

Introduction to Ontology with MySQL Data Connection Synced Datasets

This is a continuation of the Data Connection activity, which must be completed prior, excluding the challenges. This will leverage the tables from MySQL RDS Instance with the classic-car database.

Getting Started with Ontology Manager



Alert! You must have completed the Data Connection activity to the point of connecting and syncing the MySQL datasets into Palantir before beginning this activity.

1

Navigate to your Palantir Foundry Workspace

The screenshot shows the Palantir Foundry workspace. On the left, the AIP Assist interface is open, displaying a sidebar with Home, Search, Notifications, Recent, Files, and Applications. It also shows a message about AI assistance and a list of questions it can answer. On the right, the main dashboard features a welcome message 'Welcome back, Charles', a search bar, and two cards: 'Get started' and 'Install examples'. Below the dashboard is a file browser showing recent files like 'raw_dataset', 'Order Details object type backing datasource', and 'customer_order_numbers'. The interface is clean and modern, typical of enterprise software.

2 Click "Applications" & Search for "Ontology Manager" in the modal pop-up.

The screenshot shows the AIP Assist interface. On the left, there's a sidebar with "Recent", "Files", and "Applications" (which is highlighted with a yellow circle). Below that is an "APPLICATIONS" section with a placeholder "Your favorite apps will appear here". In the center, there's a "What do you need help with?" section and a note about AI being powered by third-party generative AI. At the bottom, there's a "Here are a few things you can ask me..." section with questions like "How do I get my data into Foundry?" and "How do I build my Ontology?". On the right, a search bar says "Welcome back, Charles" and "Search for anything in your enterprise". It shows a "Get started" section with a graduation cap icon and a "Start speedrun" button, and an "Install examples" section with a "Install" button. Below these are tabs for "Recent", "Files", and "Projects", followed by a list of recent files.

3 Select Ontology Manager

The screenshot shows the AIP Assist interface with a search term "Onto" in the search bar. The search results are displayed in a grid. The "Ontology Manager" app is highlighted with a yellow circle. Other results include "Contour", "Foundry Rules", "Object Explorer", "Automate", "Value Types", "Control Panel", "Data Lineage", "Builds", and "Data Health". To the right, there's a detailed view of the "Ontology Manager" app, which says "Manage the ontology on which you build applications." and has a "Documentation" link. Below it is a "FAVORITES & RECENTS" section with a message "No favorites or recents".



Alert! From here on out, I will simply state Navigate to Ontology Manager & this is what I'm referring to.

Creating Our First Object Type - Customer

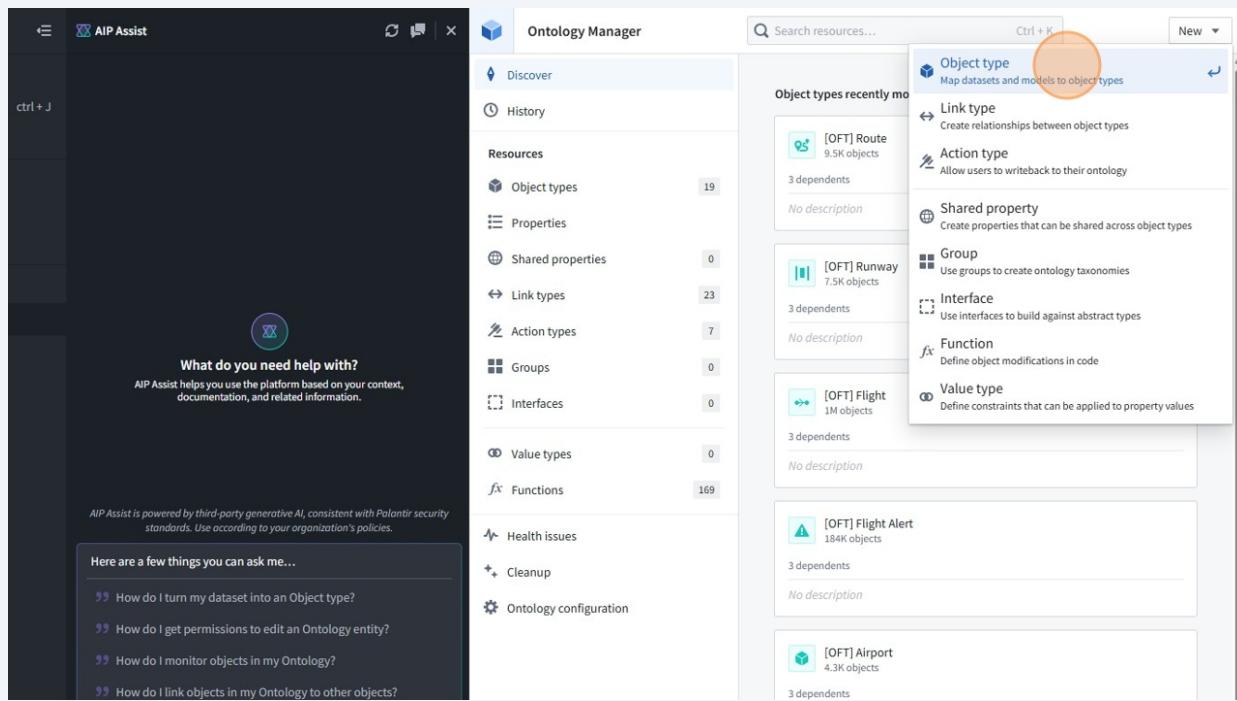
4

Click "New"

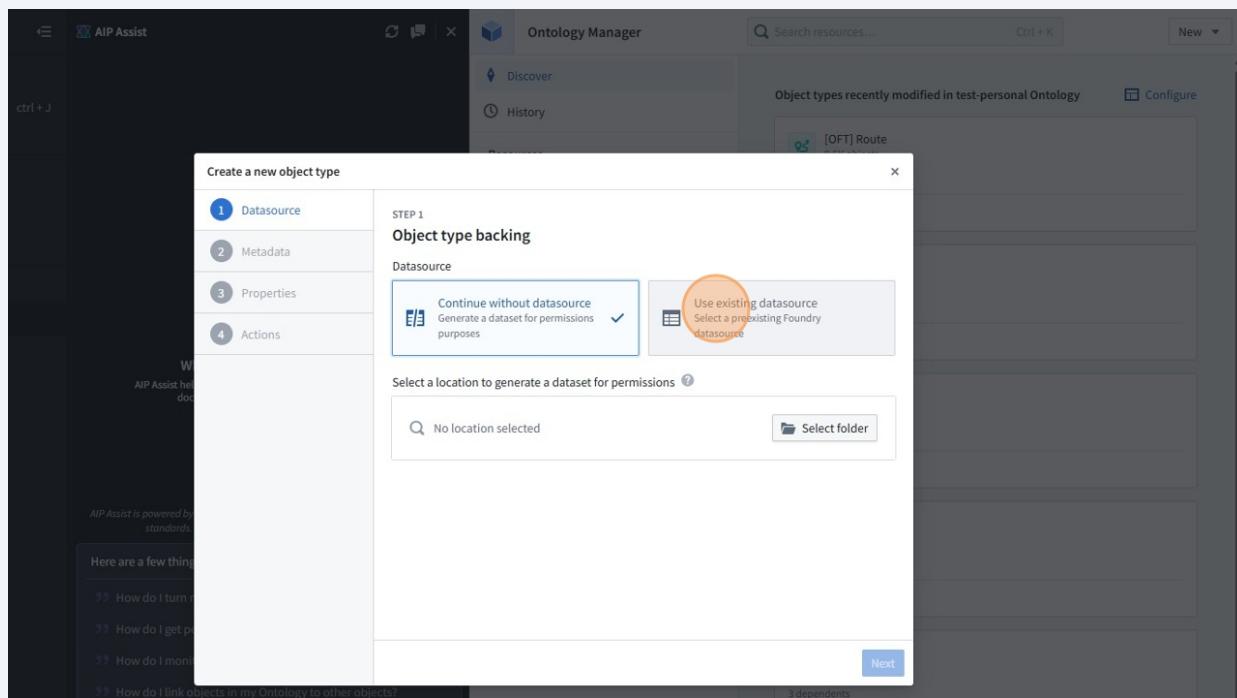
The screenshot shows the Ontology Manager interface. On the left, there's a dark sidebar with 'AIP Assist' branding and a help section. The main area has a header 'Ontology Manager' with a search bar and a 'New' button highlighted with an orange oval. Below the header is a section titled 'Object types recently modified in test-personal Ontology' with a 'Configure' button. The main content area shows a list of object types:

Object Type	Count	Description
[OFT] Route	9.5K objects	3 dependents No description
[OFT] Runway	7.5K objects	3 dependents No description
[OFT] Flight	1M objects	3 dependents No description
[OFT] Flight Alert	184K objects	3 dependents No description
[OFT] Airport	4.3K objects	3 dependents

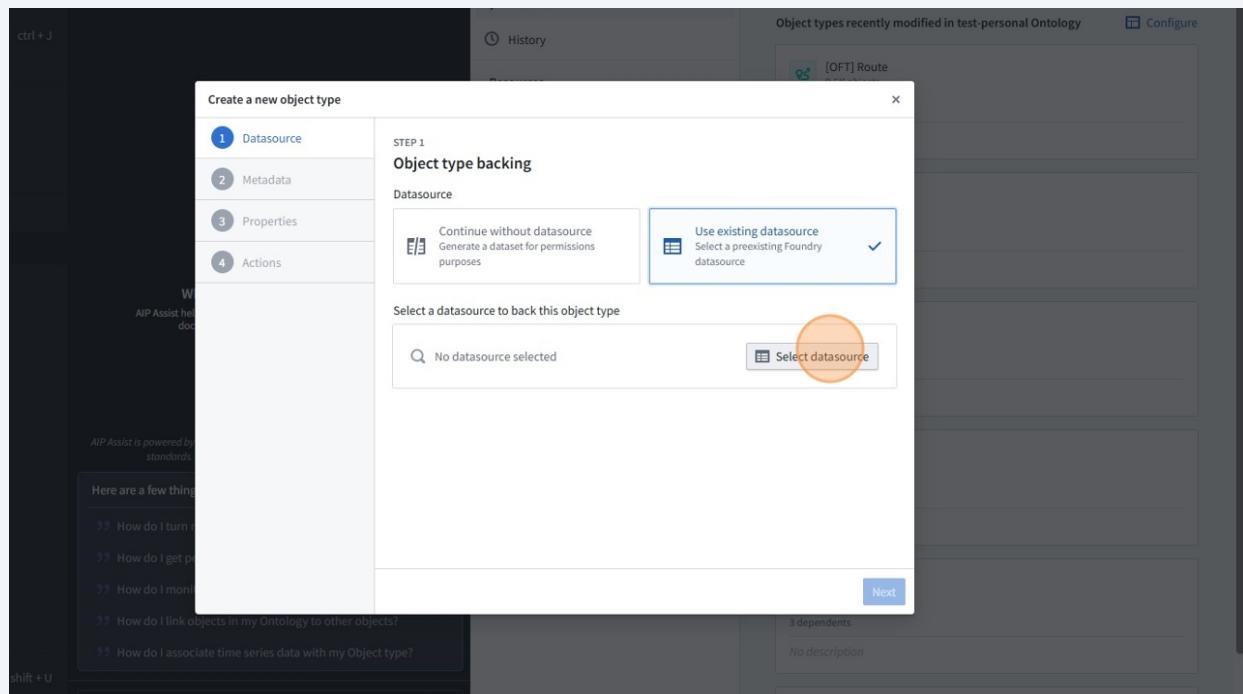
5 Select the "Object Type" option.



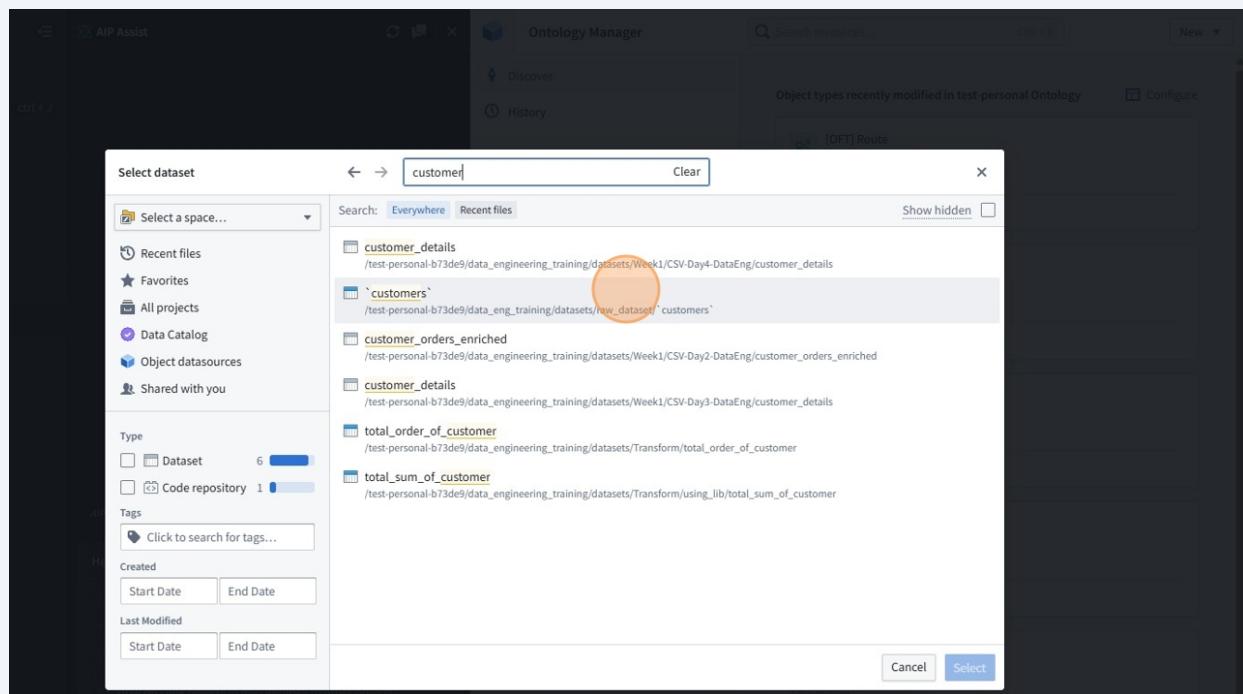
6 Click "Select a preexisting Foundry datasource"



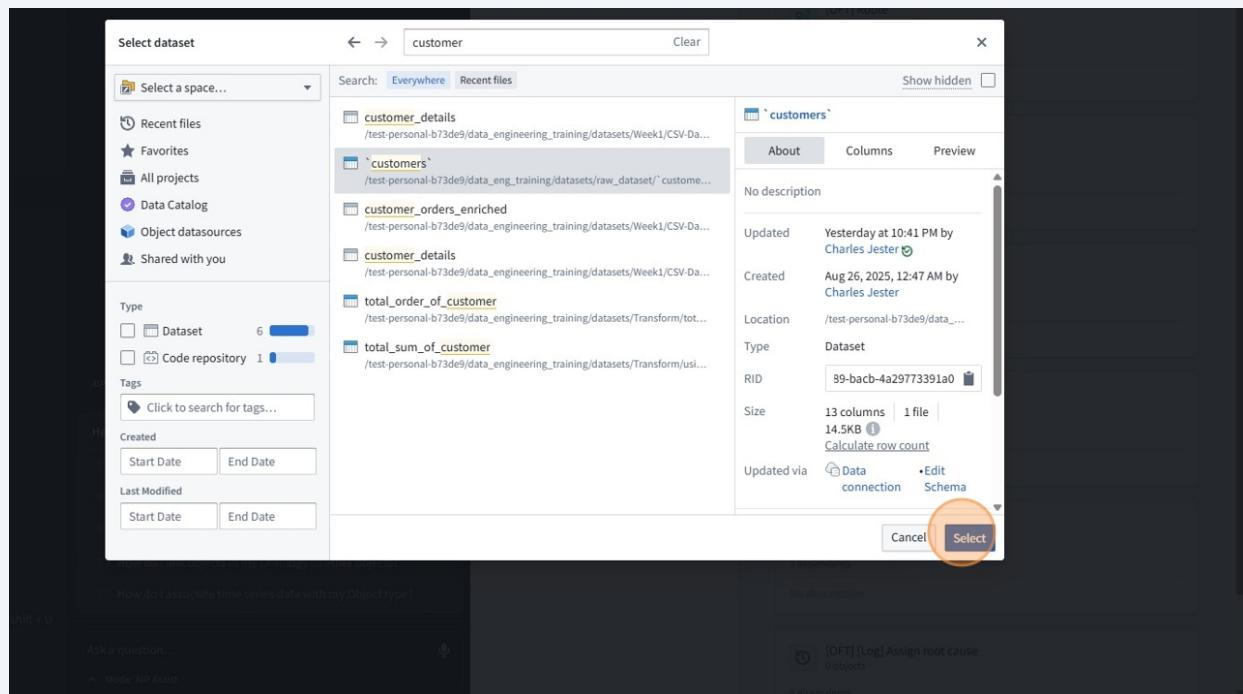
7 Click "Select datasource"



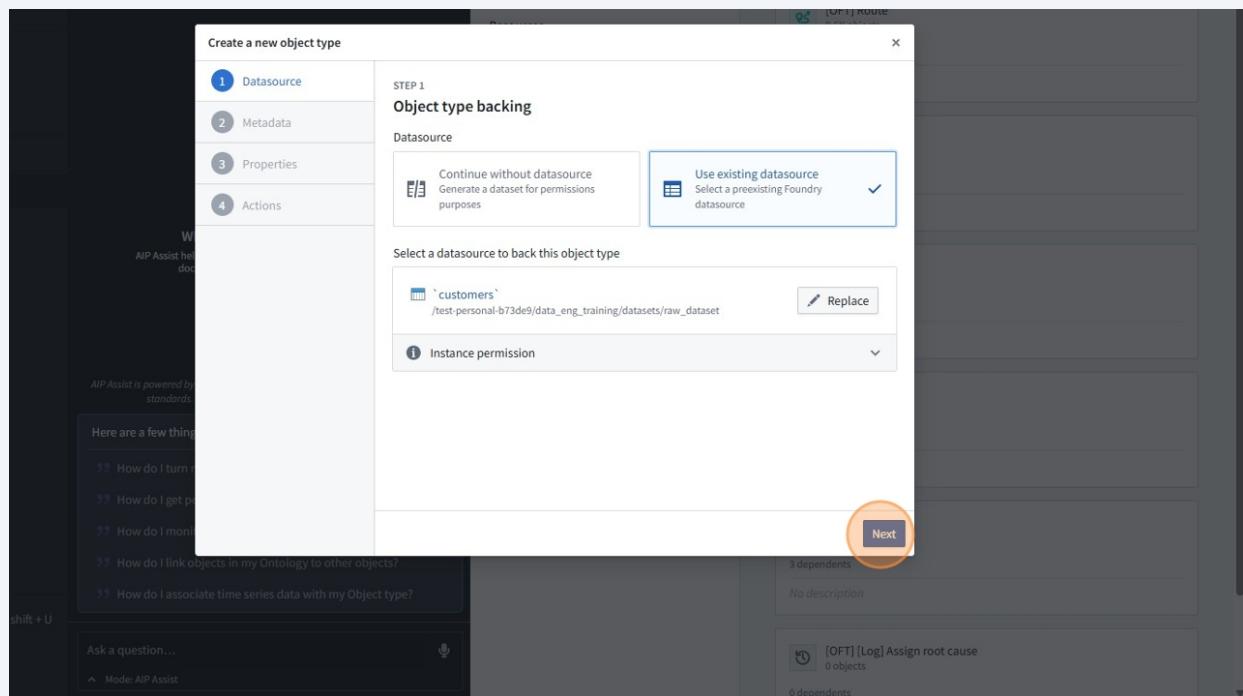
8 Search for and Click "customers"



9 Click "Select"

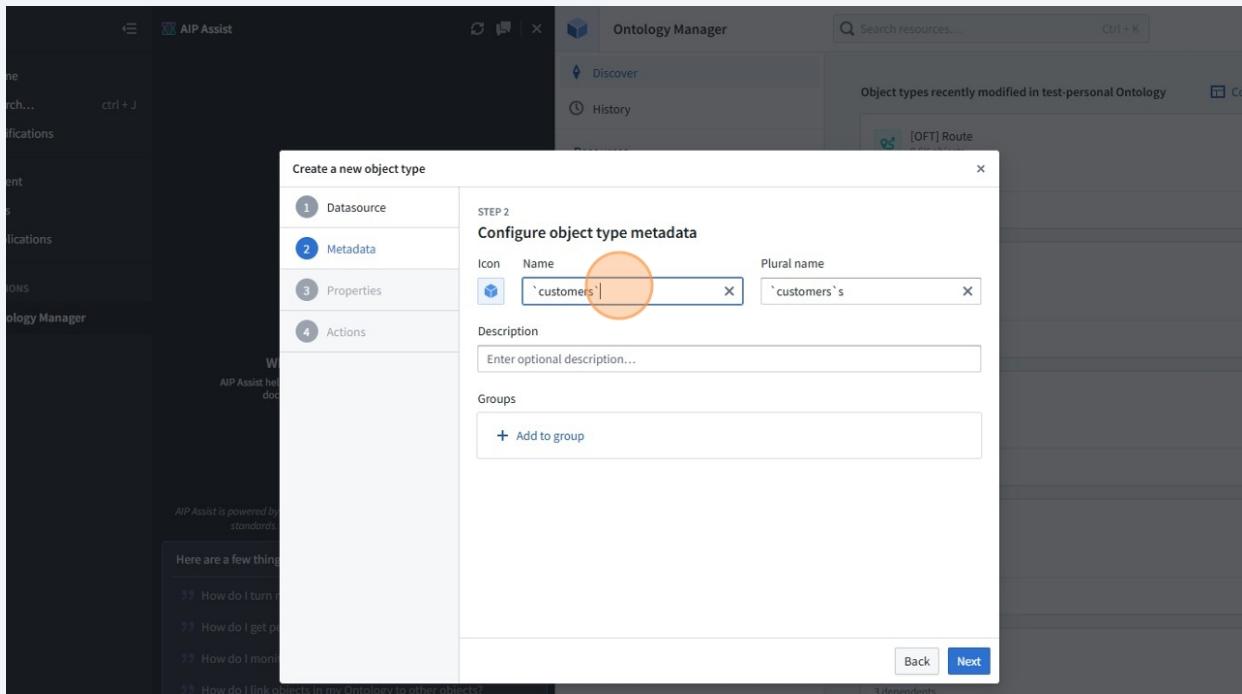


10 Click "Next"



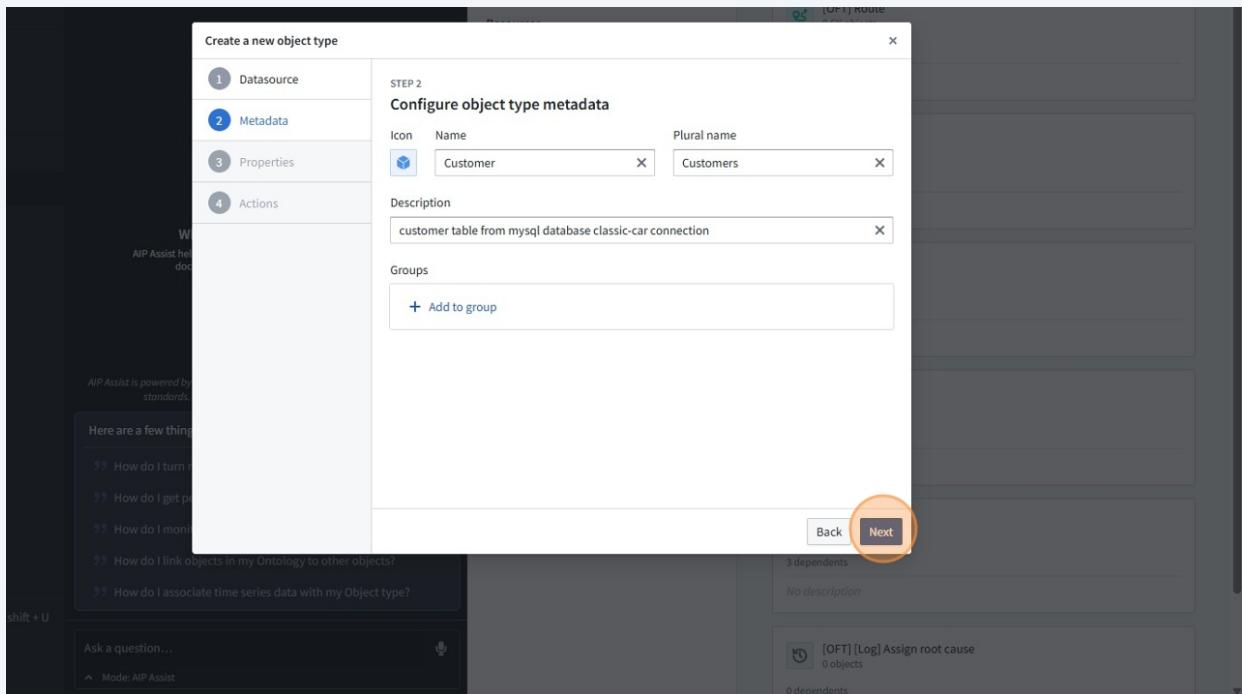
11

Replace the Name with "Customer", you can optionally add a description if you'd like.



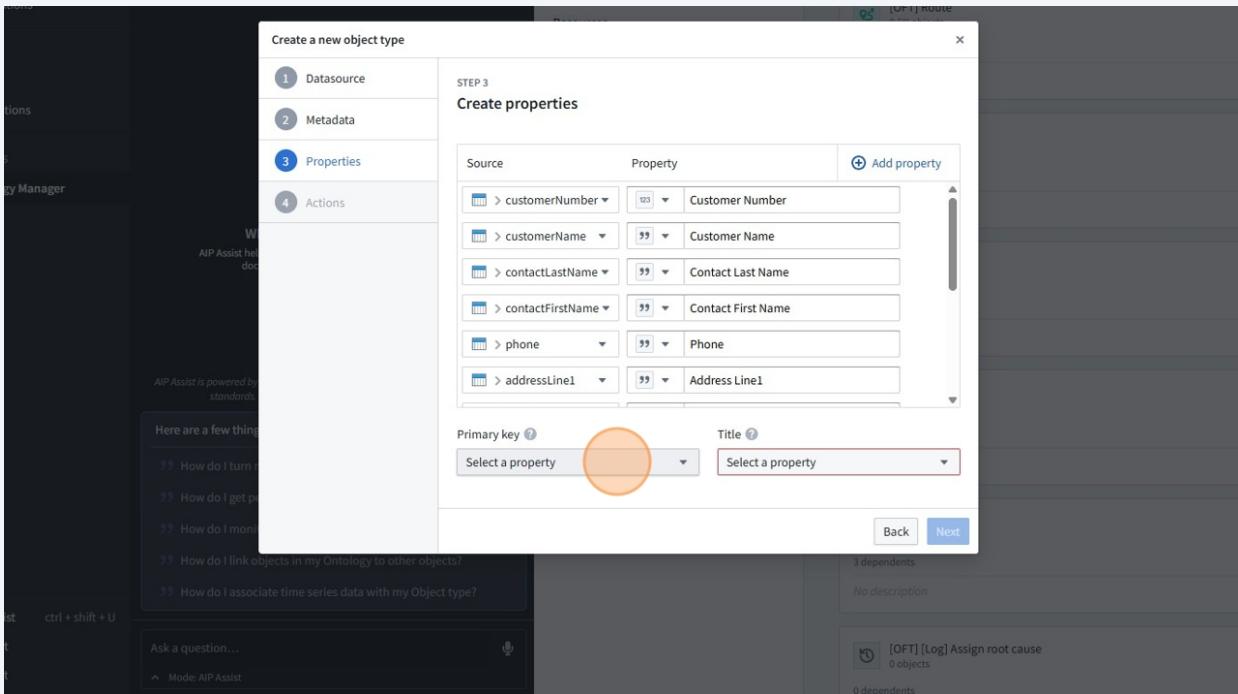
12

Click "Next"



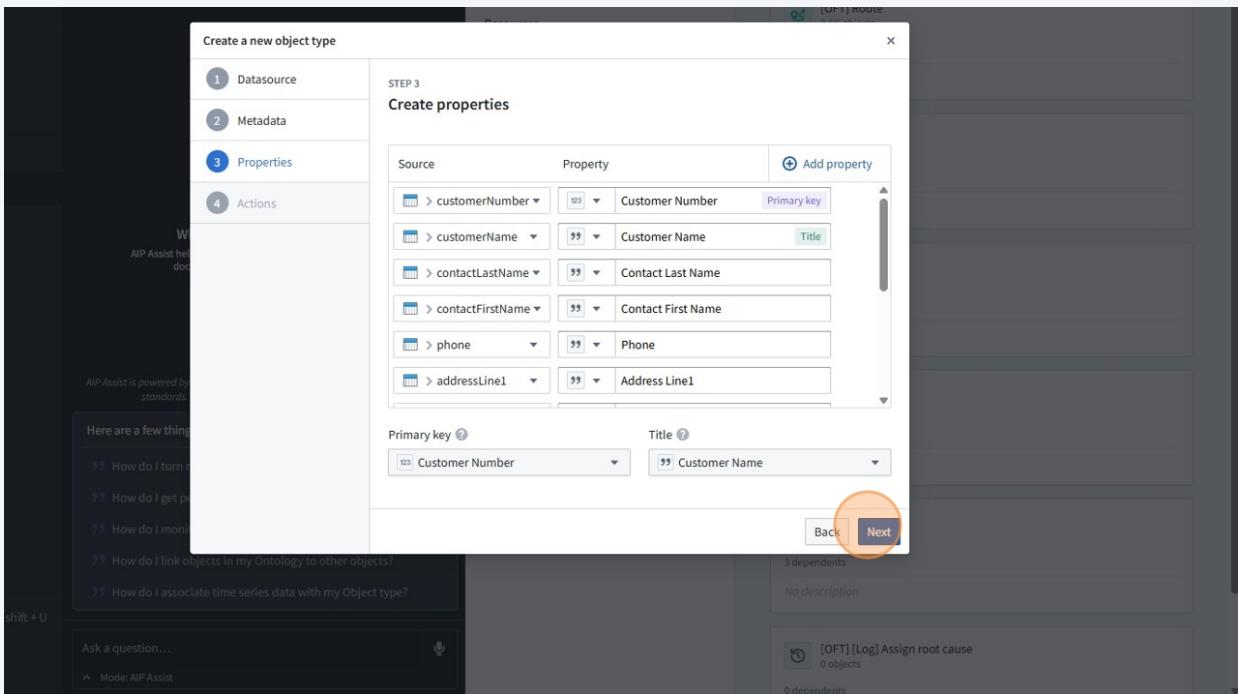
13

For Primary Key, select the dropdown and select "Customer Number". For Title, click the dropdown and select "Customer Name".



