

Data Navigation System ™

Admin & User Documentation

November 7, 2023

Data Navigation System™ 1			
Data Navigation System™			
Glossary of Terms	4		
Datamap	4		
Data Explorer	4		
Answers	4		
Answer Builder	4		
Answer Explorer	5		
Preview	5		
Samples	5		
Reasoner	5		
Tag	5		
Domains	6		
Trino	6		
User Accounts & RBAC	6		
Users	6		
Searching for a User	6		
Creating a User	7		
Deleting a User	9		
Roles	10		
Deleting a role	11		
Domains	12		
Domains & RBAC	13		
Domain Creation	14		
Domain Assignment	15		
Domain Searching & Filtering	16		

Data Contracts	17
Creating a Data Contract	18
Applying the Data Contract	24
Ranger	25
Creating a User	26
Creating a Masking Rule	28
Creating a Role-Level Filter Rule	33
System Management	36
Data Sources	37
Redshift	43
Connect Redshift	43
FAQs	45
Teradata	45
Connect Teradata	45
FAQs	47
Athena	47
Connect Athena	47
FAQs	49
Snowflake	49
Connect Snowflake	50
FAQs	51
PostgreSQL	51
Connect PostgreSQL	52
FAQs	53
Oracle	53
Connect Oracle	54
FAQs	55
Trino	56
Connect Trino	56
FAQs	57
MS SQL Server	58
Connect MS SQL Server	58
FAQs	59
Impala	60
Connect Impala	60
FAQs	62
Greenplum	62

Connect Greenplum	62
FAQs	63
AWS S3	63
Connect S3	66
FAQs	67
Data Explorer	67
Filter and Sort Tables	72
Reasoner	73
Preview Data	74
Overview	74
Columns	75
Samples	77
Usage	77
Comments	78
Lineage	79
Endorsement	80
Datamaps	80
No-Code	82
Custom Expressions - you can create custom expressions with an alias and defined	87
SQL	89
Ask Reasoner	89
Data Pipelines	92
Pipeline Scheduling	93
Answers	94
Search for Answers	94
Filter and Sort Answers	96
Requesting an Answer	97
Select an Existing Dataset	99
Explore	100
Interrogate	102
Query	103
Build a New Dataset	104
SQL	106
Dashboard	106
Embed Dashboard	109
Chathot	109

Data Navigation System™

Data Navigation System[™] helps Data and Analytics teams significantly reduce the time and effort needed to answer business questions with data.

Data Navigation System[™] is an all-in-one data management solution that helps you discover, prepare, query and visualize data quickly and with less effort.

Glossary of Terms

This section describes, at a high level, the various terms used throughout the Promethium product.

Datamap

A Datamap is the term for a query created within Promethium. It consists of the dataset, SQL, metadata and operations reporting.

As you build a Datamap, the SQL will be auto-generated for you using our no-code flows, with the option to edit the SQL code directly.

Data Explorer

Data Explorer is your base of operations for exploring and managing your data sources and the data within those sources.

The default view is a table which can be filtered by a wide range of modifiers such as Domains, Source, Type (Table, View, Datamap), Tag, Reasoner Score, Recency etc. In addition to these filter modifiers, you can also search directly via our advanced free text search.

Answers

Promethium is designed to help you answer business questions with data. Our Answers feature is where you will leverage the work of your Data Team by:

- 1. Creating a business related question
- 2. Finding or explore questions that have been previously answered

Answer Builder

You can leverage the Reasoner to build on existing data sets or "Request an Answer" to raise a new question and assign it to a member of your team for collaboration. When you are happy with the output of your Answer you can publish it, along with any comments you have, for consumption by your peers.

Answer Explorer

Explore available answers built by collaborators and peers. If an Answer is not available, then the ability to request an Answer is an option. Typical Answers include a resultant, or "golden", dataset and a visualization. An Answer may contain multiple visualizations and datasets.

The default view is a list of Answers which can be filtered by a wide range of modifiers such as Domain, Status, View Count, Recency etc. In addition to these filter modifiers, you can also search directly via our advanced free text search.

Preview

Run SQL code to render results before publishing.

Samples

When exploring data it is helpful to see it in context. Samples does just this, allowing you to 'sample' the first 100 rows (this is adjustable to 200, 500, and 1000) of a table, Datamap or View. These results are searchable.

To improve readability of sparse data sets, a filter to remove NULL values is available.

Reasoner

Some of the largest barriers in knowledge extraction come about because few users are intimately familiar with their data landscape and the various database schemas therein.

The Promethium Reasoner solves this complexity by leveraging AI and ML to analyze Datamaps, tables, and views and making suggestions of what objects can be logically connected. For example, when the Reasoner is joining two tables, it can suggest rows to join upon.

The selection candidates are displayed in the number of drop-down boxes on the Reasoner UI and users are required to make a choice. In order to help users make an informed decision we display additional information and sort candidates according to probability of a match.

Tag

Tags are searchable terms associated with various components of Promethium. They elevate the NLP searching capabilities and the useability of the Data maps. Tags can be applied at the column level, table level, Answers, and Data maps.

The rules for a tag are:

- Single word (no spaces)
- "-" and " " allowed
- Numbers allowed
- No special characters

Domains

Domains are a powerful labeling and organizational concept within Promethium that integrates with Role Based Access Control. You can add a domain to any object in order to better group, filter or convey access rights.

Trino

Trino is our distributed SQL query engine. It is deployed as a cluster and utilizes filestorage and metastore for persistence. Trino is a distributed system that utilizes an architecture similar to massively parallel processing (MPP) databases. Like many other big data engines there is a form of a coordinator node that then manages multiple worker nodes to process all the work that needs to be done in a K8S cluster.

User Accounts & RBAC

This section describes the types of user accounts that exist within Promethium, their usage, and the default permissions sets that are created with a new installation.

Promethium operates a fine-grained, role-based, access control mechanism.

Users and roles are system-wide objects; they do not belong to specific data sources. Users are independent accounts with login access, while roles define groups of users that accrue privileges through role membership.

Every role inherits one or more sets of permissions. A permission set can include any combination of permissions across every object within the system.

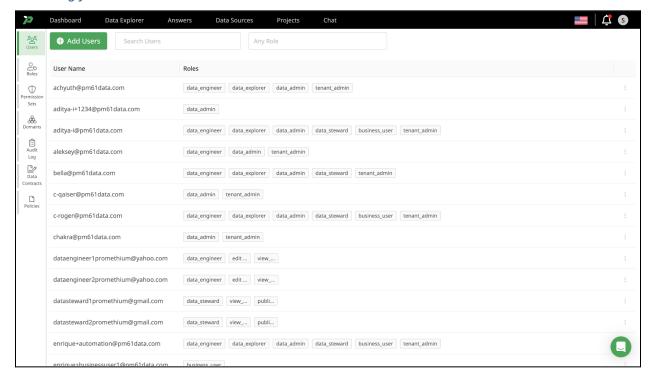
After creating roles and users, you can grant or revoke permissions with immediate effect. You can grant access privileges on various objects to one or more users or roles.

Users

Users can be created, edited and deleted by users with the appropriate rights. By default this permission is associated only with the Tenant Admin role.

Navigate to User Management. Click on your initial or avatar on the top navigation bar. Select Tenant Management from the menu.

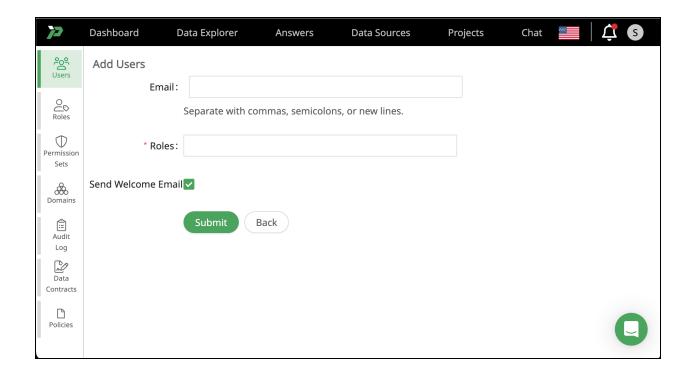
Searching for a User



All currently registered users within the system will be displayed. You can search by username or role to filter a large list quickly. Searching by name will filter the list immediately with each letter entered. Searching by role will allow you to limit the list to users who have that role

Creating a User

From the User Management screen click + Add Users.



Enter the email address of the user. At least one role is required for each user account. Selecting the Roles field will display a list of the currently available roles, select all that are appropriate.

It is often helpful to alert a new user to the availability of their account and this option is enabled by default. If you wish to not send an email, uncheck the box Send Welcome Email. Click Submit to create the account and return to the main user's view.



Hi, your account is ready.

Hi,

Your account is ready to go! Getting started is fast and easy. Click the following link to login with you email and temporary password.

Activate Account

Link expires in 7 days

Your username: bella@pm61data.com
Your temporary password: hF5tz2pJwz

Your organization's sign in page is https://qa-gcp-trino.qa.pm61data.io

You will also receive a welcome email with tips to help you get started, including how to contact support.

Regards,

The Promethium Team

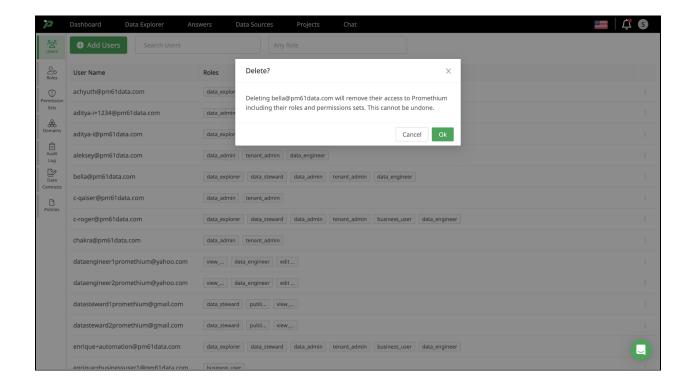
promethium.ai

You received this email because someone added your information into Promethium. If you have any questions or require assistance, <u>contact us</u>.

Deleting a User

Users can be deleted by users with the appropriate rights. By default this permission is associated with the Tenant Admin role.

Select Users, select the user in question and click on the three vertical dots to the right of the table. Select Delete.

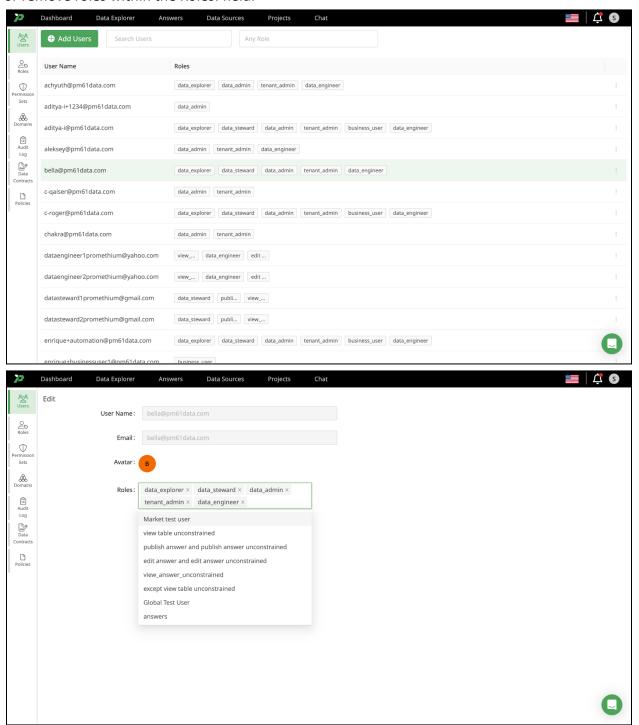


Roles

There are 6 pre-configured roles that ship with every installation.

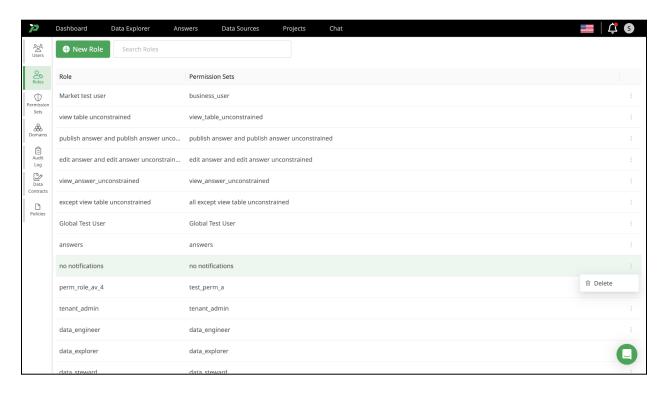
Role	Purpose
Business User	This user needs to ask questions, view answers and experiment with data.
Data Engineer	This user is responsible for creating reports and dashboards to help business users answer questions they can't self-serve.
Data Steward	This user is responsible for ensuring data access is in compliance with corporate policies and other regulations. This user will often act as analytics project managers to ensure requests and responses are passed appropriately between users and roles.
Data Explorer	This user has basic access rights - access to public, published answers and dashboards with no create or edit permissions.
Tenant Admin	Full control over the creation, update and deletion of tenant accounts
Data Admin	Full control over the creation, updating and deletion of data and data sources. Note that removing data sources does not delete the underlying database. This role is restricted from tenant modifications.

Multiple roles can be assigned to a single user. Select Users, select the user in question and add or remove roles within the Roles: field.



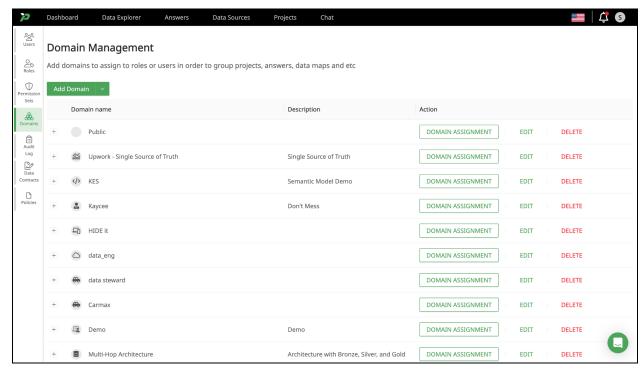
Roles can be deleted by users with the appropriate rights. By default this permission is associated with the Data Steward and Tenant Admin roles.

Select Roles, select the role in question and click on the three vertical dots to the right of the table. Select Delete.



Domains

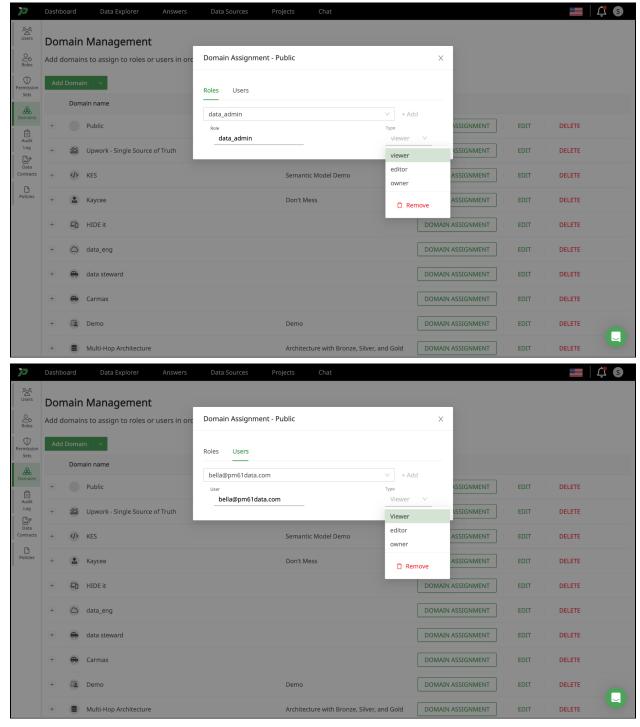
To navigate to Domain Management click on your initial or avatar on the top navigation bar. Select Tenant Management from the menu. Select Domain from the left navigation menu.



Domains & RBAC

Domains can be assigned to one or more Roles and / or Users to grant viewer, editor or owner rights. Any object that is associated with that Domain will inherit those user or role restrictions.

To assign a Domain to a specific, pre-defined, role or user click Domain assignment to render the assignment modal. Select either Role or User as appropriate and select the pre-defined role or user from the dropdown menu. Click +Add. From the type drop down menu select viewer, editor or owner as required. Note: you can remove an assignment by clicking remove from the type dropdown next to the role or user you wish to unassign.



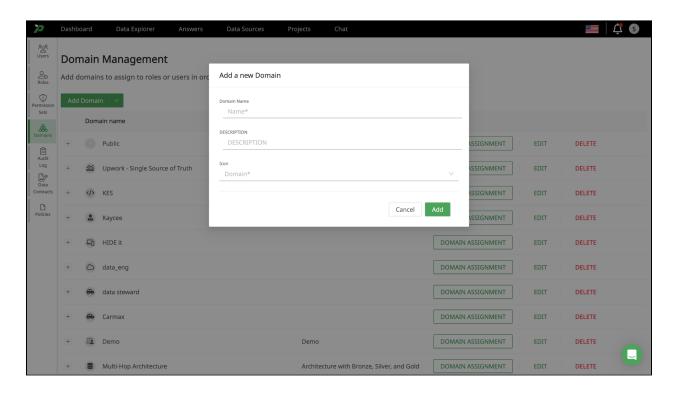
Domain Creation

Domains can be created, edited and deleted by users with the appropriate rights. By default this permission is associated only with the Data Steward and Data Admin roles.

A user with the appropriate rights can create any number of Domains and Subdomains.

To create a Domain click the green Add Domain button from the Domain Management page. To create a Subdomain click the arrow next to Add Domain and select Add Subdomain.

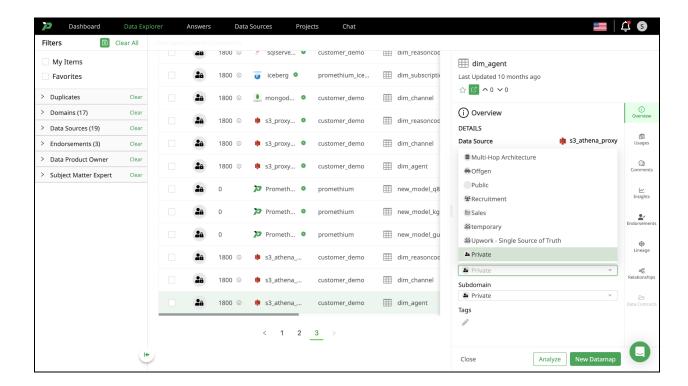
You must provide a domain name and select an icon. If you are creating a subdomain you must also select a pre-existing domain as the parent domain. The description field is optional but recommended so that other users can understand the purpose of your Domain at a later date. To create your domain click the green Add button.



Domain Assignment

You can assign any object to a domain or subdomain - e.g data source, answers or data maps.

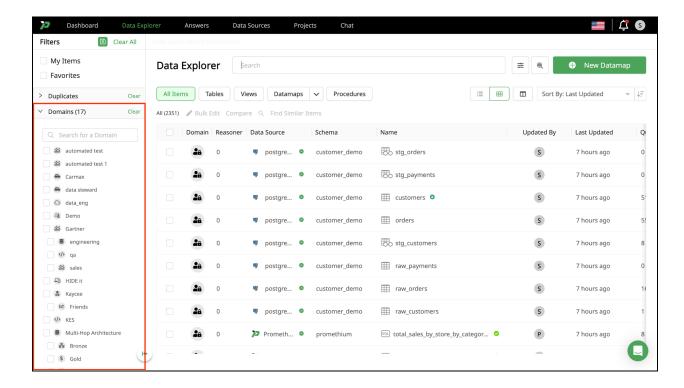
Assigning an object to a domain occurs from the object page. e.g. select a datamap or table from the Data Explorer flow. From the description modal you can assign or modify the current assignment directly.

