ProTech Professional Technical Services, Inc.

Introduction to Programming in C#

Course Summary

Description

Why should QA and testing professionals be familiar with the basics of computer programming? First, understanding how the software under test was created might provide valuable insights for designing, executing, and reporting tests. Second, test automation is the continuation of testing by means of programming – and understanding the basics of software programming is a necessary pre-requisite for acquiring automation skills. Third, being able to write simple programs can frequently help in generating test data, obtaining output files, and other common testing tasks.

The goal of the course is to make testing professionals familiar with the basics of C# in order to increase their testing expertise and prepare them for acquiring test automation skills.
The course will include multiple exercises.

Objectives

After taking this course, students will be able to:
- Basic programming concepts
- Principles of procedural programming
- Foundations of the C# programming

Topics

- What the course is about
- Why is programming important
- Basic programming concepts
- Procedural programming
- Visual Studio
- C#
- Object-oriented software development
- HTML basics

Audience

This course is designed for QA and testing professionals.

Prerequisites

Installations: PC laptop with Microsoft Visual Studio Installed; version information will be passed prior to training and Google Chrome installed.

Duration

One day

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Course Outline

I. *What the course is about*
   A. Scope: what do we cover in depth, what do we glance over, what we do not cover
   B. Goals: what will we learn
   C. Administrative items

II. *Why is programming important*
   A. Understanding where bugs come from
   B. Test automation
   C. Automating common testing tasks

III. *Basic programming concepts*
   A. Algorithms
   B. Code
   C. Programming languages
   D. Compilers and interpreters
   E. Control structures
   F. Values, variables and constants
   G. Assignment
   H. Types

IV. *Procedural programming*
   A. Subroutines and functions
   B. Writing procedural code

V. *Visual Studio*
   A. Components
   B. Menus

VI. *C#*
   A. C# variable types
   B. Assignments
   C. Arrays and lists
   D. Control structures

VII. *Object-oriented software development*
   A. Classes and objects
   B. Encapsulation, Inheritance, Polymorphism
   C. References

VIII. *HTML basics*