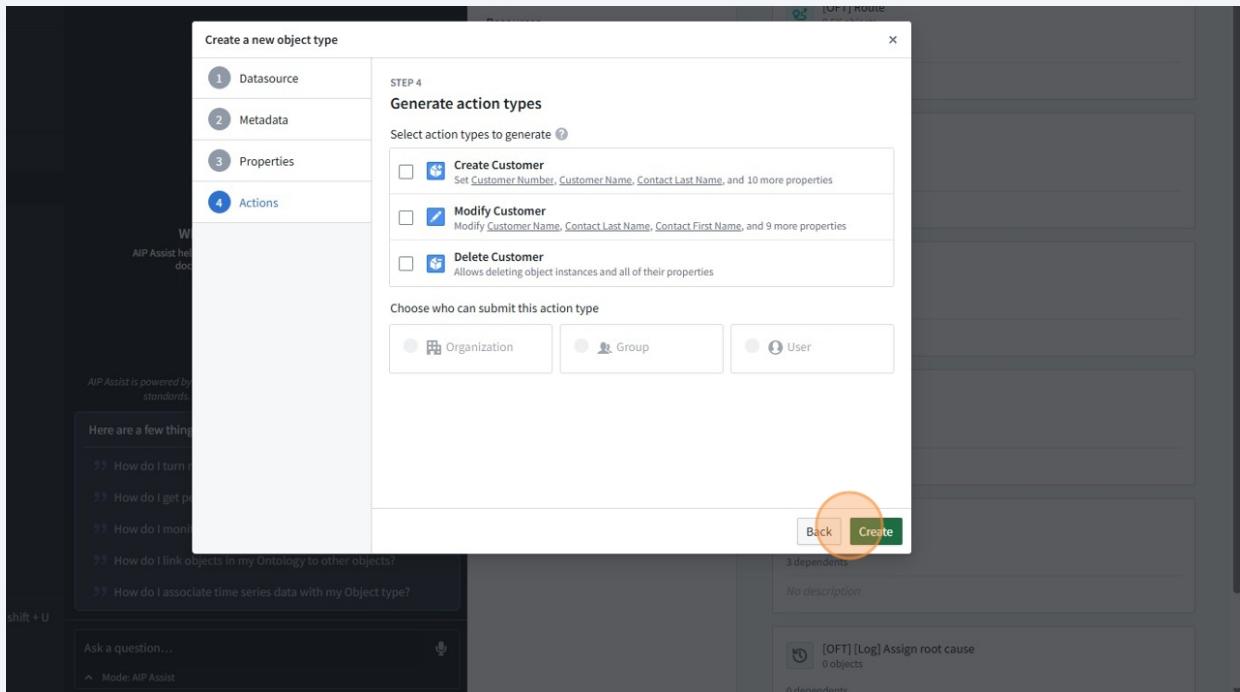
14

Click "Next"



15

We aren't worried about actions during this activity. For now we can just continue without selecting any action types. Click "Create"



Alert! For the purposes of this activity, we will continue to leave action types empty as we will create actions in future activities.



Tip! In Future, it's best to create these during this step if you know for certain your users have the appropriate permissions and will need this action available to them.

16

Note this action will be fairly repeatable. Click "Save"
Click "Save to ontology"
Click "Save changes"

The screenshot shows the 'Customer' object type configuration screen. At the top right, there is a green 'Save' button with an orange circle highlighting it. Below the save button, there are status indicators: '90 edits', 'Search resources...', 'Ctrl + K', 'New', and a dropdown menu.

Customer
Object type - 0 objects

+ Add to group

Plural name	Customers	Status	Experimental
Description	customer table from mysql database classic-car connection	Visibility	Normal
		Edits	Disabled
Aliases	Add aliases...		
Point of contact	None		
Contributors	None		
Ontology	test-personal Ontology	ID	customer
API name	Customer	RID	Set on save

Properties 13 Action types 0

The screenshot shows the 'Review changes' dialog for the 'Customer' object type. At the top right, there is a green 'Save to ontology' button with an orange circle highlighting it. The dialog displays the following information:

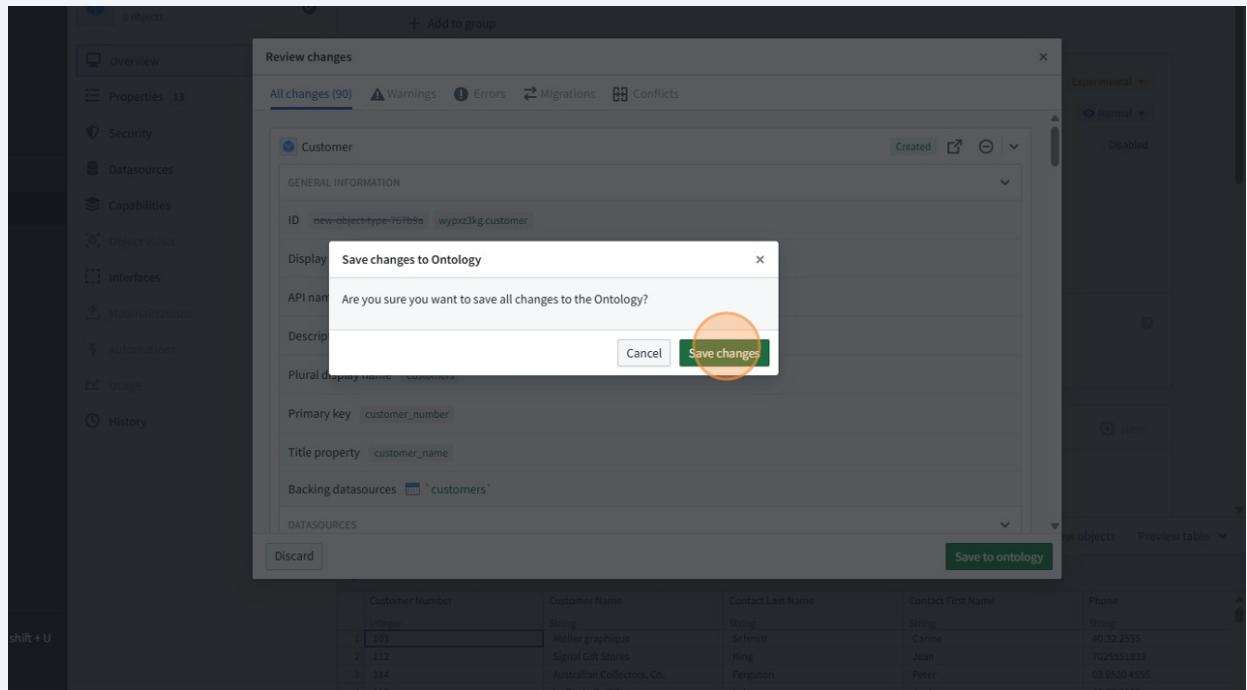
Customer

GENERAL INFORMATION

- ID: new-object-type-767b9a / wypxz3kg.customer
- Display name: Customer
- API name: NewObjectType / Customer
- Description: customer table from mysql database classic-car connection
- Plural display name: Customers
- Primary key: customer_number
- Title property: customer_name
- Backing datasources: customers

DATASOURCES

Customer Number	Customer Name	Contact Last Name	Contact First Name	Phone
Integer	String	String	String	String
1 103	Atelier graphique	Schmitt	Carine	40.32.2555
2 112	Signal Gift Stores	King	Jean	7025551838
3 114	Australian Collectors, Co.	Ferguson	Peter	03 9520 4555
4 119	La Rochelle Gifts	Labrune	Janine	40.67.8555



Observing Object Storage in Action for Customer

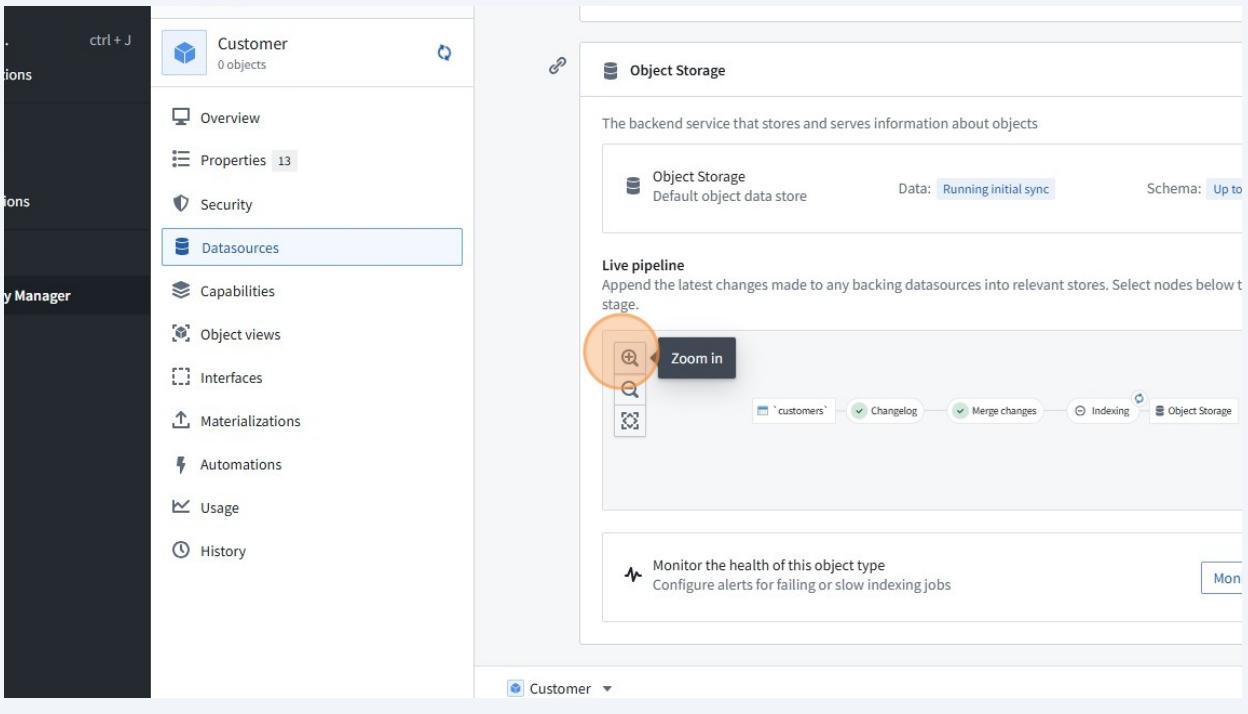
17

Let's observe what's happening during this Object Type creation phase as it pulls our dataset into Object Storage. Click "Running initial sync"

Plural name	Customers	Status
Description	customer table from mysql database classic-car connection	Visibility Normal
Aliases	Add aliases...	Index status Running initial sync
Point of contact	CJ	Edits
Contributors	CJ	
Ontology	test-personal Ontology	ID wypxz3kg.customer
API name	Customer	RID ri.ontology.main.object-type.373...

18

Scroll down until you see Object Storage and Zoom in on the "Live Pipeline" Section and watch as the steps complete.



Notice! The pipeline is creating an indexed version of our dataset and providing it to the Object Storage. Ontology has its own version of the raw dataset so that changes to this Object Type's information performed by any actions can be versioned and isolated to the ontology, instead of the raw imported data.

As you gain more experience, you can fine tune how this data is updated should there be changes from the source & the sync updates the dataset on Palantir.

NOTE: Any updates to a dataset would trigger this object storage to view the changelog & make updates based on configurations we will get to at a later time.

Creating Our Next Object Type - Order

19

Let's go ahead and click the "New" at the top right and create another Object Type. This time for Order.

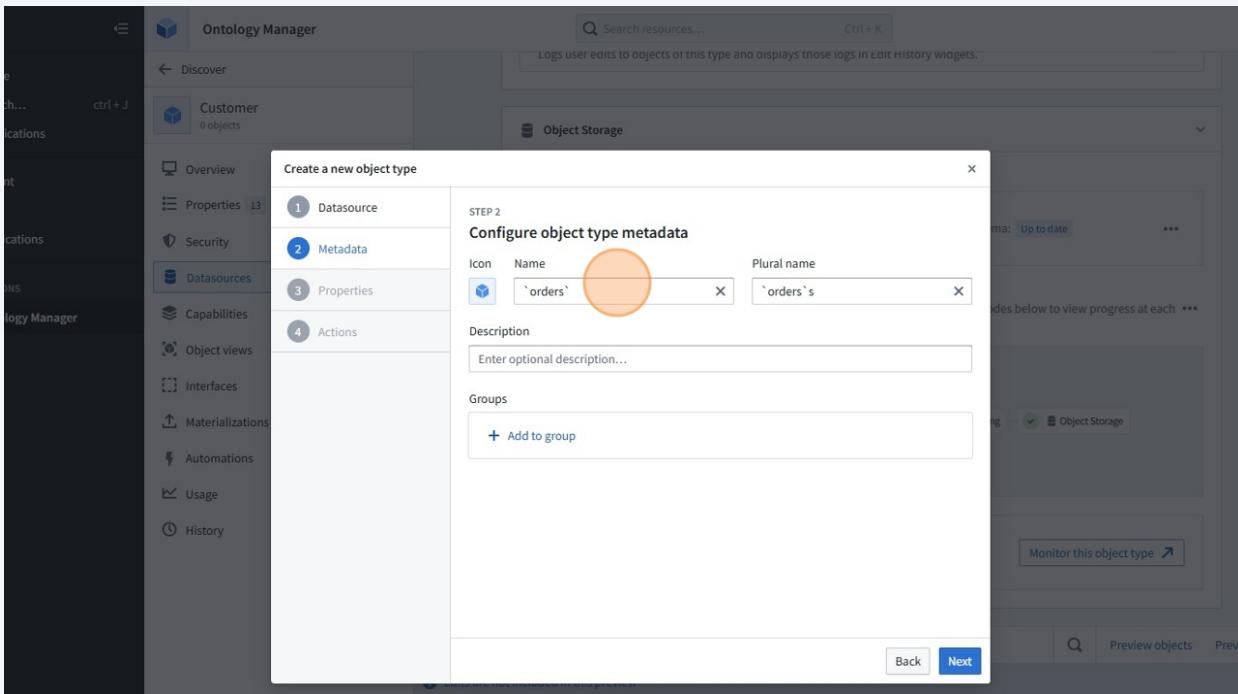
The screenshot shows the Foundry interface with a search bar at the top left and a 'New' button at the top right. A modal window titled 'Object type' is open, with its title bar highlighted by an orange circle. The modal contains several options: 'Link type' (Create relationships between object types), 'Action type' (Allow users to writeback to their ontology), 'Shared property' (Create properties that can be shared across object types), 'Group' (Use groups to create ontology taxonomies), 'Interface' (Use interfaces to build against abstract types), 'Function' (Define object modifications in code), and 'Value type' (Define constraints that can be applied to property values). The 'Object type' option is also highlighted with an orange circle.

20

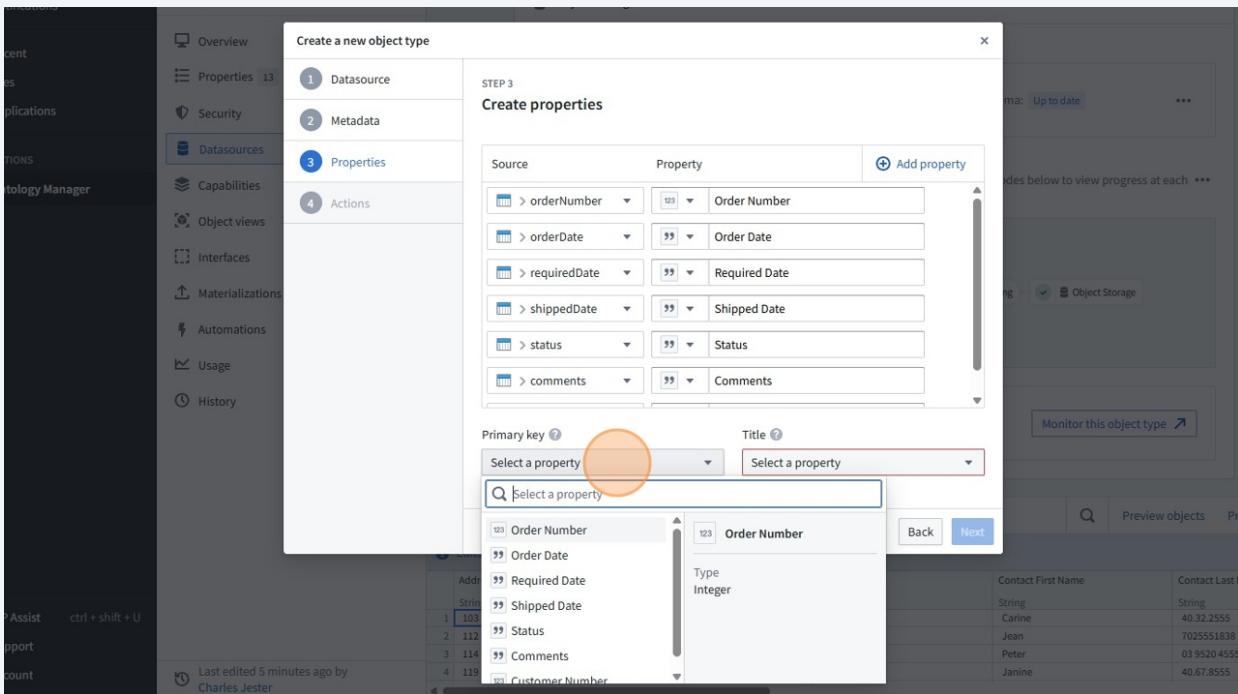
Follow the same process as Steps 6-16, except for orders instead.

The screenshot shows the Foundry interface for creating a new object type 'Customer'. On the left, there is a sidebar with various tabs: Overview, Properties (13), Security, **Datasources**, Capabilities, Object views, Interfaces, Materializations, Automations, Usage, and History. The 'Datasources' tab is selected. In the main area, a modal window titled 'Create a new object type' is open. It has a step indicator 'STEP 1 Object type backing' and a 'Datasource' section. The 'Use existing datasource' option is selected, and a 'Select datasource' button is highlighted with an orange circle. Below this, there is a section 'Select a datasource to back this object type' with a message 'No datasource selected' and a 'Select datasource' button. At the bottom of the modal are 'Next' and 'Cancel' buttons. The background shows a table with columns: Address Line1, Address Line2, City, Contact First Name, and Contact Last Name. The first row has values: String, String, String, String, String. The second row has values: 103, Atelier graphique, Schmitt, Carine, 40.32.2555. The third row has values: 112, Signal Gift Stores, King, Jean, 7025551838.

21 At this step, make sure to change name to "Order"



22 For both, "Primary Key" and "Title" click the dropdown and select "Order Number"





Just click through the rest, after creation don't forget to hit through all the "Save" steps in the top right hand of Palantir and following pop-ups.

Now to Link Customer and Order

23

Return to Ontology Manager's Home Page by clicking here towards the top left of "Ontology Manager"

The screenshot shows the Palantir Ontology Manager interface. On the left, there is a navigation sidebar with links for Home, Search, Notifications, Recent, Files, Applications, and the currently selected 'Ontology Manager'. The main area is titled 'Ontology Manager' and shows a 'Customer' section with an 'Order' object (0 objects). A modal window is open for the 'Order' object, displaying its details:

Plural name	Orders
Description	Order from the instance
Aliases	Add aliases...
Point of contact	CJ
Contributors	CJ
Ontology	test-personal
API name	Order

A green banner at the top of the modal says 'Successfully reloaded latest Ontology'.

24

Make note of our synced information in our Customer object type as it has "122 objects" listed below.

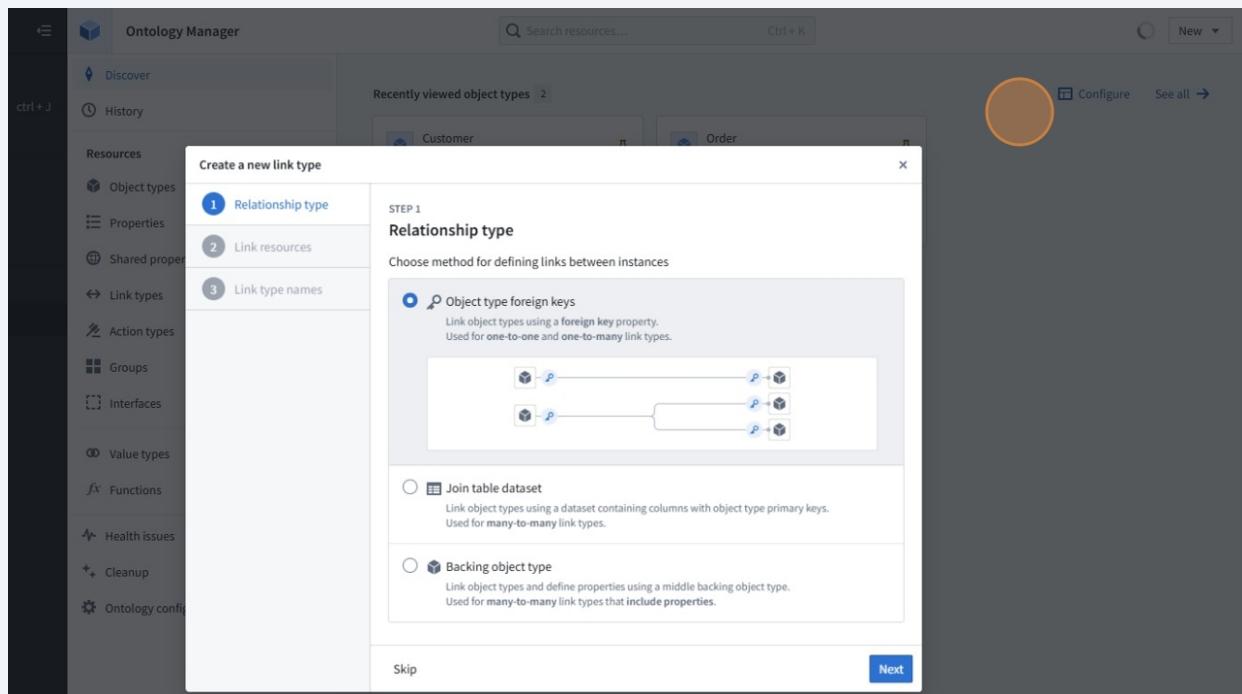
The screenshot shows the 'Ontology Manager' interface. On the left, there's a sidebar with various navigation options like Discover, History, Resources, Object types, Properties, etc. The 'Object types' section shows a list with 'Customer' at the top, highlighted with an orange circle. Below it is 'Order'. The 'Customer' entry shows '122 objects', '6 dependents', and a description: 'customer table from mysql database classic-car connection'. At the top right, there's a search bar and a 'New' button. A tooltip 'Create new resources ctrl + shift + O' is visible over the 'New' button.

25

Now, let's go ahead and start creating our new Link Type by clicking the "New" icon in the top right and select "Link Type"

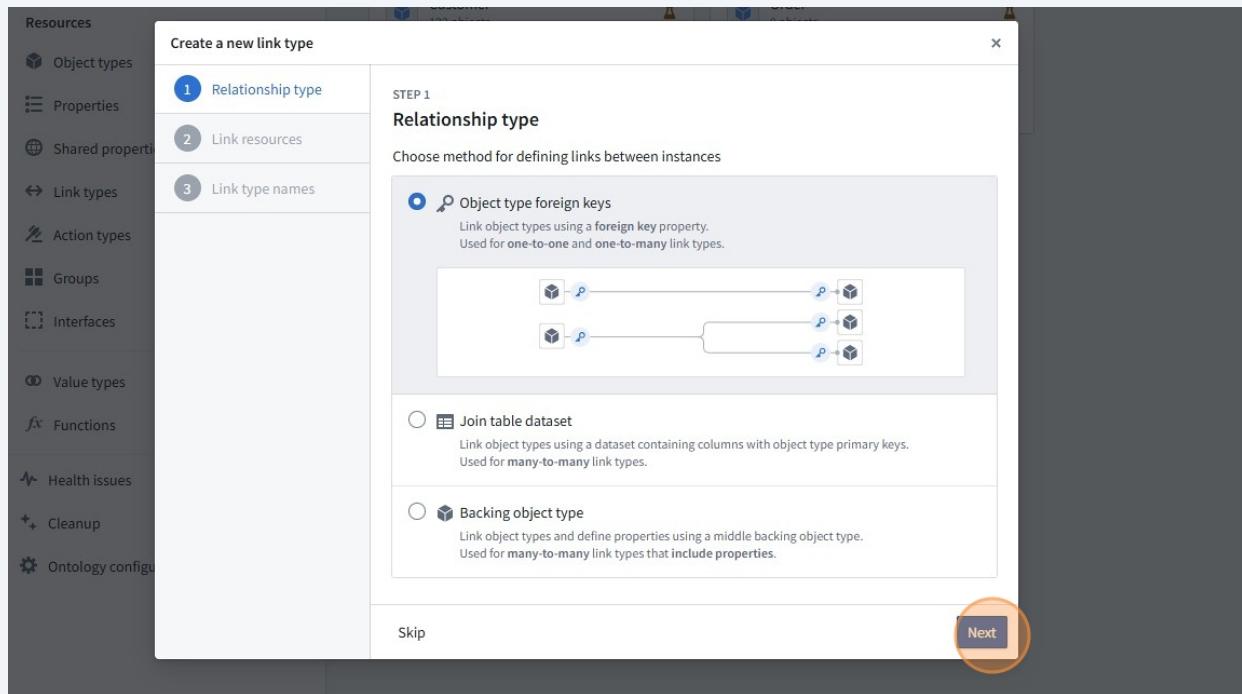
This screenshot is similar to the previous one but focuses on the 'New' button. The 'New' button is circled in orange, and a tooltip 'Create new resources ctrl + shift + O' is displayed above it. The rest of the interface and the list of object types (Customer, Order) are visible.

26



27

The default option for relationship types is using the Object Types foreign keys to establish a relationship. Click "Next"





Notice the two other options:

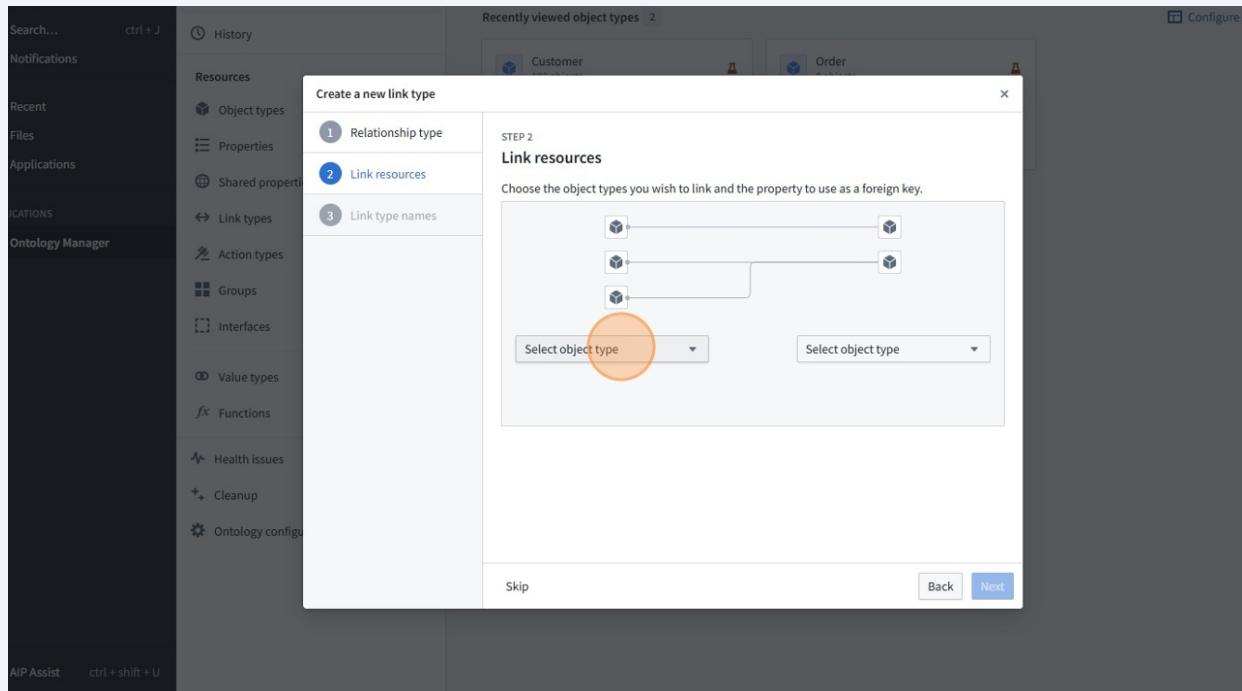
Join Table Dataset: This approach is used for many-to-many relationships, where multiple instances of one object can be linked to multiple instances of another. For example, a single order can contain many products, and a single product can be in many different orders. To model this, you create a separate dataset in Pipeline Builder that serves as a bridge, containing the primary keys of both object types you want to link. This method is highly flexible and makes the relationship itself a first-class, auditable data product. Make sure this table has its own primary key for each record, as composite keys are rarely supported in Palantir.

Object Type Foreign Key: This method is best for one-to-many relationships, where one object can be associated with many other objects, but those other objects belong to only one instance of the first. A classic example is a customer and their orders: one customer can have many orders, but each order belongs to just one customer. This type of relationship can be configured directly in the Ontology Manager by defining a property on the "many" side (e.g., the order object) that holds the primary key of the "one" side (e.g., the customer object).

28

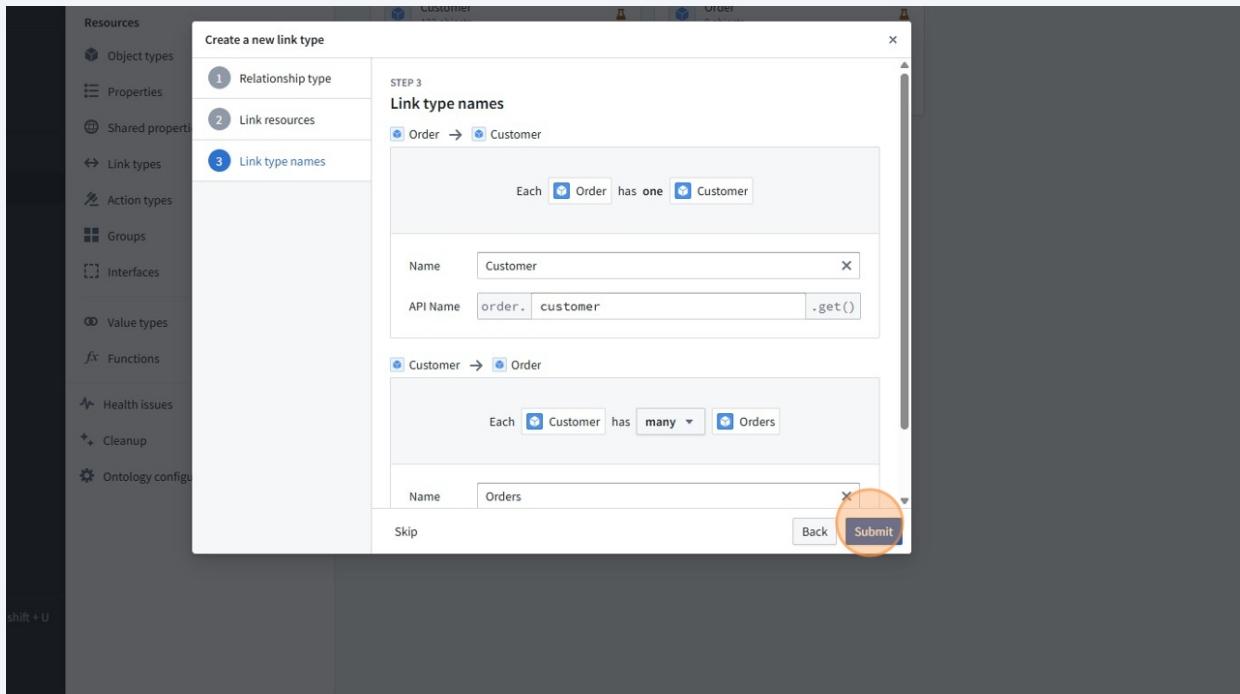
On the left dropdown, we want to select the Object Type containing the foreign key, in this instance it would be our "Order" and the right dropdown would map to our "Customer".