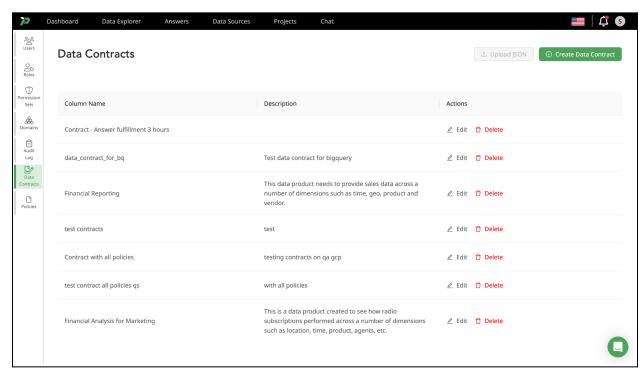


Domain Searching & Filtering

When searching or browsing you can use filtering to limit the result set to that Domain or set of Domains.

Select the Domains filter and click the Domains and subdomains you want to restrict your searches to. Your Domain filter will remain in effect until you modify directly or select Clear all filters.





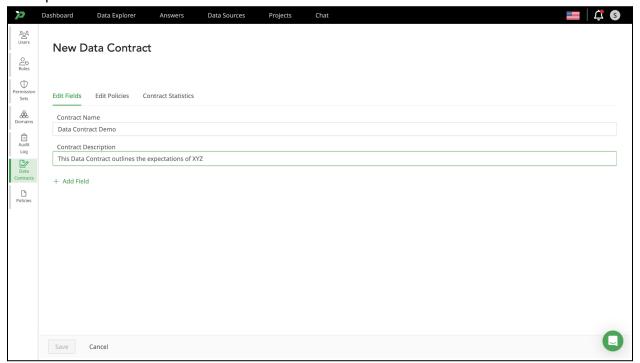
Data Contracts

The Data Contract feature offers a fully customizable framework to set precise guidelines for your data management needs. Customers can tailor the refresh frequency, execution time, and answer fulfillment time according to their specific requirements. This customizable

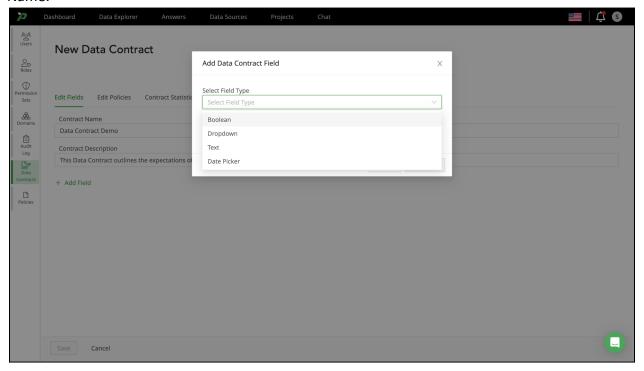
documentation serves to eliminate uncertainties and prevent undocumented assumptions about data, providing a clear and consistent understanding of data expectations.

Creating a Data Contract

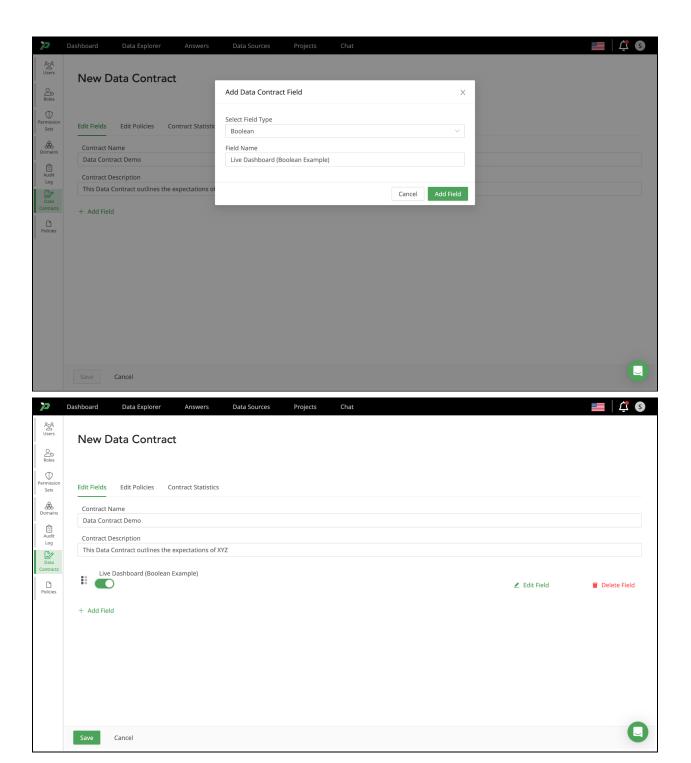
Navigate to the **Create Data Contract** button on the right side on the Data Contracts tab. In the New Data Contract page, the first initial fields you will see are Contract Name and Contract Description.



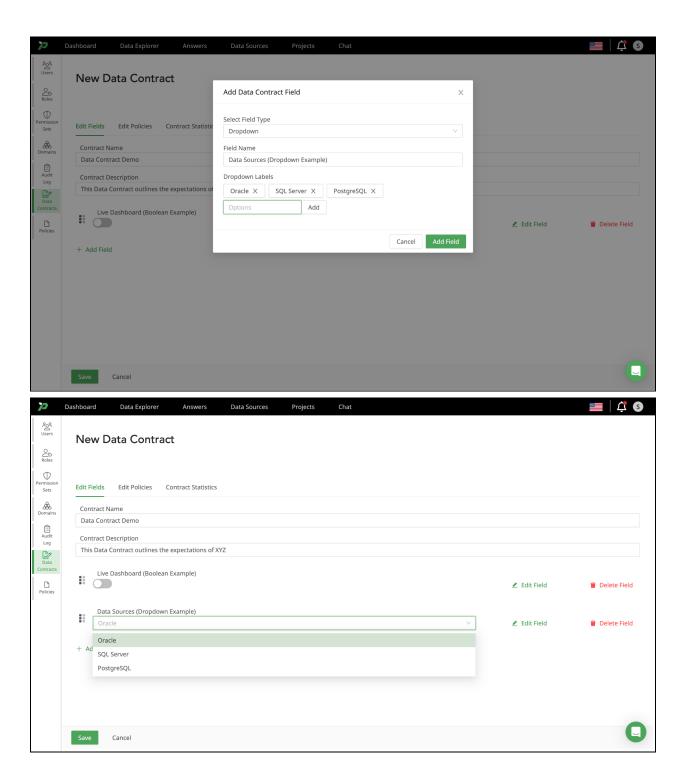
Click Add Field to add additional fields, a dialog box will appear with Select Field Type and Field Name.



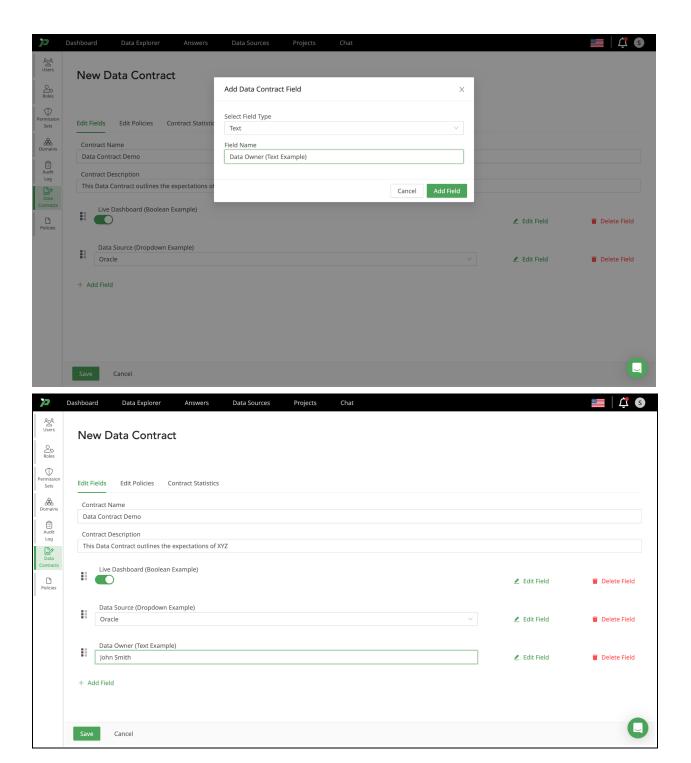
o Boolean - Name the field and then Add Field. A toggle switch will appear.



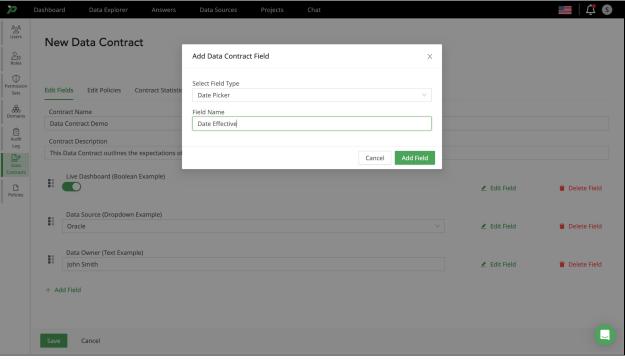
Dropdown - Add all the options to be included in the dropdown, then Add Field.
 From there, you can select the appropriate option.

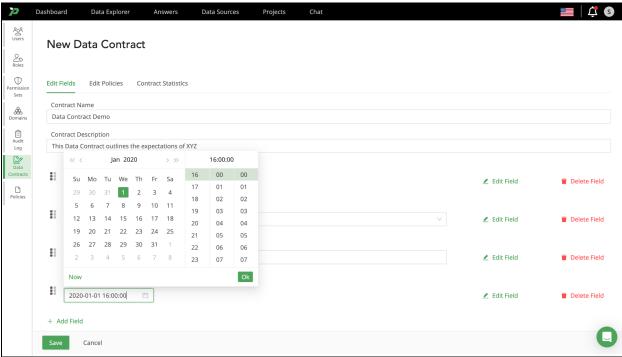


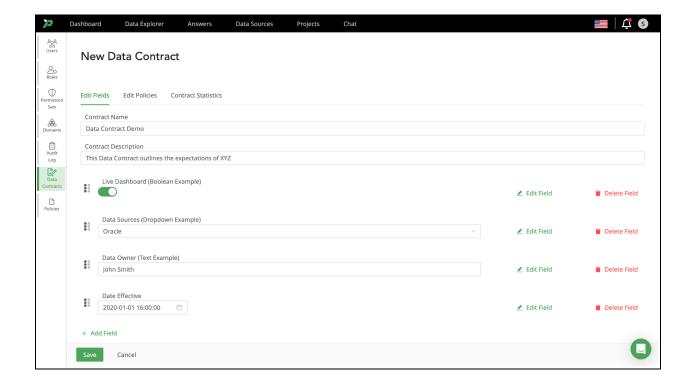
 Text - Name the field and then Add Field. A text box will be provided for you to enter any relevant information or comments as needed.



 Date Picker - Name the field and then Add Field. You will be able to select a date off a calendar view and specify a time to the second, time is in a 24-hr format.





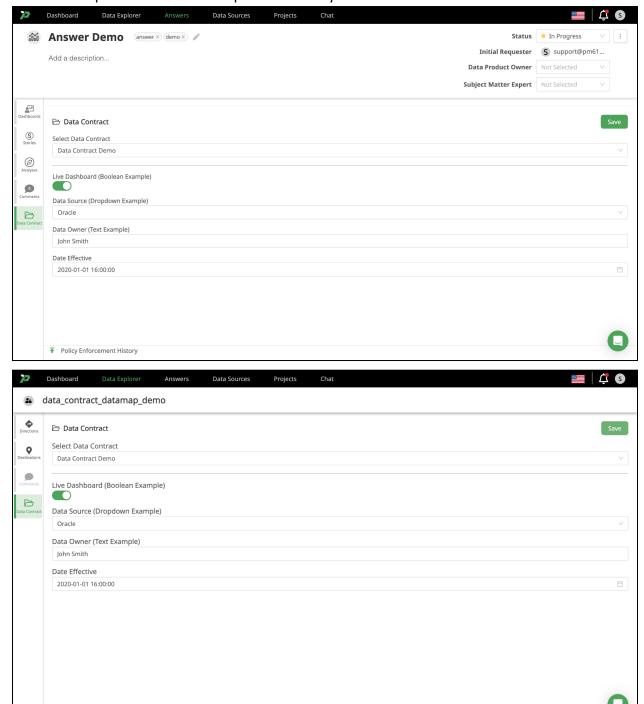


Once you are satisfied with the fields added, click Save. Fields can be conveniently edited or removed by selecting the links on the right, which will prompt a dialog box for the necessary changes.

Applying the Data Contract

With your newly created Data Contract, you can now apply it to an Answer page and/or a Datamap. Go to your selected Answer page or Datamap, and then switch to the Data Contract tab. Choose your preferred option from the dropdown menu, click 'Save,' and the Data Contract

will be set in place with all related policies actively enforced.



Ranger

Policy Enforcement History

Apache Ranger is a well established enterprise data level security tool. Promethium includes Ranger, pre-configured with Trino, within our Intelligent Edge (IE) to ensure data security.

This section describes the architecture and how to create masking and row-level filter rules in Ranger.

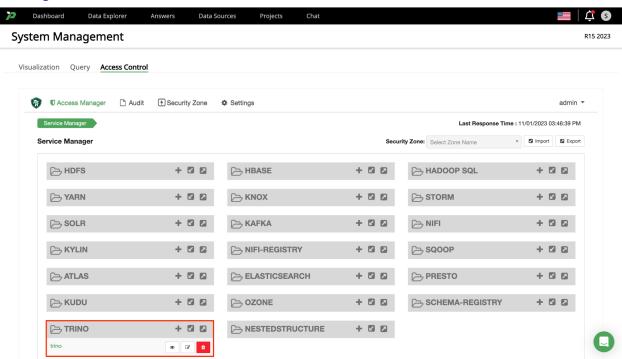
Promethium includes several core Ranger components -

Ranger Admin - This is the Ranger agent. It manages all configurations, provides a UI and allows the management of policies and permissions. This UI will be made available, embedded, directly within the System Management area of Promethium

Trino Ranger Plugin - The Trino Ranger plugin allows Trino to validate policies before executing queries.

Ranger PostgresDB - Ranger requires its own database for the storage of users and policies.

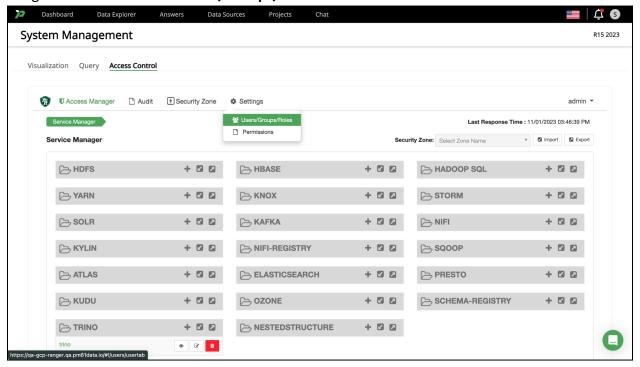
Creating a User



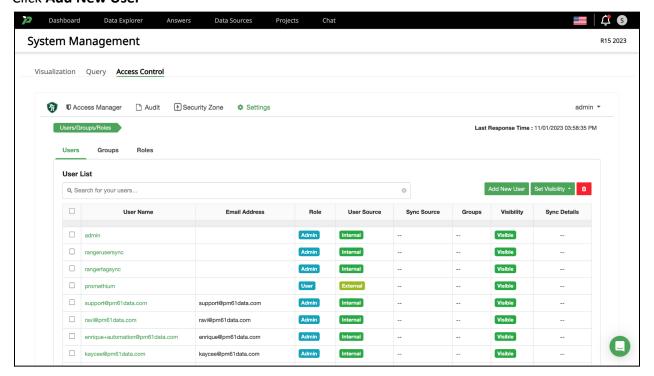
Click **System Management** and then select **Ranger**. This will render the Ranger Admin UI within Promethium.

Click on **Trino** to enter the policy manager for Trino.

To apply a rule to a user that does not exist in Ranger, hover over the **Settings** button in the navigation bar and click on **Users/Groups/Roles**.

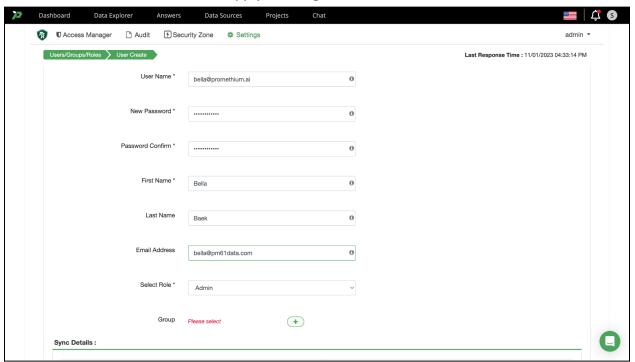


Click Add New User



Fill out the form. The username field must be the full email address of the user registered in Promethium. The password does not matter - Ranger and Promethium will match on the user.

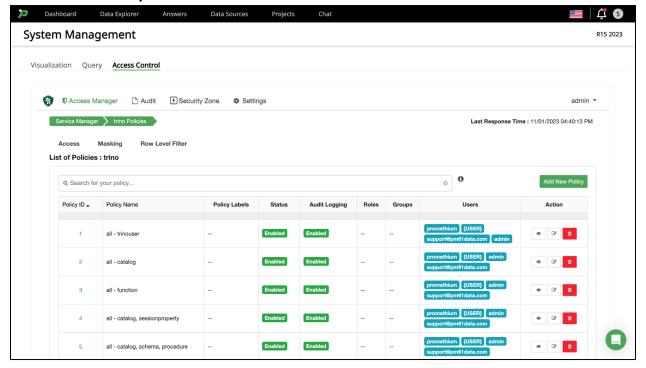
Click Save. You will now be able to apply masking and row-level rules to this user.



Creating a Masking Rule

Navigate to the **Masking** tab. If you don't see this tab, click the **Ranger** logo to move to the top level navigation, select **trino** and you should see the correct tab options.

Click Add New Policy.



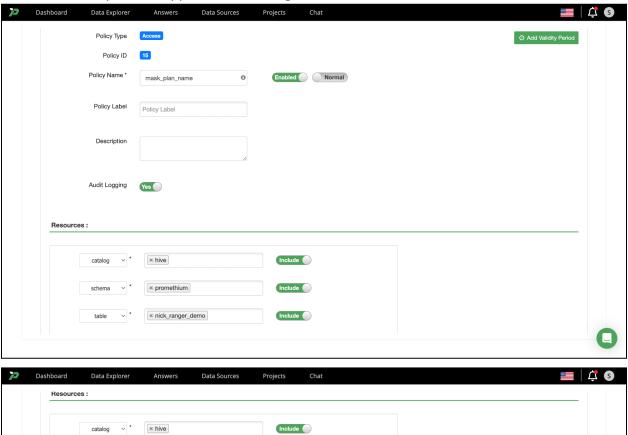
Name the policy in a manner that accurately describes your intended policy rule.

