# MSQ4-6 - MOC 20764 - ADMINISTERING A SQL DATABASE INFRASTRUCTURE

Categoria: **SQL Server 2017 e 2016**

## INFORMAZIONI SUL CORSO

| Durata: | Categoria: | Qualifica Istruttore: | Dedicato a: | Produttore: |
|---|---|---|---|---|
| 5 Giorni | SQL Server 2017 e 2016 | Microsoft Certified Trainer | Professionista IT | Microsoft |

## OBIETTIVI

Autenticare e autorizzare gli utenti
Assegnare ruoli server e database
Autorizzare gli utenti ad accedere alle risorse
Proteggere i dati con la crittografia e il controllo
Descrivere i modelli di recupero e le strategie di backup
Effettuare i backup di Database SQL Server
Ripristinare i database di SQL Server
Automatizzare la gestione di database
Configurare la protezione per l'agente di SQL Server
Gestire avvisi e notifiche
Gestire SQL Server utilizzando PowerShell
Tracciare l'accesso a SQL Server
Monitorare una infrastruttura di SQL Server
Risolvere i problemi di una infrastruttura SQL Server
Importare ed esportare i dati

## PREREQUISITI

Conoscenza di base del sistema operativo Microsoft Windows e delle sue funzionalità principali
Conoscenza di lavoro di Transact-SQL
Conoscenza delle basi di dati relazionali
Alcune esperienze con la progettazione dei database

## CONTENUTI

**Module 1: Authenticating and Authorizing Users**
Authenticating connections to SQL Server
Authorizing logins to access databases
Authorization across servers
Partially contained databases

**Lab : Authenticating Users**
After completing this module, you will be able to:

Describe server level security
Describe database level security
Describe multi-server authentication
Describe partially contained databases

**Module 2: Assigning Server and Database Roles**
Working with server roles
Working with Fixed database roles
Creating user-defined database roles

**Lab : Assigning server and database roles**
After completing this module, you will be able to:
Describe server roles
Describe fixed database roles
Describe user-defined database roles

**Module 3: Authorizing Users to Access Resources**
Authorizing user access to objects
Authorizing users to execute code
Configuring permissions at the schema level

**Lab : Authorizing users to access resources**
After completing this module, you will be able to:
Describe how to authorize user access to objects
Describe how to authorize users to execute code
Describe how to configure permissions at the schema level

**Module 4: Protecting Data with Encryption and Auditing**
Options for auditing data access in SQL Server
Implementing SQL Server audit
Managing SQL Server audit
Protecting data with encryption

**Lab : Using Auditing and Encryption**
After completing this module, you will be able to:
Describe options for auditing data access.
Implement SQL Server Audit.
Manage SQL Server Audit.
Describe how to use custom audit events.
Implement encryption

**Module 5: SQL Server Recovery Models**
Backup strategies
Understanding SQL Server transaction login
Planning a SQL Server backup strategy

**Lab : Understanding SQL Server recovery models**
After completing this module, you will be able to:
Describe the various backup strategies.
Describe how database transaction logs function.
Plan a SQL Server backup strategy.

**Module 6: Backup of SQL Server Databases**

Backing up databases and transaction logs
Managing database backups
Working with backup options

**Lab : Backing up SQL Server databases**
After completing this module, you will be able to:
Perform backups of SQL Server databases and transaction logs.
Manage database backups.
Describe the advanced backup options.
Describe how to backup to the Azure Windows Blob Store.

**Module 7: Restoring SQL Server Databases**
Understanding the restore process
Restoring databases
Working with point-in-time recovery
Restoring system databases and individual files

**Lab : Restoring SQL Server User Databases**
After completing this module, you will be able to:
Explain the database restore process.
Describe the concept of point in time recovery.
Describe the advanced concepts of restoring.

**Module 8: Automating SQL Server Management**
Automating SQL Server management
Working with SQL Server agent
Managing SQL Server agent jobs
Multi-server management

**Lab : Automating SQL Server Management**
After completing this module, you will be able to:
Describe methods for automating SQL Server Management.
Configure jobs, job step types, and schedules.
Manage SQL Server Agent jobs.
Configure
master and target servers.

**Module 9: Configuring Security for SQL Server Agent**
Understanding SQL Server Agent Security
Configuring credentials
Configuring proxy accounts

**Lab : Configuring Security for SQL Server Agent**
After completing this module, you will be able to:
Describe the security context for SQL Server Agent jobs.
Configure credentials.
Configure proxy accounts.

**Module 10: Monitoring SQL Server with Alerts and Notifications**
Configuration of database mail
Monitoring SQL Server errors
Configuring operators, alerts, and notifications
Alerts in Azure SQL database

**Lab : Monitoring SQL Server with Alerts and Notifications**
After completing this module, you will be able to:
Configure database mail.
Monitor SQL Server errors.
Configure operators, alerts and notifications.

**Module 11: Introduction to Managing SQL Server by using PowerShell**
Configure SQL Server using PowerShell
Administer SQL Server using PowerShell
Maintain the SQL Server environment using PowerShell
Managing Azure SQL Server databases using PowerShell

**Lab : Administering SQL Server using PowerShell**
After completing this module, you will be able to:
Configure SQL Server using PowerShell
Manage day-to-day SQL Server Administration with PowerShell
Maintain the SQL Server environment using PowerShell.

**Module 12: Tracing Access to SQL Server**
Capturing activity using SQL Server profiler
Improving performance with the database engine tuning advisor
Working with tracing options
Distributed replay
Monitoring locks

**Lab : Tracing Access to SQL Server**
After completing this module, you will be able to:
Configure SQL Profiler traces and review captured traces.
Use the Database Engine Tuning Advisor.
Understand SQL Server advanced tracing concepts.
Use Distributed Replay.
Monitor Locking.

**Module 13: Monitoring SQL Server**
Monitoring activity
Capturing and managing performance data
Analyzing collected performance data
SQL Server utility

**Lab : Monitoring SQL Server**
After completing this module, you will be able to:
Monitor activity within SQL Server
Configure data collection.
View reports from data collection.
Configure a SQL Server Utility (UCP)

**Module 14: Troubleshooting SQL Server**
SQL Server troubleshooting methodology
Resolving service related issues
Resolving login and connectivity issues
Troubleshooting common issues

**Lab : Troubleshooting Common Issues**
After completing this module, you will be able to:
Explain the SQL Server troubleshooting methodology.
Resolve service-related issues.
Resolve login and connectivity issues

**Module 15: Importing and Exporting Data**
Transferring data to/from SQL Server
Importing and exporting table data
Using BCP and BULK INSERT to import data
Deploying and upgrading data-tier applications

**Lab : Importing and Exporting Data**
After completing this module, you will be able to:
Transfer data.
Import and export table data.
Use BCP and BULK INSERT to import data.
Use DACs to import and export database applications

## INFO

**Materiale didattico:** Materiale didattico in formato digitale
**Costo materiale didattico:** incluso nel prezzo del corso a Calendario
**Natura del corso:** Operativo (previsti lab su PC)