Click "Next"



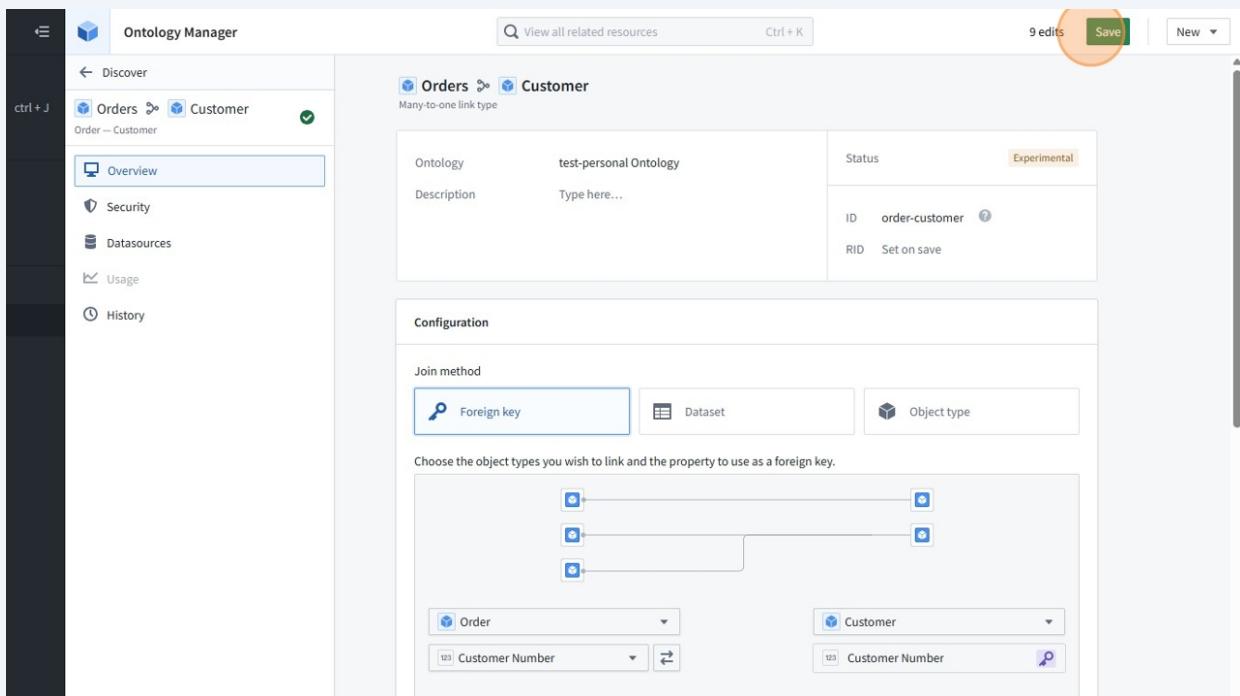
29

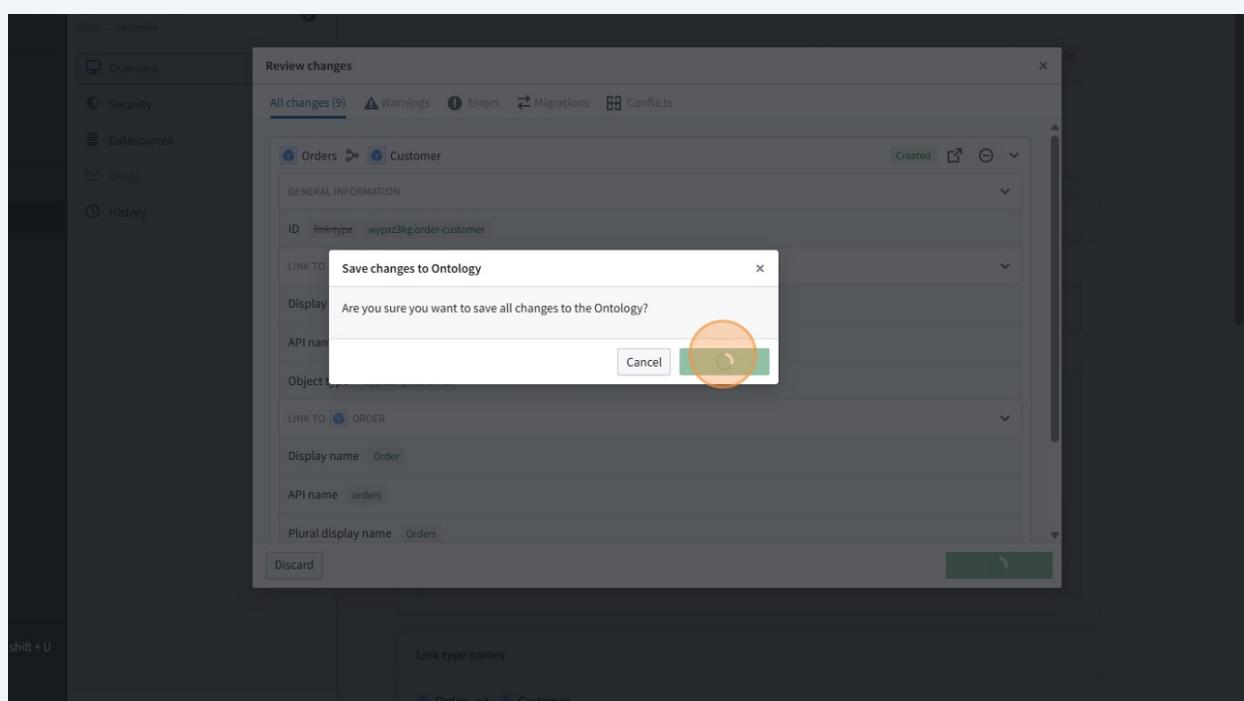
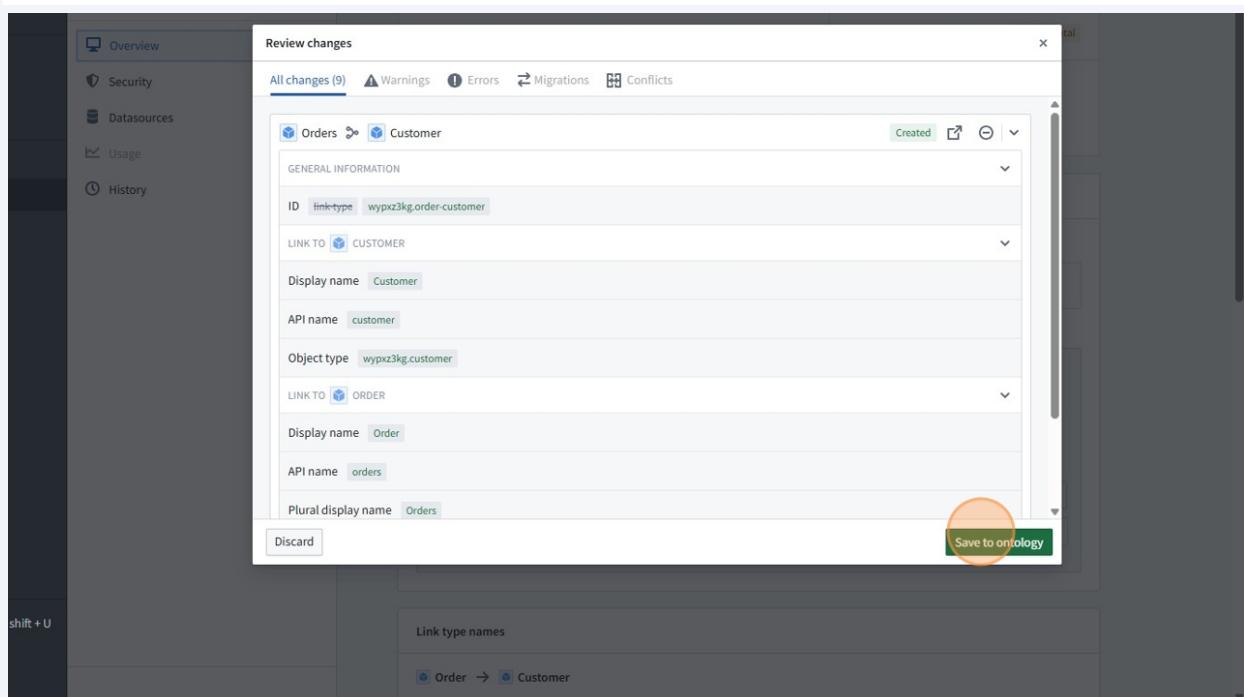
The defaults should be configured correctly, double check with the image. Once confirmed, go ahead and click "Submit"



30

Click "Save"
Click "Save to ontology"
Click "Save changes"





31 Let's navigate back to the Ontology Manager homepage.

The screenshot shows the Palantir Foundry Ontology Manager interface. On the left, there is a navigation sidebar with links like Home, Search..., Notifications, Recent, Files, Applications, and Ontology Manager. The main area is titled "Ontology Manager" and shows a "Discover" section with a link to "Orders > Customer". Below this is an "Overview" section. To the right, there is a detailed view of a "Many-to-one link type" between "Orders" and "Customer". The "Configuration" section includes fields for "Join method" (set to "Foreign key"), "Object types" (Order and Customer), and "Properties" (Customer Number). The "Status" is listed as "Experimental".

32 Look on the navigation menu for the "Link Types" if we click here would should see all available Link Types on our Palantir Foundry workspace.

The screenshot shows the Palantir Foundry Ontology Manager interface. The navigation sidebar has a link to "Link types" which is highlighted with an orange circle. The main area shows a "Discover" section and a "Resources" section. In the "Resources" section, "Link types" is listed under "Link types" with a count of 23. Other items include Object types (19), Properties, Shared properties (0), Action types (7), Groups (0), Interfaces (0), Value types (0), Functions (169), Health issues, Cleanup, and Ontology configuration. A search bar at the top right is also visible.

33

As you see, the top of our list shows Orders and if we wanted to make any edits to our Link Types we would go here.

The screenshot shows the 'Ontology Manager' interface. On the left, there's a sidebar with navigation links like Home, Search, Notifications, Recent, Files, Applications, and Ontology Manager. Under Applications, the 'Link types' option is highlighted. The main area is titled 'Link types 23'. It has a search bar at the top right. Below it is a table with columns for Name, Status, and Examples. The first row, 'Orders' (linked to 'Customer'), is circled in orange. Other rows include 'Aircraft' (linked to 'Carrier'), 'Flight Sensors' (linked to 'Flight'), 'Flights' (linked to 'Aircraft'), 'Departing Flights' (linked to 'Departure Airport'), 'Arriving Flights' (linked to 'Arrival Airport'), 'Flights' (linked to 'Carriers'), 'Flights' (linked to 'Route'), 'Route Alert Comments' (linked to 'Route Alert'), 'Route Alerts' (linked to 'Route'), 'Departing Routes' (linked to 'Departure Airport'), and 'Arriving Routes' (linked to 'Destination Airport').

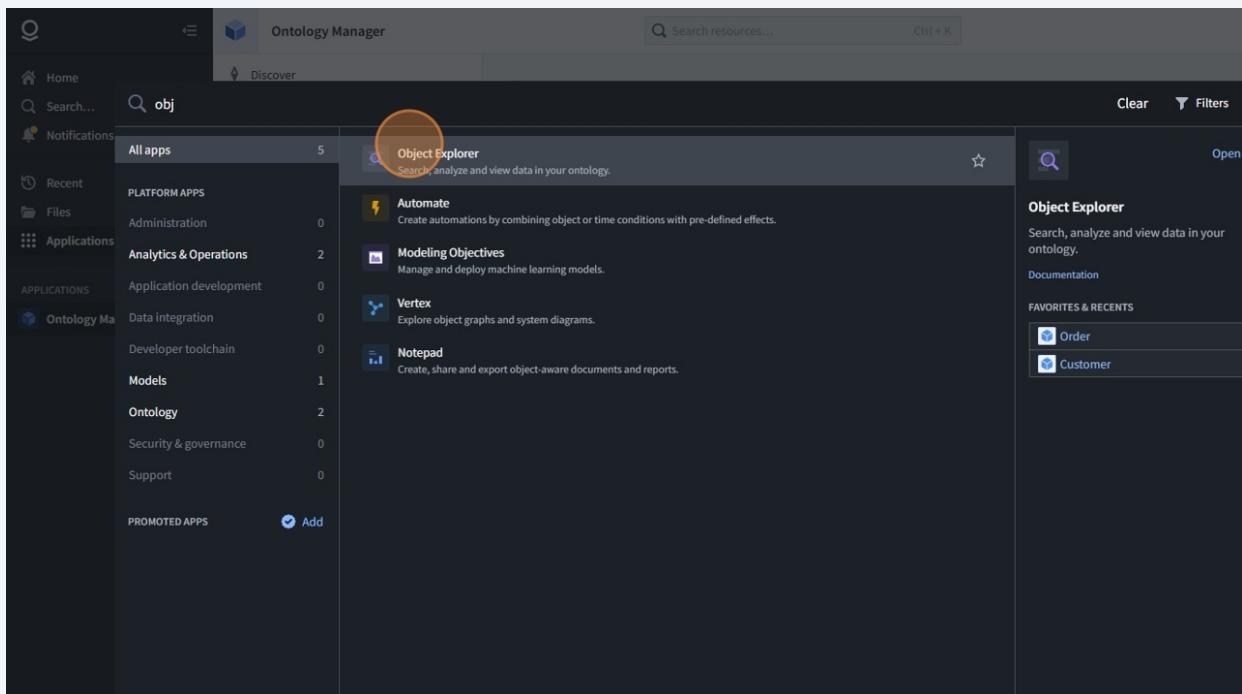
Time to Explore with Object Explorer

34

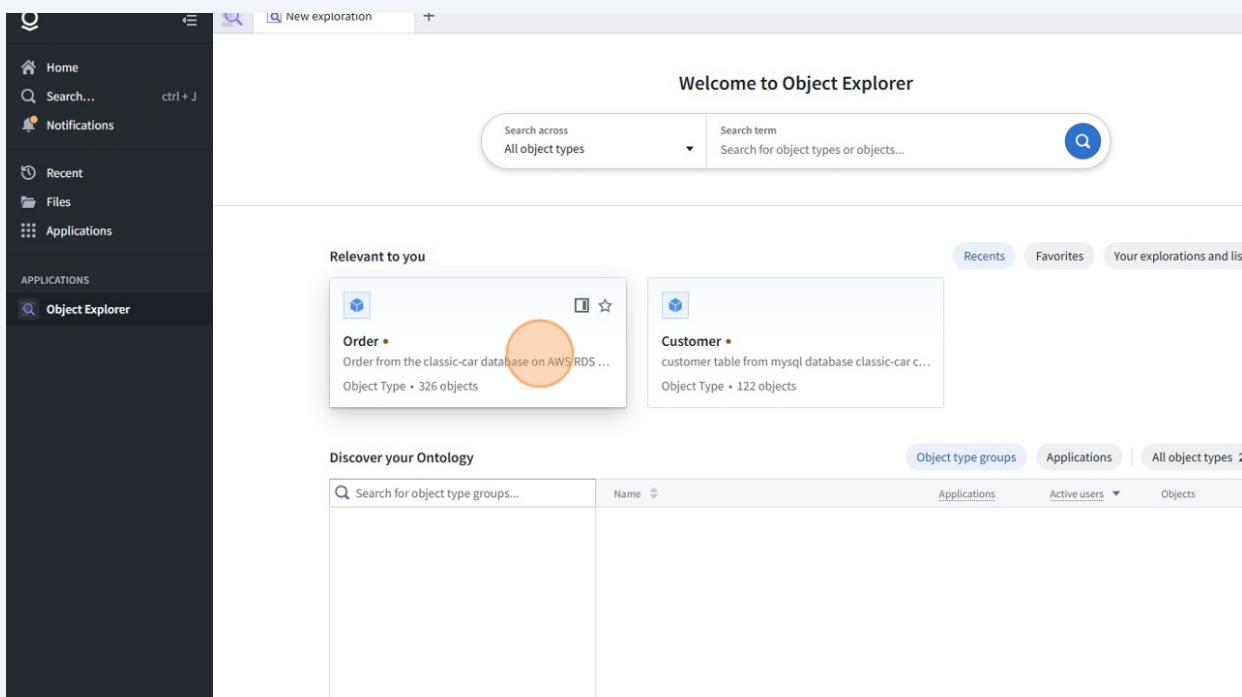
Click "Applications"

This screenshot is similar to the previous one but focuses on the 'Applications' section of the sidebar. The 'Applications' link is highlighted with an orange circle. The rest of the interface is identical to the previous screenshot, showing the 'Link types' list with the 'Orders' entry circled.

35 Search & Click "Object Explorer"

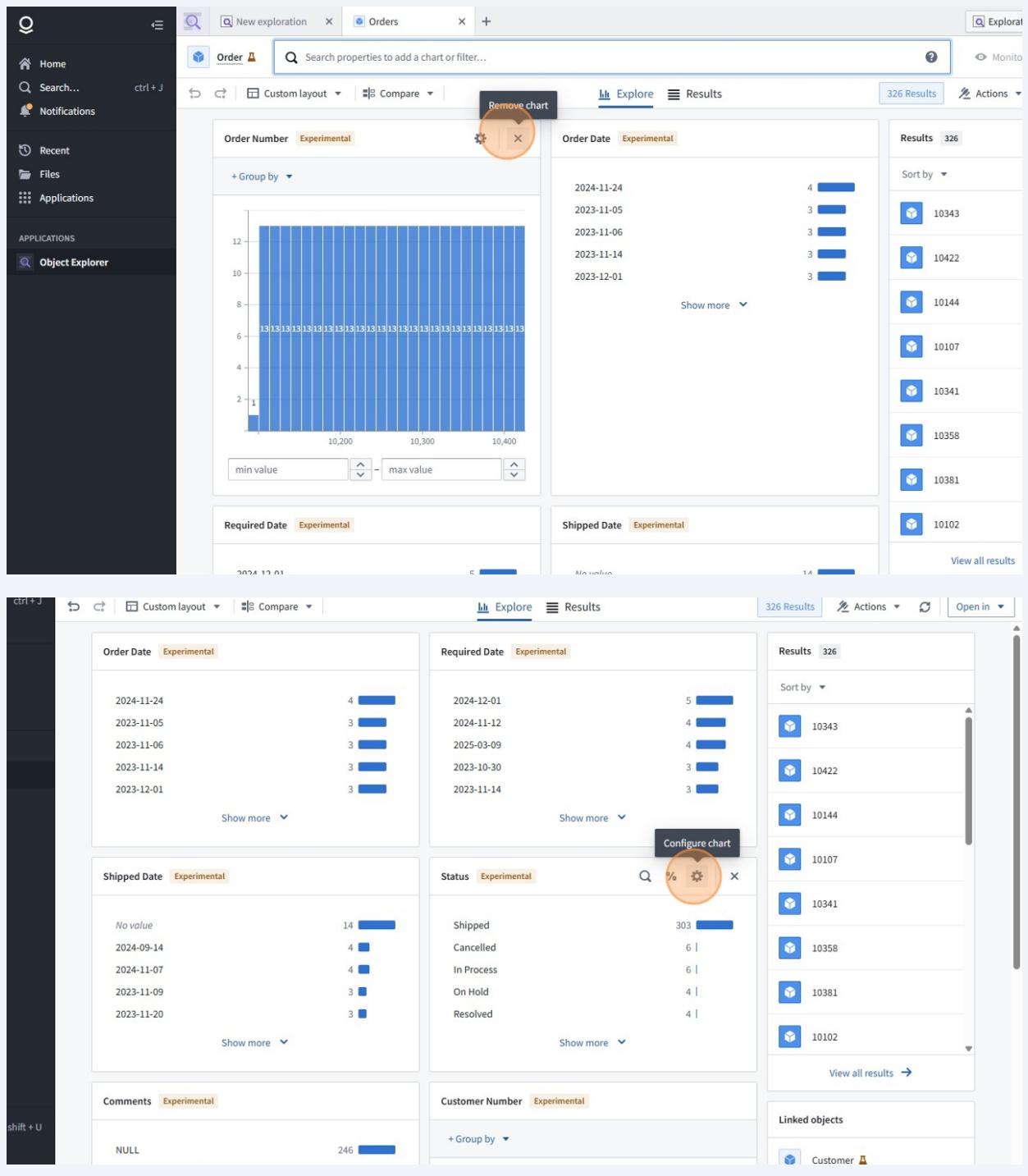


36 In Object Explorer, we should see each of our Object Types that are relevant to us. Let's select our "Order" Object Type.



37

Begin exploring through all the charts, what you can do and even charts you can add. If you'll note the customer information is also linked to our orders to extrapolate information. Go explore and have fun!



This screenshot shows a data visualization interface with a central 'Configure Chart' dialog. The dialog has 'Status' selected as the property to chart and 'Histogram' selected as the chart type. It also displays 'Count of Orders' under 'Display as' and 'Count' under 'Sort by'. The background shows four data cards: Order Date, Required Date, Shipped Date, and Customer Number, each with a bar chart view. A results list on the right shows 326 items, each with a small icon and a number.

This screenshot is similar to the one above, but the 'Configure Chart' dialog's 'Select a chart type' dropdown is open, showing options: Histogram, Grid plot, Single stat, and Pie chart. The 'Histogram' option is highlighted with a red circle. The rest of the interface, including the data cards and results list, appears identical to the first screenshot.

The screenshot shows the Microsoft Power BI interface with several data cards:

- Shipped Date**: Experimental card showing a count of 246.
- Status**: Experimental card showing a legend for Shipped (blue), Cancelled (red), In Process (green), On Hold (purple), Resolved (dark green), and Disputed (orange).
- Comments**: Experimental card showing a list of comments:
 - NULL
 - They want to reevaluate their terms agreement wi... 7 |
 - Customer requested that DHL is used for this ship... 6 |
 - Customer requested that FedEx Ground is used for... 4 |
 - Can we deliver the new Ford Mustang models by e... 3 |
 A "Show more" button is present.
- Customer Number**: Experimental card showing a histogram of customer numbers. The x-axis ranges from 100 to 500, and the y-axis ranges from 0 to 40+. The distribution is skewed right, with a peak around 150.
- Results**: 326 card showing a list of customer IDs (10343, 10422, 10144, 10107, 10341, 10358, 10381, 10102) with a "View all results" link.
- Linked objects** card showing a "Customer" object icon.

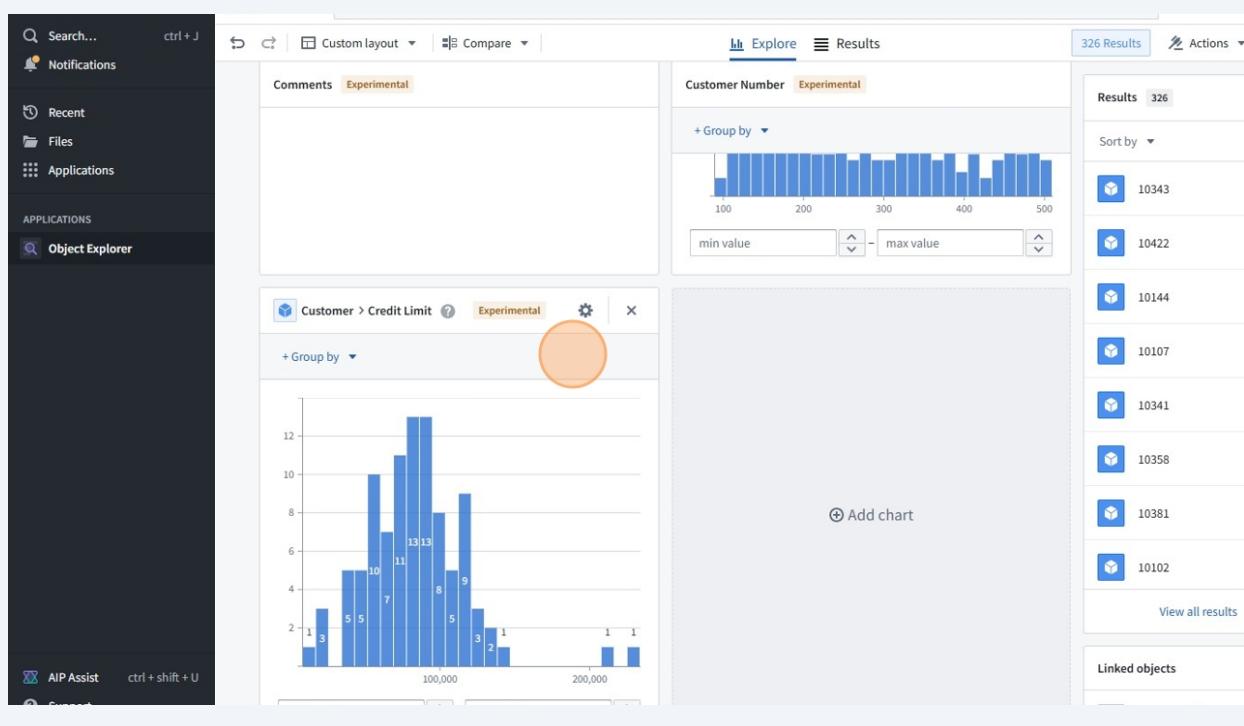
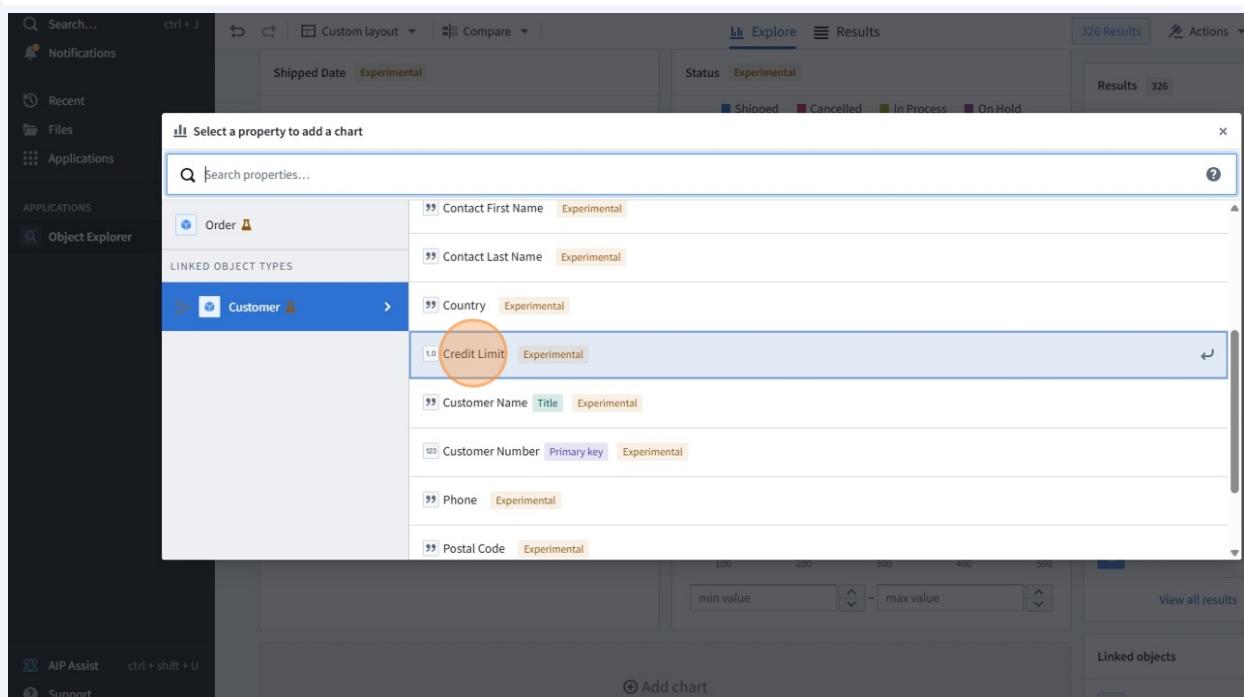
A central area contains a placeholder for a chart with a "+ Add chart" button.

