S&P Global
Market Intelligence

S&P Global Marketplace Workbench

Web-Based Notebook Environment

Client Support

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1. Document Overview

1.1. What You Will Find in This Guide

This document:

- Provides an overview of the capabilities of Marketplace Workbench and notebooks
- Describes how you can access your workspace
- Explains pre-built starter guide notebooks
- Describes how to access S&P Global datasets available on Marketplace Workbench
- Lists the ways you can import data into Workbench
- Explains additional features that can be enabled, such as exporting notebooks
- Describes the security of Marketplace Workbench

1.2. Supporting Documentation

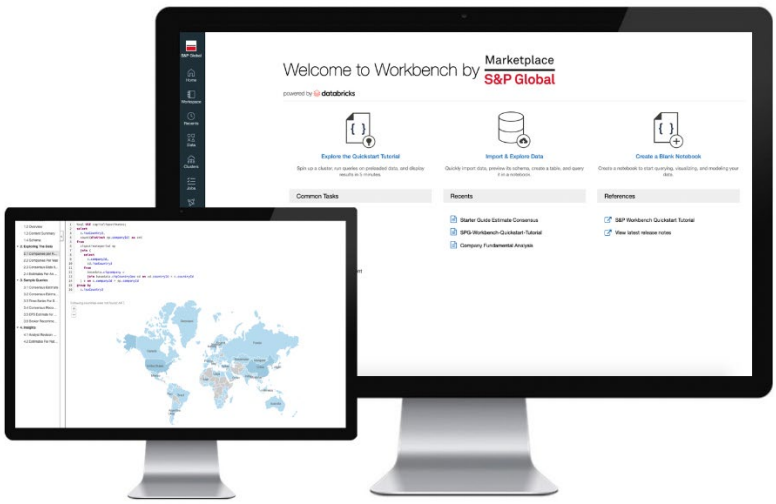
- *Xpressfeed File Delivery Schedule* – This spreadsheet provides expected full and change file delivery times as well as the length of time the files remain on the server.
- If you are linking to other S&P Global Market Intelligence datasets, supporting documents are available at support.marketplace.spglobal.com.
- For details on the concepts and tasks associated with using Databricks, please review the Databricks documentation.
- For details regarding Databricks security, please refer to the following detailed documentation from Databricks.

2. Marketplace Workbench

Marketplace Workbench is a web-based, user-friendly notebook environment that allows you to test, explore, and experiment with datasets from S&P Global and curated third-party providers.

Within Workbench, you can perform exploratory data analysis or build models using collaborative notebooks that support multiple languages, built-in data visualizations and automatic versioning. You can easily analyze and review both pre-built S&P Global notebooks, or build your own, to better understand and see first-hand the value of various datasets. Workbench makes data analysis and R&D simple and efficient.

The notebook-based environment allows your team to work together and collaborate across notebooks in your company's own secure and scalable workspace. You can share notebooks and work with colleagues through real-time co-authoring, commenting, and automated versioning to simplify collaboration, while maintaining control.



2.1. Technology

Marketplace Workbench uses the **Databricks** platform in collaboration with **Snowflake** as the data source.

Databricks is a company founded by the original creators of Apache Spark. It is an open and **unified data analytics platform** for data engineering, data science, machine learning and analytics which provides a collaborative environment for data teams to build solutions together.

Snowflake is a cloud-based **integrated data warehouse** delivered as a service that allows users to directly query a fully managed hosted data warehouse.

Databricks connects to Snowflake as a data source, where the S&P datasets are hosted and maintained.

2.2. Notebooks

Notebooks are a form of interactive computing, in which you can write and execute code, visualize results, and share insights. Typically, notebooks are used for experiments and exploration tasks.

The notebook-based environment allows your team to work together and collaborate across notebooks in your company's own secure and scalable workspace. You can share notebooks and work with colleagues through real-time co-authoring, commenting, and automated versioning to simplify collaboration while maintaining control.

Notebooks provide the following features:

- Multi-language support: R, Python, Scala, and SQL
- Built-in visualizations that are compatible with almost any visualization tool
- Table of contents to navigate through our pre-built notebook content
- Collaboration: co-Presence, commenting and co-editing
- Sample metadata for each table
- Ability to connect to client data sources via various options including S3, Snowflake, and CSV
- Use numerous libraries (e.g., Numpy Scipy, Pandas, Scikit-learn, StatsModels, Seaborn and many more)

3. Getting Started

3.1. Subscriptions

You may subscribe to Workbench as a trial or on an on-going basis.

