

Quick start

A project with SpagoBI 4

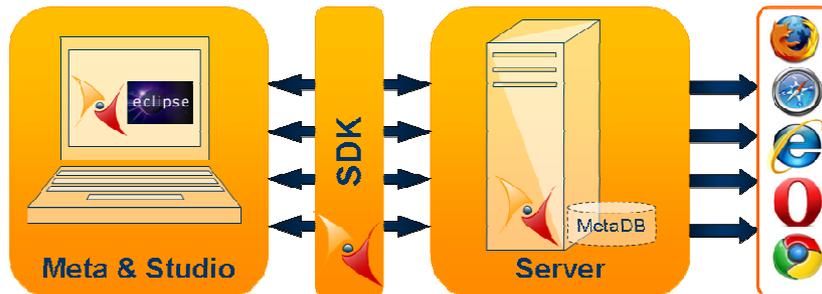
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This guide is a step-by-step pathway aiming to help users to easily setup their own BI scenarios, from data modelling to data inquiry, using the Server, Meta and Studio modules of SpagoBI suite.

SpagoBI

Hereby a simple view of the involved modules and a short description of each of them.



Server



- *What is SpagoBI Server?*
 - It is a web application deployed into a J2EE application server (Tomcat, JBoss, WebSphere, etc.)
 - It can run on any operating system that supports JVM from 1.5 (1.6 preferred)
 - It works with a private repository hosted on DBMS (MySQL, Postgres, Oracle, Ingres, HSQL, etc.)
 - The application can be accessed through almost all major web browsers (IE, Firefox, Opera, Safari)
 - It natively runs on several portal servers (Liferay, eXo portal, WebSphere, etc.)
- *Who is it for?*
 - End-user: unified access point through the web browser
 - System administrators: through the management web interface
- *What is it for?*
 - Environment offering all typical BI functionalities:

- Reporting
 - OLAP
 - Charting
 - KPI (modeller and navigator)
 - Interactive cockpits
 - Ad hoc reporting (Worksheet)
 - Self-service BI
 - Location Intelligence
 - Free Inquiry (QbE)
 - Data Filtering (Smart Filter)
 - Data Mining
 - Real-time dashboards and consoles
 - Accessible reporting
 - Collaboration (analytical dossier and workflow)
 - Office integration
 - ETL
 - Mobile BI
 - External processes
 - Master Data Management
 - Network Analysis.
- Web-based interface
 - Object lifecycle management inside the BI repository
 - It offers tools and cross services, such as scheduling, collaboration, etc.

Meta



- *What is SpagoBI Meta?*
 - It is an eclipse plug-in
- *Who is it for?*
 - Data Modelers and Data Owners setting up the semantic layer on which the BI project will be based

- *What is it for?*
 - It is a graphical environment to develop business models (semantic layer)
 - It allows users to deploy Business Models into SpagoBI Servers
 - It allows users to inquiry Business Models before designing an analytical document.

Studio



- *What is SpagoBI Studio?*
 - It is an eclipse plug-in
- *Who is it for?*
 - SpagoBI developers creating analytical documents (chart, report, dashboard, etc.)
- *What is it for?*
 - It is a graphical environment to develop, test and deploy analytical documents (such as reports) into one or more SpagoBI Servers.

Sdk



- *What is SpagoBI SDK?*
 - It is a collection of web services, tags and JavaScript API that permit other applications to interact with a SpagoBI Server
- *Who is it for?*
 - Project teams that need to integrate SpagoBI

- *What is it for?*
 - It allows to use SpagoBI from external applications

SpagoBI Meta and Studio can also be plugged into the same Eclipse.

Software Download

Download the following packages of the most recent SpagoBI release from OW2 Consortium Project Forge (<http://forge.ow2.org/>).

“All-In-One-SpagoBI<last release tag>”

This package contains a standard installation of SpagoBI running on Tomcat, all engines already configured for you and a simple demo of SpagoBI functionalities on a HSQL DB repository.

“SpagobiMetaAndStudio-<os version>”

It is a pre-packaged eclipse including the Studio and Meta plug-in. Select the package for your OS platform.

“SpagobiMeta-<os version>”

It is a pre-packaged eclipse including the Meta plug-in. Select the package for your OS platform.

If you want to install the BI repository on a different database, you have to download the SQL scripts that create the empty schema into one of the supported RDBMS and execute them on your DB console.