The screenshot shows the Microsoft Power BI interface with the "Select a property to add a chart" dialog open over the main workspace:

Order card (selected):

- Properties:
 - Comments: Experimental
 - Customer Number: Experimental (highlighted with an orange circle)
 - Order Date: Experimental
 - Order Number: Primary key, Title, Experimental
 - Required Date: Experimental
 - Shipped Date: Experimental
 - Status: Experimental

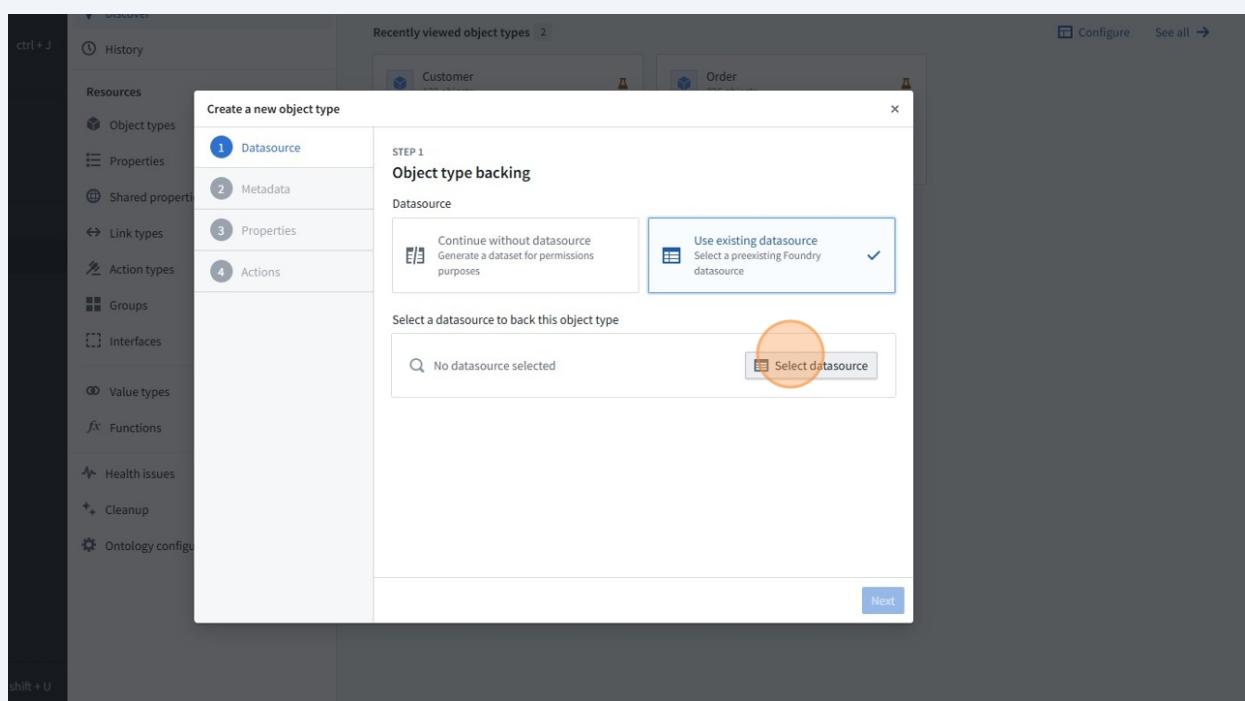
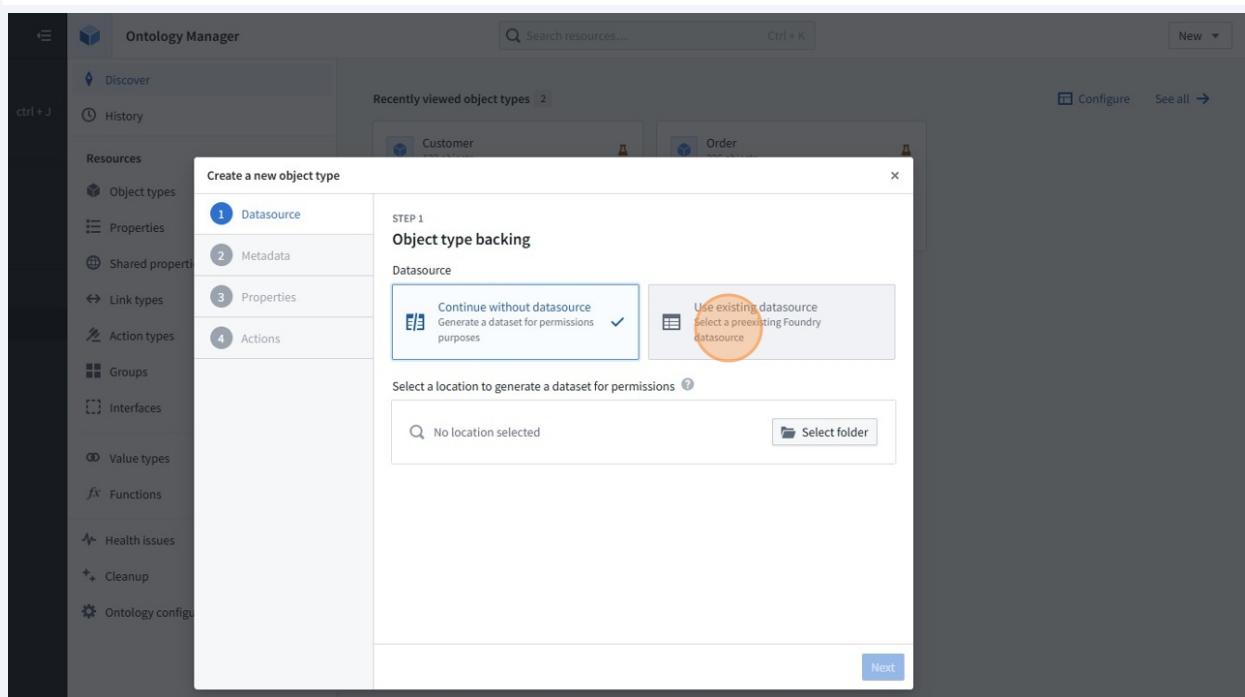
The main workspace shows the same data cards as the top screenshot, including the histogram and linked objects.

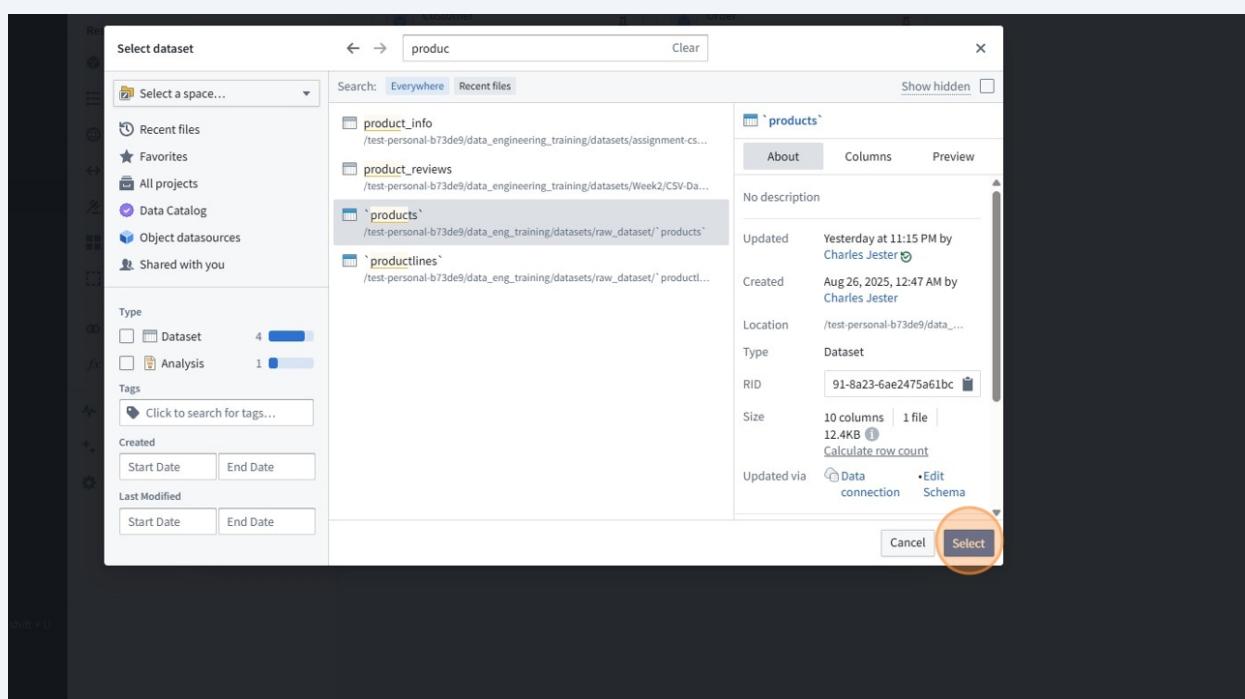
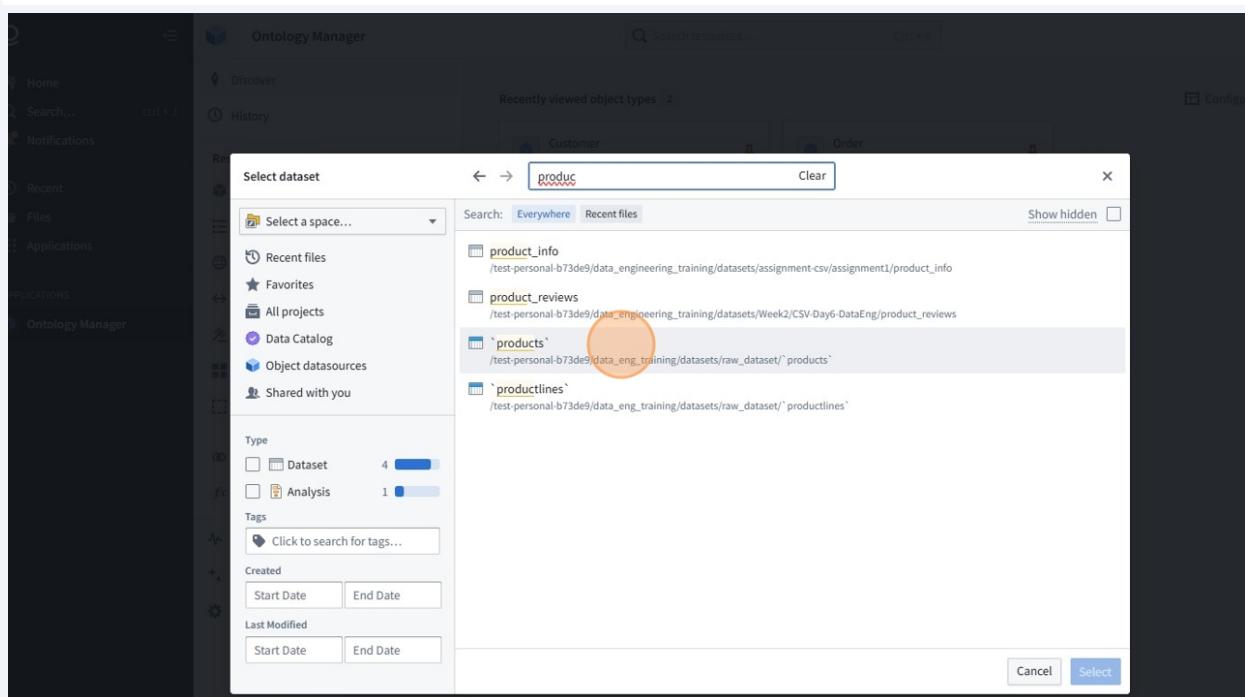


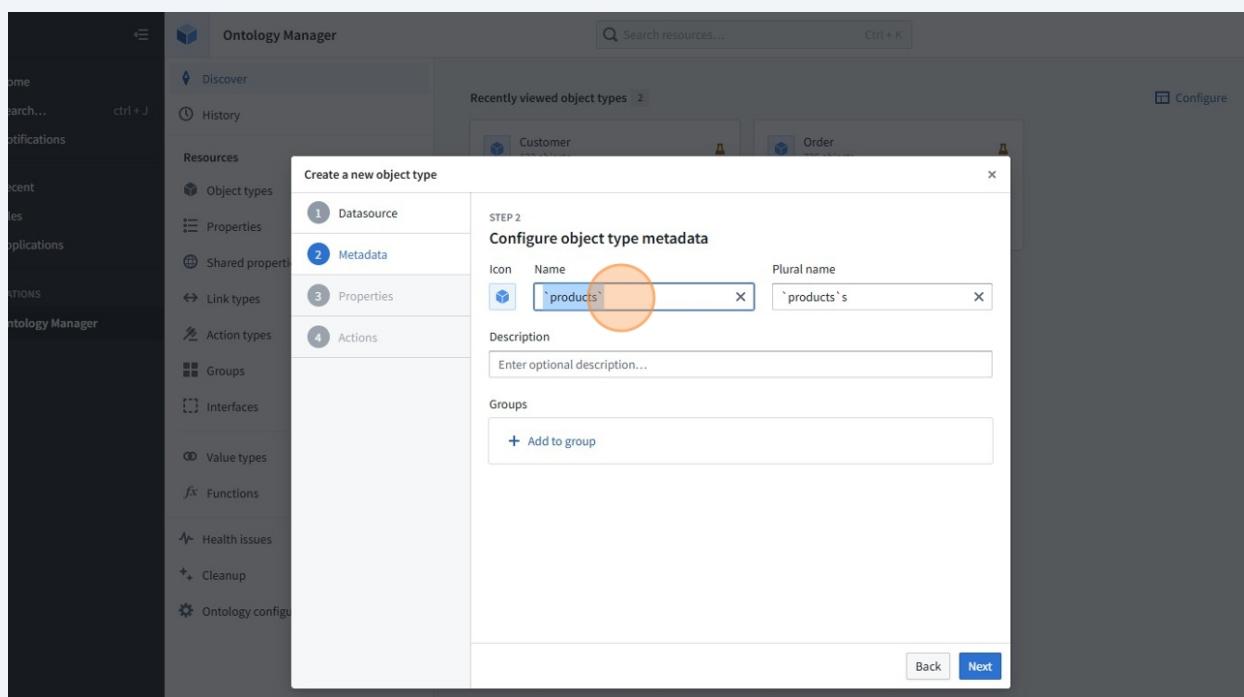
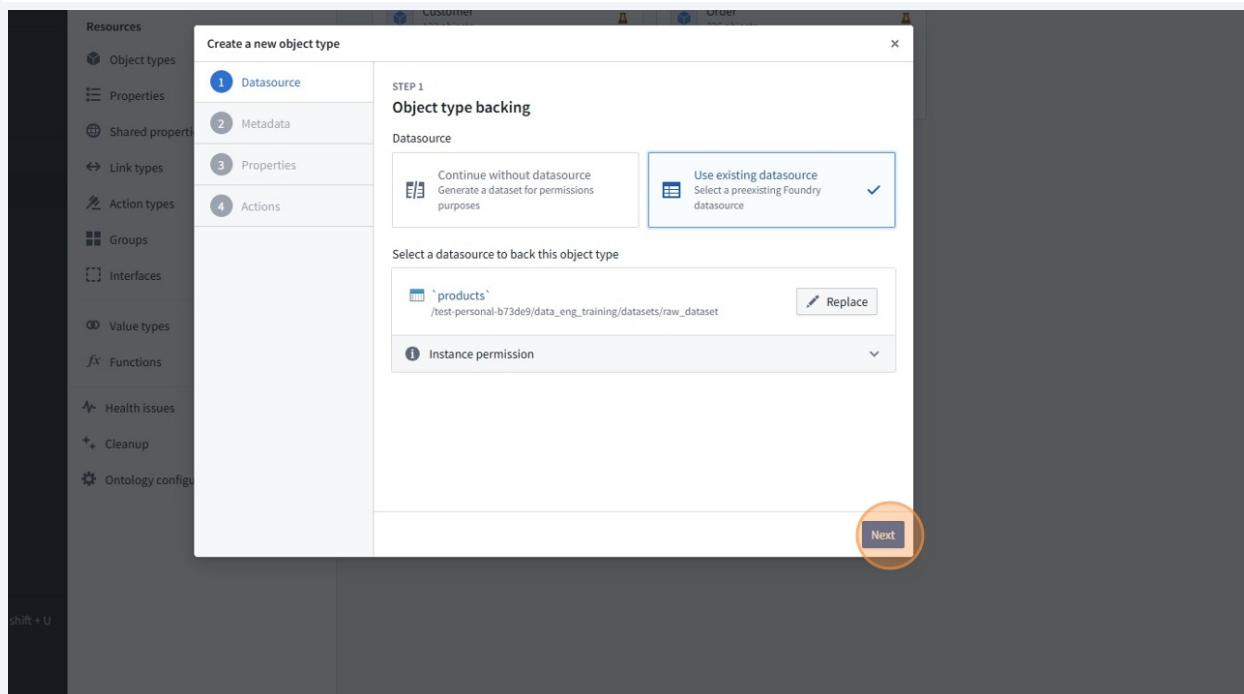
Now Let's Add Our Products & OrderDetails

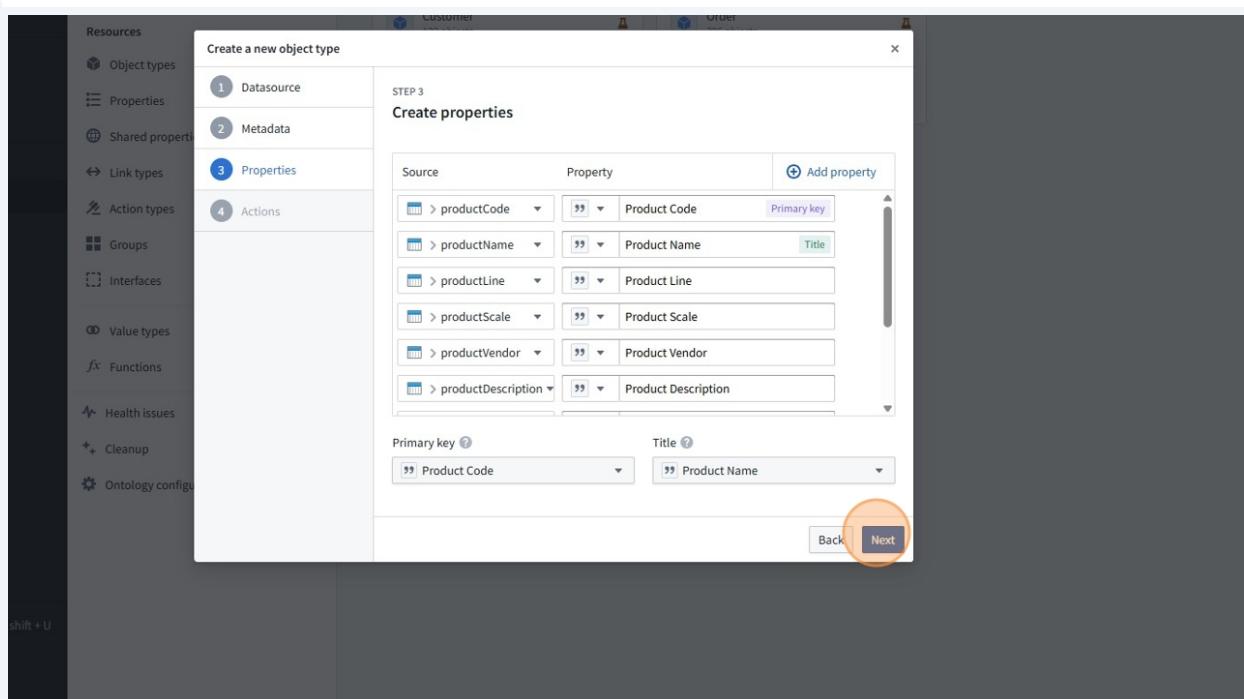
38

As there is nothing too special with our Products, other than I named the Object Type "Car" the process is effectively the same. As such, I've provided a slideshow of the steps in order as I did them as nothing else major has been changed.









Ontology Manager

Car
Object type - 0 objects

Properties 10

Plural name	Cars	Status	Experimental
Description	products database which contains the car information we need	Visibility	Normal
Aliases	Add aliases...	Edits	Disabled
Point of contact	None	ID	car
Contributors	None	RID	Set on save
Ontology	test-personal Ontology		
API name	Car		

Properties 10

- Product Code
- Product Name
- Product Line
- Product Scale

Action types 0

Preview objects **Preview table**

Edits are not included in this preview

Review changes

All changes (68) | Warnings | Errors | Migrations | Conflicts

Car

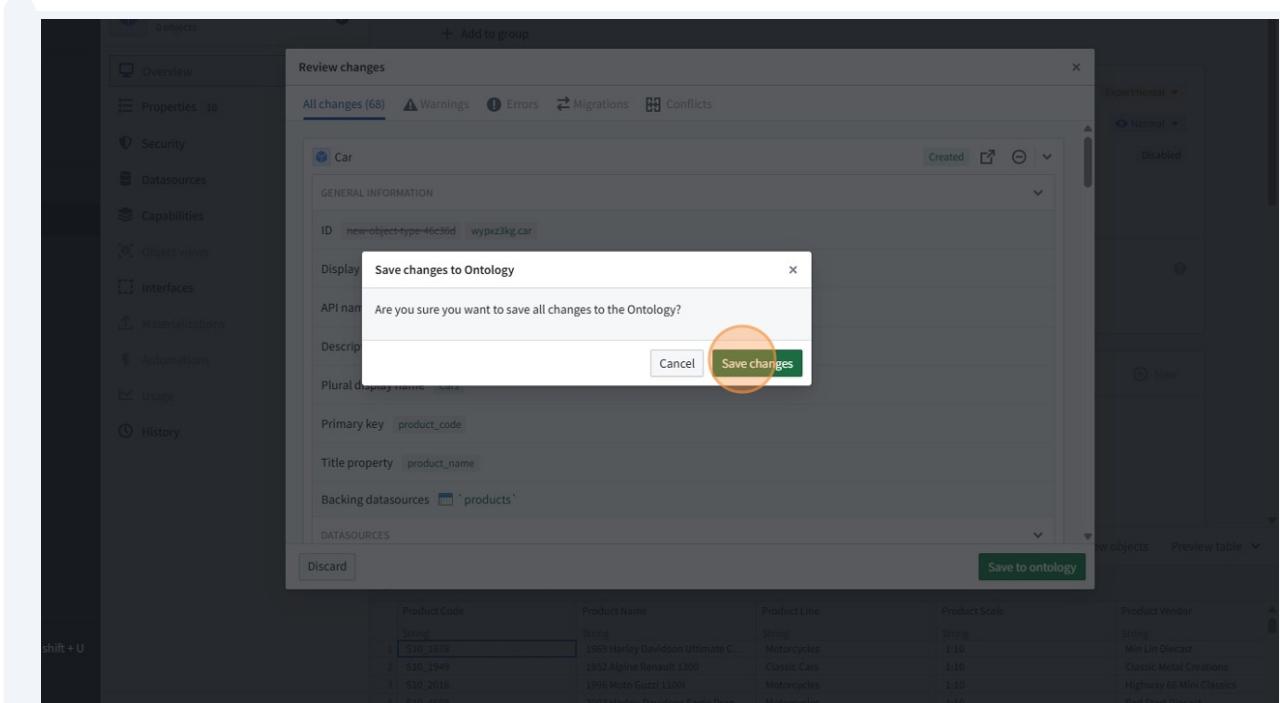
GENERAL INFORMATION

- ID: new-object-type-46c36d / wpxz3kg.car
- Display name: Car
- API name: NewObjectType / Car
- Description: products database which contains the car information we need
- Plural display name: Cars
- Primary key: product_code
- Title property: product_name
- Backing datasources: products

DATASOURCES

Product Code	Product Name	Product Line	Product Scale	Product Vendor
String	String	String	String	String
1 S10_1678	1969 Harley Davidson Ultimate C...	Motorcycles	1:10	Min Lin Diecast
2 S10_1949	1952 Alpine Renault 1300	Classic Cars	1:10	Classic Metal Creations
3 S10_2016	1996 Moto Guzzi 1100i	Motorcycles	1:10	Highway 66 Mini Classics
4 S10_4698	2003 Harley-Davidson Eagle Drag ...	Motorcycles	1:10	Red Start Diecast

Discard **Save to ontology**



Alert! Note, we have an issue with our `orderdetails` table as it does not contain a primary key, only a composite key, meaning two columns make a record unique. We need to create a column for a `compositeKey` that will truly be our primary key for our table. This will be outlined later, below is the failure you'd see had you attempted to normally create Order Details with this table.

This is **IMPORTANT** to note that you should always make sure your data is cleaned before incorporating into Ontology to prevent these types of headaches.

39 Click "Running initial sync"

The screenshot shows the Ontology Manager interface. On the left, a sidebar lists various options like Properties, Security, Datasources, Capabilities, Object views, Interfaces, Materializations, Automations, Usage, and History. The main area displays the 'Order Details' object type. Key details shown include:

- Plural name: Order Details
- Description: order details containing the product id and information related to the order quantity price and product
- Aliases: Add aliases...
- Point of contact: CJ
- Contributors: CJ
- Ontology: test-personal Ontology
- API name: OrderDetails
- Status: Experimental
- Visibility: Normal
- Index status: Running initial sync (highlighted)
- Edits: Disabled

Below this, there are sections for Properties (Order Number, Order Line Number, Price Each, Product Code) and Action types. At the bottom, a note says "Edits are not included in this preview".

40 Click "Changelog"

The screenshot shows the Object Storage interface. On the left, a sidebar lists Options, Properties, Security, Datasources (selected), Capabilities, Object views, Interfaces, Materializations, Automations, Usage, and History. The main area displays the 'Object Storage' service. Key details shown include:

- Backend service: Object Storage
- Data: Running initial sync
- Schema: Up to date

Below this, the 'Live pipeline' section shows a diagram of nodes: orderdetails → Changelog → Merge changes. The 'Changelog' node is highlighted with a red circle and labeled "Failed 1 minute ago".

At the bottom, there's a section to "Monitor the health of this object type" with a "Monitor this object type" button.

41 Click this '...' and select "View Job Details"

42 As you see here, the dataset has duplicate primary keys, this is because none of the columns in our orderdetails acts as a primary key.

Pipeline Builder to Object Type

43

Navigate in your file system to the orderdetails dataset (where you have saved it). Now look for the option to "Explore pipeline".

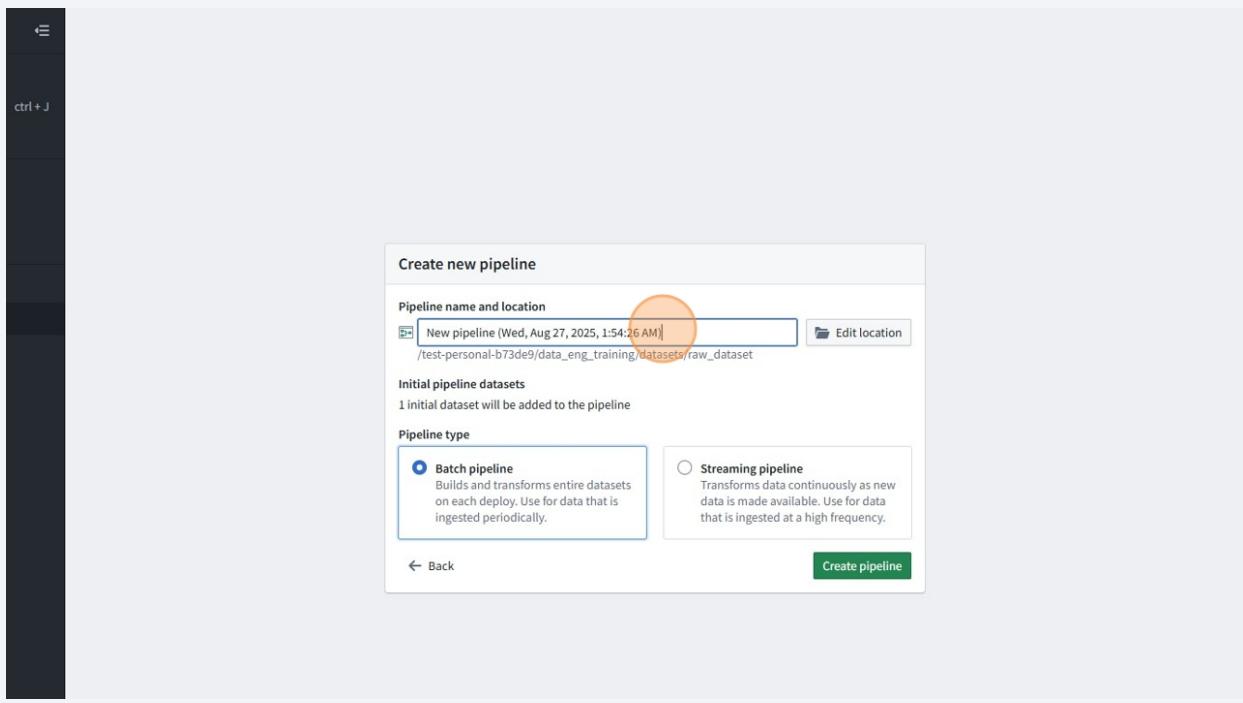
The screenshot shows the Azure Data Studio interface with the 'orderdetails' dataset selected. The left sidebar displays dataset details like 'About', 'Columns', 'Schedules', and 'Tags'. The main area shows a preview of the dataset with columns: orderNumber, productCode, quantityOrdered, and lineNumber. A tooltip above the 'Explore pipeline' button says 'Use a pipeline to transform this data'. The 'Explore pipeline' button itself is highlighted with a red circle.

44

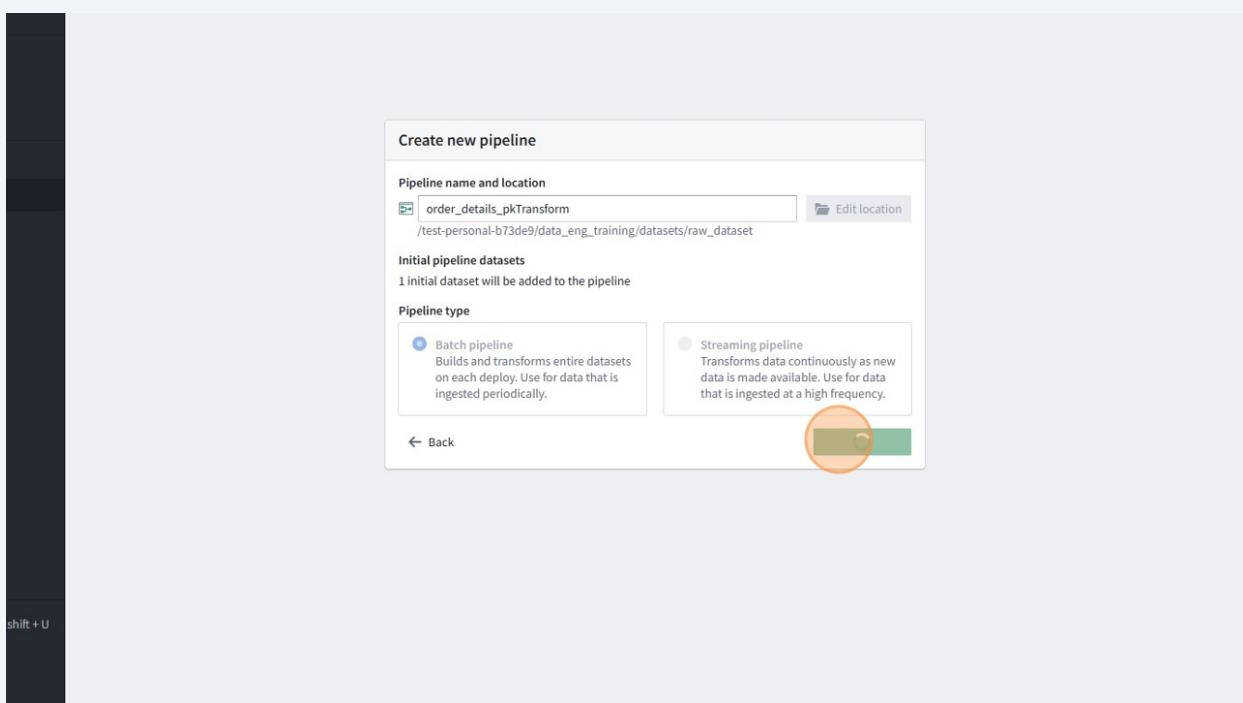
Now select "Create new pipeline"

The screenshot shows the same Azure Data Studio interface as the previous one, but the 'Explore pipeline' dropdown menu is open. The 'Create new pipeline' option is highlighted with a red circle. Other options in the menu include 'Explore data lineage' and 'Manage Schedules'.