Trial

You may request a trial account so that you can trial S&P Global data on Marketplace Workbench prior to subscribing to other S&P Global Market Intelligence delivery platforms such as:

Feed delivery	API delivery
Xpressfeed	XpressAPI
Snowflake	S&P Capital IQ API

A trial account provides access to Workbench, a data sandbox, hosted in the cloud, that fuels exploratory data analysis, by providing prebuilt notebooks to flatten the learning curve and other tools that enable collaboration and data visualization.

You can access your requested datasets for 30 days. When the 30-day trial period ends, you will not be able to execute queries on Marketplace Workbench.[1]

On-Going

While Marketplace Workbench was originally launched as a dataset trial and evaluation platform, we now offer Workbench as a platform to analyze data on an on-going basis. Workbench is beneficial to:

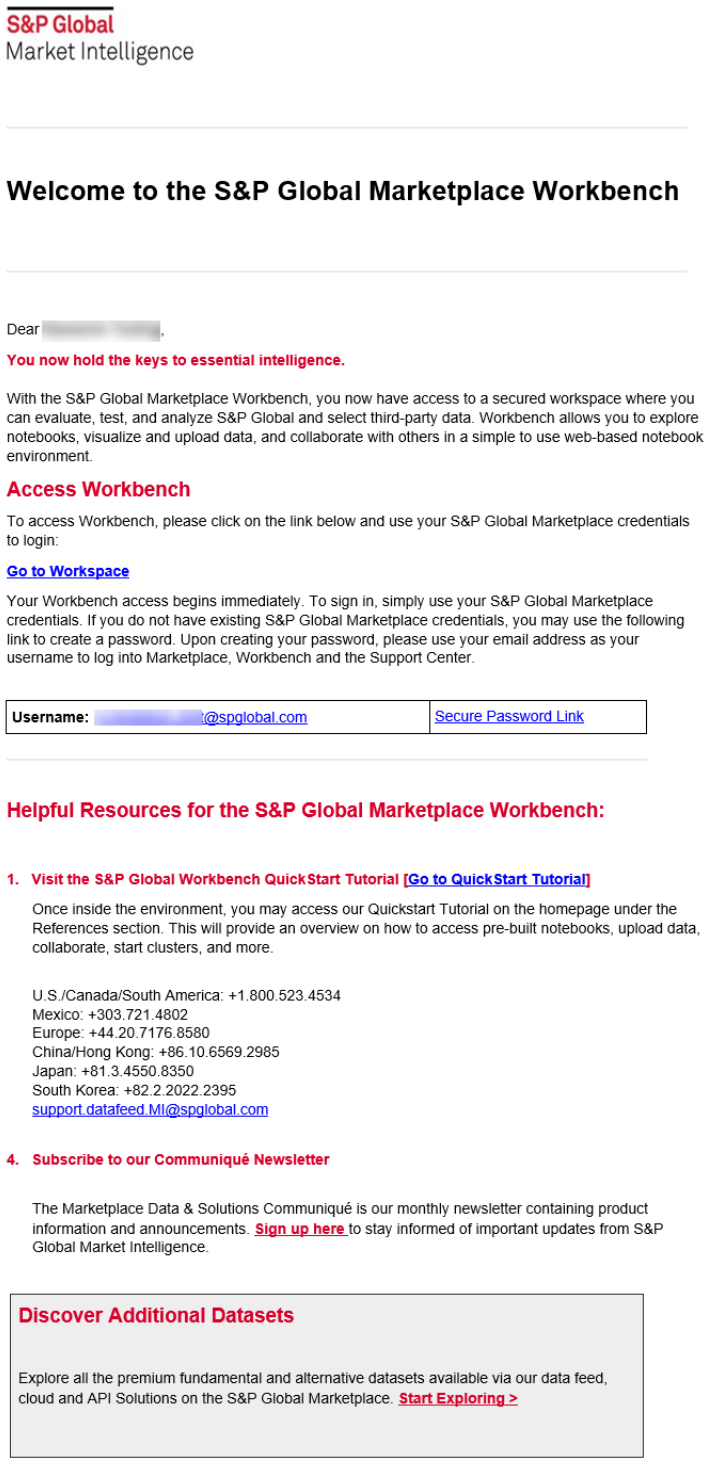
- Data Scientists for performing NLP, creating ML models, and/or visualizations.
- Data Engineers who integrate data, build data pipelines, and create dashboards.
- Clients who wish to evaluate S&P Global data over a longer time period who do not want to invest in infrastructure and development time to on-board data and maintain it.
- Clients who wish to maintain data access while data onboarding and infrastructure is set up on-premise or via Snowflake.

