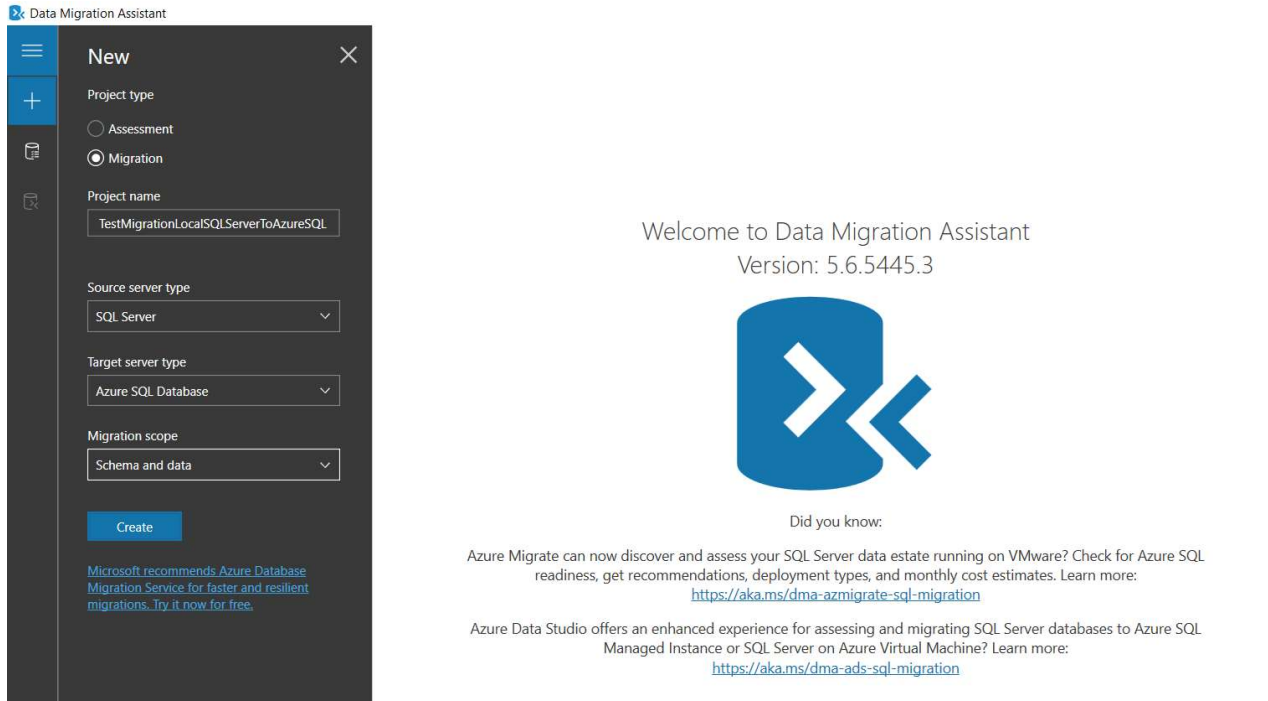


## 1. Create a migration project from Local SQL Server to Azure SQL Database



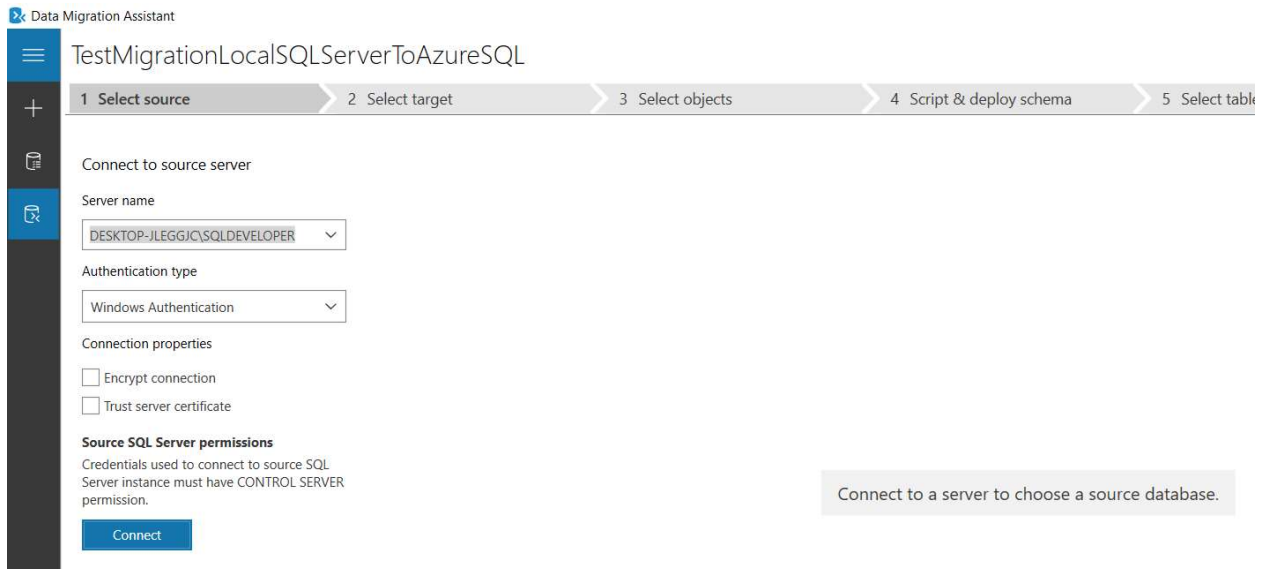
The screenshot shows the Data Migration Assistant interface. On the left is a sidebar with icons for home, add, and recent projects. The main window is titled 'New' and contains the following fields:

- Project type:** Radio buttons for 'Assessment' and 'Migration' (selected).
- Project name:** Text box containing 'TestMigrationLocalSQLServerToAzureSQL'.
- Source server type:** Dropdown menu set to 'SQL Server'.
- Target server type:** Dropdown menu set to 'Azure SQL Database'.
- Migration scope:** Dropdown menu set to 'Schema and data'.
- Create** button.

Below the 'Create' button, a message states: 'Microsoft recommends Azure Database Migration Service for faster and resilient migrations. Try it now for free.' with a link.

The right side of the window shows the 'Welcome to Data Migration Assistant' screen, version 5.6.5445.3, with the Azure Migrate logo. It includes the text: 'Did you know: Azure Migrate can now discover and assess your SQL Server data estate running on VMware? Check for Azure SQL readiness, get recommendations, deployment types, and monthly cost estimates. Learn more: <https://aka.ms/dma-azmigrate-sql-migration>' and 'Azure Data Studio offers an enhanced experience for assessing and migrating SQL Server databases to Azure SQL Managed Instance or SQL Server on Azure Virtual Machine? Learn more: <https://aka.ms/dma-ads-sql-migration>'.

