Microsoft

Step-by-Step Guide to Installing, Configuring and Running Azure Data Sync

With steps for: Azure SQL DB to on-premises SQL Server

Prepared by

Data Migration Jumpstart Engineering Team

Advanced Solutions Delivery – Data & AI CTO

askdmjfordmtools@microsoft.com

dmjarchitects@microsoft.com

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1 Disclaimer

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2 Introduction

This document is meant to be used as a Quick Start Guide to synchronize data between Azure SQL Database and on-premises SQL Server. This is not to meant to replace transactional replication, but rather provide an alternative to creating data flow processes that synchronize data between the Azure Cloud data platform, and client's on-premises databases.

More information about Azure Data Sync can be found on this link:
https://docs.microsoft.com/en-us/azure/sql-database/sql-database-data-sync-agent

3 Document Revisions

Rev No.	Author	Date	Comments
1	Oscar Zamora oscar.zamora@microsoft.com	06/13/2019	First Release

4 Steps

4.1 Data Sync Client Installation Considerations

Azure Data Sync requires a Sync hop (orchestrator node) that serves as an interaction point between the Azure Data Platform, and on-premises SQL Server instances.

The tool can be installed on an Azure VM, or within the source on-premises database server, or as a single node standing on clients' network.

Bandwidth and resources need to be taken into consideration, as the Sync hop will require to read from source and apply to the target database and depending on data volume, it might be constrained by bandwidth capabilities. It is also running as a service, within the windows machine, and that, will consume CPU and memory.

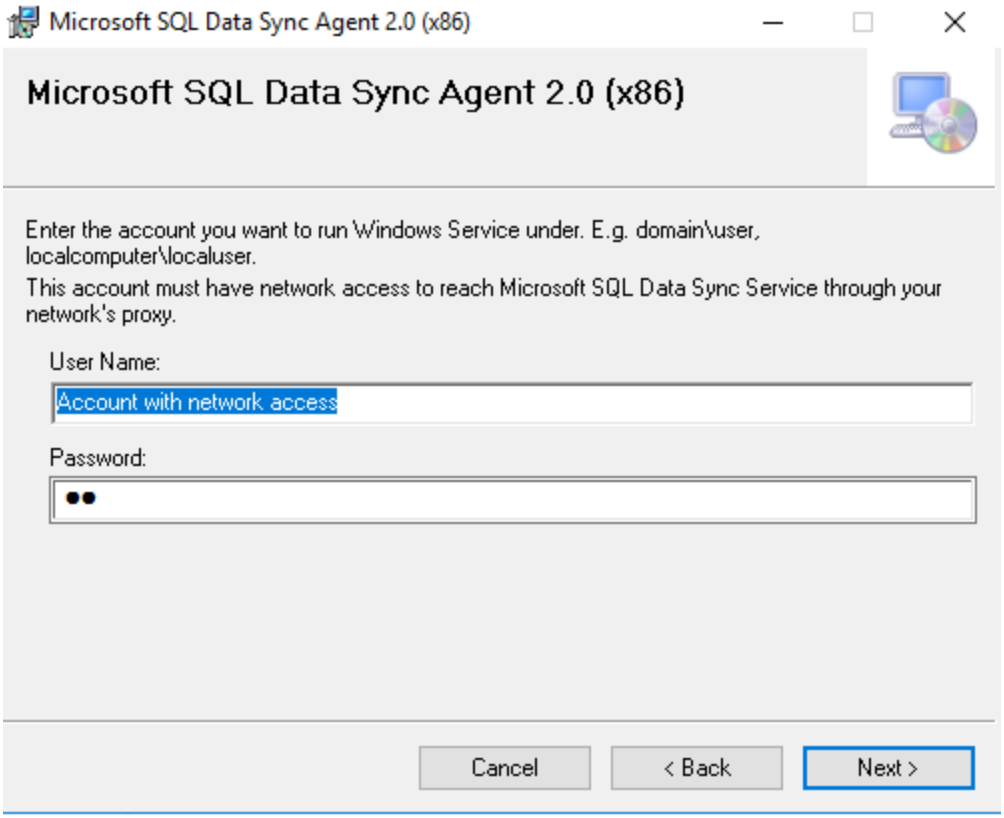
4.2 Download the tool

1. Download location: https://www.microsoft.com/en-us/download/details.aspx?id=27693
2. Install on your machine

4.3 Installation Steps

Data Sync Client will require to be installed as a service, and thus needs either a local or domain user that has capabilities to reach out to the Azure Data Service, and to the on-premises SQL Server instance(s):

