

# Database Mapper System Requirements

Last Modified on 18 October 2022

🔔 **Update:** SentryOne Document is now SolarWinds Database Mapper (DMR). See the [Database Mapper product page](#) to learn more about features and licensing. Want to explore Database Mapper? An interactive demo environment is available without any signup requirements.

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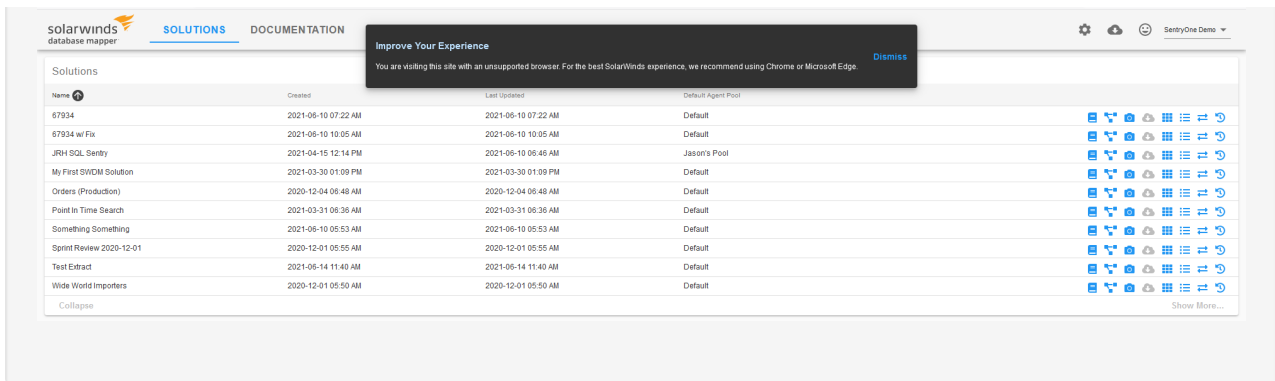
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## System Requirements

### Compatible Browsers (Cloud and On-Prem)

- Chrome
- Edge

📘 **Note:** Using an unsupported browser to access Database Mapper prompts an **Improve Your Experience** message, and asks you to use Chrome or Microsoft Edge for the best experience.



## Database Mapper Software (On-Prem Only)

**Database Mapper Software** is an on-premises, browser-based option for documenting your data estate. This product is a replacement for the [DOC xPress](#) product and is the self-hosted version of [Database Mapper cloud](#).

**Note:** Hardware requirements are workload-specific. The specs listed below are the minimum recommended.

If you're using **Database Mapper Software** (the on-premises, self-hosted version), the hardware requirements are:

- 2 CPU cores
- 8+ GB RAM
- 40+ GB free storage space

The software requirements for **Database Mapper Software** (the on-premises, self-hosted version) are :

- SQL Server 2012 or later (to host the Database Mapper database)
- Database Mapper Software uses port 44302 for the UI host and port 44322 for the API.

## Database Mapper Software Host (On-Prem Only)

To install the Database Mapper Software Host, your machine must have [Microsoft .NET Core 3.1 Desktop Runtime \(v3.1.19\)](#).

## Database Mapper Software Additional Permissions (On-Prem Only)

This user (or the account you change it to) must have **read/write access** to:

- **C:\Program Files (x86)\SentryOne\SentryOne Document** (or your custom installation directory)
- **C:\Windows\Temp**
- **C:\ProgramData\SentryOne\Document\\_blobStorage**

If you are using Windows authentication to access the Database Mapper database, the user account must:

1. Exist as a login account on the database server
2. Have access to the Database Mapper database
3. Be added to the **db\_datareader**, **db\_datawriter**, and **db\_ddladmin** roles on the Database Mapper database

**Note:** The **Database Mapper Software** installer grants the required access to the SentryOneDocument database for the *NETWORK SERVICE* account.

## Remote Agent (Cloud and On-Prem)

**Note:** Hardware requirements are workload-specific. The specs listed below are the minimum recommended. Because agent workloads do not benefit significantly from parallelization, one or two cores for each agent is recommended.

