



Understanding Data Gateways

Section 1: Learn

What is a Data Gateway in Power BI?

A Data Gateway in Power BI is a bridge that connects cloud-based Power BI services to on-premises data sources. It allows users to securely access on-premise databases, Excel files, or other local sources from the Power BI cloud environment.

Why Use Data Gateways?

- **Enables Secure Data Access:** Connects Power BI Service to on-premise data without exposing it to the internet.
- **Automates Data Refresh:** Allows scheduled updates of reports using live data.
- **Supports Multiple Microsoft Services:** Works with Power Apps, Azure Analysis Services, and Power Automate.
- **Eliminates Manual Uploading:** Reduces the need to manually update Power BI reports with the latest data.

Types of Data Gateways in Power BI

Gateway Type	Description
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Gateway Type	Description
Personal Mode	Used by a single user for personal reports and datasets.
Standard Mode	Allows multiple users to connect and share data sources.
Virtual Network Gateway	Connects cloud services to on-premise networks without individual installations.

How Do Data Gateways Work?

1. *Install the Data Gateway* → Download and install the *Power BI Gateway* application.
2. *Connect to Data Sources* → Configure the gateway to connect to *SQL, Excel, or local databases*.
3. *Enable Scheduled Refresh* → Set up automatic updates to keep *Power BI reports* updated.
4. *Grant Access to Users* → Allow multiple users to access on-premise data securely.

A Brief History

Before *Data Gateways*, users had to manually upload updated data to *Power BI*. In *2016*, *Microsoft* introduced *Data Gateways* to help



businesses connect on-premise and cloud environments securely, making Power BI reports dynamic and real-time.

Section 2: Practice

Step-by-Step Guide to Setting Up a Data Gateway

Step 1: Installing a Power BI Gateway

1. Download Power BI Gateway from [Microsoft's official website](#).
2. Install the gateway on a server or local machine that has access to the data source.
3. Sign in using your Power BI account.

Step 2: Configuring the Gateway

1. Select Personal Mode (for personal use) or Standard Mode (for team collaboration).
2. Choose a data source (SQL Server, Excel, Oracle, etc.).
3. Enter the database credentials and test the connection.
4. Click Apply & Save.

Step 3: Using the Gateway in Power BI Service

1. Open Power BI Service (<https://app.powerbi.com>).
2. Go to Settings > Manage Gateways.



3. Add a new data source and select the configured gateway.
4. Enable *Scheduled Refresh* to automate updates.

Example: Automating Sales Data Updates

1. Install a Power BI Gateway on the company's server.
2. Connect the gateway to an SQL database storing daily sales data.
3. Publish a Power BI report that pulls data from the gateway.
4. Set up a scheduled refresh every 2 hours to update sales reports automatically.
5. Allow the sales team to access live data via Power BI Service.

Section 3: Know More

Frequently Asked Questions

1. Do I need a gateway for cloud-based data sources?

No, Data Gateways are only needed for *on-premise data sources*.

Cloud-based sources (like Azure or Google Sheets) do not require a gateway.



2. Can multiple users access a data gateway?

Yes! Standard Mode allows multiple users to access and share data sources.

3. What happens if the gateway server goes offline?

If the gateway is offline, scheduled refreshes will fail until the server is back online.

4. Can I install multiple gateways on one machine?

No, only one gateway instance can be installed per machine.

5. How often can I refresh data using a gateway?

- Power BI Pro users: Up to 8 refreshes per day.*
- Power BI Premium users: Up to 48 refreshes per day.*

6. Is a Data Gateway free to use?

Yes, but some advanced features require a Power BI Pro or Premium license.

These notes will help you understand and set up Data Gateways in Power BI, ensuring a seamless connection between cloud and on-premise data sources!