

# Microsoft Fabric

## Real-Time Intelligence in a Day Lab 1

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# Document Structure

The lab includes steps for the user to follow along with associated screenshots that provide visual aid. In each screenshot, sections are highlighted with orange boxes to indicate the area(s) user should focus on.

## Scenario / Problem Statement

Fabrikam is an e-commerce company specializing in a wide range of outdoor equipment and accessories. The company caters to retail customers globally through its online platform and is planning to enhance its presence in new international markets. There is a new initiative that involves providing real-time insights from an e-commerce site to provide executives with the ability to make timely decisions based on current information.

As an Analytics Engineer on the Sales team, your responsibilities include collecting, cleaning, and interpreting data sets to solve business problems. You create and maintain batch data pipelines, develop visualizations like charts and graphs, build and optimize comprehensive semantic models and reports, and present your findings to decision-makers in the organization.

## Current Challenges

- You need to handle a continuous stream of real-time data from the e-commerce website, which requires a robust and scalable architecture.
- Ensuring real-time data processing and analytics to keep up with the fast-paced nature of online sales.
- Handling the volume and velocity of data generated by user interactions, transactions, and website activity.
- Integrating real-time streaming data with historical data for comprehensive analysis.
- Using the Medallion architecture in an Eventhouse environment to structure the data flow efficiently.
- Leveraging the Eventhouse Data within a Lakehouse
- You're interested in leveraging Microsoft Fabric to address the above challenges, using Eventhouse, KQL Database, and Eventstream to build a resilient and efficient data processing pipeline.

# Introduction

Today you will learn about various key features of Microsoft Fabric. This is an introductory workshop intended to introduce you to the various product experiences and items available in Fabric. By the end of this workshop, you will learn how to use an Eventhouse, Data Pipeline, Eventstream, KQL Queryset and a Real-Time Dashboard.

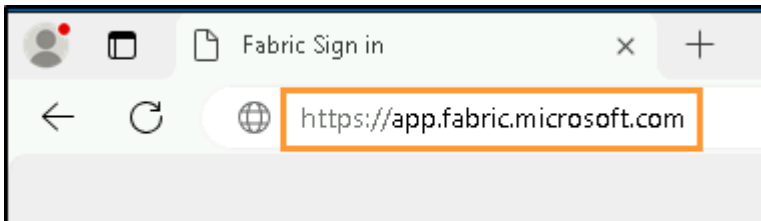
By the end of this lab, you will have learned:

- How to explore Fabric Personas
- How to create a Fabric workspace
- How to create an Eventhouse

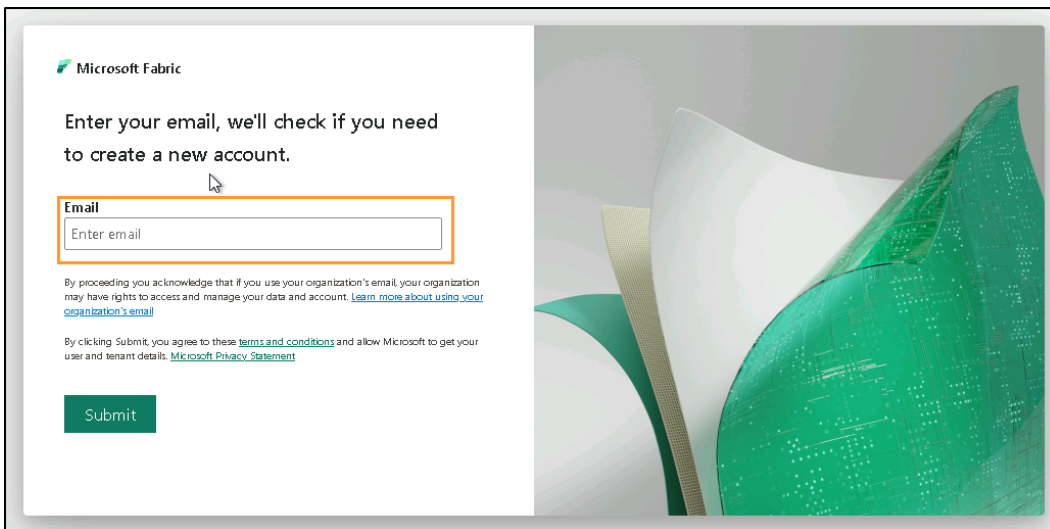
## Fabric License

### Task 1: Enable a Microsoft Fabric trial license

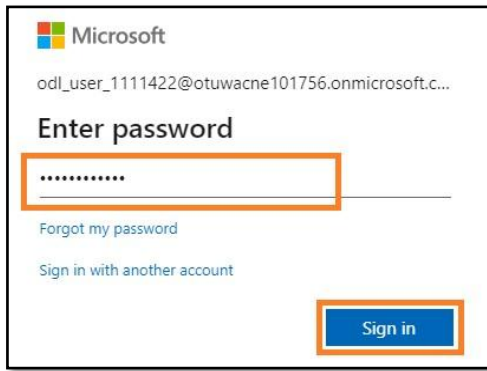
1. Open the **Microsoft Edge browser** on the desktop and navigate to <https://app.fabric.microsoft.com/>. You will be navigated to the login page. **Note:** If you are not using the lab environment and have an existing Power BI account, you may want to use the browser in private / incognito mode.