## 2. Click Create button. Then specify Source Server and connect.



The screenshot shows the 'Connect to source server' step in the Data Migration Assistant. The top navigation bar shows five steps: '1 Select source' (active), '2 Select target', '3 Select objects', '4 Script & deploy schema', and '5 Select table'. The main window is titled 'TestMigrationLocalSQLServerToAzureSQL' and contains the following fields:

- Server name:** Text box containing 'DESKTOP-JLEGGJC\SQLDEVELOPER'.
- Authentication type:** Dropdown menu set to 'Windows Authentication'.
- Connection properties:** Checkboxes for 'Encrypt connection' and 'Trust server certificate' (both unchecked).
- Source SQL Server permissions:** Text box containing 'Credentials used to connect to source SQL. Server instance must have CONTROL SERVER permission.'
- Connect** button.

A message box at the bottom right states: 'Connect to a server to choose a source database.'

## 3. Choose database to migrate. For now, I choose AdventureWorks2019

Data Migration Assistant

TestMigrationLocalSQLServerToAzureSQL

1 Select source 2 Select target 3 Select objects 4 Script & deploy schema 5 Select tables 6 Migrate data

Connect to source server

Select a single database from your source server to migrate to Azure SQL Database. If you skip assessing the databases before migration, DMA will not be able to detect the specific schema objects that may fail to deploy on the target Azure SQL Database. Skip this option if you have already done the assessment and addressed the objects with breaking changes prior to the migration.

