SELF-HOSTING

Connect to an External MSSQL Database

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By default, self-hosted instances of Bitwarden will use a Microsoft SQL Server (MSSQL) database created as a normal part of installation setup, however you configure Bitwarden to use an external MSSQL database.

> ⓘ **Note**
>
> At this time, self-hosted Bitwarden instances will support MSSQL 2017, however, the Bitwarden recommended **minimum** SQL version is Server 2019.
>
> Bitwarden **supports and recommends SQL Server 2022 where possible**. As mainstream support for Server 2017 ended in October, 2022, depreciation of support for a specific SQL server version will be noted here and in the release notes for a given release if Bitwarden implements features that are not available on a specific version of SQL Server.

Setup

To setup your self-hosted instance with an external database:

1. Create a new MSSQL database.

2. (**Recommended**) Create a dedicated DBO for your database.

3. As an administrator of your Bitwarden server, open the `global.override.env` file in an editor:

```Bash
nano bwdata/env/global.override.env
```

4. Edit the `globalSettings__sqlServer__connectionString=` value for the following information:

   - Replace `"Data Source=tcp:mssql,1433";` with your MSSQL server name, for example `"Data Source=protocol:server_url,port"`.

   - Replace the `vault` in `Initial Catalog=vault`; with your database name.

   - Replace `User ID=sa;` with your DBO User ID.

   - Replace `Password=<default_pw>;` with your DBO password.

5. Save your changes to `global.override.env`.

6. Start Bitwarden (`./bitwarden.sh start`).

Once the above steps are complete, you can test the connection by creating a new user through the web vault and querying the external `vault` database for creation of the new user.

Validate a server certificate

If you need Bitwarden to validate your MSSQL database server's certificate, mount the certificate into your self-hosted Bitwarden server's containers. To do this:

1. Copy your root CA certificate into `./bwdata/ca-certificates`.

2. Run the `./bitwarden.sh restart` command to apply the certificate to your containers and restart your server.