2. Enter the **Username** available in the **Environment Variables** tab (next to the Lab Guide) as the **Email** and click **Submit**.



3. You will be navigated to the **Password** screen. Enter the **Password** available in the **Environment Variables** tab (next to the Lab Guide) shared with you by the instructor.
4. Click **Sign in** and follow the prompts to sign into Fabric.



Microsoft

odl\_user\_1111422@otuwacne101756.onmicrosoft.c...

### Enter password

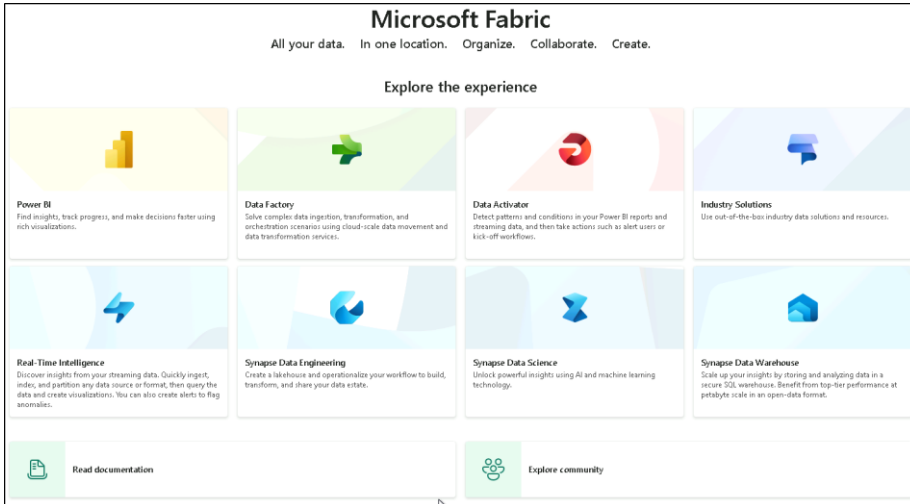
.....

[Forgot my password](#)

[Sign in with another account](#)

**Sign in**

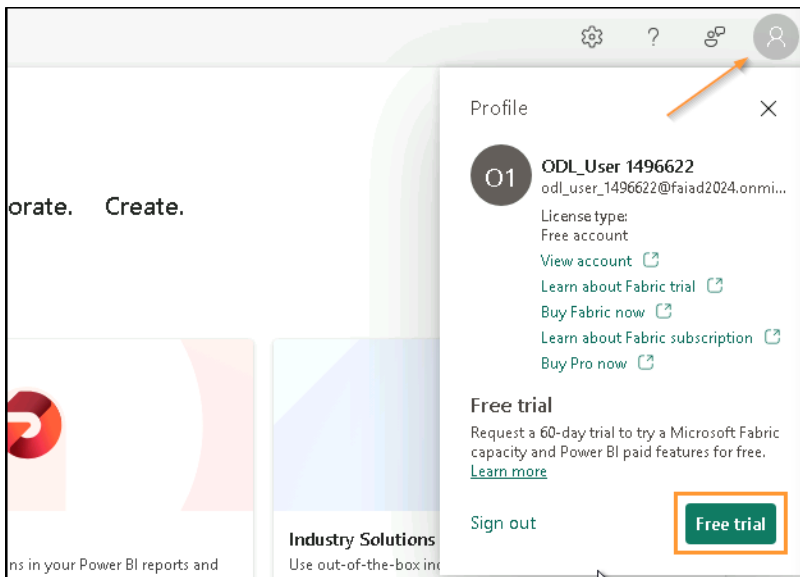
5. You will be navigated to the **Fabric Home page**.



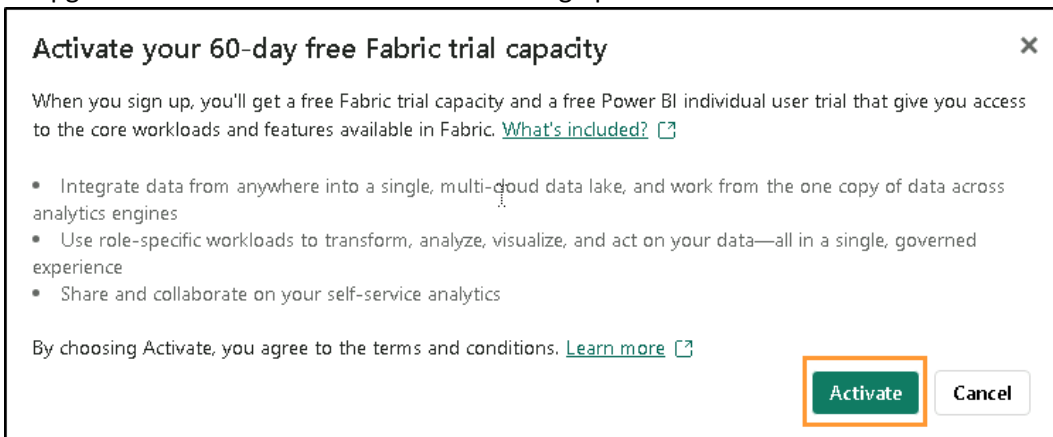
To work with Fabric items, you will need a trial license and a workspace that has Fabric license. Let's set this up.