Server name: DESKTOP-JLEGG/C/SQLEVELOPER

Authentication type: Windows Authentication

Connection properties

☐ Encrypt connection

☐ Trust server certificate

Source SQL Server permissions

Credentials used to connect to source SQL Server instance must have CONTROL SERVER permission.

Connect

Name	Compatibility Level	Assess database before migration?
<input checked="" type="radio"/> AdventureWorks2019	140	<input checked="" type="checkbox"/>
<input type="radio"/> SSISDB	150	<input checked="" type="checkbox"/>

Next

4. Click Next button. Then supply and connect to Target Azure SQL Server. Check the server name in SQL Server Overview in Azure.

SQL Server Overview:

Microsoft Azure

Search resources, services, and docs (G+)

Home > Microsoft.SqlDatabase.newDatabaseNewServer\_2dde3b0e1b874082977b3 >

Logistics (logisticsserver072022/Logistics)

SQL database

Search (Ctrl+/)

Copy Restore Export Set server firewall Delete Connect with... Feedback

This database was just created. Do you need any help [getting started?](#)

Essentials

Resource group (move) : [learn-126ee803-7272-489b-aadd-931931b1b727](#)

Status : Online

Location : East US

Subscription (move) : [Concierge Subscription](#)

Subscription ID : 1f1aa1cf-6365-422a-8504-a1acd99bc529

Tans (edit) : [Click here to add tans](#)

Server name : [logisticsserver072022.database.windows.net](#)

Elastic pool : [No elastic pool](#)

Connection strings : [Show database connection strings](#)

Pricing tier : [Basic](#)

Earliest restore point : No restore point available

Data Migration Assistant Target Database Details:

Data Migration Assistant

## TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target 3 Select objects 4 Script & deploy schema 5 Select tables

Connect to target server

☐ Create a new Azure SQL Database...

Server name

ticsserver072022.database.windows.net

Authentication type

SQL Server Authentication

SQL Authentication credentials

Username

sqladmin

Password

.....

Connection properties

☐ Encrypt connection

☐ Trust server certificate

**Target Azure SQL Database permissions**

The principal used to connect must have CONTROL DATABASE permission on the target database.

Connect

Connect to a server to choose a target database.

5. Then click Connect and then choose a target database

Data Migration Assistant

## TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target 3 Select objects 4 Script & deploy schema 5 Select tables 6 Migrate data

Connect to target server

☐ Create a new Azure SQL Database...

Server name

ticsserver072022.database.windows.net

Authentication type

SQL Server Authentication

SQL Authentication credentials

Username

sqladmin

Password

.....

Connection properties

☐ Encrypt connection

☐ Trust server certificate

**Target Azure SQL Database permissions**

The principal used to connect must have CONTROL DATABASE permission on the target database.

Connect

Select a single target database from your target Azure SQL Database server. If you intend to migrate Windows users, make sure the target external user domain name is set correctly.

