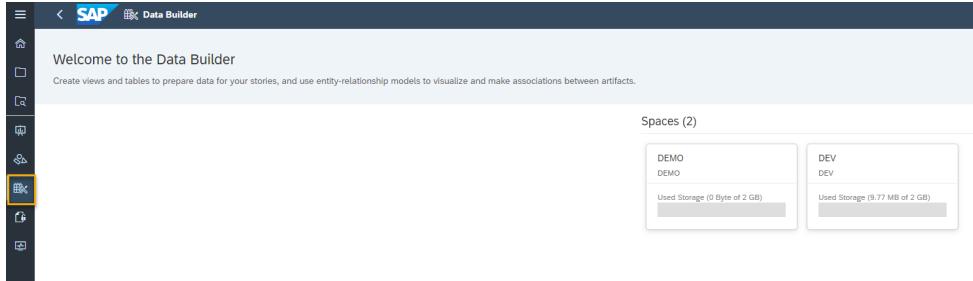
- The SAP Data Warehouse cloud tenant URL is available in the dedicated **Microsoft Teams > General (Channel) > System Access (Tab) > SAP Data Warehouse Cloud (Section)**, which you have been invited.
 - Your assigned user id and password for SAP Data Warehouse Cloud are communicated individually via email.

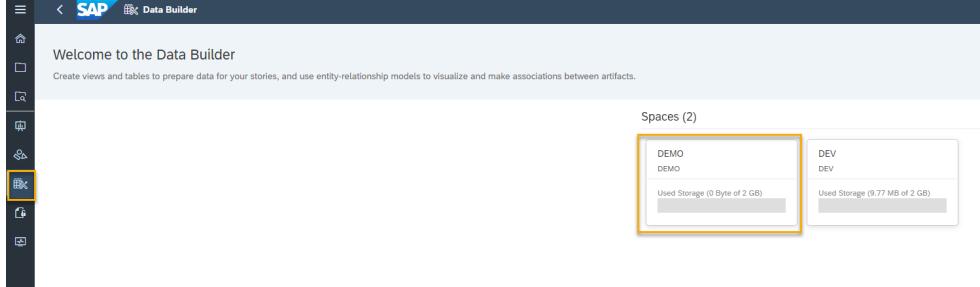
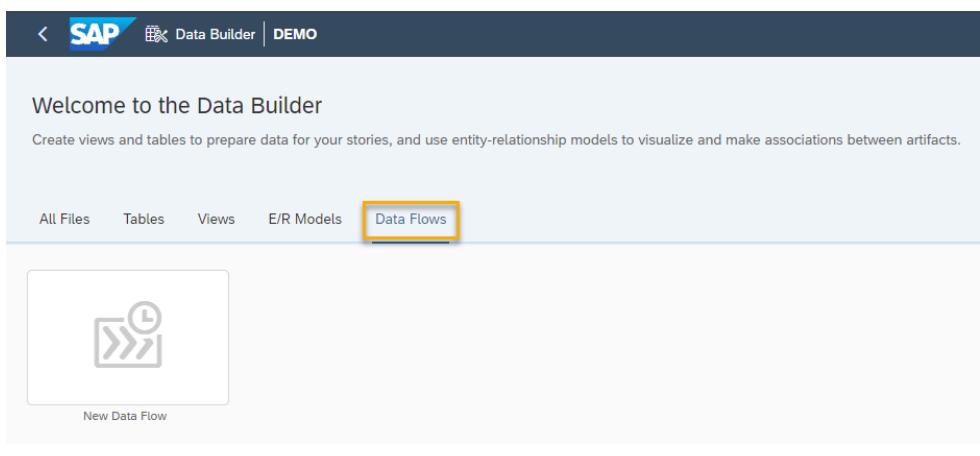
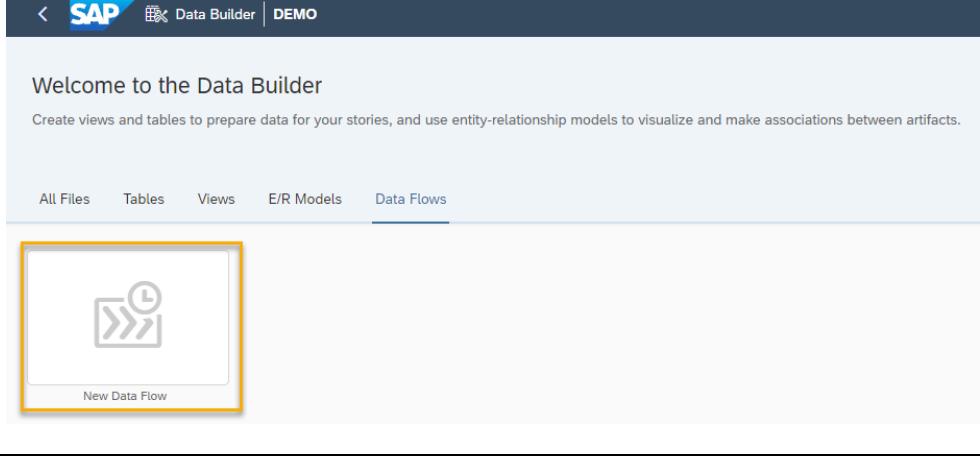
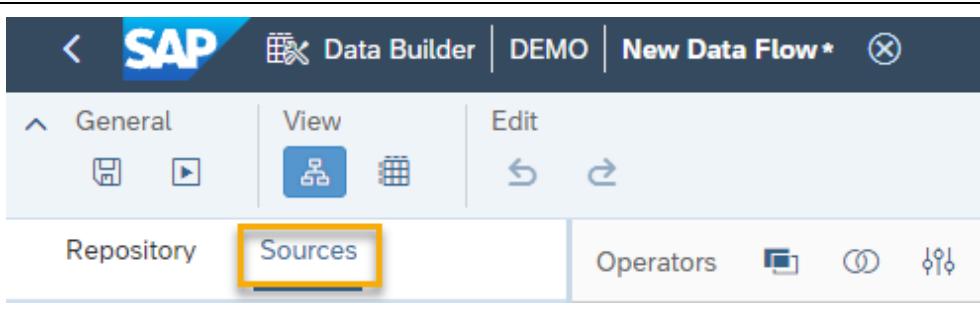
PREREQUISITES

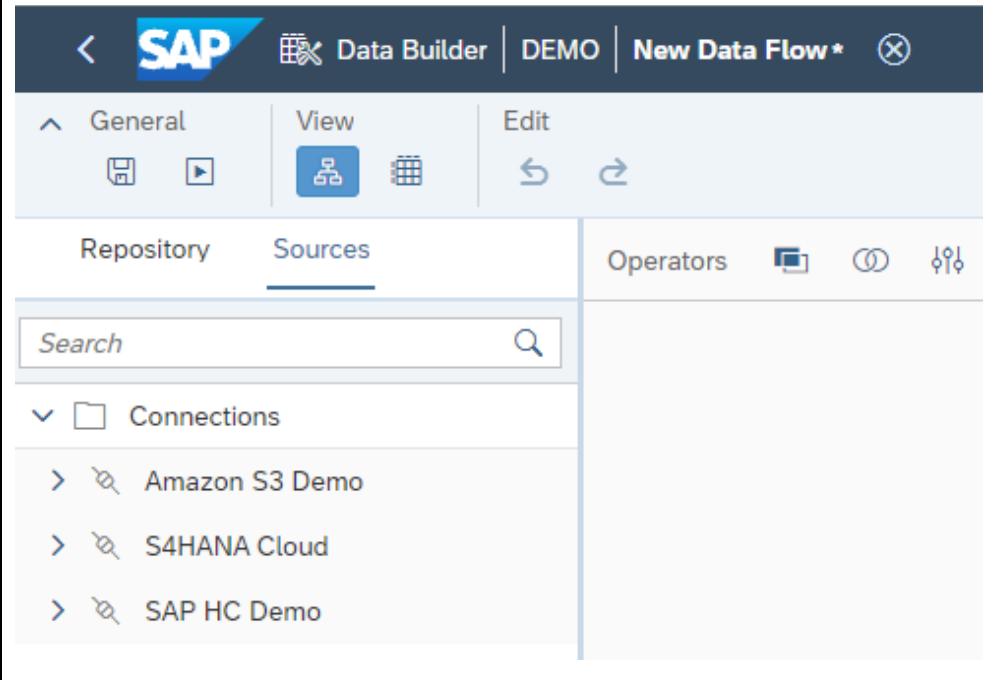
The connections to SAP S/4HANA Cloud and Amazon S3 are created and valid in SAP Data Warehouse Cloud as per:

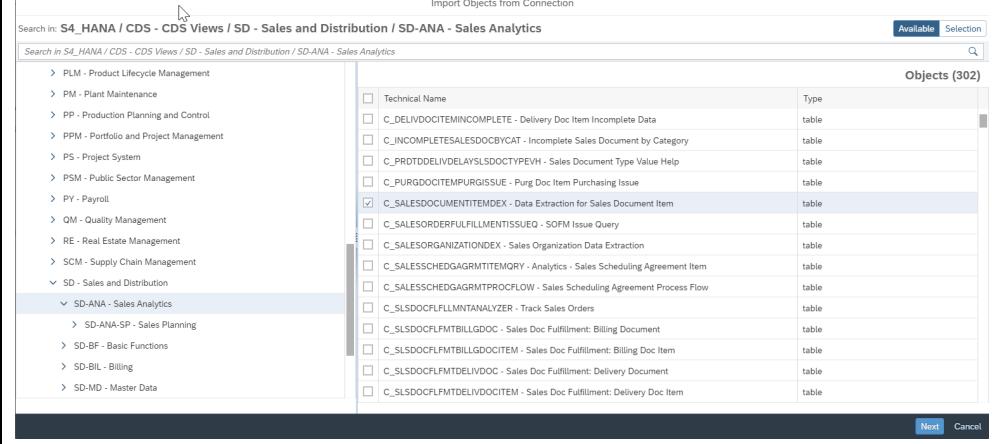
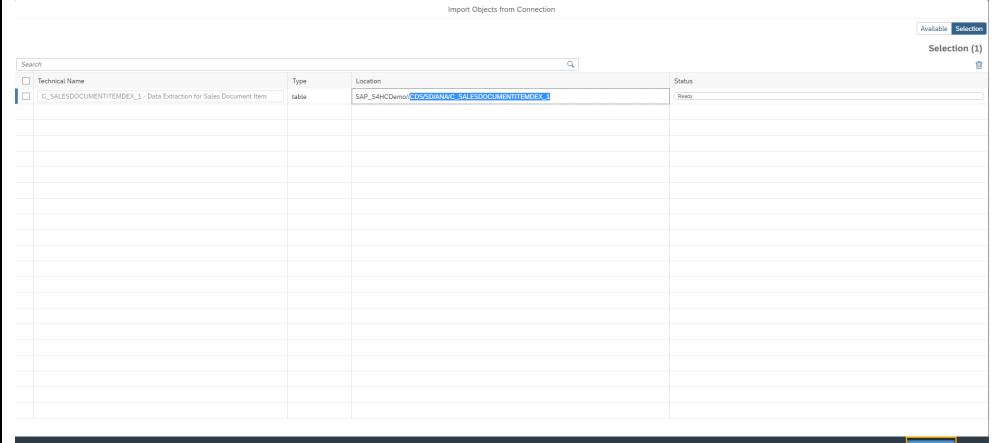
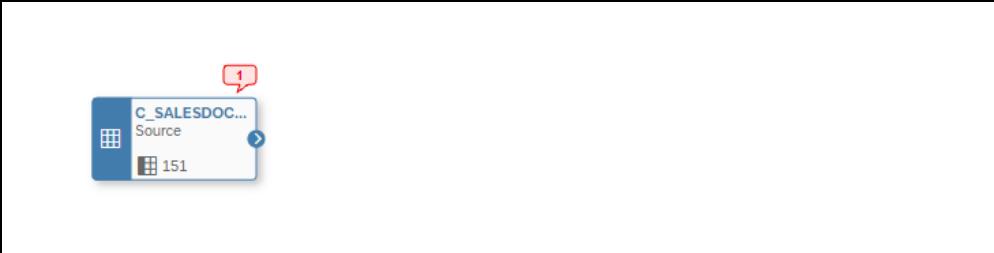
- DV140_Exercise01: Connect SAP S/4HANA Cloud to SAP Data Warehouse Cloud.
- DV140_Exercise03: Connect AWS S3 to SAP Data Warehouse Cloud.

