



# Automating Complex Tasks with Microsoft Excel VBA Programming

**Duration:** 15 hour(s)

**Level:** Expert

**Target Audience** The target audience will be users who already possess a good level of Ms Excel and who want to automate their lengthy and tedious tasks in one simple click.

**Prerequisites** Basic to Advanced knowledge of Microsoft Excel together with a knowledge of the real world problem that needs to be automated in Ms Excel. An analytical mind will be an advantage.

## About this course

This course is designed to enable you to automate your recurrent tasks that are normally complex, time consuming and tedious through Visual Basic for Applications (VBA) programming language. The course is highly practical with examples of real life situations.

## Course Content

### Part1: Visual Basic Editor

- Visual Basic for Applications
  - Discussing VBA
  - Prepare Excel for VBA
  - Examining the VBE window
- Object Programming
  - Examining the Properties window
  - Changing the object properties
  - Using code to change the object properties
  - Using a method
  - Associating VBA code with an event
  - Executing VBA code by using button
- The Object Browser
  - Examining the Object Browser
  - Searching in the Object Browser

### Part2: Programming Basics

- Data basics
  - Discussing data types and variables
  - Discussing and declaring variables
  - Using operators
  - Using the interaction functions
- Scope of variables
  - Understanding procedure and module level scope
  - Understanding public scope
- Scope of procedures
  - Creating a sub procedures



- Calling a sub procedure
- Creating a function procedure
- Calling a function procedure

### **Part3: Control Structures**

- Decision structures
  - Using the If...Then statement
  - Using the If...Then...Else statement
  - Using the If...Then...Elseif statement
  - Using the Select Case statement
- Loop structures
  - Using the For...Next loop
  - Using the for Each...Next loop
  - Using the Do While...loop

### **Part4: Custom Dialog Boxes**

- User Forms
  - Adding a user form
  - Adding controls to a user form
- Events
  - Attaching an event handler to a control
  - Validating data by using event handlers

### **Part5: Debugging and Error Handling**

- Errors
  - Discussing types of errors
- Debugging
  - Discussing debugging tools
  - Setting a breakpoint
  - Adding a watch expression
  - Using Step Into
  - Deleting a watch expression
  - Working on the Intermediate window
  - Working with the Locals window
- Error handling