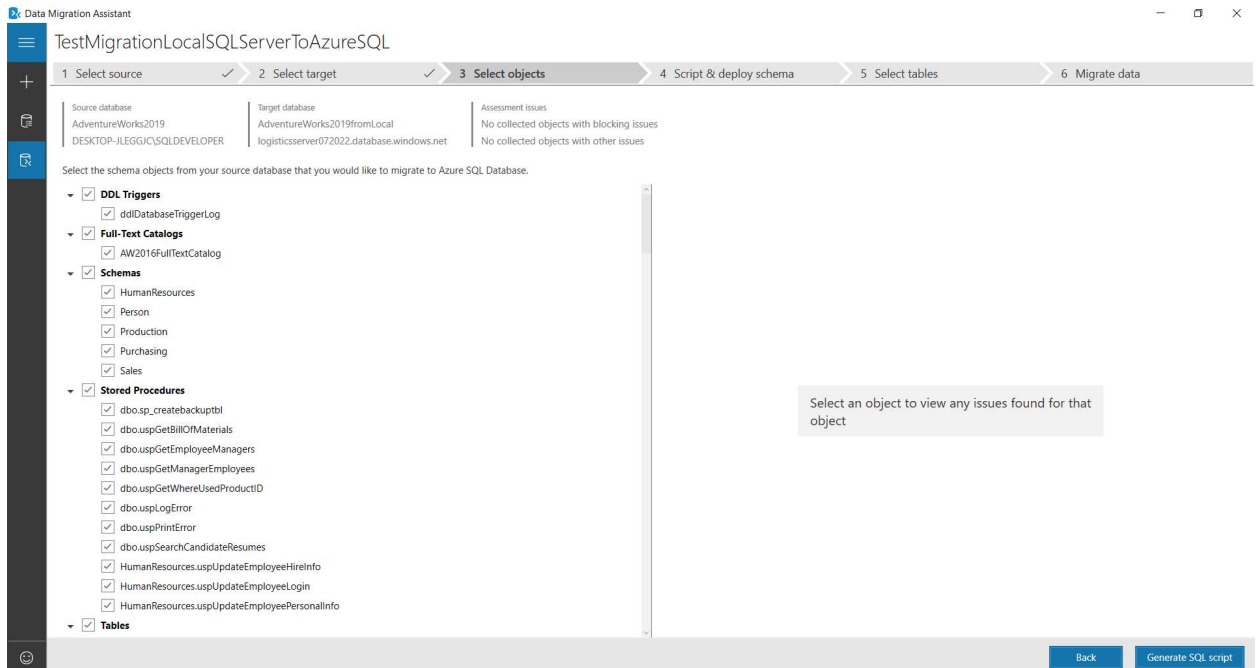
Target external user domain name

e.g. microsoft.com or contoso.com

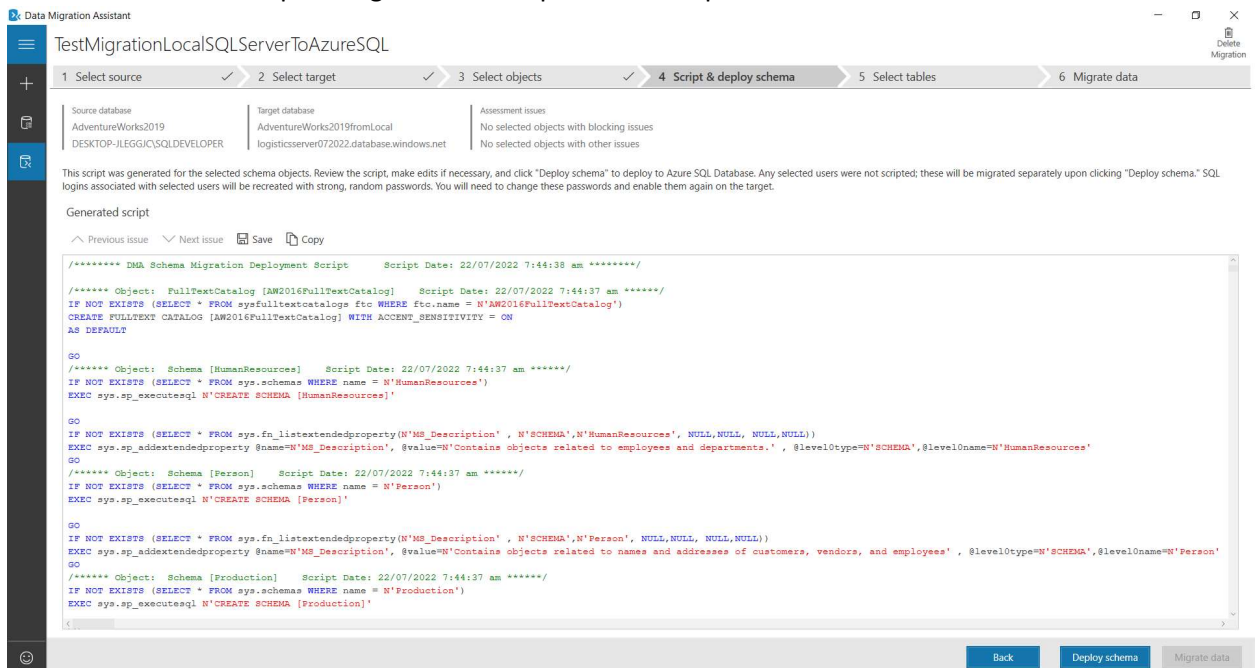
Name	Compatibility Level
AdventureWorks2019fromLocal	150
Logistics	150

Back Next

6. Click Next button, then select objects you want to include in the migration. For now, I leave this as default to select all objects to migrate.