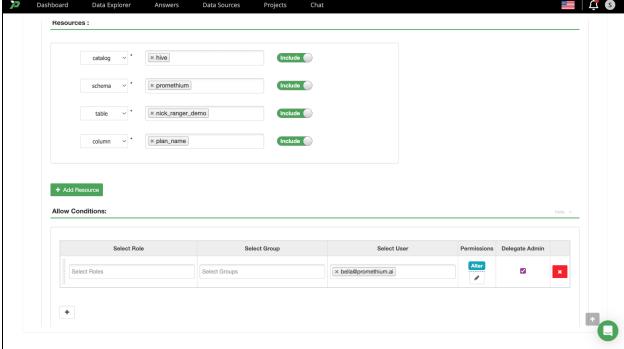
In this example we will be applying a masking rule to a datamap in Trino.

To apply the masking rule to a datamap in Trino, set the Catalog as **hive** and the schema as **promethium**.

We'll be applying a masking rule on a datamap **nick_ranger_demo** and on column **plan_name**.

Ignore any errors that pop up on the right of the screen claiming that "Resource lookup failed'. This does not impact the application masking rule.





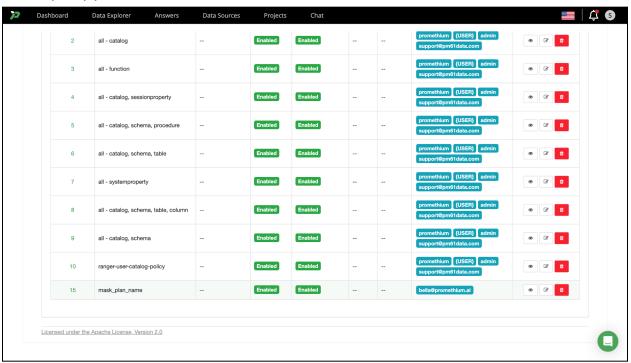
At the bottom of the form are **Mask Conditions**. Here you can define which users and rules you want to apply to the specified datamap.

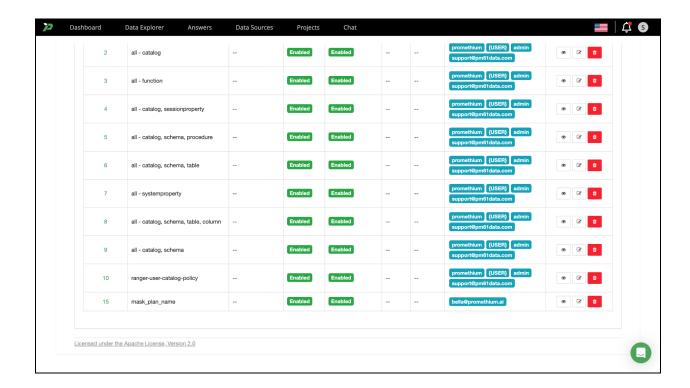
Click in the **Select User** field and either type or scroll to find one of the existing users.

Click the + button in **Permissions** and choose **Alter**.

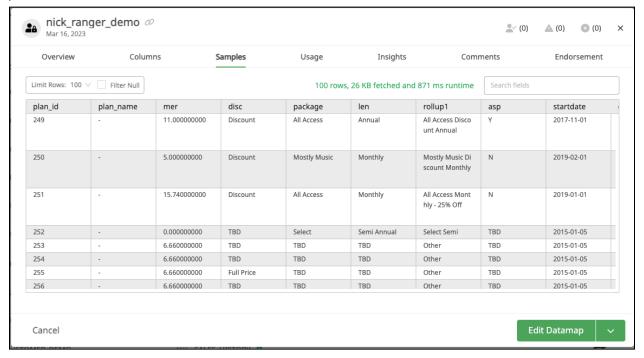
Click the + button in **Delegate Admin** and select the option you want to apply. For the purposes of this documentation we are going to check the box.

When you are satisfied with the rules click **Add** to save the rule at the very bottom of the page. The rule will instantly take effect. You will be returned to the full list of masking rules and will see the policy you created at the bottom of the table.





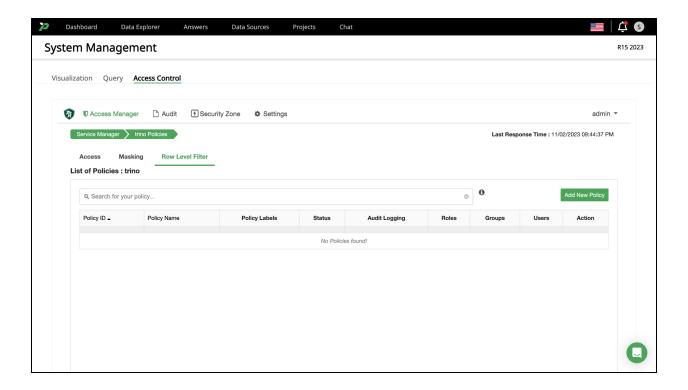
To test the rule, return to **Data Explorer**, search for the datamap **nick_ranger_demo** and click on it. Select the **Samples** tab to load the data. You will see the column you specified masked per your rule.



Creating a Role-Level Filter Rule

Navigate to the **Row Level Filter** tab. If you don't see this tab, click the **Ranger** logo to move to the top level navigation, select **trino** and you should see the correct tab options.

Click Add New Policy.



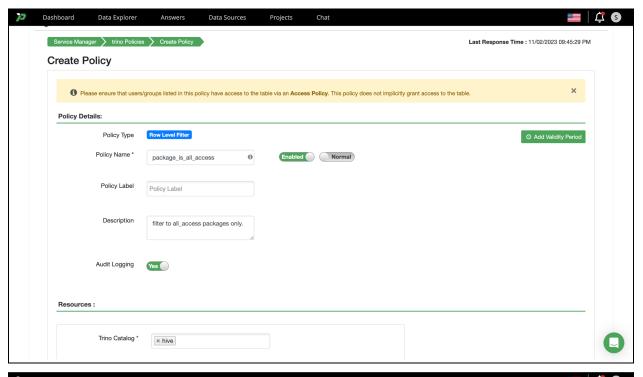
Name the policy in a manner that accurately describes your intended policy rule.

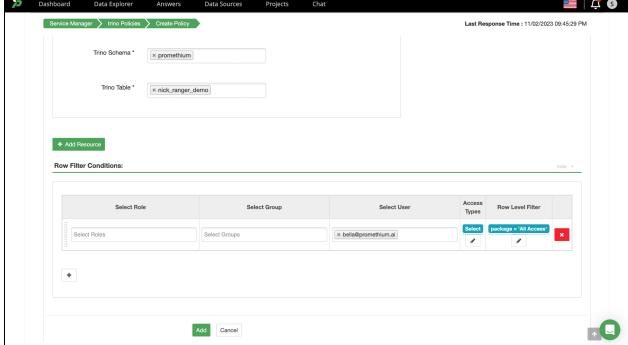
In this example we will be applying a row-level filter rule to a datamap in Trino.

To apply the masking rule to a datamap in Trino, set the Catalog as **hive** and the schema as **promethium**.

We'll be applying a masking rule on a datamap **nick_ranger_demo** and on column **package**.

Ignore any errors that pop up on the right of the screen claiming that "Resource lookup failed'. This does not impact the application masking rule.





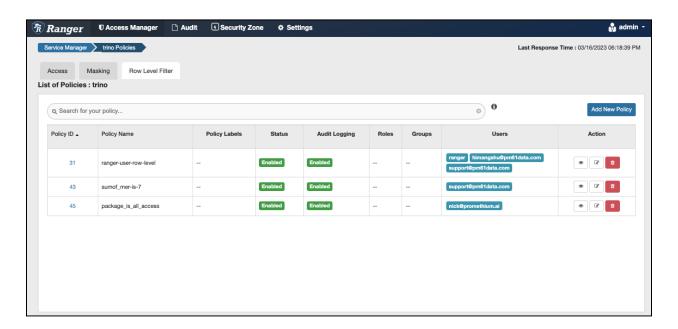
At the bottom of the form are **Row Filter Conditions**. Here you can define which users and rules you want to apply to the specified datamap.

Click in the **Select User** field and either type or scroll to find one of the existing users.

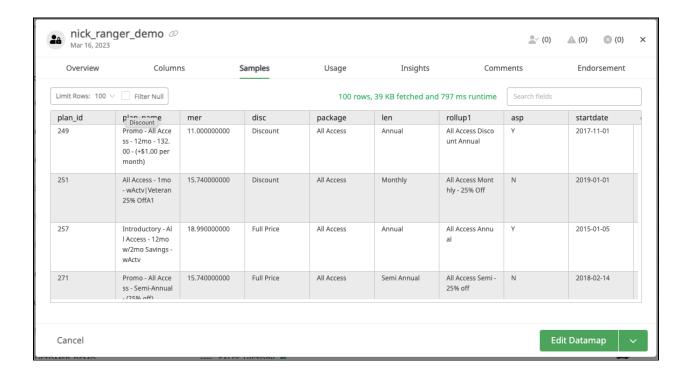
Click the + button in Access Types and choose Select.

Click the + button in **Row Level Filter** and enter the filter you want to apply. The filter expression must be a valid WHERE clause for the table or view. For the purposes of this documentation we are filtering to display only those rows which include 'all access'..

When you are satisfied with the rules click **Add** to save the rule. The rule will instantly take effect. You will be returned to the full list of masking rules and will see the policy you created at the bottom of the table.



To test the rule, return to **Data Explorer**, search for the datamap **nick_ranger_demo** and click on it. Select the **Samples** tab to load the data. You will see the row level mask you specified ensures only rows matching the mask are displayed..

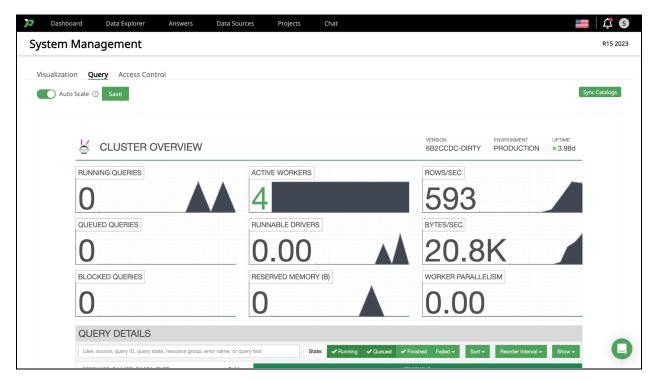


System Management

The System Management page houses realtime information on some of the major components within Promethium - Redash, Trino and Ranger. Additional component summary pages will be added in subsequent releases.

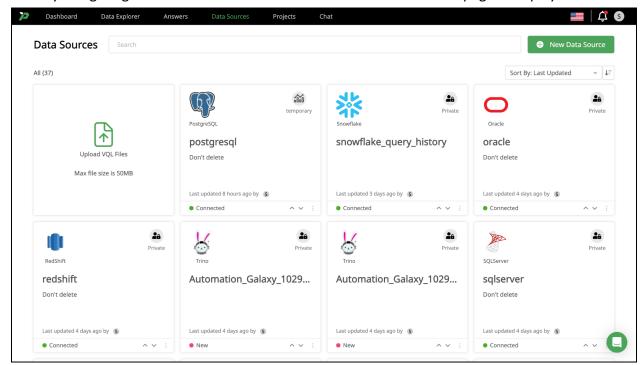
The data presented is mostly informational but can be used to diagnose performance issues, see real time environment statistics and even restart services.

To navigate to System Management click on your initial or avatar on the top navigation bar. Select System Management from the menu. Select the major system component of interest from the tabbed list at the top of the page.

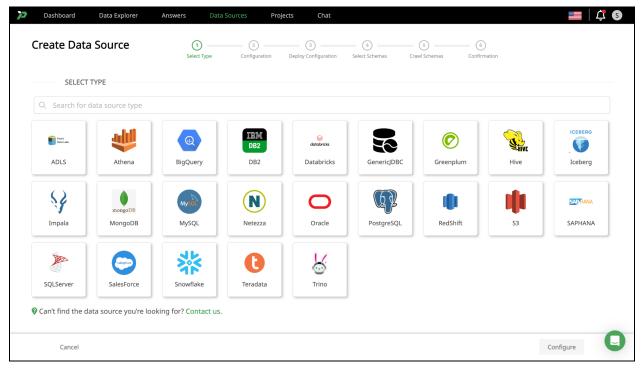


Data Sources

Start by navigating to Data Sources from the menu. The Data Sources page is displayed.



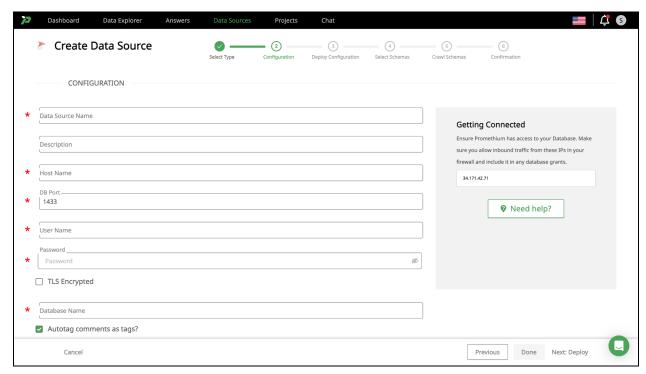
To add a new Data Source click the + New Data Source button.



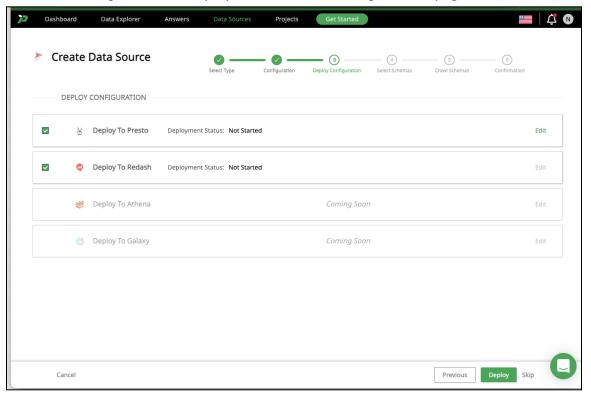
Choose a data source type from the tiles presented, or search for a specific type using the free text search box. If you choose to search for a data source, each character typed will filter the available options.

Detailed Data Source Instructions exist for the following data sources

- Redshift
- Teradata
- Athena
- Snowflake
- PostgreSQL
- Oracle
- Trino
- MS SQL Server
- Impala
- Greenplum
- AWS S3

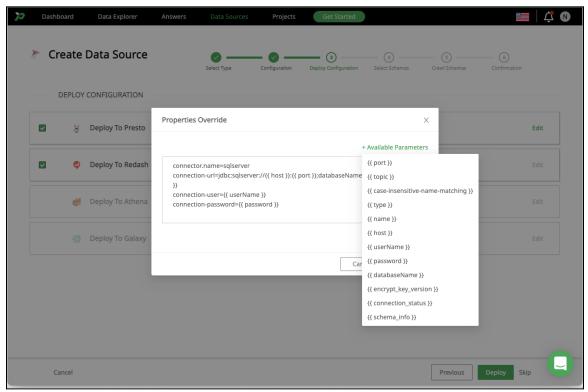


Configure your chosen data source by completing the required fields. Required fields are indicated by the presence of a red asterisk to the left of the field. Optional Advanced Parameters, if available for your chosen data source, can be entered by clicking on the Advanced Parameters > link at the bottom of the form. When you are satisfied with your configuration details click the green Next: Deploy text at the bottom right of the page.

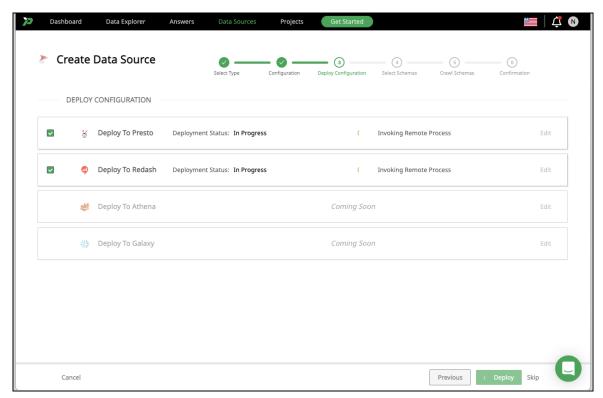


To use the data source, we must deploy the configuration to one or more query engines. You can select each that you wish to use.

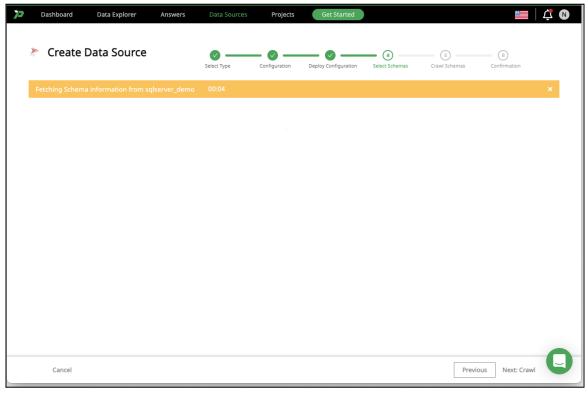
The default connector parameters required to configure access will be inferred from your configuration on the previous screen, however in the event that you need to modify or add additional parameters you can click Edit next to the query engine and modify the connector.



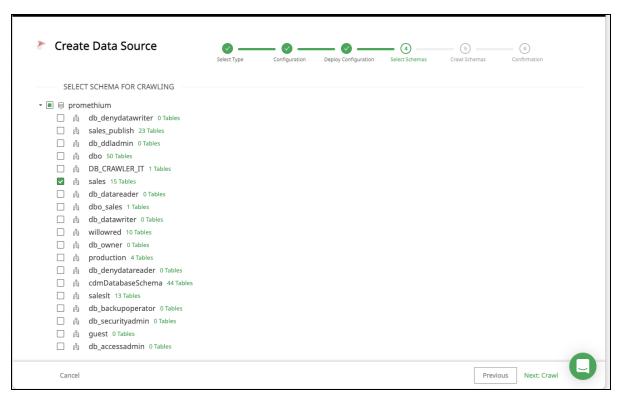
When you have completed modifications and selected your query engines, click the green Deploy button at the bottom right of the screen.



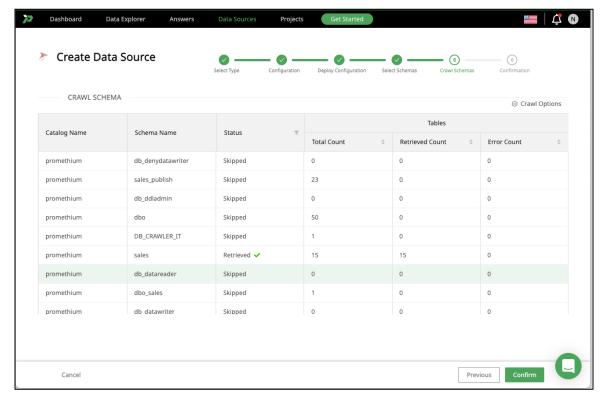
A status will read Invoking Remote Process next to each selected query engine. The deployment will take up to 2 minutes.



