GeneXus by Globant

Chat with Data Assistant

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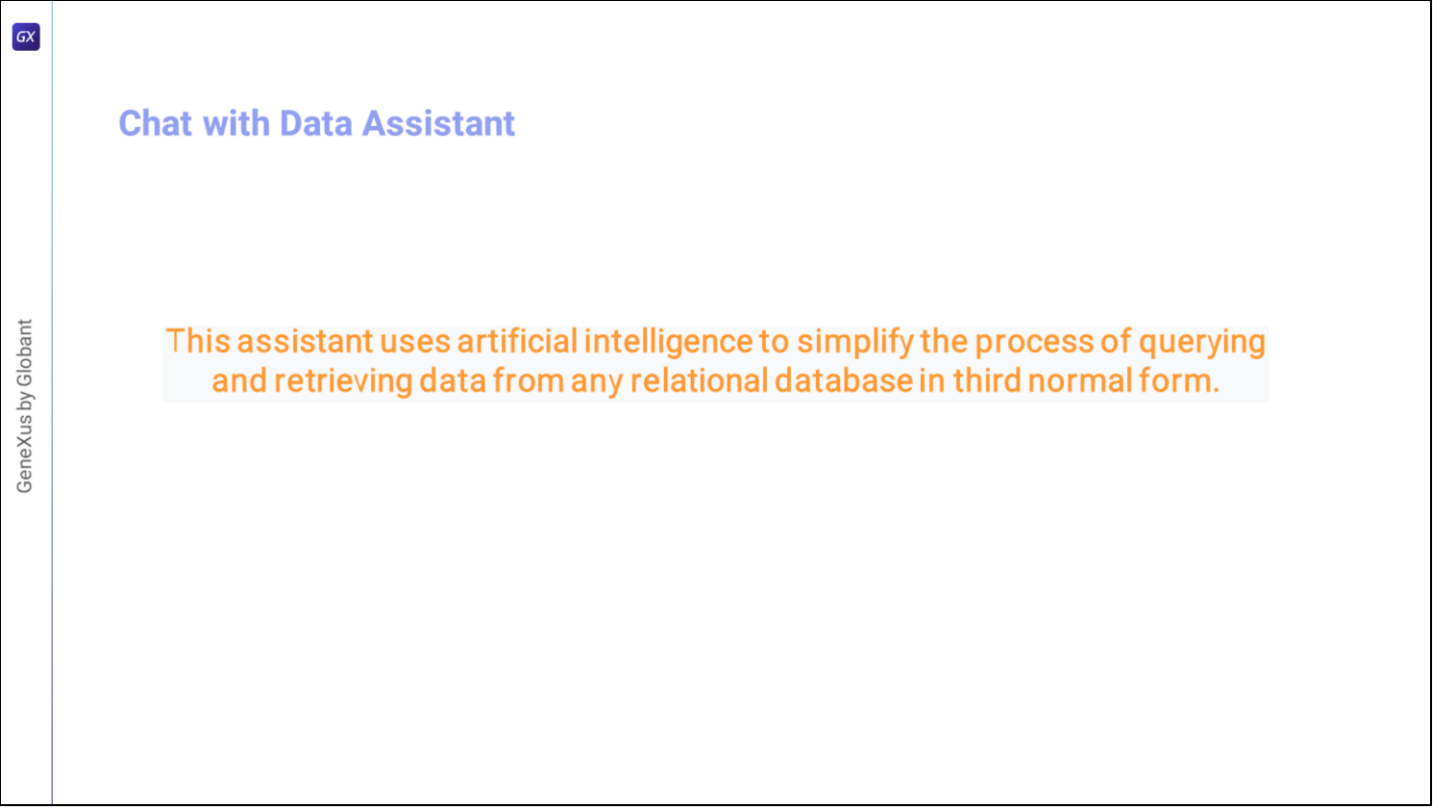
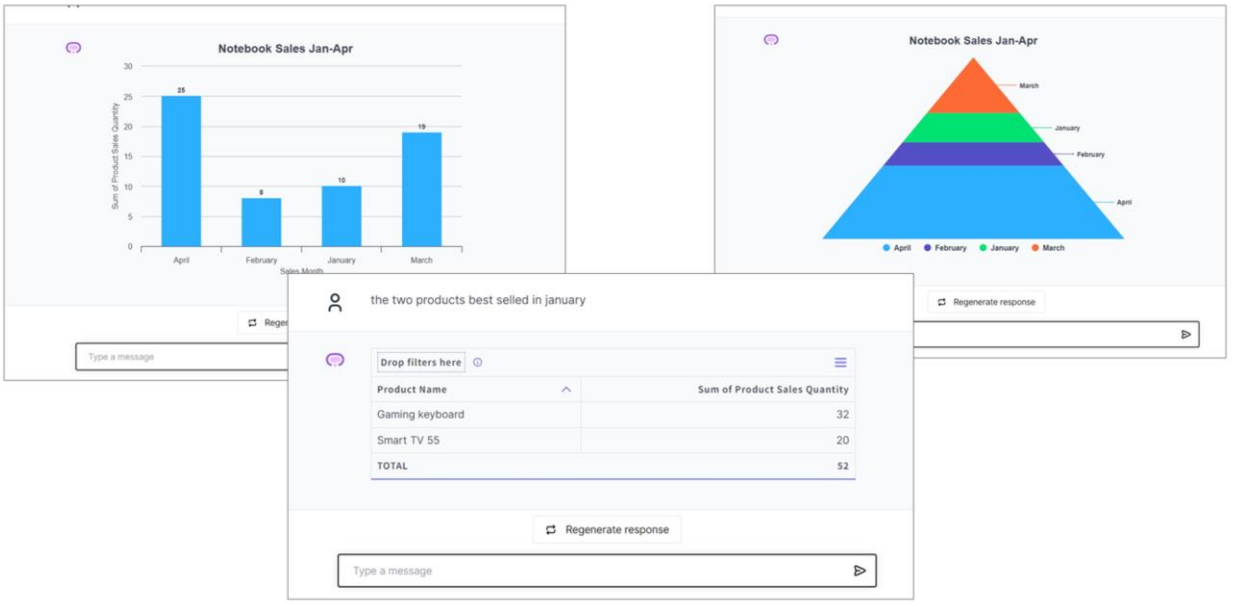
As we move forward working with assistants, we will now learn about a new type of assistant that allows end users to interact with the database.