- Local: {LOCALMACHINENAME}\{Username}
- Domain: {Domain}\{Username}

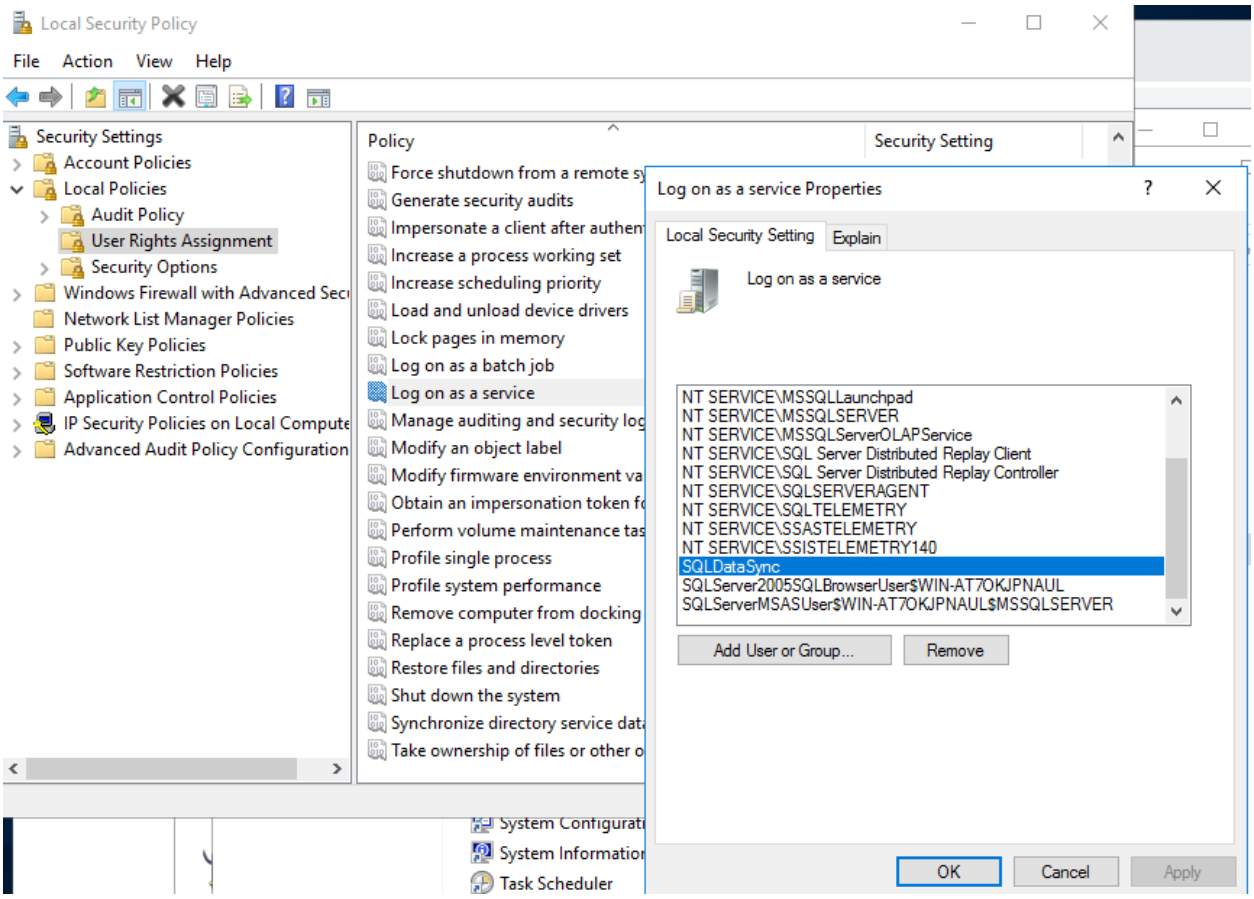


4.3.1 Scenario: Insufficient privileges to start system services

The user specified to install the Data Sync client requires privileges to start system services. In order to resolve this issue:

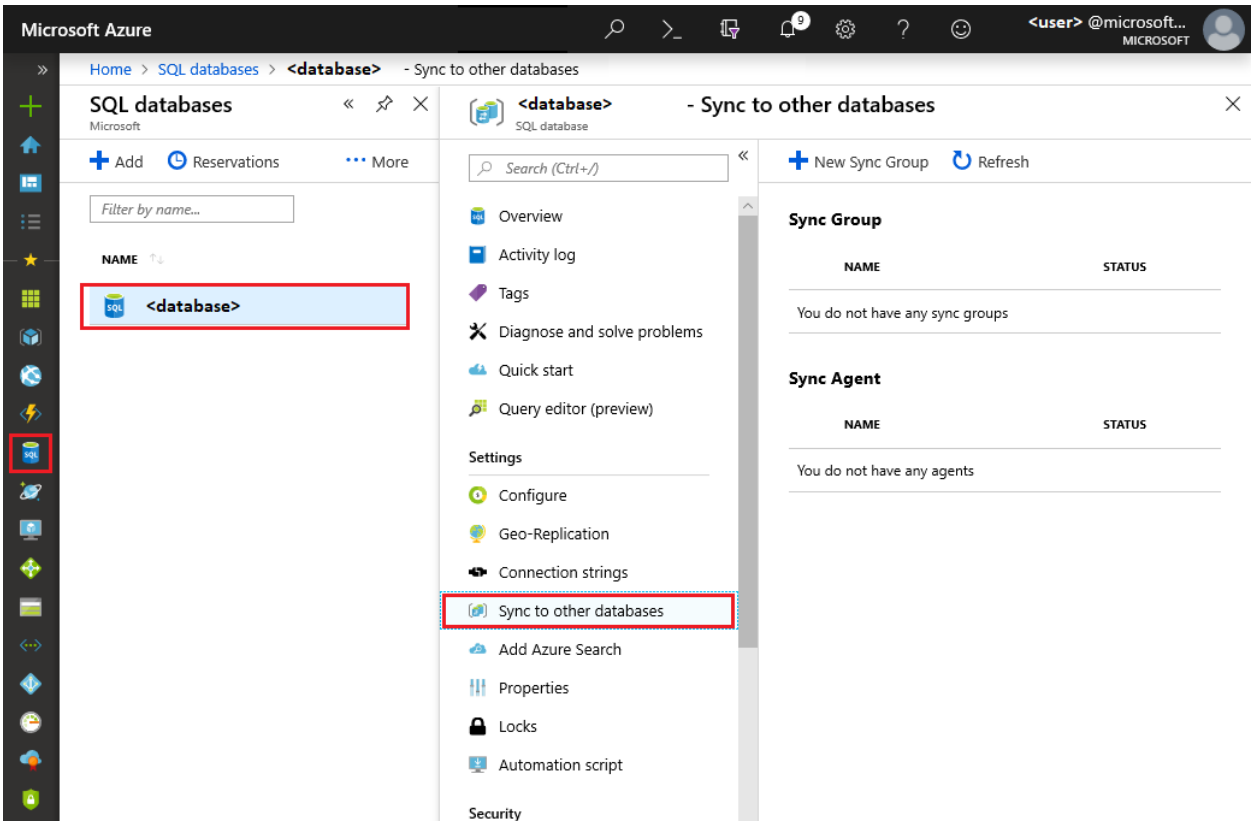
Grant log-on-as-a-service credentials to the user account:

1. Go to Start > Control Panel > Administrative Tools > Local Security Policy > Local Policies > User Rights Management.
2. Select Log on as a service.
3. In the Properties dialog box, add the user account.
4. Select Apply, and then select OK.
5. Close all windows.

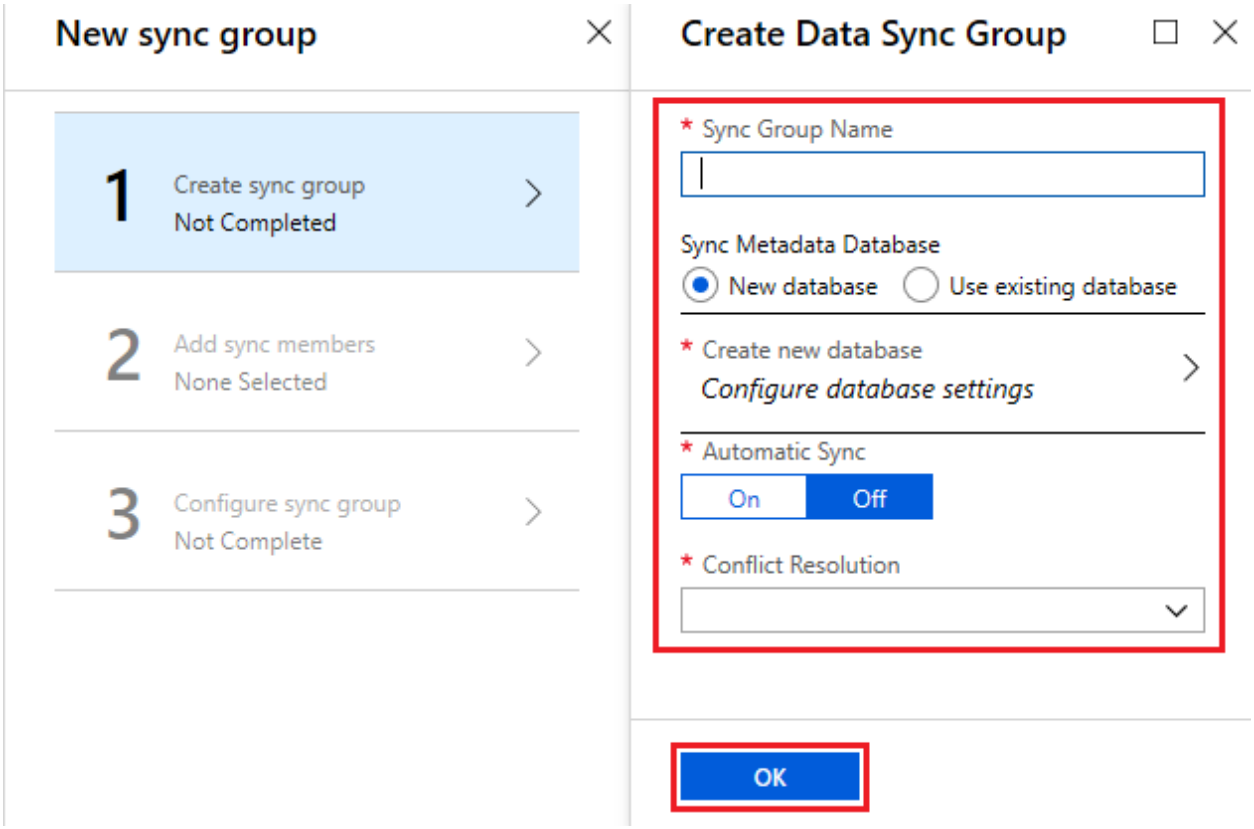


4.4 Create Sync Group

On the Azure portal. Locate your SQL database from the dashboard or, select the SQL databases icon on the toolbar and on the SQL databases page, select the database you want to use as the hub database for Data Sync.



