

DISCOVERY HUB 17.11

RELEASE DOCUMENTATION



Contents

Introduction	3
New Features	4
Data Tagging.....	4
Semantic Layer	4
New Visualization Possibilities with the Relation Diagram	5
Uniquely Identify Records with Durable Supernatural Keys	5
Support for Reading SQL Server Synonyms	5
Improvements.....	6
More Customizable and Comprehensive Documentation	6
More Flexible Data Selection in the Data Warehouse	6
Push Execution to Queue and Skip the Waiting	6
Better Handling of Linked Servers.....	7
Batching on Data Transfer from Web Data Sources.....	7
Override Data Types on Aggregate Tables.....	7
Improvements to Data Extraction	7
Database Roles can be Reordered	8
Better Performance for Dynamics NAV and Dynamics AX Additional Data Sources.....	8
More Deployment Options on the Staging Database	8
Test Connection to Qlik Sense Enterprise Server	8
Deprecated Features.....	9
Data Export.....	9



Introduction

Our November 2017 release is now available and one significant change to the product is the rebranding of TX DWA (TimeXtender Data Warehouse Automation) to Discovery Hub[®] by TimeXtender. This transformation reflects how the product evolved from data warehouse automation to an automated end-to-end platform enabling self-service analytics and discovery.

Another notable addition to Discovery Hub[®] by TimeXtender is the shared semantic layer. This first installment enables one common experience with different front-end clients and includes this to the documentation.

In Discovery Hub[®] by TimeXtender 17.11, there are feature improvements as well as some new features that accelerate the compliance process. You will also find new visualizations, object tagging and documentation improvements to greatly simplify your work.

We haven't forgotten to include new features to help the developer get the job done. The task of working with Surrogate keys is simplified by implementing a dedicated feature called a Durable Supernatural Key. We also made the Execution Queue more convenient.

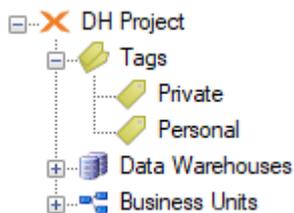
We invite you to discover for yourself the many other new features and additions to the Discovery Hub[®] by TimeXtender 17.11.



New Features

Data Tagging

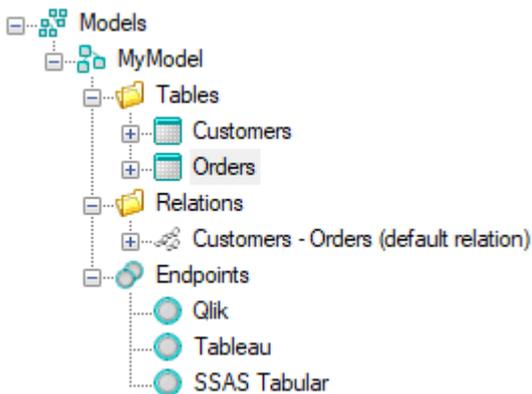
To comply with regulations such as the General Data Protection Regulation (GDPR), you need to know your data. More specifically, you need to be able to categorize your data.



Discovery Hub 17.11 enables you to tag individual fields. These tags can then be used in project perspectives or in a new type of documentation, data impact. It shows you where fields with selected tags are used in the project. Tagging fields when they come in will allow you to create a complete report of the data's journey from data source to endpoint.

Semantic Layer

In the Discovery Hub architecture, the semantic layer is the glue between the modern data warehouse and the front-end visualization and analytics tools.



In this release, we have improved this part of the software significantly with a new feature, fittingly called semantic layer. On the new Semantic tab, you can build semantic models, e.g. a sales model, and push it to one or more application endpoints. This way, you don't have to worry that different front-ends use different data – just push the same model to all of them.

In addition to data found in your data warehouse or staging database, you can add measures to your semantic models. Discovery Hub generates the code needed to deploy the measure to the endpoints you deploy the model to. For more advanced measures, you can write your own custom script. Each script can be used with all or some of the endpoints you are targeting. You also have the option to add a custom field where the value is calculated by a custom script.



Currently, the following endpoints are supported: Qlik Sense Enterprise, Qlik Sense Desktop, QlikView, Tableau and SSAS Tabular (the natural fit for PowerBI).

New Visualization Possibilities with the Relation Diagram

In Discovery Hub, tables and fields are organized in a hierarchical way in the project tree. While this has a lot of advantages, it does not always give you the overview of your tables and their relationship with other tables you need.

Project Perspectives, the data impact and data lineage diagrams are ways of getting a better overview of your project. In this release, we have added another: The relation diagram. You can view the relation diagram for each table. It will show you the tables that have a relation to the table in question, i.e. deliver data to the table or gets its data from the table.

You can find the relation diagram in the Visualization menu on the context menu on tables.

Uniquely Identify Records with Durable Supernatural Keys

In dimensional modeling, it can be very useful to have a durable supernatural key for each record. In contrast to natural keys that come from the source system, a supernatural key is stable over time and can be the same for records from different sources. If you e.g. have customers in multiple systems, these properties can be very useful.

In the new release, we have added the supernatural key as a field you can add to a table. The supernatural key field gets its value from a key store. When you set up a supernatural key field, you select the fields to base the key on, e.g. a company name and a zip code. Discovery Hub compares these field values to other values in the key store and returns the key that matches.

Depending on your needs, the supernatural key can be a GUID or an integer.

Support for Reading SQL Server Synonyms

On SQL Server, synonyms are a simple, but powerful feature. For instance, you can use a synonym to refer to a table with a shorter and more meaningful name. And the short and meaningful name can be changed to refer to another table if the underlying model changes.

While synonyms are not that useful in a Discovery Hub project, being able to read them from sources are. In this release, we have added that functionality. If you do not want them included in your project, you can disable the extraction of synonyms under Data Extraction Settings on a SQL Server data source.