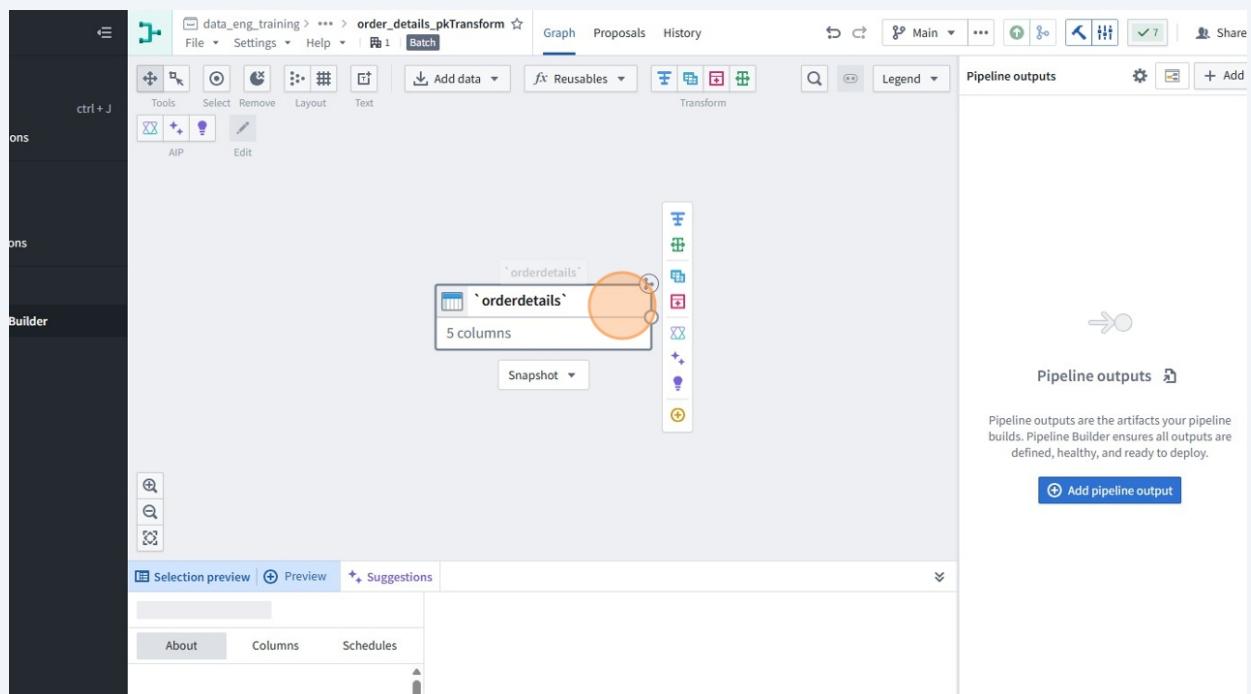
45 Rename the pipeline to "order_details_pkTransform"



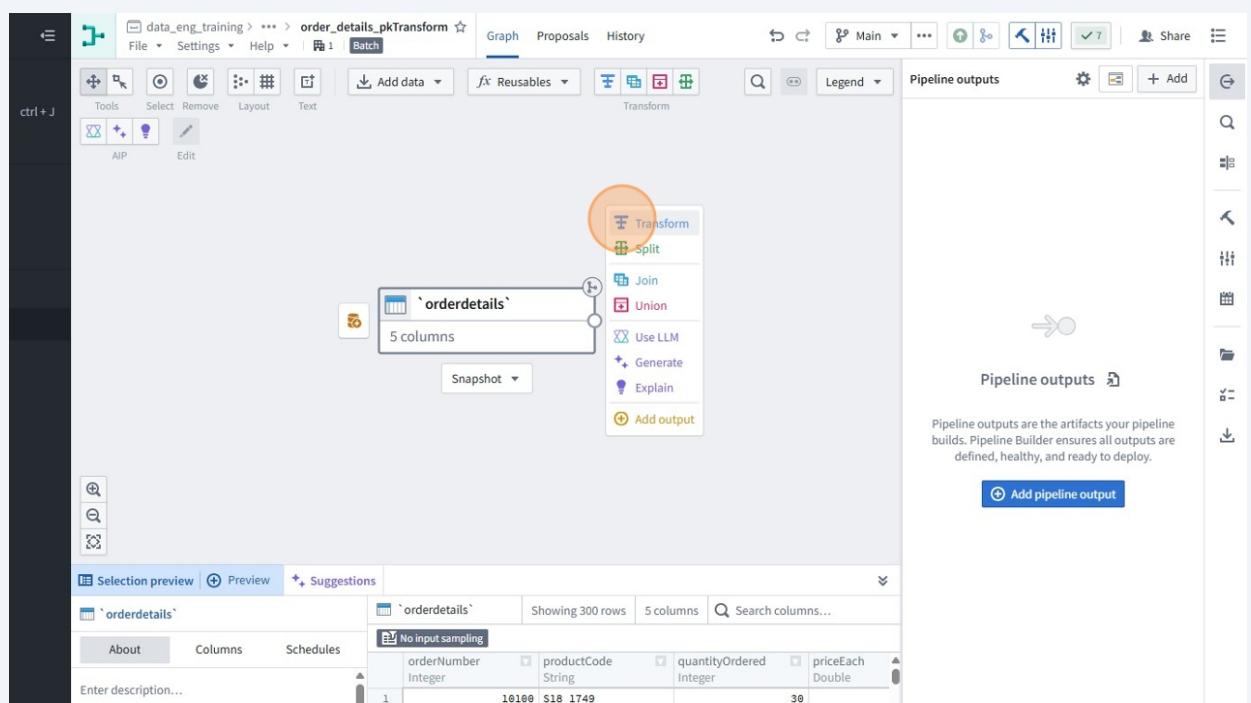
46 Click "Create pipeline"



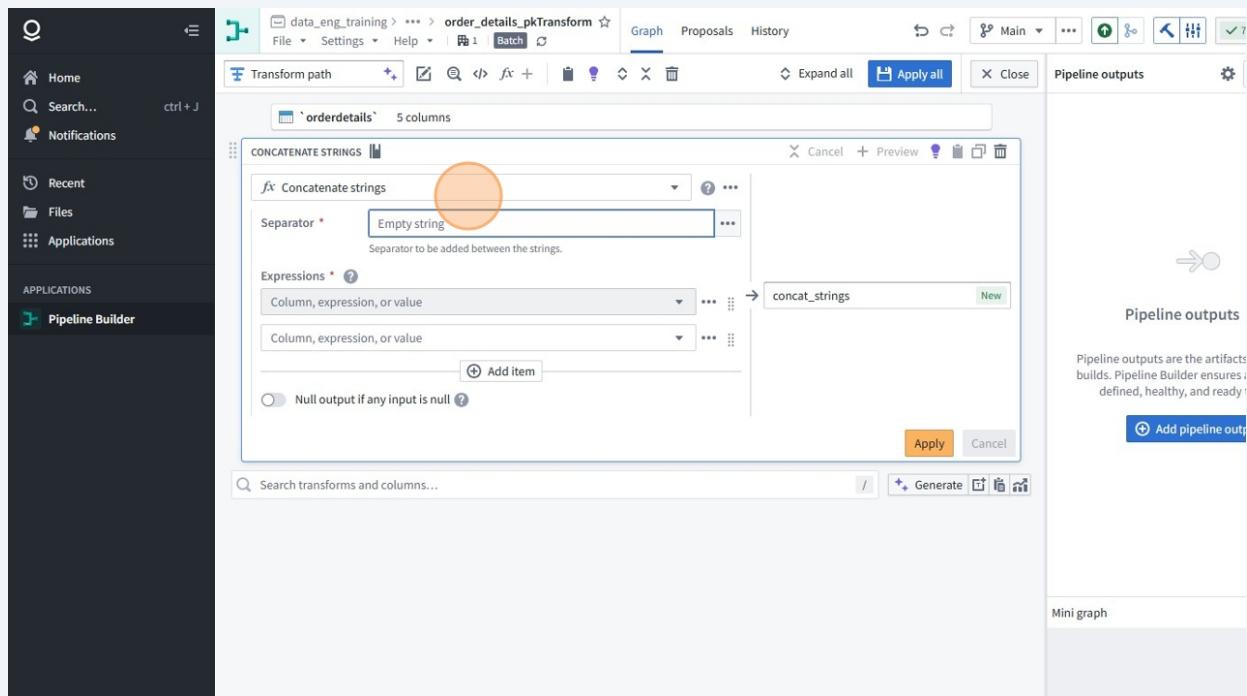
47 Select the orderdetails block.



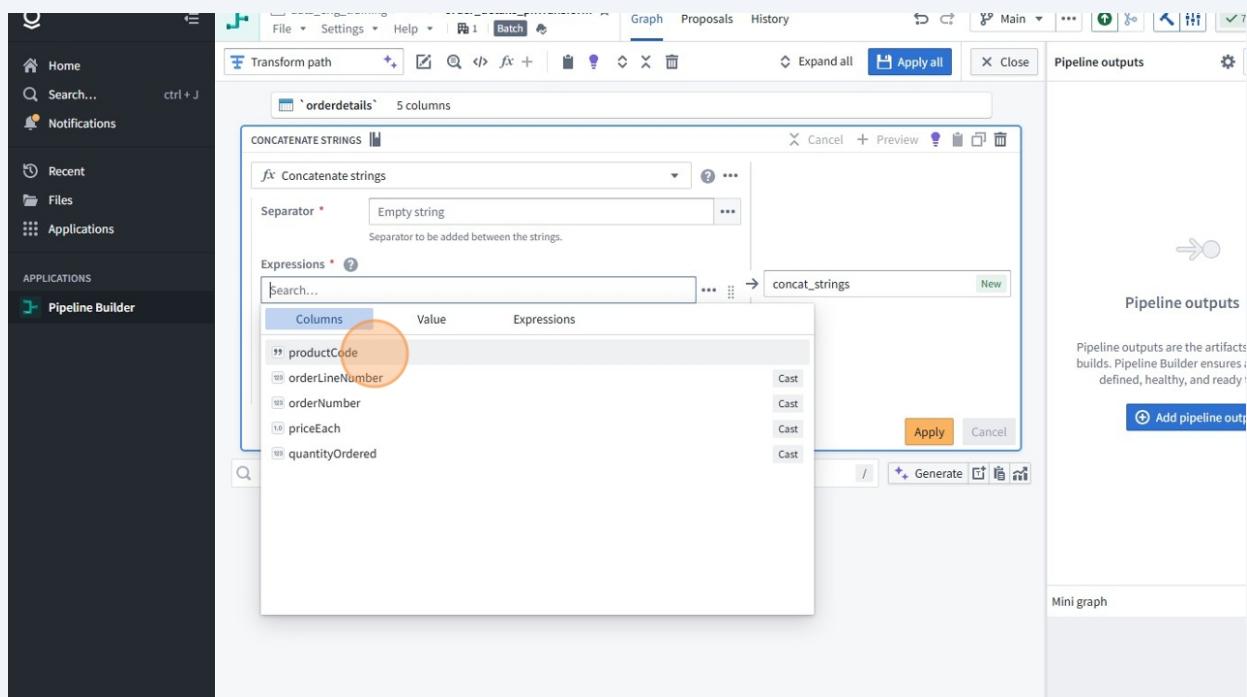
48 Click "Transform"



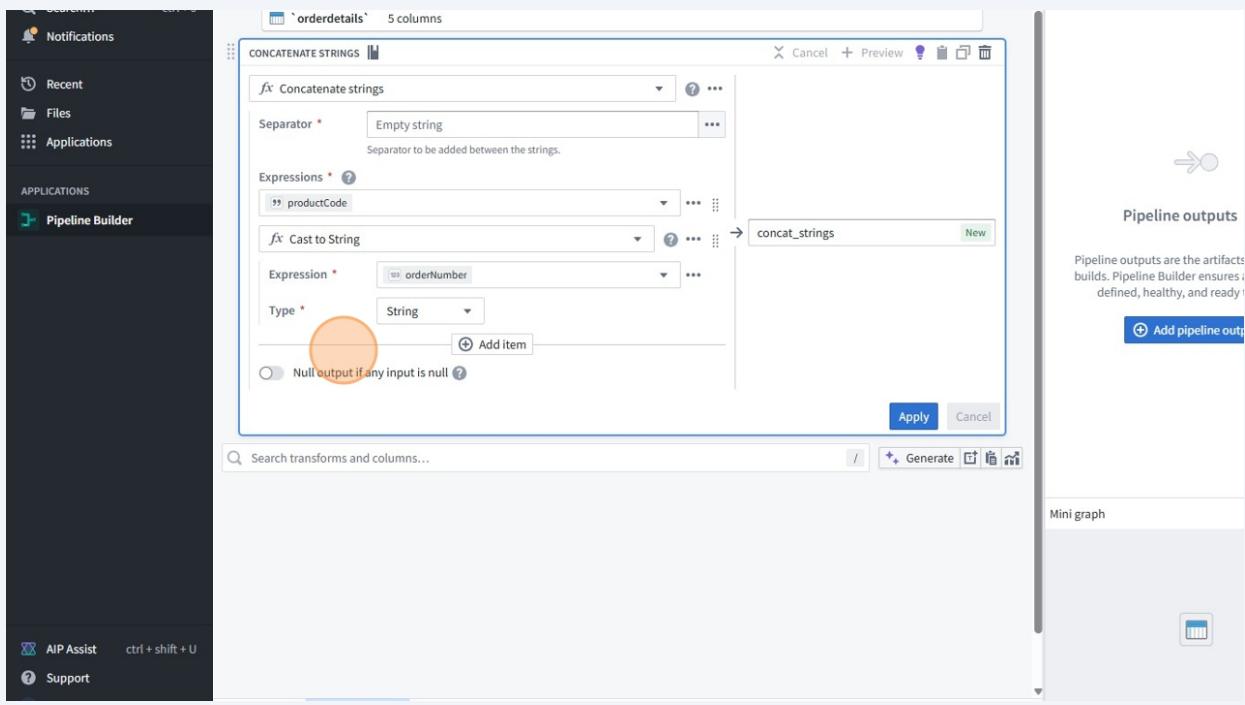
49 Search for & Click "Concatenate strings"



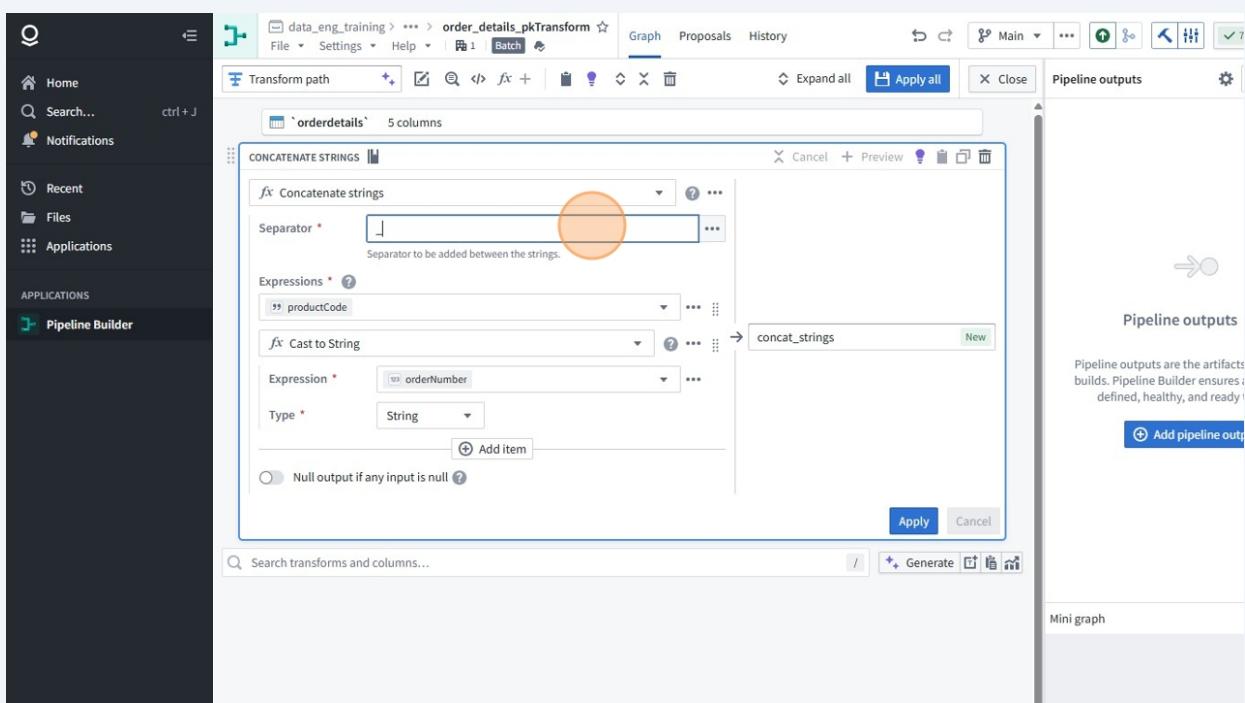
50 Click "Column, expression, or value" & Select "productCode"



51 Click "Column, expression, or value" & Select "orderNumber"

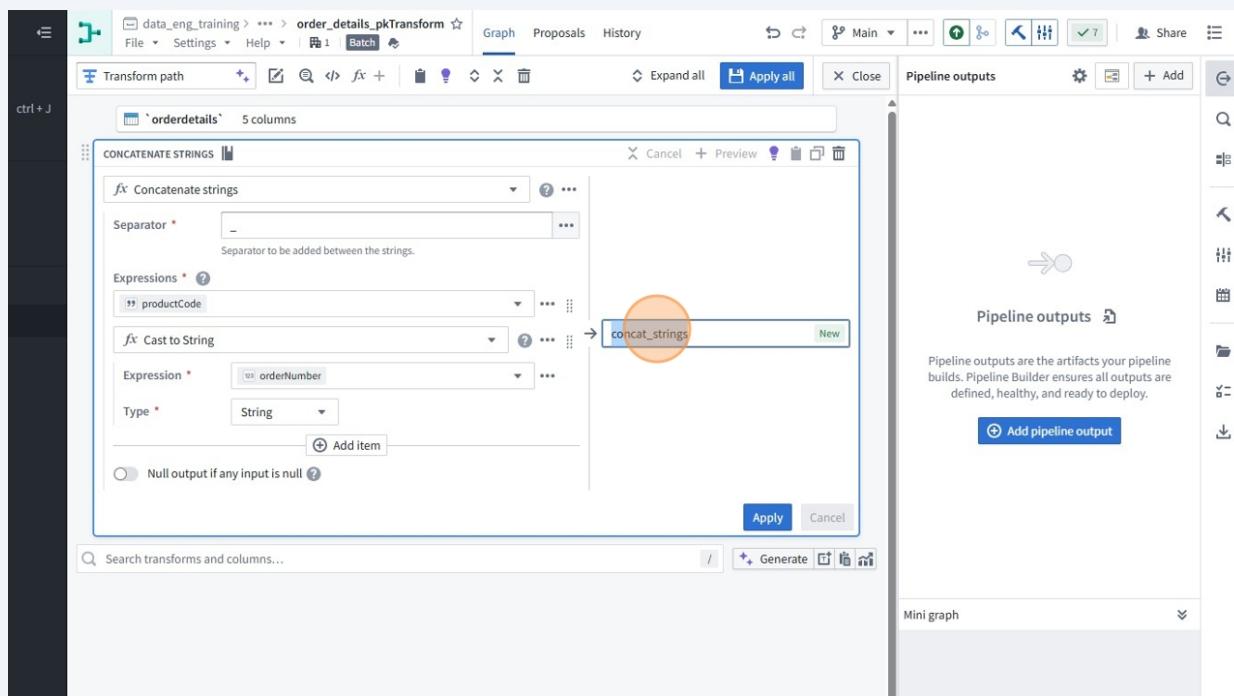


52 In the Separator, use a '_' to separate the concatenated strings.



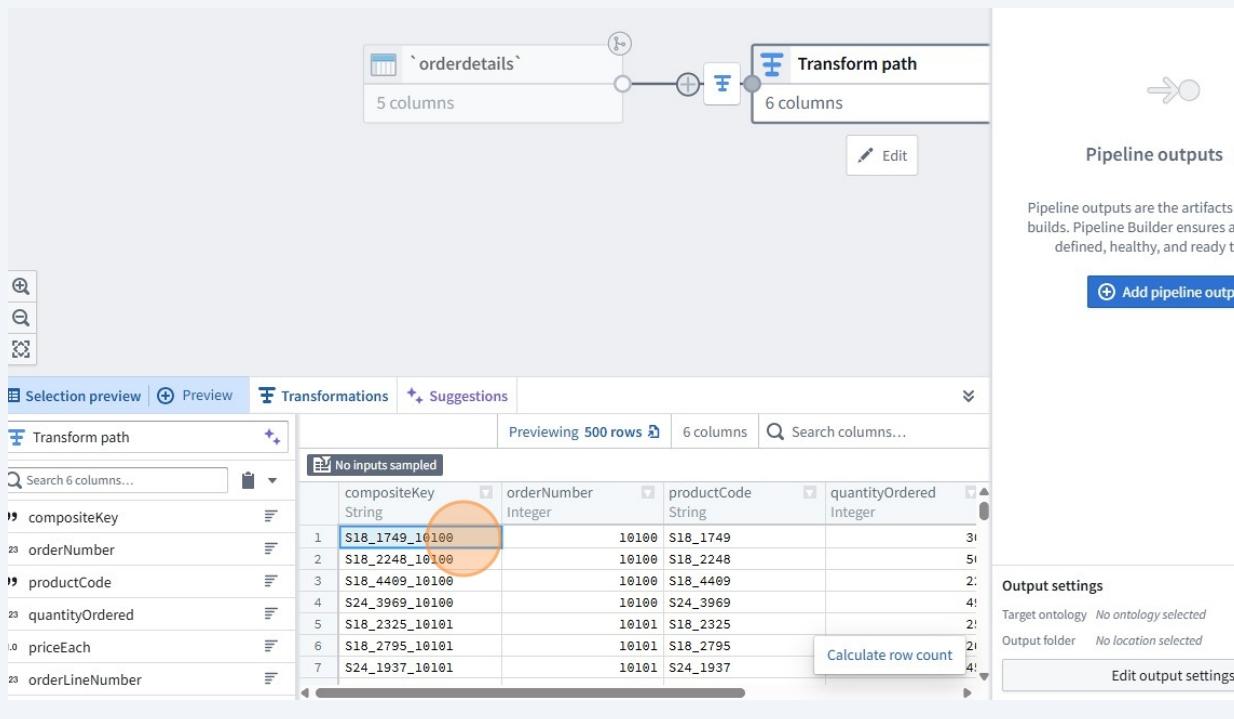
53

Click the "concat_strings" field, and rename it to "compositeKey" then click "Apply" then click "Close"

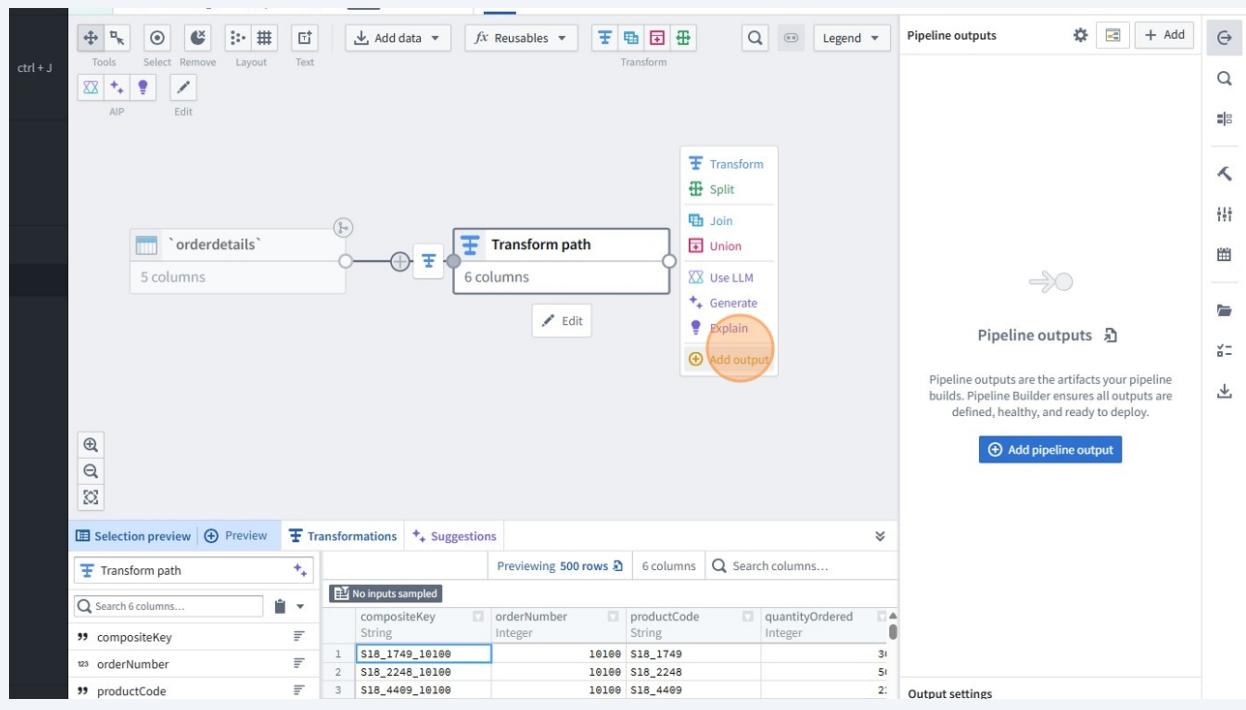


54

Wait a few seconds and the preview for our new transform path should show our primary key labeled 'compositeKey'.

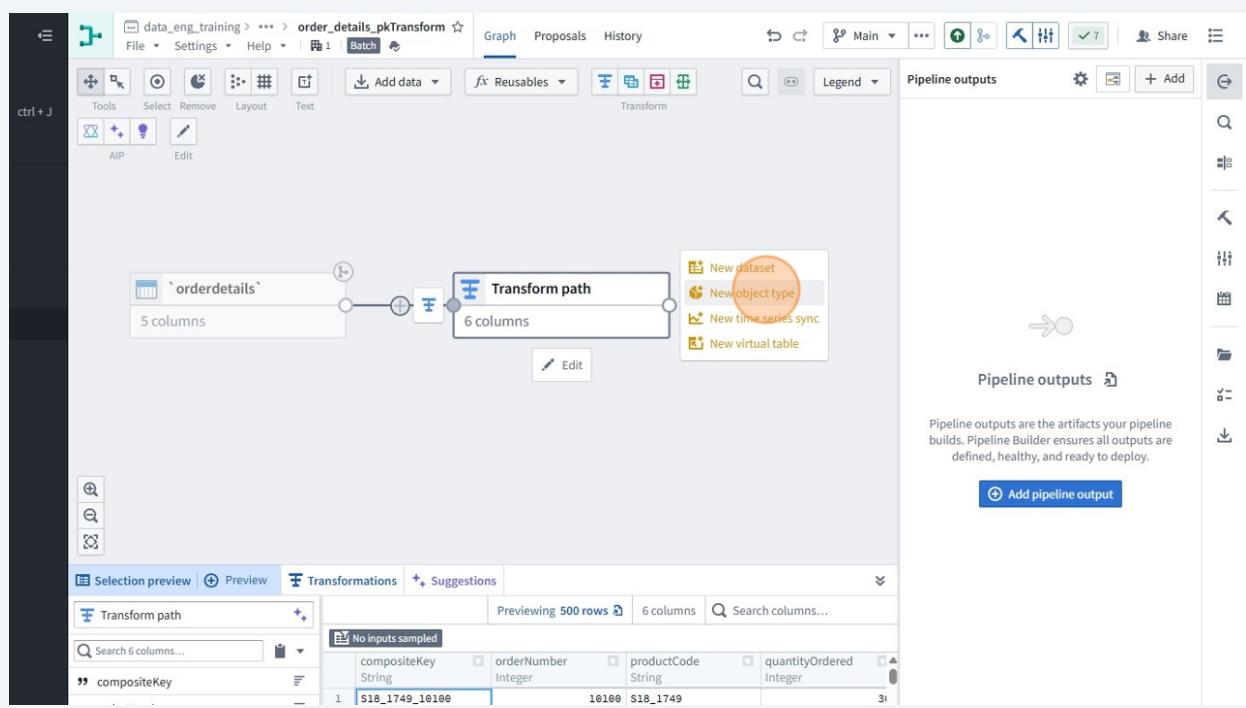


55 Now let's select "Add output"



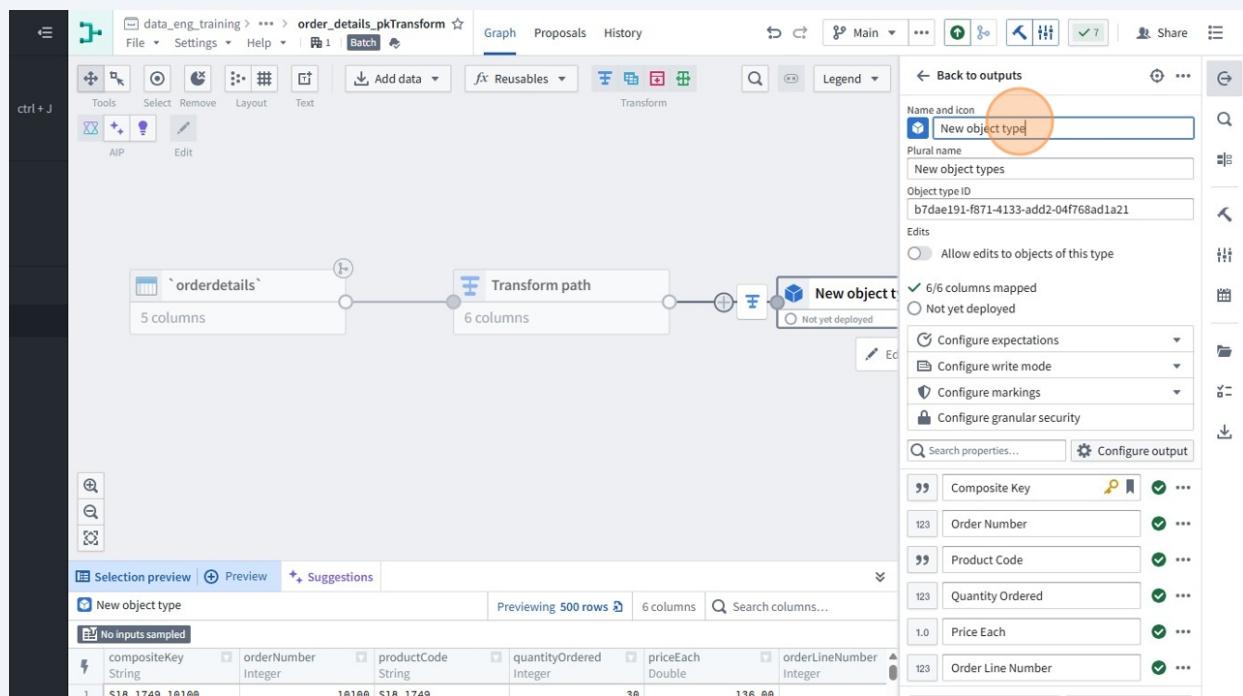
The screenshot shows the Pipeline Builder interface. A 'Transform path' node is selected, and its context menu is open, with the 'Add output' option highlighted by a red circle. The pipeline preview shows an input dataset 'orderdetails' with 5 columns and an output with 6 columns. The transformations pane shows the 'Transform path' step. The pipeline outputs panel indicates there are no pipeline outputs yet.