6. On the top right corner of the screen, select the **user icon**.

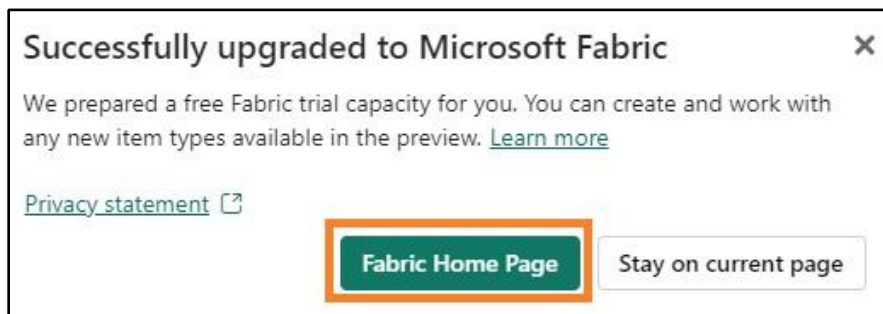
7. Select **Free Trial**.



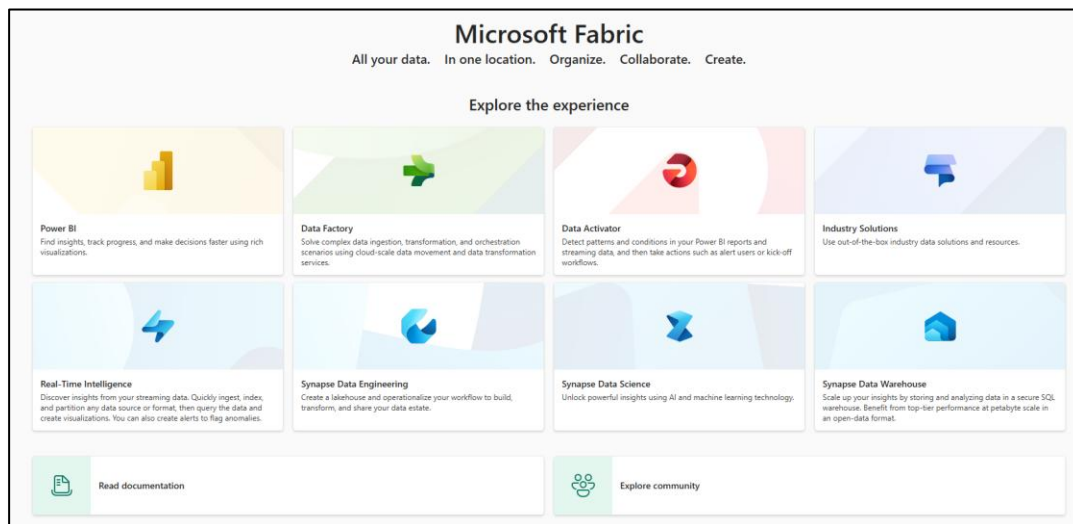
8. Upgrade to a free Microsoft Fabric trial dialog opens. Select **Activate**.



9. Successfully upgraded to Microsoft Fabric dialog opens. Select **Fabric Home Page**.



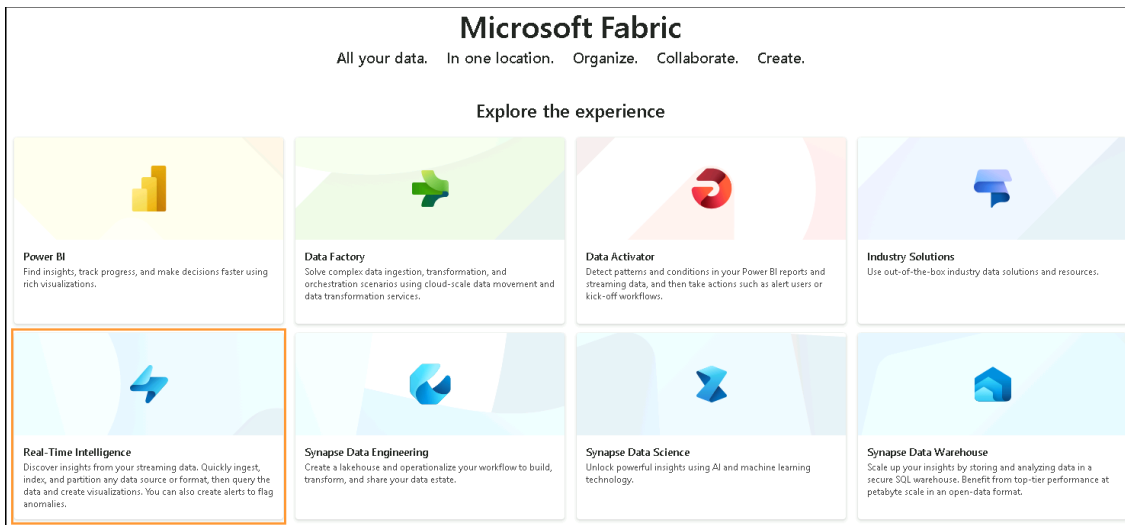
10. You will be navigated back to the **Microsoft Fabric** Home page.



