



Visual Studio **LIVE!**
EXPERT SOLUTIONS FOR .NET DEVELOPERS



ROCK YOUR CODE
TOUR 2017



CHICAGO

September 20, 2017
8:00am – 9:15am

Level:
Intermediate

Database Development with SQL Server Data Tools

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About Me

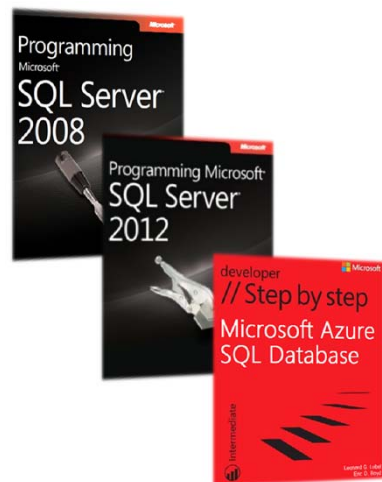


Leonard Lobel

- CTO & Co-Founder
 - Sleek Technologies, Inc.
- Principal Consultant
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- Microsoft MVP
 - Data Platform
- Trainer/Speaker/Author
- Programming since 1979

Contact

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Download Slides and Code

[http://bit.ly/
vslchicago2017_ssdt](http://bit.ly/vslchicago2017_ssdt)

(all lower case!)



What is SSDT?

- Database tooling in Visual Studio
 - Major step forward from previously available tooling
 - SQL Server Management Studio (SSMS)
 - Visual Studio Database Professional Edition (DbPro)
 - Aka “Data Dude”
- Not an SSMS Replacement
 - SSMS remains the primary management tool
- Replaces DbPro
 - ...but not entirely



Database Development Pains

- Architecturally challenging
 - Database, schema, relational design
 - T-SQL intricacies
 - Performance tuning
 - ...and more
- Development process
 - Lots of dependencies to manage
 - Late-bound error detection
 - Production is a moving target
 - Versioning and source control
 - Target different editions and the cloud

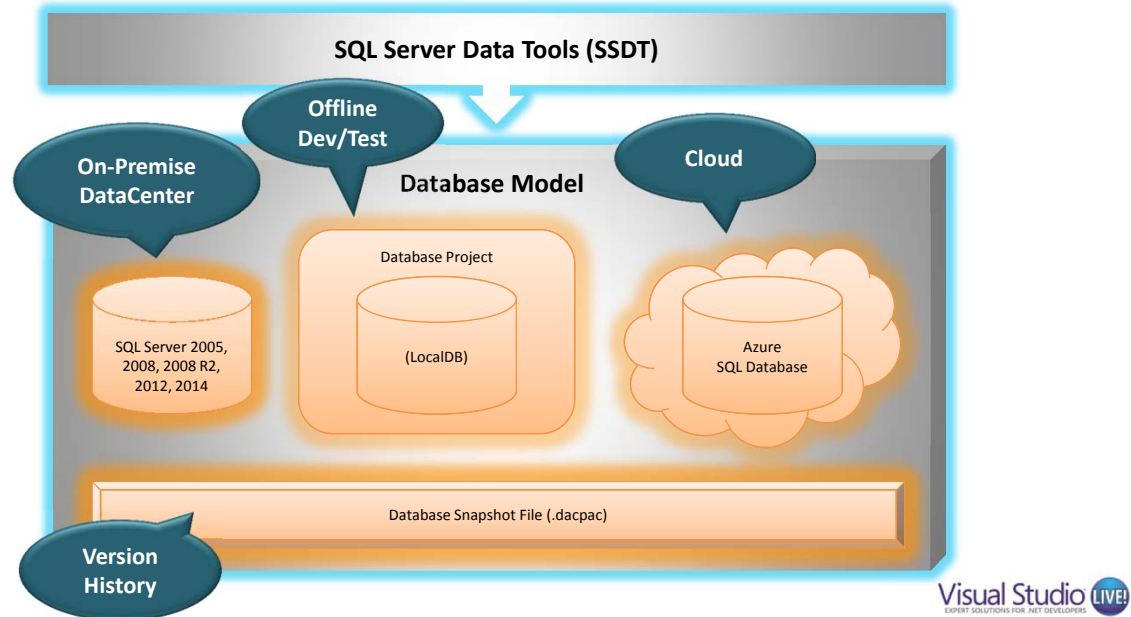


Declarative vs. Scripted

- How do you deploy a table, view, stored procedure, etc?
 - If it's new, then it's a CREATE statement
 - If it exists, then it's an ALTER statement
- Working with a declaration of what you believe (or want) the database to be
 - Focus on design
 - Let the tool worry about writing scripts "just right"
- Model-based Design
 - In-memory representation of database structure (not a database!)
 - Populate from local/cloud database or source control
- Same tools whether connected or offline
 - Works the same against a connected database or any source-controlled version of a database



Declarative Model-Based Development



Connected Development

- **SQL Server Object Explorer**
 - New panel inside Visual Studio
 - Implements most developer-oriented features from SSMS
- **Query Window**
 - Provides a query execution window similar to SSMS
- **Power Buffer**
 - Edit multiple objects
 - Real-time validation on memory-resident edits
 - Automatically generate and execute change script

Offline Database Projects

- The database as a set of artifacts
 - Offline development with Visual Studio project system
 - Put in source control alongside the application
- Test locally “offline” with (localdb)
 - SSDT includes a lightweight, single user instance of SQL Server for offline development and testing
- Create snapshots
 - Save the database structure in a .dacpac file
- Flexible deployment
 - One database definition with a targeting switch
 - Target different editions of SQL Server or Windows Azure SQL Database



Schema Differencing

- Compare any two database models
 - Real databases
 - Database projects
 - Database snapshots
- Use for
 - Incremental import and deployment
 - Publish to Windows Azure SQL Database
 - Drift detection and reconciliation



SSDT Limitations

- No data generation
- Other notable omissions
 - No graphical query designer
 - No database diagrams
 - No spatial results viewer



SQL Server Data Tools
demo



Questions?



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Thank You!

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