

KOENIG SOLUTIONS • COURSE OUTLINE

Provisioning SQL Databases

Learn to install, configure and provision SQL Server databases on-premises and on Microsoft Azure.

10

MODULES

69

TOPICS

26

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers SQL Server components, architecture and services, followed by installing, automating and upgrading SQL Server. It examines database storage management, maintenance plans and storage options including SMB fileshare and Stretch Database. It then addresses planning and deploying SQL Server on Azure, migrating databases to Azure SQL Database, deploying SQL Server on Azure virtual machines, and managing databases in the cloud.

WHO THIS COURSE IS FOR

Database Administrators

Database Engineers

System Administrators

Cloud Administrators

LEARNING OBJECTIVES

- Describe SQL Server components, architecture and services
- Install SQL Server and automate the installation process
- Upgrade SQL Server and migrate data and applications
- Manage storage for system and user databases
- Ensure database integrity and maintain indexes
- Describe storage options such as SMB Fileshare and Stretch Database
- Plan and deploy SQL Server and Azure SQL Database on Azure
- Migrate SQL Server databases to Azure SQL Database

10 Modules, 69 Topics

01

SQL Server Components

This module describes the various SQL Server components and versions.

LESSONS

- Introduction to the SQL Server Platform
- Overview of SQL Server Architecture
- SQL Server Services and Configuration Options

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

- Describe SQL Server components and versions
- Describe SQL Server architecture and resource usage
- Describe SQL Server services and how you manage the configuration of those services

02

4 Activities

Installing SQL Server

This module describes the process to install SQL Server 2016.

LESSONS

- Considerations for SQL Installing Server
- TempDB Files
- Installing SQL Server
- Automating Installation

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

- Describe the considerations when installing SQL Server
- Describe TempDB files
- Install SQL Server
- Automate a SQL Server installation

Upgrading SQL Server to SQL Server 2017

This module describes the process for upgrading to SQL Server 2017.

LESSONS

- Upgrade Requirements
- Upgrade SQL Server Services
- **Side by Side Upgrade:** Migrating SQL Server Data and Applications

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

- Describe the upgrade requirements for SQL Server
- Upgrade SQL Server
- Migrate SQL Server data and applications

Working with Databases

This module describes the preinstalled system databases, the physical structure of databases and the most common configuration options related to them.

LESSONS

Introduction to Data Storage with SQL Server · Managing Storage for System Databases · Managing Storage for User Databases · Moving and Copying Database Files · Buffer Pool Extension

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

Describe Data Storage with SQL Server · Manage Storage for System Databases · Manage Storage for User Databases · Move and Copy Database Files · Describe and use Buffer Pool Extensions

Performing Database Maintenance

This module covers database maintenance plans.

LESSONS

Ensuring Database Integrity · Maintaining Indexes · Automating Routine Database Maintenance

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

Ensure Database Integrity · Maintain Indexes · Automate Routine Database Maintenance

06**2 Activities**

Database Storage Options

Describe SQL Server storage options.

LESSONS

SQL Server storage Performance · SMB Fileshare · SQL Server Storage in Microsoft Azure · Stretch Databases

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

Describe SQL Server Storage Performance · Describe SMB Fileshare · Explain SQL Server Storage in Microsoft Azure · Describe Stretch Database

07**3 Activities**

Planning to Deploy SQL Server on Microsoft Azure

This module describes how to plan to deploy SQL Server on Azure.

LESSONS

- SQL Server Virtual Machines in Azure
- Azure Storage
- Azure SQL Authentication
- Deploying an Azure SQL Database

AFTER COMPLETING THIS MODULE, YOU WILL BE ABLE TO

- Describe SQL Server Virtual Machines in Azure
- Describe Azure Storage
- Explain Azure SQL Authentication, auditing and compliance
- Deploy an Azure SQL Database

08**3 Activities**

Migrating Databases to Azure SQL Database

This module describes how to migrate databases to Azure SQL Database.

LESSONS

- Database Migration Testing Tools
- Database Migration Compatibility Issues
- Migrating a SQL Server Database to Azure SQL Database

AFTER COMPLETING THIS MODULE, STUDENTS WILL BE ABLE TO

- Describe various database migration testing tools
- Explain database migration compatibility issues
- Migrate a SQL Server database to Azure SQL database

09

2 Activities

Deploying SQL Server on a Microsoft Azure Virtual Machine

This module describes how to deploy SQL Server on Microsoft Azure VMs.

LESSONS

- Deploying SQL Server on an Azure VM
- The Deploy Database to a Microsoft Azure VM Wizard

AFTER COMPLETING THIS MODULE, STUDENTS WILL BE ABLE TO

- Deploy SQL Server on an Azure VM
- Use The Deploy Database to a Microsoft Azure VM Wizard
- Configure SQL Server Connections

10

2 Activities

Managing Databases in the Cloud

This module describes how to manage SQL Server on Azure.

LESSONS

Managing Azure SQL Database Security · Configure Azure storage · Azure Automation

AFTER COMPLETING THIS MODULE, STUDENTS WILL BE ABLE TO

Manage Azure SQL Database Security · Configure Azure storage · Implement Azure Automation

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
02	Installing SQL Server	LAB : INSTALLING SQL SERVER ■ Preparing to install SQL Server ■ Install an instance of SQL Server ■ Perform post installation checks ■ Automating Installation
03	Upgrading SQL Server to SQL Server 2017	LAB : UPGRADING SQL SERVER ■ Create the Application Logins ■ Restore the backups of the TSQL Database ■ Orphaned Users and Database Compatibility Level
04	Working with Databases	LAB : MANAGING DATABASE STORAGE ■ Configuring tempdb Storage ■ Creating Databases ■ Attaching a Database ■ Enable Buffer Pool Extension

#	MODULE	ACTIVITY
05	Performing Database Maintenance	LAB : PERFORMING DATABASE MAINTENANCE ■ Use DBCC CHECKDB to Verify Database Integrity ■ Rebuild Indexes ■ Create a Database Maintenance Plan
06	Database Storage Options	LAB : IMPLEMENTING STRETCH DATABASE ■ Run Stretch Database Advisor ■ Implement Stretch Database
07	Planning to Deploy SQL Server on Microsoft Azure	LAB : PLAN AND DEPLOY AN AZURE SQL DATABASE ■ Plan an Azure SQL Database, Networking, performance tiers, security ■ Provision an Azure SQL Database ■ Connect to an Azure SQL Database
08	Migrating Databases to Azure SQL Database	LAB : MIGRATING SQL SERVER DATABASES TO AZURE ■ Perform Migration Testing ■ Migrate a SQL Server Database to Azure SQL Database ■ Test a Migrated Database
09	Deploying SQL Server on a Microsoft Azure Virtual Machine	LAB : DEPLOYING SQL SERVER ON AN AZURE VIRTUAL MACHINE ■ Provision an Azure VM ■ Use the Deploy Database to Azure VM Wizard
10	Managing Databases in the Cloud	LAB : MANAGING DATABASES IN THE CLOUD ■ Add data masking ■ Use Azure automation to stop Virtual Machines

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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Learn the Way That Suits You

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Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

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