[1] Extensions are subject to S&P Global Market Intelligence approval.

3.2. Accessing your Workspace

Welcome Email

Once you sign a test agreement and agree upon the datasets you wish to receive, you will receive a Welcome Email that contains a link to your **Workspace**. Following is an example of a Welcome Email:



S&P Global
Market Intelligence

Welcome to the S&P Global Marketplace Workbench

Dear [redacted],

You now hold the keys to essential intelligence.

With the S&P Global Marketplace Workbench, you now have access to a secured workspace where you can evaluate, test, and analyze S&P Global and select third-party data. Workbench allows you to explore notebooks, visualize and upload data, and collaborate with others in a simple to use web-based notebook environment.

Access Workbench

To access Workbench, please click on the link below and use your S&P Global Marketplace credentials to login:

Go to Workspace

Your Workbench access begins immediately. To sign in, simply use your S&P Global Marketplace credentials. If you do not have existing S&P Global Marketplace credentials, you may use the following link to create a password. Upon creating your password, please use your email address as your username to log into Marketplace, Workbench and the Support Center.

Username: [redacted]@spglobal.com	Secure Password Link

Helpful Resources for the S&P Global Marketplace Workbench:

1. **Visit the S&P Global Workbench QuickStart Tutorial [Go to QuickStart Tutorial]**

   Once inside the environment, you may access our Quickstart Tutorial on the homepage under the References section. This will provide an overview on how to access pre-built notebooks, upload data, collaborate, start clusters, and more.

   U.S./Canada/South America: +1.800.523.4534
   Mexico: +303.721.4802
   Europe: +44.20.7176.8580
   China/Hong Kong: +86.10.6569.2985
   Japan: +81.3.4550.8350
   South Korea: +82.2.2022.2395
   support.datafeed.MI@spglobal.com

4. **Subscribe to our Communiqué Newsletter**

   The Marketplace Data & Solutions Communiqué is our monthly newsletter containing product information and announcements. **Sign up here** to stay informed of important updates from S&P Global Market Intelligence.

Discover Additional Datasets

Explore all the premium fundamental and alternative datasets available via our data feed, cloud and API Solutions on the S&P Global Marketplace. **Start Exploring >**

Credentials

To sign in, use your S&P Global Marketplace credentials.

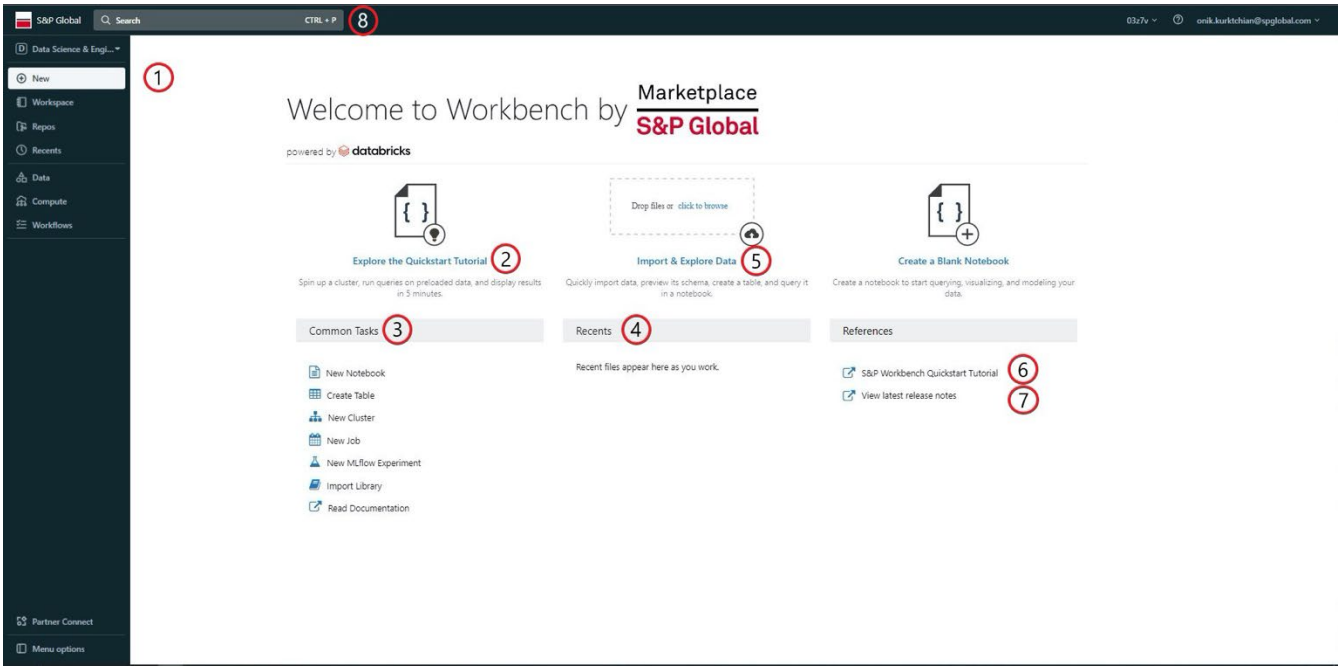
If you do not have existing S&P Global Marketplace credentials, you may use the link in the Welcome Letter to create a password. Upon creating your password, your email address and password will provide you access to Marketplace, Workbench, and the Marketplace Support Center.

