

**Objective(s)**

At the end of this course, the student will get acquainted about latest trend in ASP.NET website development using MVC and data retrieval using LINQ; to target local market, development of multilingual application/site using custom controls and report generations; Optimize site performance by enabling asynchronous loading of page and usage of web services.

**Unit I****Creating custom controls, Asynchronous execution & Localization**

Custom Controls - Types of Custom Controls - Building User Controls, Composite Controls - Asynchronous Page Processing - Approaches of Asynchronous processing in ADO.NET – Asynchronous Methods for SQL command class – AsyncCallBack – WaitHandle Class – Asynchronous Connections – Building Culture-Neutral Pages – Creating Local Resources – Creating Global Resources.

**Unit II****Web services**

Building XML web service – Consuming simple XML web service – Protocols for web service – Overloading web methods – Caching web service response – SOAP Headers – Consuming Web Services Asynchronously – Introduction Windows communication Foundation– Building WCF Services – Building AJAX-Enabled Web Services

**Unit III****Reports**

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**Unit IV****MVC**

Introduction to Controllers, views & Models – Forms and HTML Helpers – Data Annotations & Validations – Routing – Customizing Application URLs – Using MVC and AJAX and JQuery

**Unit V****LINQ**

LINQ expressions - Using via extension methods - Filtering - Sorting - Aggregation - Joins - Extension methods - Object initialization syntax - Anonymous types - Lambda expressions - Deferred Execution - 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 - Attributes and mapping - Inserts and deletes - Transactions

**Reference Book(s):**

1. ASP.NET 4 UNLEASHED - by Stephen Walther, Kevin Scott Hoffman, Nate Scott Dudek - Publisher : SAMS Publishing
2. Beginning ASP.NET 4.5: in C# and VB – by Imar Spaanjaars - Publisher - WROX
3. Professional ASP.NET MVC 5 – by Jon Galloway, Brad Wilson, K. Scott Allen, David Matson; ISBN: 978-1-118-79475-3 – Publisher WROX
4. Professional LINQ – by Scott Klein ISBN: 978-0-470-04181-9 – Publisher WROX

**Practical(s):**

1. Practice of Creating custom controls
2. Practice of Creating composite custom controls
3. Practice of Asynchronous Methods for SQL command class.
4. Practice of Wait approach.
5. Practice of Callback approach and asynchronous connection.
6. Practice of global and local resource file for localization.
7. Practice of creating and using XML web service.
8. Practice of consuming Web Services Asynchronously.
9. Practice of creating WCF services.
10. Practice of creating AJAX-Enabled Web Services.
11. Practice of creating and using RDLC, SSRS and crystal reports.
12. Practice of creating MVC controllers, views and models.
13. Practice of using Forms & HTML Helpers.
14. Practice of using Data Annotations & Validations
15. Practice of customizing application URLs
16. Practice of using AJAX and JQuery with MVC
17. Practice of using LINQ in place of SQL queries
18. Practice of using LINQ with XML files