Software installation and Configuration

Installing SpagoBI Server

Unzip the server package in a folder of your machine (<SpagoBI-dir> here) and execute the start-up script that you'll find under the folder <SpagoBI-dir>\apache-tomcat-6.0.18\bin.

Open the browser and type <http://localhost:8080/SpagoBI>. Now you can login using the following standard account: biadmin (password: biadmin) or bidemo (password: bidemo).

SpagoBI repository configuration

If you decide to create the repository on a different RDBMS, execute the SQL script that creates the schema repository inside your RDBMS and remember to change the datasource configuration on `server.xml` file on your `\apache-tomcat-6.0.18\conf` directory.

For a MySQL database you have to insert an xml code like the following:

```
<name="jdbc/spagobi" password="your password" type="javax.sql.DataSource"
url="jdbc:mysql://<your hostname>/<spagobi repository>" username="your username"/>
```

where "spagobi repository" is the name of the database built up with the SQL script of the selected release and RDBMS platform.

Data warehouse resource configuration

Similar settings should be done to configure the data warehouse to be inquired with SpagoBI.

```
<name="jdbc/<my resource name>" password="your password" type="javax.sql.DataSource"
url="jdbc:mysql://<your hostname o IP address>/<your dwh db name>" username="your
username"/>
```

Don't forget to include the resource link in each context and to change the hibernate dialect accordingly on `hibernate.cfg.xml`, `quartz.properties` and `jbpm.cfg.xml` files under the `\apache-tomcat-6.0.18\webapps\SpagoBI\WEB-INF\classes` directory.

Login as biadmin and create a new datasource entry from resources/datasource menu. Remember to set the hibernate dialect corresponding to your RDBMS platform and to set the JNDI resource as follows: `java:comp/env/jdbc/<my resource name>`.

Installing SpagoBI Studio and Meta

In this scenario we refer to a Studio and Meta combined package, but the procedure can also be applied to the Studio and Meta components separately.

For both Studio and Meta, unzip the Studio package on a local folder and start up the Studio (`SpagoBI.exe`). Now, define a workspace that will contain your local project files. Lastly create a new DB connection inside the datasource explorer pointing to your datasource.

Visit the SpagoBI Wiki to get more information on SpagoBI modules installation and configuration.

Use SpagoBI Meta

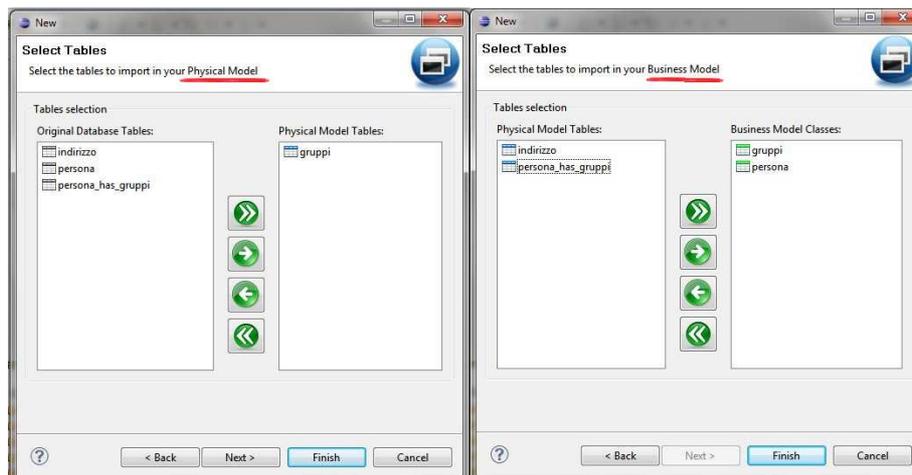
CREATE A BUSINESS MODEL

Inside the Studio, open a [SpagoBI PERSPECTIVE](#) and create a new project by clicking the symbol with the SpagoBI icon in the toolbar.

To create a new business model (BM) you must be positioned on the [STUDIO](#) window left side, select "new model" with the right mouse button and follow the instructions for abstracting the model.

At the first step, you have to choose which physical tables are required to create your BM.

Secondly, you have to define the queryable model: the Business Model. To create the business classes, just drag & drop the entities selected in the first step from the left panel. Once the model is created, you can perform several operations, such as defining tables as a "CUBE" or "DIMENSION", deleting attributes and entities, editing attributes and entity properties, creating new relationships and business classes.