- Click Generate SQL script. The generated script will show up.

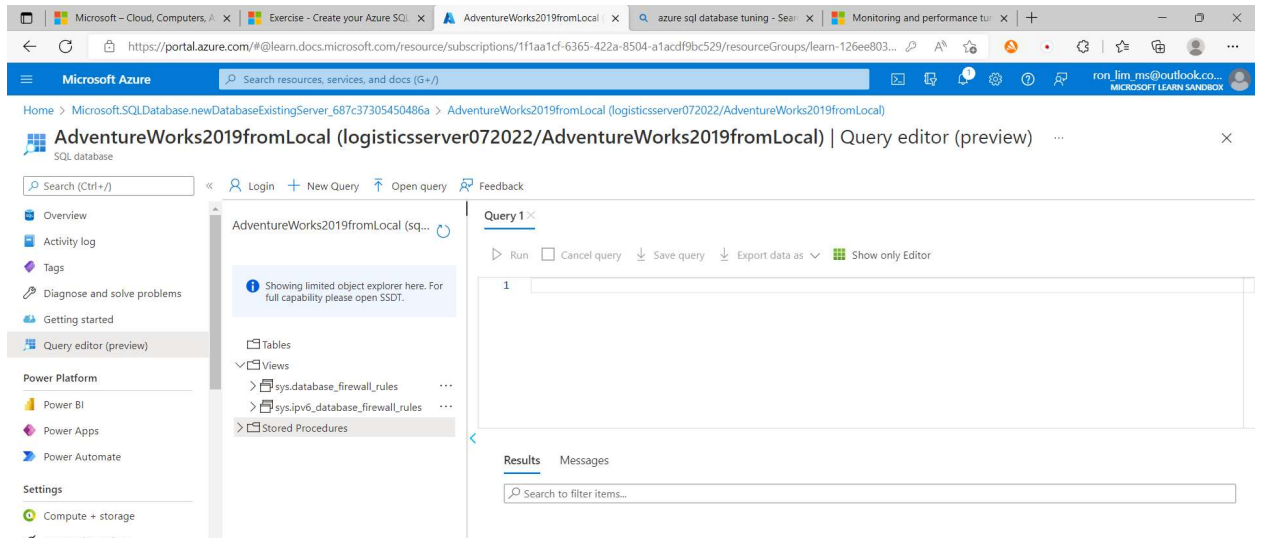


Generated Script Sample:



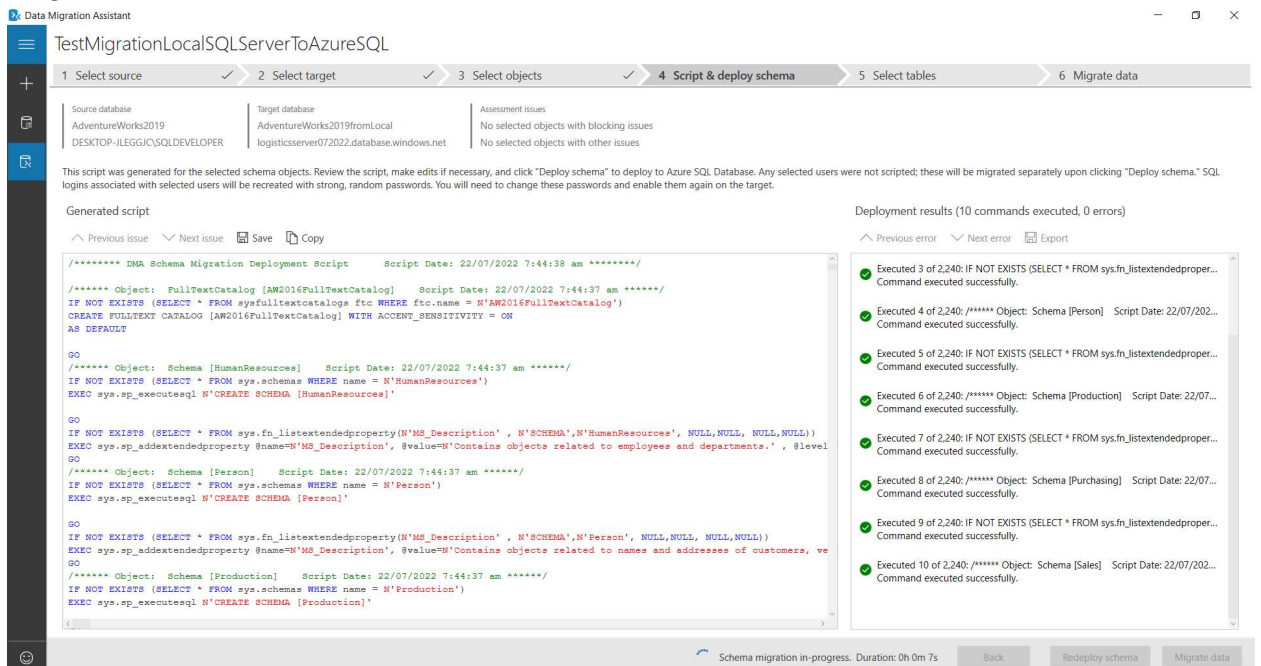
Generated Script AdventureWorks2019Local