### Remote Agent Permissions

#### Remote Agent Service Account

The remote agent service account must have the following for both **Database Mapper Cloud** and **Database Mapper Software**:

- *Log on as a service* rights
- *Log on as a batch job* rights
- *Write* access to the remote agent's config file located at  
`C:\ProgramData\PragmaticWorks\ServiceCore\SentryOneDocumentRemoteAgentService.{Agent Name}.xml`

**Additional Information:** See the [Log on as a service article on Microsoft Docs](#) for instructions.

#### Multi-Factor Authentication

Using service accounts that require Multi-Factor Authentication (MFA) is not currently supported for connecting the remote agent service to Azure SQL Database targets. It is recommended that generalized service accounts are used for configuring connection credentials rather than accounts that are directly linked to users. For environments that require MFA for Azure Active Directory users, a service account can be excluded from the MFA requirement by using an exclusion for conditional access.

[🔗Additional Information:](#) See the [Use Azure AD access reviews to manage users excluded from Conditional Access policies](#) article on Microsoft Docs for guidance on how to set up exclusions for MFA.

### Remote Agent Hardware

- Recommend a relatively recent 64-bit processor, 8+ GB of RAM, and 20+ GB free storage space.

### Remote Agent Software

- Windows PC with .NET 4.6.1 installed

### Remote Agent Supported Operating Systems

64-bit (x64) Operating Systems	32-bit (x86) Operating Systems
Windows Server 2012	Windows Server 2012
Windows Server 2016	Windows 8
Windows 8	Windows 10
Windows 10	

## Supported Provider Versions (Cloud and On-Prem)

🚫**Unsupported:** SQL, SSAS, SSIS, and SSRS versions 2008 R2 and earlier are not officially supported. The providers remain accessible in the software if the prerequisites are met, however, we will not be able to provide support for any issues that are specific to these older releases.

Provider	Supported Versions
MySQL	MySQL versions 5.6 through 8
Oracle	Oracle versions 12c Release 1 through 21c
PostgreSQL	PostgreSQL versions 9.5 through 13.2

Provider	Supported Versions		
SQL	<b>64-bit Operating Systems</b>		<b>32-bit Operating Systems</b>
	Microsoft SQL Server 2012 (or later) Shared Management Objects x64	Microsoft SQL Server 2012 (or later) Shared Management Objects x86	Microsoft System CLR Types for Microsoft SQL Server 2012 (or later) x86
	Microsoft SQL Server 2012 (or later) Shared Management Objects x86		Microsoft System CLR Types for Microsoft SQL Server 2012 (or later) x64
SSAS	<b>64-bit Operating Systems</b>	<b>32-bit Operating Systems</b>	<b>SSAS Azure Analysis Services</b>
	Microsoft SQL Server 2012 (or later) Analysis Management Objects x64	Microsoft SQL Server 2012 (or later) Analysis Management Objects x86	<ul style="list-style-type: none"> <li>Microsoft Azure Analysis Services Client Libraries</li> </ul>
	Microsoft SQL Server 2012 (or later) Analysis Management Objects x86		
SSIS	SQL Server Integration Services 2012 or later.		

**Note:** Microsoft SQL Server Transact-SQL ScriptDom is included in the Database Mapper installer.

**Important:** The SQL Server provider works against SQL Server 2005 and above when connecting to both SQL Server On-Premises and Azure Instances. The SQL Server Provider can collect columns with the Sensitivity Classification in Azure, and SQL Server 2019.

**Important:** The SSAS provider works against SSAS 2005 and above when connecting to Multidimensional Instances and SSAS 2012 and above when connecting to a Tabular Instances.






Provider	Supported Versions
SSRS and Power BI Report Server	<ul style="list-style-type: none"> <li>• SQL Server Reporting Services (2012 or later)</li> <li>• Support provided for the following report locations: <ul style="list-style-type: none"> <li>◦ File System: SQL Server 2012 or later</li> <li>◦ Native Web Services: SQL Server 2012 or later</li> <li>◦ SharePoint Web Service: SQL Server 2012 or later</li> </ul> </li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• These requirements are for Power BI Report Server. Power BI itself does not have any additional requirements beyond what is required for Database Mapper.</li> <li>• KPIs and Mobile Reports are currently not supported when connecting to an SSRS 2016 or above Report Server.</li> </ul>
Tableau	Tableau Servers with <a href="#">REST API</a> enabled with the following API Versions: 2.3, 2.2, 2.1 and 2.0.