Visit the [SpagoBI Meta wiki page](#) to discover all the functionalities available on Studio/Meta client.

INQUIRY THE MODEL

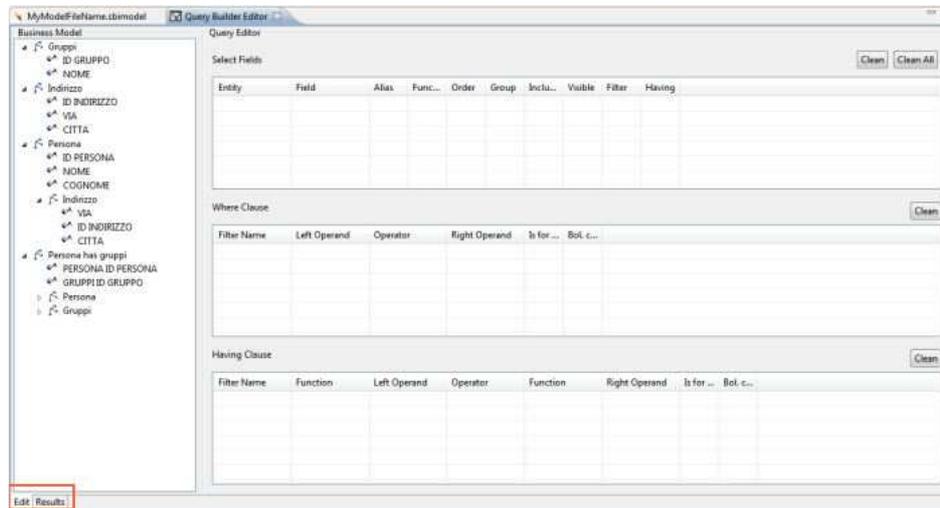
To inquiry your model click on the main window, then right click on the icon "business model": create -> query.

The inquiry must be labelled and positioned inside the folder [DATASET](#).

Set the query and click on [RESULT TAB](#) to see the result of your query.

Remember that the graphical query builder solves all joins between tables and data. This way the developer does not have to write any SQL statement, but this doesn't mean you can't do it !

The direct SQL can be written into a SpagoBI Data Set every time you need a special tuning on your query.



DEPLOY THE MODEL AND THE QUERIES INTO SPAGOBI SERVER

Now, in order to deploy the BM and Dataset into SpagoBI Server, you have to define the right connection to it. Once the connection is created, you can upload the model and the query that you've just defined. Remember to define a meaningful label and select the data source.

Afterwards, connect to a SpagoBI Server: your Business Model has become a [Datamart QbE](#) document inside SpagoBI. The BM will be saved in your personal folder, so if you've logged in with biadmin, you'll find the model in the folder biadmin.

Similarly dataset created from BM queries can be deployed on server and used by analytical documents.

*Verify that your dataset has been sent successfully, by clicking on menu **RESOURCES -DATASET**.*

Create a WorkSheet

Create the query

Open the QBE file that identifies the BM previously created, select fields of interest and check the results using the PREVIEW button.

