Microsoft SQL Azure

Meet the expert: Scott Klein, a Microsoft SQL Azure MVP, has been working with SQL Server for nearly 20 years, working with companies large and small all over the United States. Scott is also a veteran author having written a number of books including Professional SQL Server XML, Professional LINQ, Pro ADO.NET Entity Framework 4.0, and the recently released Pro SQL Azure. Scott is President of the South Florida SQL Server Users Group and the newly formed SQL Azure PASS Virtual Chapter. He speaks frequently at SQL Saturday events and user groups, including several in Europe.

Prerequisites: A good understanding of SQL Server 2005 or higher and SQL Server Management Studio.

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Course description: Your company is thinking about placing its SQL Database in the cloud and you need to figure out how to do it. This course will give you the fundamentals of SQL Azure, part of Microsofts Azure Platform. In this course you will see what SQL Azure is, how it works and how to administer it. You will learn about designing a database and how to apply sharding and federations. You will then learn how to secure the database in the cloud. Then how to migrate any existing databases, about reporting, datasync and application connectivity. Then wrap up with an OData overview with mobile application, backing up and restoring and Azure Storage Interoperability.

Course outline:

SQL Azure Overview
- Introduction
- Introducing Azure Platform
- Where"s my stuff?
- History of SQL Server
- Server is not a Machine
- How it Works
- Key Benefits
- Quick Comparison
- What about the DBA?
- Size Matters
- Pricing
- Considerations
- Demo: Azure Overview
- Demo: Creating a Server
- Demo: Creating a Database
- Summary

Administering SQL Azure
- Introduction
- Administering SQL Azure
- Azure Management Portal
- SQL Server Management Studio
- Silverlight SQL Manager
- SQL Azure Management API
- Monitoring SQL Azure
- Throttling and Load Balancing
- Demo: Management Portal Overview
- Demo: Managing a Database
- Demo: Management Studio
- Demo: Azure vs. On Premise
- Summary

Administering SQL Azure Demo
- Introduction
- Demo: Creating a Certificate
- Demo: Exporting Certificate
- Demo: Creating Application
- Demo: Firewall Rule
- Demo: Calling Code
- Demo: More Firewall Rules
- Demo: Deleting Firewall Rule
- Summary

Design and Development
- Introduction
- Design and Development
- Offsite Storage
- High Availability
- Performance
- Direct vs Service Connections
- Pricing
- Security
- Design Patterns
- Branching
- Other Design Concepts
- Development
- Unsupported T-SQL
- SMO
- Applications
- Summary

Design and Development Demo
- Introduction
- Intro to Demo
- Demo: Retry Logic
- Demo: Get Sequel Context Info
- Demo: Transient Framework
- Summary

SQL Azure Security
- Introduction
- Security Overview
- Confidentiality
- Integrity
- Availability
- SQL Azure Security
- Encryption
- Authentication, Authorization
- Comparison
- Firewall
- What is Missing?
- Best Practices
- Demo: Management Studio
- Demo: Management Portal
- Summary

SQL Azure Migration
- Introduction
- Migrating Database to SQL Azure
- Generate Scripts Wizard
- SQL Azure Migration Assistants
- SQL Azure Migration Wizard
- Data-tier Application Component
- SQL Server Integration Services
- Bulk Copy
- Sync Framework
- SQL Azure Data Sync Services
- Things to Consider
- Demo: Generate Scripts Wizard
- Summary

SQL Azure Migration Demo
- Introduction
- SSIS Demo
- SSMA for MS Access
- Summary

SQL Azure Reporting
- Introduction
- SQL Azure Reporting
- Functionality
- Services Provided
- Feature Summary
- Security
- Architecture
- Best Practices
- Summary

SQL Azure Reporting Demo
- Introduction
- Intro to Demo
- Demo: Creating a Report
- Demo: Publishing the Report
- Demo: Access from Applications
- Demo: Debugging

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- Summary

SQL Azure Data Sync
- Introduction
- SQL Azure Data Sync Service
- Key Features
- On-Premises to Cloud Symmetry
- Extending Data
- Prerequisites
- Terms
- Sync Scenarios
- What are the Steps?
- Monitoring Syncronizations
- Best Practices
- Summary

SQL Azure Data Sync Demo
- Introduction
- Demo: Creating a Database
- Demo: Setting up Synchronization
- Demo: Synchronization
- Summary

SQL Azure Federation
- Introduction
- Scalability
- Approaches
- Scalability Curves
- Scaling can be Challenging
- Sharding
- Sharding Pattern
- Introduction to Federations
- Federation Architecture
- How does this work?
- Handling Growth
- Summary

SQL Azure Federation Demo
- Introduction
- Demo: Federation Root Database
- Demo: System Tables
- Demo: Insert Data in Table
- Demo: Splitting Federation
- Demo: Sharding Sample
- Demo: Running and Debugging App
- Demo: Execute with Thread Pool
- Summary

Azure Application Connectivity
- Introduction
- Connecting to SQL Azure
- SQL Azure Firewall
- Accessing Data
- Your Data in the Cloud
- Your Application in the Cloud
- Connection Constraints
- Connection Termination
- Best Practices
- Summary

Azure App Connectivity Demo
- Introduction
- Demo: Windows Forms App
- Demo: Connect to Local Database
- Demo: Pull Data from Database
- Demo: Point to Azure Database
- Demo: Creating Web App
- Demo: Adding WCF Data Service
- Demo: Consuming Data Service
- Demo: Adding Data to List
- Demo: Running and Debugging
- Summary

Azure OData
- Introduction
- SQL Azure and OData
- OData Overview
- OData Producers
- OData Consumers
- OData and SQL Azure
- Enabling OData
- Security
- OData Best Practices
- Summary

Azure OData Demo
- Introduction
- Demo: OData Enable Database
- Demo: OData Feed
- Demo: Making Application
- Summary

Azure Backup
- Introduction
- SQL Azure Backup and Restore
- SQL Azure Backup
- As Copy Of
- Permissions Needed
- Syntax and Monitoring
- Point-In-Time Restore
- 3rd Party Products
- Enzo Backup continued
- Summary

Azure Backup Demo
- Introduction
- Demo: As Copy Of
- Demo: Enzo Backup
- Summary

Azure Storage
- Introduction
- Azure Storage
- Storage Infrastructure
- Windows Azure Storage
- Azure Storage Abstractions
- Accessing Storage with REST
- Using a Library
- Connection Strings
- Object Hierarchy
- Table Structure
- SQL Azure vs Azure Table
- Summary

Azure Storage Demo
- Introduction
- Intro to Demo
- Demo: Running Guestbook
- Demo: Adding Data to Table
- Demo: Running and Debugging
- Summary