

# Manage your data source - Analysis Services

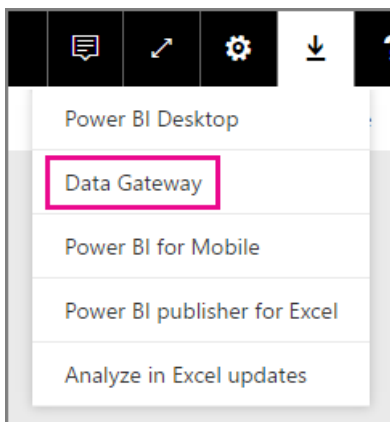
2/24/2018 • 10 min to read • [Edit Online](#)

Once you have installed the on-premises data gateway, you will need to add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources. You can use the Analysis Services data source either for scheduled refresh or for live connections.

<https://www.youtube.com/embed/ownIGbcRAAU>

## Download and install the gateway

You can download the gateway from the Power BI service. Select **Downloads** > **Data Gateway**, or by going to the [gateway download page](#).



## Limitations of Analysis Services live connections

You can use a live connection against tabular or multidimensional instances.

SERVER VERSION	REQUIRED SKU
2012 SP1 CU4 or later	Business Intelligence and Enterprise SKU
2014	Business Intelligence and Enterprise SKU
2016	Standard SKU or higher

- Cell level Formatting and translation features are not supported.
- Actions and Named Sets are not exposed to Power BI, but you can still connect to multidimensional cubes that also contain Actions or Named sets and create visuals and reports.

## Add a gateway


To add a gateway, simply [download](#) and install the gateway on a server in your environment. After you have installed the gateway, it will show in the lists of gateways under **Manage gateways**.

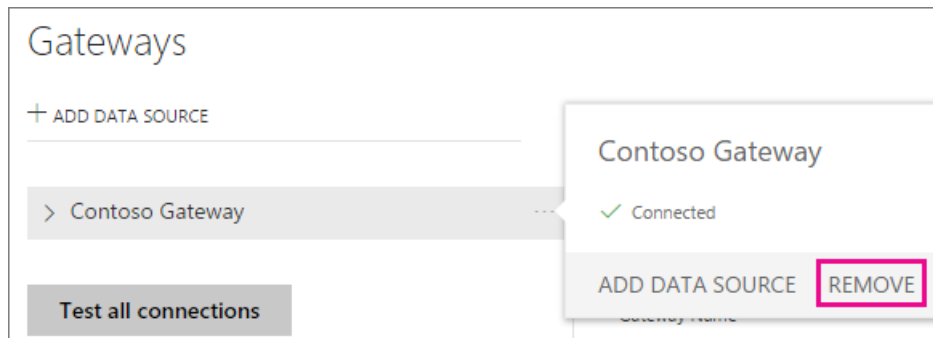
#### NOTE

**Manage gateways** will not show up until you are the admin of at least one gateway. This can happen either by being added as an admin or you installing and configuring a gateway.

## Remove a gateway

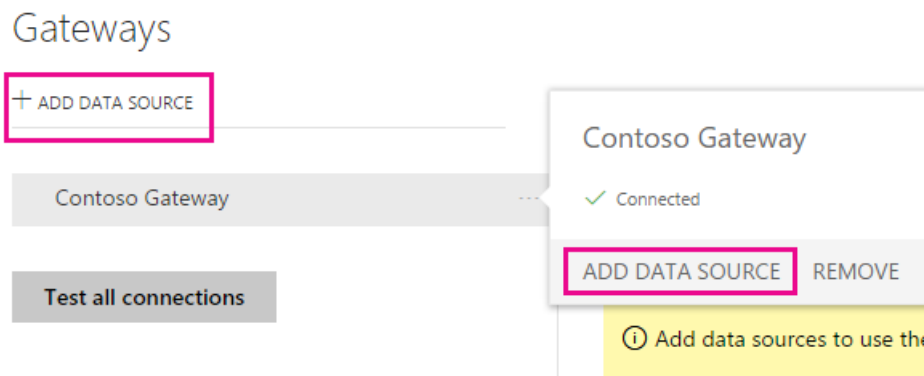
Removing a gateway will also delete any data sources under that gateway. This will also break any dashboards and reports that rely on those data sources.

1. Select the gear icon  in the upper-right corner > **Manage gateways**.
2. Gateway > **Remove**



## Add a data source

You can add a data source by either selecting a gateway and click **Add data source**, or go to Gateway > **Add data source**.



You can then select the **Data Source Type** from the list. Select Analysis Services if you are connecting to either a Multidimensional or Tabular server.

Gateways

+ ADD DATA SOURCE

Contoso Gateway

New data source

Test all connections

Data Source Settings

Data Source Name

Contoso Sales

Data Source Type

Select a data source type

Select a data source type

SQL Server

Analysis Services

SAP HANA

File

Folder

Oracle

Teradata

SharePoint List (on-premises)

You will then want to fill in the information for the data source which includes the **Server** and the **Database**.

The **Username** and **Password** that you enter will be used by the gateway to connect to the Analysis Services instance.

#### NOTE

The Windows account you enter must have Server Administrator permissions for the instance you are connecting to. If this account's password is set to expire, users could get a connection error if the password isn't updated for the data source. For more information, see the main on-premises data gateway article to learn more about how [credentials](#) are stored.

## Data Source Settings

Data Source Name

Data Source Type

Server

Database

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Username

Password

> Advanced settings

**Add** Discard

You can click **Add** after you have everything filled in. You can now use this data source for scheduled refresh, or live connections, against an Analysis Services instance that is on premises. You will see *Connection Successful* if it succeeded.

## Data Source Settings Users

✓ Connection Successful

**i** Next Step: Go to the Users tab above and add users to this Data Source

Data Source Name

### Advanced settings

You can configure the privacy level for your data source. This controls how data can be mashed up. This is only used for scheduled refresh. It does not apply to live connections. [Learn more](#)

▽ Advanced settings

Privacy Level setting for this data source

Organizational

None  
Private  
**Organizational**  
Public

# Username with Analysis Services

Each time a user interacts with a report connected to Analysis Services, the effective username is passed to the gateway and then onto your on-premises Analysis Services server. The email address, that you sign into Power BI with, is what we will pass to Analysis Services as the effective user. This is passed in the connection property [EffectiveUserName](#). This email address should match a defined UPN within the local Active Directory Domain. The UPN is a property of an Active Directory account. That Windows account then needs to be present in an Analysis Services role. If a match cannot be found, in Active Directory, the login will not be successful. [Learn more](#)

You can also map your Power BI sign in name with a local directory UPN. [Learn more](#)

<https://www.youtube.com/embed/Qb5EEjkHoLg>

## How do I tell what my UPN is?

You may not know what your UPN is, and you may not be a domain administrator. You can use the following command from your workstation to find out the UPN for your account.

```
whoami /upn
```

The result will look similar to an email address, but this is the UPN that is on your domain account. If you are using an Analysis Services data source for live connections, and If this doesn't match the email address you sign into Power BI with, you may want to look at how to [Map user names](#).

## Map user names

<https://www.youtube.com/embed/eATPS-c7YRU>

You can map user names for Analysis Services in two different ways:

1. Manual user re-mapping
2. On-premises Active Directory Property Lookup to remap AAD UPNs to Active Directory users (AD Lookup mapping)

While it's possible to perform manual mapping using the second approach, doing so would be time consuming and difficult to maintain; it's especially difficult when pattern matching doesn't suffice--such as when domain names are different between AAD and on-premises AD, or when user account names are different between AAD and AD. As such, manual mapping with the second approach is not recommended.

We describe these two approaches, in order, in the following two sections

### Manual user name re-mapping

For Analysis Services data sources, you can configure custom User Principal Name (UPN) rules. This will help you if your Power BI service login names do not match your local directory UPN. For example, if you sign into Power BI with john@contoso.com, but your local directory UPN is john@contoso.local, you can configure a mapping rule to have john@contoso.local passed to Analysis Services.

To get to the UPN Mapping screen, do the following.

1. Go to the **gear icon** and select **Manage Gateways**.
2. Expand the gateway that contains the Analysis Services data source. Or, if you haven't created the Analysis Services data source, you can do that at this point.
3. Select the data source and then select the **Users** tab.
4. Select **Map user names**.

## Map user names

Create rules to map user names to Analysis Services server user names or associate custom data with user names. [Learn more](#)

Select the type of rule for this data source

- ☐ Effective user names  
☒ CustomData

	Replace	With
1	Original name	New name

Add

Delete

Enter user name to see how the mapping rule will change it.

Original name

Test rule

After rule applied

Result of applying mapping rule will appear here

OK

Cancel

You will then see options to add rules as well as test for a given user.