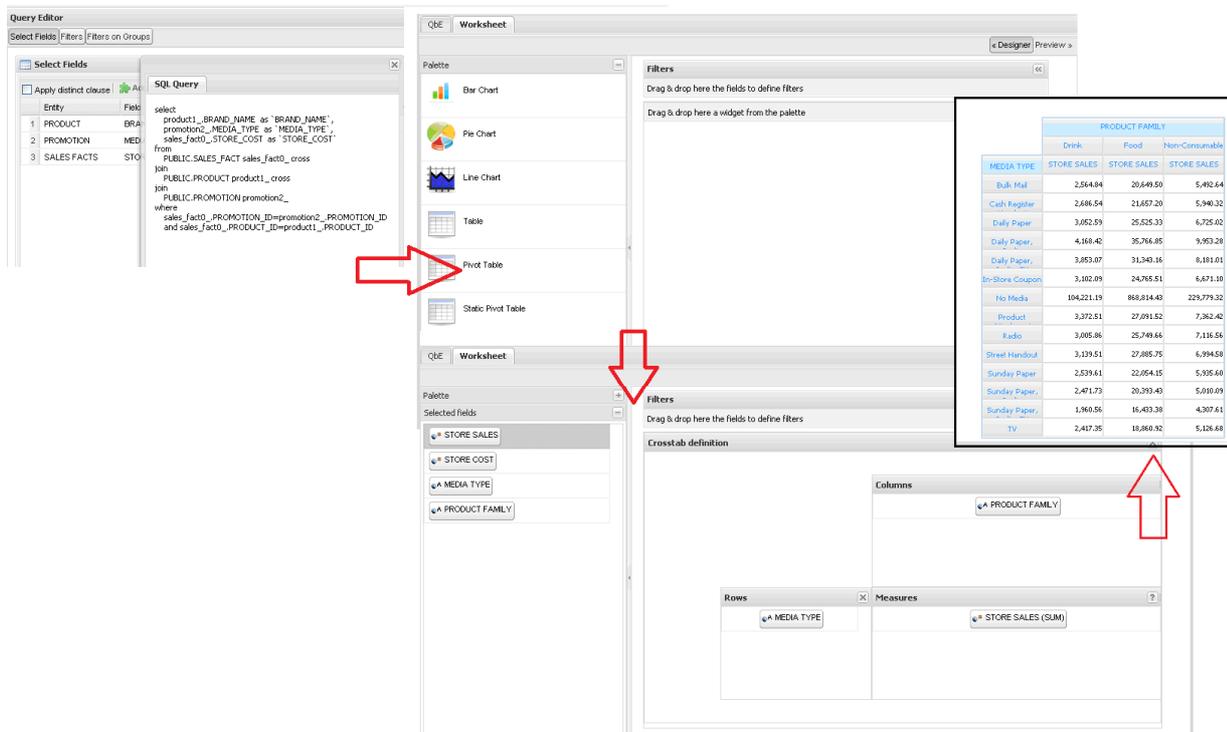
	Entity	Field	Alias	Func...	Order	Group	Include	Visible	Filter	Having
1	product	brandName	brandName			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Sales Fact 1998	Store Cost	Store Cost	SUM		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Sales Fact 1998	Unit Sales	Unit Sales	SUM		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Sales Fact 1998	Store Sales	Store Sales	SUM		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Build the worksheet

Now you can create your first WorkSheet. Just click on the tab "worksheet".

Choose the widget that you want to use, drag and drop the fields from the "selected fields" menu and check the results clicking the "preview" tab.

To add a new object to your document, you can click on the *green PLUS* in the designer (below the main window) and a new sheet will appear.



The screenshot displays the SpagoBI Query Editor and Worksheet Designer. The Query Editor on the left shows a SQL query for sales data. The Worksheet Designer on the right includes a widget palette, a filters section, and a crosstab definition. A preview window shows a data table with columns for 'MEDIA TYPE', 'STORE SALES', and 'PRODUCT FAMILY'. Red arrows highlight the 'Pivot Table' widget in the palette, the 'Crosstab definition' section, and the 'Columns' section of the preview window.

MEDIA TYPE	PRODUCT FAMILY		
	Drink	Food	Non-Consumable
Bulk Mail	2,564.84	20,649.59	5,492.64
Cash Register	2,686.54	21,657.20	5,940.32
Daily Paper	3,052.59	25,525.33	6,725.02
Daily Paper	4,168.42	36,764.85	9,953.20
Daily Paper	3,853.07	31,340.16	8,191.01
In-Store Coupon	3,102.09	24,765.51	6,671.19
No Media	104,221.19	868,814.43	229,779.32
Product	3,372.51	27,991.52	7,362.42
Radio	3,005.86	25,749.66	7,116.56
Street Handout	3,139.51	27,895.75	6,994.58
Sunday Paper	2,539.61	22,054.15	5,935.60
Sunday Paper	2,471.73	20,393.49	5,019.09
Sunday Paper	1,960.56	16,433.38	4,307.61
TV	2,417.35	19,868.92	5,126.68

More on Widget

Let's see what you can do with the worksheet.

Widgets include:

- Basic Table
- Pivot Table
- Pie chart
- Line/area charts
- Bar/stacked charts

Adding a pivot table

Drag the [pivot widget](#) from the palette to the main panel.