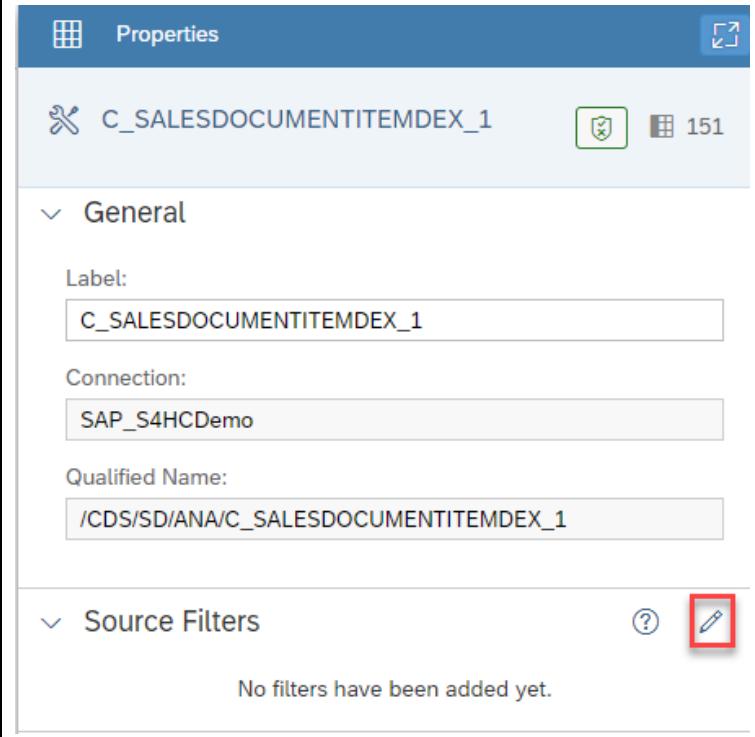
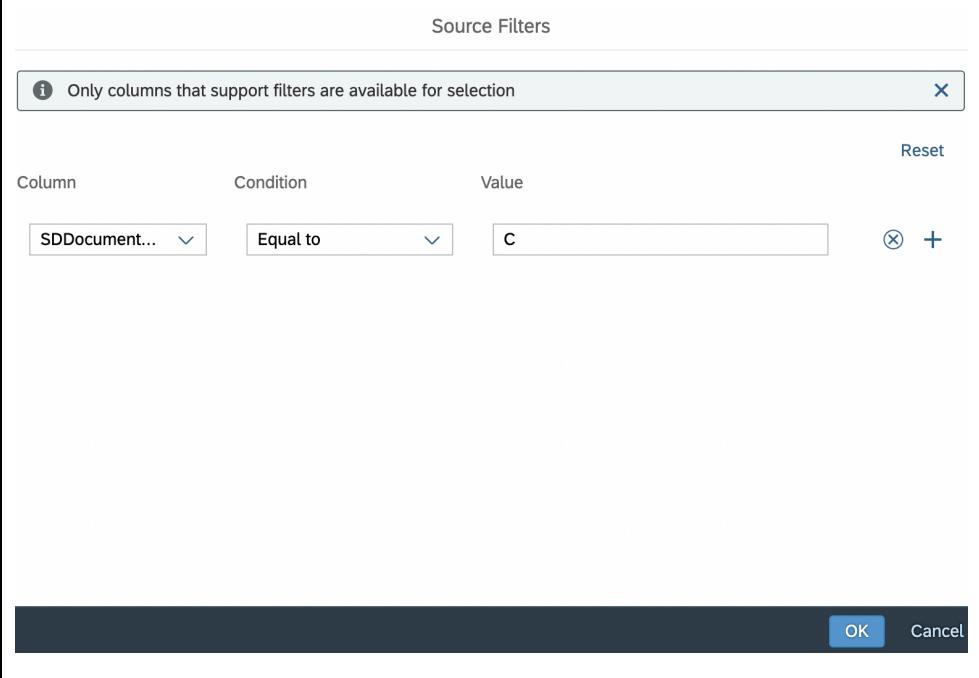
EXERCISE STEP DETAILS

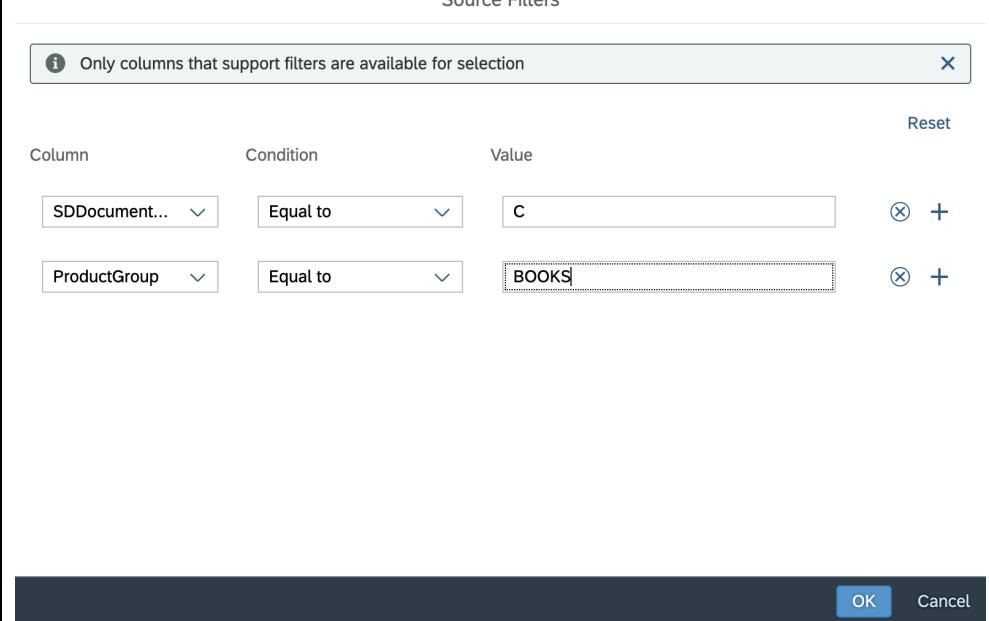
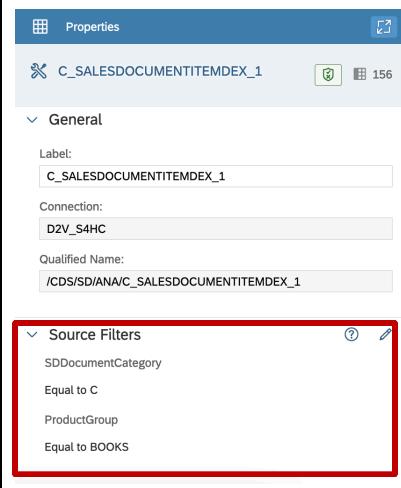
Explanation	Screenshot
Log on to SAP Data Warehouse Cloud with the given tenant URL and assigned user credential mentioned above.	
Go to the Home Screen.	
Click on the Data Builder icon, you see the space that you are assigned to.	

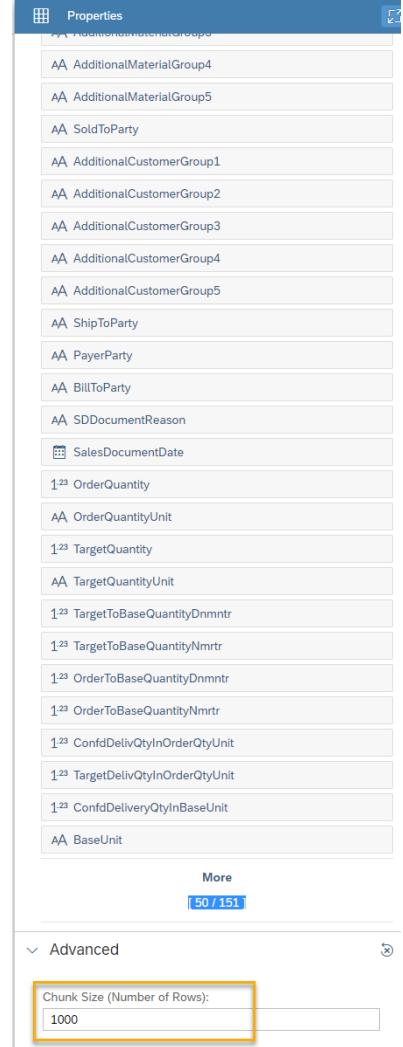
Explanation	Screenshot
Click on the Space.	 <p>Welcome to the Data Builder</p> <p>Create views and tables to prepare data for your stories, and use entity-relationship models to visualize and make associations between artifacts.</p> <p>Spaces (2)</p> <ul style="list-style-type: none"> DEMO (Selected) DEV <p>Used Storage (0 Byte of 2 GB)</p> <p>Used Storage (9.77 MB of 2 GB)</p>
Click on Data Flows.	 <p>Welcome to the Data Builder</p> <p>Create views and tables to prepare data for your stories, and use entity-relationship models to visualize and make associations between artifacts.</p> <p>All Files Tables Views E/R Models Data Flows (Selected)</p> <p>New Data Flow</p>
Select New Data Flows.	 <p>Welcome to the Data Builder</p> <p>Create views and tables to prepare data for your stories, and use entity-relationship models to visualize and make associations between artifacts.</p> <p>All Files Tables Views E/R Models Data Flows (Selected)</p> <p>New Data Flow (Highlighted)</p>
Navigate to Sources.	 <p>< SAP Data Builder DEMO New Data Flow* X</p> <p>General View Edit</p> <p>Repository Sources Operators</p>

Explanation	Screenshot
Open the Connections.	
<p>Open the S4HANA Cloud Connection. Click on Import connection using the icon shown.</p> <p>NB: The name of the S4HANA Cloud connection shown in this screenshot is just an example. Please, check the name you assigned to the connection when you went through exercise DV140_Exercise01. The convention we suggested is: S4HC_<USERID>.</p>	