## Required Provider Files (Cloud and On-Prem)


**⚠ Important:** Provider files must be installed on the machine that will run your Database Mapper Remote Agent. For more information about installing the Remote Agent, see the [Remote Agent](#) article.

**Note:** Due to legal restrictions, some libraries cannot be redistributed by software providers. Database Mapper does not include the following libraries:

Provider	Requirement
SSAS	<p>You need to install <b>Microsoft @ .NET 4.5 to monitor SSAS 2017.</b></p> <p>To connect to Azure Analysis Services, you need to download and install the latest Microsoft Analysis Services Client Libraries.</p>

Provider	Requirement
SSIS	<p>To monitor SSIS 2012 or later, you need to install <b>SQL Server Data Tools for Visual Studio</b> or <b>Business Intelligence Development Studio</b>, and you need to install the <b>SSIS Version that you want to document</b>.</p> <p> <b>Additional Information:</b> For more information about SSIS Prerequisites in Database Mapper, see the <a href="#">SSIS Software prerequisites for DOC xPress, S1 Document, BI xPress KB article</a>.</p> <p> <b>Important:</b> You need to have the SSIS Version that you want to document installed.</p> <p> <b>Important:</b> You need to have any Third-Party Products (Connection Managers, Tasks, Components, etc) that are used within the SSIS Package(s) installed to document your packages.</p> <p> <b>Important:</b> You need to select <b>SQL Server Integration Services</b> when installing SQL Server features in Microsoft SQL Server Data Tools for Visual Studio.</p>
SSRS and Power BI Report Server	<p>To monitor SSRS 2012 or later, or to monitor Power BI Report Server, you need to install <b>SQL Server Data Tools for Visual Studio</b> or <b>Business Intelligence Development Studio</b>.</p> <p> <b>Note:</b> You need to select <b>SQL Server Reporting Services</b> when installing SQL Server features in Microsoft SQL Server Data Tools for Visual Studio.</p>

## Downloading Provider Files from Microsoft (Cloud and On-Prem)

 **Note:** These instructions reference an external system from Microsoft and may appear differently than described below.

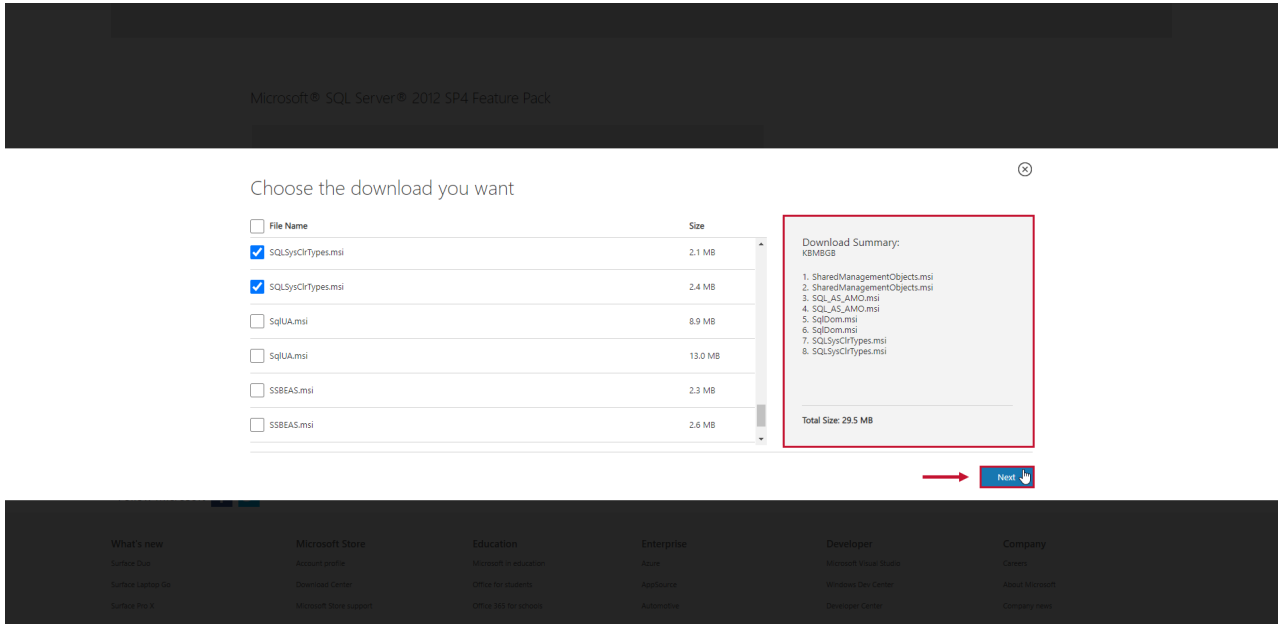
Download the additional provider requirements by completing the following steps:

1. Navigate to the [Microsoft SQL Server 2012 SP4 Feature Pack](#).
2. Select the following additional files:

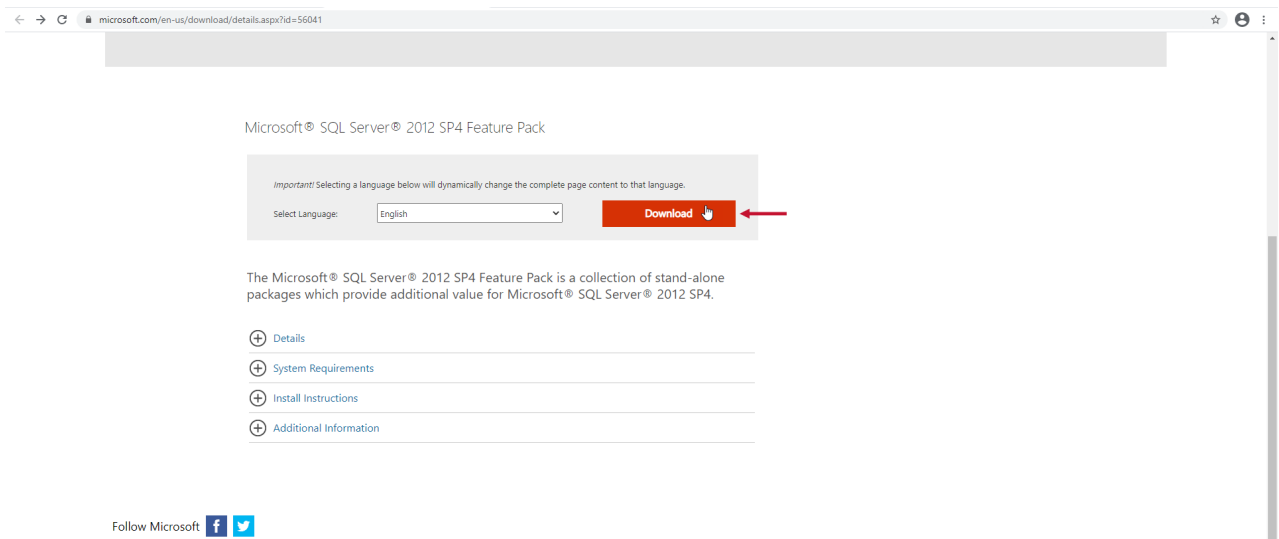
- SharedManagementObjects.msi 6.4mb
- SharedManagementObjects.msi 7.6mb
- SQL\_AS\_AMO.msi 3.6mb
- SQL\_AS\_AMO.msi 2.7mb

- SqlDom.msi 2.4mb
- SqlDom.msi 2.2mb
- SQLSysClrTypes.msi 2.1mb
- SQLSysClrTypes.msi 2.4mb

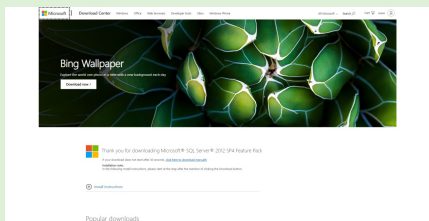
### 3. Select **Next**.