Improvements

More Customizable and Comprehensive Documentation

The automated generation of project documentation is one of the core features in the software. In this release, we have improved it with more options for customization and content.

The documentation now includes a title page with a custom title, subtitle and logo. The logo will also be used on the individual pages of the documentation. All this is stored in a template along with other documentation options. You can have as many or as few templates as you need.

The color theme is not part of the template options, but is constant across all templates. The default colors and layout has been changed to make the documentation a little easier on the eyes.

We have also added new type of documentation, data impact, which is tied to the new tagging feature. Data impact documentation shows you where fields, with one or more tags you have selected, are used in the project.

In addition to customization and layout changes, we have made the documentation even more comprehensive. Access rights defined in the project, both on table, column and row-level, are now included. Database roles and their members are also listed. You can also choose to include a relation diagram for each table in the documentation. The diagram shows you what other tables deliver data to, and get their data from, the table.

More Flexible Data Selection in the Data Warehouse

Data selection rules are one of the basic transformation features in Discovery Hub, allowing you to set criteria rows of data must pass to be allowed into a table.

In previous releases, the implementation of data selection rules on Qlik models was a bit more flexible than on data warehouses. On Qlik models, rules are defined on the source table level, i.e. if more than one table delivers data to a table in your Qlik model, you can set up different rules for each source table.

We have added this flexibility to the data warehouse as well. You will notice a new Mappings item under each table in the data warehouse in the project tree. It contains an item for each source table. Here, you can add a data selection rule that applies to just that source table. You can still add data selection rules that apply to all source tables, giving you a lot of flexibility in how you want to set up the rules.

Push Execution to Queue and Skip the Waiting

We introduced the execution queue two years ago to make it possible to continue working on a project while tables are executed. However, since it was separate from the regular deploy/execute flow, it did not see as much use as it could.



In this release, we have worked on integrating the queue better into the flow. You can now select "Send to execution queue" when you initiate a deployment and execution. With this option selected, the Deploy and Execute window will close when deployment has finished. The Execution Queue window will then open, if it is not already, and the execution package will be added to the queue.

Better Handling of Linked Servers

Previously, External SQL Connections would work with linked servers if the server was linked correctly and the correct server information was entered. However, you could not control the behavior in the UI.

In the new release, we have added made the linked server handling more explicit. When you add an External SQL Connection to a data warehouse, you can now choose between the connection types "cross-database (local)", "cross-database (linked server)" and "data transfer" which uses the legacy logic.

Batching on Data Transfer from Web Data Sources

Dynamics CRM and Salesforce are web based data sources and work a bit different than other data sources. When Discovery Hub transfers data from one of them, each batch of data needs to be loaded into memory before it can be stored in the staging database. This can use a lot of memory.

To prevent problems with running out of memory, we have added a batch size option to these sources. Here, you can set how many records Discovery Hub should fetch before saving them in the database. If you have problems with high memory use when transferring from a Dynamics CRM or Salesforce data source, use this option to decrease the batch size.

Override Data Types on Aggregate Tables

Previously, Discovery Hub would select the data type for fields on aggregate tables. In this release, we have added an option to change that data type if, for instance, the default data type can't hold all your data.

Improvements to Data Extraction

When you select data for extraction from sources in Discovery Hub, you can filter, sort and group the available tables and columns to find the exact objects you are looking for. With large data sources, where the number of tables and fields number in the thousands, loading the meta data can be time and memory consuming.

For this reason, we added an option to toggle the caching of columns to cut the number of objects that are loaded and cached down to a manageable size. The downside is that you can then only filter on table names, not column names. You will find the option, Enable full column caching, in the Data Source Settings window.

The data extraction settings on data sources are another way of limiting the amount of meta data loaded in to Discovery Hub when you synchronize a data source. In the new release, this filtering functionality, which was previously only available on SQL Server and Sun data sources, is available on most



of the data sources in Discovery Hub. Among the data extraction settings is the ability to toggle extraction of tables and views and to add filter rules that tables and views must pass to be included. You can find the settings in the Edit window on the data source.

Database Roles can be Reordered

In previous versions, database roles on the data warehouse and staging database in the project tree wasn't ordered in a meaningful way. Now, you can reorder the roles as you see fit and Discovery Hub will save the order so it is the same when you open the project as it was the last time you saved it.

Better Performance for Dynamics NAV and Dynamics AX Additional Data Sources

One of the big advantages of using Discovery Hub is that you get improved performance with no extra work every time we improve the SQL code generated by Discovery Hub. In this release, we have improved the SQL code Discovery Hub creates for extracting data from incrementally loaded additional data sources with the Dynamics NAV and Dynamics AX adapters. The optimized SQL code reuses a temporary table instead of dropping and recreating it multiple times.

More Deployment Options on the Staging Database

Previously, the deployment options were different on the business unit and staging database level. Specifically, you could not choose to deploy and execute only modified tables and views or only work items when you initialized deployment and execution on the staging database. We have now made this consistent so that the same options are available on both levels.

Test Connection to Qlik Sense Enterprise Server

When you connect to a server in Discovery Hub, whether it is a data source or e.g. a staging database, you have the option to click Test Connection to verify that the connection settings you have entered is working.

This functionality is obviously very useful and in this release, we have added it to Qlik Sense Enterprise server connections as well.



Deprecated Features

Data Export

In this release, we have added Data Export to the list of deprecated features. Unless you have data exports in your project or have selected Deprecated Features in the View menu, the Data Export tab will not be visible in the software.

When a feature is deprecated, we strongly recommend that you do not use the feature in new development. It will not stop working over night, but at some point, we will remove it from the product.