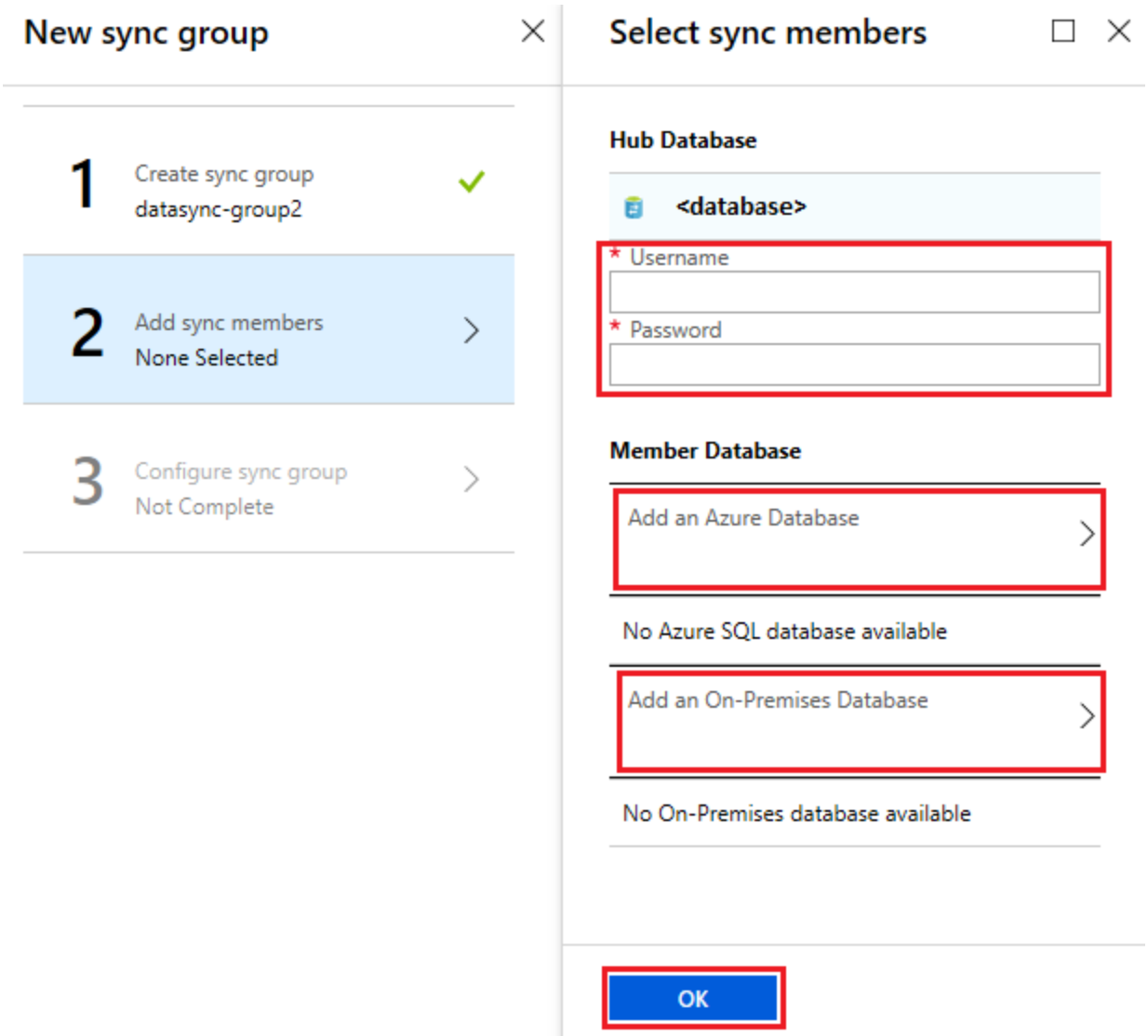
On the Sync to other databases page, select New Sync Group. Create it:



Fill in the information and choose the required options.

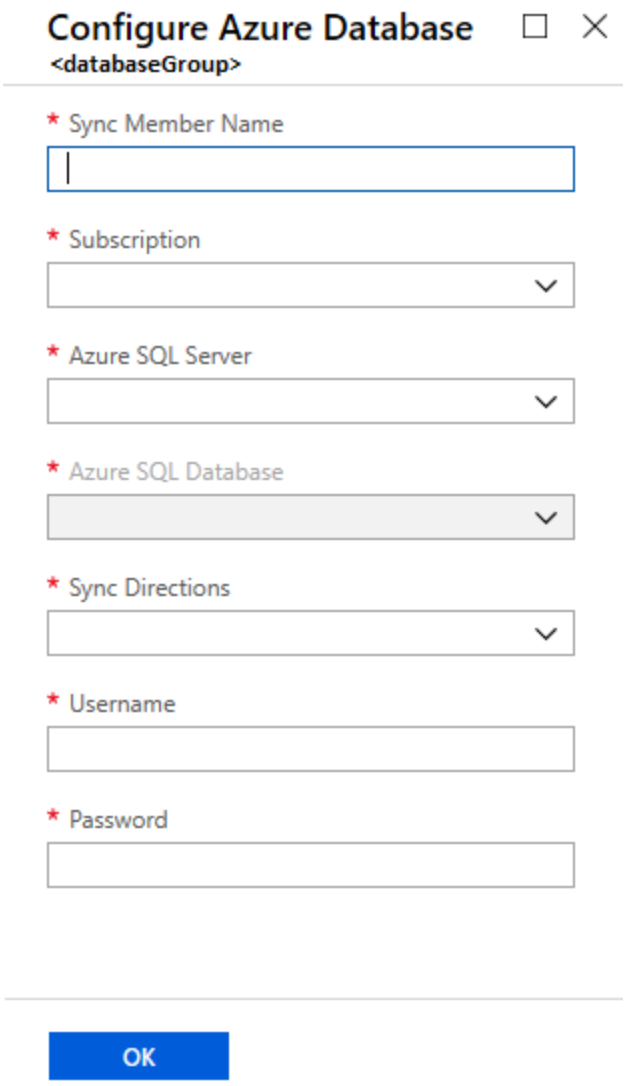
4.5 Add Sync Members

In this section, the hub database and the Azure SQL Database Member need to be specified:



4.6 Add the Azure SQL Database

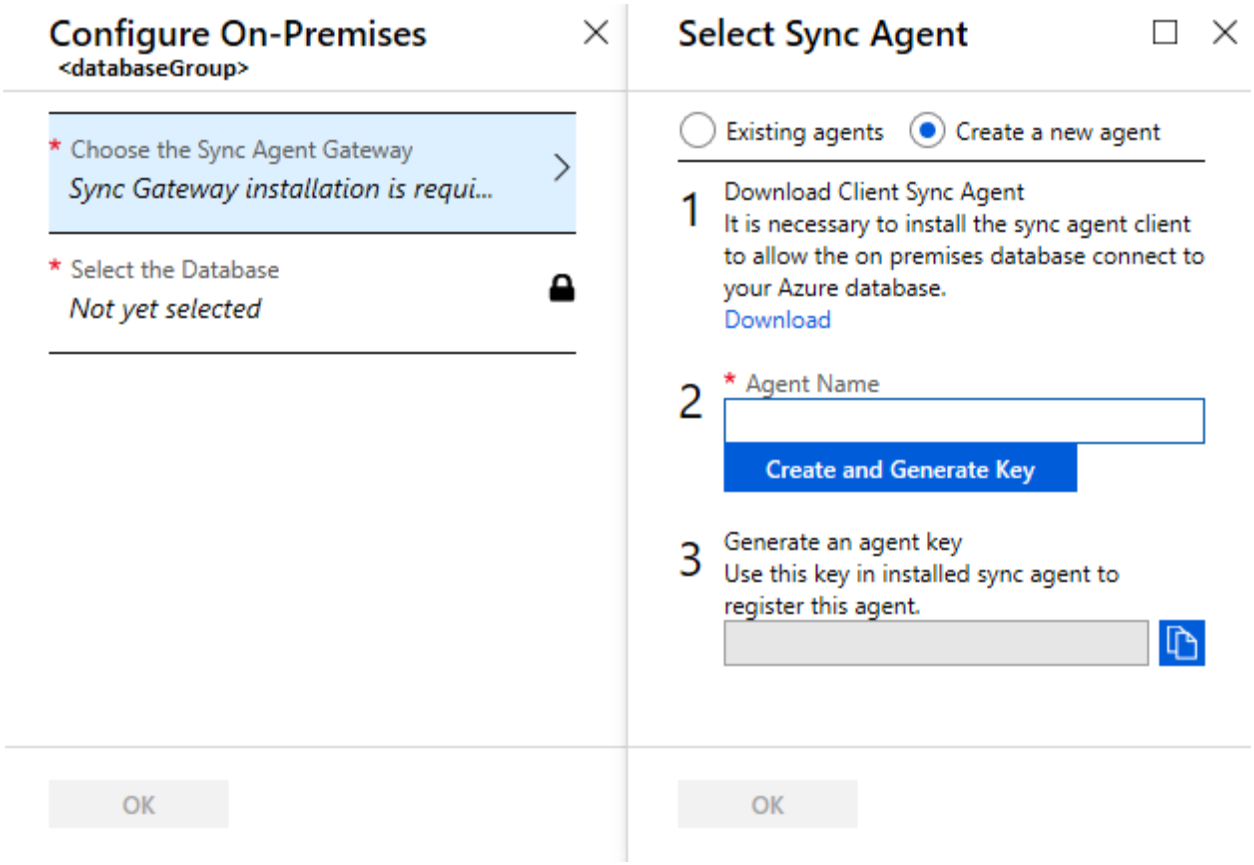
On next step, specify the Azure SQL Database information



Wait for the deployment to be finalized.

4.7 Configuration to add on-premises SQL Server

In the Member Database section, select Add an On-Premises Database.