### NOTE

You may inadvertently change a user that you didn't intend to. For example, if your **Replace (original value)** is `@contoso.com` and your **With (New name)** is `@contoso.local`, all users with a sign in that contains `@contoso.com` will then be replaced with `@contoso.local`. Also, if your **Replace (Original name)** is `dave@contoso.com` and your **With (New name)** is `dave@contoso.local`, a user with the sign in of `v-dave@contoso.com` would be sent as `v-dave@contoso.local`.

### AD lookup mapping

To perform on-premises AD property lookup to re-map AAD UPNs to Active Directory users, follow the steps in this section. To begin with, let's review how this works.

In the **Power BI service** the following occurs:

- For each query by a Power BI AAD user to an on-premises SSAS server, a UPN string is passed along, such as: `firstName.lastName@contoso.com`

#### NOTE

Any manual UPN user mappings defined in the Power BI data source configuration are still applied *before* sending the user name string to the on-premises data gateway.

On the on-premises data gateway with configurable Custom User Mapping, do the following:

1. Find Active Directory to search (automatic, or configurable)
2. Look up the attribute of the AD Person (such as *Email*) based on incoming UPN string ("firstName.lastName@contoso.com") from the **Power BI service**.
3. If the AD Lookup fails, it attempts to use the passed-along UPN as *EffectiveUser* to SSAS.
4. If the AD Lookup succeeds, it retrieves *UserPrincipalName* of that AD Person.
5. It passes the *UserPrincipalName* email as *EffectiveUser* to SSAS, such as: *Alias@corp.on-prem.contoso*

How to configure your gateway to perform the AD Lookup:

1. Download and install the latest gateway
2. In the gateway, you need to change the **on-premises data gateway service** to run with a domain account (instead of a local service account – otherwise the AD lookup won't work properly at runtime). You'll need to restart the gateway service for the change to take effect. Go to the gateway app on your machine (search for "on-premises data gateway"). To do this, go to **Service settings > Change service account**. Make sure you have the recovery key for this gateway, since you'll need to restore it on the same machine unless you want to create a new gateway instead.
3. Navigate to the gateway's installation folder, *C:\Program Files\On-premises data gateway* as an administrator, to ensure that you have write-permissions, and edit the following file:

```
Microsoft.PowerBI.DataMovement.Pipeline.GatewayCore.dll.config
```

4. Edit the following two configuration values according to *your* Active Directory attribute configurations of your AD users. The configuration values shown below are just examples – you need to specify them based on your Active Directory configuration.

```
<setting name="ADUserNameLookupProperty" serializeAs="String">
  <value>AADEmail</value>
</setting>
<setting name="ADUserNameReplacementProperty" serializeAs="String">
  <value>UserPrincipalName</value>
</setting>
```

5. Restart the **on-premises data gateway** service for the configuration change to take effect.

#### Working with mapping rules

To create a mapping rule, enter a value for **Original name** and **New Name** and then select **Add**.

FIELD	DESCRIPTION
Replace (Original name)	The email address that you signed into Power BI with.
With (New Name)	The value you want to replace it with. The result of the replacement is what will be passed to the <i>EffectiveUserName</i> property for the Analysis Services connection.

Select the type of rule for this data source

☒ Effective user names

☐ CustomData (coming soon)

	Replace	With
1	@contoso.com	@contoso.local
2	john@us.contoso.com	john@us.contoso.local
3	Original name	New name

Add Delete

When you select an item in the list, you can choose to re-order it by using the **chevron icons**, or **Delete** the entry.

Select the type of rule for this data source

☒ Effective user names

☐ CustomData (coming soon)

	Replace	With
1	@contoso.com	@contoso.local
2	john@us.contoso.com	john@us.contoso.local
3	Original name	New name

Add Delete

⌵ ⌶

### Using wildcard (\*)

You can use a wildcard for your **Replace (Original name)** string. It can only be used on its own and not with any other string part. This will allow you to take all users and pass a single value to the data source. This is useful when you want all users in your organization to use the same user in your local environment.

### Test a mapping rule

You can validate what an original name will be replaced with by entering a value for **Original name** and selecting **Test rule**.

Add Delete

⌵ ⌶

Enter user name to see how the mapping rule will change it.

Original name

dave@contoso.com

Test rule

After rule applied

dave@contoso.local

#### NOTE

Rules that are saved will take a few minutes for the service to start using them. Within the browser, the rule will work immediately.

### Limitations for mapping rules

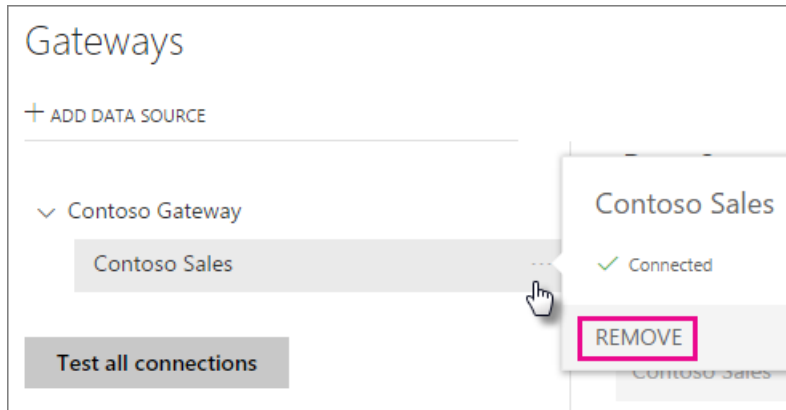


- Mapping is for the specific data source that is being configured. It is not a global settings. If you have multiple Analysis Services data sources, you will have to map the users for each data source.

## Remove a data source

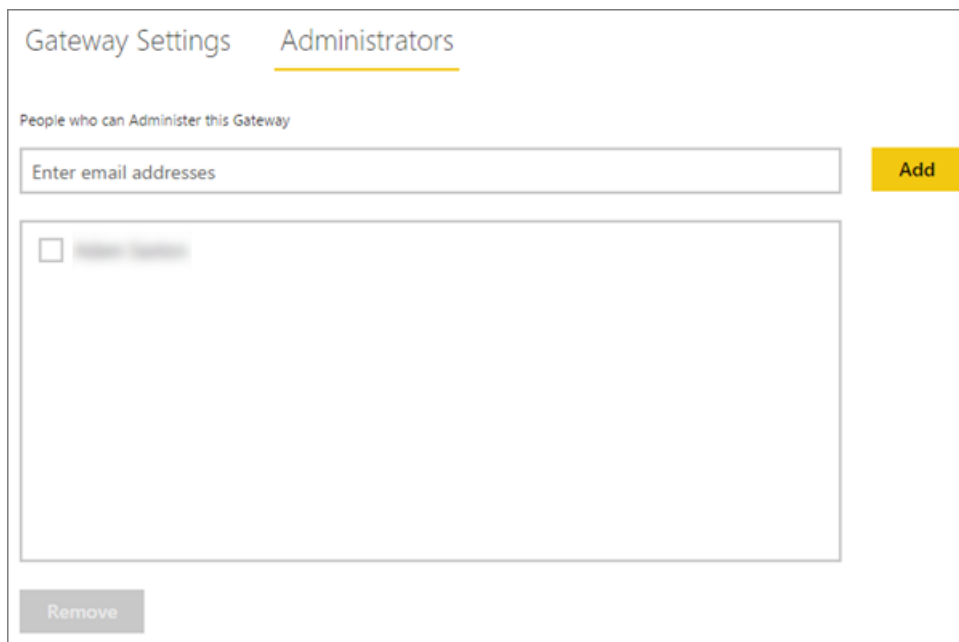
Removing a data source will break any dashboards or reports that rely on the given data source.

To remove a data source, go to Data Source > **Remove**.



## Manage administrators

On the Administrators tab for the gateway, you can add and remove users (or security groups) that can administer the gateway.



## Manage users

On the Users tab for the data source, you can add, and remove, users, or security groups, that can use this data source.

### NOTE

The users list only controls who are allowed to publish reports. The report owners can create dashboards, or content packs, and share those with other users.

Data Source Settings   Users

People who can publish reports that use this data source

Enter email addresses Add

☐ Adam Saxton

Remove

## Using the data source

After you have created the data source, it will be available to use with either live connections, or through scheduled refresh.

### NOTE

Server and database name have to match between Power BI Desktop and the data source within the on-premises data gateway!

The link between your dataset and the data source within the gateway is based on your server name and database name. These have to match. For example, if you supply an IP Address for the server name, within Power BI Desktop, you will need to use the IP Address for the data source within the gateway configuration. If you use *SERVER\INSTANCE*, in Power BI Desktop, you will need to use the same within the data source configured for the gateway.