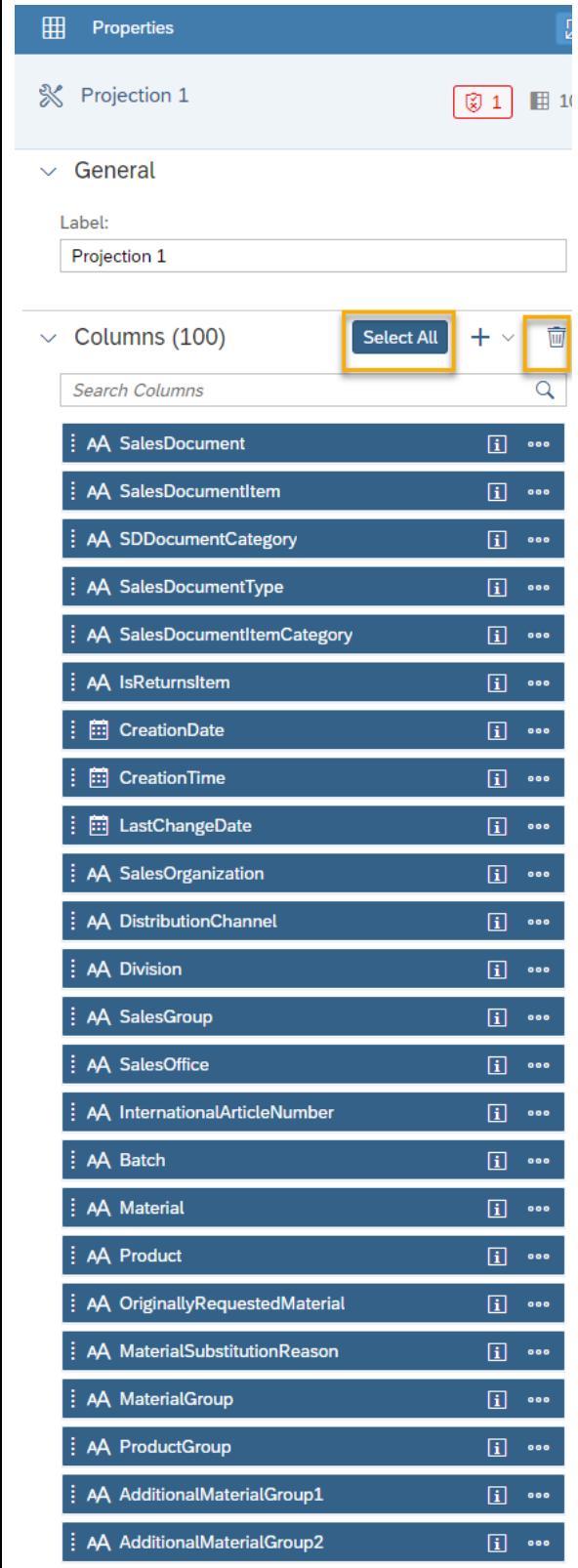
Explanation	Screenshot
<p>In the popup window. Navigate to SD - Sales and Distribution → SD-ANA - Sales Analytics.</p> <p>On the right side select the CDS view C_SALESDOCUMENTITEMD EX → Click Next.</p>	 <p>The screenshot shows a search interface for selecting objects from a connection. The search bar at the top says "Search in S4_HANA / CDS - CDS Views / SD - Sales and Distribution / SD-ANA - Sales Analytics". Below the search bar is a tree view of SAP modules and sub-modules. Under "SD-ANA - Sales Analytics", the node "C_SALESDOCUMENTITEMD EX" is highlighted with a yellow box. To the right of the tree view is a table titled "Objects (302)" listing various objects with their technical names and types. The object "C_SALESDOCUMENTITEMD EX" is selected, indicated by a checked checkbox. At the bottom right of the dialog are "Next" and "Cancel" buttons.</p>
<p>We can leave the proposed name and choose Add Selection.</p>	 <p>The screenshot shows a dialog for adding a selection. It includes a search bar, a table header with columns "Technical Name", "Type", "Location", and "Status", and a single row of data. The row contains the technical name "C_SALESDOCUMENTITEMD_EX_1", the type "table", the location "SAP_S4HCDemo_CDSVIEW_C_SALESDOCUMENTITEMD_EX", and the status "Ready". At the bottom right are "Add Selection" and "Cancel" buttons.</p>
<p>Once the object is imported you will see that on the central canvas.</p>	 <p>The screenshot shows the SAP Fiori Launchpad with a central canvas. On the canvas, there is a blue rounded rectangle icon representing the imported object. The icon has the text "C_SALESDOC..." and "Source" on it, and a small red notification bubble with the number "1" in the top right corner. There is also a small blue circular icon with the number "151" below the main icon.</p>
<p>We only need the data that has the below status:</p> <p>SDDocumentCategory = 'C', ProductGroup = 'BOOKS'.</p> <p>We will set a filter for these restrictions, which only return the book sales orders.</p>	<p>Select the Object on Central Canvas and Edit the Properties</p>

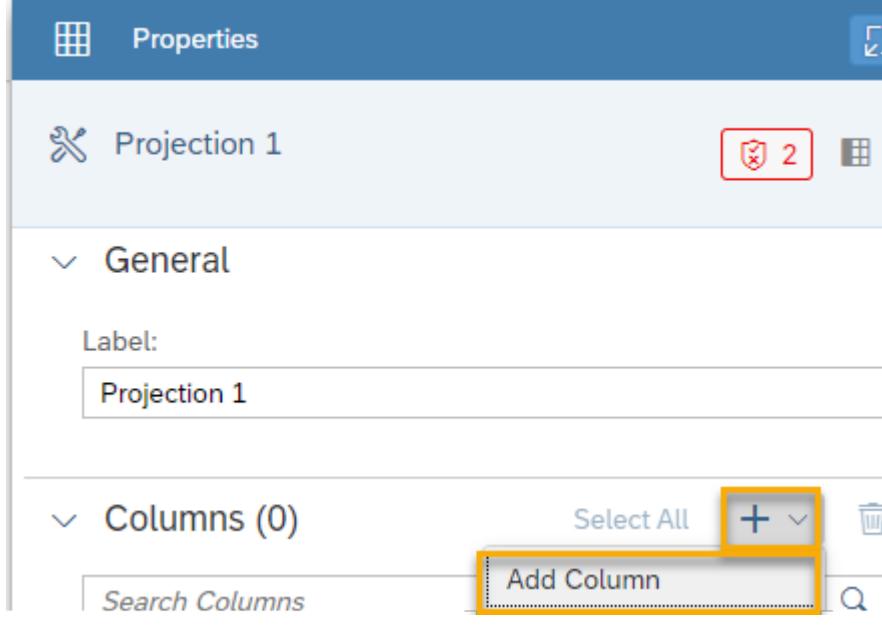
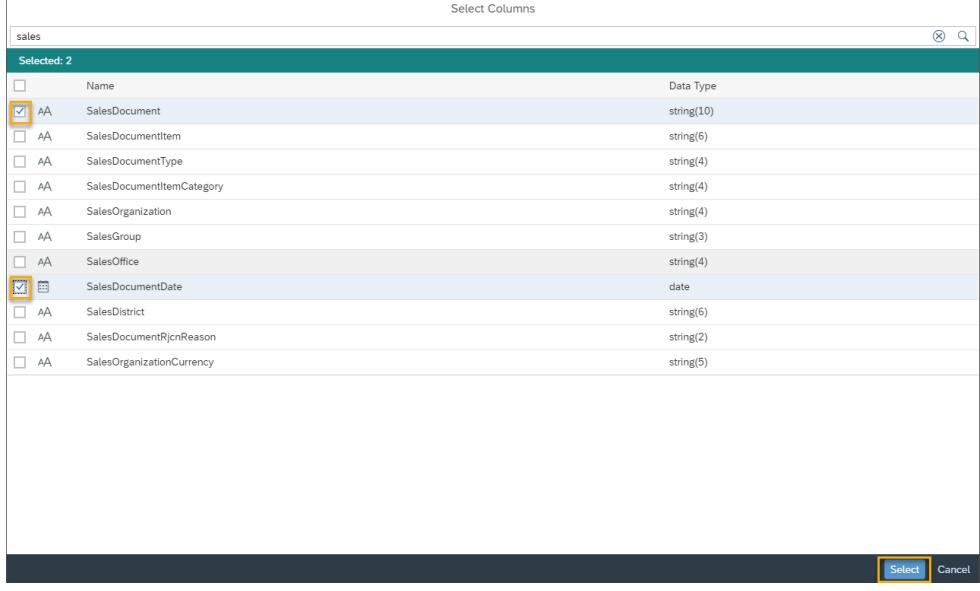
Explanation	Screenshot
	 <p>The screenshot shows the SAP Fiori Properties dialog for a model component named C_SALESDOCUMENTITEMDEX_1. The General section contains fields for Label (C_SALESDOCUMENTITEMDEX_1), Connection (SAP_S4HCDemo), and Qualified Name (/CDS/SD/ANA/C_SALESDOCUMENTITEMDEX_1). The Source Filters section, which includes a pencil icon, is currently empty.</p>
<p>Select the 1st filter on SDDocumentCategory.</p>	 <p>The screenshot shows the Source Filters dialog. It displays a message indicating that only columns supporting filters are available. A single filter entry is shown: Column SDDocument..., Condition Equal to, Value C. The dialog includes an OK button and a Cancel button at the bottom.</p>

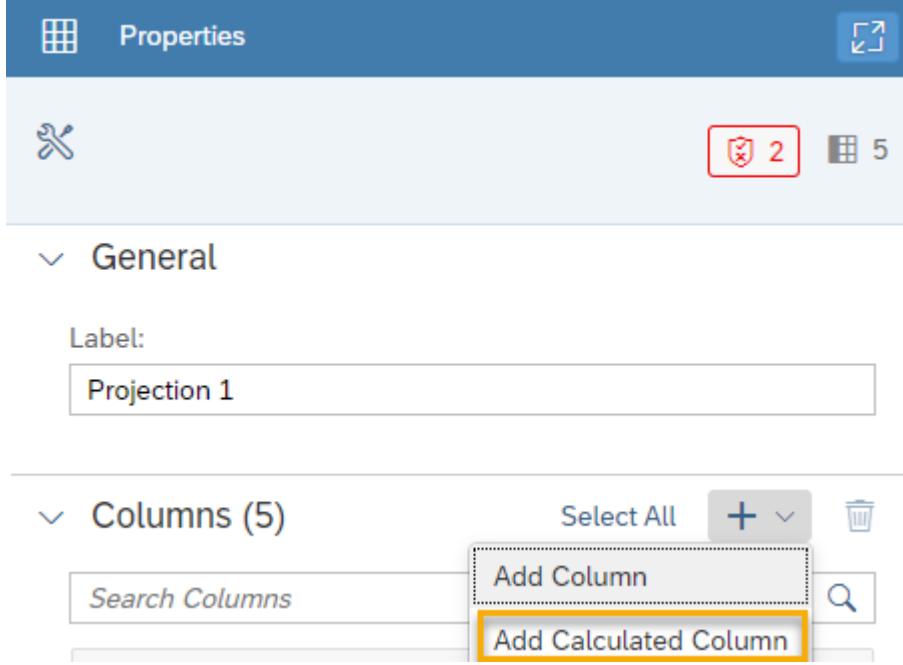
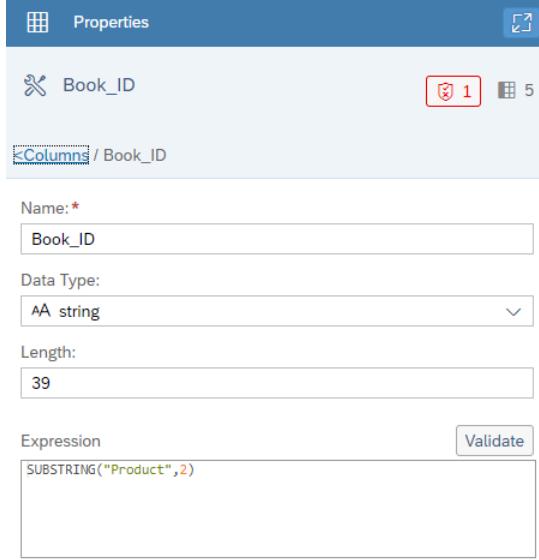
Explanation	Screenshot												
<p>Click + to add another filter on ProductGroup.</p>	 <p>Source Filters</p> <p>Only columns that support filters are available for selection</p> <table border="1"> <thead> <tr> <th>Column</th> <th>Condition</th> <th>Value</th> <th>Reset</th> </tr> </thead> <tbody> <tr> <td>SDDocument...</td> <td>Equal to</td> <td>C</td> <td>+</td> </tr> <tr> <td>ProductGroup</td> <td>Equal to</td> <td>BOOKS</td> <td>+</td> </tr> </tbody> </table> <p>OK Cancel</p>	Column	Condition	Value	Reset	SDDocument...	Equal to	C	+	ProductGroup	Equal to	BOOKS	+
Column	Condition	Value	Reset										
SDDocument...	Equal to	C	+										
ProductGroup	Equal to	BOOKS	+										
<p>You should see the restrictions under the Source Filters section.</p>	 <p>Properties</p> <p>C_SALESDOCUMENTITEMDEX_1 156</p> <p>General</p> <p>Label: C_SALESDOCUMENTITEMDEX_1</p> <p>Connection: D2V_S4HC</p> <p>Qualified Name: /CDS/SD/ANA/C_SALESDOCUMENTITEMDEX_1</p> <p>Source Filters</p> <ul style="list-style-type: none"> SDDocumentCategory Equal to C ProductGroup Equal to BOOKS 												