Marketplace Workbench supports Single Sign On (SSO). Once you are entitled to Workbench and the requested dataset(s), you can use your SSO login credentials to access Workbench.

Please note: the link within the Welcome Email link is valid up to 8 hours, if it expires you are able to re-sent and receive a new one.

4. Your Workspace

The following section provides an overview of your Workspace interface:



1 The Sidebar

Hover over the sidebar to display the menu descriptions.

2 Databricks QuickStart Tutorial

The Databricks Quickstart Tutorial provides a five minute overview of Databricks. Subjects include:

- Attaching the notebook to the cluster and how to run all commands in the notebook
- Creating a table from a Databricks dataset
- Manipulating the data and displaying the results
- Converting a table to a chart
- Repeating the same operations using Python DataFrame API
- Creating a DataFrame from a Databricks dataset
- Adding libraries to your workspace

3 Common Tasks

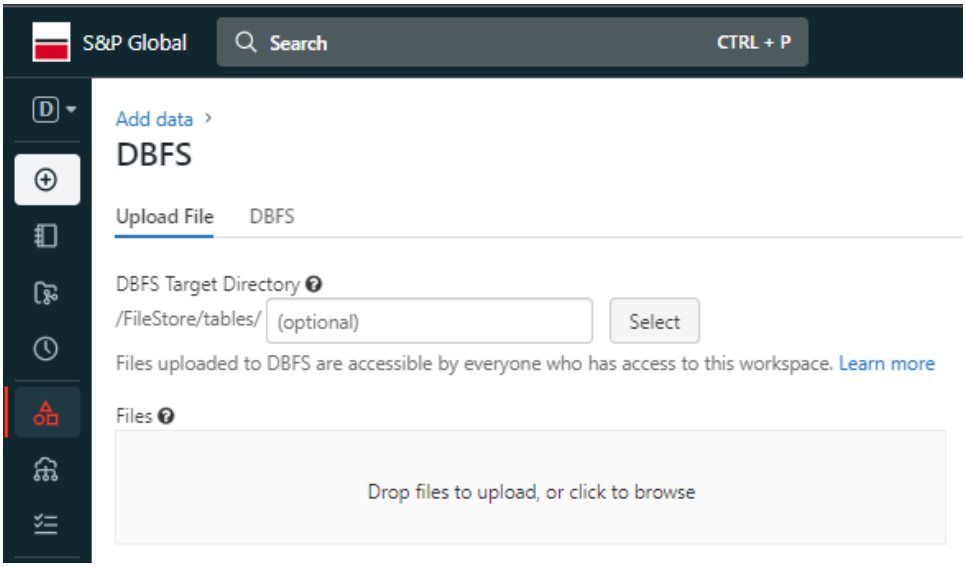
The Common Tasks section allows you to quickly create notebooks, tables and jobs.

4 Recents

The Recents section provides quick access your previous work.

