KOENIG SOLUTIONS · COURSE OUTLINE

55369 - Provisioning Databases on SQL Server

Learn to install, configure, maintain and migrate SQL Server databases across on-premises and Azure cloud environments.

10	34	25
MODULES	TOPICS	HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers the components and architecture of SQL Server, followed by installing and upgrading a SQL Server system. It addresses configuring databases and data files, maintaining databases, and configuring storage to support SQL Server, including network fileshares, cloud storage and Stretch Database. It then moves into designing a cloud-based installation of SQL Server, moving databases into the cloud, using an Azure Virtual Machine to host SQL Server, and administering databases hosted in Microsoft Azure.

WHO THIS COURSE IS FOR

- **Database Administrators**
- **Database Developers**
- **System Administrators**
- **Cloud Infrastructure Engineers**

LEARNING OBJECTIVES

- Describe the architecture and components of SQL Server
- Configure services, accounts and networking for SQL Server
- Install and upgrade a SQL Server system
- Configure system and user database storage
- Maintain database integrity using indexes and maintenance plans
- Configure storage options including fileshares and Stretch Database
- Plan a cloud-based installation of SQL Server in Azure
- Migrate databases into Azure SQL Database and Azure Virtual Machines

COURSE SYLLABUS

10 Modules, 34 Topics

01

Understand the Components of SQL Server

TOPICS

Overview of the SQL Server platform · Understand the architecture of SQL Server · Configure services, accounts, and networking

02

4 Activities

Install a SQL Server System

TOPICS

Plan your SQL Server installation · Plan the temporary database · Install SQL Server manually · Install SQL Server automatically

03

3 Activities

Upgrade Your SQL Server

TOPICS

- Satisfy the requirements for a SQL Server upgrade
- Plan to upgrade the SQL Server services you have installed
- Perform a side-by-side upgrade

04

3 Activities

Configure Your Databases and Data Files

TOPICS

Overview of SQL Server data storage · Configure system database storage · Configure user database storage · Move databases · Set up the buffer pool extension

05

3 Activities

Maintain Your Databases

TOPICS

Maintain the integrity of your databases · Optimize performance by using indexes · Use Database Maintenance Plans

06

2 Activities

Configure Storage to Support SQL Server Databases

TOPICS

- Optimize the performance of SQL Server by configuring storage
- Use a network fileshare to store files for SQL Server
- Store SQL Server files in the Cloud
- Use SQL Server Stretch Database

07

3 Activities

Design a Cloud-Based Installation of SQL Server

TOPICS

- IaaS and PaaS database options in Microsoft Azure
- Use Azure Virtual Machines to host databases
- Azure SQL Database security
- Set up database in Azure SQL Database

08

2 Activities

Move Databases into the Cloud

TOPICS

- Test your databases before a migration
- Database compatibility with Azure SQL Database
- Migrate a database into the cloud

09

3 Activities

Use an Azure Virtual Machine to Host SQL Server

TOPICS

- Set up an instance of SQL Server on an Azure Virtual Machine
- Move a database to an Azure Virtual Machine

10

2 Activities

Administer Databases Hosted in Microsoft Azure

TOPICS

Secure your deployment of Azure SQL Database · Set up Azure Storage to support databases · Automate administration tasks

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
02	**Install a SQL Server System**	**LAB 1: INSTALL SQL SERVER** ■ Prepare for the installation ■ Install the database server ■ Check your installation ■ Perform an unattended installation
03	**Upgrade Your SQL Server**	**LAB 1: PERFORM A SQL SERVER UPGRADE** ■ Set up database users ■ Restore the database and transaction logs ■ Complete post-upgrade tasks
04	**Configure Your Databases and Data Files**	**LAB 1: CONFIGURE DATABASE STORAGE** ■ Configure the temporary database ■ Configure new databases ■ Attach a database
05	**Maintain Your Databases**	**LAB 1: MAINTAIN YOUR DATABASES** ■ Check your data integrity ■ Defragment databases by rebuilding indexes ■ Manage database using Database Maintenance Plans
06	**Configure Storage to Support SQL Server Databases**	**LAB 1: SET UP STRETCH DATABASE** ■ Execute the Stretch Database Advisor ■ Set up Stretch Database for a database table
07	**Design a Cloud-Based Installation of SQL Server**	**LAB 1: SET UP A DATABASE IN AZURE SQL DATABASE** ■ Design a cloud database deployment ■ Set up Azure SQL Database ■ Configure firewall rules for a cloud database
08	**Move Databases into the Cloud**	**LAB 1: MOVE A DATABASE TO AZURE SQL DATABASE** ■ Ensure that the database is compatible with Azure SQL Database ■ Move the database into the cloud
09	**Use an Azure Virtual Machine to Host SQL Server**	**LAB 1: SET UP A SQL SERVER INSTANCE IN THE CLOUD** ■ Create a Virtual Machine in Azure ■ Move a database to the Virtual Machine ■ Connect clients to the Virtual Machine
10	**Administer Databases Hosted in Microsoft Azure**	**LAB 1: ADMINISTER CLOUD DATABASES IN AZURE** ■ Use data masks to protect personal data ■ Automate an administration task

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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