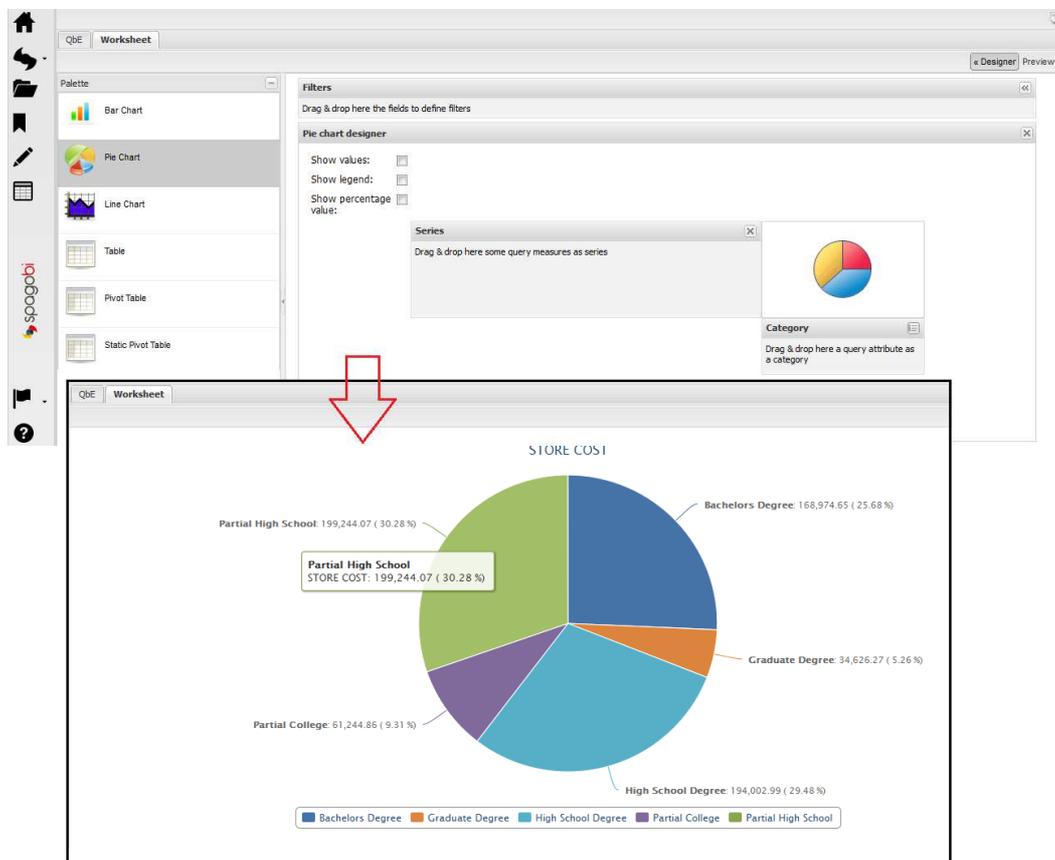
Drag measures into the related area and some attributes inside the rows and columns area.

As for measure, remember that it is very important to previously set the attribute property "type" as a measure in the BM, otherwise the widget fields will not be displayed.

Adding a chart

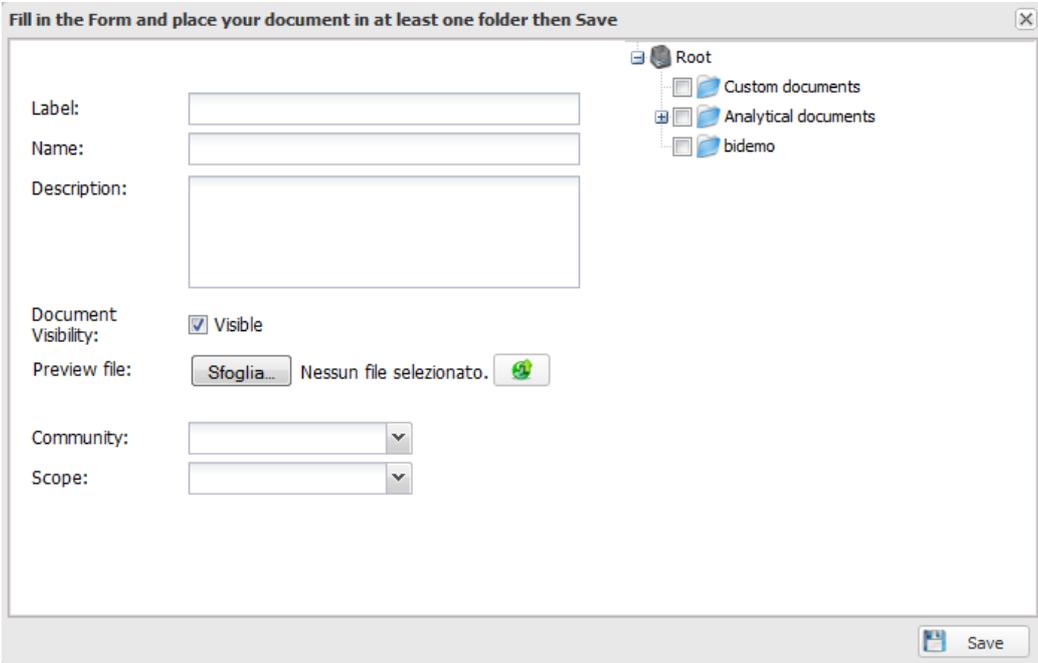
Go back to the designer and add a new sheet, then drag the [pie widget](#) into the main page. Inside the SERIES area, drag the fields defined as a measure and, inside the CATEGORIES area, drag the attributes that have to be associated with the reference measures.