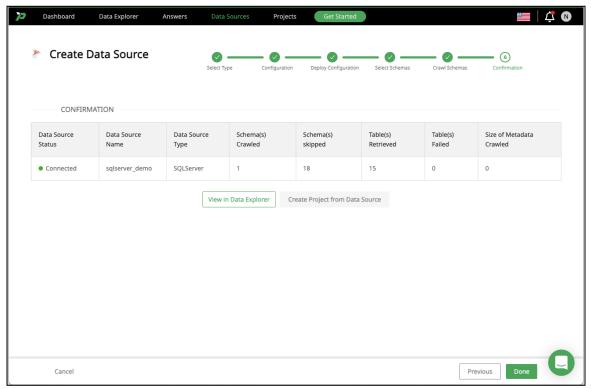
When completed a message will appear informing you that that schema information for your chosen database is being fetched.



You can now select the schemas of interest for crawling. In the example above, the schema 'sales' has been selected. To continue select the green text Next: Crawl at the bottom right of the screen.



Your selected schemas will be crawled and the page will refresh to show a confirmation of the data source, schemas and other table stats. You can either click the green Done button at the bottom right or take action immediately to view your new data within Data Explorer or create a Project.



For speed and security Promethium only stores metadata, it does not read or store any actual data.

Redshift

The Redshift connector allows data to be cataloged, queried, transformed and to create tables in Redshift. This can be used to quickly and easily join data between different systems like Redshift and Hive, or between different Redshift instances.

Connect Redshift

Connecting to Redshift is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Redshift and enter the information for your Redshift.

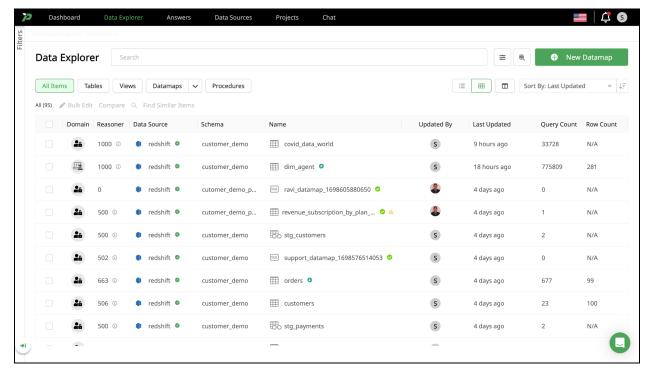


Redshift connection details can be case-sensitive. Ensure that data is entered with the correct case for your Redshift.

Field	Description
Data Source Name	Give the Redshift connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Host Name	Enter the host name for your Redshift database. For example: db.company.com
DB Port	Enter the port number for your Redshift database.
User Name	Enter the username associated with your Redshift account.
Password	Enter the password associated with your Redshift account.
Database Name	Enter the database containing the data you want to retrieve.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Redshift environment, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Redshift environment.



FAQs

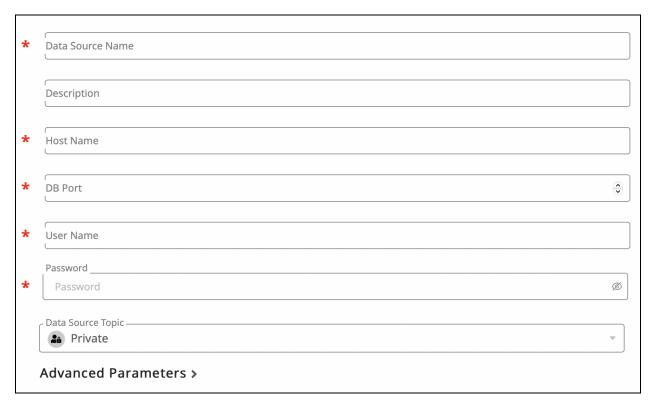
- Is my data moved or copied out of Redshift?
 - o No. Your data stays in Redshift and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in Redshift or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Redshift connector is designed for all-sized Datasets.

Teradata

The Teradata connector allows data to be cataloged, queried, transformed and to create tables in Teradata. This can be used to quickly and easily join data between different systems like Teradata and Hive, or between different Teradata instances.

Connect Teradata

Connecting to Teradata is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Teradata and enter the information for your Teradata.

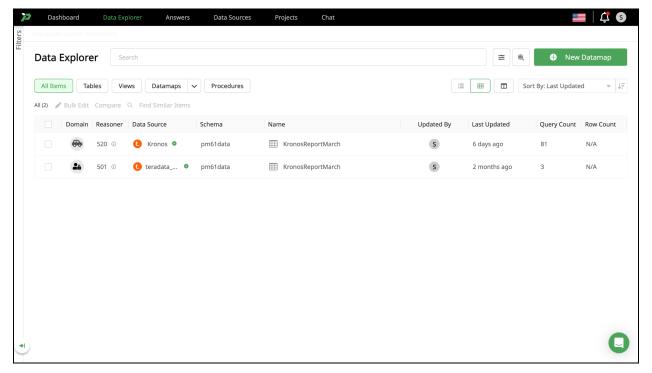


Teradata connection details can be case-sensitive. Ensure that data is entered with the correct case for your Teradata environment.

Field	Description
Data Source Name	Give the Teradata connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Host Name	Enter the host name for your Teradata database. For example: db.company.com
DB Port	Enter the port number for your Teradata database.
User Name	Enter the username associated with your Teradata account.
Password	Enter the password associated with your Teradata account.
Data Source Domain	Optional. Categorize the Teradata connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Teradata, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Teradata database.



FAQs

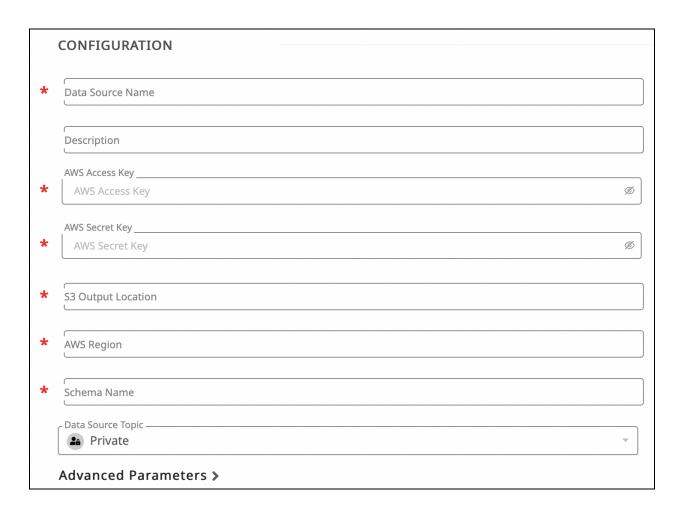
- Is my data moved or copied out of Teradata?
 - o No. Your data stays in Teradata and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in Teradata or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Teradata connector is designed for all-sized Datasets.

Athena

The Athena connector allows data to be cataloged, queried, transformed and more in Athena. This can be used to quickly and easily join data between different systems like Athena and Hive, or between different Athena instances.

Connect Athena

Connecting to Athena is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Athena and enter the information for your Athena environment.



Athena connection details can be case-sensitive. Ensure that data is entered with the correct case for your Athena instance.

Field	Description
Data Source Name	Give the Athena Connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
AWS Access Key	Unique Key for AWS Athena
AWS Secret Key	Unique Secret for AWS Athena
S3 Output Location	Indicate the location where the query output files are downloaded. Athena will cache all query results in this location.
AWS Region	Enter the region endpoint of your Athena instance. To find the region code from a region name.
Schema Name	Enter the schema containing the data you want to retrieve.

Data Source Domain	Optional. Categorize the Athena connection. For example, Marketing.
-----------------------	---

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Athena, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Athena instance.

FAQs

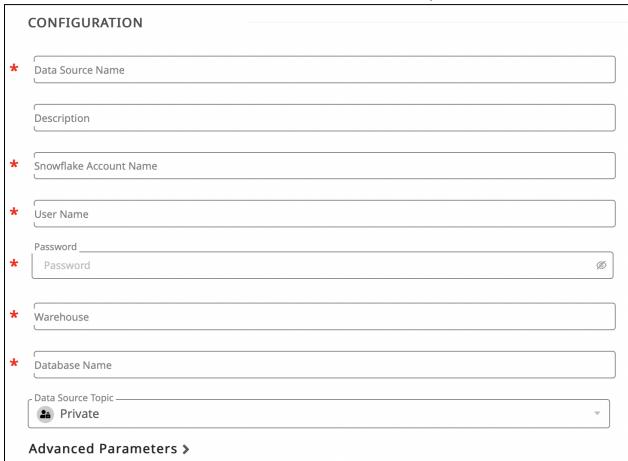
- Is my data moved or copied?
 - o No. Your data stays where it is and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, table or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Athena connector is designed for all-sized Datasets.

Snowflake

The Snowflake connector allows data to be cataloged, queried, transformed and to create tables in Snowflake Data Cloud. This can be used to quickly and easily join data between different systems like Snowflake and Hive, or between different Snowflake instances.

Connect Snowflake

Connecting to Snowflake is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Snowflake and enter the information for your Snowflake environment.



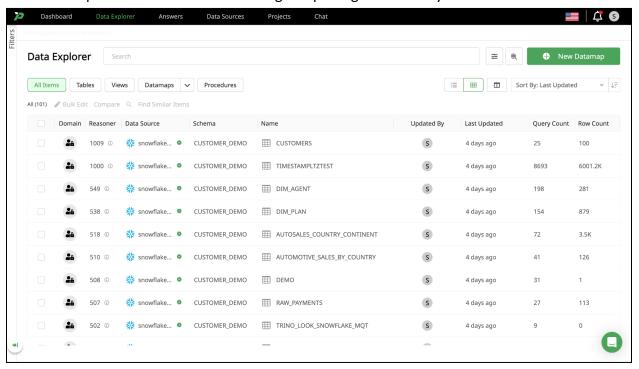
Snowflake connection details can be case sensitive. Ensure that data is entered with the correct case for your Snowflake.

Field	Description
Data Source Name	Give the Snowflake connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Snowflake Account Name	Enter the account name for your Snowflake account.
User Name	Enter the username associated with your Snowflake account.
Password	Enter the password associated with your Snowflake account.
Warehouse	Enter the warehouse containing the data you want to retrieve.

Database Name	Enter the database containing the data you want to retrieve.
Data Source Domain	Optional. Categorize the Snowflake connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Snowflake, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Snowflake Data Cloud.



FAQs

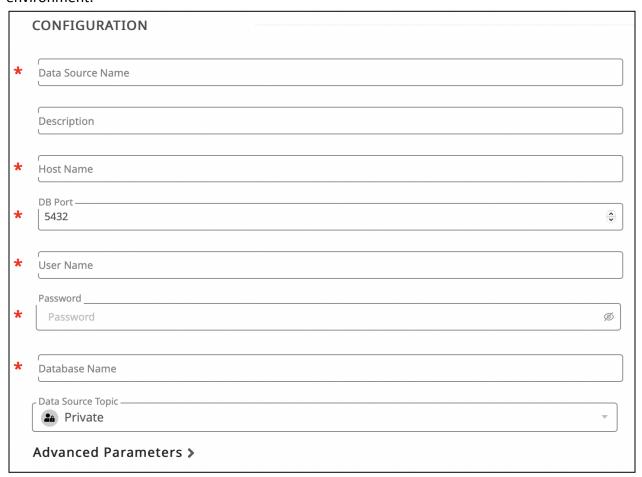
- Is my data moved or copied out of Snowflake?
 - o No. Your data stays in Snowflake and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in Snowflake or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Snowflake connector is designed for all-sized Datasets.

PostgreSQL

The PostgreSQL connector allows data to be cataloged, queried, transformed and to create tables in PostgreSQL. This can be used to quickly and easily join data between different systems like PostgreSQL and Hive, or between different PostgreSQL instances.

Connect PostgreSQL

Connecting to PostgreSQL is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select PostgreSQL and enter the information for your PostgreSQL environment.



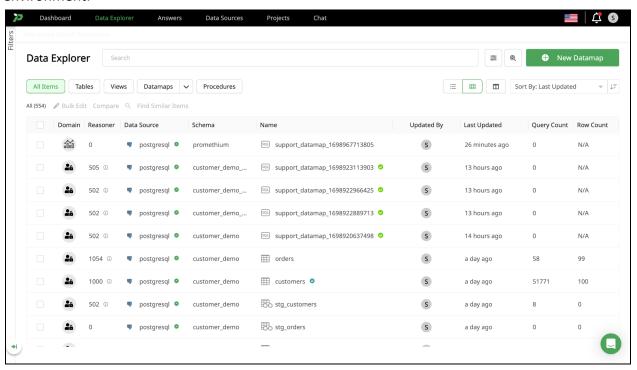
PostgreSQL connection details can be case sensitive. Ensure that data is entered with the correct case for your PostgreSQL instance.

Field	Description
Data Source Name	Give the PostgreSQL connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Host Name	Enter the host name for your PostgreSQL database. For example: db.company.com
DB Port	Enter the port number for your PostgreSQL database.
User Name	Enter the username associated with your PostgreSQL account.
Password	Enter the password associated with your PostgreSQL account.

Database Name	Enter the database containing the data you want to retrieve.
Data Source Domain	Optional. Categorize the PostgreSQL connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your PostgreSQL, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your PostgreSQL environment.



FAQs

- Is my data moved or copied out of PostgreSQL?
 - o No. Your data stays in PostgreSQL and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in PostgreSQL or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The PostgreSQL connector is designed for all-sized Datasets.

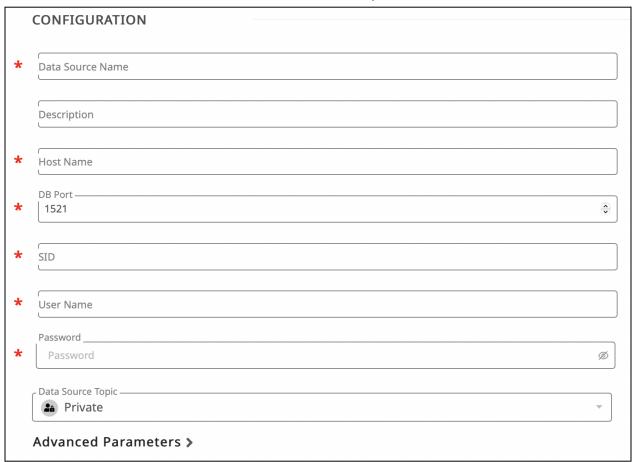
Oracle

The Oracle connector allows data to be cataloged, queried, transformed and to create tables in Oracle. This can be used to quickly and easily join data between different systems like Oracle and Hive, or between different Oracle instances.

The Oracle connector is available for all Promethium editions, including Free, Professional, Premium and Enterprise.

Connect Oracle

Connecting to Oracle is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Oracle and enter the information for your Oracle environment.



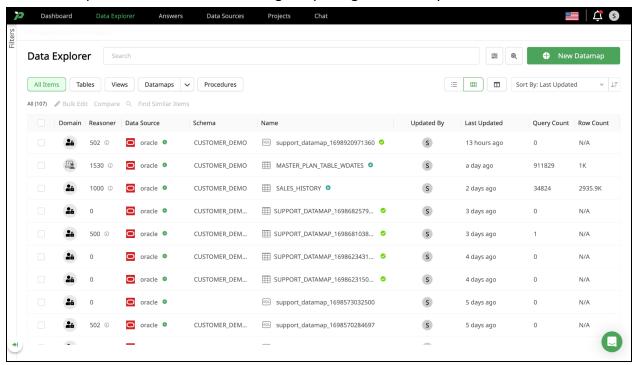
Oracle connection details can be case-sensitive. Ensure that data is entered with the correct case for your Oracle instance.

Field	Description
Data Source Name	Give the Oracle connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Host Name	Enter the host name for your Oracle database. For example: db.company.com
DB Port	Enter the port number for your Oracle database.

SID	A unique name that uniquely identifies the database instance.
User Name	Enter the username associated with your Oracle account.
Password	Enter the password associated with your Oracle account.
Data Source Domain	Optional. Categorize the Oracle connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Oracle, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Oracle database.



FAQs

- Is my data moved or copied out of Oracle?
 - o No. Your data stays in Oracle and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in Oracle or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Oracle connector is designed for all-sized Datasets.

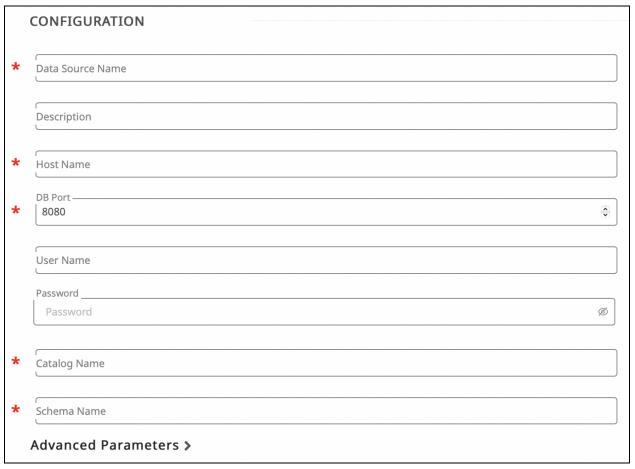
Trino

The connector for Trino allows data sources connected to Trino to be cataloged, queried, transformed and more. This can be used to quickly and easily join data between different systems.

Note: PrestoSQL was renamed Trino in December 2020.

Connect Trino

Connecting to Trino is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Presto and enter the information for your Trino environment.



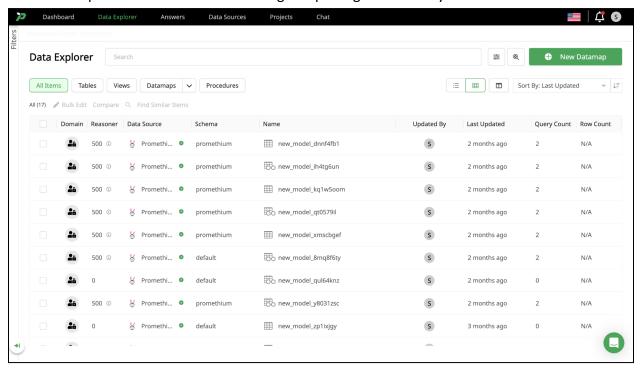
Trino connection details can be case sensitive. Ensure that data is entered with the correct case for your Trino environment.

Field	Description
Data Source Name	Give the PrestoSQL Trino connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.

Host Name	Enter the host name for your PrestoSQL Trino database. For example: db.company.com
DB Port	Enter the port number for your PrestoSQL Trino.
User Name	Enter the username associated with your PrestoSQL Trino account.
Password	Enter the password associated with your PostgreSQL account.
Catalog Name	Enter the PrestoSQL Trino catalog name.
Schema Name	Enter the PrestoSQL Trino schema name.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Trino environment, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Trino environment.



FAQs

- Is my data moved or copied?
 - o No. Your data stays where it is and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The PrestoSQL Trino connector is designed for all-sized Datasets.

MS SQL Server

The MS SQL Server connector allows data to be cataloged, queried, transformed and to create tables in MS SQL Server. This can be used to quickly and easily join data between different systems like MS SQL Server and Hive, or between different MS SQL Server instances.

Connect MS SQL Server

Connecting to MS SQL Server is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select MS SQL Server and enter the information for your MS SQL Server.



