

.Net

(Core .Net)

Introduction to .NET

- Introduction of Language
- Introduction of Web Application
- Platform Dependence , Independence & Portability
- Introduction of .NET Framework
- Introduction of Compiler & MSIL
- Introduction of CLR
- Introduction of CLS, CTS, CLI

OOPs Implementation

- Encapsulation, Abstraction, Class & object
- Relation b/w objects and reference variables
- Method Overloading & Types of Methods
- Description of Memory blocks: Stacks, Heap & Class Area
- Constructors and Destructor & Garbage Collection
- Using Scope & Dispose Method
- Usage of this keyword
- Static Data members, Constructors & methods
- Relation & Implementing Has-A relation
- Implementing Is-A relation using Inheritance
- Method Overriding & Hiding
- Usage of Base keyword
- Static & Dynamic binding
- Runtime polymorphism and generalization
- Abstract classes & methods
- Interfaces and Role based Inheritance
- Usage of sealed, partial, out, ref, pram keyword
- Namespace
- Assembly & GAC
- Property & Indexer
- Windows Application
- Delegates & Event
- Event Handling
- Windows App. Component.
- Object class and its role
- Json Formatter

String Handling

- String class & concept of Immutability
- Pool of String Constants & its use
- Common String operations
- Use of String Builder

Exception Handling

- Difference b/w exception and error
- Exception Handling & Robustness
- Common Exceptions and Errors
- Try and catch block
- Exception handlers
- throw keyword and its usage
- Role of finally
- Creating User defined ExceptionsException Class Methods & properties

Multithreading in .NET

- Multitasking and Multithreading
- Process & thread
- States of Thread
- Thread based execution model of .NET Applications
- Implementing User threads
- Thread synchronization
- Inter Thread communication
- Thread Interrupting
- Daemon Threads and their use

Input Output Streams

- Streams & their advantages over conventional input output
- Reading & writing data byte by byte, line by line, and in one go.
- Redirecting Standard input & output streams
- Serialization & Deserialization
- Serialization Formatter
- Xml Formatter
- Binary Formatter
- Soap Formatter
- File class and File System Interaction

- Zip & Unzip Files

Advance .Net

Reflection

- Understanding object representation of classes
- Loading classes dynamically
- Instantiating classes indirectly
- Obtaining information of classes dynamically
- Invoking methods indirectly
- Referencing data members indirectly
- Overriding access policy and referencing private members

Collection Framework

- Role and Importance of Collection Framework
- Index Based Collection Array List, Stack, Queue
- Use Define Collection
- Map Based Collection Use of Key & Value pair (Entry)
- Hash Table, Sorted List
- Searching elements in List, Hash and Tree based collections
- Role of equals and hashCode() methods
- Role of Comparable interfaces
- Type safety and Generics
- Generic Collection
- List ,Stack ,Queue ,Dictionary ,Linked List ,Sorted List

Windows application programming

- Introduction
- Controls
- Menus and Context Menus
- Dialog
- Form Inheritance
- Other Misc. Topics

Database Connectivity Using ADO.NET

- Overview of Database & Database Server
- Introduction of SQL Server 2008
- DML & DDL Query
- Join , Trigger , Procedure & function
- Ado.NET API
- Connected Layer
- Connection, Command & Data Reader
- Disconnected Layer
- Adaptor, Data Set, Table, Row & Column
- ODBC, OLEDB, Oracle Client
- Connectivity with Oracle ,Access, Excel &MySql
- Connection Pooling

Web Application Programming Using Asp.NET

- Web application architecture
- Static Web Page
- Application Life Cycle
- Dynamic Page
- Page Life Cycle & Event Method
- Html & Server Control
- Server Control Event Life Cycle
- State Management
- Url Rewriting, Hidden Form Field, View State, Session, Cookies & Application.
- Global class & Event Method
- Uploading & Downloading
- Page Directives
- Data Source
- SqlDataSource, XmlDataSource, SiteMapDataSource&ObjectDataSource
- Data Control

