DP-300

Administering Relational Databases on Microsoft Azure

Description:

This course provides students with the knowledge and skills to administer a SQL Server database infrastructure for cloud, on-premises and hybrid relational databases and who work with the Microsoft PaaS relational database offerings. Additionally, it will be of use to individuals who develop applications that deliver content from SQL-based relational databases.

Students will be able to:

- Plan, deploy and configure Azure SQL offerings
- Monitor database performance and tune a database and queries for optimum performance
- Plan and configure a High Availability Solution

Course requirements:

Azure Fundamentals, Azure Data Fundamentals.

This course is intended for:

The audience for this course is data professionals managing data and databases who want to learn about administering the data platform technologies that are available on Microsoft Azure. This course is also valuable for data architects and application developers who need to understand what technologies are available for the data platform with Azure and how to work with those technologies through applications.

Literature:

All participants will get original Microsoft student materials.

Hardware:

Classrooms are equipped with high-performance computers with Internet access and the possibility of wireless connection.

Syllabus:

Module 1: The Role of the Azure Database Administrator

- Lesson: Azure Data Platform Roles
- Lesson: Azure Database Platforms and Options
- Lesson: SQL Server Compatibility Levels
- Lesson: Azure Preview Features
- Lab: Using the Azure Portal and SQL Server Management Studio

Module 2: Plan and Implement Data Platform Resources

- Lesson: Deploying SQL Server using IaaS
- Lesson: Deploying SQL Server using PaaS
- Lesson: Deploying Open Source Database Solutions on Azure
- Lab: Deploying Azure SQL Database

Module 3: Implement a Secure Environment

- Lesson: Configure Database Authentication
- Lesson: Configure Database Authorization
- Lesson: Implement Security for Data at Rest
- Lesson: Implement Security for Data in Transit
- Lesson: Implement Compliance Controls for Sensitive Data
- Lab: Implement a Secure Environment

Module 4: Monitor and Optimize Operational Resources

- Lesson: Baselines and Performance Monitoring
- Lesson: Major Causes of Performance Issues
- Lesson: Configuring Resources for Optimal Performance
- Lesson: User Database Configuration
- Lesson: Performance-related Maintenance Tasks
- Lab: Monitor and Optimize Resources

Module 5: Optimize Query Performance

- Lesson: Understanding SQL Server Query Plans
- Lesson: Explore Performance-based Database Design
- Lesson: Evaluate Performance Improvements
- Lab: Query Performance Troubleshooting

Module 6: Automation of Tasks

- Lesson: Setting up Automatic Deployment
- Lesson: Defining Scheduled Tasks
- Lesson: Configuring Extended Events
- Lesson: Managing Azure PaaS resources Using Automated Methods
- Lab: Automating Tasks

Module 7: Plan and Implement a High Availability and Disaster Recovery Environment

- Lesson: High Availability and Disaster Recovery Strategies
- Lesson: IaaS Platform and Database Tools for HADR
- Lesson: PaaS Platform and Database Tools for HADR
- Lesson: Database Backup and Recovery
- Lab: Plan and Implement a High Availability and Disaster Recovery Environment

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