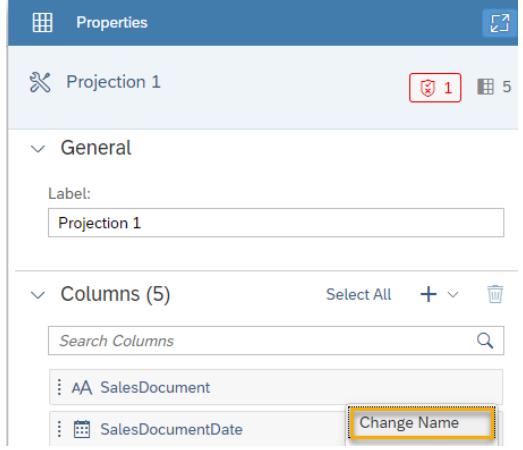
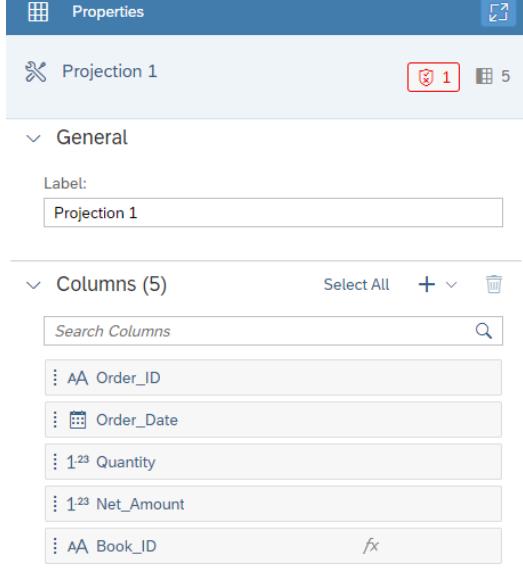
Explanation	Screenshot
<p>Navigate to the Advanced section and set the Chunk size to 1000.</p>	 <p>The screenshot shows the SAP Data Services Properties window. In the 'Advanced' section, there is a field labeled 'Chunk Size (Number of Rows)' containing the value '1000'. This field is highlighted with a yellow box.</p>
<p>We do not need all fields so we will apply a Projection and select the required fields (only 5). At the top of the central canvas choose projection in the Operators window.</p>	 <p>The screenshot shows the SAP Data Services Operators window. The projection operator icon (a blue square with a white 'P') is highlighted with a yellow box.</p>
<p>Drag the Projection operator on the central canvas.</p>	 <p>The screenshot shows the SAP Data Services central canvas. It features two main components: a 'Source' component (blue box with 'C_SALESDOC...' label) and a 'Projection 1' component (blue box with 'Projection 1' label). Red boxes with numbers '1' and '2' indicate the Source and Projection components respectively.</p>

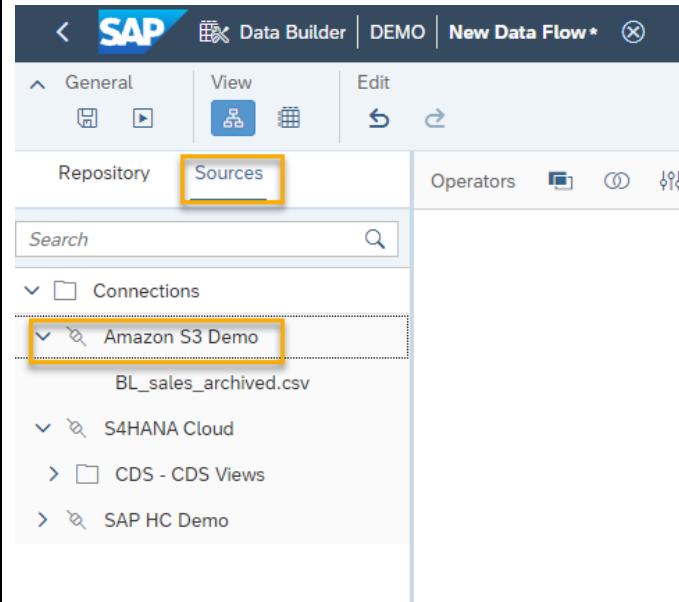
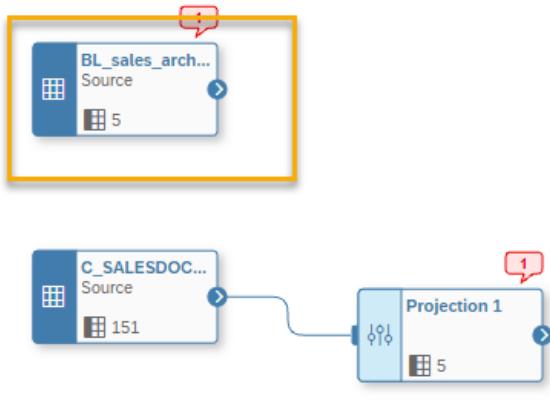
Explanation	Screenshot
<p>Drag the arrow from source to target to link the source with the operator.</p>	 <p>The screenshot shows a data flow diagram with two main components: a 'C_SALESDOC...' Source and a 'Projection 1' operator. A blue arrow connects the output of the Source to the input of the Projection operator. The Source component has a red callout bubble with the number '1'. The Projection operator has a red callout bubble with the number '2'.</p>

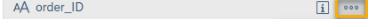
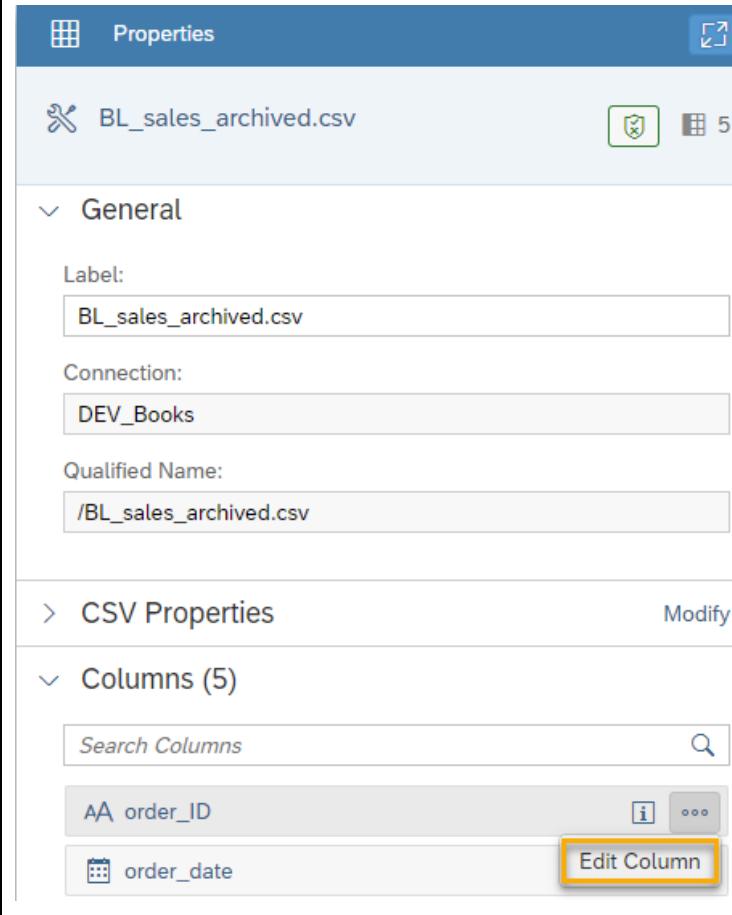
Explanation	Screenshot
<p>We have to do a bulk removal, so we will select all the fields and then we will delete them.</p>	 <p>The screenshot shows the 'Properties' screen for a 'Projection 1' entity. Under the 'General' tab, there is a 'Label' field containing 'Projection 1'. In the 'Columns (100)' section, there is a 'Select All' button and a trash can icon, both of which are highlighted with orange boxes. Below these buttons is a search bar labeled 'Search Columns'. A list of 25 columns is displayed, each with a detailed icon and a 'More' (three dots) button. The columns listed are: SalesDocument, SalesDocumentItem, SDDocumentCategory, SalesDocumentType, SalesDocumentItemCategory, IsReturnsItem, CreationDate, CreationTime, LastChangeDate, SalesOrganization, DistributionChannel, Division, SalesGroup, SalesOffice, InternationalArticleNumber, Batch, Material, Product, OriginallyRequestedMaterial, MaterialSubstitutionReason, MaterialGroup, ProductGroup, AdditionalMaterialGroup1, and AdditionalMaterialGroup2.</p>

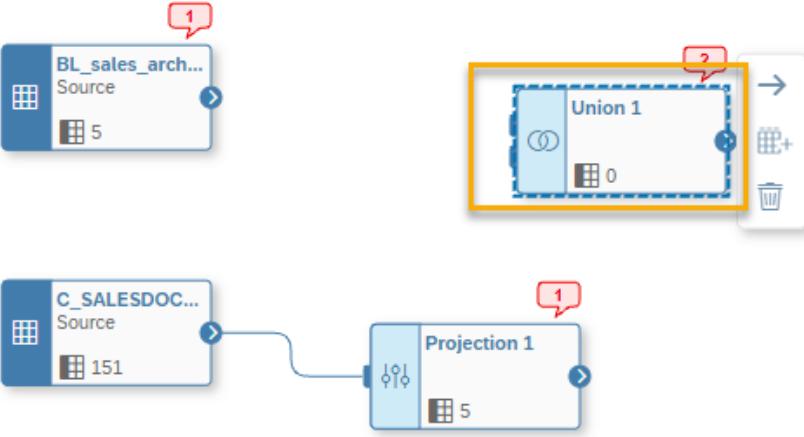
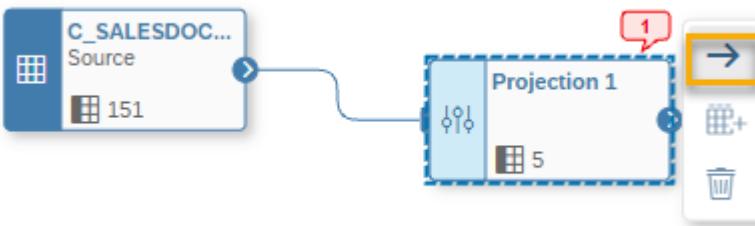
Explanation	Screenshot																																										
<p>Next, we will add the 5 columns that we need.</p> <p>In the table you see the source field, the name we would like to assign to them in the projection and the required action on each field.</p>	<table border="1" data-bbox="518 249 1400 544"> <thead> <tr> <th data-bbox="518 249 796 291">Source</th><th data-bbox="796 249 1008 291">Target</th><th data-bbox="1008 249 1400 291">Change</th></tr> </thead> <tbody> <tr> <td data-bbox="518 291 796 333">SalesDocument</td><td data-bbox="796 291 1008 333">Order_ID</td><td data-bbox="1008 291 1400 333">Name Change</td></tr> <tr> <td data-bbox="518 333 796 375">SalesDocumentDate</td><td data-bbox="796 333 1008 375">Order_Date</td><td data-bbox="1008 333 1400 375">Name Change</td></tr> <tr> <td data-bbox="518 375 796 460">Product</td><td data-bbox="796 375 1008 460">Book_ID</td><td data-bbox="1008 375 1400 460">Derived using Expression SUBSTRING("Product",2)</td></tr> <tr> <td data-bbox="518 460 796 502">OrderQuantity</td><td data-bbox="796 460 1008 502">Quantity</td><td data-bbox="1008 460 1400 502">Name Change</td></tr> <tr> <td data-bbox="518 502 796 544">NetAmount</td><td data-bbox="796 502 1008 544">Net_Amount</td><td data-bbox="1008 502 1400 544">Name Change</td></tr> </tbody> </table>	Source	Target	Change	SalesDocument	Order_ID	Name Change	SalesDocumentDate	Order_Date	Name Change	Product	Book_ID	Derived using Expression SUBSTRING("Product",2)	OrderQuantity	Quantity	Name Change	NetAmount	Net_Amount	Name Change																								
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NetAmount	Net_Amount	Name Change																																									
<p>To add a column, click on + icon and then select Add Column</p>																																											
<p>Select the fields as shown in the table above.</p>	 <table border="1" data-bbox="518 1284 1498 1689"> <thead> <tr> <th colspan="3">Select Columns</th> </tr> <tr> <th colspan="3">sales</th> </tr> </thead> <tbody> <tr> <td>Selected: 2</td> <td>Name</td> <td>Data Type</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>SalesDocument</td> <td>string(10)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesDocumentItem</td> <td>string(6)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesDocumentType</td> <td>string(4)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesDocumentItemCategory</td> <td>string(4)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesOrganization</td> <td>string(4)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesGroup</td> <td>string(3)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesOffice</td> <td>string(4)</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>SalesDocumentDate</td> <td>date</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesDistrict</td> <td>string(6)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesDocumentRjcnReason</td> <td>string(2)</td> </tr> <tr> <td><input type="checkbox"/></td> <td>SalesOrganizationCurrency</td> <td>string(5)</td> </tr> </tbody> </table>	Select Columns			sales			Selected: 2	Name	Data Type	<input checked="" type="checkbox"/>	SalesDocument	string(10)	<input type="checkbox"/>	SalesDocumentItem	string(6)	<input type="checkbox"/>	SalesDocumentType	string(4)	<input type="checkbox"/>	SalesDocumentItemCategory	string(4)	<input type="checkbox"/>	SalesOrganization	string(4)	<input type="checkbox"/>	SalesGroup	string(3)	<input type="checkbox"/>	SalesOffice	string(4)	<input checked="" type="checkbox"/>	SalesDocumentDate	date	<input type="checkbox"/>	SalesDistrict	string(6)	<input type="checkbox"/>	SalesDocumentRjcnReason	string(2)	<input type="checkbox"/>	SalesOrganizationCurrency	string(5)
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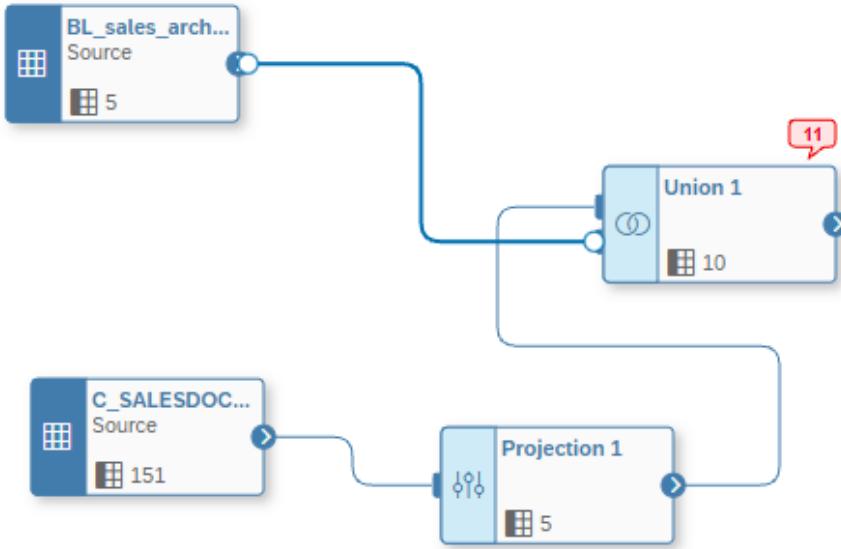
Explanation	Screenshot
Repeat for OrderQuantity and NetAmount.	
Add a Calculated column for Book ID.	 <p>The screenshot shows the 'Properties' dialog for a calculated column. At the top, there are icons for a wrench (Edit), a shield (Protected), and a grid (5 columns). Below is a 'General' section with a 'Label' field containing 'Projection 1'. Under 'Columns (5)', there is a search bar and two buttons: 'Add Column' and 'Add Calculated Column', with 'Add Calculated Column' highlighted by a yellow box.</p>
Enter the Properties as shown.	 <p>The screenshot shows the 'Properties' dialog for a calculated column named 'Book_ID'. It includes fields for Name (*), Data Type (string), Length (39), and Expression (SUBSTRING("Product",2)). A 'Validate' button is also present.</p>
Click on the three dots icon available for each column.	 <p>The screenshot shows the 'Properties' dialog for a calculated column named 'SalesDocument'. A three-dot menu icon is highlighted with a yellow box.</p>