- DataList, DetailsView, FormView, GridView, ListView& Repeater
- Validation Control
- CompareValidator, CustomValidator, RangeValidator, RegularExpressionValidator&ValidationSummary
- Navigation
- Menu, SiteMapPath&TreeView
- Login Control & Membership
- Login, LoginName, LoginStaus, LoginView, PasswordRecovery, ChangePassword, CreateUserWizaed.
- Ajax Extensions
- ScriptManager, UpdatePanel, UpdateProgress& Timer
- Globalization & localization
- Master Page & Style them
- Mail

MVC3

- Introduction to MVC3
- The Model-View-Controller Pattern
- Differences Between MVC and Web Forms Applications
- Building a Simple MVC Application with Visual Studio
- Working with Controllers and Actions
- Introduction to Controllers
- Using a Controller to Manage the Application
- Controller Actions
- Returning Action Results
- Creating MVC Models
- Data and Business Rules in MVC Applications
- Creating a Custom Data Model
- Data Validation and Data Annotations
- Using MVC Views
- Views in ASP.NET MVC
- Creating Views
- Adding Content to a View
- HTML Helpers and Action Filters
- Using HTML Helpers in MVC
- Creating a Custom Helper

- Using Action Filters
- Creating a Custom Filter
- Routing and URLs
- Customizing Application URLs
- Creating Route Constraints
- Routing and Web Forms
- Using MVC and AJAX and JQuery
- Integrating Client-Side Script with MVC
- Using the MVC AJAX Helpers
- Working with JSON Data

Networking

ROMETING

LINQ

- Introducation to LINQ
- LINQ expressions
- Using via extension methods
- Filtering
- Sorting
- Aggregation
- Skip and Take operators
- Joins
- Extension methods
- Object initialization syntax
- Anonymous types
- Lambda expressions
- Deferred Execution
- Benefits and drawbacks
- IEnumerablevsIQueryable
- Using across tiers
- Data Projection
- Single result value
- Existing types
- Anonymous types
- Grouping
- LINQ to XML
- New XML classes
- Generating XML
- Querying XML
- Using data projection
- Combining with XPath
- LINQ to SQL

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- Attributes and mapping
- Creating a DataContext
- Deferred loading
- Saving changes
- Inserts and deletes
- Transaction

Framenet .Net

Entity Framework

- The Entity in 'Entity Framework'
- Entity Framework Backend
- Entity Framework Features
- The EDM in the Designer Window
- Code Generation from EDM to Classes
- CSDL: The Conceptual Schema Definition Language
- SSDL: The Store Schema Definition Language
- Querying the Model
- LINQ to Entities Queries
- Entity SQL Queries
- EntityClient Queries
- Translation of Queries to Database Queries
- Cud Operation inEntity Framework
- HowObjectContext Manages Entities
- Adding New Entities
- Updating entities
- Deleting Entities
- Stored Procedure with EDM
- Adding Stored Procedures to the Model
- Working with Functions
- Implementing Functions
- Mapping Table
- Mapping Table per Type Inheritance
- Implementing Table per Hierarchy Inheritance
- Mapping Table per Concrete (TPC) Type Inheritance
- Using Entity Splitting to Map a Single Entity to More Than One Table
- Using Conditional Mapping
- Creating Complex Types
- Using DefiningQuery
- Deconstructing Relationships in the Entity Data Model
- Defining Relationships Between Entitie

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NHibernate

- Introduction to ORM and NHibernate
- NHibernate Architecture
- NHibernate Configuration
- Introduction to Session and SessionFactory
- Persisting Object using NHibernate
- Inheritance Mapping
- Collection Mapping
- Bidirectional Association Mapping
- NHibernate Query Language

SilverLight

- Silverlight Intoduction
- Framework
- Component's
- Silverlight Control & Component Events
- Styles and Templates
- Using Sample Data
- Silverlight enabled WCF services
- Silverlight enabled Web services
- Working with Data
- Data Binding & Event
- File IO
- Out of Browser
- Uploading
- Downloading
- Threading
- Navigation
- Session Management
- Integration With ASP.NET

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