This is the case for both live connections and scheduled refresh.

### Using the data source with live connections

You will need to make sure the server and database name matches between Power BI Desktop and the configured data source for the gateway. You will also need to make sure your user is listed in the **Users** tab of the data source in order to publish live connection datasets. The selection, for live connections, occurs within Power BI Desktop when you first import data.

After you publish, either from Power BI Desktop or **Get Data**, your reports should start working. It may take several minutes, after creating the data source within the gateway, for the connection to be usable.

### Using the data source with scheduled refresh

If you are listed in the **Users** tab of the data source configured within the gateway, and the server and database name match, you will see the gateway as an option to use with scheduled refresh.

#### Gateway connection

- ☐ Use your personal gateway (**online**, running on )
- ☒ Use an enterprise gateway

Status	Department	Gateway	Contact information	Description
online		Contoso Gatew...	john@contoso.com	

Apply

Discard

►Data source credentials (admin has granted access, credentials are not required)

## Next steps

[On-premises data gateway](#)

[On-premises data gateway - in-depth](#)

[Troubleshooting the on-premises data gateway](#)

More questions? [Try the Power BI Community](#)

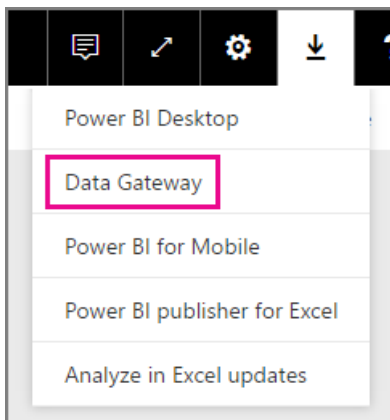
# Manage your SAP HANA data source

2/24/2018 • 3 min to read • [Edit Online](#)

Once you have installed the on-premises data gateway, you will need to add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources. You can use the SAP HANA data source either for scheduled refresh or for DirectQuery.

## Download and install the gateway

You can download the gateway from the Power BI service. Select **Downloads > Data Gateway**, or by going to the [gateway download page](#).



## Add a gateway


To add a Gateway, simply [download](#) and install the gateway on a server in your environment. After you have installed the gateway, it will show in the lists of gateways under **Manage gateways**.

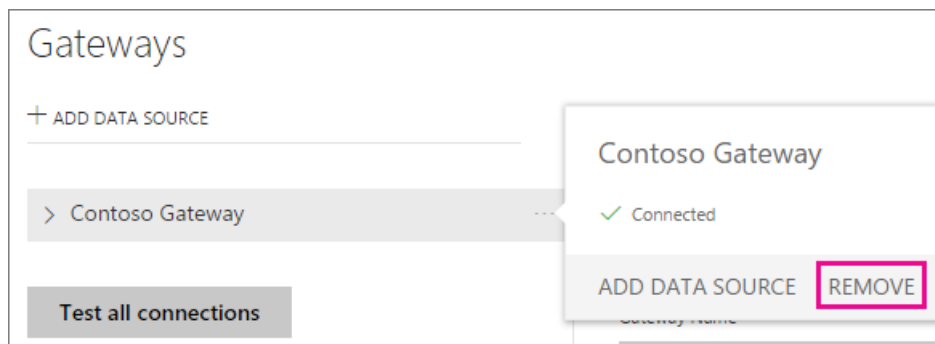
### NOTE

**Manage gateways** will not show up until you are the admin of at least one gateway. This can happen either by being added as an admin or you installing and configuring a gateway.

## Remove a gateway

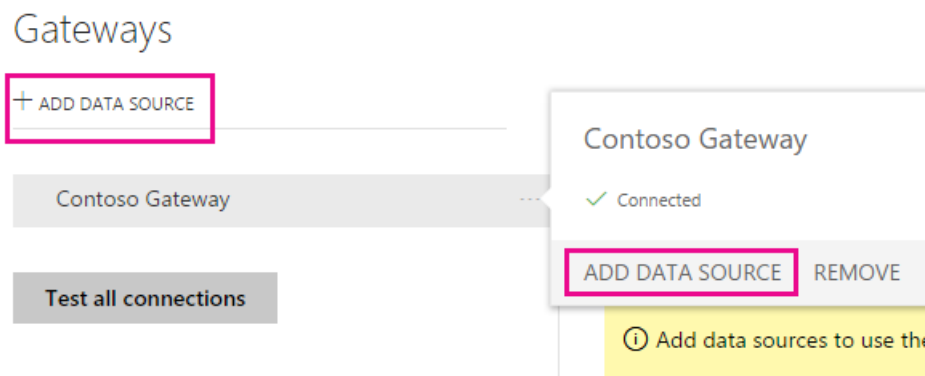
Removing a gateway will also delete any data sources under that gateway. This will also break any dashboards and reports that rely on those data sources.

1. Select the gear icon  in the upper-right corner > **Manage gateways**.
2. Gateway > **Remove**

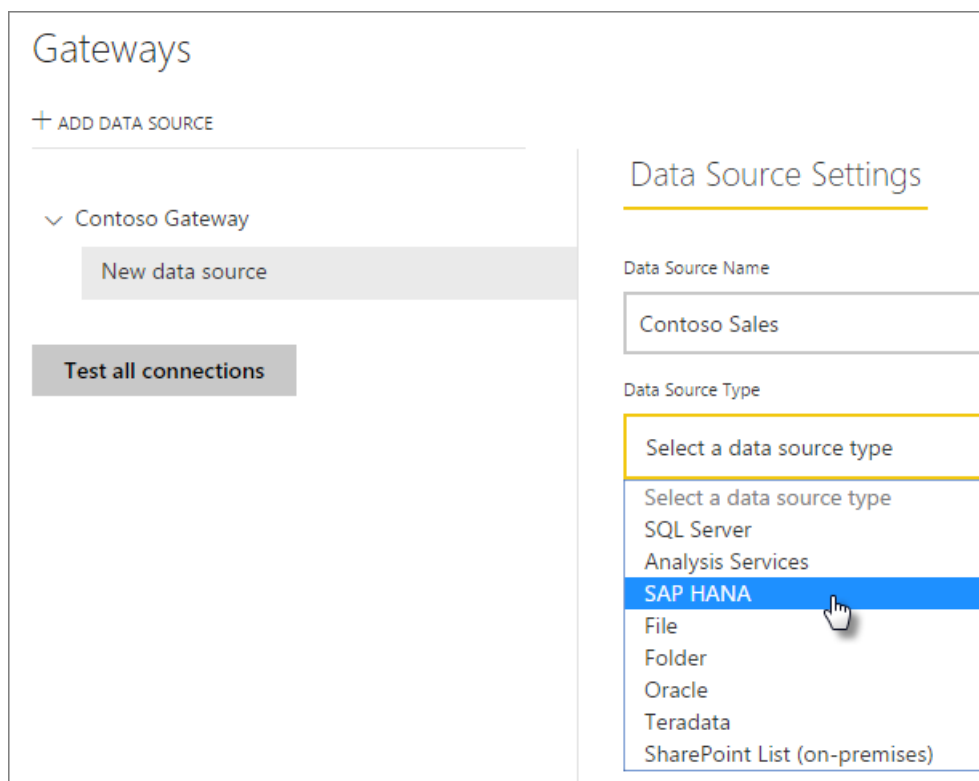


## Add a data source

You can add a data source by either selecting a gateway and click **Add data source**, or go to Gateway > **Add data source**.



You can then select the **Data Source Type** from the list.



You will then want to fill in the information for the data source which includes the **Server**, **Username** and **Password**.

## NOTE

All queries to the data source will run using these credentials. For more information, see the main on-premises data gateway article to learn more about how [credentials](#) are stored.

### Data Source Settings

Data Source Name

Contoso Sales

Data Source Type

SAP HANA

Server

ContosoSAP01

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Username

contouser

Password

\*\*\*\*\*

> Advanced settings

Add

Discard

You can click **Add** after you have everything filled in. You can now use this data source for scheduled refresh, or DirectQuery, against a SAP HANA server that is on-premises. You will see *Connection Successful* if it succeeded.

### Data Source Settings

### Users

✓ Connection Successful

① Next Step: Go to the Users tab above and add users to this Data Source

Data Source Name

Contoso Sales

## Advanced settings

You can configure the privacy level for your data source. This controls how data can be mashed up. This is only used for scheduled refresh. It does not apply to DirectQuery. [Learn more](#)

▼ Advanced settings

Privacy Level setting for this data source

Organizational
None
Private
Organizational
Public

## Remove a data source

Removing a data source will break any dashboards or reports that rely on the given data source.

To remove a Data Source, go to the Data Source > **Remove**.