- Check first the content of target database to compare changes later in Azure Query Editor. As you can see, there are no tables migrated yet.



## 9. Going back to Data Migration Assistant, click Deploy Schema.

### Progress:



### Result: Schema Migration Completed

Data Migration Assistant

TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target ✓ 3 Select objects ✓ 4 Script & deploy schema 5 Select tables 6 Migrate data

Source database: AdventureWorks2019, DESKTOP-JLEGG\SQLDEVELOPER  
Target database: AdventureWorks2019fromLocal, logistcsserver072022.database.windows.net  
Assessment issues: No selected objects with blocking issues, No selected objects with other issues

This script was generated for the selected schema objects. Review the script, make edits if necessary, and click "Deploy schema" to deploy to Azure SQL Database. Any selected users were not scripted; these will be migrated separately upon clicking "Deploy schema." SQL logins associated with selected users will be recreated with strong, random passwords. You will need to change these passwords and enable them again on the target.

Generated script

```

/***** DMA Schema Migration Deployment Script      Script Date: 22/07/2022 7:44:38 am *****/
/***** Object: FullTextCatalog [AW2016FullTextCatalog]      Script Date: 22/07/2022 7:44:37 am *****/
IF NOT EXISTS (SELECT * FROM sys.fulltextcatalogs ftc WHERE ftc.name = N'AW2016FullTextCatalog')
CREATE FULLTEXT CATALOG [AW2016FullTextCatalog] WITH ACCENT_SENSITIVITY = ON
AS DEFAULT
GO
/***** Object: Schema [HumanResources]      Script Date: 22/07/2022 7:44:37 am *****/
IF NOT EXISTS (SELECT * FROM sys.schemas WHERE name = N'HumanResources')
EXEC sys.sp_executesql N'CREATE SCHEMA [HumanResources]'
GO
IF NOT EXISTS (SELECT * FROM sys.fn_listextendedproperty (N'MS_Description', N'SCHEMA', N'HumanResources', NULL, NULL, NULL, NULL))
EXEC sys.sp_addextendedproperty @name=N'MS_Description', @value=N'Contains objects related to employees and departments.', @level=0
GO
/***** Object: Schema [Person]      Script Date: 22/07/2022 7:44:37 am *****/
IF NOT EXISTS (SELECT * FROM sys.schemas WHERE name = N'Person')
EXEC sys.sp_executesql N'CREATE SCHEMA [Person]'
GO
IF NOT EXISTS (SELECT * FROM sys.fn_listextendedproperty (N'MS_Description', N'SCHEMA', N'Person', NULL, NULL, NULL, NULL))
EXEC sys.sp_addextendedproperty @name=N'MS_Description', @value=N'Contains objects related to names and addresses of customers, vendors, and suppliers.', @level=0
GO
/***** Object: Schema [Production]      Script Date: 22/07/2022 7:44:37 am *****/
IF NOT EXISTS (SELECT * FROM sys.schemas WHERE name = N'Production')
EXEC sys.sp_executesql N'CREATE SCHEMA [Production]'