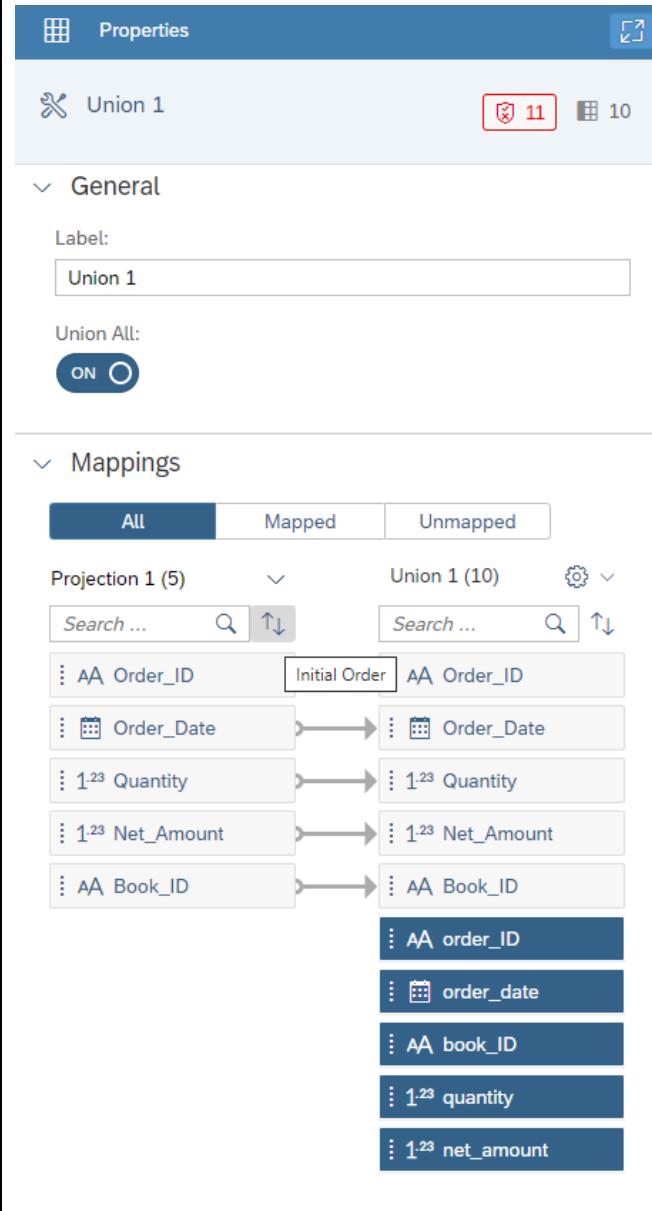
Explanation	Screenshot										
<p>Choose Change Name.</p> <p>Change the name of all the columns following what it is reported in the table below.</p> <table border="1" data-bbox="127 445 502 656"> <thead> <tr> <th data-bbox="127 445 372 487">Source</th><th data-bbox="372 445 502 487">Target</th></tr> </thead> <tbody> <tr> <td data-bbox="127 487 372 530">SalesDocument</td><td data-bbox="372 487 502 530">Order_ID</td></tr> <tr> <td data-bbox="127 530 372 572">SalesDocumentDate</td><td data-bbox="372 530 502 572">Order_Date</td></tr> <tr> <td data-bbox="127 572 372 614">OrderQuantity</td><td data-bbox="372 572 502 614">Quantity</td></tr> <tr> <td data-bbox="127 614 372 656">NetAmount</td><td data-bbox="372 614 502 656">Net_Amount</td></tr> </tbody> </table>	Source	Target	SalesDocument	Order_ID	SalesDocumentDate	Order_Date	OrderQuantity	Quantity	NetAmount	Net_Amount	
Source	Target										
SalesDocument	Order_ID										
SalesDocumentDate	Order_Date										
OrderQuantity	Quantity										
NetAmount	Net_Amount										
<p>Now you should have the 5 fields as shown here.</p>											

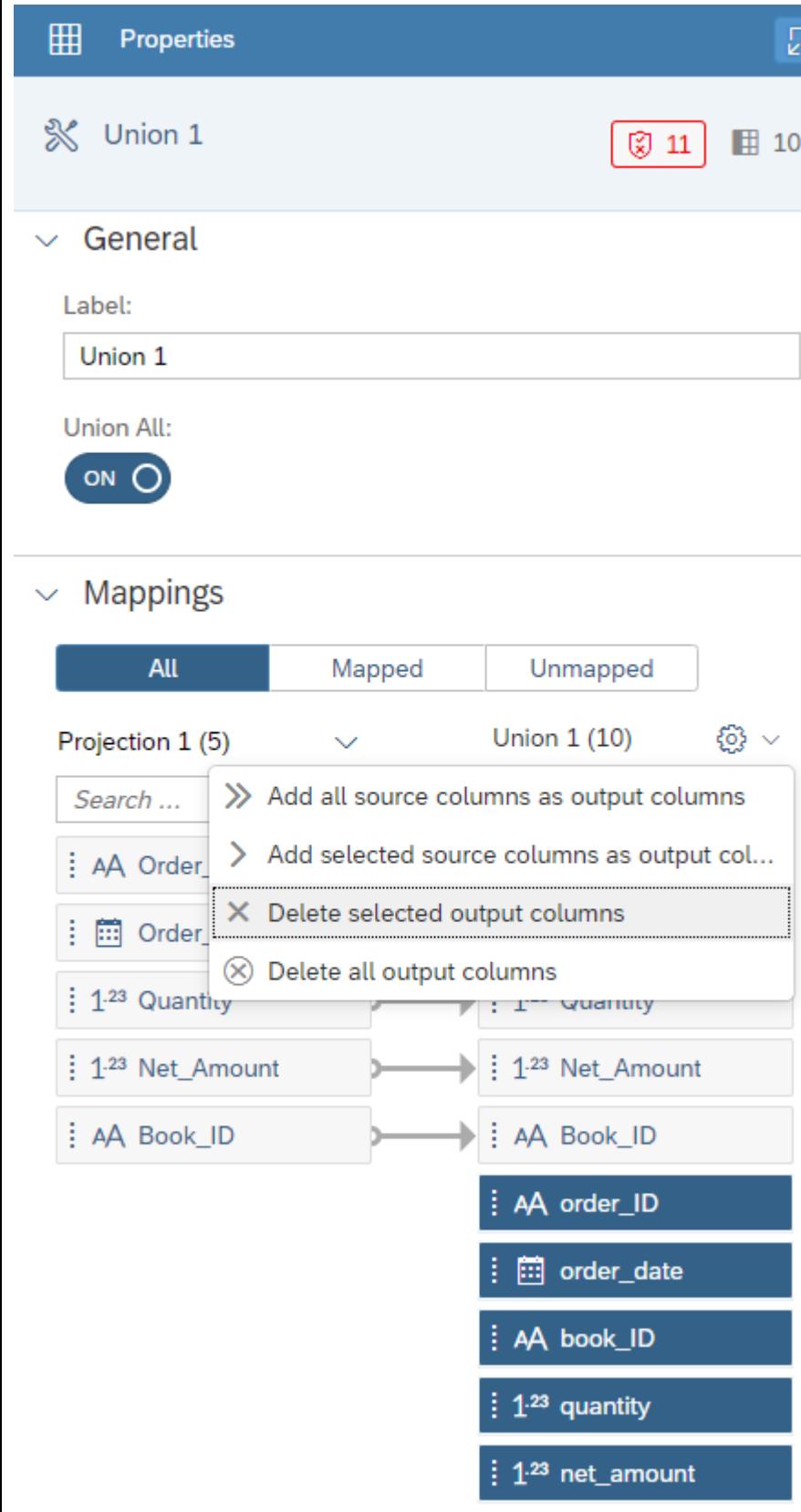
Explanation	Screenshot															
<p>Navigate to Connections → select the Amazon S3 connection.</p> <p>NB: The name of the S3 connection shown in this screenshot is just an example. Please, check the name you assigned to the connection when you went through exercise DV140_Exercise03. The convention we suggested is: S3_<USERID>.</p>																
<p>Drag the BL_sales_archived.csv file to central canvas.</p>																
<p>Change the Datatypes for the BL_Sales_Archived data set as shown here.</p>	<table border="1" data-bbox="509 1461 1188 1717"> <thead> <tr> <th data-bbox="509 1461 714 1543">Column Name</th><th data-bbox="714 1461 1008 1543">Existing Data Type</th><th data-bbox="1008 1461 1188 1543">New Data Type</th></tr> </thead> <tbody> <tr> <td data-bbox="509 1543 714 1586">Order_ID</td><td data-bbox="714 1543 1008 1586">int32</td><td data-bbox="1008 1543 1188 1586">String(10)</td></tr> <tr> <td data-bbox="509 1586 714 1628">Book_ID</td><td data-bbox="714 1586 1008 1628">int32</td><td data-bbox="1008 1586 1188 1628">String(39)</td></tr> <tr> <td data-bbox="509 1628 714 1670">Quantity</td><td data-bbox="714 1628 1008 1670">int32</td><td data-bbox="1008 1628 1188 1670">Decimal(15,3)</td></tr> <tr> <td data-bbox="509 1670 714 1712">Net_Amount</td><td data-bbox="714 1670 1008 1712">int32</td><td data-bbox="1008 1670 1188 1712">Decimal(15,2)</td></tr> </tbody> </table>	Column Name	Existing Data Type	New Data Type	Order_ID	int32	String(10)	Book_ID	int32	String(39)	Quantity	int32	Decimal(15,3)	Net_Amount	int32	Decimal(15,2)
Column Name	Existing Data Type	New Data Type														
Order_ID	int32	String(10)														
Book_ID	int32	String(39)														
Quantity	int32	Decimal(15,3)														
Net_Amount	int32	Decimal(15,2)														