Gateways

+ ADD DATA SOURCE

▼ Contoso Gateway

Contoso Sales

Test all connections

Contoso Sales

✓ Connected

REMOVE

## Manage administrators

On the Administrators tab for the gateway, you can add and remove users (or security groups) that can administer the gateway.

Gateway Settings Administrators

People who can Administer this Gateway

Enter email addresses

Add

☐ [User Name]

Remove

## Manage users

On the Users tab, for the data source, you can add, and remove, users, or security groups, that can use this data source.

#### NOTE

The users list only controls who are allowed to publish reports. The report owners can create dashboards, or content packs, and share those with other users.

The screenshot shows the 'Data Source Settings' window with the 'Users' tab selected. Below the tab, it says 'People who can publish reports that use this data source'. There is a text input field labeled 'Enter email addresses' and a yellow 'Add' button. Below this is a list box containing one entry: a checkbox followed by the name 'Adam Saxton'. At the bottom left of the list box is a grey 'Remove' button.

## Using the data source

After you have created the data source, it will be available to use with either DirectQuery connections, or through scheduled refresh.

#### NOTE

Server and database name have to match between Power BI Desktop and the data source within the on-premises data gateway!

The link between your dataset and the data source within the gateway is based on your server name and database name. These have to match. For example, if you supply an IP Address for the server name, within Power BI Desktop, you will need to use the IP Address for the data source within the gateway configuration. If you use *SERVER\INSTANCE*, in Power BI Desktop, you will need to use the same within the data source configured for the gateway.

This is the case for both DirectQuery and scheduled refresh.

### Using the data source with DirectQuery connections

You will need to make sure the server and database name matches between Power BI Desktop and the configured data source for the gateway. You will also need to make sure your user is listed in the **Users** tab of the data source in order to publish DirectQuery datasets. The selection for DirectQuery occurs within Power BI Desktop when you first import data. [Learn more](#)

After you publish, either from Power BI Desktop or **Get Data**, your reports should start working. It may take several minutes, after creating the data source within the gateway, for the connection to be usable.

### Using the data source with scheduled refresh

If you are listed in the **Users** tab of the data source configured within the gateway, and the server and database name match, you will see the gateway as an option to use with scheduled refresh.



#### Gateway connection

- ☐ Use your personal gateway (**online**, running on )
- ☒ Use an enterprise gateway

Status	Department	Gateway	Contact information	Description
<b>online</b>		Contoso Gatew...	john@contoso.com	

Apply

Discard

►Data source credentials (admin has granted access, credentials are not required)

## Next steps

[On-premises data gateway](#)

[On-premises data gateway - in-depth](#)

[Troubleshooting the on-premises data gateway](#)

More questions? [Try the Power BI Community](#)

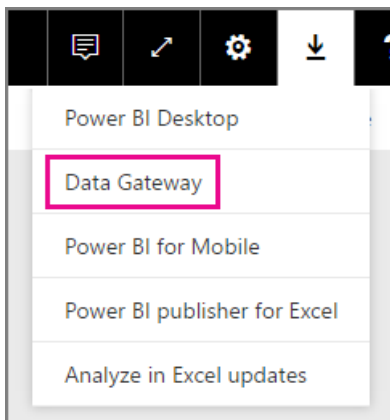
# Manage your data source - SQL Server

2/24/2018 • 4 min to read • [Edit Online](#)

Once you have installed the on-premises data gateway, you can add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources. You can use the SQL Server data source either for scheduled refresh or for DirectQuery.

## Download and install the gateway

You can download the gateway from the Power BI service. Select **Downloads** > **Data Gateway**, or by going to the [gateway download page](#).



## Add a gateway


To add a gateway, simply [download](#) and install the gateway on a server in your environment. After you have installed the gateway, it will show in the lists of gateways under **Manage gateways**.

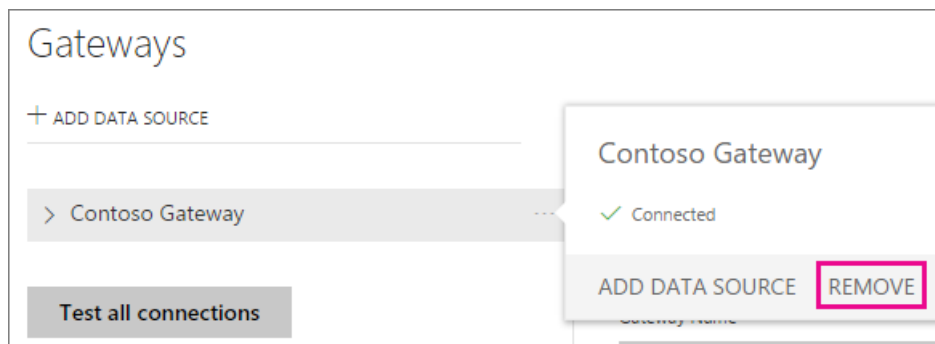
### NOTE

**Manage gateways** will not show up until you are the admin of at least one gateway. This occurs when you are added as an admin to a gateway, or you install and configure a gateway yourself.

## Remove a gateway

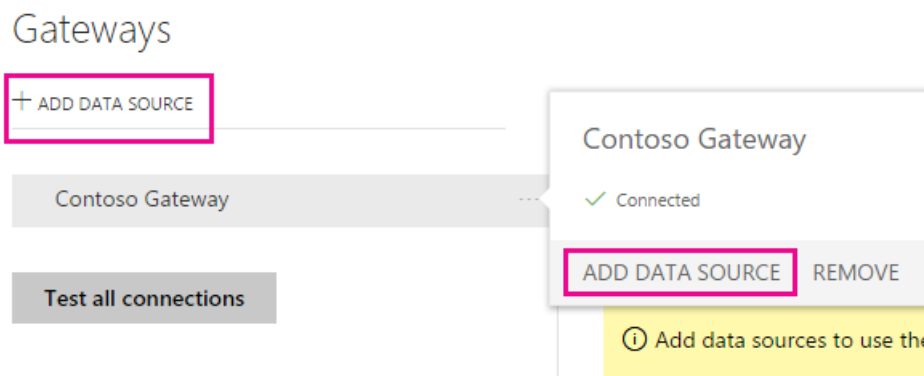
Removing a gateway will also delete any data sources under that gateway. This will also break any dashboards and reports that rely on those data sources.

1. Select the gear icon  in the upper-right corner > **Manage gateways**.
2. Gateway > **Remove**

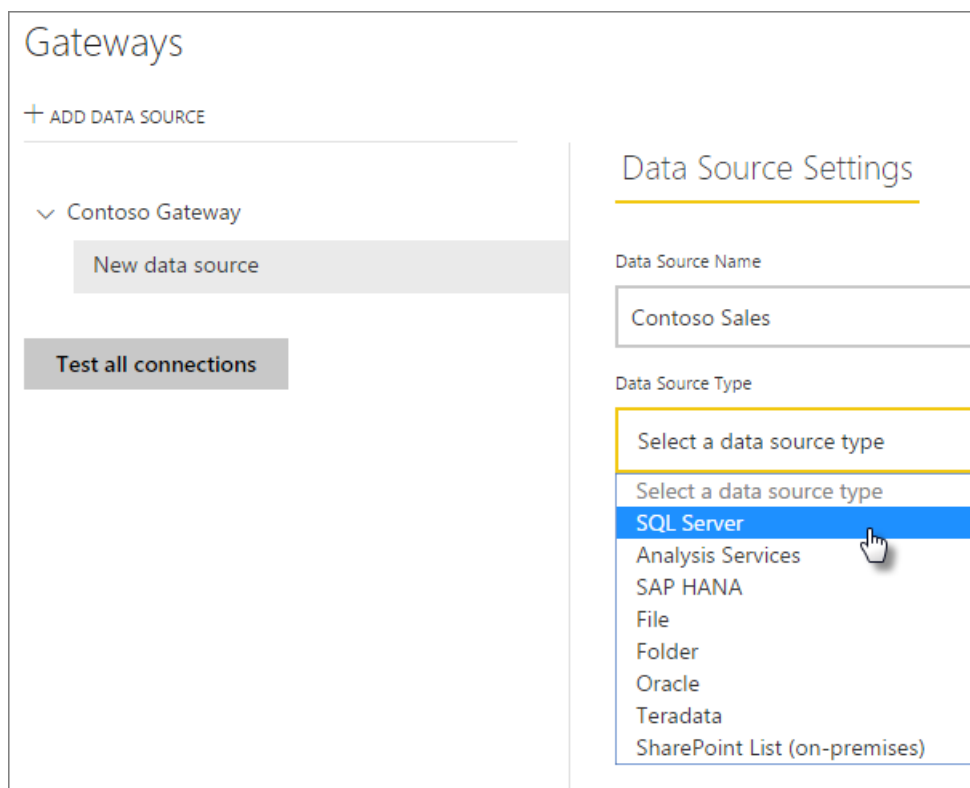


## Add a data source

You can add a data source by either selecting a gateway and click **Add data source**, or go to Gateway > **Add data source**.