Now click on the preview to see the final chart.



Publish the Worksheet

Save your document, by clicking the icon at the top right and selecting the folder to save it in.



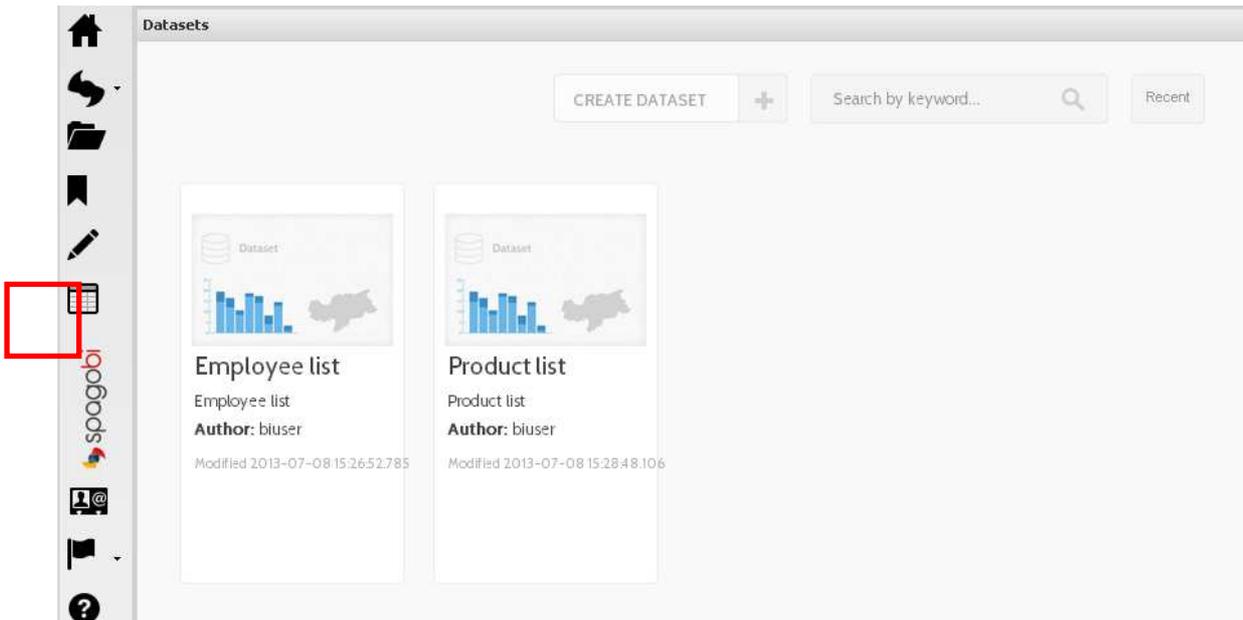
The screenshot shows a dialog window titled "Fill in the Form and place your document in at least one folder then Save". The window contains the following elements:

- Form fields:**
 - Label: [Text input field]
 - Name: [Text input field]
 - Description: [Text area]
 - Document Visibility: Visible
 - Preview file: [Sfoglia...] button, text "Nessun file selezionato.", and a file icon button.
 - Community: [Dropdown menu]
 - Scope: [Dropdown menu]
- File Explorer:** A tree view on the right showing the folder structure:
 - Root
 - Custom documents
 - Analytical documents
 - bidemo
- Buttons:** A "Save" button with a floppy disk icon is located at the bottom right of the dialog.