### 4. Select **Download** to install the selected components.



### 🏆 **Success:** You have now downloaded the additional provider requirements!





# Permissions (Cloud and On-Prem)

It's recommended that the machine running the remote agent has network access and permission to access all the solution items that you want to scan. See the [Remote Agents](#) article for additional recommendations about where to install them.

**Note:** **Database Mapper** (the cloud version at [document.sentryone.com](https://document.sentryone.com)) uses <https://document-api.services.sentryone.com/> as the communication endpoint and port 443 for HTTPS. These will need to be allowed by your firewall.

## Technology-Specific Permissions

Technology	Required Permissions
Azure Power BI	<ul style="list-style-type: none"><li>• <b>Content.Create</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ Create content</li></ul></li><li>• <b>Dashboard.Read.All</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ View all dashboards</li></ul></li><li>• <b>Dashboard.ReadWrite.All</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ Read and write all dashboards</li></ul></li><li>• <b>Dataset.ReadWrite.All</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ Read and write all datasets</li></ul></li><li>• <b>Group.Read</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ View user's groups</li></ul></li><li>• <b>Report.ReadWrite.All</b><ul style="list-style-type: none"><li>◦ Delegated</li><li>◦ Read and write all reports</li></ul></li></ul>

Technology	Required Permissions
MySQL	<ul style="list-style-type: none"> <li>• Requires <i>SELECT</i> permission on <i>mysql.user</i>.</li> <li>• Permissions on any tables that will be documented.</li> <li>• For triggers to be included, the <i>TRIGGER</i> privilege is required.</li> <li>• For the definitions of stored procedures and functions to be included in the documentation, user must be named in the <i>DEFINER</i> clause for the object; or for MySQL prior to version 8, user needs <i>SELECT</i> permission on <i>mysql.proc</i>, or for MySQL version 8 (or later), user needs <i>SHOW_ROUTINE</i> privilege. <ul style="list-style-type: none"> <li>◦ <b>Note:</b> If permissions for these are not in effect, but the user has a permission (<i>SELECT</i>, <i>INSERT</i> etc.) on the object, then that object will be in the documentation but the definition section will be missing.</li> </ul> </li> </ul> <p><b>Examples</b></p> <p>Setting permissions on a limited user account (to enable configuring a solution item and taking a snapshot):</p> <pre style="border: 1px solid #ccc; padding: 5px;">GRANT SELECT ON mysql.user TO 'MyUserName'@'%'; GRANT SELECT, TRIGGER ON myschema.* TO 'MyUserName'@'%'; -- ALL tables/views</pre> <p>For stored procedures or functions:</p> <p>MySQL prior to version 8:</p> <pre style="border: 1px solid #ccc; padding: 5px;">GRANT SELECT ON mysql.proc TO 'MyUserName'@'%';</pre> <p>MySQL version 8 (or later):</p> <pre style="border: 1px solid #ccc; padding: 5px;">GRANT SHOW_ROUTINE ON *.* TO 'lockdownuser'@'%';</pre>
Oracle	<ul style="list-style-type: none"> <li>• Permissions are required to connect to the database.</li> <li>• Permissions are required to access any objects that will be documented.</li> <li>• For triggers to be documented, the <i>CREATE ANY TRIGGER</i> privilege is required.</li> </ul>