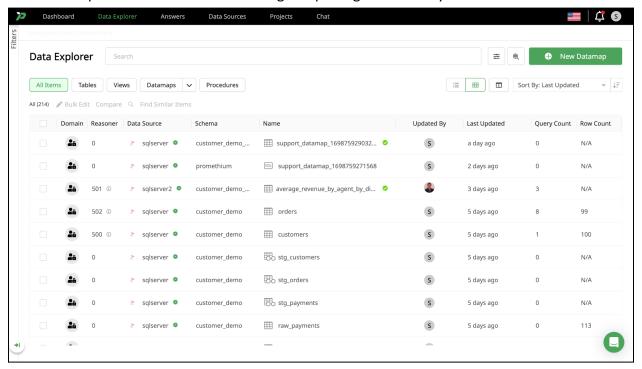
MS SQL Server connection details can be case-sensitive. Ensure that data is entered with the correct case for your MS SQL Server.

Field	Description
Data Source Name	Give the MS SQL Server connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.

Host Name	Enter the host name for your MS SQL Server database. For example: db.company.com
DB Port	Enter the port number for your MS SQL Server database.
User Name	Enter the username associated with your MS SQL Server account.
Password	Enter the password associated with your MS SQL Server account.
Database Name	Enter the database containing the data you want to retrieve.
Data Source Domain	Optional. Categorize the MS SQL Server connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your MS SQL Server, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your MS SQL Server.



FAQs

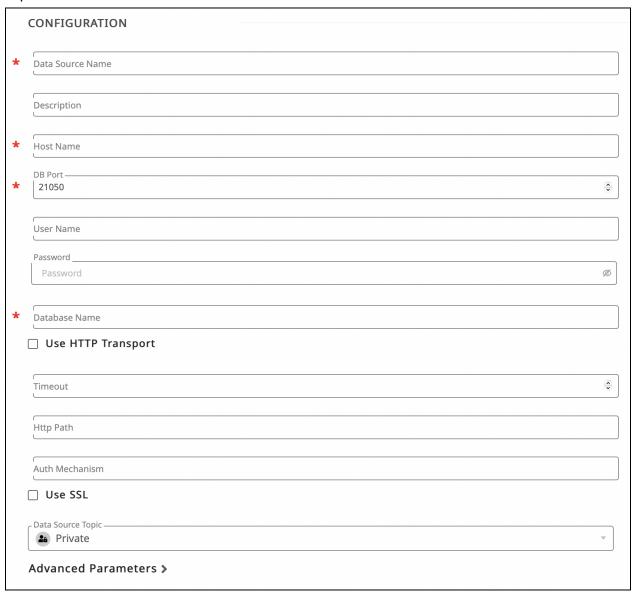
- Is my data moved or copied out of MS SQL Server?
 - o No. Your data stays in MS SQL Server and isn't moved to Promethium.
- What options are available for publishing datasets?
 - Datasets can be published as a view, as a table in MS SQL Server or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The MS SQL Server connector is designed for all-sized Datasets.

Impala

The Impala connector allows data to be cataloged, queried and transformed. This can be used to quickly and easily join data between different systems like Impala and HDFS, or between different Impala instances.

Connect Impala

Connecting to Impala is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Impala, select New connection, and enter the information for your Impala instance.

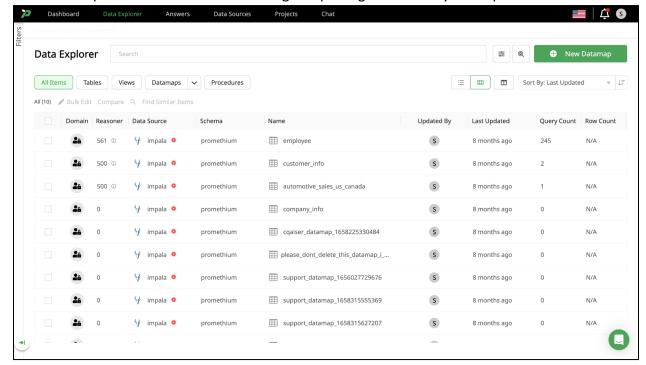


Impala connection details can be case-sensitive. Ensure that data is entered with the correct case for your Impala environment.

Field	Description
Data Source Name	Give the Impala connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Hostname	The name of the server where your data is located.
DB Port	Enter the port number for your Impala.
Username	Enter the username associated with your Impala account.
Password	Enter the password associated with your Impala account.
Database Name	Enter the database containing the data you want to retrieve.
Use HTTP Transport	Select this checkbox to use HTTP for your Impala connection.
Use secure sockets layer (SSL)	Select this checkbox to connect using SSL.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Impala environment, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Impala data source.



FAQs

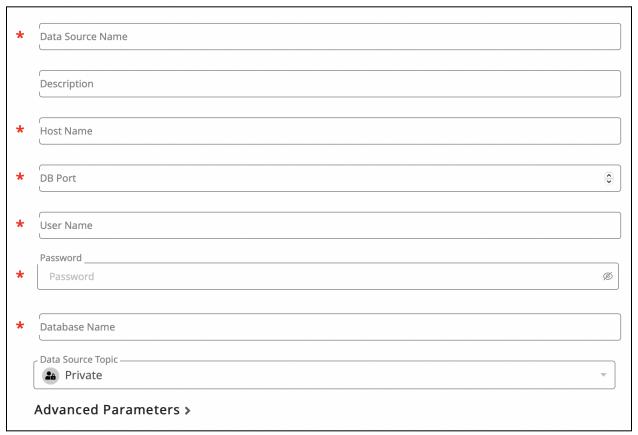
- Is my data moved or copied?
 - o No. Your data stays where it is and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Impala connector is designed for all-sized Datasets.

Greenplum

The Greenplum connector allows data to be cataloged, queried, transformed and to create tables in Greenplum. This can be used to quickly and easily join data between different systems like Greenplum and Hive, or between different Greenplum instances.

Connect Greenplum

Connecting to Greenplum is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select Greenplum and enter the information for your Greenplum.



Greenplum connection details can be case-sensitive. Ensure that data is entered with the correct case for your Greenplum environment.

Field	Description
Data Source Name	Give the Greenplum connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
Host Name	Enter the host name for your Greenplum database. For example: db.company.com
DB Port	Enter the port number for your Greenplum database.
User Name	Enter the username associated with your Greenplum account.
Password	Enter the password associated with your Greenplum account.
Database Name	Enter the database containing the data you want to retrieve.
Data Source Domain	Optional. Categorize the Greenplum connection. For example, Marketing.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your Greenplum, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your Greenplum database.

FAQs

- Is my data moved or copied out of Greenplum?
 - o No. Your data stays in Greenplum and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table in Greenplum or as a dbt model.
- Is this a Production-level connector?
 - o Yes. The Greenplum connector is designed for all-sized Datasets.

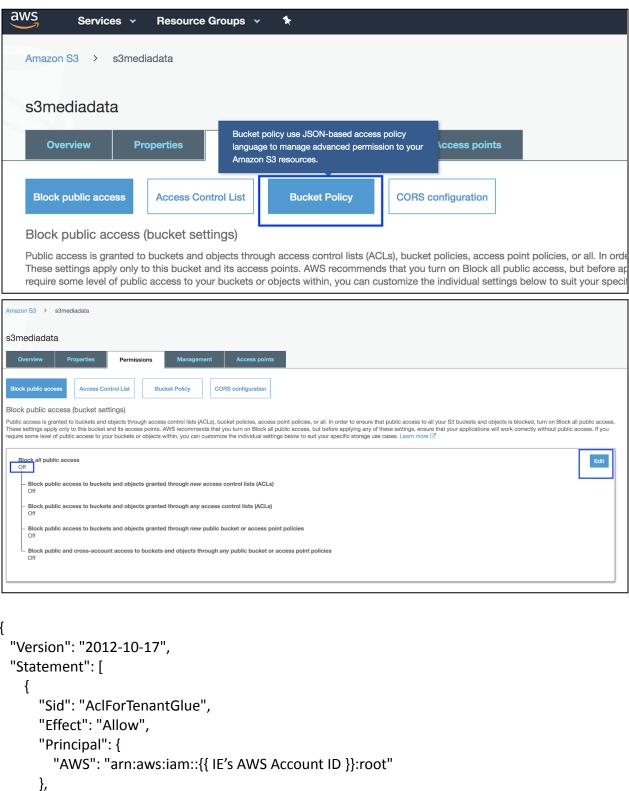
AWS S3

Promethium needs read access to the S3 bucket from Intelligent Edge (IE). This should be setup and tested after installing IE in your Cloud. Contact us for more information or assistance.

In order for Promethium to discover your data in S3, the Promethium Intelligent Edge (IE) needs to have access to it:

1. Navigate to your Bucket on S3, then make sure it is accessible from outside by changing the "Block all public access" to off (click on the Edit button on the right side to change this, as shown below in the screenshot):

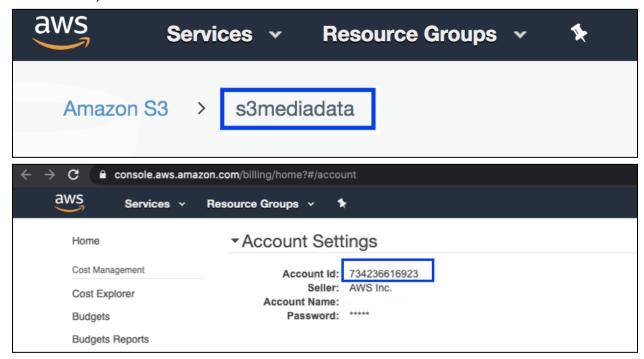
- 2. Go to Bucket Policy
- 3. In order to provide this access, you need to add the following JSON with the correct values:



```
"Action": [
    "s3:Get*",
    "s3:Put*",
    "s3:ListBucket",
    "s3:ListBucketMultipartUploads",
    "s3:ListBucketVersions",
    "s3:ListMultipartUploadParts"
],
    "Resource": [
        "arn:aws:s3:::{{ Customer's bucket name }}",
        "arn:aws:s3:::{{ Customer's bucket name }}/*"
    ]
}
```

The items highlighted in bold text are:

- IE's AWS Account Id: The AWS Account ID where the Intelligent Edge is installed. Find it in the admin side of your AWS account, which should be in this URL: https://console.aws.amazon.com/billing/home?#/account
- 2. Customer's bucket name: The name of the bucket containing the data. In the example below, "s3mediadata"



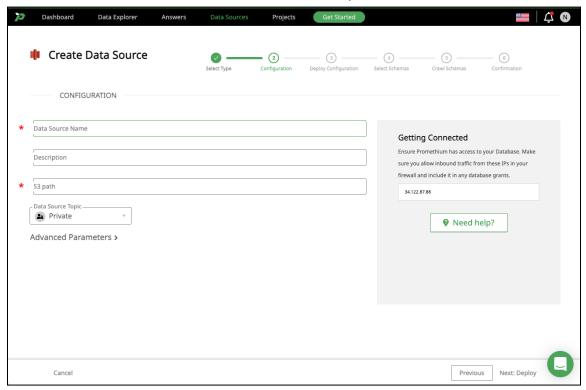
Once these JSON with the correct values have been added, you can test access using the command line from the machine where Intelligent Edge is installed.\$\$\$

```
Last login: Mon Aug 10 15:08:49 on ttys001
Antonios-MBP-2:~ antoniodelasnieves$ aws s3 ls s3://infawavedemo
2020-08-10 14:32:11 3992 Account.csv
```

An example is provided below.

Connect S3

Connecting to S3 is fast and easy. Simply click Data Sources from the menu, then click + New Data Source. Select S3 and enter the information for your AWS environment.

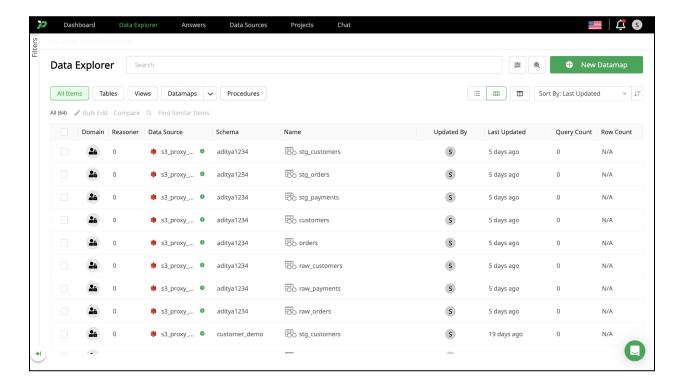


Trino connection details can be case sensitive. Ensure that data is entered with the correct case for your Trino environment.

Field	Description
Data Source Name	Give the AWS S3 connection a unique name for easy identification.
Description	Optional. A meaningful description for this connection.
S3 path	Enter the path to your s3 bucket.

Click the Connect button then select schemas. After successful connection and schema selection Promethium will automatically crawl and catalog data in your S3 environment, then make the data easily searchable and usable.

Click Data Explorer from the menu and begin exploring the data in your S3 environment.



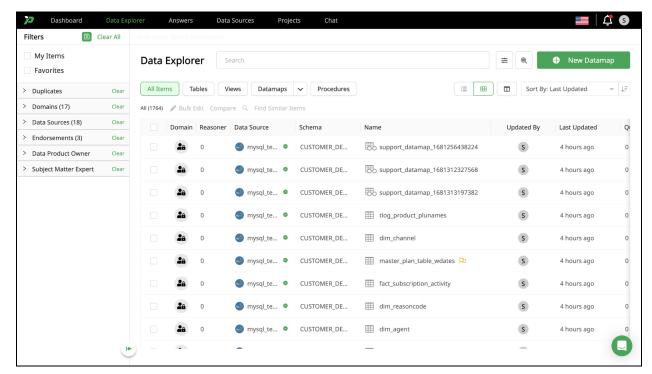
FAQs

- Is my data moved or copied?
 - o No. Your data stays where it is and isn't moved to Promethium.
- What options are available for publishing datasets?
 - o Datasets can be published as a view, as a table or as a dbt model.

Data Explorer

Data Explorer is the fast and easy way to explore data across distributed data sources.

Use Data Explorer to find, tag and preview data. Open Data Explorer from the menu. The list of data sources and tables is displayed.

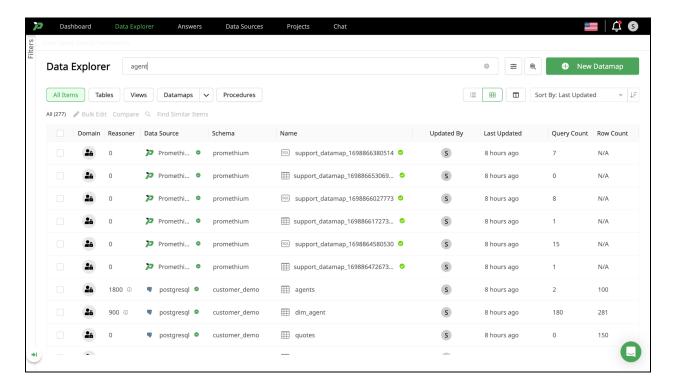


A number of powerful result filters are present immediately above the table of results.

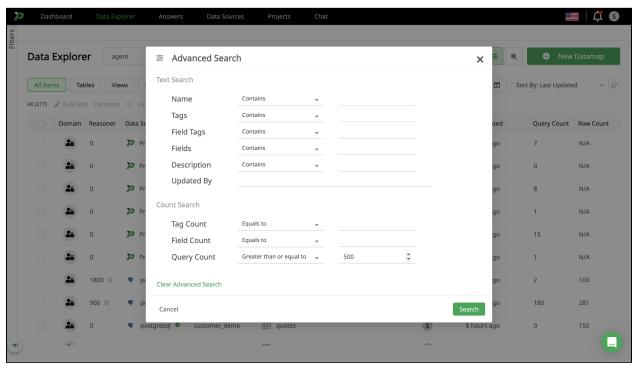
- My Items Items that have been created by your user account.
- Favorites Tables, views, and datamaps that are favorited marked by a yellow star.
- **Duplicates** Any items that have been flagged as a copy.
- **Domains** Selecting a specific domain or domains and the items associated.
- Endorsements View items by endorsement statuses from "Endorsements," "Warning," and "Deprecation."
- Data Product Owner Filter items by specific data product owner.
- Subject Matter Expert Filter by assigned SME.
- All Items Default filter that shows all available tables, views, and datamaps.
- Tables This filter selection only shows tables.
- **Views** This filter selection only shows views.
- **Datamaps** This filter shows only datamaps and can specify if the datamaps are "Published" or "In Progress" status.

You can combine one or all of these filters to rapidly narrow in on your required data.

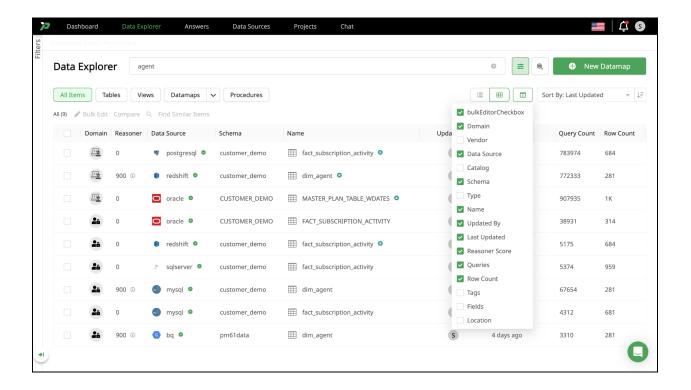
You can use the search bar in conjunction with these filters, as desired, to search for data. Enter the search term in the search bar and click Search. The search results are displayed.



You can access our Advanced Search dialog by selecting the slider icon immediately to the right of the search box. This makes it easy to perform field specific text searches or even numeric count searches such as limiting the result set to those with a query count greater than or equal to 500.

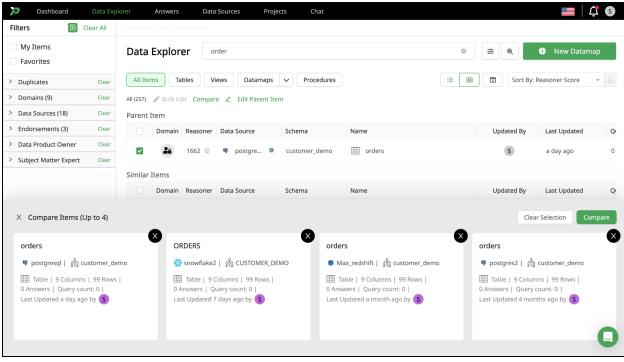


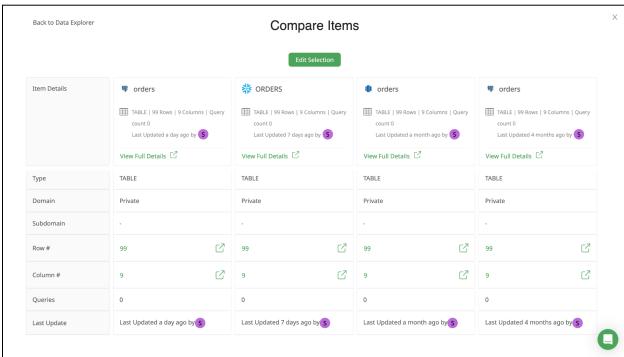
To make the result set more readable, you can add or remove columns from the Data Explorer table with the column selector in the top right corner.

