



TstAut1 - Version: 2  
22 September 2021

# Introduction to Practical Test Automation



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 **2 days Course**

## Description:

This course module is a practical introduction to the key concepts of software test automation. It is aimed at test professionals who wish to automate parts of their testing process using any of the popular commercially available or proprietary automated test tools.

## Intended audience:

This course module is intended primarily for test analysts, test engineers, test automation engineers and possibly their team leaders and managers or anyone who needs an introduction to test automation concepts, and would like to build their test automation right – starting on the right route.

## Prerequisites:

Knowledge of basic testing terminology (test script, test case, test plan) ISTQB foundation level knowledge is an advantage  
Able to design manual test cases using black-box testing techniques  
Appreciate that test execution tools are just one of 20 possible automation categories  
Awareness of simple programming concepts  
The organization is fairly mature and has a reasonably well defined manual test process

## Objectives:

Understand the Automation dilemma and major factors of failure  
Understand how automated test tools work;  
Understand the main approaches to building automated tests;

Understand the key issues in a test automation project;  
Understand key issues in Test Automation benefits and risks  
Understand how test automation may be implemented in an Agile environment  
Provide light insights as to how to plan a successful automation project;  
Appreciate how to avoid the common pitfalls associated with automation projects.

## Topics:

### Introduction

- Testing challenges of today - The test execution challenge
- Why do we want to automate?
- What problems are we trying to solve?
- What should be automated?
- When should we automate?
- introduction to Test Automation History

### Test automation Life cycle & Methodology

- Test Automation Life cycle & methodology
  - ALM automation life cycle
  - Choosing tools process
  - Test Planning and Preparation
  - Test Analysis and Design
  - Test Development
  - Test Execution & Evaluation
  - Test Program Review and Assessment (LL)
- Why do we need a Test Automation Strategy and Test Plan?
- The Test Automation Plan
  - The need for a TA plan
  - TA Plan includes...
- Summary

### Test design and Data



- Set Test Automation development standards & guidelines
- Baseline your scripts – configuration management
- Modularize your scripts
- The Use of Data-pools (data driven)
- Generating test data
- Logging system
- Script design for repeatability, modularity, reusability
- Summary - Intelligent tests creation - How to design repeatable, modular, useable, independent and useful test cases that can be automated

## Implementation options

- Test Automation development Architecture
- Test Automation Infrastructure
- Different types of automated tests
- Overview of test automation history and development
  - Capture/Playback,
  - Basic scripting,
  - Data Driven,
  - Scripting plus abstractions – Keywords Driven, higher abstraction – Business Keywords Driven,
  - Model based testing (MBT)
- Test automation language/s & tools
- Test Tools – commercial or DIY?
- Summary

## Non-functional testing

- Differences between functional and non-functional tests
- Basics of Load testing – load model, load environments lab and setup, data recovery, internal parameters change management, load profiles, reporting results

## Test automation framework

- Test automation framework
  - Framework main goals,

° Recovery System

° Test case libraries, engine/driver/harness/parser.

## Test Automation project aspects

- The test automation project
- Test Automation Skills Set
  - ° The Test Automation Team
  - ° The Test Automation Engineer
  - ° The Test Automation Team Leader
- Planning guidelines for a test automation project
- Plan, manage, maintain, improve
- Risks and benefits of Test Automation
- Test Automation ROI

## Summary

- Test Automation in an Agile environment
- Do's and don'ts; hints & tips; pitfalls to avoid; costs & benefits; skill set required; next steps...

° Questions & close