```

Deployment results (2,240 commands executed, 0 errors)

- Executed 2,233 of 2,240: ALTER AUTHORIZATION ON SCHEMA:[Purchasing]... Command executed successfully.
- Executed 2,234 of 2,240: ALTER AUTHORIZATION ON SCHEMA:[Sales] TO... Command executed successfully.
- Executed 2,235 of 2,240: /\*\*\*\*\* Indexes For Views Script Date: 22/07/2022 7... Command executed successfully.
- Executed 2,236 of 2,240: IF NOT EXISTS (SELECT \* FROM sys.indexes WHERE o... Command executed successfully.
- Executed 2,237 of 2,240: IF NOT EXISTS (SELECT \* FROM sys.fn\_listextendedpr... Command executed successfully.
- Executed 2,238 of 2,240: SET ARITHABORT ON SET CONCAT\_NULL\_YIELDS\_NULL... Command executed successfully.
- Executed 2,239 of 2,240: IF NOT EXISTS (SELECT \* FROM sys.indexes WHERE o... Command executed successfully.
- Executed 2,240 of 2,240: IF NOT EXISTS (SELECT \* FROM sys.fn\_listextendedpr... Command executed successfully.

Schema migration completed. Duration: 0h 9m 20s

Back Redeploy schema Migrate data

10. Click Migrate Data for data migration after schema migration. Choose the tables you want for data migration. For now, I leave this to default to choose all tables to migrate.

Data Migration Assistant

TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target ✓ 3 Select objects ✓ 4 Script & deploy schema ✓ 5 Select tables 6 Migrate data

Source database: AdventureWorks2019, DESKTOP-JLEGG\SQLDEVELOPER  
Target database: AdventureWorks2019fromLocal, logistcsserver072022.database.windows.net

Select the tables containing data you would like to migrate to Azure SQL Database. Microsoft strongly recommends that you temporarily change your Azure SQL Database to performance level P15 during the migration process for the optimal migration experience.  
[Learn more about performance tiers](#)

Selected tables (71/71)

Table name	Row count	Ready to move
[HumanResources].[Department]	16	OK
[HumanResources].[Employee]	290	OK
[HumanResources].[EmployeeDepartmentHistory]	296	OK
[HumanResources].[EmployeePayHistory]	316	OK
[HumanResources].[JobCandidate]	13	OK
[HumanResources].[Shift]	3	OK
[Person].[Address]	19,614	OK
[Person].[AddressType]	6	OK
[Person].[BusinessEntity]	20,777	OK
[Person].[BusinessEntityAddress]	19,614	OK
[Person].[BusinessEntityContact]	909	OK
[Person].[ContactType]	20	OK

Back Start data migration

11. Click Start data migration.  
Progress:



Data Migration Assistant

TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target ✓ 3 Select objects ✓ 4 Script & deploy schema ✓ 5 Select tables ✓ 6 Migrate data

71 Server objects 59 In-progress 12 Successful 0 Warnings 0 Failed

Source database: AdventureWorks2019, DESKTOP-JLEGGJC\SQLDEVELOPER  
Target database: AdventureWorks2019fromLocal, logisticsserver072022.database.windows.net

Tables (71)

Status	Table name	Migration details
✓	[HumanResources].[Department]	Migration successful. Duration: 0 hrs 0 mins 6 secs
✓	[HumanResources].[Employee]	Migration successful. Duration: 0 hrs 0 mins 8 secs
✓	[HumanResources].[EmployeeDepartmentHistory]	Migration successful. Duration: 0 hrs 0 mins 7 secs
✓	[HumanResources].[EmployeePayHistory]	Migration successful. Duration: 0 hrs 0 mins 5 secs
✓	[HumanResources].[JobCandidate]	Migration successful. Duration: 0 hrs 0 mins 5 secs
✓	[HumanResources].[Shift]	Migration successful. Duration: 0 hrs 0 mins 6 secs
...	[Person].[Address]	99.9%
✓	[Person].[AddressType]	Migration successful. Duration: 0 hrs 0 mins 6 secs
✓	[Person].[BusinessEntity]	Migration successful. Duration: 0 hrs 0 mins 12 secs
✓	[Person].[BusinessEntityAddress]	Migration successful. Duration: 0 hrs 0 mins 14 secs
✓	[Person].[BusinessEntityContact]	Migration successful. Duration: 0 hrs 0 mins 13 secs
✓	[Person].[ContactType]	Migration successful. Duration: 0 hrs 0 mins 8 secs
✓	[Person].[CountryRegion]	Migration successful. Duration: 0 hrs 0 mins 13 secs
...	[Person].[EmailAddress]	0.0%
...	[Person].[Person]	0.0%