You can then select the **Data Source Type** from the list.



### NOTE

When using DirectQuery, the gateway only supports **SQL Server 2012 SP1** and subsequent versions.

You will then want to fill in the information for the data source which includes the **Server** and the **Database**.

You will also need to choose an **Authentication Method**. This can either be **Windows** or **Basic**. You would want to choose **Basic** if you are going to use SQL Authentication instead of Windows Authentication. Then enter the credentials that will be used for this data source.

**NOTE**

All queries to the data source will run using these credentials, unless Kerberos Single Sign On (SSO) is configured and enabled for the data source. With SSO, import datasets use the stored credentials, but DirectQuery datasets use the current Power BI user to execut the queries using SSO. For more information, see the main on-premises data gateway article to learn more about how [credentials](#) are stored, or the article describing how to [use Kerberos for SSO \(single sign-on\) from Power BI to on-premises data sources](#).

Data Source Settings

Data Source Name

Contoso Sales

Data Source Type

SQL Server

Server

ContosoSQL01

Database

AdventureWorks2014

Authentication Method

Basic

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Username

sa

Password

.....

> Advanced settings

Add

Discard

You can click **Add** after you have everything filled in. You can now use this data source for scheduled refresh, or DirectQuery, against a SQL Server that is on-premises. You will see *Connection Successful* if it succeeded.

Data Source Settings

Users

✓ Connection Successful

1

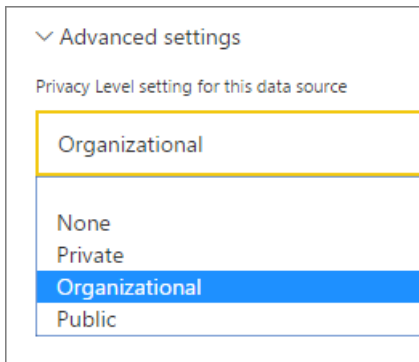
Next Step: Go to the Users tab above and add users to this Data Source

Data Source Name

Contoso Sales

## Advanced settings

You can configure the privacy level for your data source. This controls how data can be mashed up. This is only used for scheduled refresh. It does not apply to DirectQuery. [Learn more](#)



Advanced settings

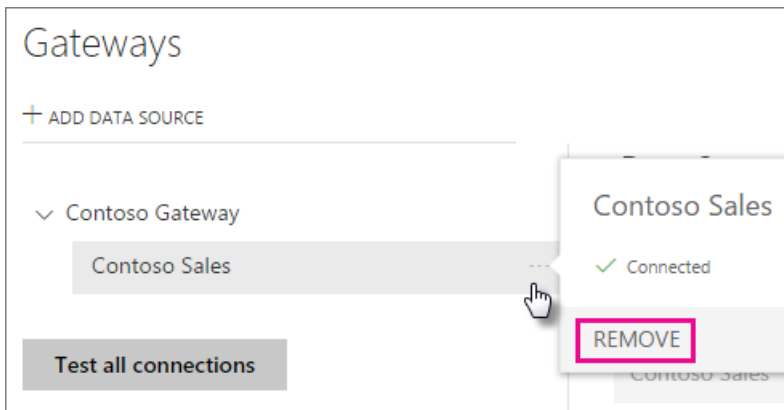
Privacy Level setting for this data source

- Organizational
- None
- Private
- Organizational
- Public

## Remove a data source

Removing a data source will break any dashboards or reports that rely on the given data source.

To remove a Data Source, go to the Data Source > **Remove**.



Gateways

+ ADD DATA SOURCE

Contoso Gateway

- Contoso Sales

Test all connections

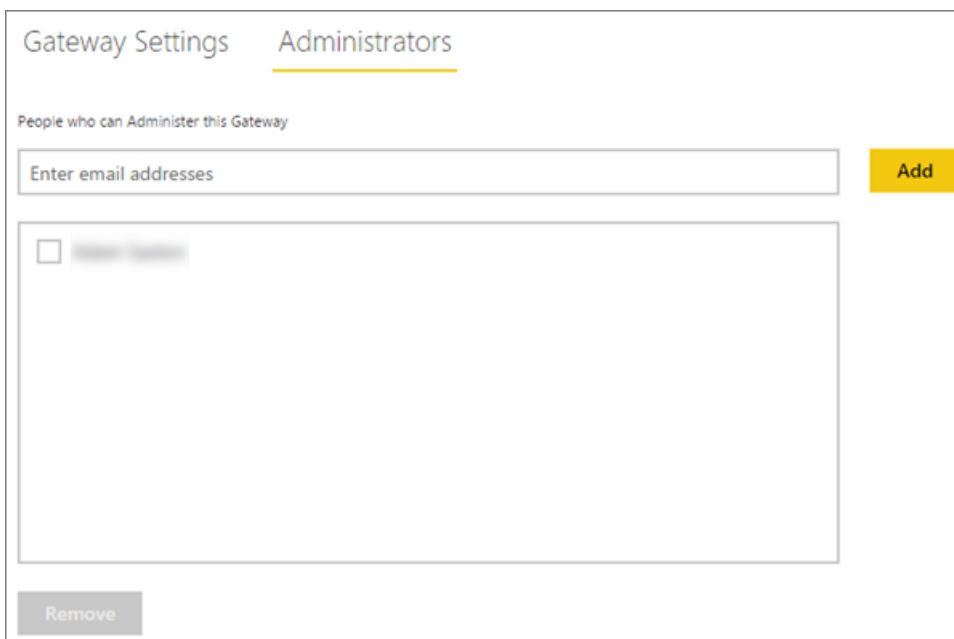
Contoso Sales

✓ Connected

REMOVE

## Manage administrators

On the Administrators tab for the gateway, you can add and remove users (or security groups) that can administer the gateway.



Gateway Settings Administrators

People who can Administer this Gateway

Enter email addresses

Add

☐ [Redacted]

Remove

# Manage users

On the Users tab, for the data source, you can add, and remove, users, or security groups, that can use this data source.

## NOTE

The users list only controls who are allowed to publish reports. The report owners can create dashboards, or content packs, and share those with other users.

Data Source Settings **Users**

People who can publish reports that use this data source

Enter email addresses Add

☐ Adam Saxton

Remove

# Using the data source

After you have created the data source, it will be available to use with either DirectQuery connections, or through scheduled refresh.

## NOTE

Server and database name have to match between Power BI Desktop and the data source within the on-premises data gateway!

The link between your dataset and the data source within the gateway is based on your server name and database name. These have to match. For example, if you supply an IP Address for the server name, within **Power BI Desktop**, you will need to use the IP Address for the data source within the gateway configuration. If you use *SERVER\INSTANCE*, in Power BI Desktop, you will need to use the same within the data source configured for the gateway.

This is the case for both DirectQuery and scheduled refresh.

## Using the data source with DirectQuery connections

You will need to make sure the server and database name matches between **Power BI Desktop** and the configured data source for the gateway. You will also need to make sure your user is listed in the **Users** tab of the data source in order to publish DirectQuery datasets. The selection, for DirectQuery, occurs within Power BI Desktop when you first import data. [Learn more](#)

After you publish, either from Power BI Desktop or **Get Data**, your reports should start working. It may take several minutes, after creating the data source within the gateway, for the connection to be usable.

Using the data source with scheduled refresh

If you are listed in the **Users** tab of the data source configured within the gateway, and the server and database name match, you will see the gateway as an option to use with scheduled refresh.

Gateway connection

☐ Use your personal gateway (online, running on )

☒ Use an enterprise gateway

Status	Department	Gateway	Contact information	Description
online		Contoso Gatew...	john@contoso.com	

Apply

Discard

►Data source credentials (admin has granted access, credentials are not required)

Next steps

- [On-premises data gateway](#)
- [On-premises data gateway - in-depth](#)
- [Troubleshooting the on-premises data gateway](#)
- [Use Kerberos for SSO \(single sign-on\) from Power BI to on-premises data sources.](#)
- More questions? [Try the Power BI Community](#)

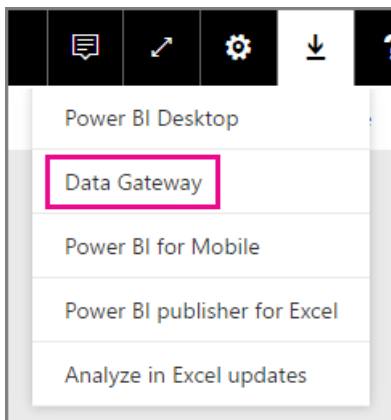
# Manage your data source - Oracle

2/24/2018 • 6 min to read • [Edit Online](#)

Once you have installed the on-premises data gateway, you will need to add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources. You can use the Oracle data source either for scheduled refresh or for DirectQuery.

