KOENIG step forward

Microsoft Solutions Partner
Microsoft Cloud Training Services

KOENIG SOLUTIONS · COURSE OUTLINE

Designing Database Solutions for Microsoft SQL Server 2014

Learn to design, consolidate and monitor enterprise data infrastructures, and implement high availability and disaster recovery with SQL Server 2014.

10	22	10
MODULES	TOPICS	HANDS-ON LABS

COURSE OVERVIEW

This course covers the planning and management of database solutions across an enterprise, starting with assessing existing infrastructure and enforcing configuration standards through Policy-Based Management and Microsoft System Center. It then addresses health monitoring with Data Collector and SQL Server Utility Control Point, followed by consolidating database workloads and introducing cloud data solutions with SQL Server 2014 in a private cloud. Later modules examine high availability options including log shipping, Windows Server Failover Clustering, and AlwaysOn Availability Groups, along with planning for disaster recovery. The course concludes with SQL Server replication, covering agents, scenarios, design considerations, and monitoring.

WHO THIS COURSE IS FOR

Database Administrators **Database Architects** **Infrastructure Engineers** **Database Consultants** **System Administrators**

LEARNING OBJECTIVES

- Assess an existing enterprise data infrastructure
- Implement Policy-Based Management across multiple servers
- Monitor SQL Server health using Data Collector and Utility Control Point
- Plan a database consolidation strategy with SQL Server 2014
- Describe SQL Server integration within a private cloud
- Implement log shipping and Windows Server Failover Clustering
- Configure AlwaysOn Availability Groups for high availability
- Plan and implement SQL Server replication

COURSE SYLLABUS

10 Modules, 22 Topics

01

Lab

Introduction to Enterprise Data Architecture

As organizations grow to enterprise scale, their IT infrastructure requirements become more complex and the network environment often includes an increasing number of servers, client computers, network segments, and other components. Because data is fundamental to most IT operations, careful thought must be given to the provisioning and management of databases across the enterprise.

LESSONS

Considerations for Enterprise Data · Assessing an Existing Infrastructure

02

Lab

Multi-Server Configuration Management

When an enterprise infrastructure includes multiple database servers, it can be useful to standardize and enforce configuration settings in order to ensure compliance and manageability. This module discusses Policy-Based Management in SQL Server and describes how it can be used together with enterprise configuration management tools such as Microsoft System Center to aid enterprise database server management.

LESSONS

Policy-Based Management · Microsoft System Center

03

Lab

Monitoring SQL Server 2014 Health

This module describes Data Collector and the SQL Server Utility Control Point (UCP), two features of SQL Server 2014 that enable you to perform in-depth health monitoring across the enterprise.

LESSONS

Introduction to Health Monitoring · Data Collector · SQL Server Utility

04

Lab

Consolidating Database Workloads with SQL Server 2014

This module provides an overview of the benefits of consolidating database workloads by using SQL Server 2014, and describes the different options for implementing a consolidation strategy. It also describes how you can manage a consolidated infrastructure in various scenarios.

LESSONS

- Considerations for Database Server Consolidation
- Managing Resources in a Consolidated Database Infrastructure

05

Lab

Introduction to Cloud Data Solutions

Cloud computing has risen to prominence very rapidly within the world of IT, and many organizations have implemented or are planning to implement cloud-based solutions that encompass all or part of their infrastructure. This module describes some of the fundamental concepts of cloud computing and outlines how to include SQL Server 2014 in a private cloud infrastructure.

LESSONS

Overview of Cloud Computing · SQL Server in a Private Cloud

06

Lab

Introduction to High Availability in SQL Server 2014

Maintaining highly available database services is vital in a 24-hour operating environment. SQL Server 2014 includes many features that can help organizations to deliver the levels of service they require to drive their businesses. This module explains the different ways that you can implement high availability by using SQL Server 2014. It also describes how to use log shipping to promote resilience for individual user databases.

LESSONS

- High Availability Concepts and Options in SQL Server 2014
- Log Shipping

07

Lab

Clustering with Windows Server and SQL Server 2014

SQL Server 2014 is closely integrated with the Windows Server Failover Clustering feature in Windows Server 2012 and Windows Server 2012 R2, enabling you to create enterprise-class clustering solutions that can deliver comprehensive high availability and disaster recovery solutions. This module explains how Windows Server Failover Clustering and SQL Server Always on Failover Cluster Instances work and describes how to implement clustering to protect service availability.

LESSONS

- Introduction to Windows Server Failover Clustering
- SQL Server Always On Failover Cluster Instances

08

Lab

AlwaysOn Availability Groups

SQL Server 2014 includes AlwaysOn Availability Groups to provide high availability for groups of databases. This module describes AlwaysOn Availability Groups in SQL Server 2014, explains the key concepts of AlwaysOn Availability Groups, and describes how you can use them to maintain highly available databases.

LESSONS

- Introduction to AlwaysOn Availability Groups
- Working with AlwaysOn Availability Groups
- Considerations for Using AlwaysOn Availability Groups

09

Lab

Planning High Availability and Disaster Recovery

This module describes the planning considerations for high availability and disaster recovery, and provides common implementation scenarios for on-premises, hybrid, and Microsoft Azure environments.

LESSONS

- High Availability and Disaster Recovery with SQL Server 2014
- SQL Server High Availability and Disaster Recovery Solutions

10

Lab

Replicating Data

SQL Server replication enables you to copy and distribute data and database objects to other computers and locations in your enterprise, which can improve availability and scalability. This module provides an overview of SQL Server replication and explains the agents used to implement replication. It also describes some common replication scenarios, how to design an appropriate replication system for your requirements, and how to monitor and troubleshoot replication.

LESSONS

SQL Server Replication · Planning Replication

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
01	**Introduction to Enterprise Data Architecture**	Assessing an Existing Enterprise Data Infrastructure
02	**Multi-Server Configuration Management**	Planning and Implementing Policy-Based Management
03	**Monitoring SQL Server 2014 Health**	Monitoring SQL Server Health
04	**Consolidating Database Workloads with SQL Server 2014**	SQL Server Consolidation
05	**Introduction to Cloud Data Solutions**	Preparing a SQL Server Installation in a Virtual Machine Template
06	**Introduction to High Availability in SQL Server 2014**	Using Log Shipping
07	**Clustering with Windows Server and SQL Server 2014**	Implementing an Always On Failover Cluster Instance
08	**AlwaysOn Availability Groups**	Implementing and Testing an AlwaysOn Availability Group
09	**Planning High Availability and Disaster Recovery**	Planning High Availability and Disaster Recovery
10	**Replicating Data**	Planning and Implementing Replication

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.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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