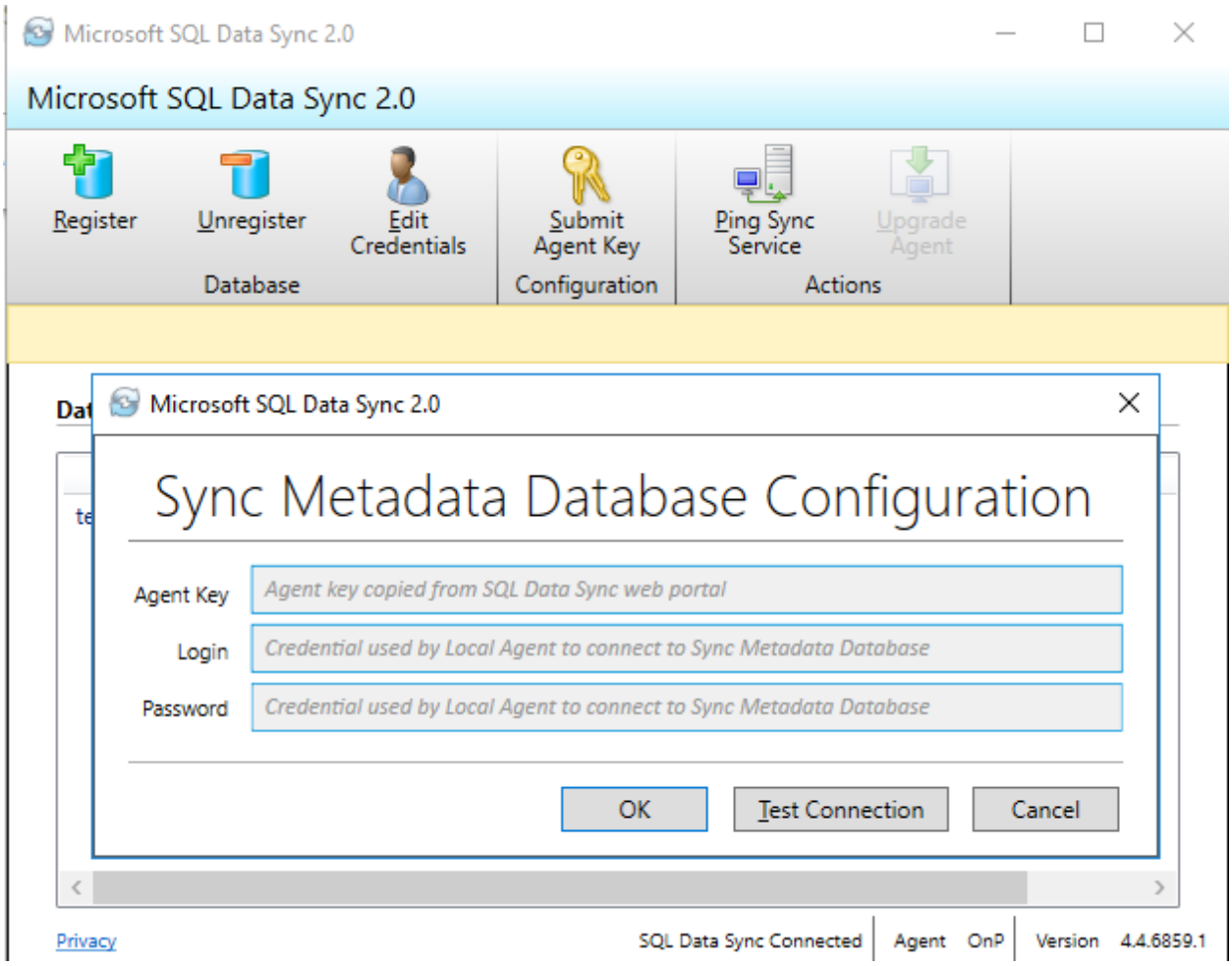


Generate a Key.

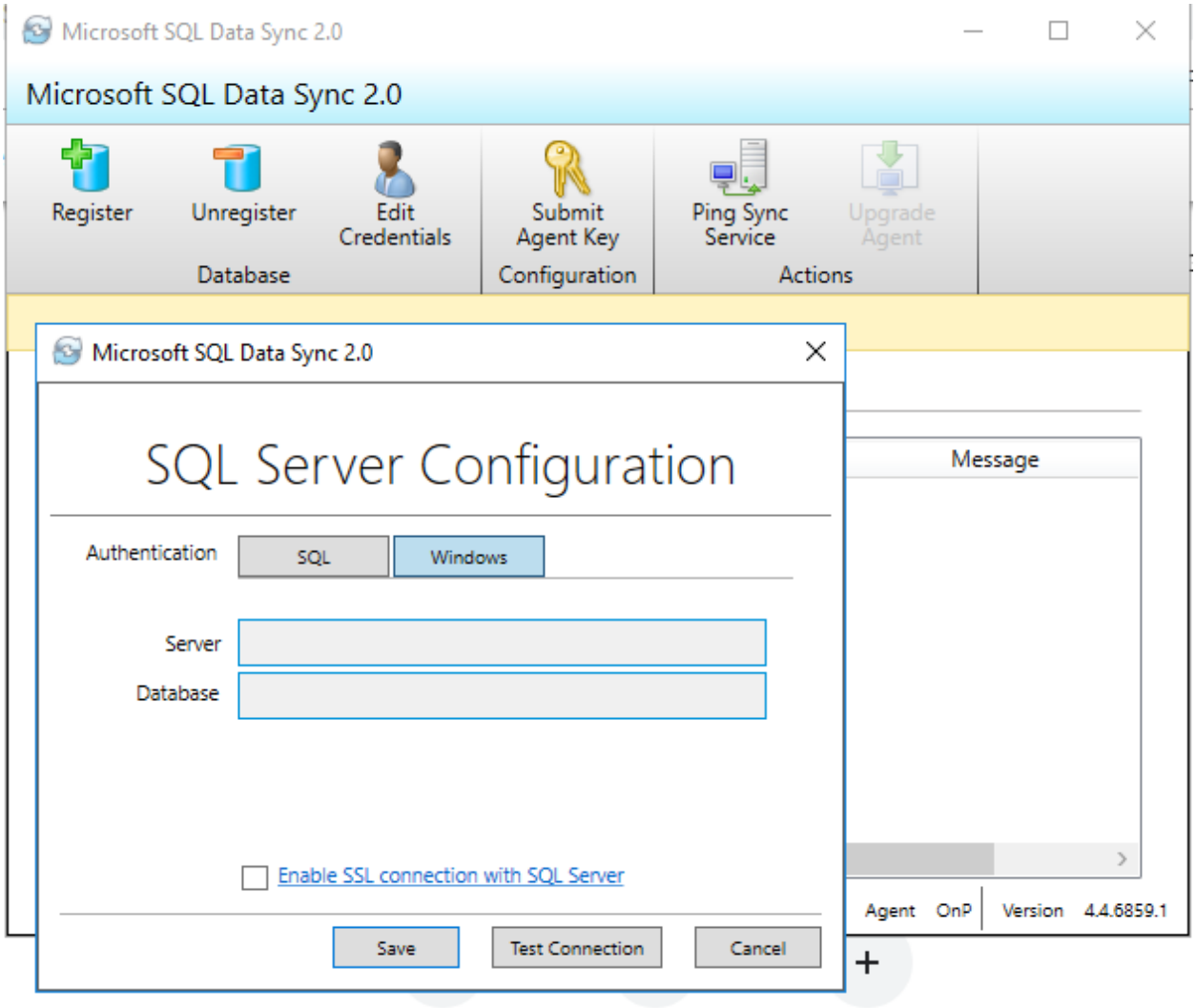
4.8 Configure Data Sync Client

Please note, all SQL Server on-premises should have port 1433 in the firewall, to let the client agent communicate with the server.