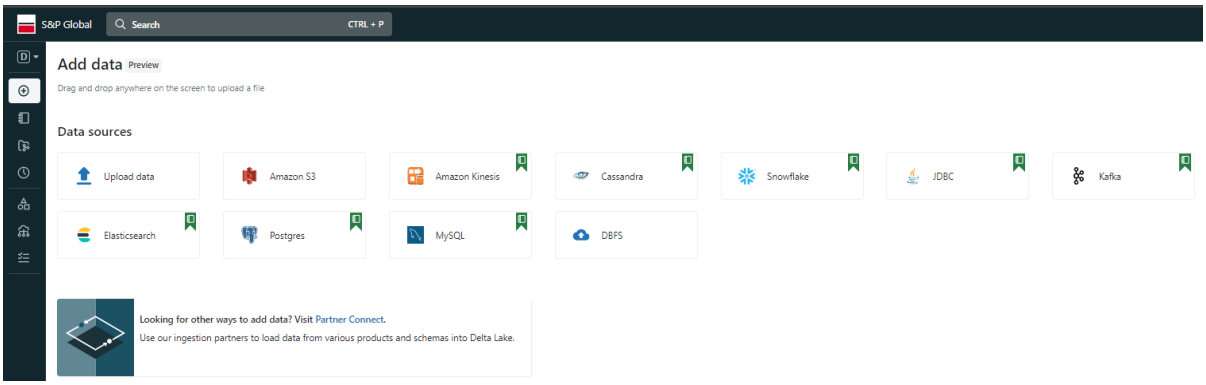
5 Import & Explore Data

In the Import & Explore Data section, Workbench gives you various options to securely upload your own data.



Primaray Methods include:

- Upload data to access the data upload UI and load CSV files
- DBFS – Databricks File System



Add data, launches sample notebooks to configure connections to other supported data sources such as S3, Snowflake, etc.

6 S&P Workbench Quickstart Tutorial

The Quickstart Tutorial is the single resource required to begin exploring S&P Data as quick as possible, walking you through:

- Notebook functionality and features
- Accessing S&P data
- Uploading your data
- Starting with your first notebook

7 View Latest Release Notes

This link directs you to Databricks' release notes.

8 Search

Allows you to search through notebooks, queries, dashboards, alerts, files, folders, libraries, and repos within the workspace.

5. Data & Notebooks

5.1. S&P Notebooks

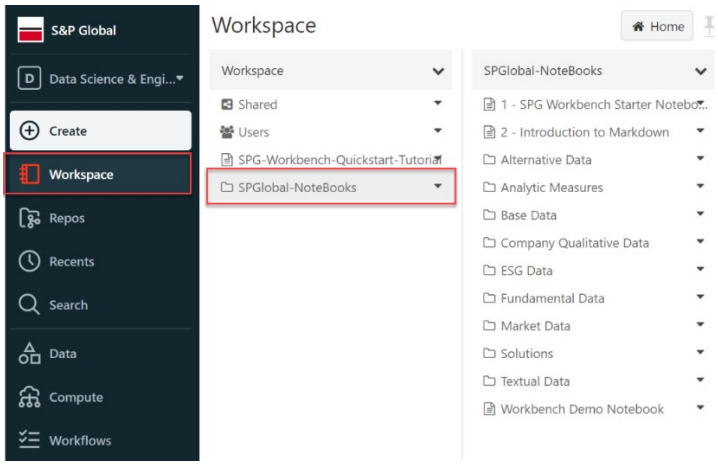
The S&P Global Notebooks folder includes pre-built starter and advanced guides to all eligibleable datasets part of your trial or on-going subscription.

Starter Guides are built for a specific dataset and are predominantly SQL based.

Advanced Guides can include multiple datasets and can be more heavily python based.

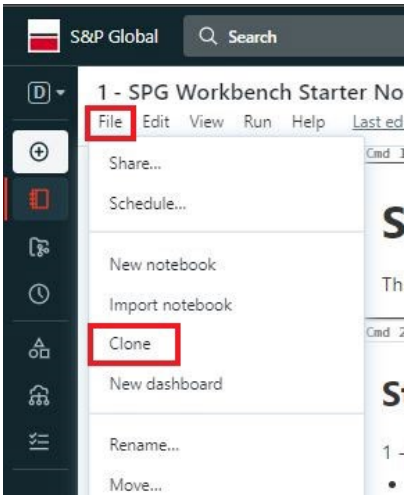
5.2. Starter Guide Notebooks

S&P notebooks are found within Workspace > SPGlobal-Notenooks folder.