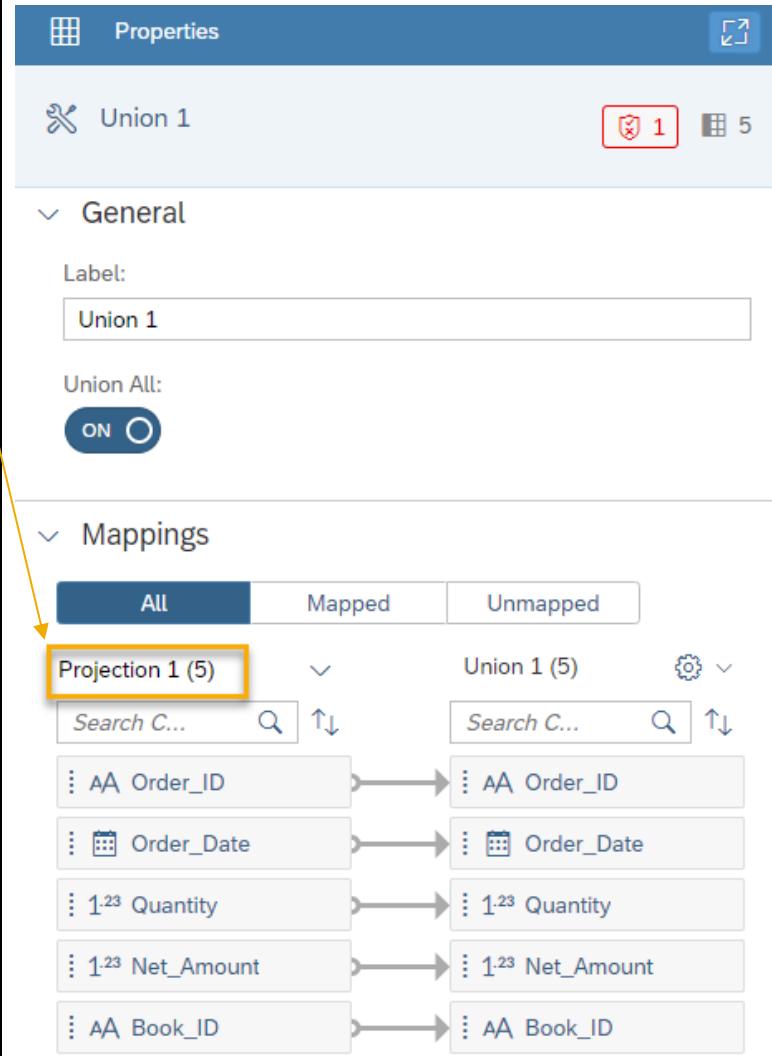
Explanation	Screenshot
<p>Click on the column and select the icon as shown below to edit the field properties.</p> 	 <p>The screenshot shows the SAP Fiori Properties screen for a CSV file named 'BL_sales_archived.csv'. Under the 'General' section, the 'Label' is set to 'BL_sales_archived.csv', 'Connection' is 'DEV_Books', and 'Qualified Name' is '/BL_sales_archived.csv'. In the 'Columns (5)' section, there are two columns listed: 'AA order_ID' and 'order_date'. The 'Edit Column' button for 'order_date' is highlighted with a yellow box.</p>
<p>Now we need to merge the data coming from S4HANA Cloud and S3. To do that, navigate to Operators section and choose the UNION operator.</p>	 <p>The screenshot shows the Operators section with various icons. The UNION operator icon (two overlapping circles) is highlighted with a yellow box.</p>

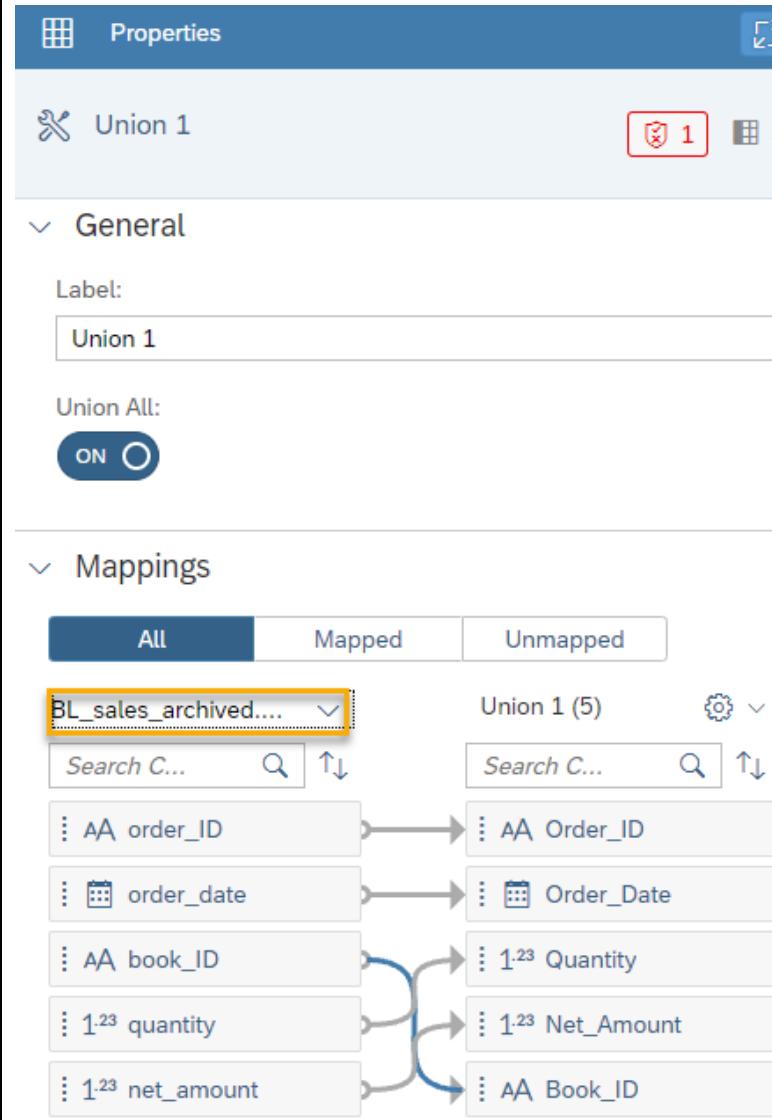
Explanation	Screenshot
<p>Drag the operator to the central canvas.</p>	
<p>Click on Projection 1 and select the arrow to drag to the Union operator.</p>	

Explanation	Screenshot
<p>Repeat the operation for the archived dataset.</p>	 <pre> graph TD S1[Source BL_sales_arch... 5] --> U1[Union 1 10] S2[Source C_SALESDOC... 151] --> P1[Projection 1 5] U1 --> E1(()) P1 --> E2(()) </pre>

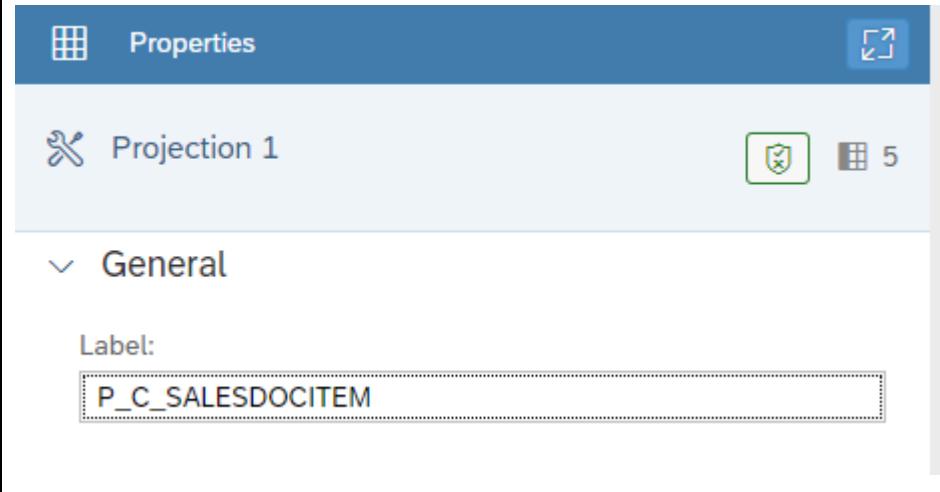
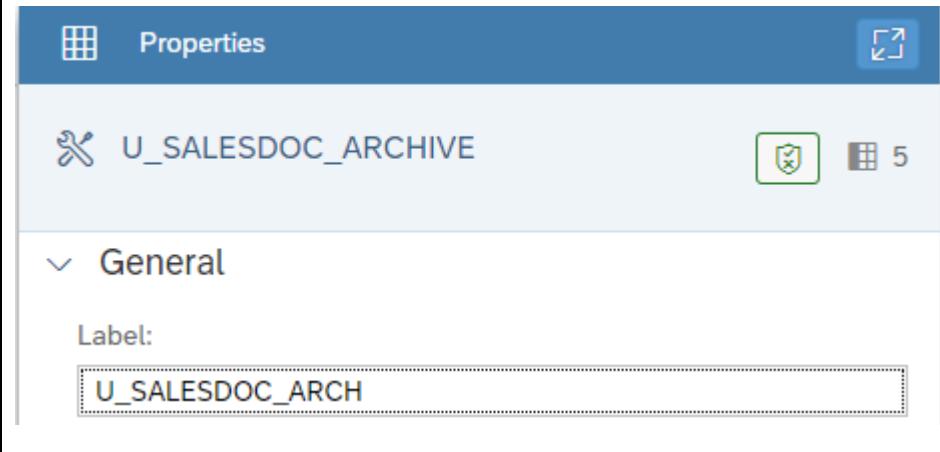
Explanation	Screenshot
<p>By connecting the projection and archived dataset, the union inherits the columns coming from both. The duplicated columns need to be removed. We keep the columns coming from projection.</p> <p>Select the unneeded columns on the right as shown.</p>	 <p>The screenshot shows the 'Properties' and 'Mappings' sections of the Dataedo interface for a 'Union 1' dataset.</p> <p>Properties:</p> <ul style="list-style-type: none"> Label: Union 1 Union All: ON (selected) Columns: 11 (highlighted in red) Rows: 10 <p>Mappings:</p> <p>Projection 1 (5) is mapped to Union 1 (10). The mappings are as follows:</p> <ul style="list-style-type: none"> AA Order_ID → Initial Order AA Order_ID Order_Date → Order_Date 1²³ Quantity → 1²³ Quantity 1²³ Net_Amount → 1²³ Net_Amount AA Book_ID → AA Book_ID AA order_ID (unmapped) order_date (unmapped) book_ID (unmapped) 1²³ quantity (unmapped) 1²³ net_amount (unmapped)