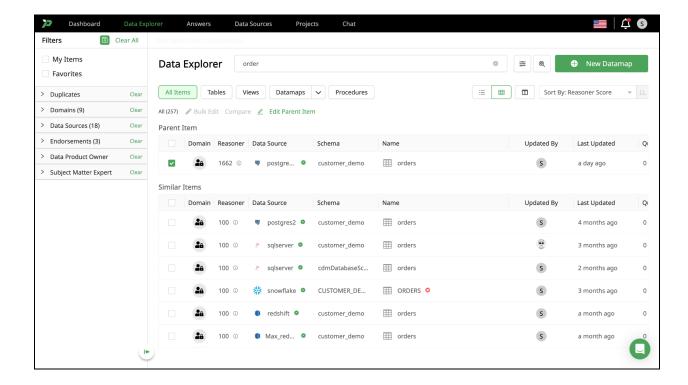


To find a similar table, begin by selecting a table and then clicking "Find Similar Items." The "Parent Item" is the originally selected table where you wish to find similar items, you can select a maximum of 4 items. Once you are satisfied with the selections made, click "Compare." This view facilitates side-by-side comparison of up to four items, providing insights into each item's column and row count, associated database, schema, description, endorsements status, item

type, classified domain/subdomain, and the latest update date.

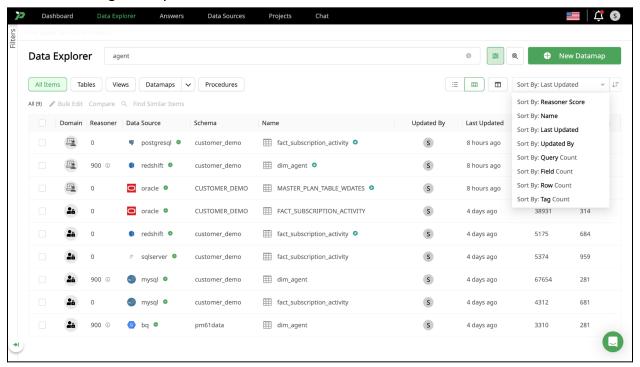






Filter and Sort Tables

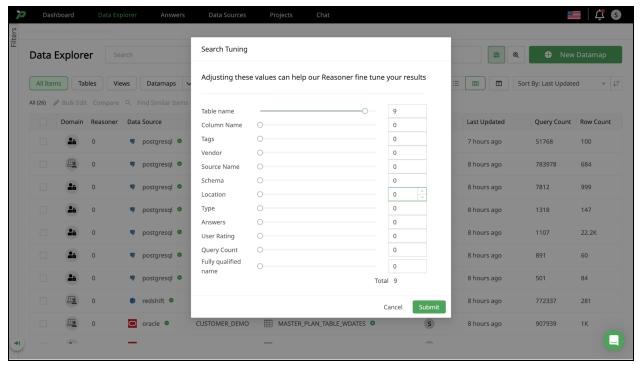
To help find and explore the data available you can select from a number of Sort By refiners from the drop down at the top right. The button to the right of this selection field will invert the selected sort. e.g. Sort by Name from A-Z or Z-A.



Feature	Description
Reasoner™ Score	Reasoner [™] uses machine intelligence to recommend the best match
Name	To help locate specific Table, Datamap or Views
Last Updated	Sort by the date of the last update
Updated By	Sort by the username who last updated
Query Count	Sort by the query volume (e.g. how popular or frequently a table, datamap or view is queried)
Field Count	Sort by the number of fields
Tag Count	Sort by the number of tags. The count of tags is an indicator of data usage and trust in the underlying data.

Reasoner

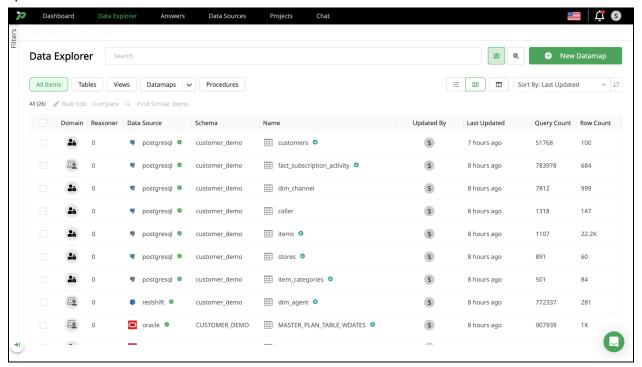
By default, the result table is sorted by ReasonerTM score. The Reasoner score is tunable by you at any time. Simply click on the magnifying glass icon to the right of the search bar to bring up the Search Tuning dialog.



Adjusting the sliders or numeric values will alter the weight applied to the concept e.g. a value of 10 for Table Name will place more importance on the name of a table when searching for matches to your query. Tables with names that match your query will have a higher Reasoner score than those with a tag matching your query (assuming the tag value is set lower than 10).

Preview Data

To explore the metadata on a table, datamap or view, and to preview data and columns, mouse over a row of interest. The row will highlight indicating that a click anywhere on the row will open a detailed view.



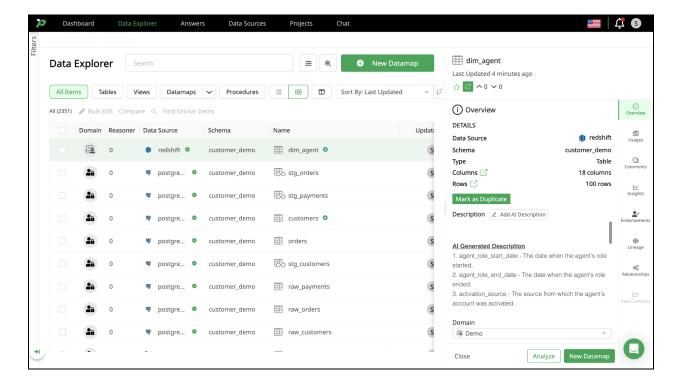
The detail view is grouped by six navigational areas:

Overview

The overview screen details some key information about the data.

- Data Source e.g. Oracle. Snowflake etc.
- Schema The schema name
- Type The type of data being explored e.g. Table, View or Datamap
- Columns The number of columns in the data
- Rows The number of rows that will be automatically populated in the preview, default is 100 rows if data contains over 100 rows. Preview limits can be changed from 100 to 200, 500, and 1,000.

Immediately under these data facts is the fully qualified name of the data followed by a rich text Description wiki editor where users can enter information useful to themselves and others in future. The description, tags, and even who last updated this information is metadata that is used by the Reasoner and our advanced text search.

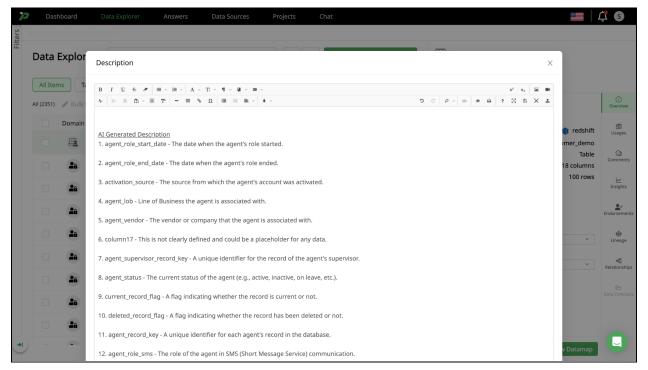


On the right of the overview are quick visual summaries of data represented in detail on the other tabs e.g. how many up or downvotes have been received. Here you can also assign a Domain and subdomain and add or remove tags.

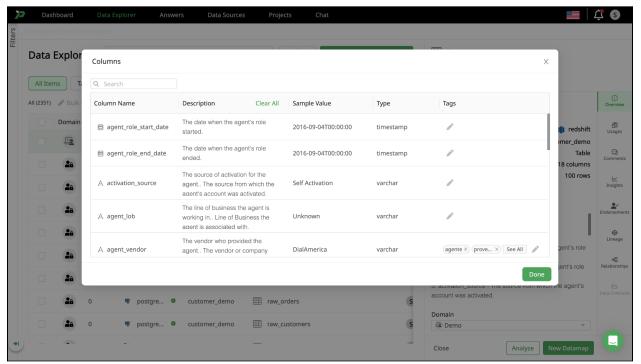
Columns

The Columns tab details each column within the data.

- Column Name The column name is displayed along with an indication of the data type within e.g. A for varchar, #.# for decimal. The details of the data type are located in the Type column of this table.
- Description As with the description wiki editor on the Overview tab, this field is a rich user editable wiki controlled field. Hovering over the area will display an edit pencil icon. Click on the icon to load the wiki editor. Changes are not saved automatically, it is important to click on the save icon (floppy disk) when you are satisfied with your modifications. Any description here is included within the text search and Reasoner score. Additionally, there's the functionality to generate descriptions using AI capabilities by clicking "Add AI Description." The description will be generated automatically and note that it was AI generated.



- Sample Value Randomly returned sample data from a row within the column.
- Type The data type represented by the column.
- Tags Tags can be added to columns, tables and questions. These tags are column specific and are not displayed on the Overview tab. They are part of the free text search and Reasoner score. Tagging enhances the search experience and adds context with the use of synonyms.

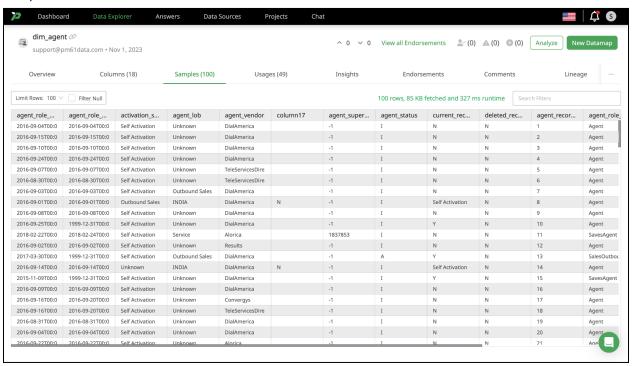


Samples

The Samples tab details a limited results set pulled live from the data source.

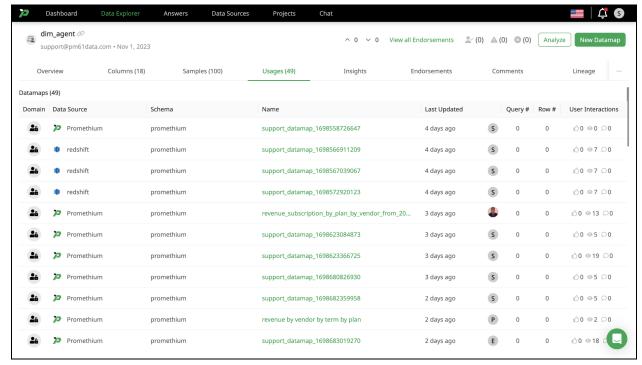
The default sample size is 100 rows. You can modify this to a different, preset value (100,200,500,1000) by selecting the Limit Rows carat at the top left of the screen.

You can search the returned data using the search box at the top right. Any column with matching information will be highlighted. Note: This search is limited to the returned sample data, not the full result set.



Usage

The Usage tab details where the data is being used, and how.



The screen is grouped by Datamaps and Answers, and lists how many of each concept utilize the data.

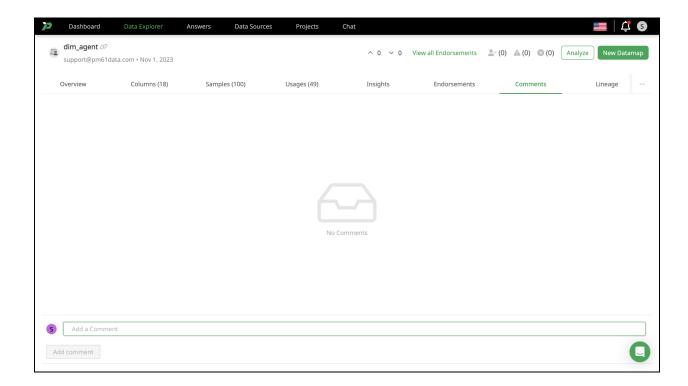
Clicking on any of the linked Datamaps or Answers will open that item in a new window. No modifications can be made directly from this view, it simply links you to the underlying usage where modifications can be made.

Comments

The Comments tab shows all user comments by name and date. The comments are ordered from oldest to newest.

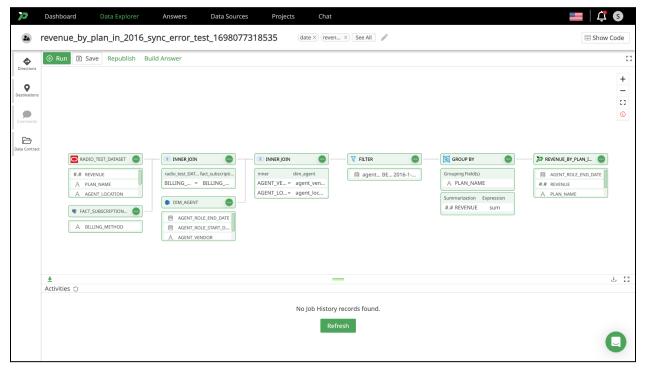
Comments can be added by entering the comment in the text field and clicking Add comment. Comments can be deleted or edited by selecting the appropriate icon next to an existing comment.

Comments are not included in our Advanced Search at this time.



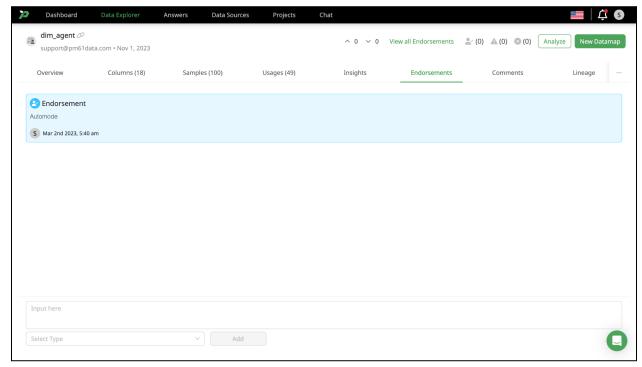
Lineage

The Lineage feature displays the tables underlying the datamap. By expanding the '+' symbol, you gain access to detailed information, including utilized columns, joins, group bys, unions, and more.



Endorsement

The Endorsement tab shows all user endorsements, warnings or notes on deprecation.



Endorsements are ordered from oldest to newest and include the username and any comment they included along with their endorsement.

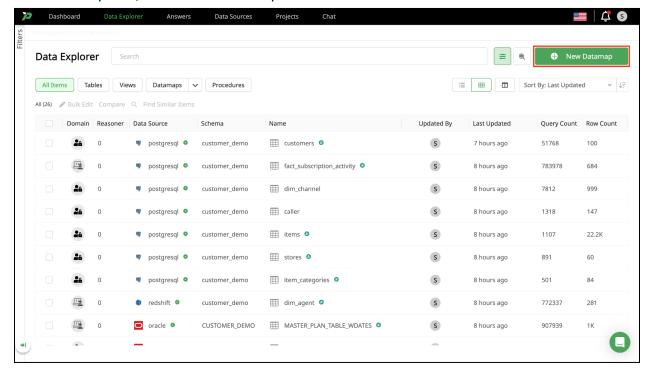
Datamaps

A datamap is, in essence, an augmented dataset. It is the term used to describe a dataset and all the additional metadata and user enrichment available through Promethium.

The key steps for building a Datamap include:

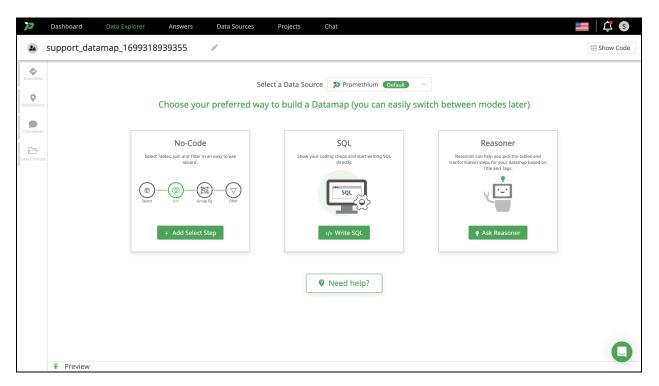
- Add tables, and add and edit joins
- Select and rename columns
- Add filter, Group By, and Order By

From Data Explorer, click + New Datamap.



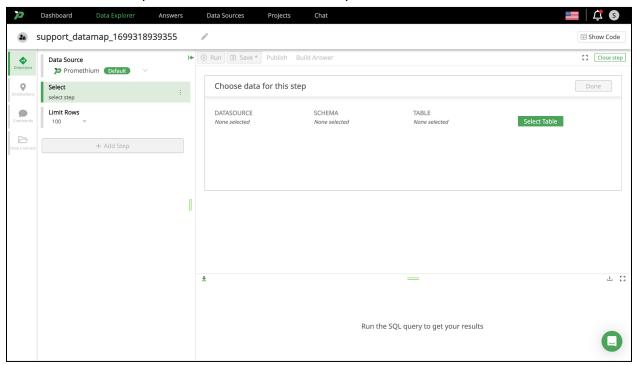
You can select one of three different methods to build a datamap. It's possible to switch between these modes as you go.

- No-Code a wizard based flow intended for those with little to no SQL knowledge.
- SQL a full web based IDE that allows you to write unrestricted SQL code directly.
- Reasoner an AI powered builder that will make recommendations on tables and transformations based on the title and description you provide.



No-Code

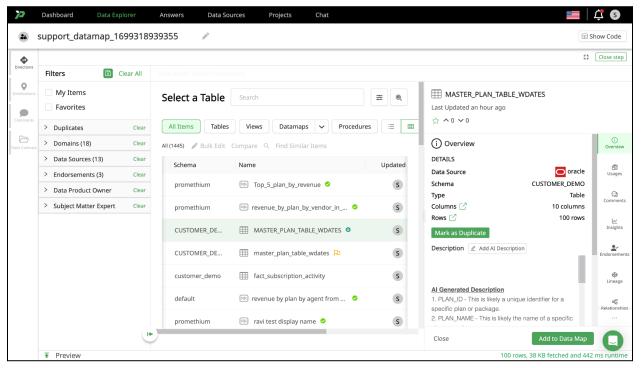
Click + Add Select Step to enter the No-Code datamap creation flow.



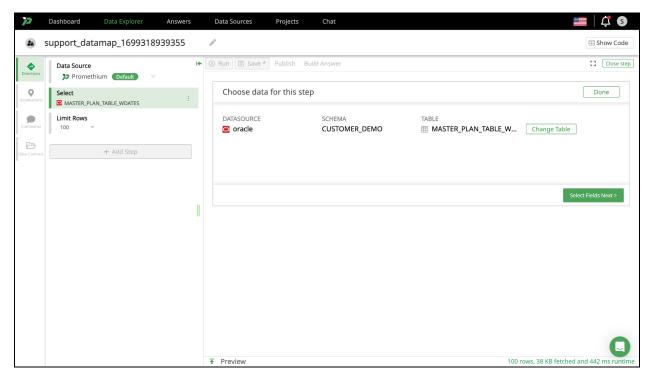
A default Domain and title will be assigned. You can modify these now or accept the defaults and modify at a later time. You can add tags which will be used by the advanced search to help users locate your datamap.

To swap to the SQL mode click on Show Code at the top right of the page. You can swap back to the no-code flow as required.

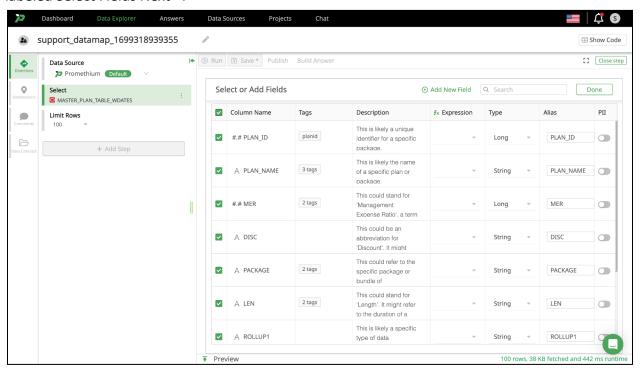
The first task is to select a datasource, schema and table. Click Select Table. The Direction tab will display a tabular layout almost identical to the Data Explorer page. From here you can use search and filters to locate and select the table, view or even existing datamap you want to add to your datamap.