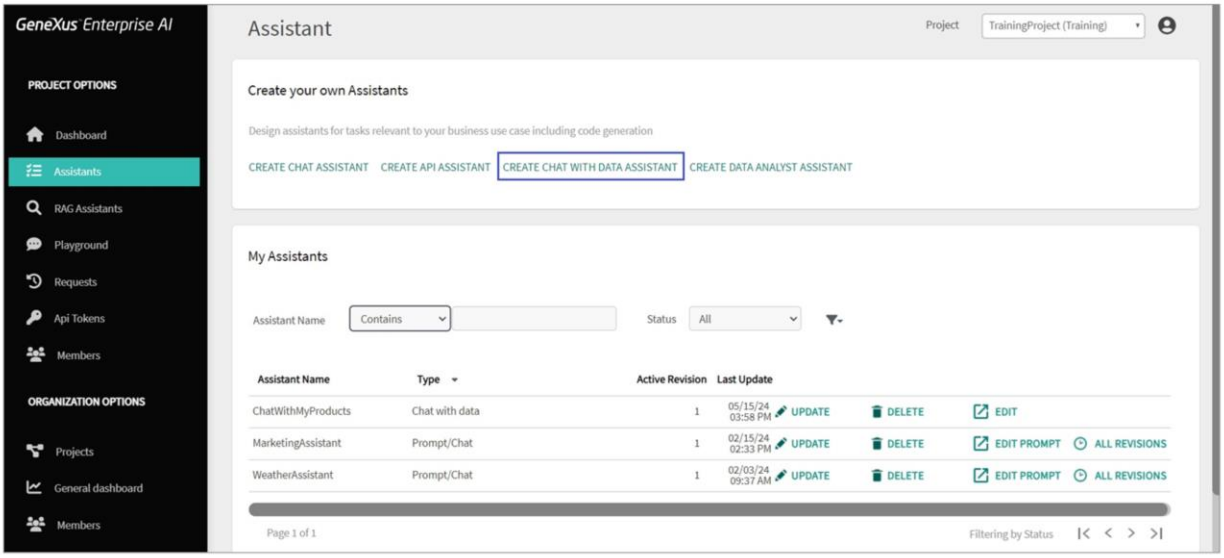
This assistant uses artificial intelligence to simplify the process of querying and retrieving data from any relational database in third normal form.