## Real-Time Intelligence and Real-Time Hub

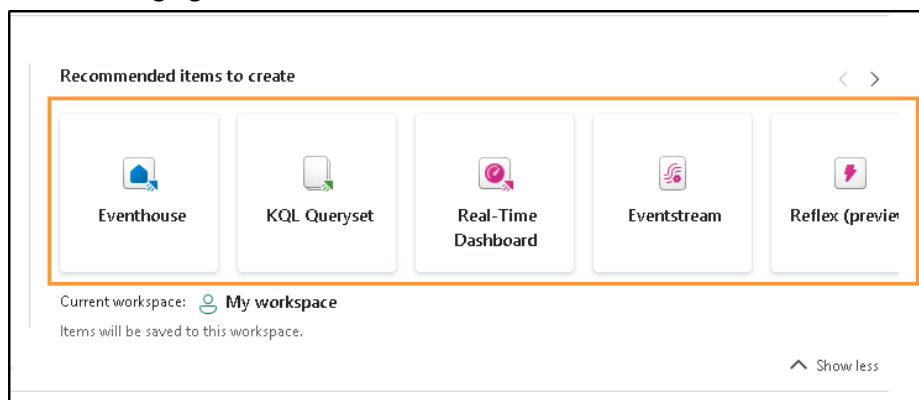
### Task 2: Real-Time Intelligence Experience Items

1. Click on the Real-Time Intelligence Experience.



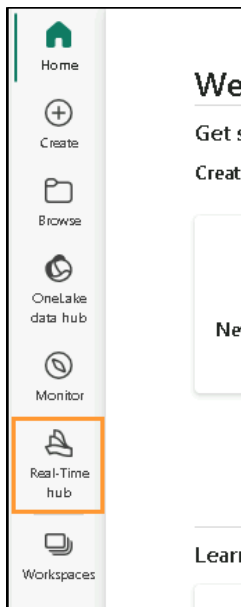
2. You will be navigated to **Real-Time Intelligence Home page**. You will see **Task flow templates**, **Recommended items to create**, and **Learn more about Real-Time Intelligence** categories. With the **Recommended** category notice the items:

- Eventhouse:** Used to create a workspace of one or multiple KQL database(s), which can be shared across projects. Also creates a KQL Database within the Eventhouse.
- KQL Queryset:** Used to run queries on the data to produce shareable tables and visuals.
- Real-Time Dashboard:** A collection of tiles, optionally organized in pages, where each tile has an underlying query and a visual representation.
- Eventstream:** Used to capture, transform, and route real-time event stream.
- Reflex:** For automatically taking actions when patterns or conditions are detected in changing data.

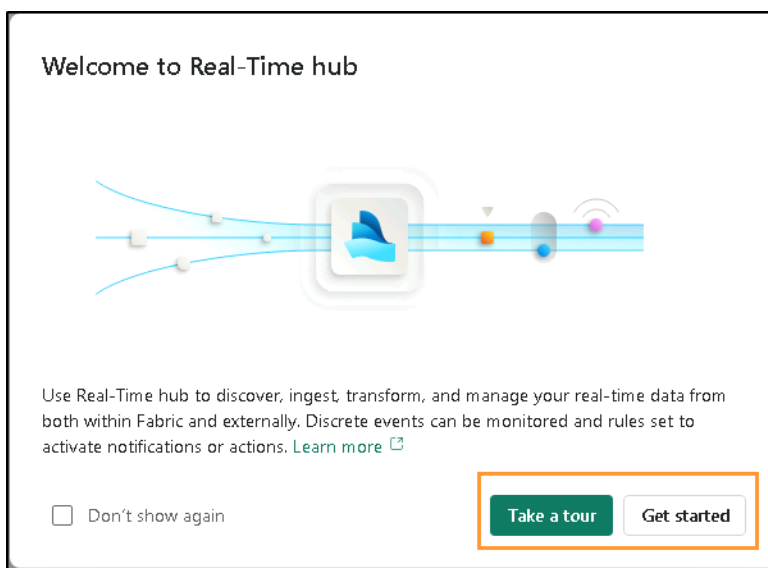


### Task 3: Real-Time Hub

- Click on the **Real-Time hub** within the Fabric navigation pane on the left side of the screen.