56 Choose "New object type"

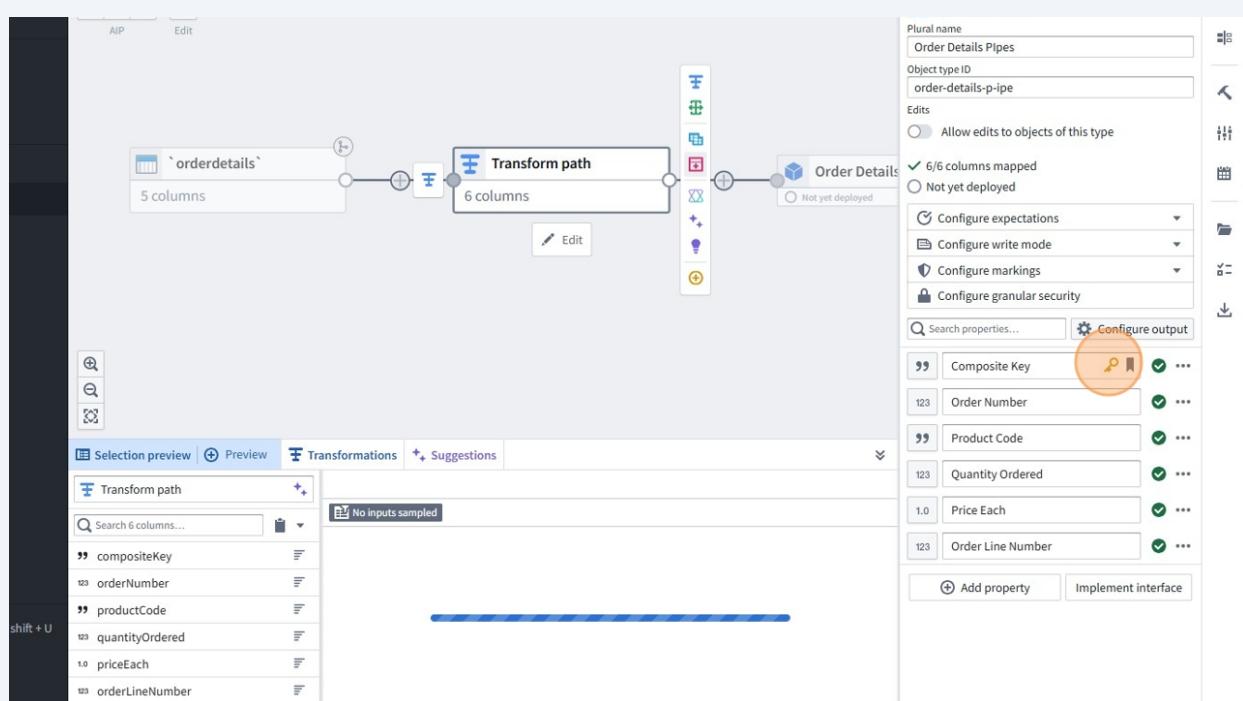


The screenshot shows the Pipeline Builder interface. A 'Transform path' node is selected, and its context menu is open, with the 'New object type' option highlighted by a red circle. The pipeline preview shows an input dataset 'orderdetails' with 5 columns and an output with 6 columns. The transformations pane shows the 'Transform path' step. The pipeline outputs panel indicates there are no pipeline outputs yet.

- 57 Click the "Name..." field and replace it with "Order Details Pipe"

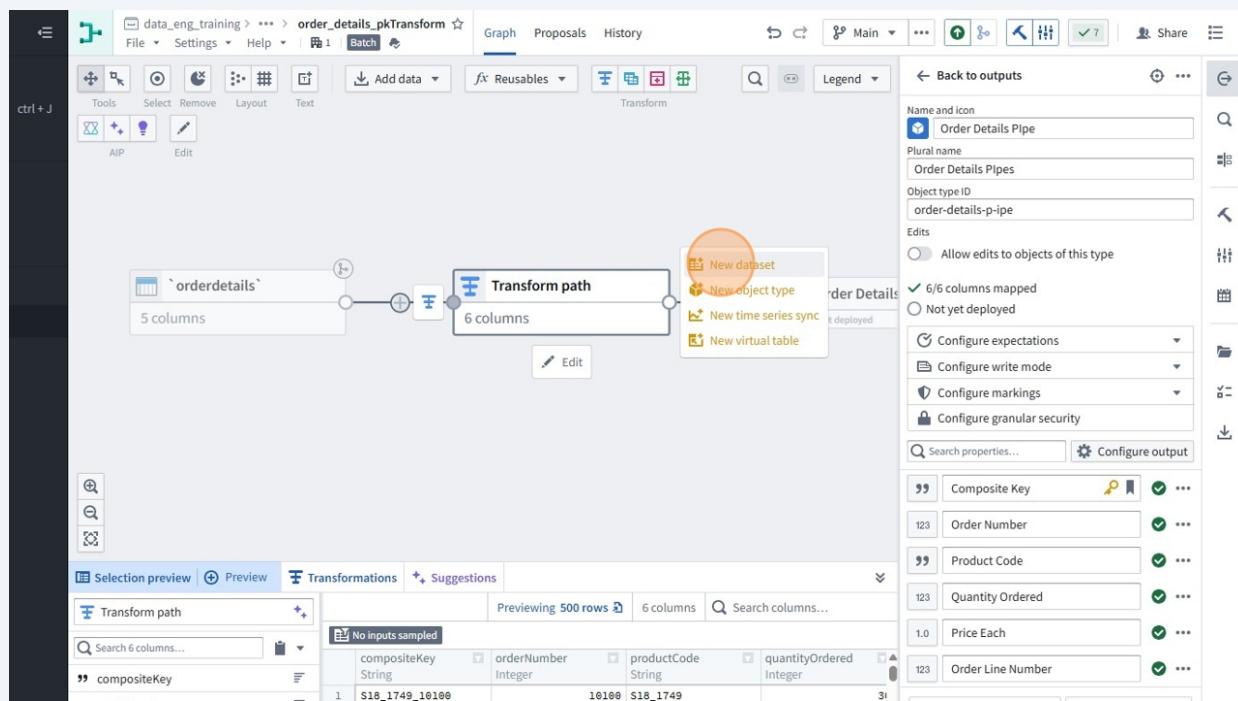


- 58 You should see these icons next to our "Composite Key" for primary key and title.



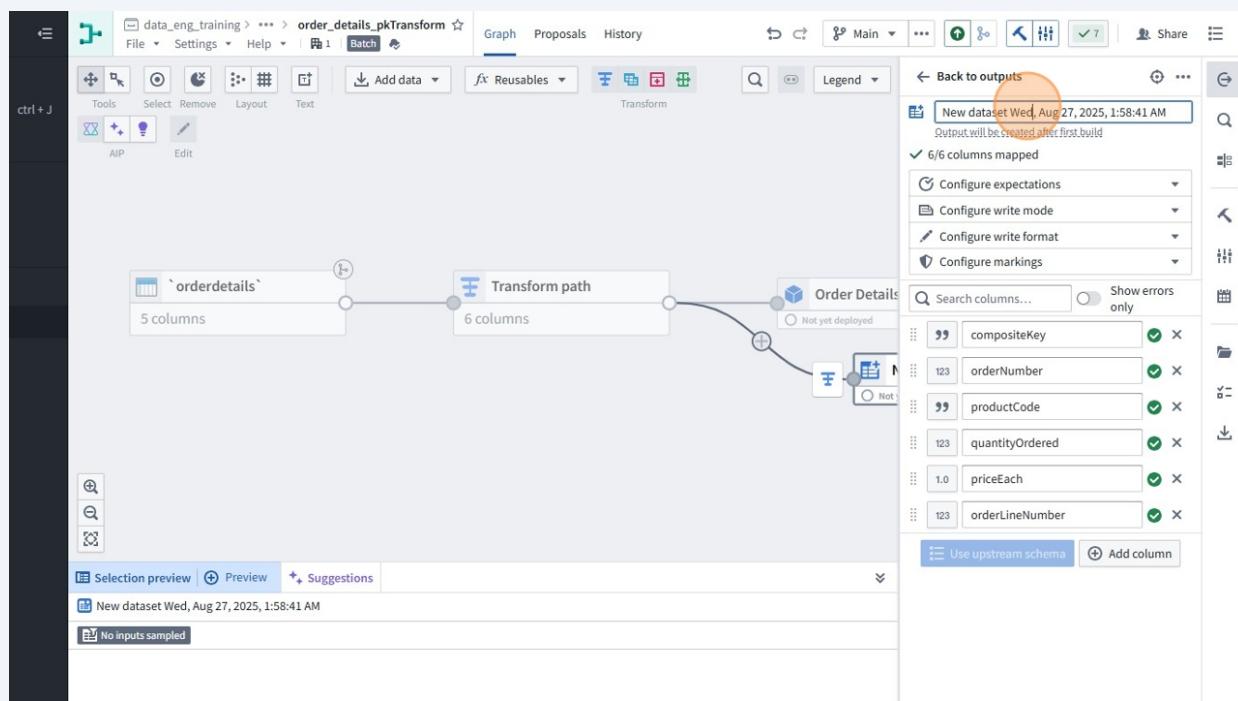
59

Let's go ahead and also make a newly transform dataset output from this pipeline, just because, so click the output for our "Transform Path" and navigate through to "New dataset"

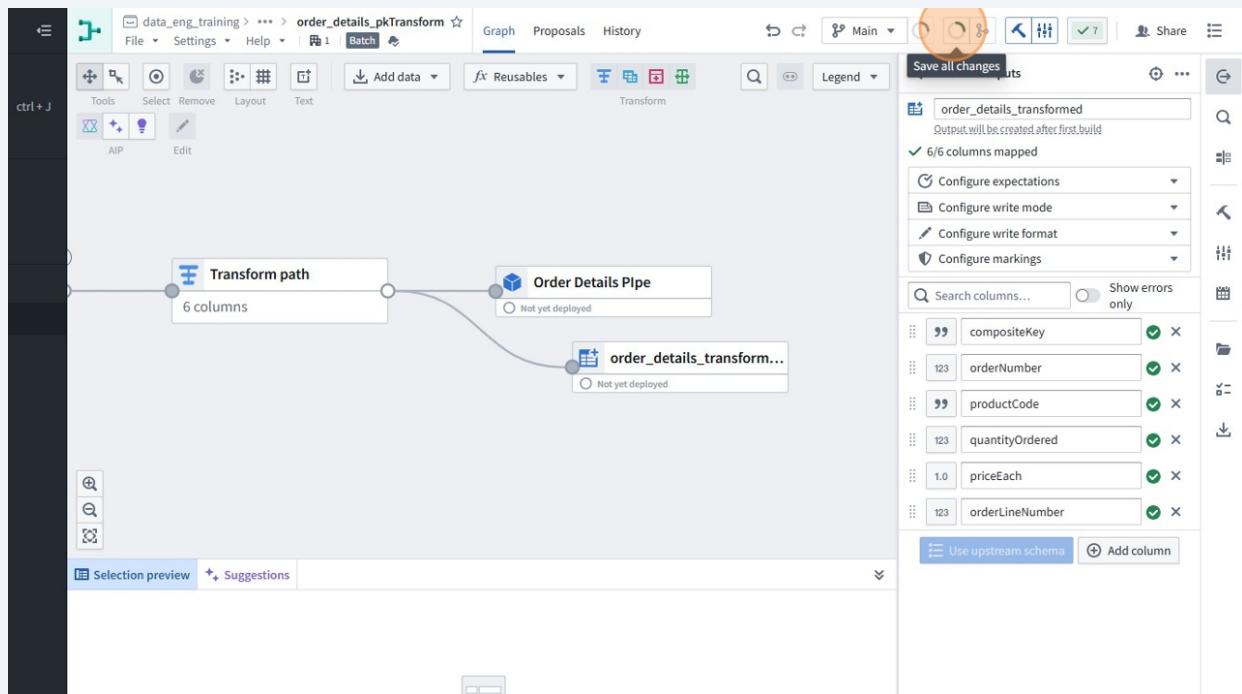


60

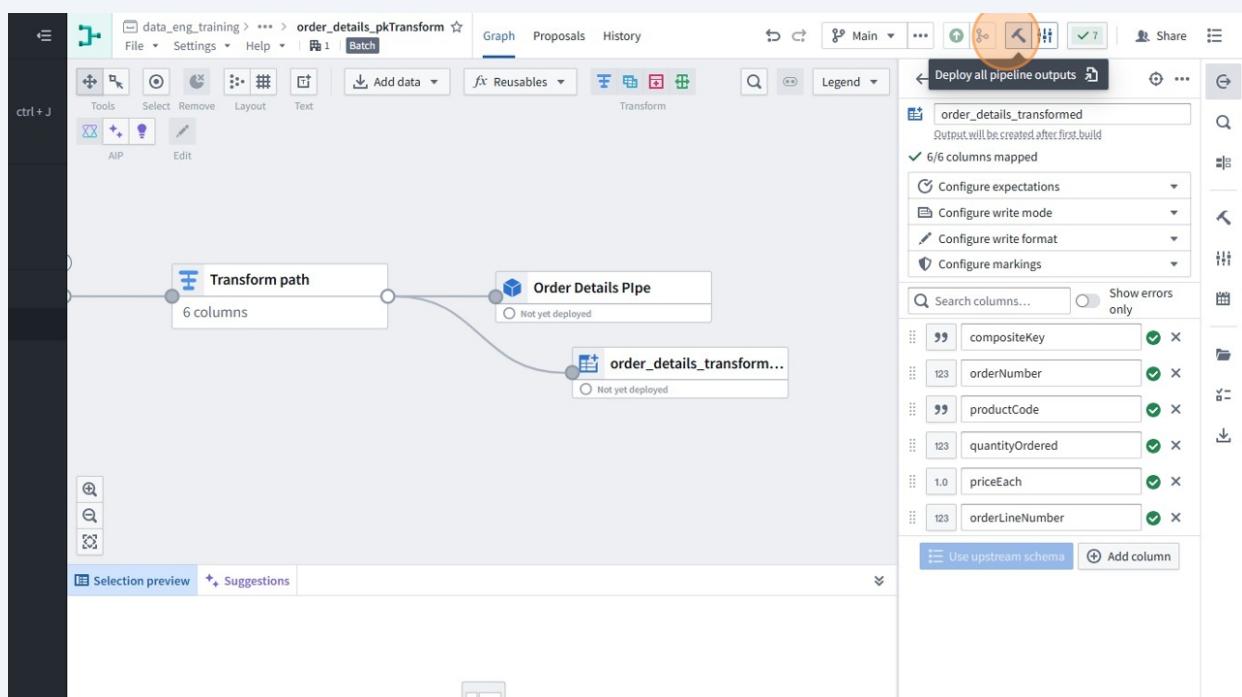
Rename this dataset "order_details_transformed"



61 Click the green circle with arrow icon to "Save all changes".

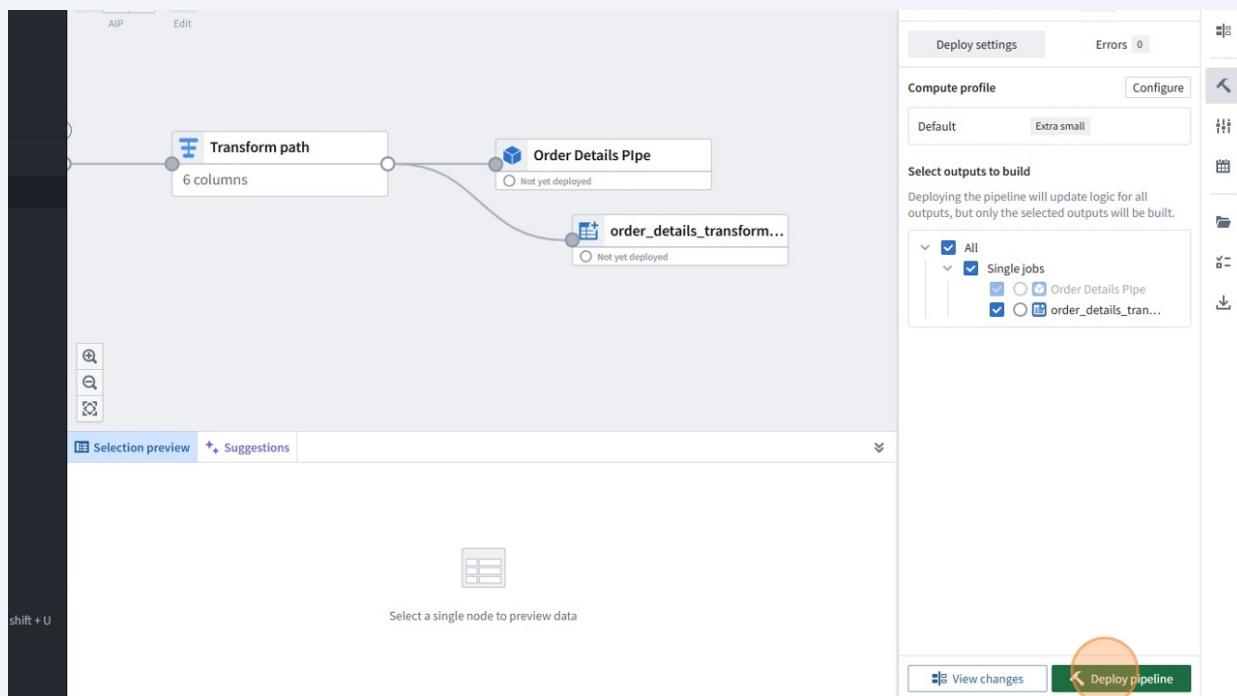


62 Once this is done saving, click the hammer icon to build & deploy our newly created pipeline.



63

Leave everything checked and Click "Deploy pipeline". This should take a few minutes.



Best Practice:

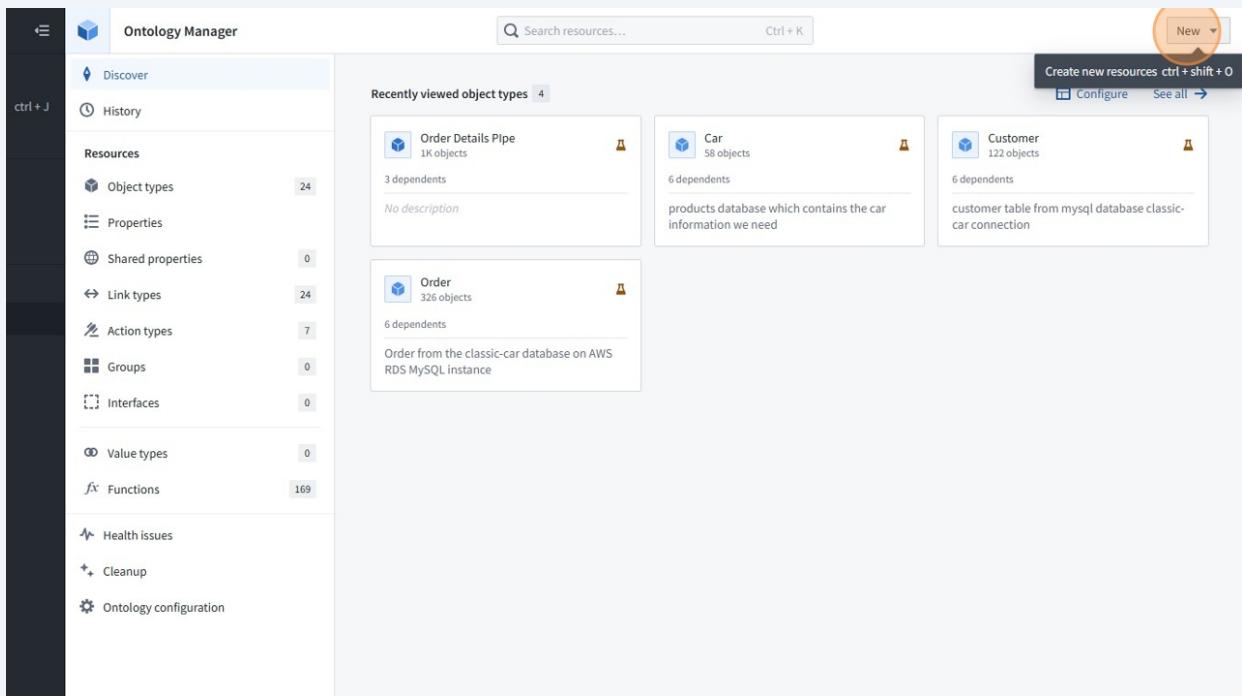
The preferred practice is to use Pipeline Builder to transform and prepare your data, creating a clean dataset as an intermediate step. This separates the data engineering work from the semantic modeling. The Ontology Manager should then be used to create an object type from this prepared dataset, turning the rows and columns into meaningful business entities. This two-step process is a best practice because it ensures a clear, auditable data lineage and results in a clean, reusable "data product" that can back a robust and scalable Ontology.

Here are the key reasons for this approach:

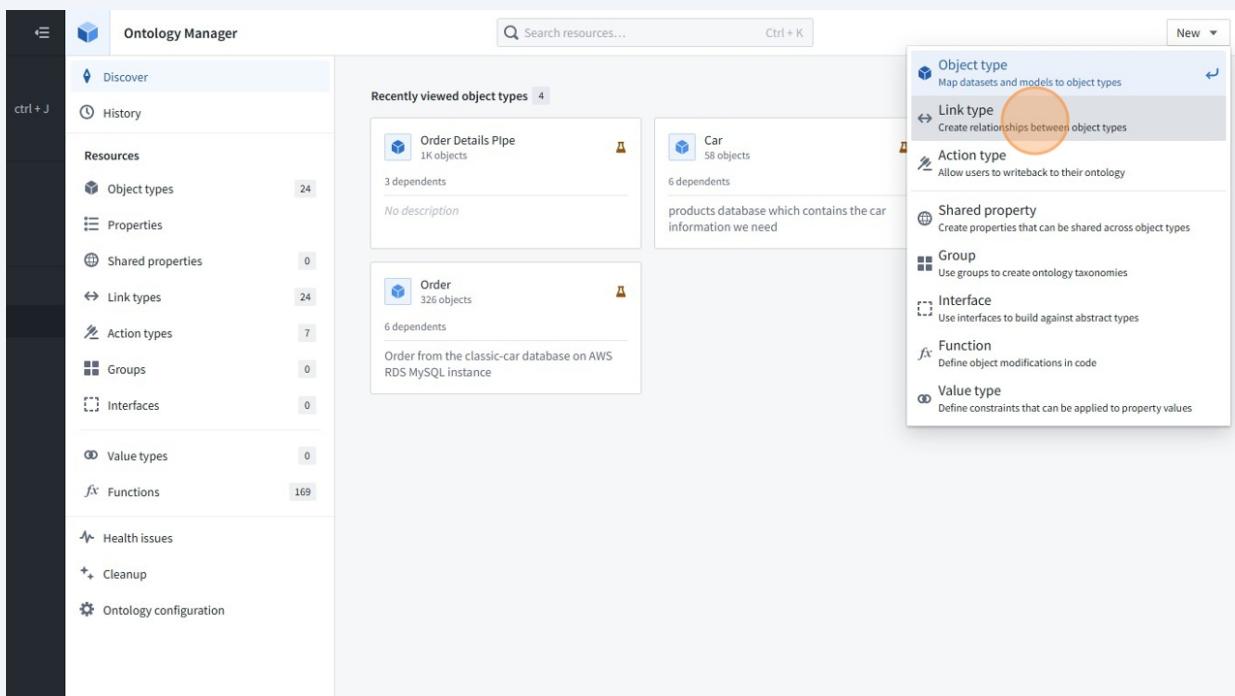
- **Separation of Concerns:** It keeps the data transformation logic of the pipeline distinct from the semantic modeling of the Ontology, creating a cleaner and more maintainable architecture.
- **Data Integrity and Governance:** The transformed dataset serves as a materializable "data product" that can be validated for quality before it is used to create objects, ensuring a clear and auditable lineage.
- **Reusability and Scalability:** A clean, prepared dataset can be reused to back multiple object types or in other analyses, preventing the Ontology from becoming cluttered with highly specific, one-off objects.

Time to Link Order, OrderDetails and Car (Product)

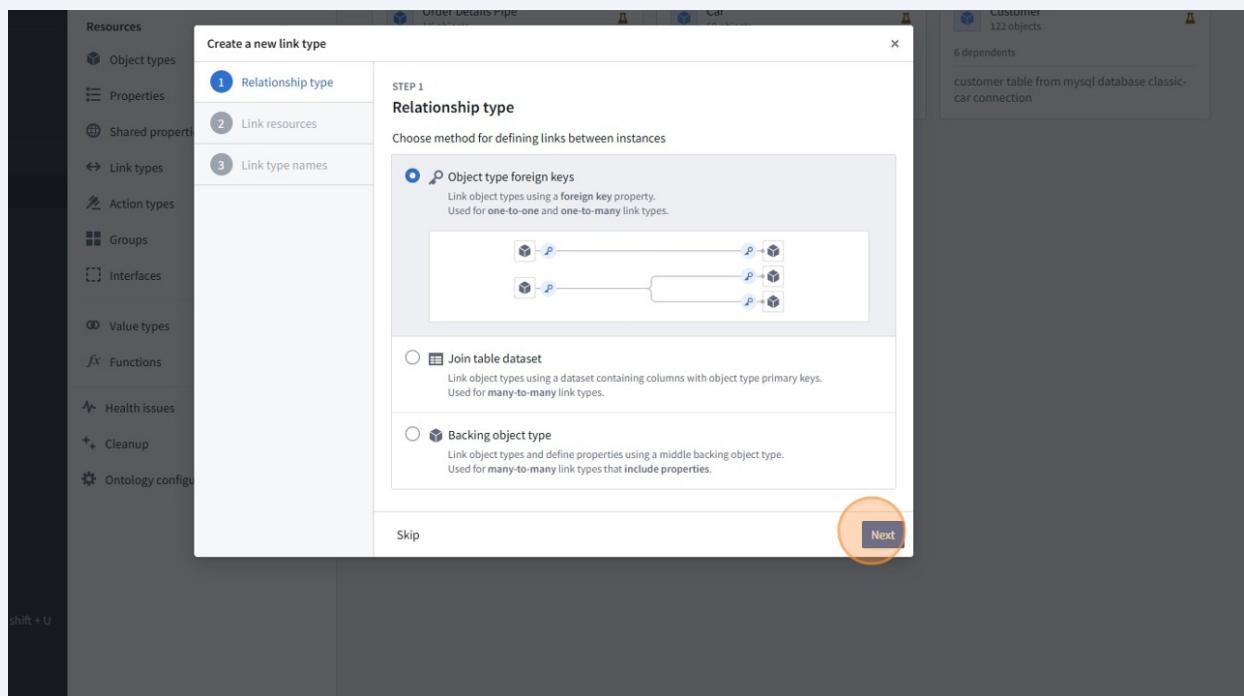
64 Click "New"



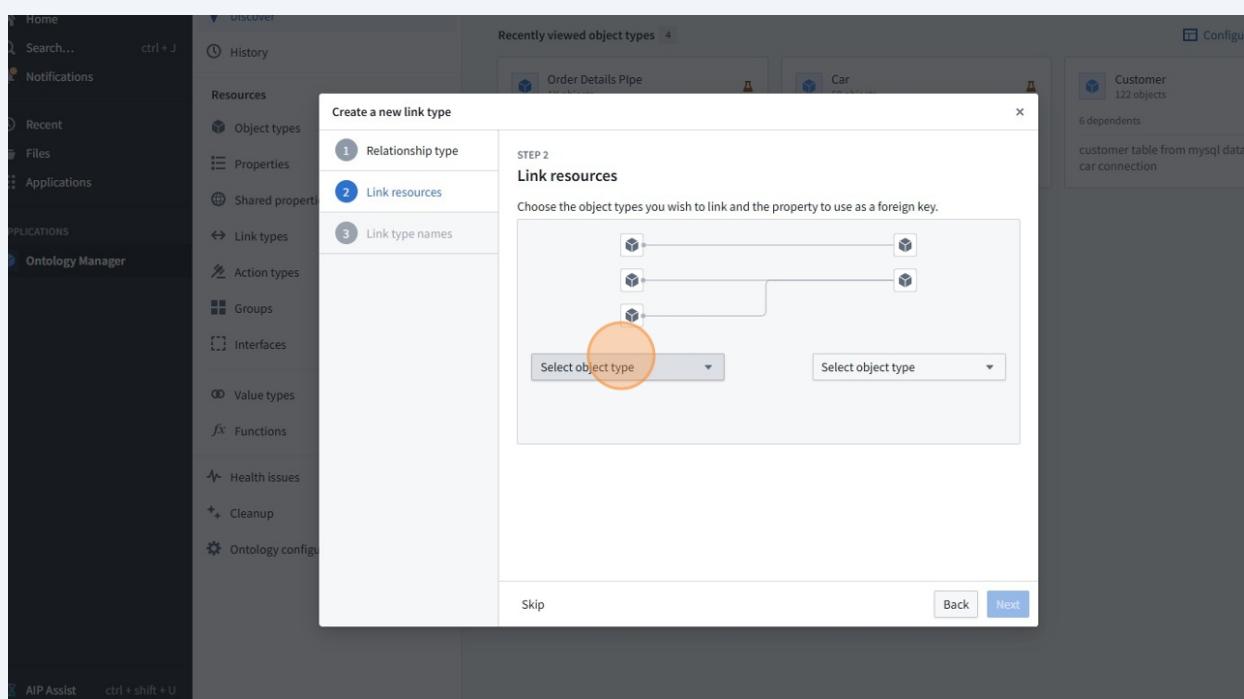
65 Click "Create relationships between object types"



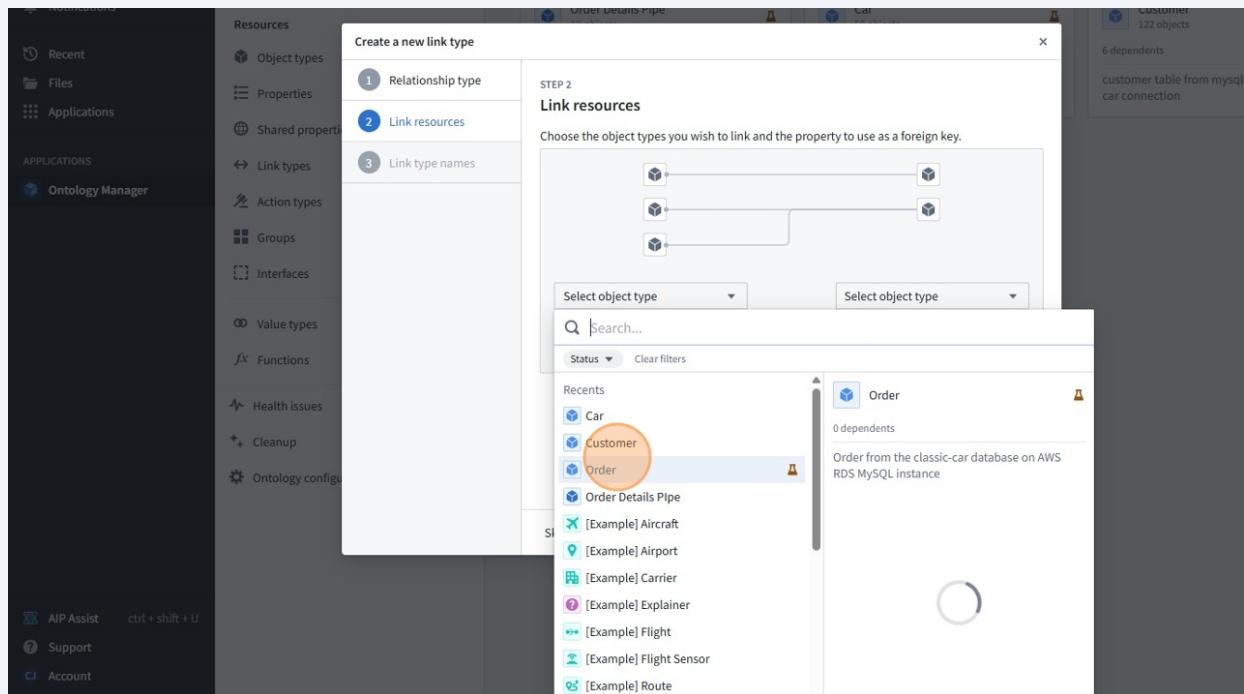
66 Click "Next"