Technology	Required Permissions
PostgreSQL	<ul style="list-style-type: none"> <li>• Requires <i>LOGIN</i> privilege</li> <li>• Requires <i>CONNECT</i> privilege to the database</li> <li>• Requires permissions on any objects you want to document.               <ul style="list-style-type: none"> <li>◦ <b>Note:</b> For triggers to be included, extra privileges on the table other than <i>SELECT</i> alone are required (e.g. <i>INSERT</i>)</li> </ul> </li> </ul> <p><b>Example</b></p> <p>Setting permissions on a limited user account (to enable configuring a solution item and taking a snapshot):</p> <pre style="border: 1px solid #ccc; padding: 10px;">ALTER ROLE myusername WITH LOGIN;  GRANT CONNECT ON DATABASE mydatabase TO myusername;  GRANT SELECT, INSERT ON ALL TABLES IN SCHEMA myschema TO myusername;</pre>
SQL Server	<ul style="list-style-type: none"> <li>• Sysadmin permissions for the SQL Server you want to document</li> <li>• Definition permissions for any object you want to document</li> <li>• Non-sysadmin users must be granted View Server State permissions to view log file objects within the documentation.</li> </ul>
SQL Server Analysis Services	<ul style="list-style-type: none"> <li>• Multidimensional:               <ul style="list-style-type: none"> <li>◦ Read definition permission on each database object you want to document</li> </ul> </li> <li>• Tabular:               <ul style="list-style-type: none"> <li>◦ Administrator permission on each database object you want to document</li> </ul> </li> <li>• Azure Analysis Services               <ul style="list-style-type: none"> <li>◦ Azure Active Directory credentials are required</li> </ul> </li> </ul>
SQL Server Integration Services	<ul style="list-style-type: none"> <li>• SSIS Catalog:               <ul style="list-style-type: none"> <li>◦ Read and Modify permission for each project within the SSISDB you want to analyze</li> </ul> </li> <li>• SSIS Azure Data Factory:               <ul style="list-style-type: none"> <li>◦ See the <a href="#">Connect to Azure Data Factory article</a>.</li> </ul> </li> </ul>

Technology	Required Permissions
SQL Server Reporting Services	<ul style="list-style-type: none"> <li>• Folder Security Settings: <ul style="list-style-type: none"> <li>◦ Minimum Predefined User Roles required: <ul style="list-style-type: none"> <li>▪ My Reports</li> <li>▪ Content Manager</li> </ul> </li> <li>◦ Minimum Tasks required for a custom User Role: <ul style="list-style-type: none"> <li>▪ View Reports</li> <li>▪ View Folders</li> <li>▪ View Data Sources</li> <li>▪ View Models</li> <li>▪ Consume Reports</li> </ul> </li> </ul> </li> <li>• Web Service Security Settings: <ul style="list-style-type: none"> <li>◦ Minimum Predefined System Role required: <ul style="list-style-type: none"> <li>▪ System User</li> <li>▪ Browser in the report tree</li> </ul> </li> <li>◦ Minimum Tasks required for a custom System Role: <ul style="list-style-type: none"> <li>▪ Execute Report Definitions</li> </ul> </li> </ul> </li> </ul>
Tableau Permissions	<ul style="list-style-type: none"> <li>• You must be a part of the Server Administrator role</li> </ul>

## Accessing Database Mapper Solutions

The following script shows you how to grant the necessary permissions to users so that all server level objects, databases, associated database objects and SQL Server Agent objects can be read. This needs to be executed against any SQL Server that exists as a solution in Database Mapper.

### SQL Server

```
USE [master];
GO
IF NOT EXISTS
(
    SELECT *
    FROM syslogins
    WHERE [name] = 'Domain\Account'
)
CREATE LOGIN [Domain\Account] FROM WINDOWS WITH DEFAULT_DATABASE = [master];

GRANT VIEW SERVER STATE TO [Domain\Account];

GRANT VIEW ANY DEFINITION TO [Domain\Account];

GRANT CONNECT ANY DATABASE TO [Domain\Account];

GO
USE [msdb];
GO
CREATE USER [Domain\Account] FOR LOGIN [Domain\Account];
GO
USE [msdb];
GO
ALTER ROLE [SQLAgentOperatorRole] ADD MEMBER [Domain\Account];
GO
```

## SSIS

If the server hosting the solution also has SSIS and the solution contains SSIS items, then permissions must be granted for the SSISDB in addition to the SQL Server permissions above.

```
USE [SSISDB];
GO
CREATE USER [Domain\Account] FOR LOGIN [Domain\Account];
GO
USE [SSISDB];
GO
ALTER ROLE [SSIS_Admin] ADD MEMBER [Domain\Account];
GO
```

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