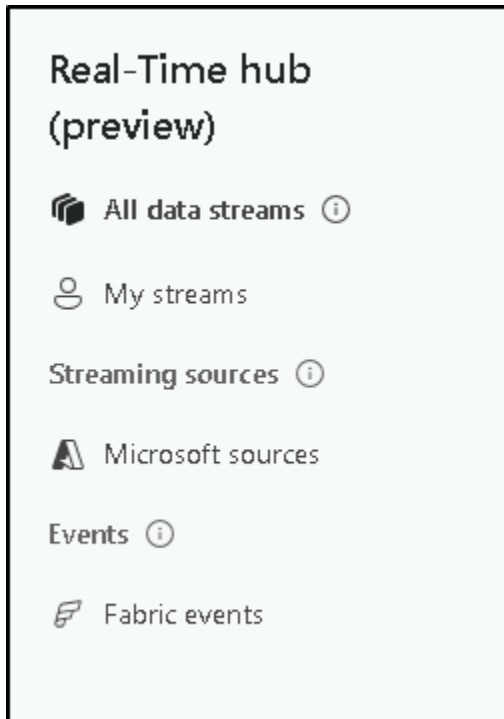


2. The **Welcome to Real-Time hub** dialogue will open and feel from to select **Take a tour** or select **Get Started**.

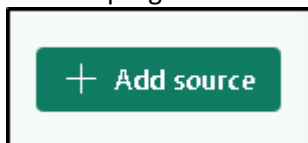


3. The Real-Time hub is the single place for streaming data-in-motion across your entire organization. Every Microsoft Fabric tenant is automatically provisioned with this hub. It enables you to easily discover, ingest, manage, and consume data-in-motion from a wide variety of sources.
4. Within the Real-Time hub you have access to three different types of data integration.
  - **All Data streams:** For your running eventstreams and KQL databases, all the stream outputs from eventstreams and tables from KQL databases automatically show up in Real-Time hub.
  - **Streaming sources:** Lists all streaming resources from Microsoft services. Whether it's Azure Event Hubs, Azure IoT Hub, or other services, you can seamlessly ingest data into Real-Time hub.

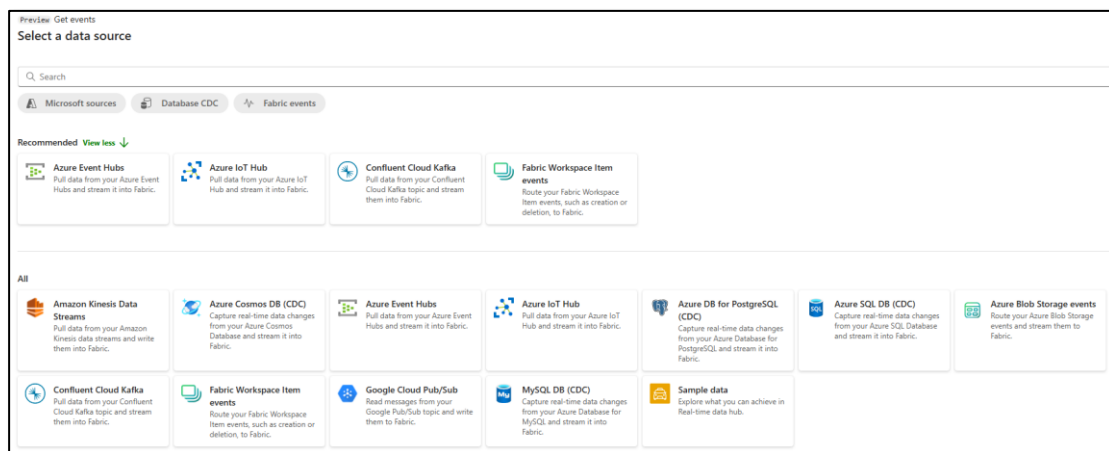
- **Fabric events:** Events that are generated via Fabric artifacts and external sources, are made available in Fabric to support event-driven scenarios like real-time alerting and triggering downstream actions. You can monitor and react to events including Fabric workspace item events and Azure Blob Storage events.



5. In the top-right corner of the Real-Time hub, click on the **+ Add Source** button.



6. A window will appear and will detail the currently available streams of data that are available to integrate into the Real-Time hub. This includes a mixture of Azure sources as well as external cloud streaming sources like Amazon Kinesis, Confluent Cloud Kafka, and Google Cloud Pub/Sub. There is even some sample data available to explore

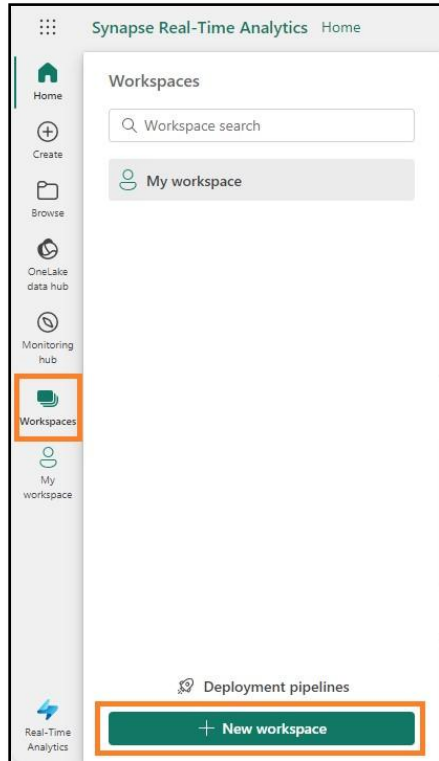


7. **Close** the Get events window by clicking the “X” in the upper right corner.