Chat with Data Assistant



End users can submit queries in natural language directly from the Frontend, without the need to access the database directly. This significantly speeds up the process of searching for information, offering a more intuitive and efficient experience.

Chat with Data Assistant



To create and configure the Chat with Data Assistant, we will access the GeneXus Enterprise AI Backoffice

Chat with Data Assistant: Metadata

Database schema

Tables
Fields
Relationships
Data types

Names

Table and field names must be descriptive.

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And load the necessary metadata with the information about the database schema; that is, with the list of all the tables with their fields, the relationships between them, data types, etc.

It is important to make sure that the table and field names are descriptive and representative so that the assistant can generate efficient queries using the information in this metadata. However, if this is not the case, additional table and field descriptions can be included in the assistant prompt.

Chat with Data Assistant: Metadata creation

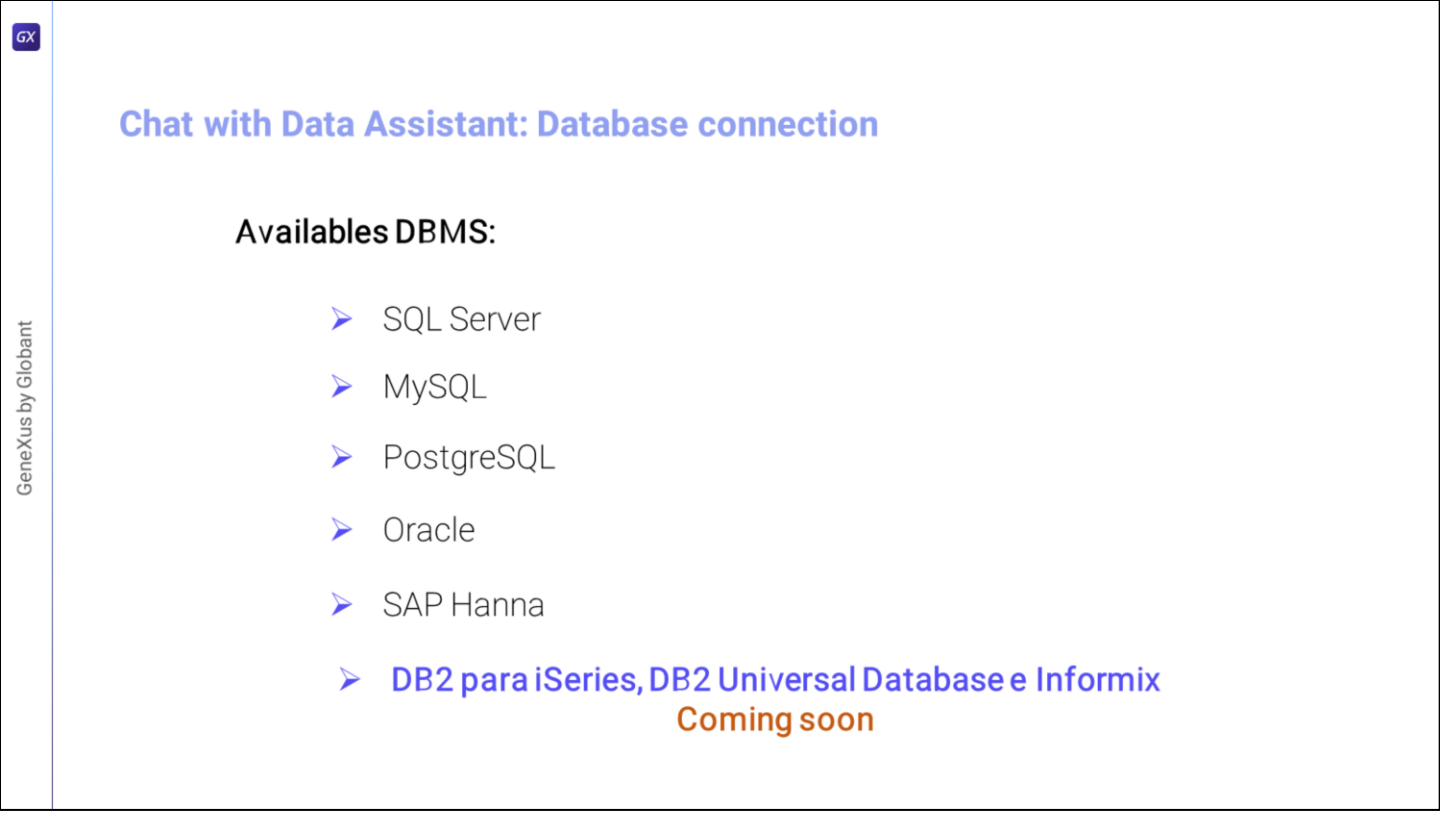
- GeneXus database — GX Query
- External database — Command line tool

There are two ways to generate this metadata, depending on whether the database was created with GeneXus or is an external database.