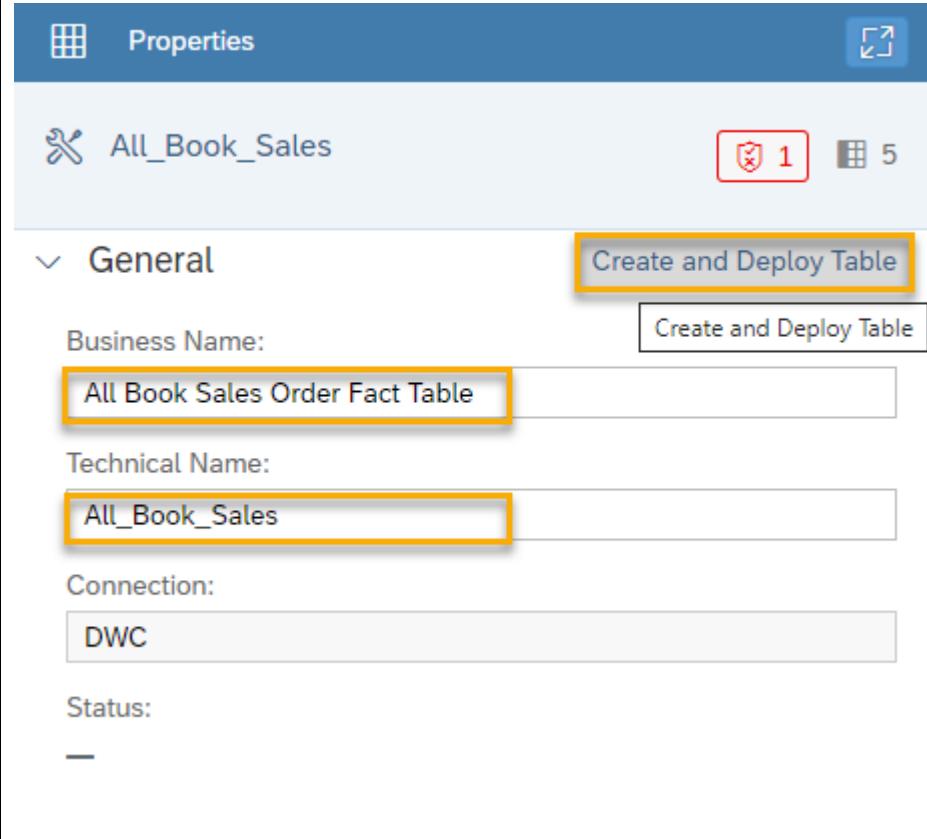
Explanation	Screenshot
<p>Delete the columns as shown using the option “Delete selected output columns”.</p>	 <p>The screenshot shows the Power BI Properties pane for a 'Union 1' object. At the top, there are icons for a key (11), a shield (11), and a grid (10). Below this, the 'General' section contains a 'Label' field set to 'Union 1' and a 'Union All' toggle switch set to 'ON'. The 'Mappings' section has tabs for 'All', 'Mapped', and 'Unmapped', with 'All' selected. In the 'Projection 1 (5)' section, a context menu is open, showing options: 'Add all source columns as output columns', 'Add selected source columns as output col...', 'Delete selected output columns' (which is highlighted with a dashed border), and 'Delete all output columns'. Below the menu, there are two mappings: '1..23 Quantity' mapped to '1..23 quantity' and 'AA Book_ID' mapped to 'AA Book_ID'. A list of available columns is shown below the mappings, including 'AA order_ID', 'AA order_date', 'AA book_ID', '1..23 quantity', and '1..23 net_amount'.</p>

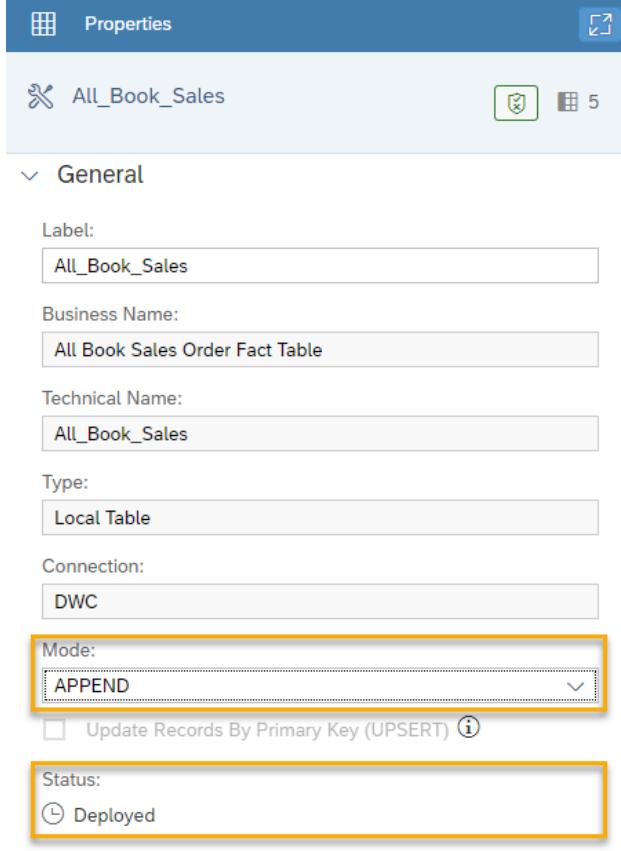
Explanation	Screenshot
<p>The output should be as seen here.</p> <p>This is the mapping for the projection fields.</p> <p>By switching to BL_sales_archived.csv one can also configure the mapping for the archived dataset.</p>	 <p>The screenshot shows the 'Properties' dialog for 'Union 1'. Under the 'General' section, the 'Label' is set to 'Union 1'. The 'Union All' switch is turned 'ON'. In the 'Mappings' section, the 'All' tab is selected, showing a list of 'Projection 1 (5)' which is highlighted with a yellow box. Below this, there are five mapping pairs between 'Projection 1' fields and 'Union 1' fields:</p> <ul style="list-style-type: none"> AA Order_ID → AA Order_ID Order_Date → Order_Date 1²³ Quantity → 1²³ Quantity 1²³ Net_Amount → 1²³ Net_Amount AA Book_ID → AA Book_ID

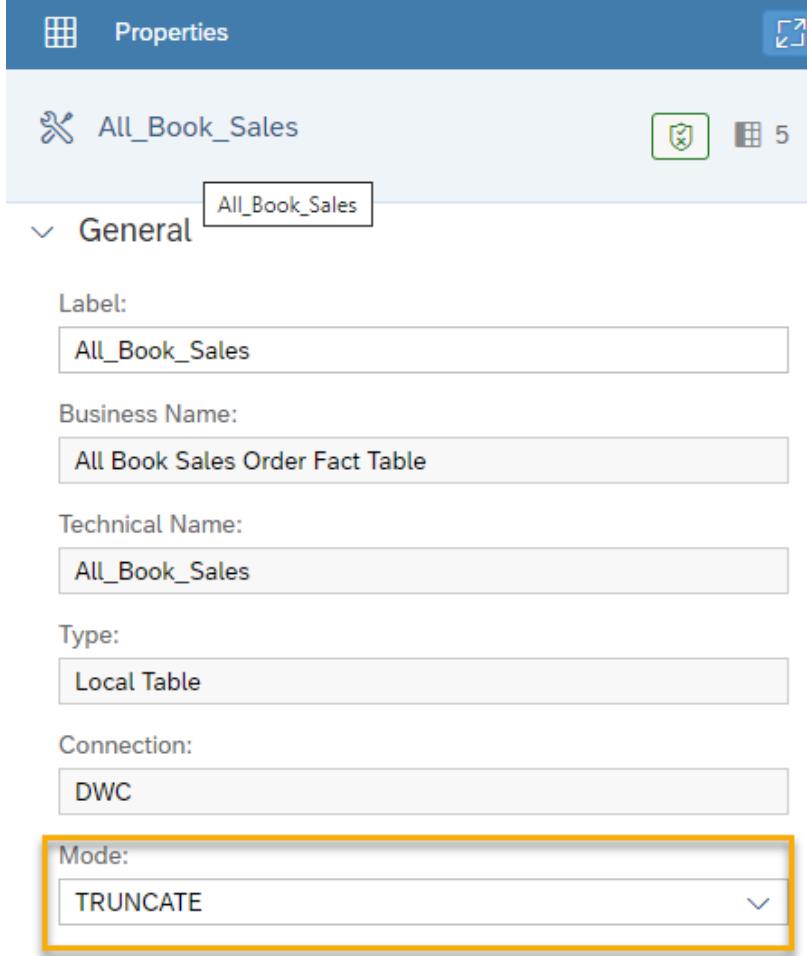
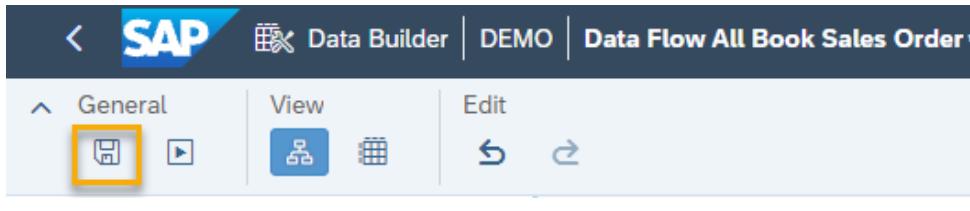
Explanation	Screenshot
	 <p>The screenshot shows the 'Properties' window for 'Union 1'. Under the 'General' tab, the 'Label' is set to 'Union 1'. The 'Union All' option is turned 'ON'. In the 'Mappings' section, under the 'All' tab, there are five mappings defined:</p> <ul style="list-style-type: none"> Source: BL_sales_archived... (order_ID) → Target: Union 1 (5) (Order_ID) Source: BL_sales_archived... (order_date) → Target: Union 1 (5) (Order_Date) Source: BL_sales_archived... (book_ID) → Target: Union 1 (5) (Book_ID) Source: BL_sales_archived... (quantity) → Target: Union 1 (5) (Quantity) Source: BL_sales_archived... (net_amount) → Target: Union 1 (5) (Net_Amount)
Since we need to define a target table, navigate to the Operator section and select Add Table.	 <p>The screenshot shows the 'Operators' toolbar. The 'Add Table' icon (represented by a grid with a plus sign) is highlighted with a yellow box.</p>

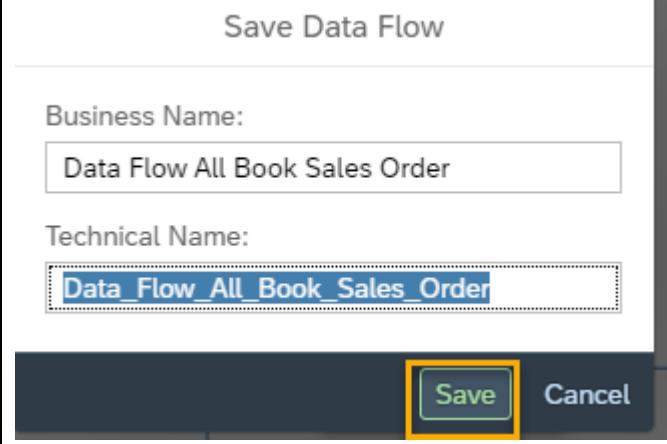
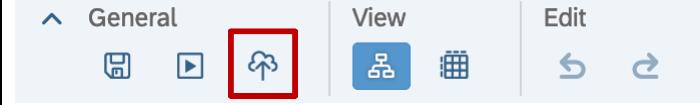
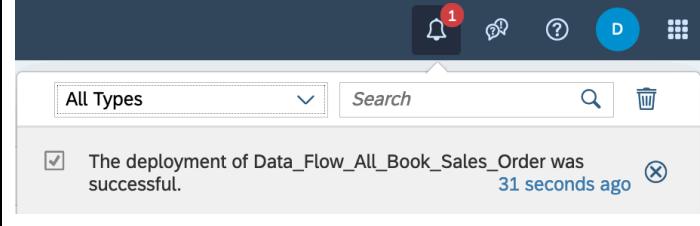
Explanation	Screenshot
Drag it to the central canvas.	<p>The screenshot shows a data flow diagram with two sources: 'BL_sales_archive' (5 columns) and 'C_SALESDOC...' (151 columns). Both sources connect to their respective transformation components: 'Union 1' and 'Projection 1'. 'Union 1' has 5 columns, and 'Projection 1' also has 5 columns. Both then connect to a target 'Table 1' (0 columns), which is highlighted with a yellow border. A red box labeled '1' is near the connection from 'Union 1' to the target. A red box labeled '3' is near the target node.</p>
Connect the Union 1 to the Table.	<p>The screenshot shows the same data flow diagram as above, but now the output of 'Union 1' is connected directly to the target 'Table 1'. The target 'Table 1' is highlighted with a yellow border. A red box labeled '1' is near the connection from 'Union 1' to the target.</p>
Rename the Projection.	<p>The screenshot shows the data flow diagram with the 'Projection 1' component renamed to 'Projection_1'. A context menu is open over 'Projection_1', showing options like 'Rename', 'Delete', and 'Copy'. To the right, a properties panel for 'Projection 1' is open, showing the 'General' tab with the label 'Projection_1' and the 'Columns (5)' tab listing columns: AA.Order_ID, Order_Date, 120, Quantity, Net_Amount, and AA.Book_ID. A red box highlights the 'Label' field in the properties panel.</p>