Open the Data Sync Client and Submit Agent Key Configuration

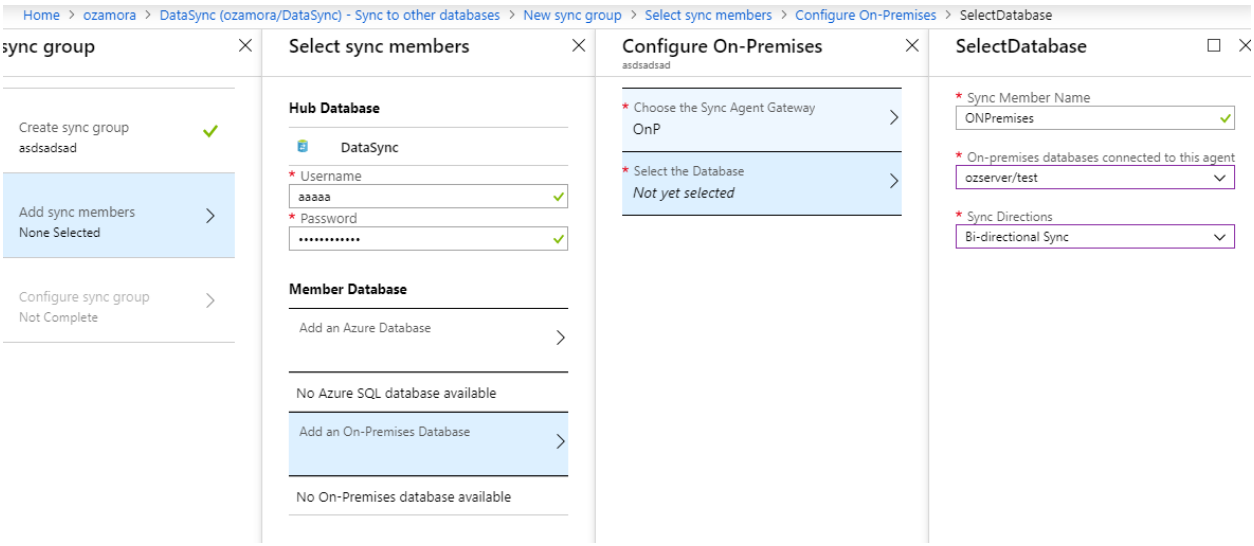


Add the SQL Server Information and Authentication



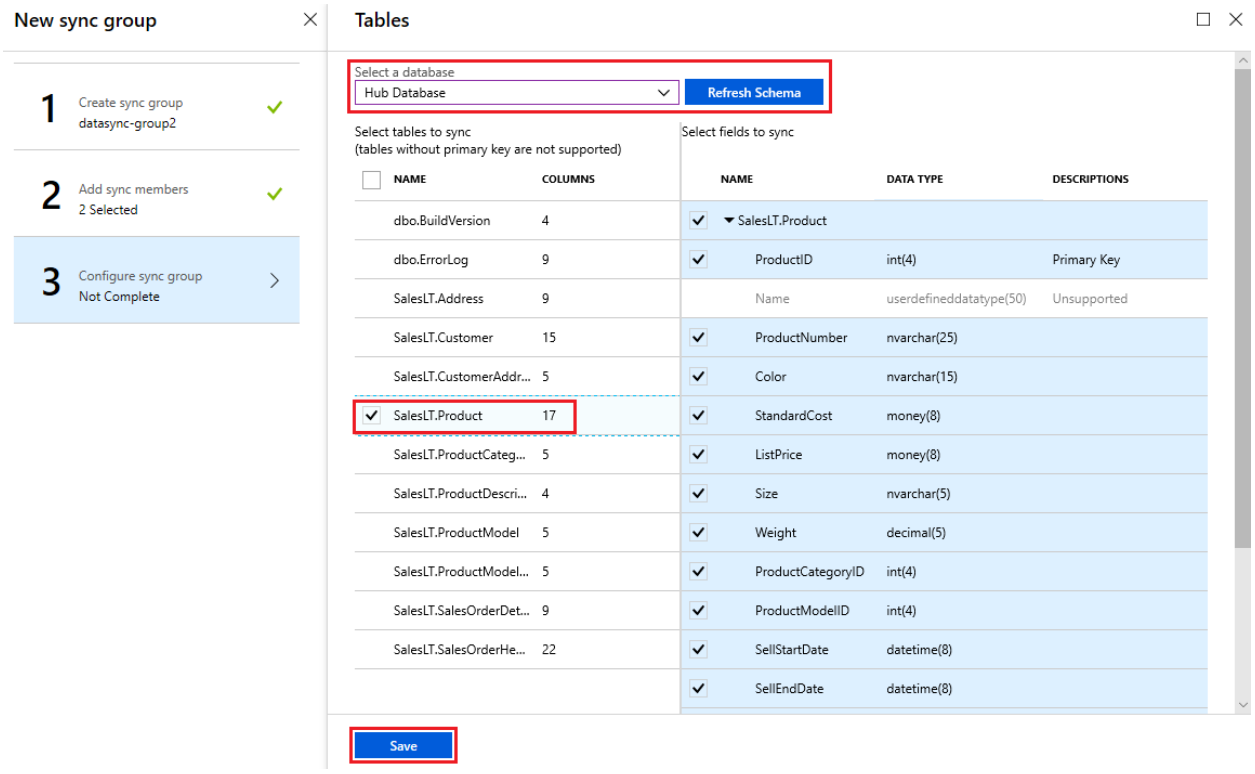
4.9 Portal Configuration of on-premises databases