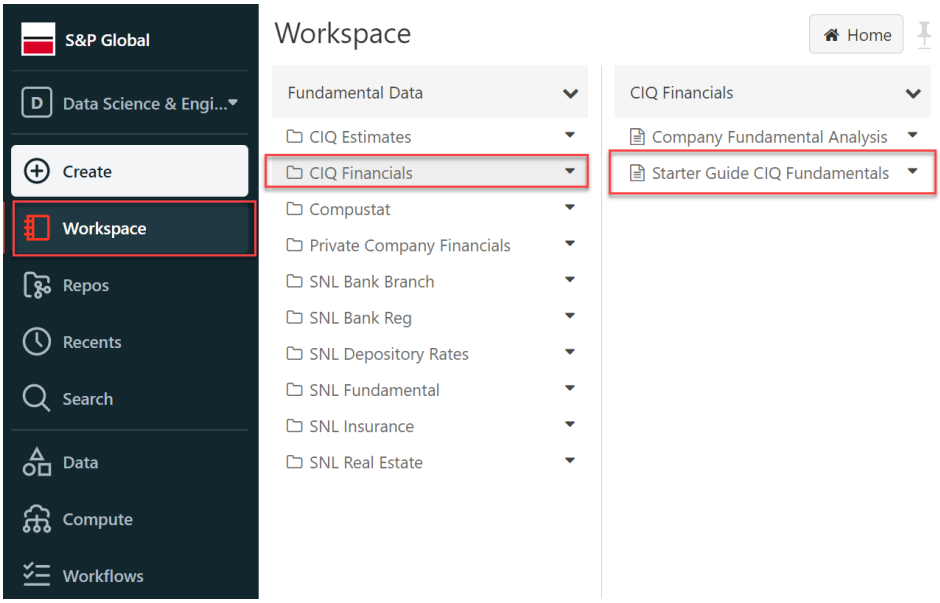


The Starter Guide notebooks are designed to help you easily learn and uncover insights. They provide you with a summary of the dataset and an overview of the dataset's database, tables and main features. The guides will also help you to explore the dataset interactively using sample queries developed from our client's frequently asked questions.

Please Note: S&P Notebooks are read only. To edit a notebook, please clone the notebook to your user workspace.



Starter Guide notebooks can be found in the menu path Workspace > Dataset Category > Dataset.



All Starter Guide notebooks are standardized into four sections:

Understand the data

This section contains an introduction to the dataset, refrences and links to additional supporting documentation:

- Overview – Link to S&P Global Marketplace, which provides an overview of each dataset and includes sample data, data dictionaries, data visualizations and Research.
- Dataset Guide – Link to S&P Global Marketplace Support Portal, which provides a detailed description of each dataset and describes how to work with the data.
- Data Dictionary – Link to each data dictionary for each dataset.

Exploring the data

This section is designed to highlight the main features, key tables and basic coverage questions for each dataset.

Provides answers to questions such as:

- What table contains the main data items
- How many companies are covered in a specific dataset
- What is the geographic distribution of the data

Sample Queries

This section is continuously updated with pre-built queries to help answer the most frequently asked questions, designed to help you maximize the value of the dataset.

Insights

This section can focus on a few different areas:

- Key value-add features of a specific dataset
- Synergy with other S&P dataset(s)
- Advanced queries using Python and other libraries

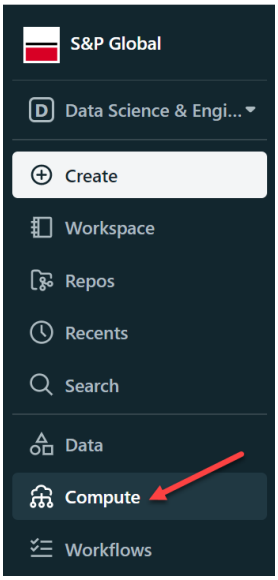
5.3. S&P Global Datasets

All datasets available on Workbench can be found here on Marketplace. We continuously build out notebooks as new datasets are added.

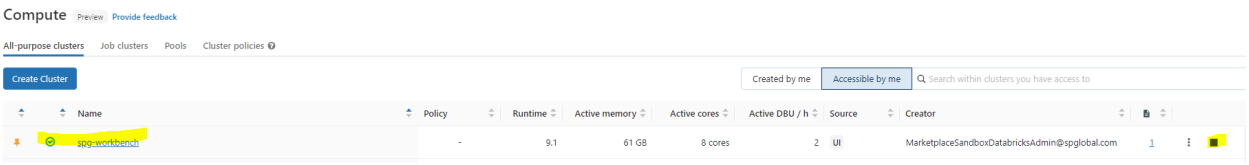
In order to view the datasets in your Workbench workspace, compute resources need to be running (a cluster is a set of computation resources and configurations). This information is found in the **Compute** tab.

Compute

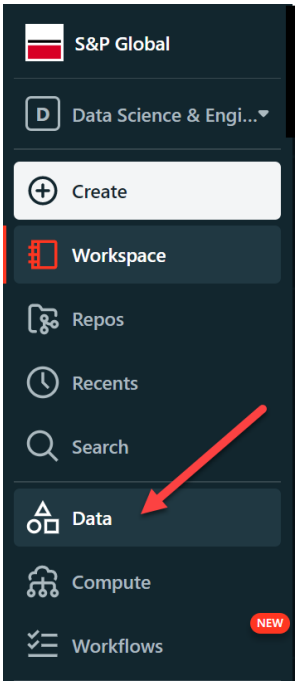
S&P provisions a general purpose cluster called “spg-workbench” for data exploration. Make sure the cluster is running to access the data.



