

Workshop	
Name	. NET 4.5
Duration	3 Days
Objective	The .NET Framework 4.5 includes significant language and framework enhancements for C#, Visual Basic, and F#. This session will give insight of the blending of control flow in synchronous code, a responsive UI, and web app scalability.
Participants' Entry Profile	Participants attending this course must have worked on: . NET4.0 And Development Knowledge of ASP .NET Web Application will be an added advantage.
Training Methodology	The workshop will follow Synergetics methodology of Concept Visualization Active Experimentation Application Development. The workshop will be 100% Hands-On with each participant having access to system during the session
Setup Requirements	
Hardware and Software Requirements	Participant's as well as Trainer's Machine are required to have : Hardware Pentium Dual Core machine 2 GB RAM 100GB HDD (Free Space) Software Windows 7or Windows 8 IIS 7 Microsoft SQL Server 2008 R2 Microsoft Visual Studio .Net 2012Ultimate
Training Lab Requirements	Whiteboard 6 feet by 4 feet (minimum) Whiteboard markers – Red, Blue, Green, Black Video Projector (1024 X 768 resolutions)

Course Content**Day 1**

- **Introduction**
 - The .NET 4.5 Release
 - In-Place Update

- **Async and Parallelism**
 - Overview
 - Conceptual Async
 - Managing Exceptions
 - WhenAll
 - WhenAny
 - Run and FromResult
 - Delay, Yield, and ConfigureAwait
 - Handling Cancellation and Timeout

- **Caller Information**
 - Overview
 - Caller Information Attributes
 - Information for Logging
 - Implement INotifyPropertyChanged

- **Changes to the Managed Extensibility Framework**
 - Overview
 - Dependency Injection and MEF
 - Inference Model
 - Converting .NET 4.0 to .NET 4.5
 - Attribute Free MEF
 - Using Open Generics Resolution
 - Alternate Versions of MEF

Day 2

- **Windows Communication Foundation (WCF 4.5)**
 - Simplification of configuration files
 - Contract-first development
 - ASP.NET compatibility mode
 - Transport property
 - XmlDictionaryReaderQuotas
 - Validation of WCF configuration
 - Asynchronous streaming support
 - HTTPS protocol mapping
 - Single WSDL document
 - Websockets support
 - Support for configuring services in code
 - XML Editor tooltips
 - ChannelFactory caching support
 - Binary encoder compression support

- UDP transport
- Multiple authentication
- **Windows Workflow Foundation (WF 4.5)**
 - State machine workflows
 - Setting breakpoints on states.
 - Transitions in the workflow designer
 - Activities for StateMachine, State, and Transition
 - Enhanced Workflow Designer features

Day 3

- **ASP.NET Web API**
 - Overview
 - Versus the WCF Web Framework
 - Routing
 - Assemblies
 - Convention
 - Model binding and Formatters
 - Content negotiation
 - OData query syntax
 - Configuration
 - Security
- **Uniform Interface**
 - REST
 - URIs
 - What is the Uniform Interface
 - Implementing using Convention
 - ApiController
 - Verbs to Attributes
 - Using Configuration
 - Content negotiation
 - Model Binding and Formatting
 - HTTP – Diving Deeper
 - HttpRequestMessage
 - HttpResponseMessage
- **HttpClient**
 - HttpClient model
 - Using HttpClient
 - Media Types
 - Sending data
 - HttpContent types
 - Sending Data
 - Dealing with Other Issues
 - HttpClientHandler
 - Using HttpClientHandler
 - Deriving from DelegatingHandler
 - UserAgent
 - Security