In the Sync Member Name field, provide a name for the new sync member. This name is distinct from the name of the database itself. Select the database from the list. In the Sync Directions field, select Bi-directional Sync, To the Hub, or From the Hub.



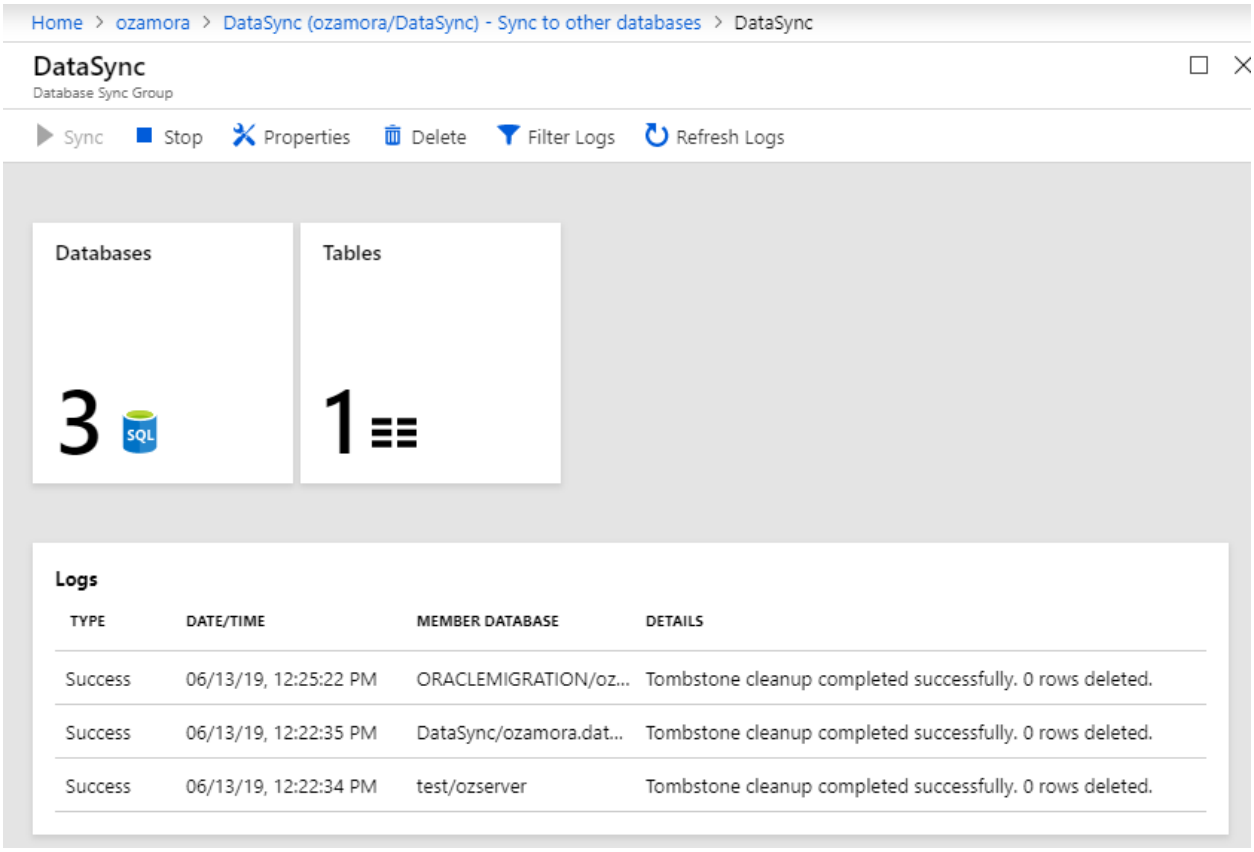
4.10 Configure Object(s) on Sync Group

After the new sync group members are created and deployed, Configure sync group.



Select Tables and desired columns to be synchronized.

By default, databases are not synced until scheduled or manually run. To run a manual sync, navigate to your SQL database in the Azure portal, select Sync to other databases, and select the sync group. The Data Sync page opens. Select Sync.



5 Feedback and Suggestions

If you have feedback or suggestions for improving this data migration asset, please contact the Data Migration Jumpstart Team (askdmjfordmtools@microsoft.com). Thanks for your support!

Note: For additional information about migrating various source databases to Azure, see the Azure Database Migration Guide.

6 Additional Resources

- **Data Sync Agent**: https://docs.microsoft.com/en-us/azure/sql-database/sql-database-data-sync-agent
- **Tutorial On-Premises to Azure SQL DB**: https://docs.microsoft.com/en-us/azure/sql-database/sql-database-get-started-sql-data-sync