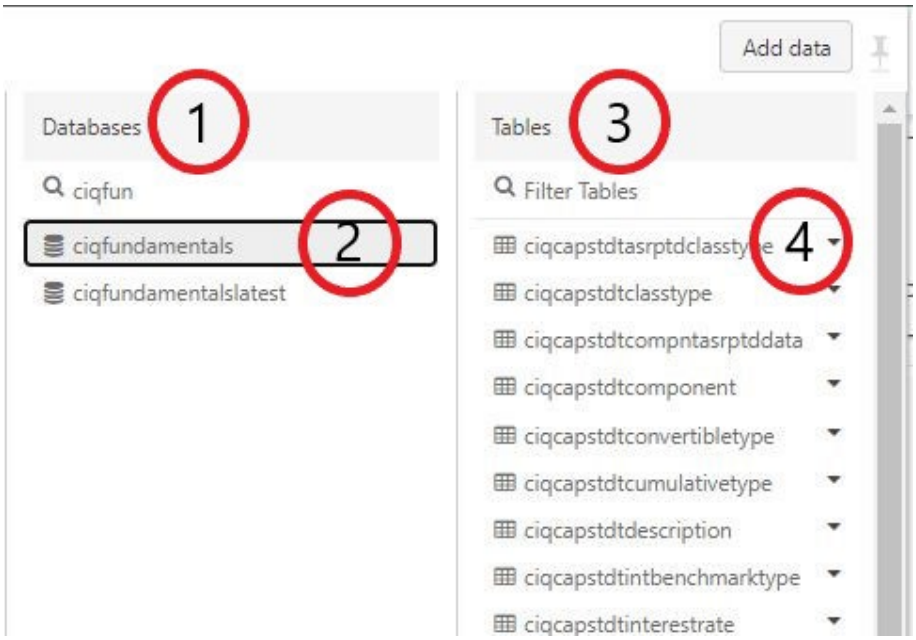
Below is an example of an active cluster. If it is inactive, you will see a Play button on the right side instead of a stop icon.



Your dataset subscriptions are displayed in the Data section on the sidebar.



Data



1 Databases Folder

The Database folder displays the list of databases/datasets that are part of your trial or on-going Workbench account. Database names reflect the names of S&P Global Market Intelligence datasets and contain all the associated tables. Subscribing to a dataset will give you access to all the related tables.

2 Database Details

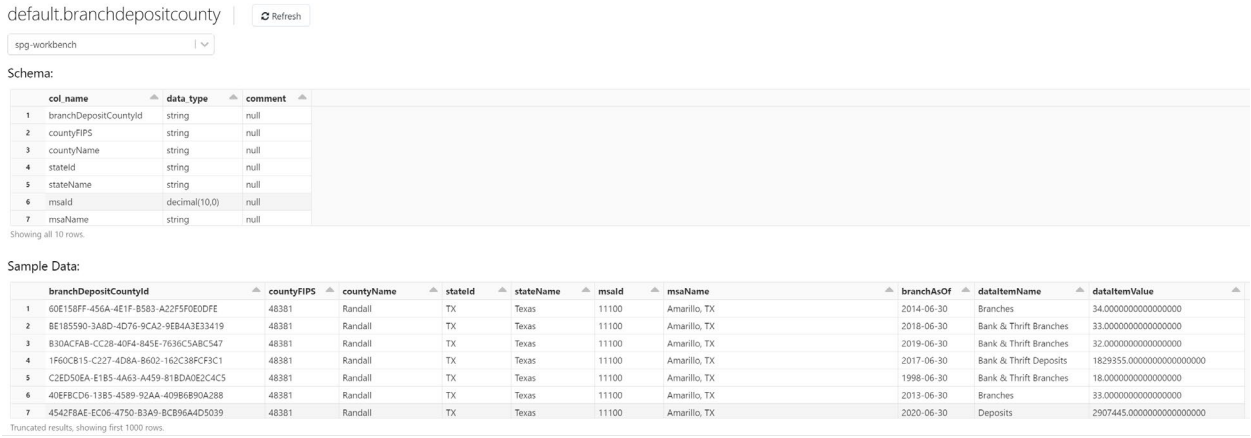
When you click on a database, the Database Details view will display the table schema and some sample data for that database.