## Download and install the gateway

You can download the gateway from the Power BI service. Select **Downloads** > **Data Gateway**, or by going to the [gateway download page](#).



### WARNING

In order for the gateway to be able to connect to your Oracle server, the Oracle Data Provider for .NET (ODP.NET) needs to be installed and configured. This is part of the Oracle Data Access Components (ODAC). For more information on how to download the Oracle provider, see [Installing the Oracle Client](#) below.

## Installing the Oracle client

For **32-bit** versions of Power BI Desktop, use the following link to download and install the **32-bit** Oracle client:

- [32-bit Oracle Data Access Components \(ODAC\) with Oracle Developer Tools for Visual Studio \(12.1.0.2.4\)](#)

For **64-bit** versions of Power BI Desktop, or for the on-premises data gateway, use the following link to download and install the **64-bit** Oracle client:

- [64-bit ODAC 12.2c Release 1 \(12.2.0.1.0\) for Windows x64](#)

Once that is installed, you will need to configure your `tnsnames.ora` file with the proper information for your database. Power BI Desktop and the gateway will go off of the `net_service_name` defined in the `tnsnames.ora` file. If it isn't configured, you will not be able to connect. The default path for `tnsnames.ora` is the following:

`[Oracle Home Directory]\Network\Admin\tnsnames.ora`. For more information about how to configure `tnsnames.ora` files, see [Oracle: Local Naming Parameters \(tnsnames.ora\)](#).

### Example `tnsnames.ora` file entry

The basic format of an entry in `tnsnames.ora` is the following.



```
net_service_name=
(DESCRIPTION=
  (ADDRESS=(protocol_address_information))
  (CONNECT_DATA=
    (SERVICE_NAME=service_name)))
```

Here is an example of the server and port information filled in.

```
CONTOSO =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = oracleserver.contoso.com)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = CONTOSO)
    )
  )
```

## Add a gateway


To add a gateway, simply [download](#) and install the gateway on a server in your environment. After you have installed the gateway, it will show in the lists of gateways under **Manage gateways**.

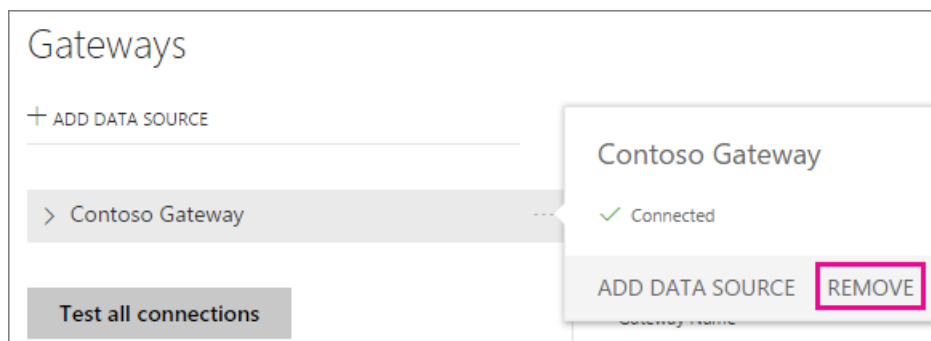
### NOTE

**Manage gateways** will not show up until you are the admin of at least one gateway. This can happen either by being added as an admin or you installing and configuring a gateway.

## Remove a gateway

Removing a gateway will also delete any data sources under that gateway. This will also break any dashboards and reports that rely on those data sources.

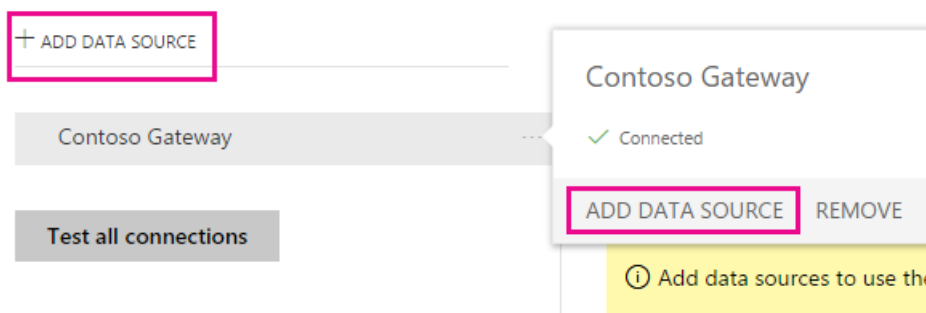
1. Select the gear icon  in the upper-right corner > **Manage gateways**.
2. Gateway > **Remove**



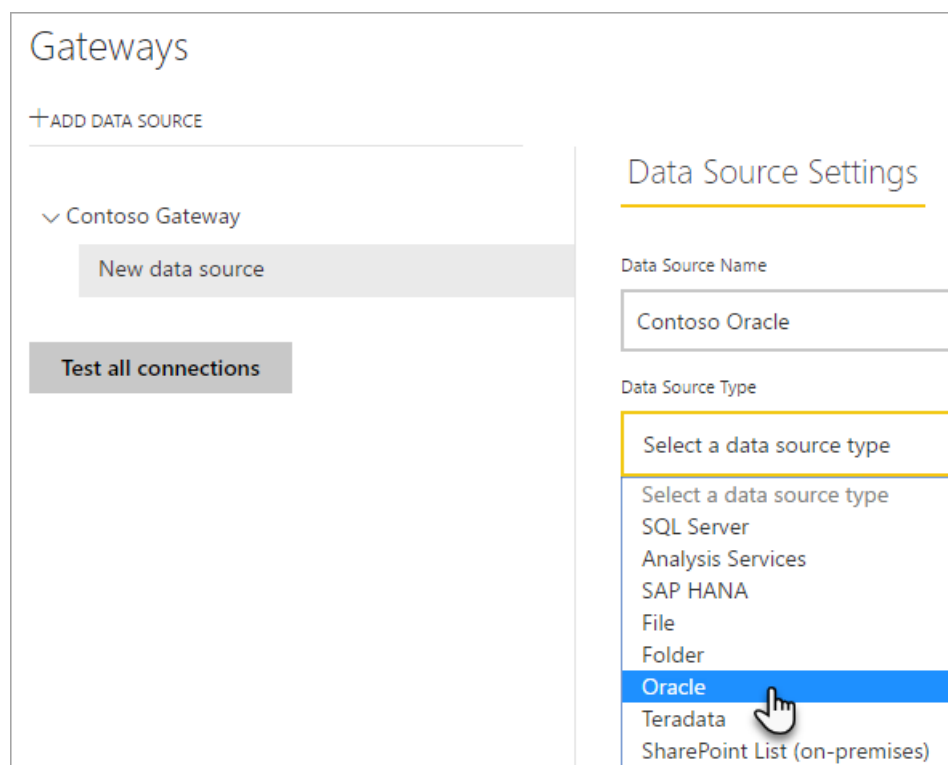
## Add a data source

You can add a data source by either selecting a gateway and click **Add data source**, or go to Gateway > **Add data source**.

## Gateways



You can then select the **Data Source Type** from the list.



You will then want to fill in the information for the data source which includes the **Server** and the **Database**.

You will also need to choose an **Authentication Method**. This can either be **Windows** or **Basic**. You would want to choose **Basic** if you are going to use an account that is created within Oracle instead of Windows Authentication. Then enter the credentials that will be used for this data source.

### NOTE

All queries to the data source will run using these credentials. For more information, see the main on-premises data gateway article to learn more about how [credentials](#) are stored.

## Data Source Settings

Data Source Name

Data Source Type

Server

Authentication Method

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Username

Password

> Advanced settings

**Add** Discard

You can click **Add** after you have everything filled in. You can now use this data source for scheduled refresh, or DirectQuery, against an Oracle server that is on-premises. You will see *Connection Successful* if it succeeded.