Click the object you want to add and from the modal click Add to Data Map.

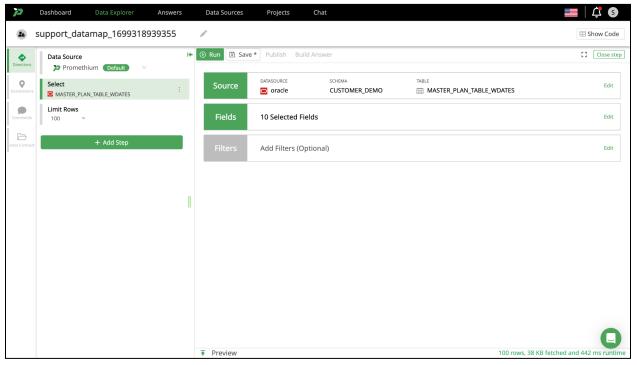


Now we can select the field or fields we are interested in from this table. Click the green button labeled Select Fields Next >.

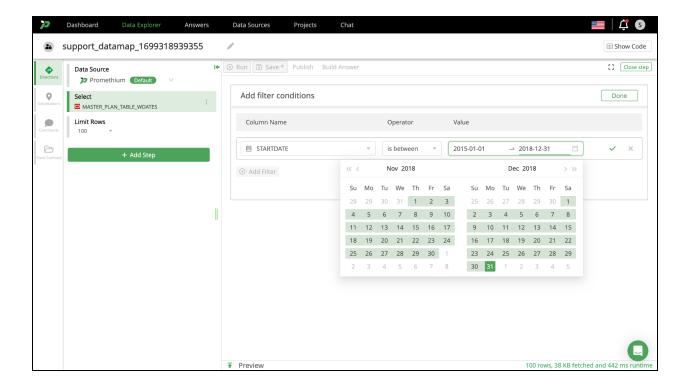


Select one or more fields to add to the datamap by clicking the check box to the left of the row(s) of interest. At this time you can modify the alias of the field for easier identification, flag the field as containing PII, choose to modify the datatype (e.g. cast from date to string), add specific tags or a description and even create a custom expression.

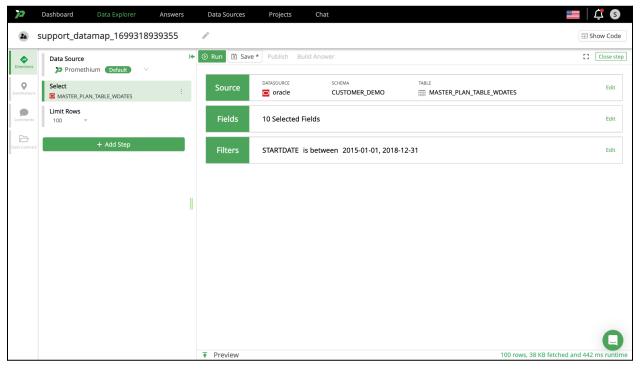
When you have made your selections and modifications select Done.



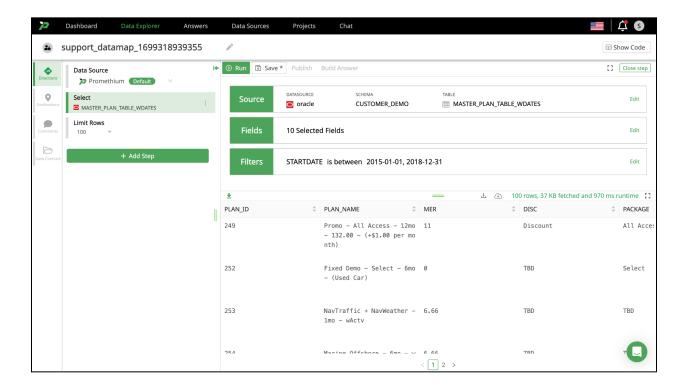
Lastly we can add any optional filters. Filters can be combined as required. Select a column from the drop down list, select an operator and finally enter any value as required. When you're happy with your filter click the check mark next to your rule to apply it.



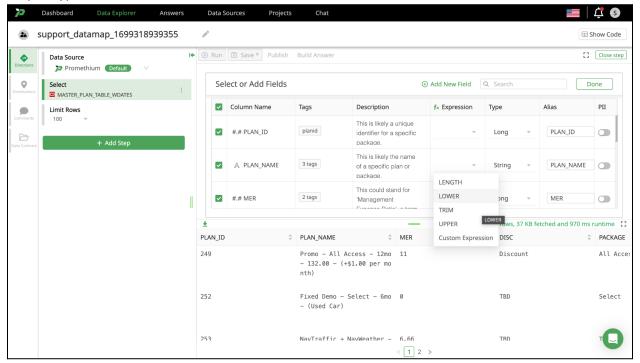
When you are satisfied with your selections and filters, click the green Run button at the top of the screen to execute your datamap. This will execute the query and render a row limited result set to allow you to confirm the output.



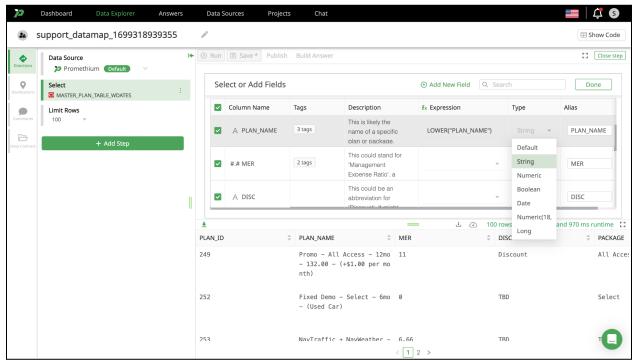
If you are satisfied with the output we must save the datamap in order to make it available for use. Click the Save button next to the Run button previously clicked.



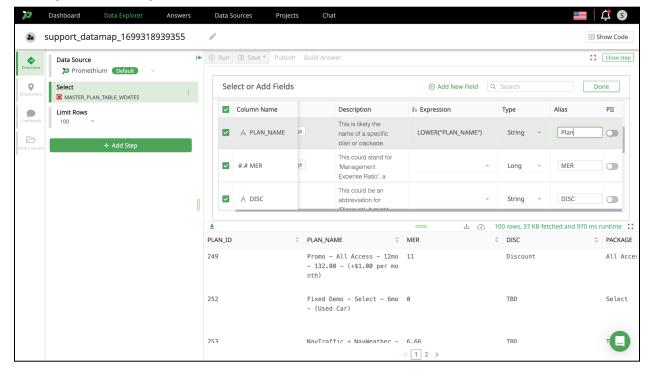
Custom Expressions - you can create custom expressions with an alias and defined output type.



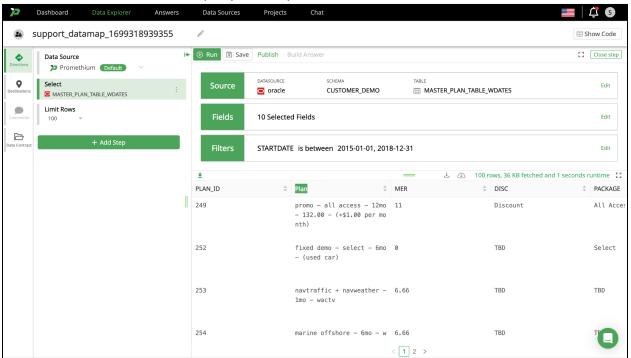
Type conversions - you can select a specific data type for the fields within a column (e.g. cast a date field to a string)



Alias - you can set a specific alias for a field.

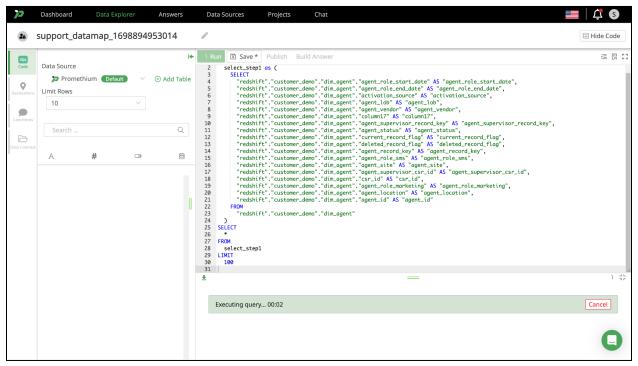


You can modify your Fields as much as required until you are satisfied. After each change click the Run button to execute the query. When you're satisfied with the results, click Save.



SOL

Clicking the <> Write SQL button launches the advanced SQL mode. Swapping between modes (clicking the Hide Code button) can cause some customizations to be lost. It is far more common to lose customizations when moving from the advanced views to the less advanced.

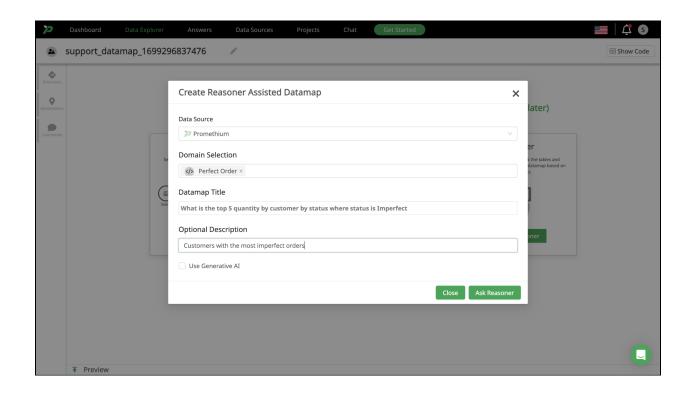


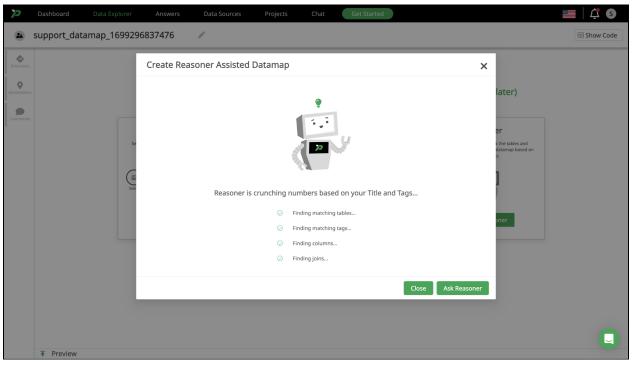
The advanced SQL mode is a web based SQL IDE wherein you can modify and execute any changes you need.

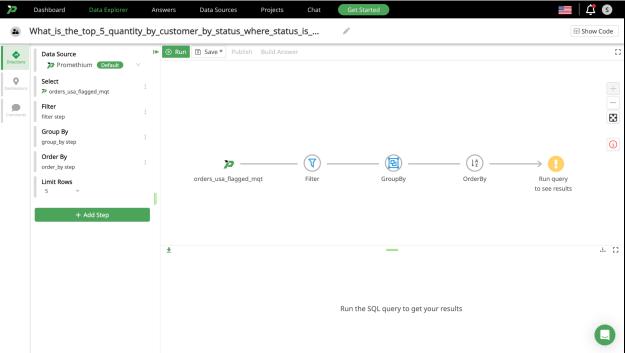
This view is intended for SQL experts. SQL is a powerful language and it's easy to encounter errors. You can modify your SQL as often as required and click the Run button to execute the query. When you're satisfied with the results, click Save.

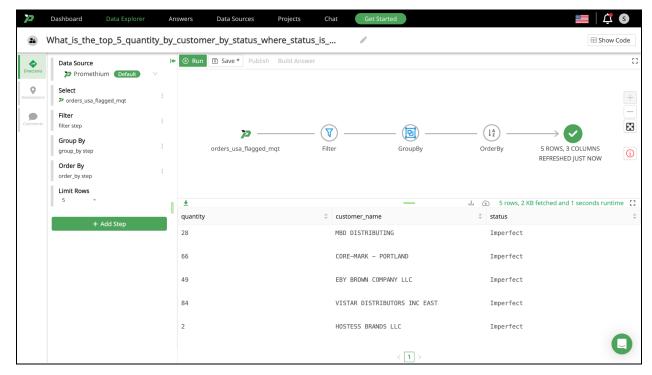
Ask Reasoner

Clicking the Ask Reasoner button, a window will pop up. Select the appropriate Domain to narrow the search for a more relevant dataset. Give the datamap a title, once you are satisfied, click "Ask Reasoner" on the bottom right. When using Reasoner, Promethium uses key phrases used in the Data Map title to create your datamap, including parameters when asking a question.









Data Pipelines

After a datamap has been saved, a new option of Publish will be available as will the Destinations tab on the left of the screen.

Promethium supports publishing a View, Table or dbt Model. For each option you can configure the destination, selecting a datasource and schema to publish to. The view name will be the

support_datamap_1698894953014 ≣ 🖫 [] Close □ View 0 **Destination Configuration** ublish Done Datamaps built on Promethium can only be published to datasources deployed in Promethium Ⅲ Table DATASOURCE SCHEMA TARLE NAME Not Published, click here to configure destination support_datamap_1698937377781_mqt dbt Model Executing query... 00:00 Not Published, click here to configure destination ± ⊕ ‡; Activities 🔾 No jobs found. Comeback later to check for scheduled jobs!

name you assigned to your datamap when you saved it in the previous step.

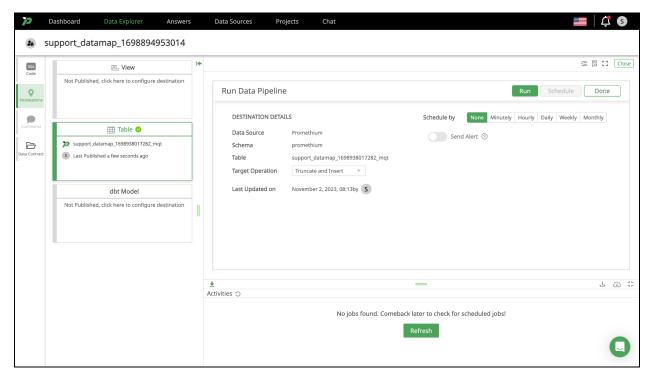
Select your desired datasource, schema and specify a table name. Click Publish.

Your pipeline will execute.

Pipeline Scheduling

You can schedule pipeline execution for any published Table or dbt Model.

From the Destination tab, click the dbt Model or Table you wish to schedule. Click Run to run the data pipeline.



On the data pipeline page you can select a time based schedule. You can execute a one time pipeline execution by selecting non as your schedule. Alternatively you can configure your pipeline to execute every specified number of minutes, hours, days, weeks or months. Daily, weekly or monthly selections will require you to specify a time of day in addition to the specific day or date.

You can enforce the continuous execution of your pipeline on your schedule by leaving the default choice of Ends At Never selected. Alternatively you can specify a specific end date/time to limit the pipeline execution to a specific schedule.

When you are satisfied with your pipeline schedule click the green Schedule button to save your selections and trigger the pipeline schedule to execute.

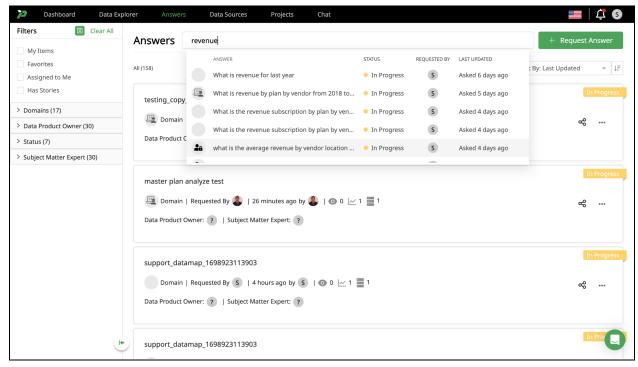
Answers

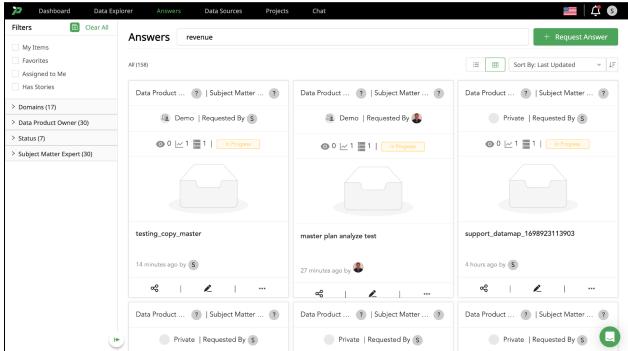
All in one convenient location, questions can be searched, created and answered.

Search for Answers

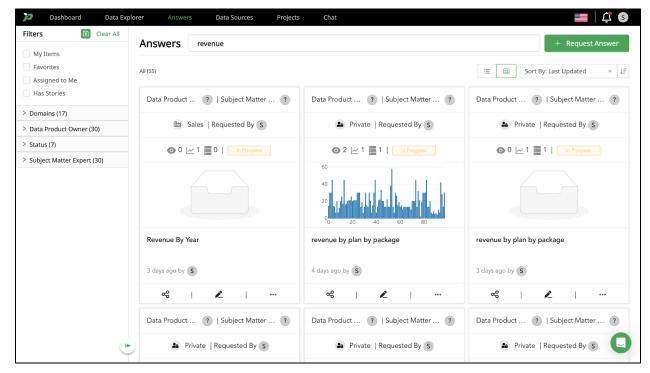
Searching for and filtering Answers is easy and uses keywords and tags associated with the Answer to make search results highly relevant.

Using the search bar, you can quickly find results matching your query. Matches will be directly displayed below the search bar. You can select the most appropriate answer directly or hit return to see a more detailed results page from which to make your selection.





The detailed results page shows tags, status and who originally requested the Answer alongside usage metrics such as view count, the number of dashboards that have been created and the number of queries. Available to view results in either a list or grid view.



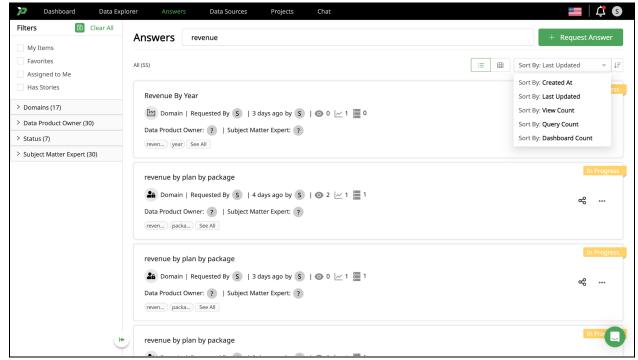
Filter and Sort Answers

As with the Data Explorer, you can rapidly filter your results using the powerful result filters that are present immediately above the table of results.

- Domains Search or browse for an existing Domain to limit the result set to that Domain
 or set of Domains.
- **Status** Filter by the status set by the owner of the Answer Published, New, In Progress or Assigned to Me (Answered or Unanswered).
- **Has Stories** Has Stories will limit the result set to those which have Stories. Clicking the filter will toggle it on or off.
- **Favorites** Favorites will limit the result set to those which you as a user have favorited. Clicking the filter will toggle it on or off.

You can combine one or all of these filters to rapidly narrow in on your required data.

To help find and explore the Answers available you can select from a number of Sort By refiners from the drop down at the top right.