# Create Workspace and Eventhouse

## Task 4: Create a Fabric Workspace

1. Now let's create a workspace with Fabric license. Select **Workspaces** from the navigation bar on the left.
2. Select **New workspace**.



3. **Create a workspace** dialog opens on the right side of the browser.
4. In the **Name** field enter **RTI\_username**. Use the username provided to you from the environment details.

**Note:** The workspace name must be unique. Make sure a green check mark with “**This name is available**” is displayed below the Name field.

5. If you would like, you can enter a **Description** for the workspace. This is an optional field.
6. Click on **Advanced** to expand the section.

**Create a workspace** ✕

**Name \***

RTI\_username

✓ This name is available

**Description**

Describe this workspace

**Domain** ⓘ

Assign to a domain (optional) ▼

[Learn more about workspace settings](#) ↗

**Workspace image**

📁 Upload

↶ Reset

**Advanced** ▼

7. Under **License mode**, make sure **Trial** is selected. (It should be selected by default.)

8. Select **Apply** to create a new workspace.

**Advanced** ^

**Contact list \* ⓘ**

odl\_user\_1111422 (Owner) ✕ Enter users and groups

**License mode ⓘ**

☐ Pro

Select Pro to use basic Power BI features and collaborate on reports, dashboards, and scorecards. To access a Pro workspace, users need Pro per-user licenses. [Learn more](#) ↗

☒ **Trial**

Select the free trial per-user license to try all the new features and experiences in Microsoft Fabric for 60 days. A Microsoft Fabric trial license allows users to create Microsoft Fabric items and collaborate with others in a Microsoft Fabric trial capacity. Explore new capabilities in Power BI, Data Factory, Data Engineering, and Real-Time Analytics, among others. [Learn more](#) ↗

**Apply** Cancel

## Task 5: Create an Eventhouse

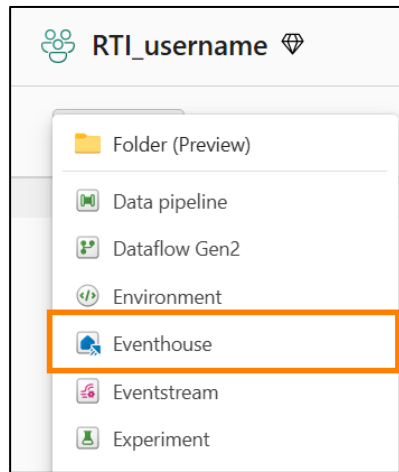
1. Click the **+ New** box to find all the items you can create in this Fabric workspace.

👤 RTI\_username 💎

**+ New** ▼

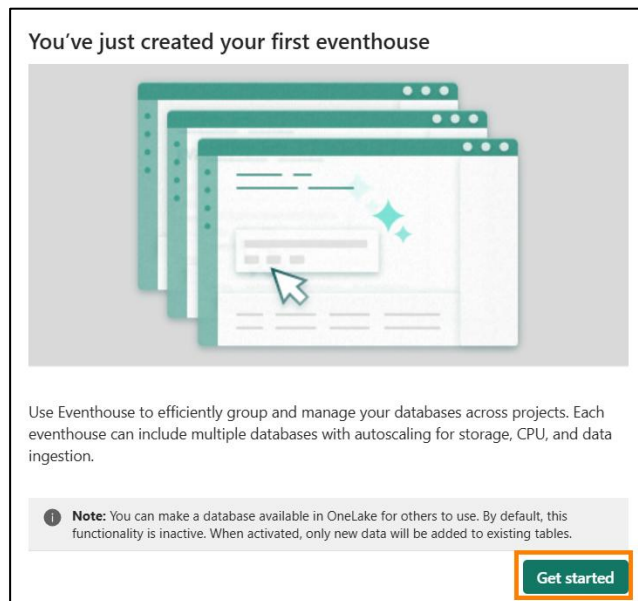
↶ Upload ▼

2. Select the **Eventhouse** option from the drop-down list. As we have talked about this can be viewed similarly to a Lakehouse in that we can store data but this Eventhouse is focused around real time data.