## Data Source Settings Users

✓ Connection Successful

① Next Step: Go to the Users tab above and add users to this Data Source

Data Source Name

### Advanced settings

You can configure the privacy level for your data source. This controls how data can be mashed up. This is only used for scheduled refresh. It does not apply to DirectQuery. [Learn more](#)

▽ Advanced settings

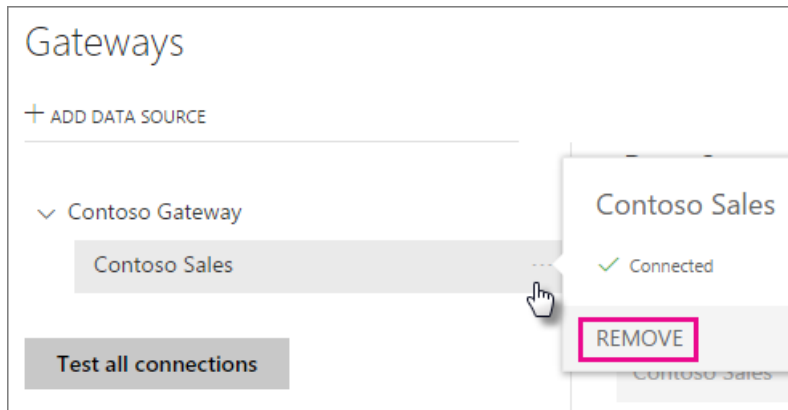
Privacy Level setting for this data source

Organizational
None
Private
Organizational
Public

## Remove a data source

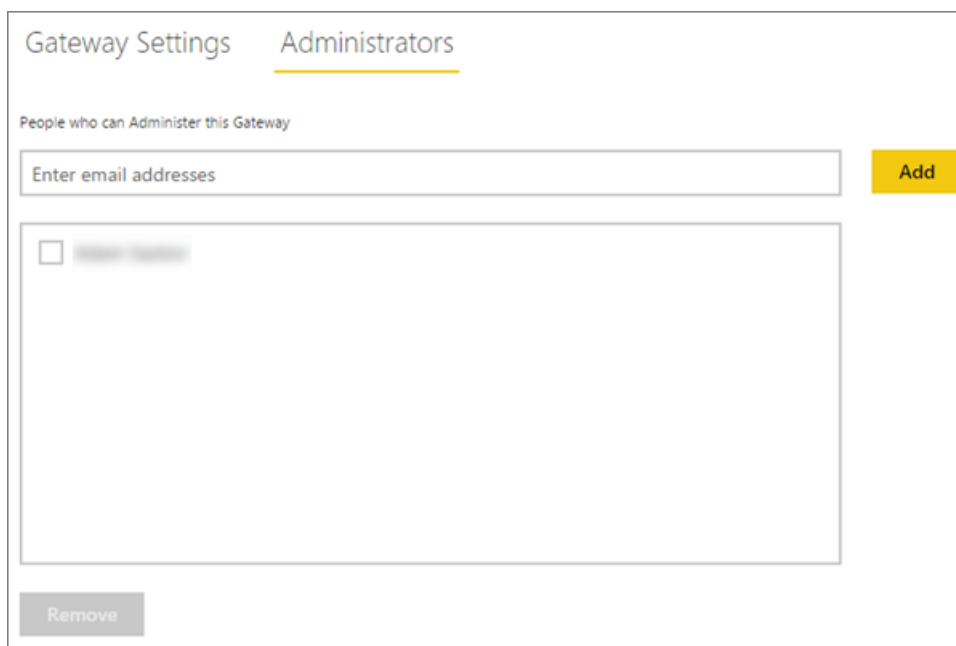
Removing a data source will break any dashboards or reports that rely on the given data source.

To remove a Data Source, go to the Data Source > **Remove**.



## Manage administrators

On the Administrators tab for the gateway, you can add and remove users (or security groups) that can administer the gateway.



## Manage users

On the Users tab, for the data source, you can add, and remove, users, or security groups, that can use this data source.

### NOTE

The users list only controls who are allowed to publish reports. The report owners can create dashboards, or content packs, and share those with other users. Users that are consuming the report or dashboard do not need to be in the users list.

Data Source Settings

Users

People who can publish reports that use this data source

Add

☐ Adam Saxton

Remove

## Using the data source

After you have created the data source, it will be available to use with either DirectQuery connections, or through scheduled refresh.

### WARNING

Server and database name have to match between Power BI Desktop and the data source within the on-premises data gateway!

The link between your dataset and the data source within the gateway is based on your server name and database name. These have to match! For example, if you supply an IP Address for the server name, within Power BI Desktop, you will need to use the IP Address for the data source within the gateway configuration. This name also has to match an alias defined within the tnsnames.ora file. For more information about the tnsnames.ora file, see [Installing the Oracle Client](#).

This is the case for both DirectQuery and scheduled refresh.

### Using the data source with DirectQuery connections

You will need to make sure the server and database name matches between Power BI Desktop and the configured data source for the gateway. You will also need to make sure your user is listed in the **Users** tab of the data source in order to publish DirectQuery datasets. The selection, for DirectQuery, occurs within Power BI Desktop when you first import data. [Learn more](#)

After you publish, either from Power BI Desktop or **Get Data**, your reports should start working. It may take several minutes, after creating the data source within the gateway, for the connection to be usable.

### Using the data source with scheduled refresh

If you are listed in the **Users** tab of the data source configured within the gateway, and the server and database name match, you will see the gateway as an option to use with scheduled refresh.

Gateway connection

☐ Use your personal gateway (online, running on )
   
☒ Use an enterprise gateway

Status	Department	Gateway	Contact information	Description
online		Contoso Gatew...	john@contoso.com	

Apply

Discard

Data source credentials (admin has granted access, credentials are not required)

## Troubleshooting

You may encounter several errors from Oracle when the naming syntax is either incorrect or not configured properly.

- ORA-12154: TNS: could not resolve the connect identifier specified
- ORA-12514: TNS listener does not currently know of service requested in connect descriptor
- ORA-12541: TNS: no listener
- ORA-12170: TNS:Connect timeout occurred
- ORA-12504: TNS listener was not given the SERVICE\_NAME in CONNECT\_DATA

These errors could occur if either the Oracle client is not installed, or if it is not configured properly. If it is installed, you will want to verify the tnsnames.ora file is properly configured and you are using the proper net\_service\_name. You will also need to make sure that the net\_service\_name is the same between the machine using Power BI Desktop and the machine that is running the gateway. For more information, see [Installing the Oracle Client](#).

### NOTE

You may also be hitting an issue due to compatibility between the Oracle server version and the Oracle client version. Typically you want these to match.

For additional troubleshooting information relating to the gateway, see [Troubleshooting the on-premises data gateway](#).

## Next steps

[On-premises data gateway](#)

[On-premises data gateway - in-depth](#)

[Troubleshooting the on-premises data gateway](#)

[Power BI Premium](#)

More questions? [Try asking the Power BI Community](#)

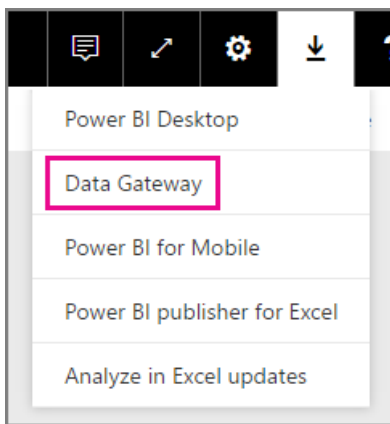
# Manage your data source - Import/Scheduled Refresh

2/24/2018 • 4 min to read • [Edit Online](#)

Once you have installed the on-premises data gateway, you will need to add data sources that can be used with the gateway. This article will look at how to work with gateways and data sources that are used for scheduled refresh as opposed to DirectQuery or live connections.

## Download and install the gateway

You can download the gateway from the Power BI service. Select **Downloads** > **Data Gateway**, or by going to the [gateway download page](#).



## Add a gateway


To add a gateway, simply [download](#) and install the enterprise gateway on a server in your environment. After you have installed the gateway, it will show in the lists of gateways under **Manage gateways**.

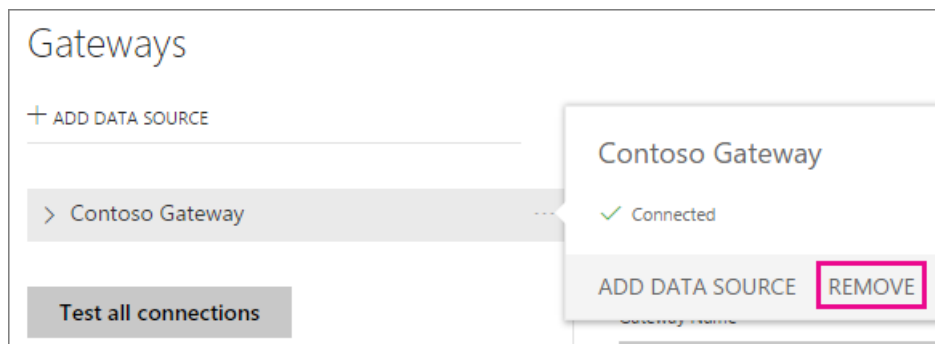
### NOTE

**Manage gateways** will not show up until you are the admin of at least one gateway. This can happen either by being added as an admin or you installing and configuring a gateway.