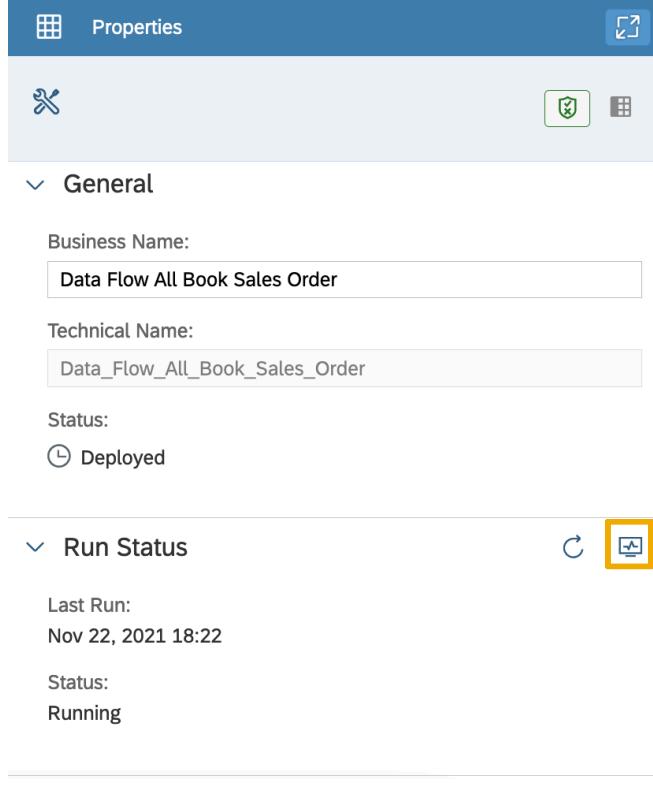
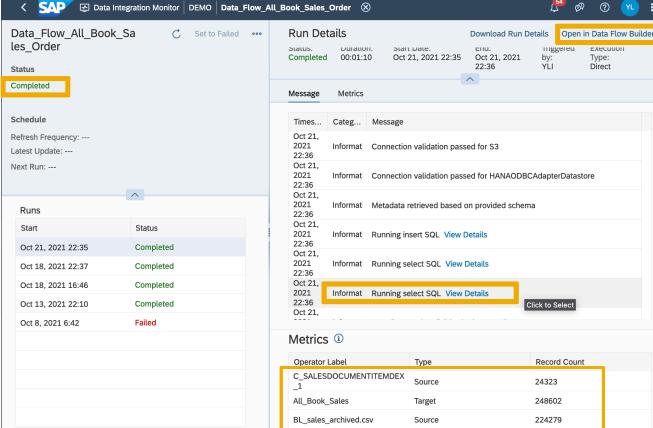
Explanation	Screenshot
<p>The new name to assign is: P_CSALESDOCITEM.</p>	 <p>Properties</p> <p>Projection 1</p> <p>General</p> <p>Label: P_C_SALESDOCITEM</p>
<p>Also rename the Union operator with the proposed name here.</p>	 <p>Properties</p> <p>U_SALESDOC_ARCHIVE</p> <p>General</p> <p>Label: U_SALESDOC_ARCH</p>

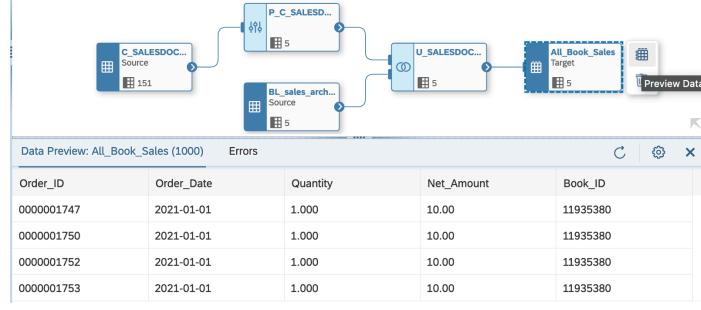
Explanation	Screenshot
<p>Deploy the table with:</p> <ul style="list-style-type: none"> Business Name: All Book Sales Order Fact Table Technical name: All_Book_Sales <p>Click Create and Deploy.</p>	
<p>Click the Create and Deploy button.</p>	<p>i Information</p> <p>The target table 'All_Book_Sales' will be created and deployed in your repository with all the output columns added to the target.</p> <p>Create and Deploy Close</p>

Explanation	Screenshot														
<p>Check the properties of the new table, in particular the Mode and Status.</p>	 <p>The screenshot shows the 'Properties' dialog for the 'All_Book_Sales' table. The 'Mode:' dropdown is set to 'APPEND'. The 'Status:' dropdown is set to 'Deployed'. Both the 'Mode:' and 'Status:' fields are highlighted with a yellow box.</p> <table border="1"> <tr> <td>Label:</td> <td>All_Book_Sales</td> </tr> <tr> <td>Business Name:</td> <td>All Book Sales Order Fact Table</td> </tr> <tr> <td>Technical Name:</td> <td>All_Book_Sales</td> </tr> <tr> <td>Type:</td> <td>Local Table</td> </tr> <tr> <td>Connection:</td> <td>DWC</td> </tr> <tr> <td>Mode:</td> <td>APPEND</td> </tr> <tr> <td>Status:</td> <td>Deployed</td> </tr> </table> <p>Use As:</p> <p><input type="radio"/> Source <input checked="" type="radio"/> Target</p>	Label:	All_Book_Sales	Business Name:	All Book Sales Order Fact Table	Technical Name:	All_Book_Sales	Type:	Local Table	Connection:	DWC	Mode:	APPEND	Status:	Deployed
Label:	All_Book_Sales														
Business Name:	All Book Sales Order Fact Table														
Technical Name:	All_Book_Sales														
Type:	Local Table														
Connection:	DWC														
Mode:	APPEND														
Status:	Deployed														

Explanation	Screenshot
<p>Change the mode to TRUNCATE, which will truncate the existing records in the table before writing new records.</p>	 <p>The screenshot shows the SAP Data Builder Properties dialog for a table named 'All_Book_Sales'. The 'Mode' dropdown, located under the 'General' tab, is highlighted with a yellow box and contains the value 'TRUNCATE'.</p>
<p>Click Save.</p>	 <p>The screenshot shows the SAP Data Builder ribbon with the 'General' tab selected. The 'General' tab icon is highlighted with a yellow box.</p>

Explanation	Screenshot
Provide the Business and Technical Name of the Data Flow and Click Save.	 <p>Save Data Flow</p> <p>Business Name: Data Flow All Book Sales Order</p> <p>Technical Name: Data_Flow_All_Book_Sales_Order</p> <p>Save Cancel</p>
Check the Status.	 <p>Data Flow saved successfully.</p>
Deploy the Data Flow.	 <p>General View Edit</p> <p>Save Deploy (highlighted)</p>
Check the status of the deployment.	 <p>All Types Search</p> <p>The deployment of Data_Flow_All_Book_Sales_Order was successful. 31 seconds ago</p>
Click on the Play button Icon to execute the Data flow.	 <p>General View Edit</p> <p>Save Deploy (highlighted)</p> <p>Play (highlighted)</p>

Explanation	Screenshot																																																									
<p>The status becomes Running. Click the  icon to open Data Flow Monitor about the execution details.</p>	 <p>Properties</p> <p>General</p> <p>Business Name: Data Flow All Book Sales Order</p> <p>Technical Name: Data_Flow_All_Book_Sales_Order</p> <p>Status: Deployed</p> <p>Run Status</p> <p>Last Run: Nov 22, 2021 18:22</p> <p>Status: Running</p>																																																									
<p>In the Data Flow Monitor, you see the details about historic running. Click the Refresh button to see detailed info about the new execution you started.</p> <p>Once the status become completed, the record count of the sources and target table All_Book_Sales will be listed on Metrics.</p> <p>Click Open in Data Flow Builder at the top right, where you can preview the data in the target table All_Books_Sales.</p>	 <p>Data_Flow_All_Book_Sales_Order</p> <p>Status: Completed</p> <p>Schedule: Refresh Frequency: ---, Latest Update: ---, Next Run: ---</p> <p>Runs</p> <table border="1"> <thead> <tr> <th>Start</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Oct 21, 2021 22:35</td> <td>Completed</td> </tr> <tr> <td>Oct 18, 2021 22:37</td> <td>Completed</td> </tr> <tr> <td>Oct 18, 2021 16:46</td> <td>Completed</td> </tr> <tr> <td>Oct 13, 2021 22:10</td> <td>Completed</td> </tr> <tr> <td>Oct 8, 2021 6:42</td> <td>Failed</td> </tr> </tbody> </table> <p>Run Details</p> <table border="1"> <thead> <tr> <th>Source</th> <th>Destination</th> <th>Start Date</th> <th>End Date</th> <th>Triggered by</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>Completed</td> <td>Completed</td> <td>Oct 21, 2021 22:35</td> <td>Oct 21, 2021 22:36</td> <td>YLi</td> <td>Direct</td> </tr> </tbody> </table> <p>Message</p> <table border="1"> <thead> <tr> <th>Time</th> <th>Category</th> <th>Message</th> </tr> </thead> <tbody> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Connection validation passed for S3</td> </tr> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Connection validation passed for HANAODBCAdapterDatastore</td> </tr> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Metadata retrieved based on provided schema</td> </tr> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Running insert SQL. View Details</td> </tr> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Running select SQL. View Details</td> </tr> <tr> <td>Oct 21, 2021 22:36</td> <td>Inform</td> <td>Running select SQL. View Details</td> </tr> </tbody> </table> <p>Metrics</p> <table border="1"> <thead> <tr> <th>Operator Label</th> <th>Type</th> <th>Record Count</th> </tr> </thead> <tbody> <tr> <td>C_SALESDOCUMENTITEMDEX</td> <td>Source</td> <td>24323</td> </tr> <tr> <td>All_Book_Sales</td> <td>Target</td> <td>249602</td> </tr> <tr> <td>BL_sales_archived.csv</td> <td>Source</td> <td>224279</td> </tr> </tbody> </table>	Start	Status	Oct 21, 2021 22:35	Completed	Oct 18, 2021 22:37	Completed	Oct 18, 2021 16:46	Completed	Oct 13, 2021 22:10	Completed	Oct 8, 2021 6:42	Failed	Source	Destination	Start Date	End Date	Triggered by	Type	Completed	Completed	Oct 21, 2021 22:35	Oct 21, 2021 22:36	YLi	Direct	Time	Category	Message	Oct 21, 2021 22:36	Inform	Connection validation passed for S3	Oct 21, 2021 22:36	Inform	Connection validation passed for HANAODBCAdapterDatastore	Oct 21, 2021 22:36	Inform	Metadata retrieved based on provided schema	Oct 21, 2021 22:36	Inform	Running insert SQL. View Details	Oct 21, 2021 22:36	Inform	Running select SQL. View Details	Oct 21, 2021 22:36	Inform	Running select SQL. View Details	Operator Label	Type	Record Count	C_SALESDOCUMENTITEMDEX	Source	24323	All_Book_Sales	Target	249602	BL_sales_archived.csv	Source	224279
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Explanation	Screenshot																									
<p>Select All_Book_Sales table and click Preview Data. Then it shows 1000 records in the Data Preview.</p>	 <table border="1" data-bbox="514 390 1215 559"> <thead> <tr> <th>Order_ID</th> <th>Order_Date</th> <th>Quantity</th> <th>Net_Amount</th> <th>Book_ID</th> </tr> </thead> <tbody> <tr> <td>0000001747</td> <td>2021-01-01</td> <td>1.000</td> <td>10.00</td> <td>11935380</td> </tr> <tr> <td>0000001750</td> <td>2021-01-01</td> <td>1.000</td> <td>10.00</td> <td>11935380</td> </tr> <tr> <td>0000001752</td> <td>2021-01-01</td> <td>1.000</td> <td>10.00</td> <td>11935380</td> </tr> <tr> <td>0000001753</td> <td>2021-01-01</td> <td>1.000</td> <td>10.00</td> <td>11935380</td> </tr> </tbody> </table>	Order_ID	Order_Date	Quantity	Net_Amount	Book_ID	0000001747	2021-01-01	1.000	10.00	11935380	0000001750	2021-01-01	1.000	10.00	11935380	0000001752	2021-01-01	1.000	10.00	11935380	0000001753	2021-01-01	1.000	10.00	11935380
Order_ID	Order_Date	Quantity	Net_Amount	Book_ID																						
0000001747	2021-01-01	1.000	10.00	11935380																						
0000001750	2021-01-01	1.000	10.00	11935380																						
0000001752	2021-01-01	1.000	10.00	11935380																						
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