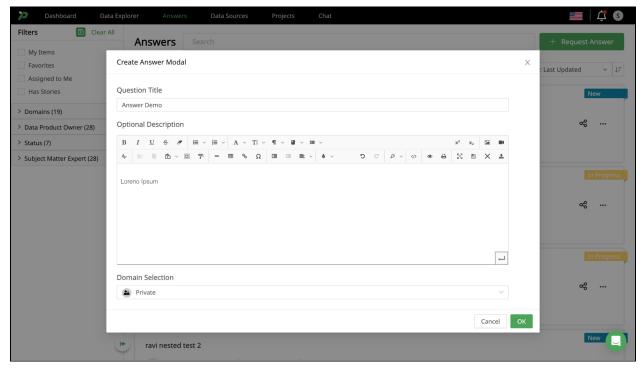


Feature	Description
Last Updated	Sort by the date of the last update
View Count	Sort by the number of times the Answer has been viewed (e.g. how popular the Answer is)
Dashboard Count	Sort by the number of Dashboards present within the Answer. A higher number may indicate a more valuable Answer.

Should you still not have found an Answer meeting your requirements you can quickly select Request Answer to begin that flow.

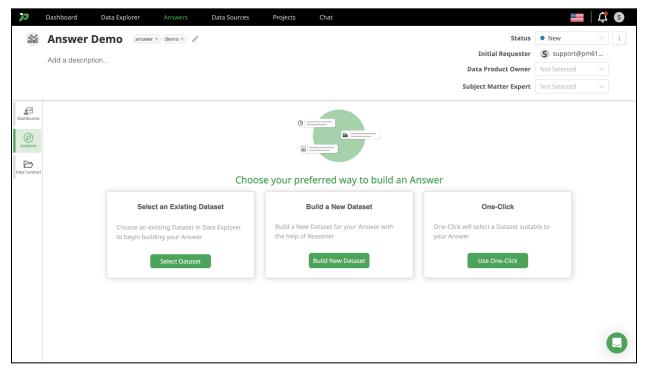
Requesting an Answer

If you start this flow by clicking Request Answer from a results page, the search term that you failed to find an answer for will be used as the title for this new Answer. If you want to edit this, select the pencil icon next to the name and modify it to a more appropriate title.



If you start this flow by clicking Request Answer with no text in the search box you will be given an auto generated title consisting of your username and a date / timestamp.

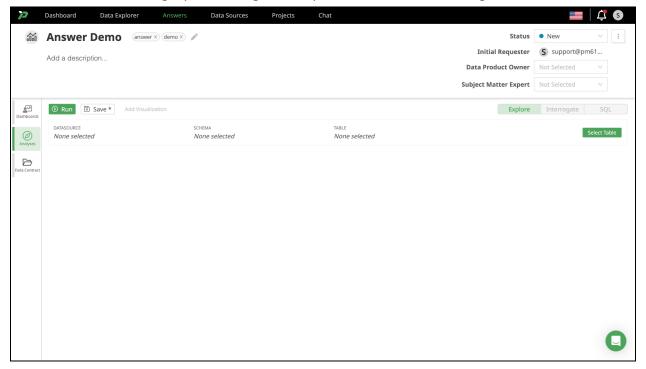
You can add/remove tags and even add a description to help the data team understand the context behind your need and answer the question completely. Tagging data and Answers enhances the search experience for all users. To add tags to an Answer click the Add button next to the title.



The three major steps to create an Answer are to build, select an existing datamap, or using One-Click to create visualizations.

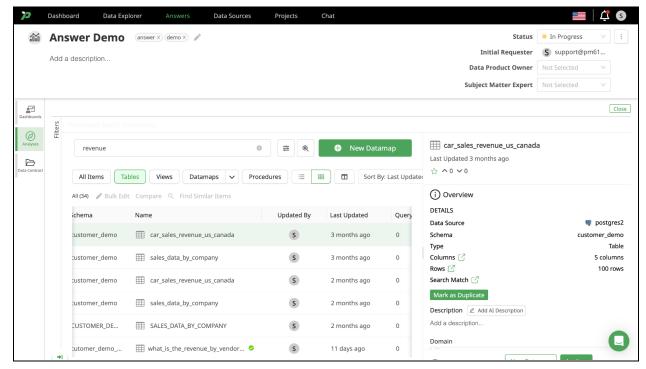
Select an Existing Dataset

To build an Answer using a pre-existing datamap choose Select an Existing Dataset.

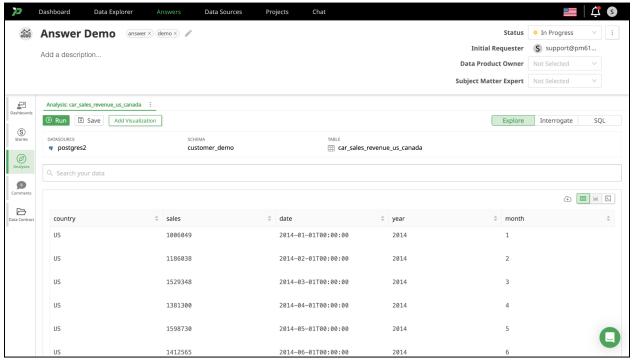


First we must select at least one Datasource, Schema and Table. Click Select Table which will render the familiar Data Explorer user interface. Here, as with the Data Explorer tab you can search, filter and refine the available data sources to find what you need.

If you find what you need, select it and chose the green Analyze button

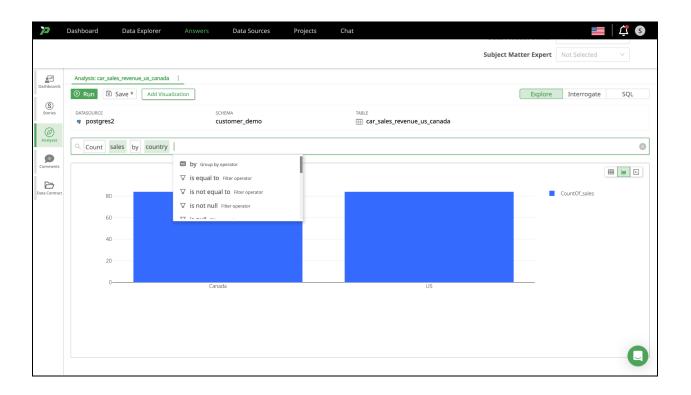


You will be returned to the Answer flow where you can search and filter the data available from your selected Datamap.



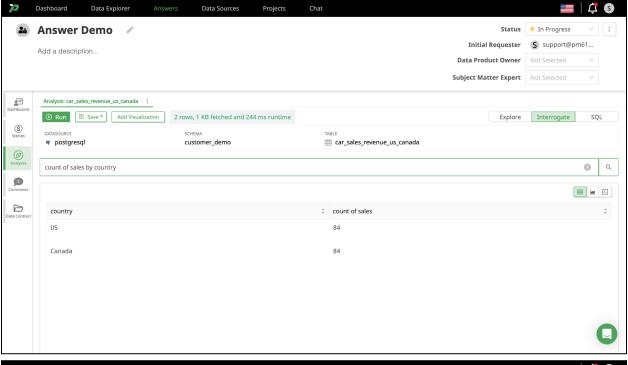
Explore

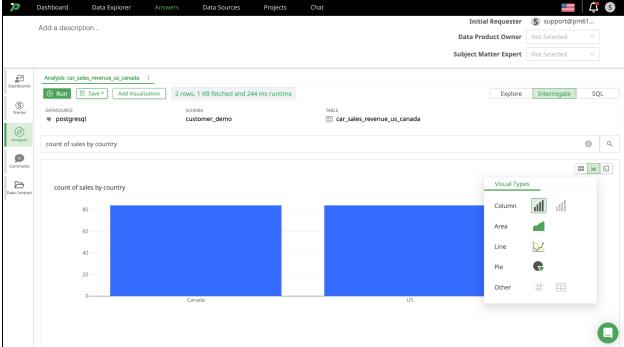
Clicking the search field will trigger the display of all the available search verbs and nouns that are appropriate in context such as Sum, Count, etc. Simply by selecting the appropriate suggestions you can build a powerful query that will attempt to render using an appropriate format such as a table or graph.



Interrogate

The Interrogate feature allows you to analyze data through the use of natural language.

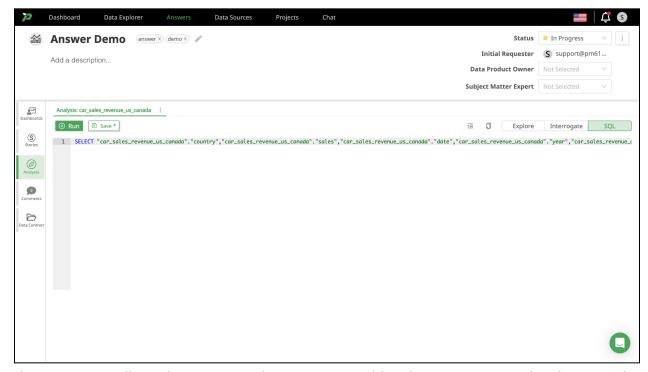




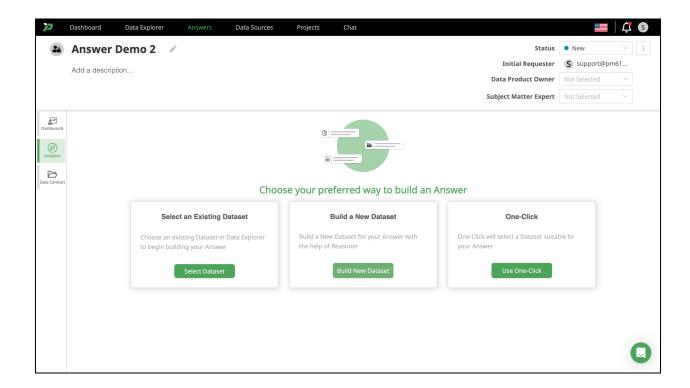
When you have a visualization appropriate to the Answer you can click Save and it will be added to your Dashboard.

Query

Clicking the Query button at the top right will switch to the Query mode. Swapping between modes can cause some customizations to be lost. It is far more common to lose customizations when moving from the advanced views to the less advanced e.g. from Query to Explorer. Ensure you have saved and added any critical analysis before switching modes to prevent having to recreate it.

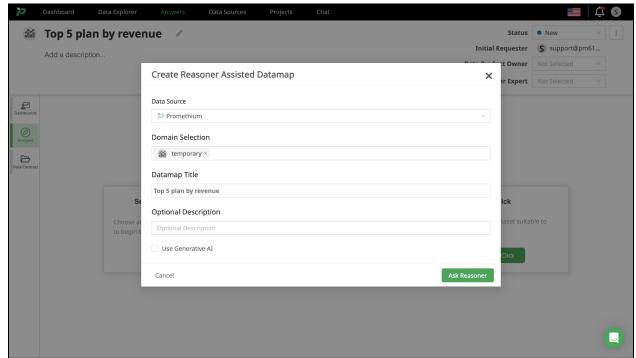


The Query view allows the user control over Source, Fields, Filters, Group By and Order By. Each can be selected and edited by clicking Edit.

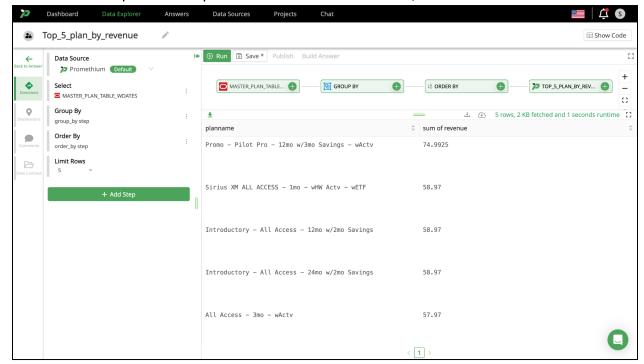


Build a New Dataset

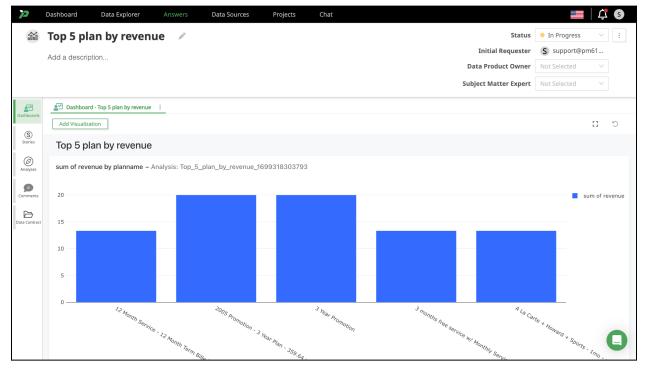
When choosing to Build a New Dataset, it is important to remember when using Reasoner, Promethium uses key phrases used in the Data Map title to create your datamap, including parameters when asking a question.



Once the datamap is run and you are satisfied with the results, Save and Publish.

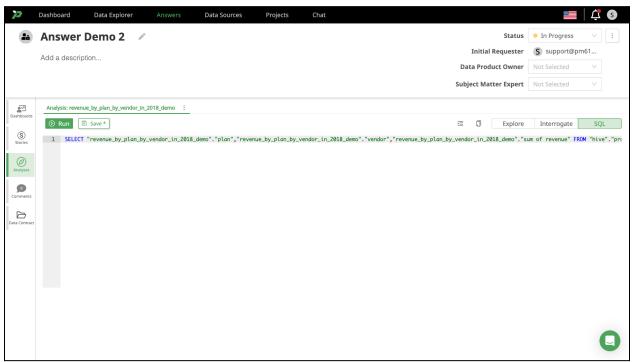


When you return to the Answer page, your dashboard will display visualizations based on the data.



SQL

Clicking the SQL button at the top right will switch to the advanced SQL mode. Swapping between modes can cause some customizations to be lost. It is far more common to lose customizations when moving from the advanced views to the less advanced e.g. from Query to Explorer. Ensure you have saved and added any critical analysis before switching modes to prevent having to recreate it. The advanced SQL mode is a web based SQL IDE wherein you can modify and execute any changes you need to the SQL generated so far. The SQL shown below has been automatically generated through our use of the Explore and Query tabs so far.

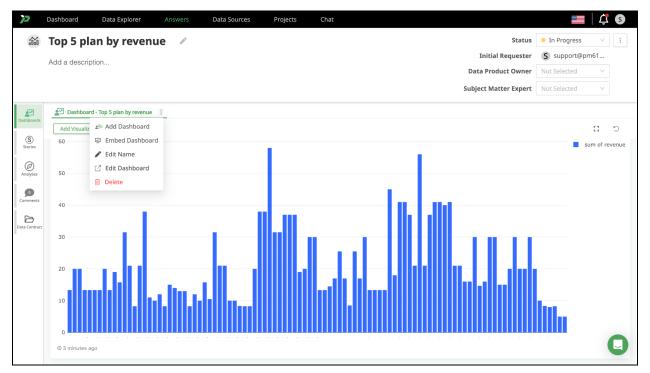


This view is intended for SQL experts. SQL is a powerful language and it's easy to encounter errors. Within this flow SQL error messages are limited in detail. The example below was caused by the simple removal of the final word in the previous example 'ONLY'.

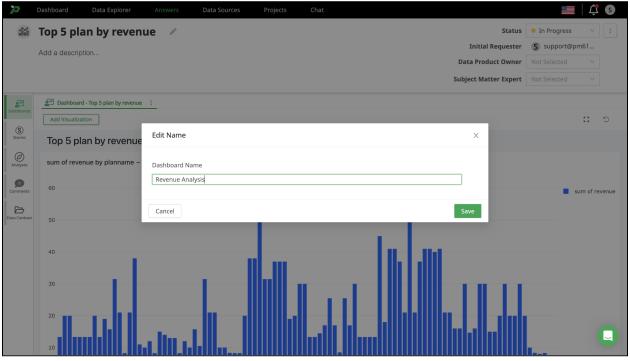
You can modify your SQL as often as required and click the Run button to execute the query. When you're satisfied with the results, click Save.

Dashboard

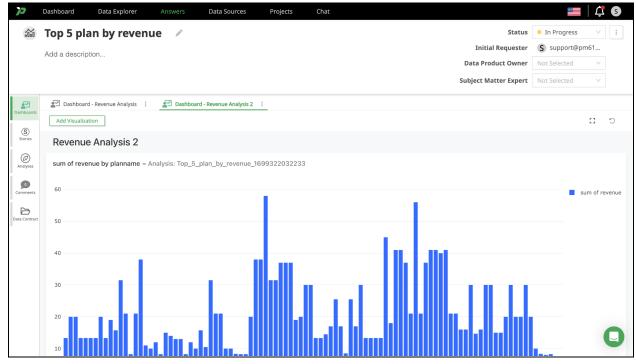
Everything you have saved from the Explore, Interrogate or SQL flow will be available on the default dashboard available within the Dashboards tab on the left of the screen.



You can rename the default dashboard by selecting the three dots to the right of the name and choosing Edit Name

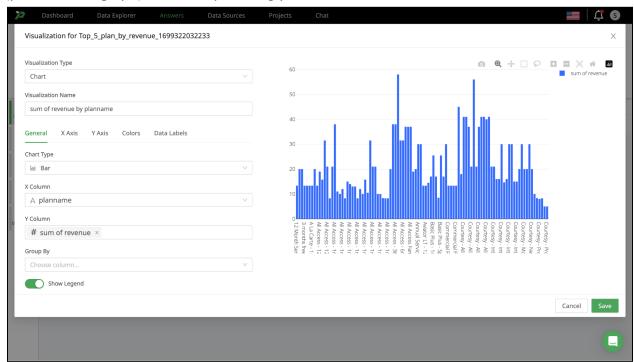


- Edit Dashboard opens the full Redash interface where you can create data alerts, modify the visual layout of your graphs or create new dashboards directly.
- Add Dashboard creates a new Dashboard tab on which you can add additional visualizations. There is currently a limit of 5 dashboards per Answer.



 You can also choose to embed a 3rd party dashboard. See Embed Dashboard below for details.

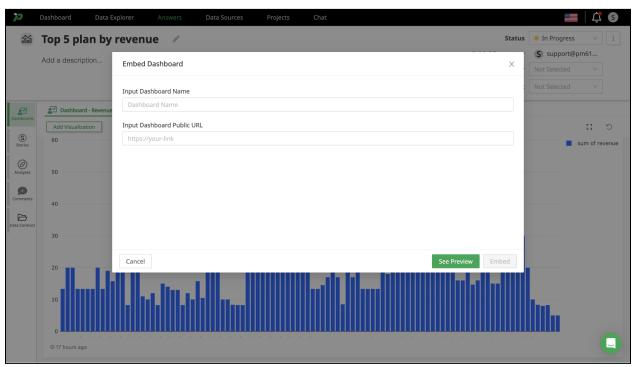
From the Dashboards page you can select **Add Visualization** to build a custom visualization (pivot table or graph) from data powering your dashboard.



Embed Dashboard

If you have an existing dashboard or visualization created in a BI tool, such as Tableau, you can select Embed Dashboard and inform Promethium of the name and location.

The dashboard you connect must be available via a public URL and cannot require login to access. This link will be resolved and the dashboard rendered live to any future consumer of the Answer.



Chatbot

By selecting Chat in the top navigation, you will be directed to Promethium's Chatbot. This feature enables you to interact using natural language to find the right datamaps/answers, construct datamaps, and generate answers. You'll have the option to preview outcomes before finalizing your choice, and any products created by the Chatbot will be accessible on the Data Explorer or Answers page.