## Remove a gateway

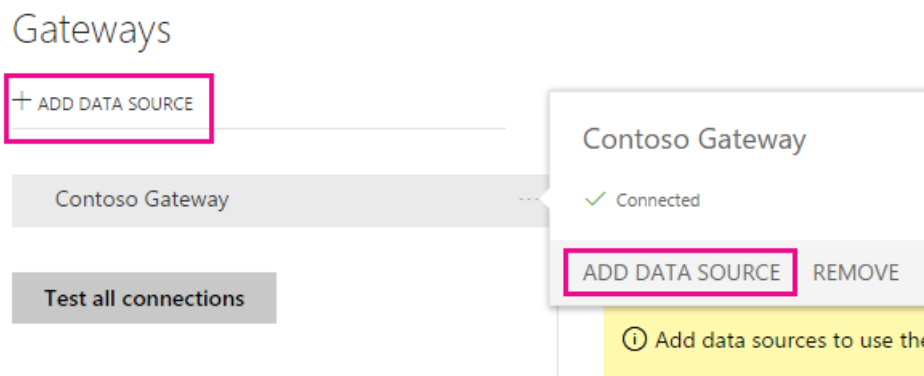
Removing a gateway will also delete any data sources under that gateway. This will also break any dashboards and reports that rely on those data sources.

1. Select the gear icon  in the upper-right corner > **Manage gateways**.
2. Gateway > **Remove**

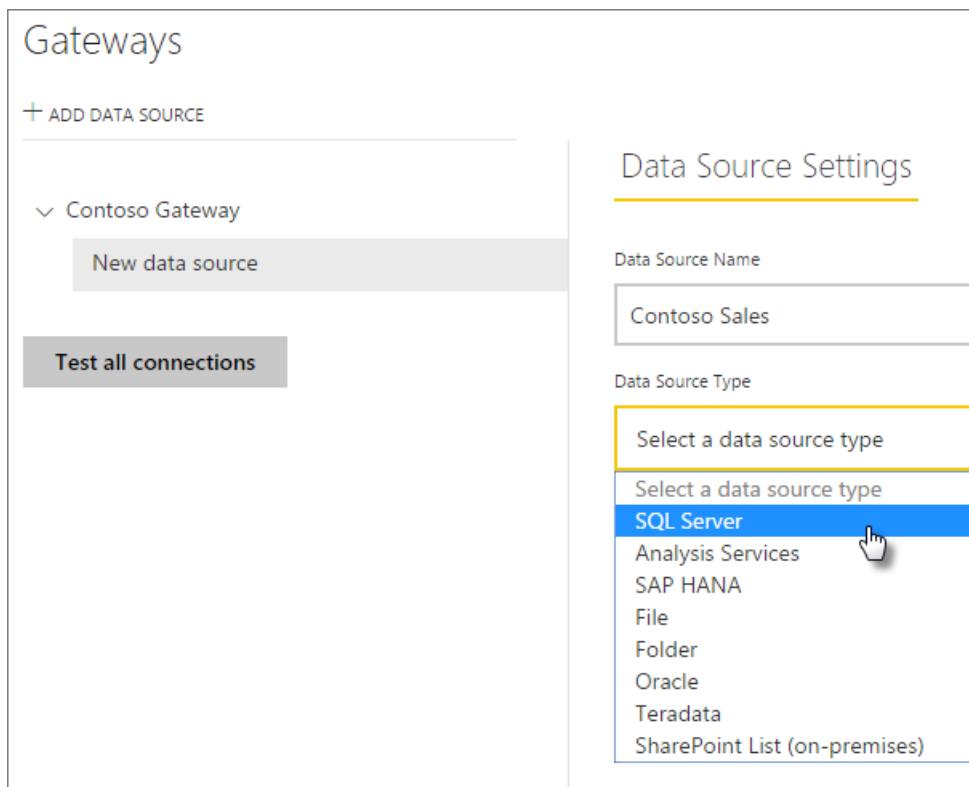


## Add a data source

You can add a data source by either selecting a gateway and click **Add data source**, or go to Gateway > **Add data source**.



You can then select the **Data Source Type** from the list. All of the data sources listed can be used for scheduled refresh with the enterprise gateway. Analysis Services, SQL Server and SAP HANA can be used for either scheduled refresh, or DirectQuery/live connections.



You will then want to fill in the information for the data source which includes the source information and credentials used to access the data source.



## NOTE

All queries to the data source will run using these credentials. For more information, see the main on-premises data gateway article to learn more about how [credentials](#) are stored.

### Data Source Settings

Data Source Name

Contoso Sales

Data Source Type

Oracle

Server

ContosoORA01

Authentication Method

Basic

The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)

Username

contosouser

Password

\*\*\*\*\*

> Advanced settings

Add

Discard

You can click **Add** after you have everything filled in. You can now use this data source for scheduled refresh with your on-premises data. You will see *Connection Successful* if it succeeded.

### Data Source Settings

### Users

✓ Connection Successful

① Next Step: Go to the Users tab above and add users to this Data Source

Data Source Name

Contoso Sales

## List of available data source types

DATA SOURCE	LIVE/DIRECTQUERY	USER CONFIGURED MANUAL OR SCHEDULED REFRESH
Analysis Services Tabular	Yes	Yes
Analysis Services Multidimensional	Yes	Yes

DATA SOURCE	LIVE/DIRECTQUERY	USER CONFIGURED MANUAL OR SCHEDULED REFRESH
File	No	Yes
Folder	No	Yes
IBM DB2	No	Yes
IBM Informix Database	No	Yes
IBM Netezza	Yes	Yes
Impala	Yes	Yes
MySQL	No	Yes
OData	No	Yes
ODBC	No	Yes
Oledb	No	Yes
Oracle	Yes	Yes
PostgresSQL	No	Yes
SAP BW	Yes	Yes
SAP HANA	Yes	Yes
SharePoint list (on-premises)	No	Yes
Snowflake	Yes	Yes
SQL Server	Yes	Yes
Sybase	No	Yes
Teradata	Yes	Yes
Web	No	Yes

### Advanced settings

You can configure the privacy level for your data source. This controls how data can be mashed up. This is only used for scheduled refresh. [Learn more](#)

▼ Advanced settings

Privacy Level setting for this data source

Organizational
None
Private
Organizational
Public

## Remove a data source

Removing a data source will break any dashboards or reports that rely on the given data source.

To remove a Data Source, go to the Data Source > **Remove**.

Gateways

+ ADD DATA SOURCE

▼ Contoso Gateway

Contoso Sales

Test all connections

Contoso Sales

✓ Connected

REMOVE

## Manage administrators

On the Administrators tab, for the gateway, you can add, and remove, users that can administer the gateway. You can only add users at this time. Security groups cannot be added.

Gateway Settings Administrators

People who can Administer this Gateway

Enter email addresses

Add

☐ [User Name]

Remove

## Manage users

On the Users tab, for the data source, you can add, and remove, users, or security groups, that can use this data source.

#### NOTE

The users list only controls who are allowed to publish reports. The report owners can create dashboards, or content packs, and share those with other users.

Data Source Settings   Users

People who can publish reports that use this data source

Enter email addresses Add

☐ Adam Saxton

Remove

## Using the data source for scheduled refresh

After you have created the data source, it will be available to use with either DirectQuery connections, or through scheduled refresh.

#### NOTE

Server and database name have to match between Power BI Desktop and the data source within the on-premises data gateway!

The link between your dataset and the data source within the gateway is based on your server name and database name. These have to match. For example, if you supply an IP Address for the server name, within Power BI Desktop, you will need to use the IP Address for the data source within the gateway configuration. If you use *SERVER\INSTANCE*, in Power BI Desktop, you will need to use the same within the data source configured for the gateway.

If you are listed in the **Users** tab of the data source configured within the gateway, and the server and database name match, you will see the gateway as an option to use with scheduled refresh.

#### Gateway connection

- ☐ Use your personal gateway (online, running on )
- ☒ Use an enterprise gateway

Status	Department	Gateway	Contact information	Description
online		Contoso Gatew...	john@contoso.com	

Apply

Discard

►Data source credentials (admin has granted access, credentials are not required)

#### WARNING

If your dataset contains multiple data sources, each data source must be added within the gateway. If one or more data sources are not added to the gateway, you will not see the gateway as available for scheduled refresh.

## Limitations

- OAuth is not a supported authentication scheme with the on-premises data gateway. You cannot add data sources that require OAuth. If your dataset has a data source requiring OAuth, you will not be able to use the gateway for scheduled refresh.

## Next steps

[On-premises data gateway](#)

[On-premises data gateway - in-depth](#)

[Troubleshooting the on-premises data gateway](#)

More questions? [Try the Power BI Community](#)