If the database was created with GeneXus, this process is carried out using the GXquery extension, which generates the corresponding Knowledge Base metadata.

In the case of an external database, a command line tool can be used to generate the required metadata. This tool uses reverse engineering to connect to the database and generate the corresponding metadata.

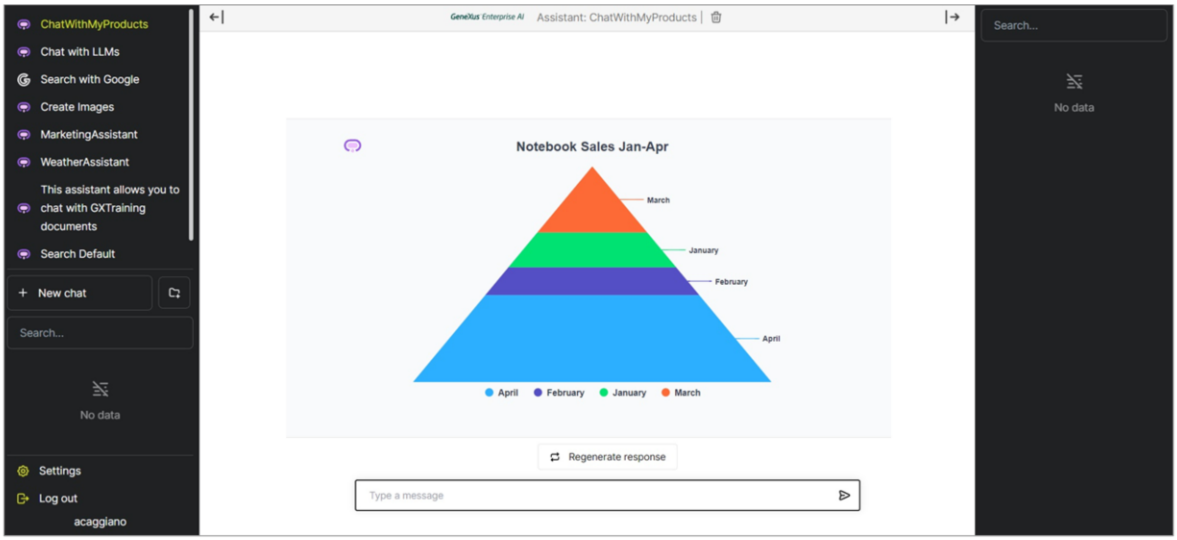
Once this is done, it should be saved as a file with .**export** extension.



Regardless of the scenario, once the metadata has been generated, the connection to the database must be configured. It is important to consider that the DBMS currently supported by GeneXus Enterprise AI are the following:

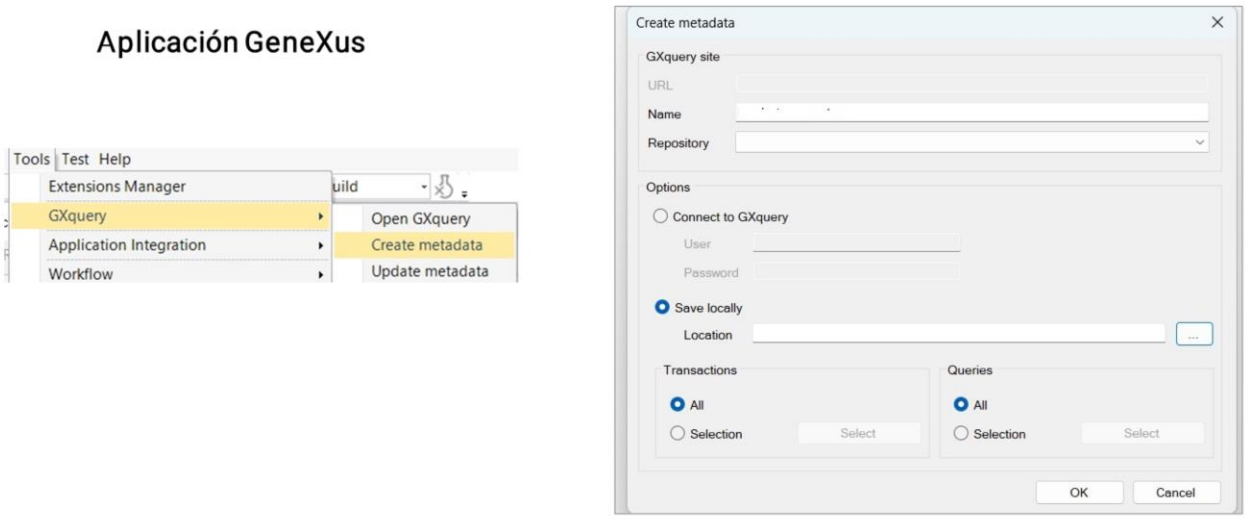
- SQL Server,
- MySQL,
- PostgreSQL,
- Oracle,
- and SAP Hana.

Chat with Data Assistant: End user interaction



Once the assistant has been created, we will work with it from the Frontend, which is equivalent to the Playground option from within the platform. There we will be able to make queries using natural language, which speeds up the search and data retrieval process.

Chat with Data Assistant: Creation



Good. Let's see an example.

We want to interact with the database of a GeneXus application that records technology products, with their corresponding price and the respective units sold from January to May.

First, we will create the metadata, and for that we will use the GXquery extension.

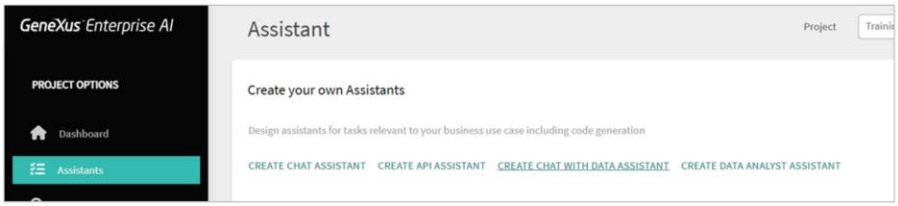
If you don't have this extension, you can install it directly from the Start page of the GeneXus IDE, in the Marketplace option.

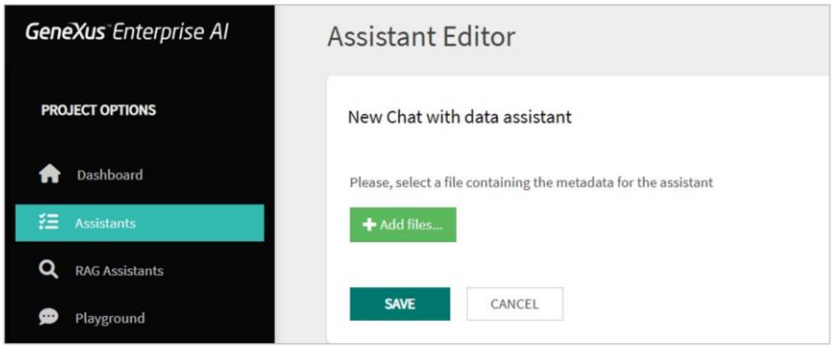
We go to Tools, GXquery, Create metadata.

We enter the name of the file to generate, choose Save locally and enter the Location.

We click on OK. Once the process is finished, we have the file with the required metadata.

Chat with Data Assistant: Creation





Now we go to the GeneXus Enterprise AI Backoffice.

