



# Access with SQL Server Academy

Part 1: Introduction



## About Me

- Microsoft Access MVP
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## Some basic definitions

- SQL: Structured Query Language – ANSI Standard
- TSQL: Microsoft's version of SQL
- SQL Server: Database system sold by Microsoft
- SQL Server Express: Free version of SQL Server
- SQL Server Developer Edition: Free for development
- SSMS: SQL Server Management Studio
- SSMA: SQL Server Migration Assistant for Access



## Why SQL Server?

- It's the best thing to happen to Access
- Zero data corruption
- Handles all the users – 100's if need be
- Works over VPN
- Security integration with Active Directory or SQL Server Security
- Best way to store sensitive data – SSN, Addresses, CC



## When not to use SQL Serve

- One to 3 user systems
- No internet or LAN – single install systems
- Not a lot of data



## First things first, fix your issues

- Before you upgrade to SQL Server, fix the issues with your existing Access database:
  - Slowness
  - Lack of primary and foreign keys
  - Broken logic
  - Bugs



## Which version of SQL Server?

- SQL Server Developer Edition:
  - If your client is using Enterprise edition
- SQL Server Express Edition:
  - If your client does not have a license for SQL Server
  - Limitations: Only one CPU, 1 Gig of RAM, 11 Gigs of Database
- SQL Azure Service:
  - Users outside the walls/no VPN available
  - No local server
  - Don't want the hassle of local server



## SQL Server Express – Clear Winner

- Can run on a PC
- Requires little maintenance
- Can still run circles around Access





## What must you become?

- You must master optimization of SQL Server with Access
- It's not enough to upgrade the tables to SQL Server
- You need to learn:
  - How to create views (queries are called views in SQL Server)
  - How to design tables for Access
  - Learn Query syntax in SQL Server
  - Learn how to use SSMS
  - Eventually learn: CTE and Stored Procedures



## Where to get installation files

- SQL Server Express - <https://www.microsoft.com/en-us/sql-server/sql-server-editions-express>
- SQL Server Developer Edition - <https://www.microsoft.com/en-us/sql-server/developer-get-started/>
- SQL Server Management Studio - <https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-2017>
- SQL Server Migration Assistant For Access: <https://blogs.msdn.microsoft.com/ssma/2017/02/21/released-sql-server-migration-assistant-ssma-v7-3/>
- If you're using Office365 – Install the Access Data Engine 2010 BEFORE installing SSMA <https://www.microsoft.com/en-US/download/details.aspx?id=13255>



## Designing tables for Access

- Must have a primary key
- You must add foreign keys yourself
- Yes/No fields are bit fields, default to zero, don't allow nulls
- Avoid reserve words
- Make sure there is a timestamp field in the table
  - Will not allow two users to edit the same record
- There is an easy way to do this...



## Let SSMA create your tables and data

- Will convert your tables and queries to SQL Server
- Queries with functions or variables will not be converted
- Automatically adds timestamp, zero default on bit fields, foreign keys, etc.
- DEMO NORTHWIND CONVERSION



## Views are awesome

- Let SQL Server do the heavy work
- A select query in Access will easily translate to SQL Server
- Access will treat the view as a read only table



## Next Month: Intermediate

- Creating views and indexes on views
- Creating views using Access
- Using SQL Server query designer
- Why Order By can't be used in a view
- Linking a view and making it read only
- Other great stuff...spread the word!!!!



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