Advanced JavaScript, JavaScript patterns and Jquery

#### **Duration:3 Days**

**Software Required:**

* Internet Explorer 9+ , Mozilla Firefox[mozilla-**firefox**.ez-**download**.com/] and Chrome [https://support.google.com/chrome/answer/95346?hl=en]
* Eclipse [eclipse-jee-kepler]Firebug for Firefox
* PowerPoint and Acrobat Reader

**Hands-on/Lecture Ratio**

* This Advanced JavaScript training class is 70% hands-on, 30% lecture.

**Prerequisites:**

* Participants should know basics of any programming language, basic JavaScript and OOP knowledge will be added advantage.

# Table of Contents:

#### **Day 1**

#### Introduction to JavaScript, CSS and AJAX

#### Object Oriented Programming

Introduction to core Object Math, Object, Array, and String

Custom Objects

The Class

The Object(Class instance)

Using Constructors to create objects

Prototypes

Using prototypes to add properties and methods

Using prototypes to derive one object from another with Object.create

Changing an Object’s prototype.

Data properties and Accessor properties

#### Using Arrays

Addressing Arrays

Objects as Associative Arrays

#### Development using Namespaces

Working with Namespaces in JavaScript

Nested Namespaces

Modules and Private Members

#### Closures in JavaScript

#### Advanced JS techniques

The functions with flexible number of arguments

Using the || as a coalescing operator

Passing functions as arguments to other functions

Anonymous functions

Merging objects

Using the [ ] operator to access object properties or methods.

The eval( )

Using call() vs apply()

*Production-grade JavaScript*

Where to put JS

Coding standards (Yahoo!/Crockford)

Error handling

Debugging JS

Unit Testing

Code documentation

Minify Resources [HTML, CSS and JavaScript]

Minification using JSMin/YUI Compressor

***Day 2:***

*Introduction to AJAX*

Overview of AJAX

Simple application using XMLHttpRequest

Ajax and Cross domain access

[Cross-Origin Resource Sharing (CORS) specification]

Reverse Ajax techniques

### Piggyback polling

Comet using HTTP streaming

Comet using HTTP long polling

Introduction to WebSockets [HTML5]

*JQuery*

Events & Functions

Ajax

DOM

Debugging in JQuery

***Day 3:***

*JavaScript patterns*

Module

Chaining

Prototype

Namespace

Sandbox

Observer

Singleton

Factory

Proxy

Decorator

Strategy

Mediator

Facade

*JavaScriptMVC*

CanJS

StealJS

EJS

FuncUnit

*Anti-Patterns*

*Profiling memory and performance tools used for measuring performance*

*Conclusion*