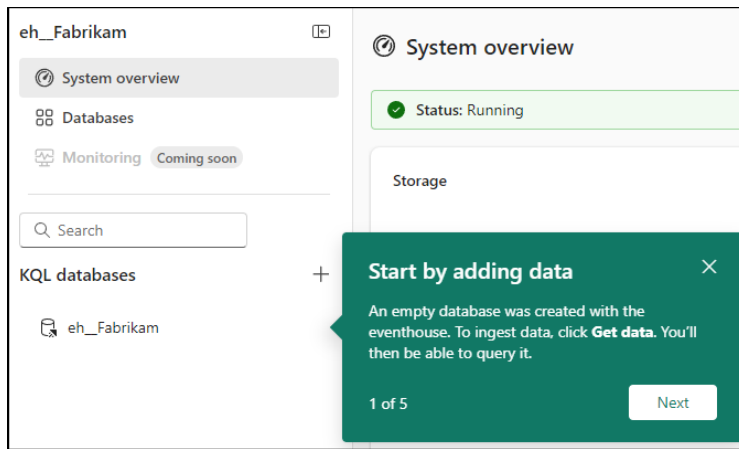


3. In the window that appears, give your Eventhouse the name, **eh\_Fabrikam** and click on **Create**.

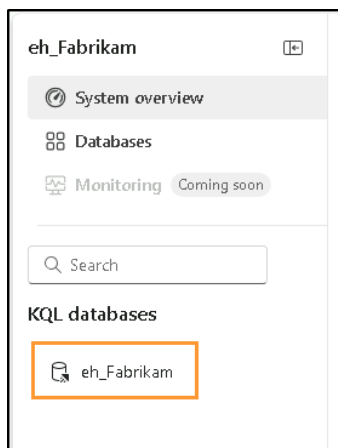
4. This is where you will ultimately stream data from various sources through the rest of the training today. When the item is created, a window will appear giving you some details about the Eventhouse. Click on the **Get started** button.



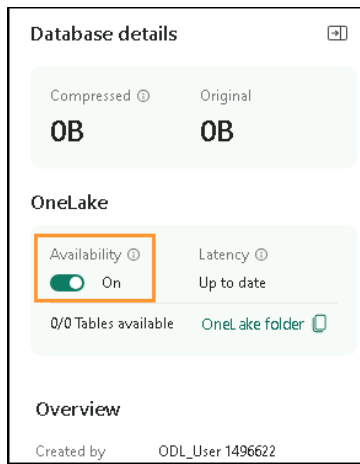
5. Take a quick tour of the Eventhouse by following the green tooltips on your screen. This first one shows that an empty Kusto Query Language (KQL) Database was created with the Eventhouse.



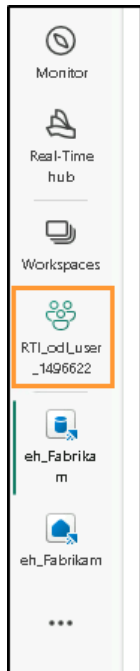
6. Follow the remainder of the tooltips around the screen to show you where to create additional databases, check the storage in OneLake of the Eventhouse, check the usage of Fabric resources in compute minutes, and finally see what actions have occurred in the Eventhouse.
7. Within the navigational pane on the left of the Eventhouse, find your KQL Database that was created alongside the Eventhouse and simply click on it to view the database details



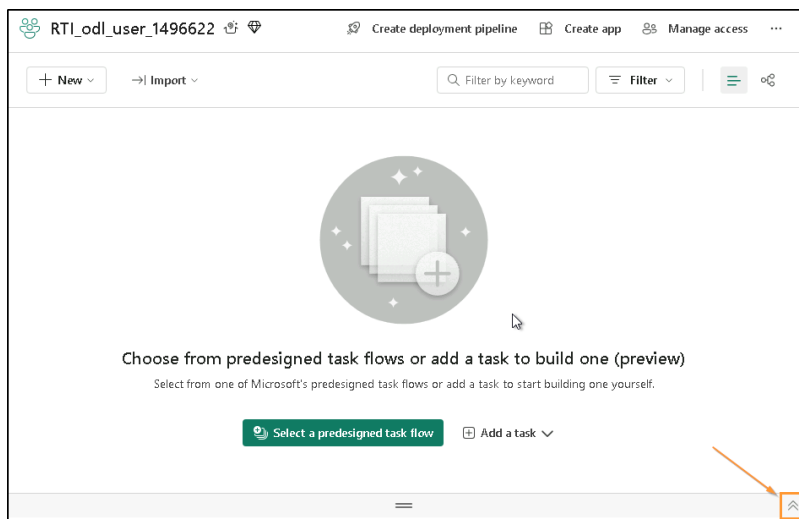
8. This will allow us to still have one tab in the left browser pane to see the overview of our entire Eventhouse and a new tab to focus on the KQL Database properties. One goal that we wish to accomplish in our scenario is to ensure that the data streamed to the KQL database is accessible via OneLake. By enabling this feature, we make the data in this KQL Database easily discoverable through shortcuts to be used in any Lakehouse we may want. Locate the **Database details** section on the right and toggle **On** the "Availability" option.