Migration in-progress: 0h 1m 53s

## Result: Data Migration Completed

Data Migration Assistant

TestMigrationLocalSQLServerToAzureSQL

1 Select source ✓ 2 Select target ✓ 3 Select objects ✓ 4 Script & deploy schema ✓ 5 Select tables ✓ 6 Migrate data

71 Server objects 0 In-progress 71 Successful 0 Warnings 0 Failed

Source database: AdventureWorks2019, DESKTOP-JLEGGJC\SQLDEVELOPER  
Target database: AdventureWorks2019fromLocal, logisticsserver072022.database.windows.net

Tables (71)

Status	Table name	Migration details
✓	[HumanResources].[Department]	Migration successful. Duration: 0 hrs 0 mins 6 secs
✓	[HumanResources].[Employee]	Migration successful. Duration: 0 hrs 0 mins 8 secs
✓	[HumanResources].[EmployeeDepartmentHistory]	Migration successful. Duration: 0 hrs 0 mins 7 secs
✓	[HumanResources].[EmployeePayHistory]	Migration successful. Duration: 0 hrs 0 mins 5 secs
✓	[HumanResources].[JobCandidate]	Migration successful. Duration: 0 hrs 0 mins 5 secs
✓	[HumanResources].[Shift]	Migration successful. Duration: 0 hrs 0 mins 6 secs
✓	[Person].[Address]	Migration successful. Duration: 0 hrs 0 mins 17 secs
✓	[Person].[AddressType]	Migration successful. Duration: 0 hrs 0 mins 6 secs
✓	[Person].[BusinessEntity]	Migration successful. Duration: 0 hrs 0 mins 12 secs
✓	[Person].[BusinessEntityAddress]	Migration successful. Duration: 0 hrs 0 mins 14 secs
✓	[Person].[BusinessEntityContact]	Migration successful. Duration: 0 hrs 0 mins 13 secs
✓	[Person].[ContactType]	Migration successful. Duration: 0 hrs 0 mins 8 secs
✓	[Person].[CountryRegion]	Migration successful. Duration: 0 hrs 0 mins 13 secs
✓	[Person].[EmailAddress]	Migration successful. Duration: 0 hrs 0 mins 24 secs
✓	[Person].[Person]	Migration successful. Duration: 0 hrs 0 mins 17 secs

Migration complete. Duration: 0h 5m 54s

12. Check the tables and other objects if migrated successfully in the database via Query Editor.

Notice that tables were already migrated.

Before Migration:

Microsoft Azure portal interface showing the AdventureWorks2019fromLocal (logisticsserver072022/AdventureWorks2019fromLocal) SQL database. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Getting started, Query editor (preview), Power Platform, Settings) and a main area with a search bar, a list of objects (Tables, Views, Stored Procedures), and a query editor window.

The query editor window displays a query titled "Query 1" with a single line of SQL code: `SELECT * FROM sys.database_firewall_rules`. The query is executed, and the results are displayed in the "Results" tab, showing a single row of data.

## After Migration:

Microsoft Azure portal interface showing the AdventureWorks2019fromLocal (logisticsserver072022/AdventureWorks2019fromLocal) SQL database after migration. The interface includes a sidebar with navigation options (Overview, Activity log, Tags, Diagnose and solve problems, Getting started, Query editor (preview), Power Platform, Settings) and a main area with a search bar, a list of objects (Tables, Views, Stored Procedures), and a query editor window.

The query editor window displays a query titled "Query 1" with a single line of SQL code: `SELECT * FROM sys.database_firewall_rules`. The query is executed, and the results are displayed in the "Results" tab, showing a single row of data.