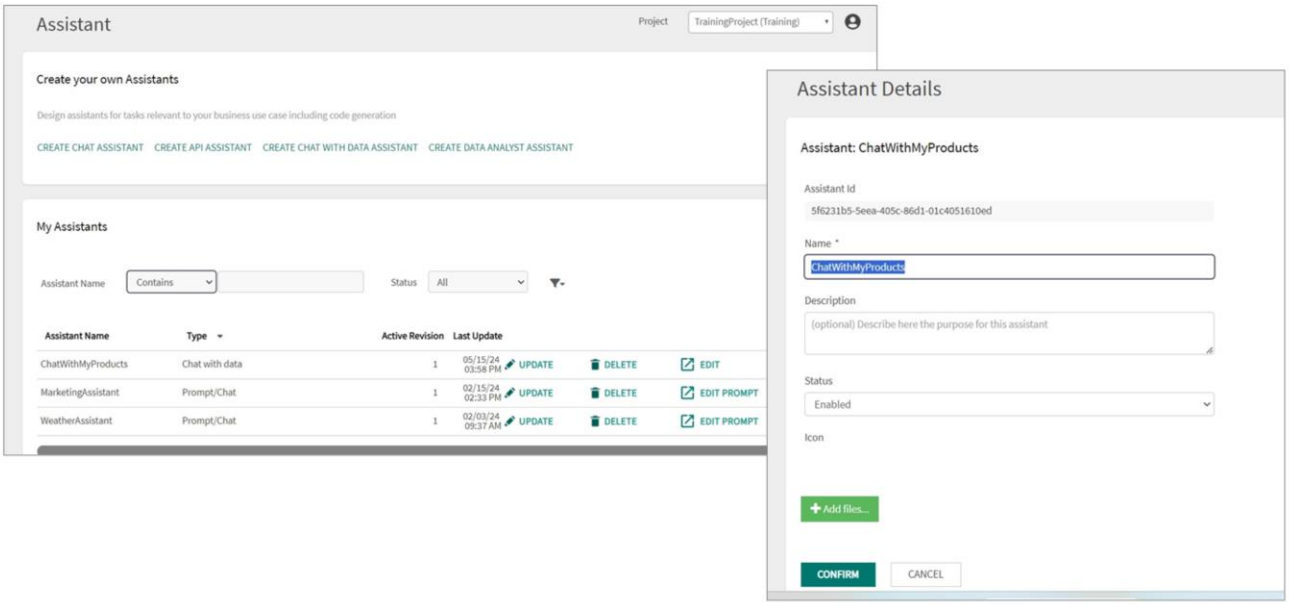
From the Assistants option, we choose Create Chat with Data Assistant.

First, we have to load the file with the metadata, and for that we click on the Add files button.

We load it and click on Save.

We name it ChatWithMyProducts, add a brief description, and confirm.

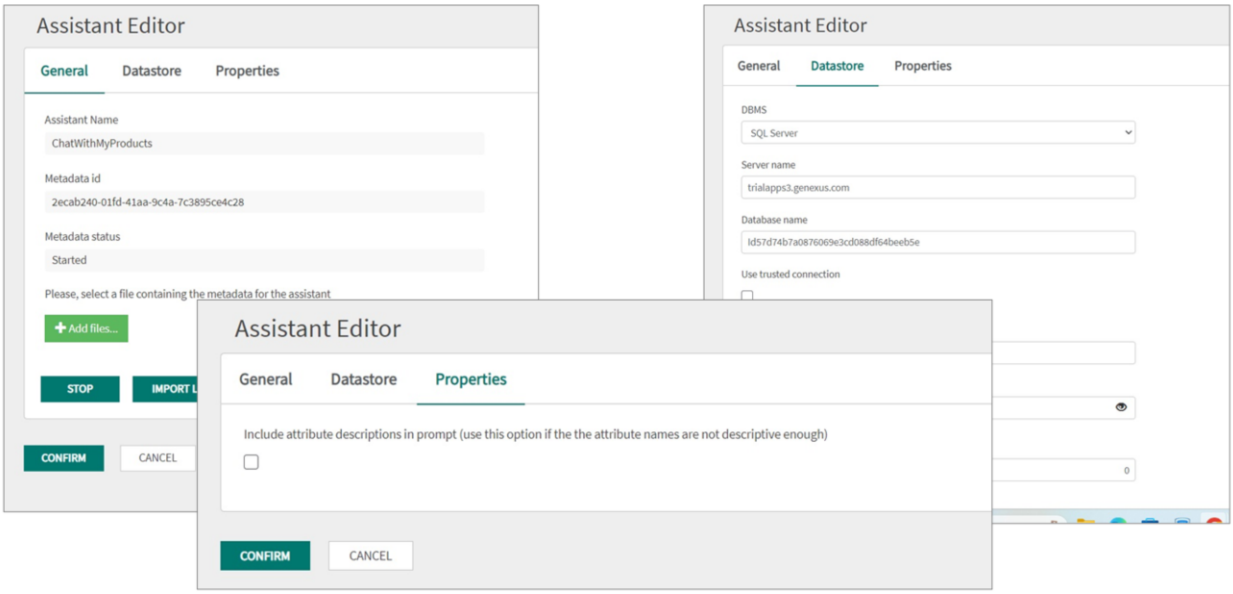
Chat with Data Assistant: Creation



We have already created the new assistant. From here we can update, delete or edit it.