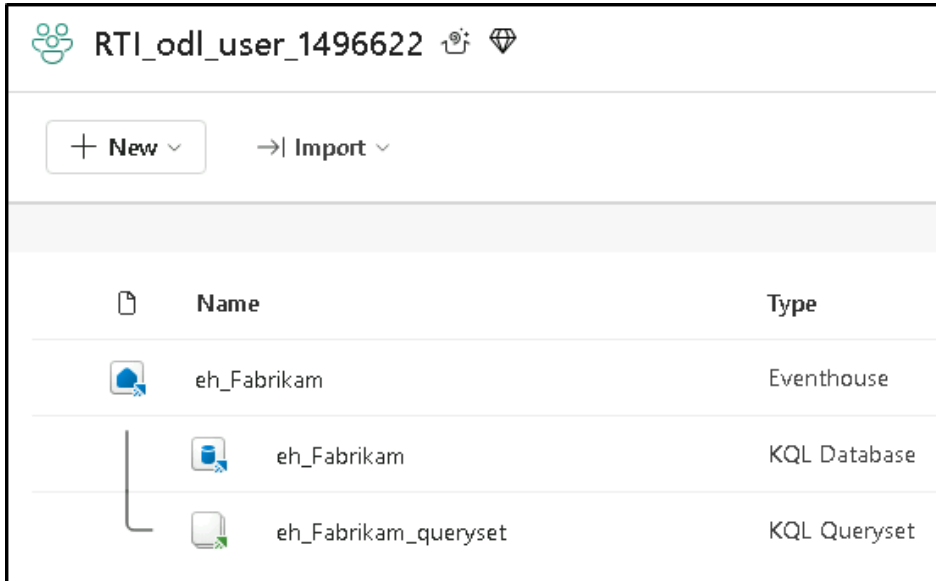
9. Return to your **RTI\_username** workspace by selecting it from the left side of the browser



10. If you see the **Task Flows** option taking up most of the space, select the double up arrow on the right-hand side to minimize it



11. You now have the basis for how you will begin to ingest the streaming data into your OneLake. The next step is to create a stream of data that can receive the data in motion.



The screenshot shows the RTI interface for user RTI\_odl\_user\_1496622. At the top, there are buttons for '+ New' and '→ Import'. Below this is a table with three columns: 'Name' and 'Type'. The table lists three items: 'eh\_Fabrikam' (Eventhouse), 'eh\_Fabrikam' (KQL Database), and 'eh\_Fabrikam\_queryset' (KQL Queryset). A vertical line on the left side of the table indicates a hierarchy or grouping.

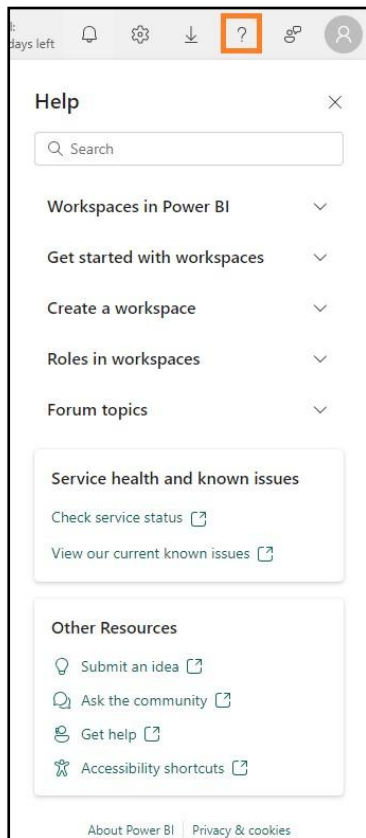
	Name	Type
	eh_Fabrikam	Eventhouse
	eh_Fabrikam	KQL Database
	eh_Fabrikam_queryset	KQL Queryset

In this lab, we explored the Real-Time Intelligence interface, examined the Real-Time hub, created a Fabric workspace, and an Eventhouse that came with a KQL Database. In the next lab, you will begin to explore techniques that ingest data from various sources across your data estate to OneLake and do some basic analysis with the Kusto Query Language (KQL).

## References

Fabric Real-time Intelligence in a Day (RTIAD) introduces you to some of the key functions available in Microsoft Fabric.

In the menu of the service, the Help (?) section has links to some great resources.



Here are a few more resources that will help you with your next steps with Microsoft Fabric.

- See blog post to read the full [Microsoft Fabric GA announcement](#)
- Explore Fabric through the [Guided Tour](#)
- Sign up for the [Microsoft Fabric free trial](#)
- Visit the [Microsoft Fabric website](#)
- Learn new skills by exploring the [Fabric Learning modules](#)
- Explore the [Fabric technical documentation](#)
- Read the [free e-book on getting started with Fabric](#)

- Join the [Fabric community](#) to post your questions, share your feedback, and learn from others

Read the more in-depth Fabric experience announcement blogs:

- [Data Factory experience in Fabric blog](#)
- [Synapse Data Engineering experience in Fabric blog](#)
- [Synapse Data Science experience in Fabric blog](#)
- [Synapse Data Warehousing experience in Fabric blog](#)
- [Real-Time Intelligence experience in Fabric blog](#)
- [Power BI announcement blog](#)
- [Data Activator experience in Fabric blog](#)
- [Administration and governance in Fabric blog](#)
- [OneLake in Fabric blog](#)
- [Dataverse and Microsoft Fabric integration blog](#)

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