To facilitate retrieve the worksheet once saved you can attach an image to preview the document.

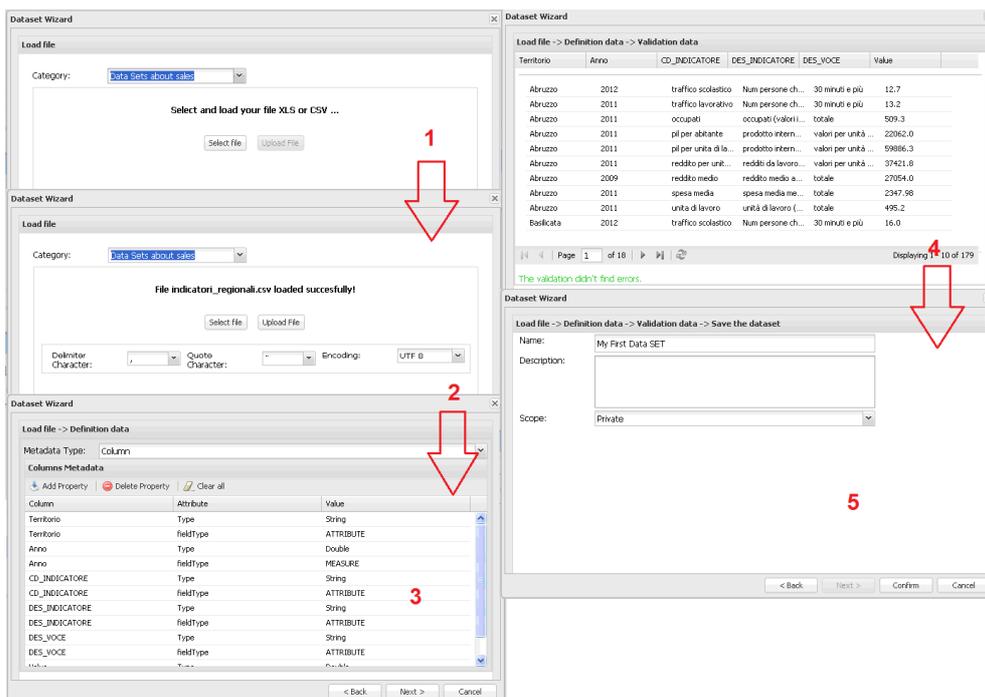
Self-Service SpagoBI

The section “my data” contains the data set that you created on your own: with the 4.x version of SpagoBI the end user can upload data sets independently of the file type (CSV, Excel) and create their own analysis.



My Data

The user can create new data sets by clicking  which activates this wizards:



- 1: Select the file and choose the file type - CSV or Excel
- 2: Specify the configuration file, that is, how to interpret the content.
- 3: Insert the meta data.
- 4: Overview on data.
- 5: Save.

Once you open the dataset it's directly possible design the worksheet without passing through the QBE.

Conclusion

This quick overview of **SpagoBI 4.x** new functionalities demonstrates that granting the access to your data is definitely a matter of minutes.

This is particularly useful with agile BI approaches or when you need to build up a prototype or a *POC* in a short time. This can reduce project risks, avoiding to spend time and money on traditional BI activities before having a correct vision and stable users requirements.

References:

Web site SpagoBI:

<http://www.spagoworld.org/xwiki/bin/view/SpagoBI/>

Demo On-line:

<http://spagobi.eng.it/SpagoBI/>

Wiki:

<http://wiki.spagobi.org/xwiki/bin/view/Main/>

Forum:

<http://www.spagoworld.org/jforum/forums/list.page>

Tracker (Jira):

<https://www.spagoworld.org/jira/browse/SPAGOBI>

Download:

http://forge.ow2.org/project/showfiles.php?group_id=204

Services:

Support & Maintenance: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Support>

Consulting: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Consulting>

Training: <http://www.spagoworld.org/xwiki/bin/view/SpagoBI/Training>

Shop: <https://spagoshop.spagoworld.org/spagoshop/>