

MCTS Syllabus

Accessing Data with Microsoft NET Framework 4

Duration : 45 days

Architecture and Data Access Technologies

- Data Access Technologies
- Data Access Scenarios

Building Entity Data Models

- Introduction to Entity Data Models
- Modifying the Entity Data Model
- Customizing the Entity Data Model

Querying Entity Data

- Retrieving Data by Using LINQ to Entities
- Retrieving Data by Using Entity SQL
- Retrieving Data by Using EntityClient Provider
- Retrieving Data by Using Stored Procedures
- Unit Testing Your Data Access Code

Creating, Updating, and Deleting Entity Data

- Understanding Change Tracking in the Entity Framework
- Modifying Data in an Entity Data Model

Handling Multi-User Scenarios by Using Object Services

- Handling Concurrency in the Entity Framework
- Transactional Support in the Entity Framework

Building Optimized Solutions by Using Object Services

- The Stages of Query Execution
- Change Tracking and Object Materialization
- Using Compiled Queries
- Using Design-Time Generated Entity Framework Views
- Monitoring Performance
- Performing Asynchronous Data Modifications

Customizing Entities and Building Custom Entity Classes

- Overriding Generated Classes
- Using Templates to Customize Entities
- Creating and Using Custom Entity Classes

Using POCO Classes with the Entity Framework

- Requirements for POCO Classes
- POCO Classes and Lazy Loading
- POCO Classes and Change Tracking
- Extending Entity Types

Building an N-Tier Solution by Using the Entity Framework

- Designing an N-Tier Solution
- Defining Operations and Implementing Data Transport Structures
- Protecting Data and Operations

Handling Updates in an N-Tier Solution by Using the Entity Framework

- Tracking Entities and Persisting Changes
- Managing Exceptions in an N-Tier Solution

Building Occasionally Connected Solutions

- Offline Data Caching by Using XML
- Using the Sync Framework

Querying Data by Using WCF Data Services

- Introduction to WCF Data Services
- Creating a WCF Data Service
- Consuming a WCF Data Service
- Protecting Data and Operations in a WCF Data Service

Updating Data by Using WCF Data Services

- Creating, Updating, and Deleting Data in a WCF Data Service
- Preventing Unauthorized Updates and Improving Performance
- Using WCF Data Services with Nonrelational Data

Using ADO.NET

- Retrieving and Modifying Data by Using ADO.NET Commands
- Retrieving and Modifying Data by Using DataSets
- Managing Transactions and Concurrency in Multiuser Scenarios

Using LINQ to SQL

- Implementing a Logical Data Model by Using LINQ to SQL
- Managing Performance and Handling Concurrency