3 Tables Folder

The Tables folder provides all tables associated with the selected database.

4 Table Details

When you click on a table, the Table Details view will display the table schema and sample data for that table.



5.4. Additional Features

Documentation Within a Notebook

To include documentation in a notebook, you can use the %md magic command to identify Markdown markup. The included Markdown markup is rendered into HTML. You can leverage this to describe what a notebook is doing.

Notebook Versioning

There is basic version control for notebooks. You can perform the following actions on revisions: add comments, restore and delete revisions, and clear revision history. To access notebook revisions, click Revision History at the top right of the notebook toolbar. By default, the **Repo functionality is disabled**, but can be enabled based on request.

Collaborating in a Notebook

You have an option to grant permissions to other users to view/edit/manage your notebooks. You can have discussions with collaborators using command comments. To toggle the Comments sidebar, click the Comments button at the top right of a notebook.

Multi-Language Support

Explore data using interactive notebooks with support for multiple programming languages within the same notebook, including R, Python, Scala, and SQL. You can override the default language by specifying the language magic command % at the beginning of a cell. The supported magic commands are: %python, %r, %scala, and %sql.

Exporting Notebooks

By default, the **export notebook feature is disabled** for all clients. However, this can be enabled on a case by case basis.

A notebook is a web-based interface to a document that contains runnable code, visualizations, and narrative text. If you export a notebook, it will not export all data, only the code and results will be exported.

The following notebook formats can be exported:

- DBC ARCHIVE: Databricks internal format, you can download bulk notebooks (e.g., zip). These can only be imported into Databricks.
- SOURCE FILE: Only the code will be exported, not the results.
- IPYTHON NOTEBOOK: Results and code will be exported. These can be imported into a Jupyter notebook.
- HTML: Exported results and code in HTML.

Pre-loaded Libraries

Databricks Workspaces are pre-loaded with a full suite of pre-loaded libraries for Python, R, Java and Scala. For a complete list of pre-loaded libraries for a specific runtime, please refer to Databricks technical documentation.

Download Options

By default, **download functionality is disabled** for Workbench clients. However, this can be enabled on a case by case basis.

If download functionality is enabled, the following options are available:

- Download via UI
- Download sample data
- Download via Databricks CLI

Available Workbench Options

Option	Enabled by Default
Cluster	Yes
Workspace Access/Notebook creation	Yes
Upload data using the UI	Yes
Databricks CLI Tokens	No
Databricks DBFS browser	No
Notebook CSV download button	No
Notebook Export Option	No
Repo Enablement	No

6. Security

Workbench is a highly secure environment that follows the industry's best standards and protocols. Databricks provides many tools for securing your network infrastructure and data. Please find the following detailed documentation from Databricks.

6.1. Data security

Data is only accessible to logged in users via the specific Workspace they are entitled to. Every Workspace is provisioned with its own discrete S3 bucket on AWS. These S3 buckets are firewalled and inaccessible to anyone except the entitled client, S&P AWS Administrator and S&P Workbench Administrator. Each S3 Bucket:

- Is inaccessible across workspaces
- Silos client data and prevents data comingling

6.2. Access to data and notebooks

Our isolated security model provides separate workspaces for each client. Anyone who is added to your Databricks account will have access to the Workbench platform. You are also provided with additional controls to grant permissioning on a dataset and notebook basis.

S&P Global destroys every workspace and corresponding S3 bucket at the conclusion of every trial or when a subscription ends.

7. FAQs

7.1. Can I trial data in both Snowflake and Workbench at the same time?

Yes, you can trial data in either Snowflake and Workbench or you can use both tools during the trial period. Both Snowflake and Workbench offer production data. Workbench can be trialled simultaneously with Xpressfeed (SFTP), Snowflake (Cloud) or XpressAPI (API).

7.2. Can I use my existing Snowflake reader accounts in Workbench?

Yes, you can use your existing Snowflake account as a data source to connect to Workbench. For a full list of data sources please refer to the Databricks documentation.

7.3. How do I find out about the latest Workbench enhancements?

Please check Marketplace to learn about the latest Workbench enhancements.

7.4. How often is S&P Global data refreshed?

Frequency of refresh depends on the dataset. Certain datasets are updated whenever new information is availble such as CIQ Estimates whilst others like CIQ Fundamentals are twice a day.

8. Revision History

The changes made to this document include the following:

Version	Date	Changes
1.0	11/03/2022	Initial version

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