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## Designing a Data Solution with Microsoft® SQL Server® 2014

**Duration: 5 Days    Course Code: 465    Version: C**

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### Overview:

The focus of this five-day instructor-led course is on planning and implementing enterprise database infrastructure solutions by using SQL Server 2014 and other Microsoft technologies. It describes how to consolidate SQL Server workloads, work with both on-premises and Microsoft Azure cloud-based solutions, and how to plan and implement high availability and disaster recovery solutions.

Note: This course is designed for customers who are interested in learning SQL Server 2012 or SQL Server 2014. It covers the new features in SQL Server 2014, but also the important capabilities across the SQL Server data platform.

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### Target Audience:

Planning and implementing database infrastructure. Planning and implementing consolidation strategies. Implementing SQL Server in on-premises, cloud, and hybrid IT scenarios. Planning and implementing high availability solutions. Planning and implementing disaster recovery solutions.

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### Objectives:

- Assess an existing enterprise environment.
  - Plan and implement Policy-Based Management.
  - Describe the considerations for consolidating workloads with SQL Server 2014.
  - Describe considerations for including SQL Server 2014 in a private cloud.
  - Use Microsoft Azure storage with SQL Server 2014.
  - Implement and configure databases in Microsoft Azure SQL Database.
  - Implement and configure databases in Microsoft Azure virtual machines.
  - Describe high availability technologies in SQL Server 2014 and implement log shipping.
  - Describe Windows Server Failover Clustering and Implement an AlwaysOn Failover Cluster Instance.
  - Implement an Always On Availability Group.
  - Plan high availability and disaster recovery solutions.
  - Plan and implement database replication.
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### Prerequisites:

- At least 2 years' experience of working with relational databases, including:
    - Planning and implementing databases
    - Managing databases
    - Querying with Transact-SQL
  - Some basic knowledge of high availability and disaster recovery
  - Some basic knowledge of Windows Azure technologies and concepts around cloud computing
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## Content:

Course Outline Module 1: Introduction to Enterprise Data Architecture

- Considerations for Enterprise Data
- Assessing an Existing Infrastructure

Lab : Assessing an Existing Enterprise Data Infrastructure

- Using the MAP Toolkit
- Reviewing MAP Toolkit Reports

Module 2: Multi-Server Configuration Management

- Policy-Based Management
- Microsoft System Center

Lab : Planning and Implementing Policy-Based Management

- Planning a Policy-Based Management Strategy
- Implementing Policy-Based Management
- Testing Policy Compliance

Module 3: Consolidating Database Workloads with SQL Server 2014

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

Lab : SQL Server Consolidation

- Preparing for Database Consolidation
- Managing Resources for an Instance of SQL Server
- Managing Resources for Multiple Instances on a Windows Server

Module 4: Introduction to Cloud Data Solutions

- Overview of Cloud Computing
- SQL Server in a Private Cloud

Lab : Preparing a SQL Server Installation in a Virtual Machine Template

- Creating a prepared Instance
- Completing a prepared Instance

Module 5: Introduction to Microsoft Azure

- Microsoft Azure Overview
- Microsoft Azure Storage

Lab : Using Microsoft Azure

- Creating a Microsoft Azure Storage Account
- Backing Up a Database to Microsoft Azure

Module 6: Microsoft Azure SQL Database

- Introduction to Microsoft Azure SQL Database
- Microsoft Azure SQL Database Security
- Implementing and Managing Databases

Lab : Using Microsoft Azure SQL Database

- Provisioning Microsoft Azure SQL Database
- Configuring Microsoft Azure SQL Database Security
- Migrating a Database to Microsoft Azure SQL Database

Module 7: SQL Server in Microsoft Azure Virtual Machines

- Introduction to Microsoft Azure Virtual Machines
- Microsoft Azure Virtual Machine Connectivity and Security
- Creating Databases in a Microsoft Azure Virtual Machine

Lab : Using Microsoft Azure Virtual Machines

- Creating a Microsoft Azure Virtual Machine
- Configuring Microsoft Azure Virtual Machines Security and Connectivity
- Creating Databases on a Virtual Machine

Module 8: Introduction to High Availability in SQL Server 2014

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

Lab : Using Log Shipping

- Configure Log Shipping
- Test the Log Shipping Configuration
- Test Failover

Module 9: Clustering with Windows Server and SQL Server 2014

- Introduction to Windows Server Failover Clustering
- SQL Server AlwaysOn Failover Cluster Instances

Lab : Implementing an AlwaysOn Failover Cluster Instance

- Inspect the Windows Server Failover Cluster Configuration
- Install an AlwaysOn Failover Cluster Instance
- Configure tempdb to Use Local Storage
- Test Automatic Failover and Failback

Module 10: AlwaysOn Availability Groups

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

Lab : Implementing and Testing an AlwaysOn Availability Group

- Implementing an AlwaysOn Availability Group
- Connecting to an AlwaysOn Availability Group
- Testing Failover
- Configure Quorum Voting

Module 11: Planning High Availability and Disaster Recovery

- High Availability and Disaster Recovery with SQL Server 2014
- High Availability and Disaster Recovery for Databases in Microsoft Azure

Lab : Planning High Availability and Disaster Recovery

- Planning High Availability and Disaster Recovery Solutions with SQL Server 2014
- Planning High Availability and Disaster Recovery Solutions by Using Microsoft Azure

Module 12: Replicating Data

- SQL Server Replication
- Planning Replication

Lab : Planning and Implementing Replication

- Planning Replication
- Implementing Replication

## Further Information:

For More information, or to book your course, please call us on Head Office +254 713 027 191

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