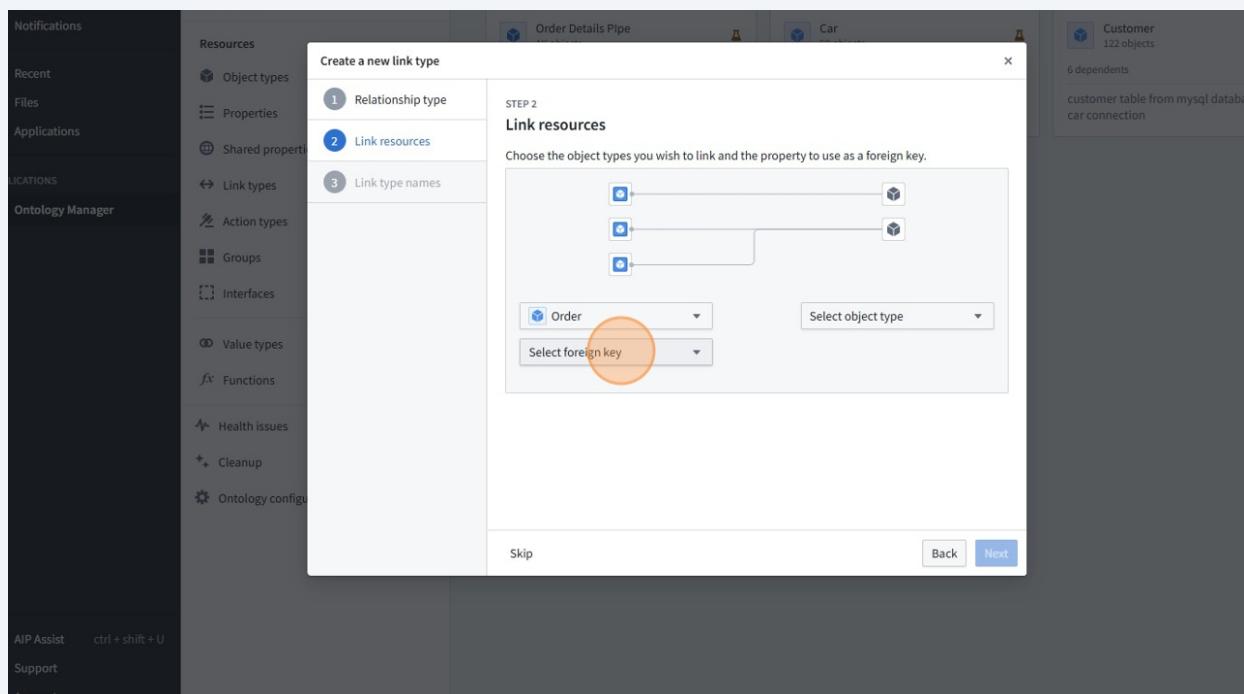
67 Click "Select object type"



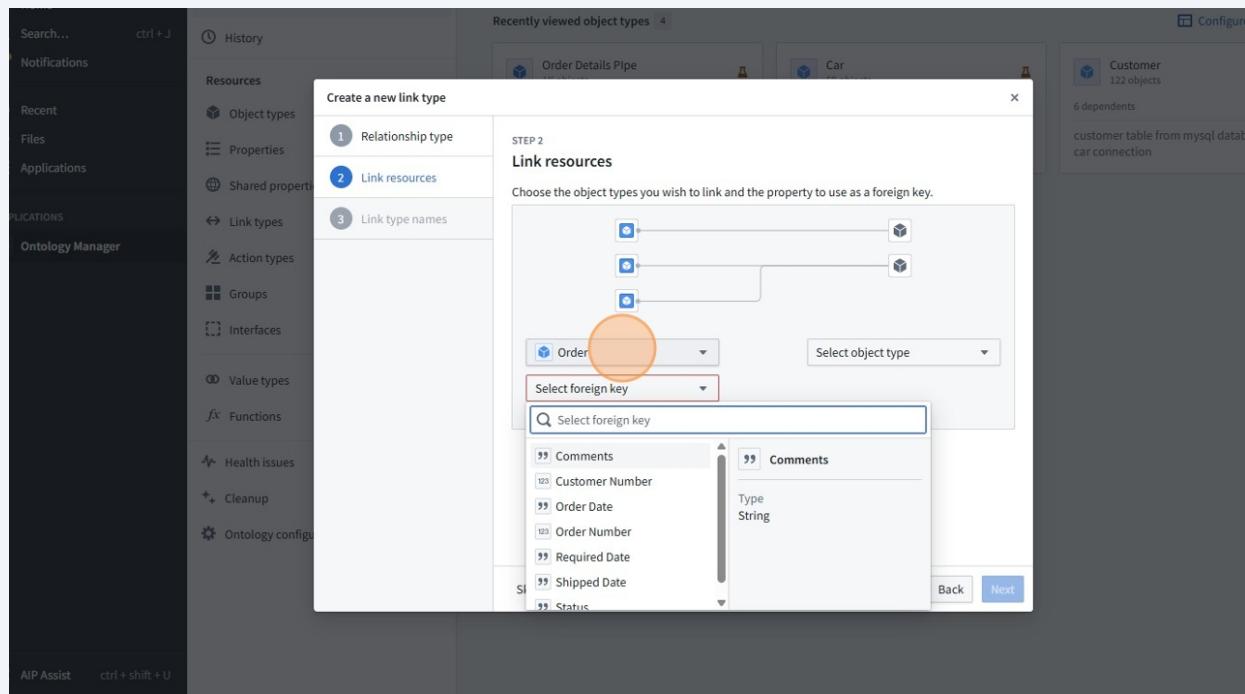
68 Click "Order"



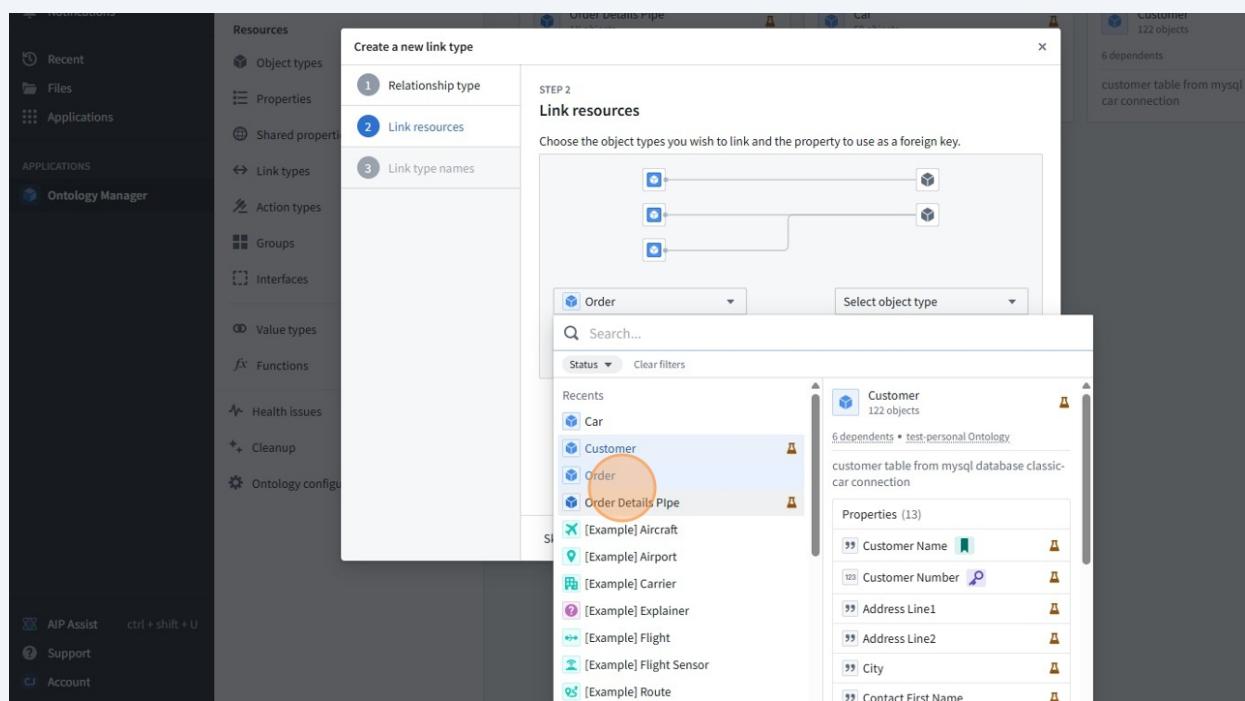
69 Click "Select foreign key"



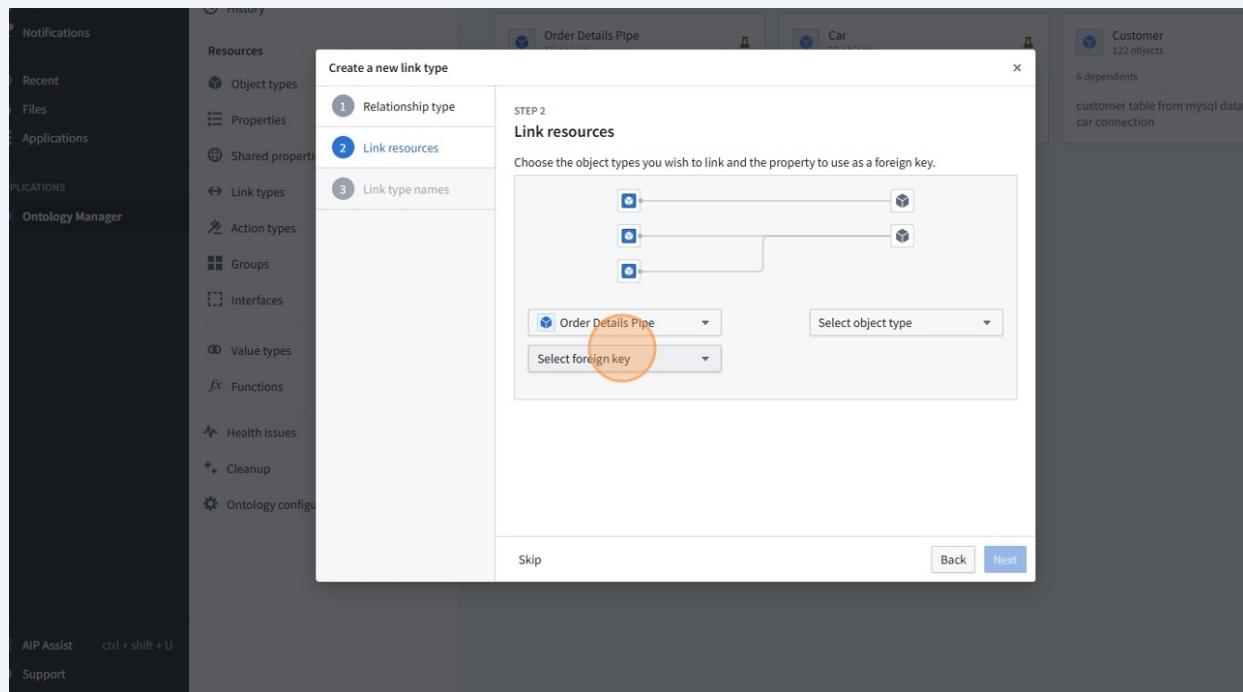
70 Click "Order"



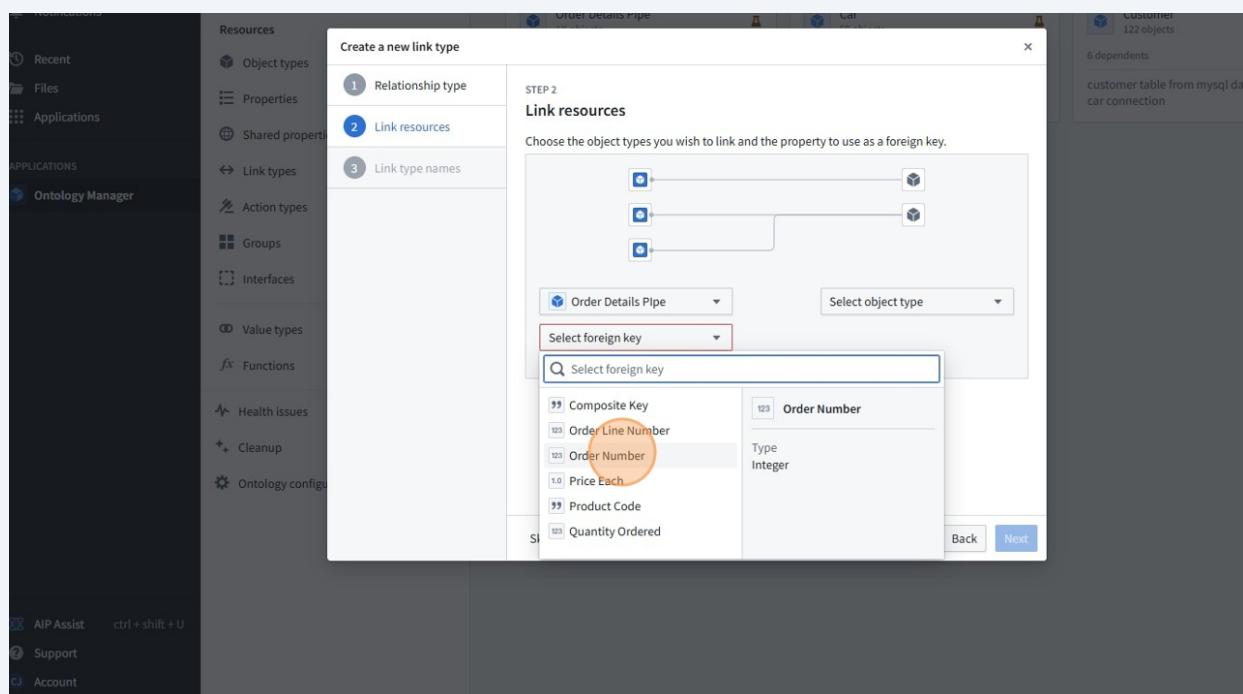
71 Click "Order Details Pipe"



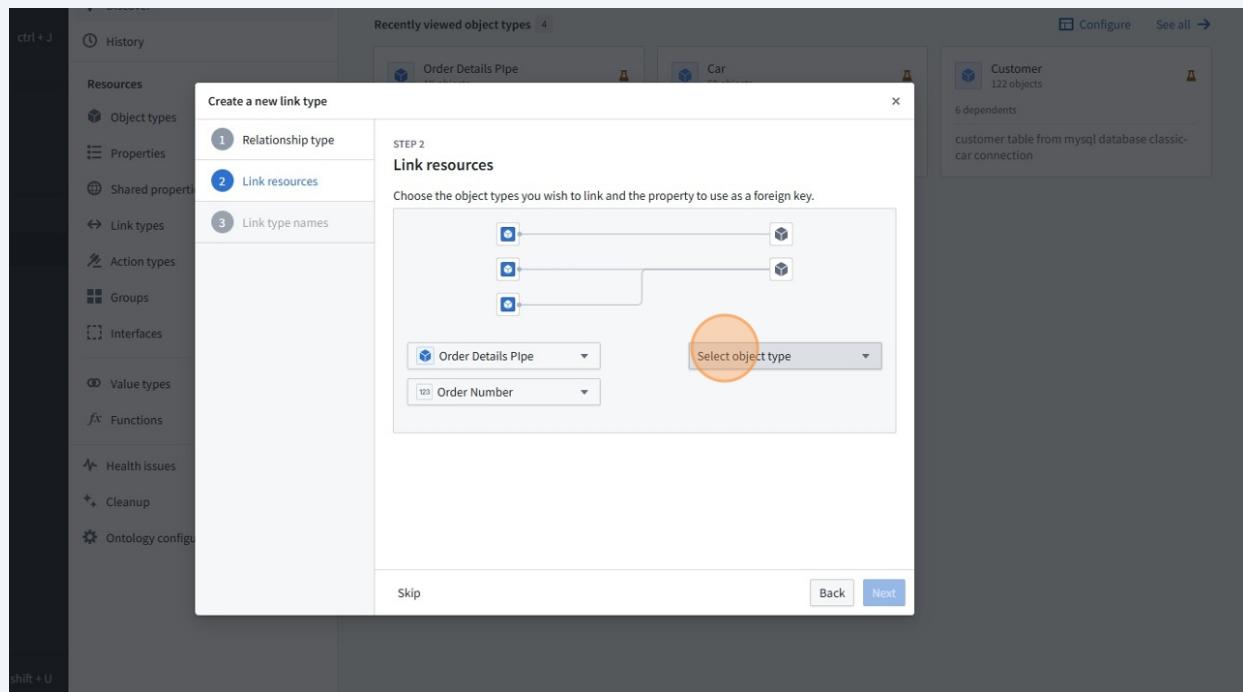
72 Click "Select foreign key"



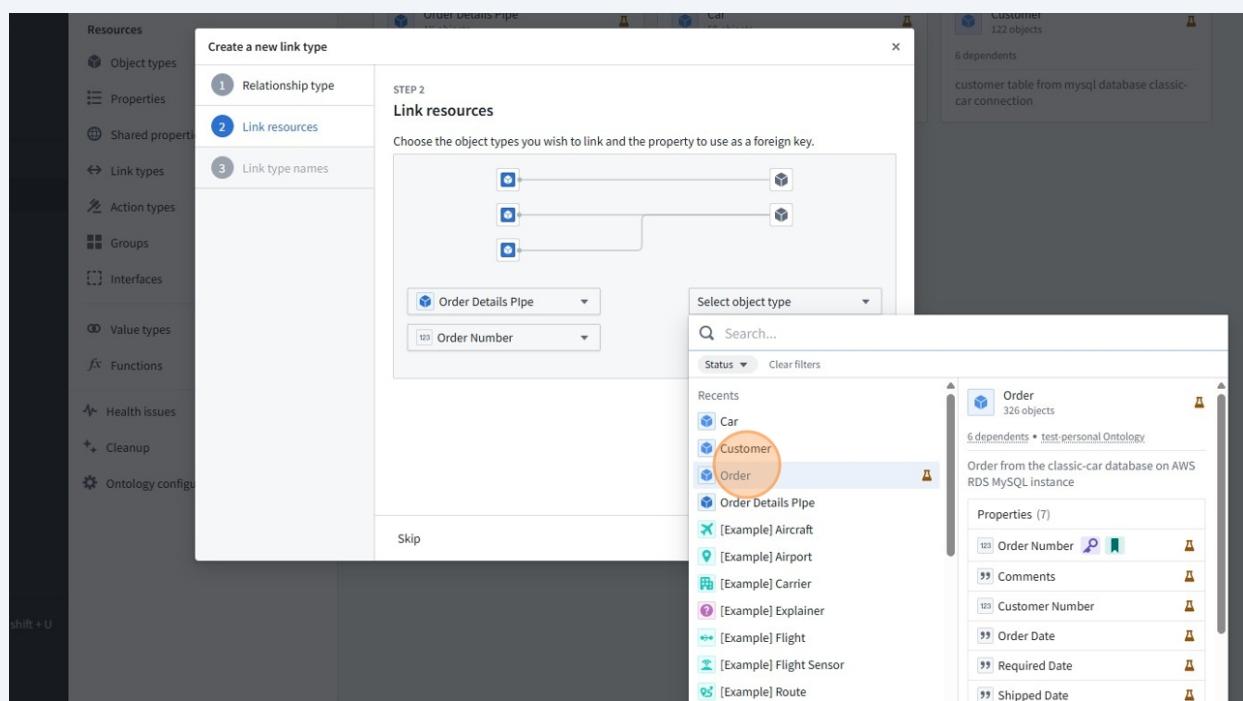
73 Click "Order Number"



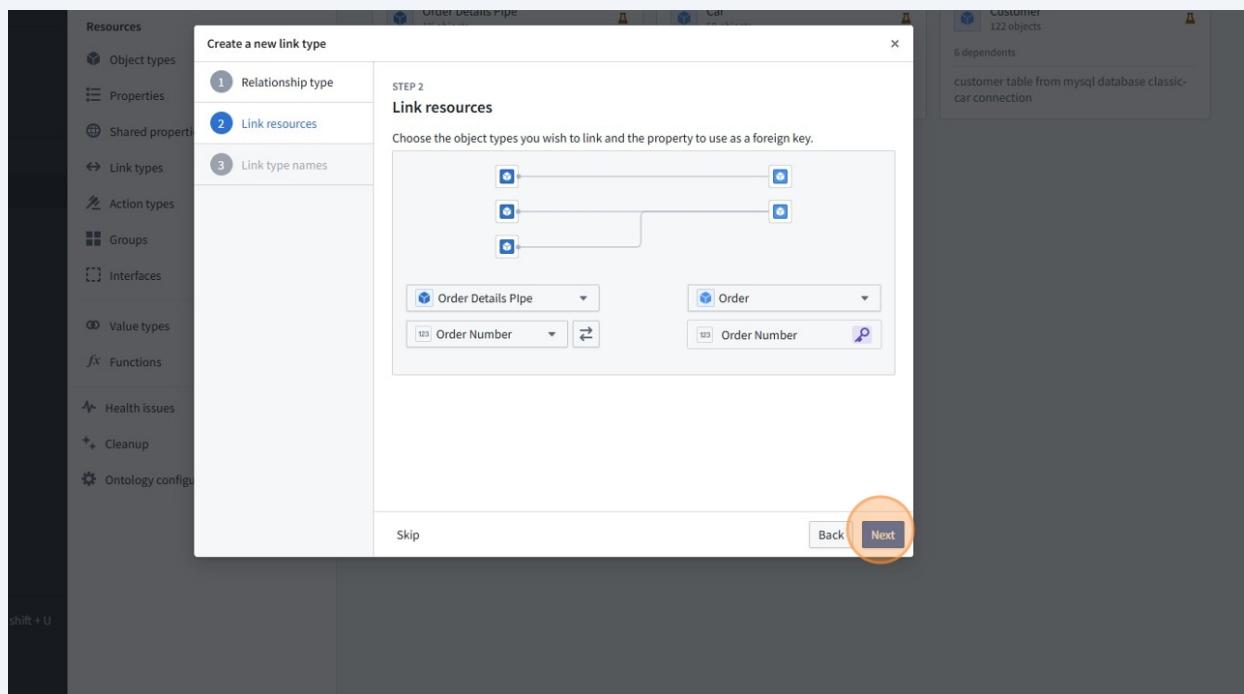
74 Click "Select object type"



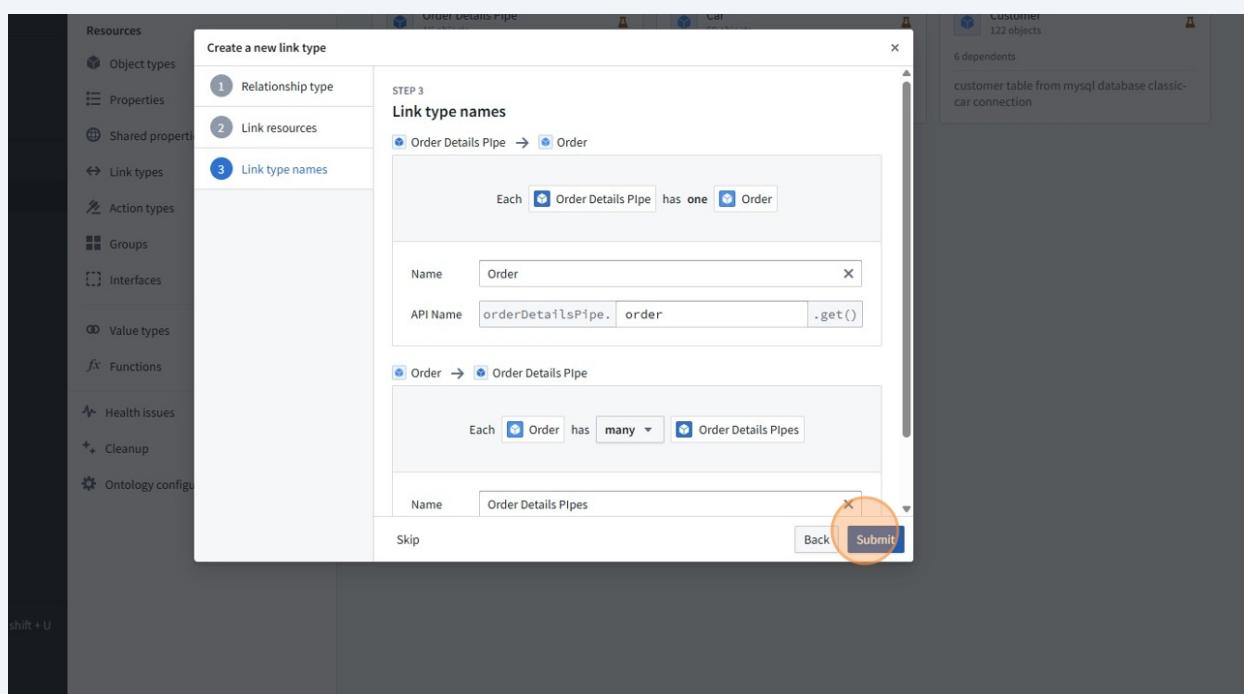
75 Click "Order"



76 Click "Next"

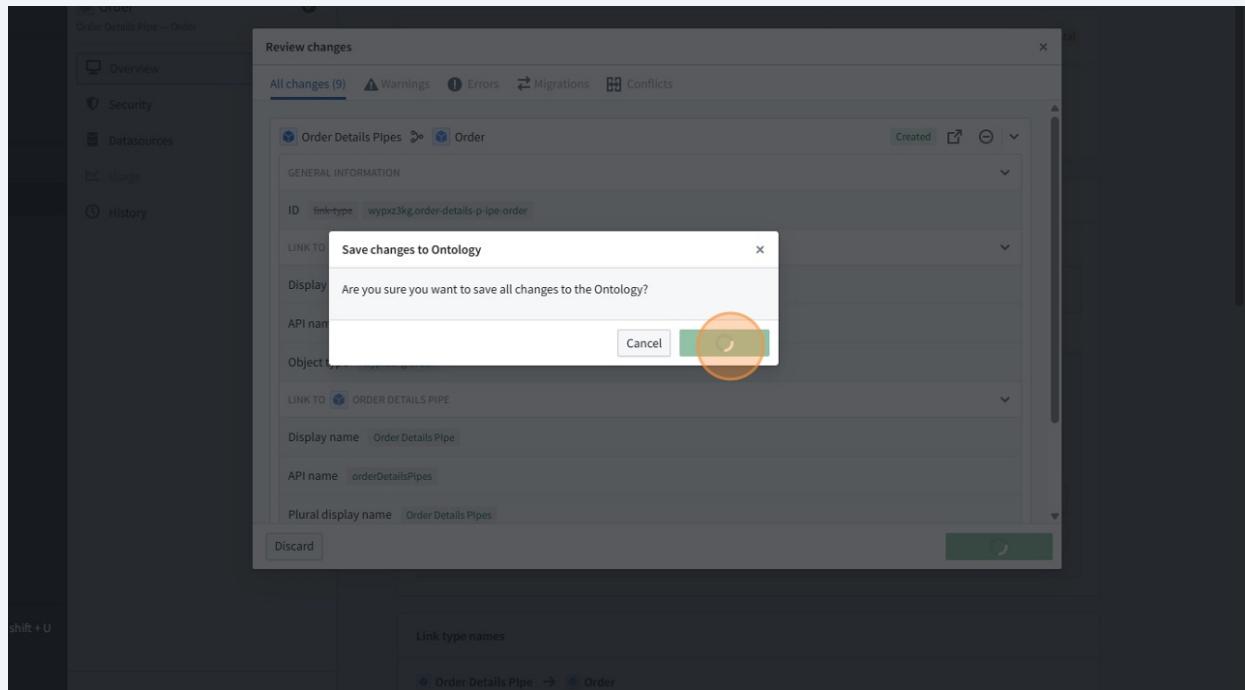


77
Click "Submit"
Click "Save"
Click "Save to ontology"
Click this button.



The screenshot shows the Ontology Manager interface. On the left, there's a sidebar with navigation links: Discover, Overview (highlighted), Security, Datasources, Usage, and History. The main area is titled "Order Details Pipes → Order" and describes it as a "Many-to-one link type". It includes fields for Ontology (test-personal Ontology), Status (Experimental), Description (Type here...), ID (order-details-pipe-order), and RID (Set on save). Below this is a "Configuration" section for the "Join method". It offers three options: "Foreign key" (selected), "Dataset", and "Object type". A diagram illustrates the link type, showing three boxes connected by arrows pointing from the bottom to the top. Below the diagram, dropdown menus show "Order Details Pipe" and "Order" with "Order Number" selected for both. A large orange circle highlights the "Save" button at the top right.

This screenshot shows a "Review changes" dialog over a background of the Ontology Manager. The dialog title is "Save changes to Ontology" and contains the message "Are you sure you want to save all changes to the Ontology?". It has "Cancel" and "Save changes" buttons. The background shows the "Order Details Pipes → Order" configuration page with various fields like ID, Display name, API name, and a "LINK TO" section. A large orange circle highlights the "Save to ontology" button at the bottom right of the configuration page.



78

Now that we have our Order Details and Order's linked let's create a link between Order Details and our Car (product).

Click "New"

The screenshot shows the 'Ontology Manager' interface. On the left, there's a sidebar with options like 'Discover', 'Overview', 'Security', 'Datasources', 'Usage', and 'History'. The main area is titled 'Order Details Pipes' and 'Order', described as a 'Many-to-one link type'. It shows fields for 'Ontology' (test-personal Ontology), 'Description' (Type here...), 'Status' (Experimental), 'ID' (wypxz3kg.order-details-pipe-order), and 'RID' (ri.ontology.main.relation.c4ec2a...). Below this is a 'Configuration' section with a 'Join method' set to 'Foreign key'. A diagram shows three boxes connected by lines, and dropdowns for 'Order Number' on both sides. A 'Create new resources' button is visible in the top right.