If we choose Update, we can change its name, description and status, and add an icon.

Chat with Data Assistant: Creation



If we choose Edit instead, we see the general information, where we can add metadata files, start or stop the assistant execution and get the log.

In addition, we also see the Datastore and Properties tabs.

In DataStore, the first thing to do is to select the type of database (DBMS) to be used. It can be SQL Server, MySQL, PostgreSQL, Oracle or SAP Hana.

The connection is then configured, which involves specifying the server name, database and port along with other relevant settings.

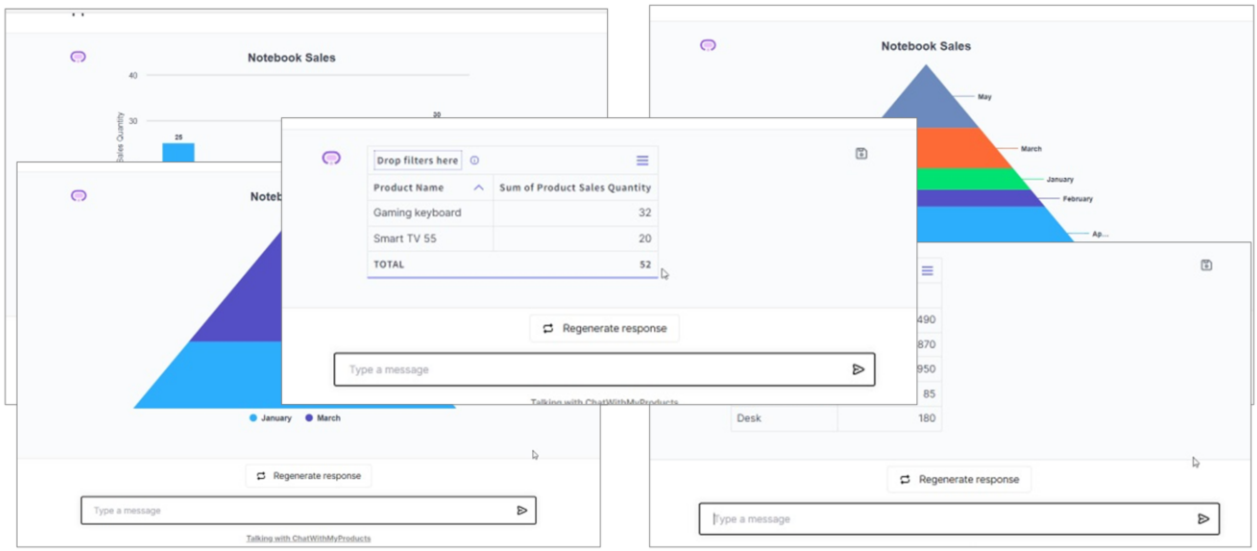
Finally, it is possible to test the connection to verify the definition before saving it.

As for the Properties tab, we see an option called "Include attribute descriptions in prompt", which has a check box.

This allows you to include attribute descriptions in the assistant prompts. It is useful when attribute names are not descriptive enough and you need to use descriptions for better understanding.

Chat with Data Assistant: Usage

Playground



OK, we are now ready to test our assistant, so we go to the Playground option in the menu.

We select the assistant, and create a new chat.

Before we start interacting, it is important to consider that we must write the queries in natural language. It doesn't matter if we make spelling mistakes or use synonyms. What's important is to clearly convey the intention.

Remember that in each question we can add more details or change the approach.

We start a new chat, and we are going to ask for a column chart for Notebook sales in January, February, March and April.

Good, but it lacks a title, so we ask it to add a title to the chart.

Perfect... but we prefer a pyramid chart with the same information, so we ask for it, without the need to specify the whole query again.

January and March only:.

We now want a table with all the products and their prices.

If we look at this indicator, we can show or hide the columns.

Finally, we want to see the two best-selling products in January.

What kind of query would the assistant not be able to answer? For example, last month's sales.

Finally, it is important to mention that in all cases we can save the query and access it at any time.

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