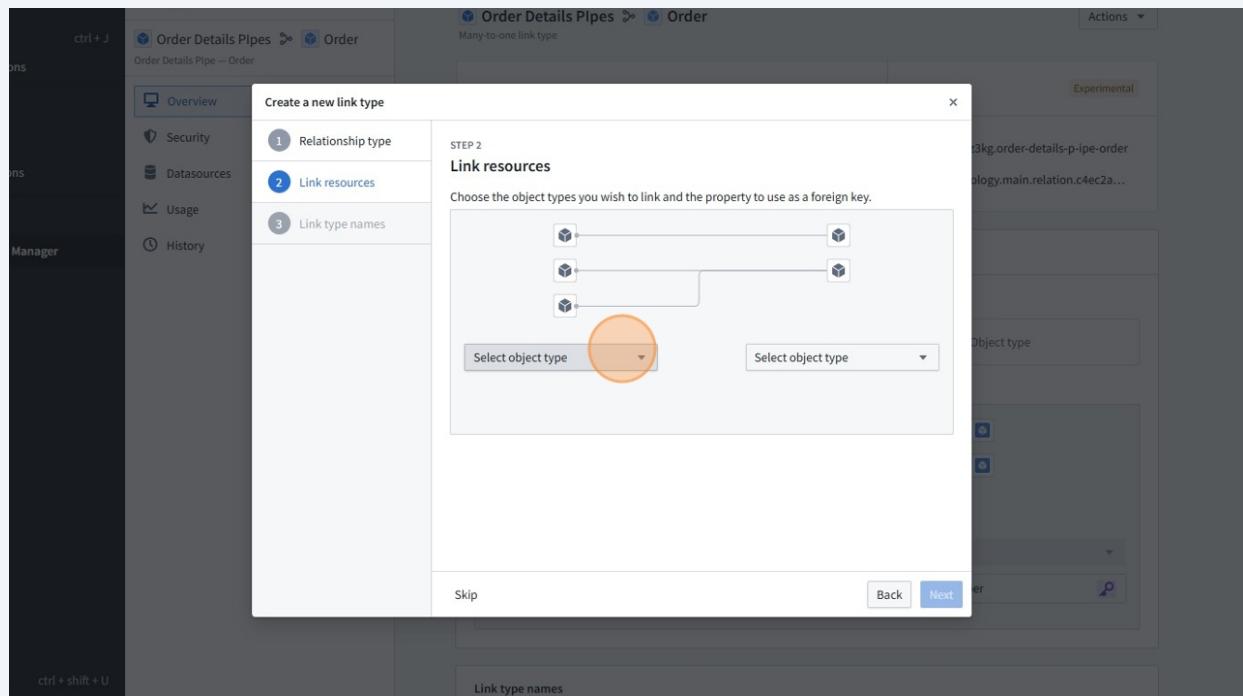
79 Click "Create relationships between object types"

The screenshot shows the 'Ontology Manager' interface. On the left, there's a sidebar with options like 'Discover', 'Order Details Pipes', 'Order', 'Overview', 'Security', 'Datasources', 'Usage', and 'History'. The main area displays 'Order Details Pipes' with a status of 'Many-to-one link type'. It includes fields for 'Ontology' (test-personal Ontology), 'Description' (Type here...), 'Status' (Status), 'ID' (wyp), and 'RID' (rl.on). Below this is a 'Configuration' section with a 'Join method' dropdown set to 'Foreign key'. A diagram shows two boxes connected by a line, with 'Order Details Pipe' and 'Order' selected, and 'Order Number' chosen as the foreign key. A context menu is open on the right, listing various ontology types. The 'Link type' option is highlighted and circled in orange.

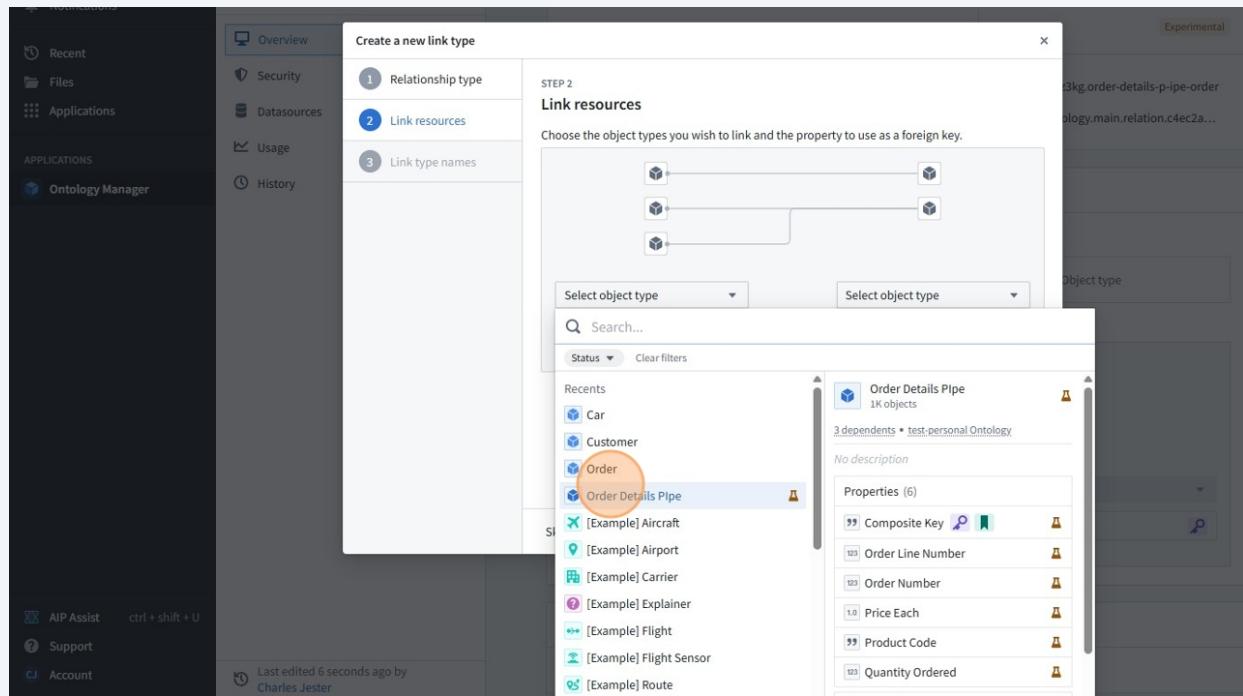
80 Click "Next"

The screenshot shows the 'Create a new link type' wizard. The first step, 'Relationship type', is displayed. It offers three options: 'Object type foreign keys' (selected and highlighted with a blue box), 'Join table dataset', and 'Backing object type'. Below these options is a 'Skip' button. At the bottom of the step is a 'Link type names' field containing 'Order Details Pipe → Order'. The sidebar on the left shows 'Overview', 'Security', 'Datasources', 'Usage', and 'History'.

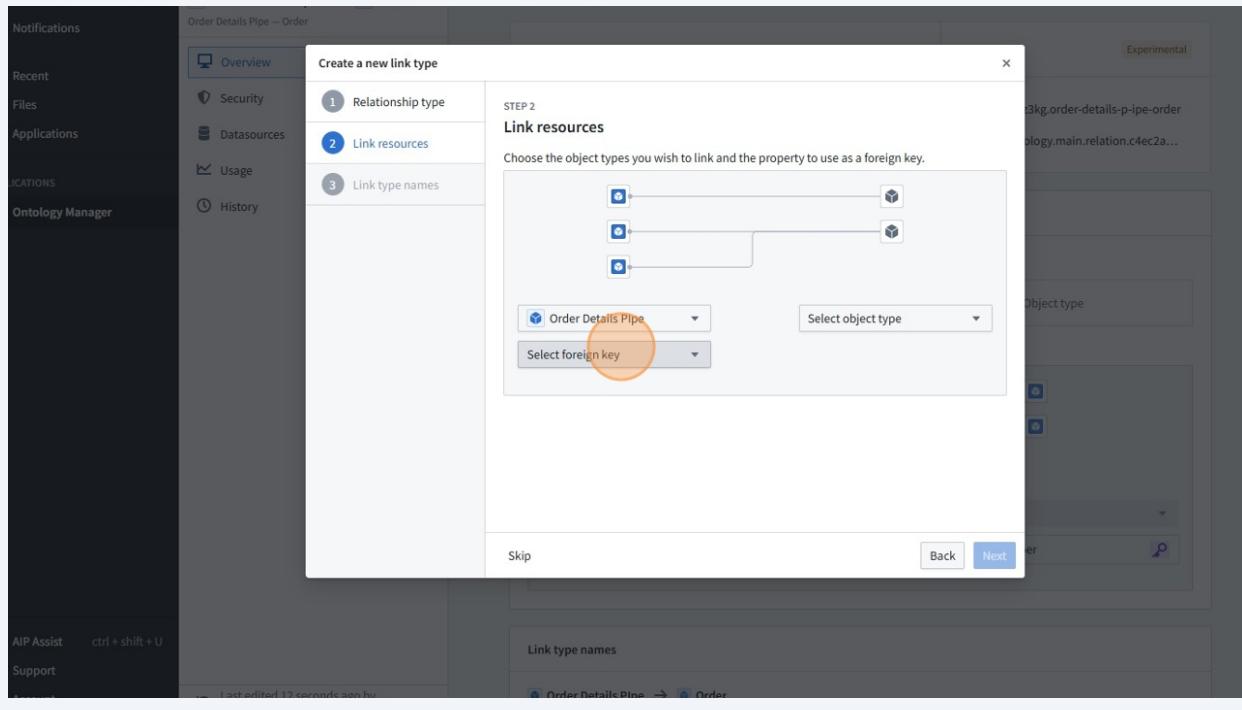
81 Click "Select object type"



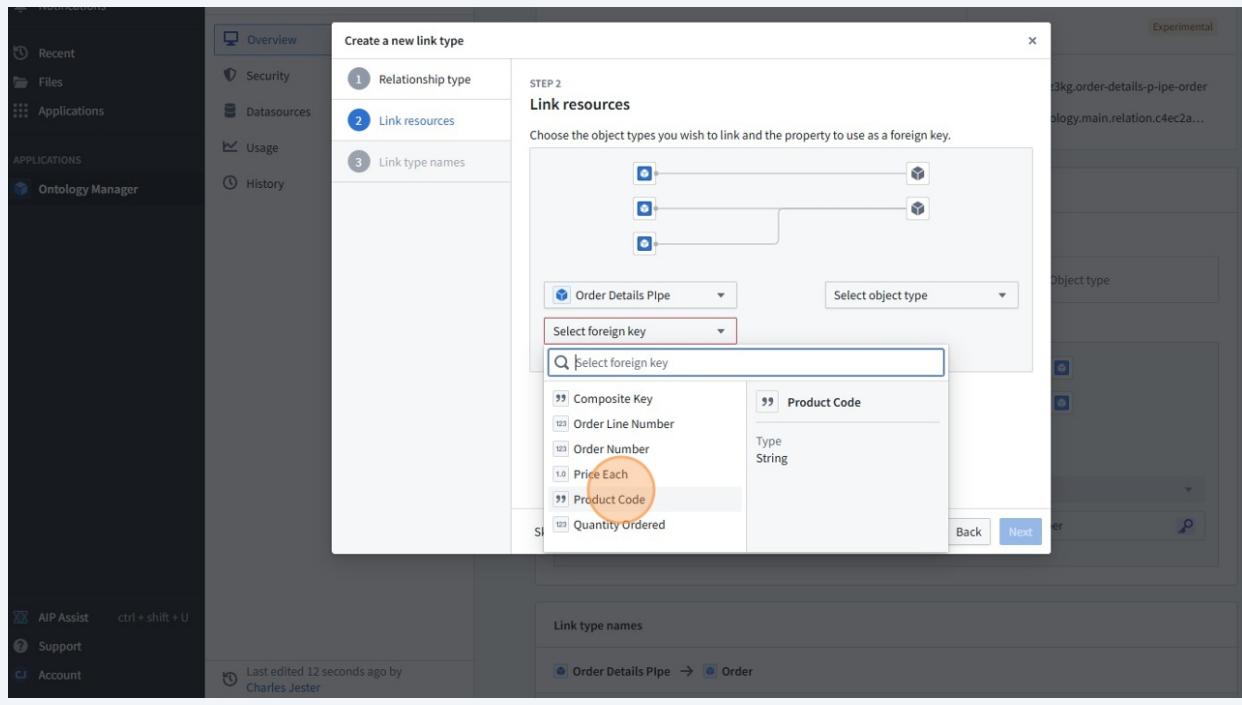
82 Click "Order Details PIpe"



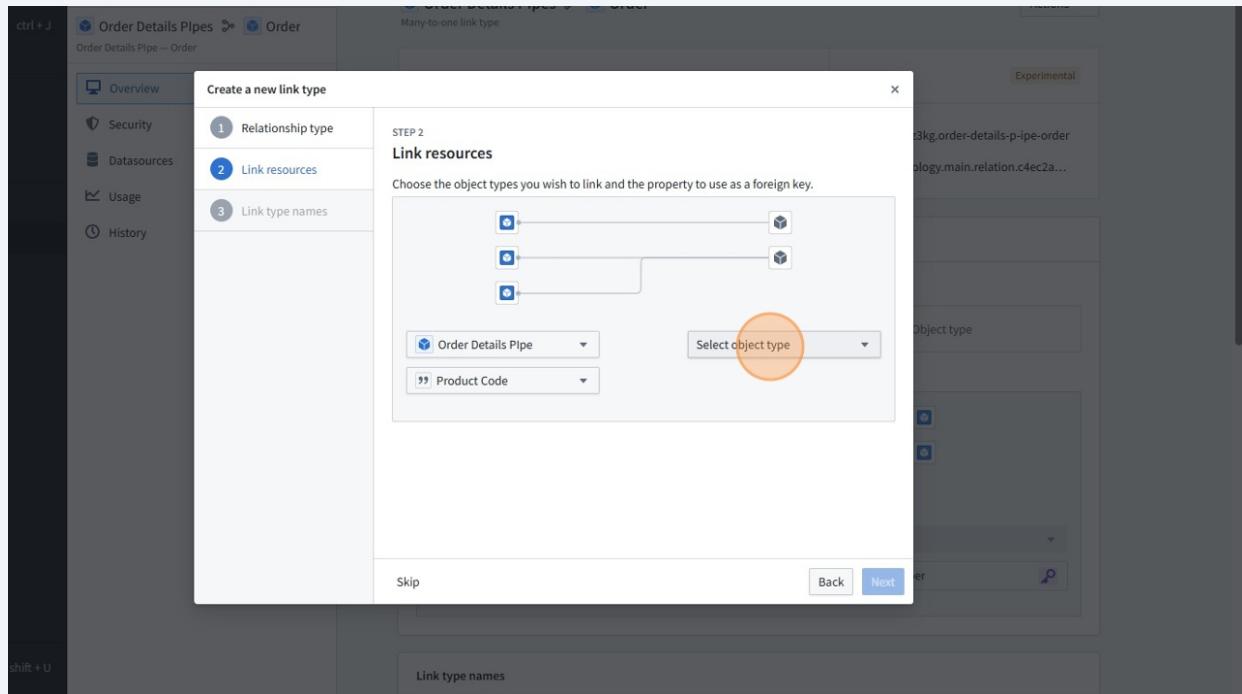
83 Click "Select foreign key"



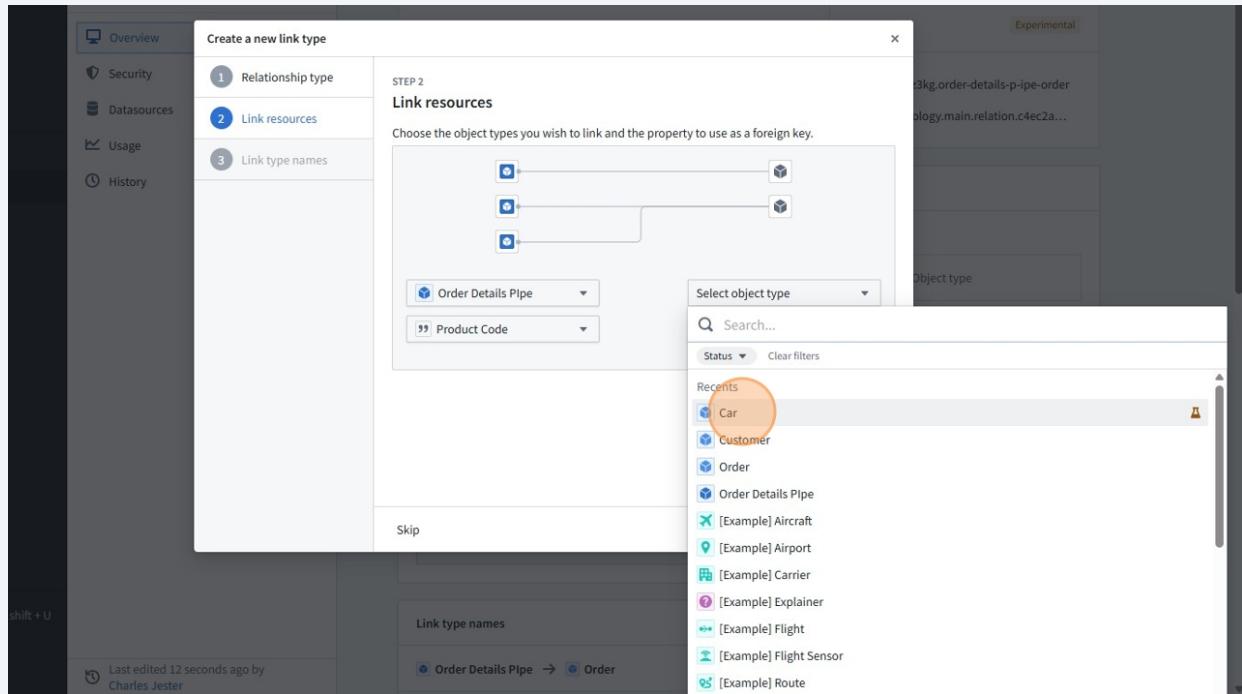
84 Click "Product Code"



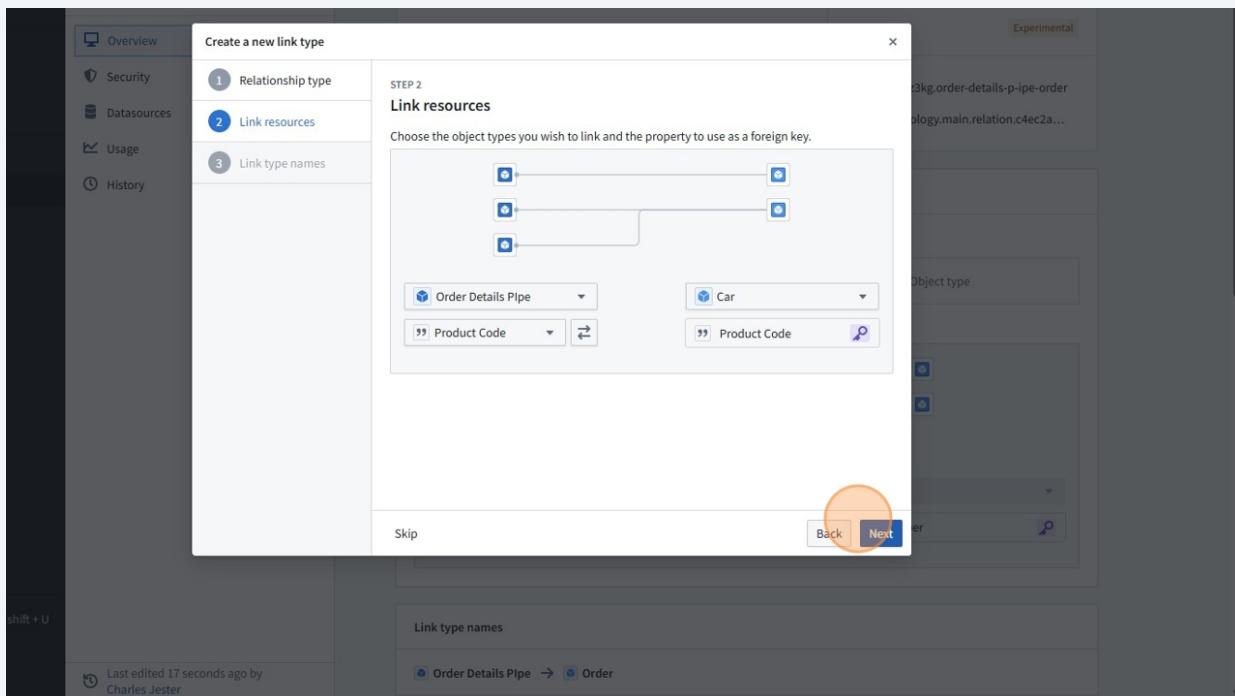
85 Click "Select object type"



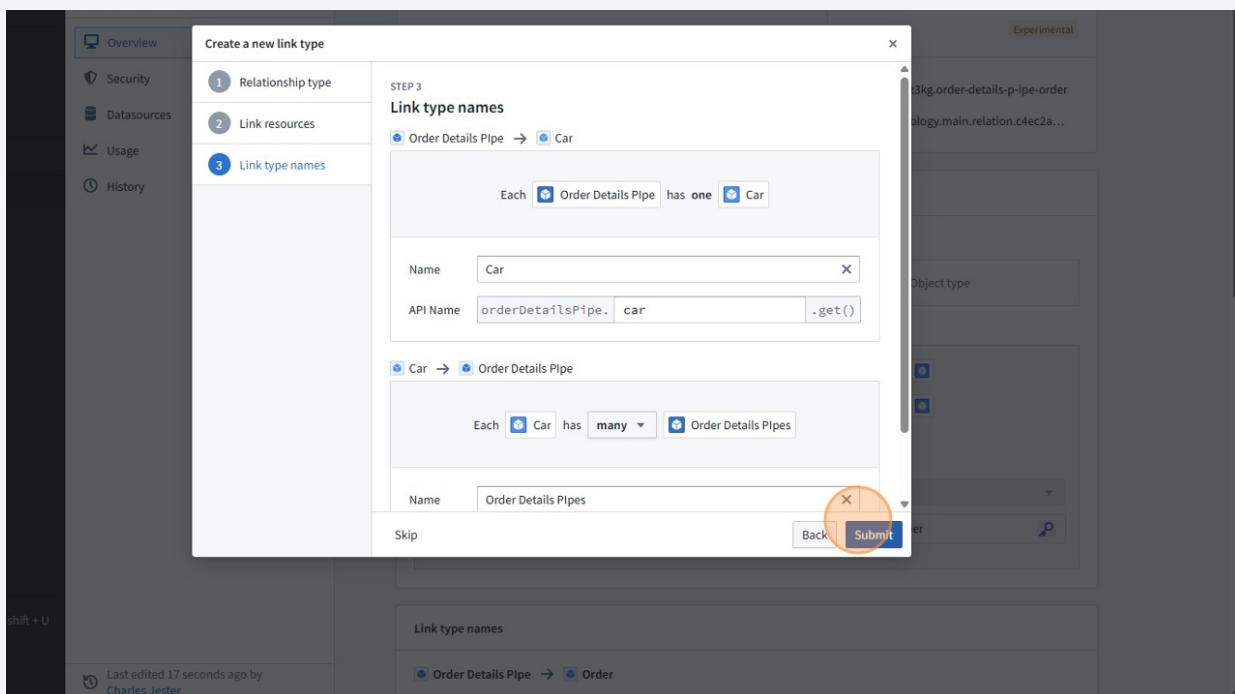
86 Click "Car"



87 Click "Next"



88
Click "Submit"
Click "Save"
Click "Save to ontology"
Click "Save changes"



Ontology Manager

← Order Details Pipe — Order

Order Details Pipes → Car ✓

Order Details Pipe — Car

Overview Security Datasources Usage History

Order Details Pipes → Car

Many-to-one link type

Ontology	test-personal Ontology	Status	Experimental
Description	Type here...	ID	order-details-pipe-car
		RID	Set on save

Configuration

Join method:

- Foreign key
- Dataset
- Object type

Choose the object types you wish to link and the property to use as a foreign key.

Order Details Pipe ▾ **Car** ▾

Product Code Product Code

Review changes

All changes (9) Warnings Errors Migrations Conflicts

Order Details Pipes → Car

GENERAL INFORMATION

ID **linktype_wypxz3kg.order-details-pipe-car**

LINK TO CAR

Display name Car

API name car

Object type wypxz3kg.car

LINK TO ORDER DETAILS PIPE

Display name Order Details Pipe

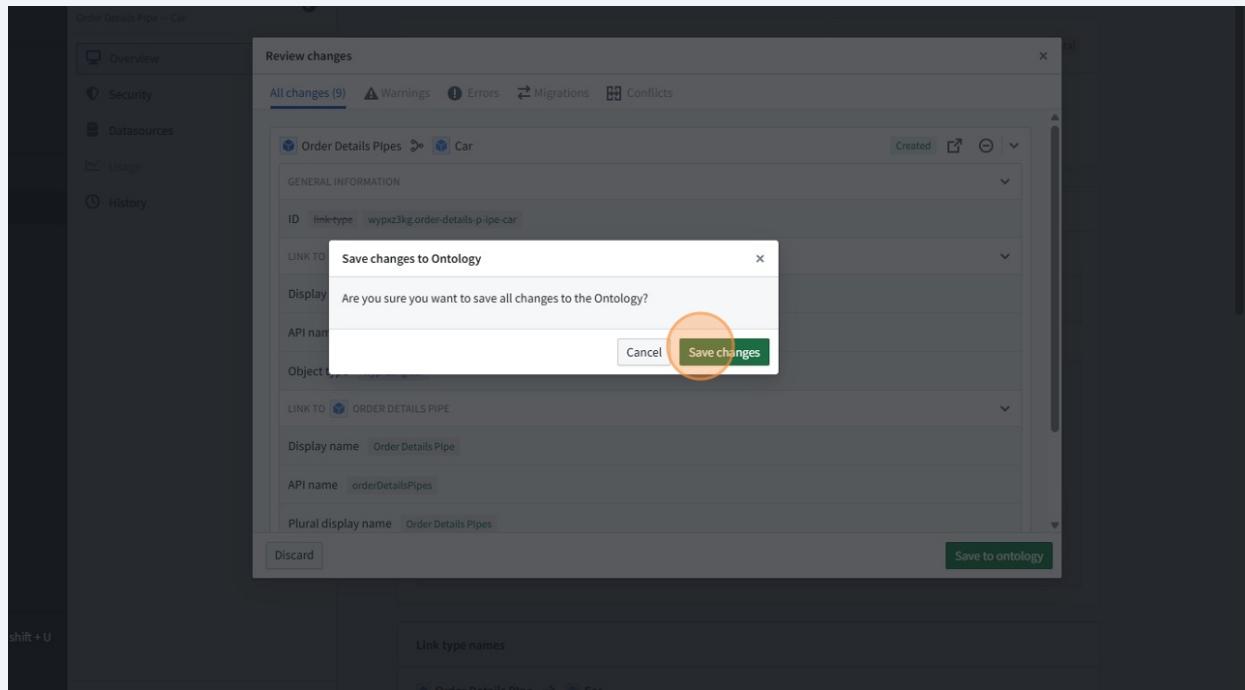
API name orderDetailsPipes

Plural display name Order Details Pipes

Save to ontology

Link type names

Order Details Pipe → Car



Let's Explore our Newly Linked Objects

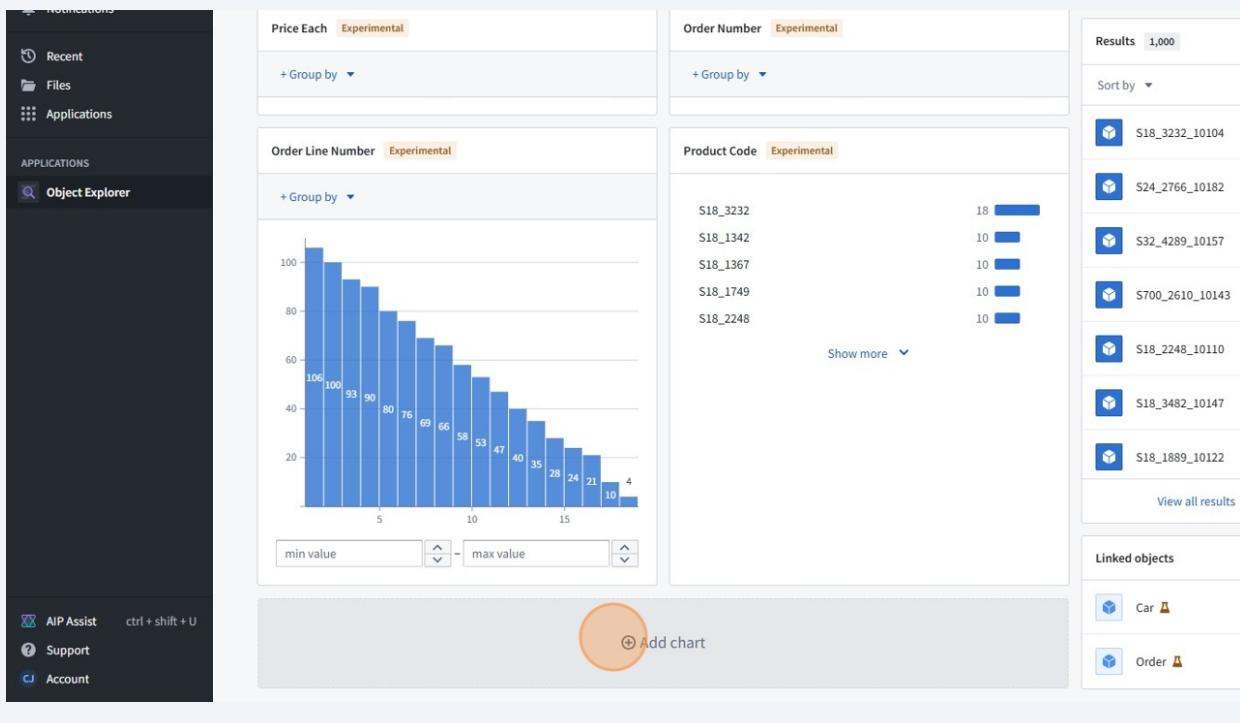
89

Navigate through the Applications to our Object Explorer. Click "Order Details Pipe"

A screenshot of the Object Explorer interface. At the top, there's a navigation bar with icons for Home, Search, Notifications, Recent, Files, Applications, and Object Explorer. Below the bar, the title "Welcome to Object Explorer" is displayed. On the left, a sidebar lists "Recent", "Favorites", and "Your explorations and lists". The main area has sections for "Relevant to you" and "Discover your Ontology". In the "Relevant to you" section, there are cards for "Order Details Pipe" (circled in orange), "Car", and "Order". The "Discover your Ontology" section includes a search bar and filters for "Object type groups", "Applications", "Active users", and "Objects".

90

If we navigate down to "Add Chart" we should see when we click here we have two linked Objects being Car (Product) and Order.



91

Observe Car and Order Object's linked to Order Details.

