

KOENIG SOLUTIONS • COURSE OUTLINE

ISTQB Certified Tester Advanced Level Test Automation Engineering (CTAL-TAE) v2.0

Learn to design, implement and verify test automation architectures, from tool selection and CI/CD integration to reporting and continuous improvement.

3 Days

DURATION

10

MODULES

29

TOPICS

COURSE OVERVIEW

This course covers the foundations of test automation, including its purpose, advantages and disadvantages, and how it fits across different SDLC models, followed by preparation activities such as infrastructure configuration and tool evaluation. It then examines test automation architecture, covering design approaches, layering, and design patterns, before moving into implementation topics such as risk analysis, maintainability, CI/CD pipeline integration, and configuration management for testware. The course also addresses reporting and metrics, including data collection, analysis, and publishing progress reports. Finally, it covers verifying test automation solutions and applying continuous improvement through restructuring testware and strategic use of automation tools.

WHO THIS COURSE IS FOR

Test Automation Engineers

Test Analysts

Test Managers

QA Engineers

Software Testers

PREREQUISITES

- Must hold CTFL 4.0 or previous version Certification.
- Practical Experience of Automation Engineering

LEARNING OBJECTIVES

- Explain the purpose and trade-offs of test automation
- Identify tool selection criteria for different system types
- Describe infrastructure and environment preparation for automation
- Apply layering and design patterns to automation frameworks
- Analyse risks and maintainability factors in automation implementation
- Implement CI/CD integration and testware configuration management
- Interpret automation data to construct test progress reports
- Evaluate deployed automation solutions for continuous improvement

10 Modules, 29 Topics

DAY 1**Foundations and Architecture of Test Automation****01****Introduction and Objectives for Test Automation****TOPICS**

Purpose of Test Automation · Advantages and Disadvantages · Automation Across SDLC Models · Tool Selection for Different System Types

02**Preparing for Test Automation****TOPICS**

Infrastructure Configuration Needs · Automation in Different Environments · Evaluation and Selection of Automation Tools · Technical Findings and System Analysis

03**Test Automation Architecture (Part 1)****TOPICS**

- Capabilities of a Test Automation Architecture
- Designing Test Automation Solutions
- Layering of Test Automation Frameworks

DAY 2**Implementation, CI/CD, Reporting****04****Test Automation Architecture (Part 2)****TOPICS**

- Approaches for Automating Test Cases
- Design Principles and Design Patterns in Automation

05**Implementing Test Automation****TOPICS**

- Guidelines for Automation Development & Pilots
- Risk Analysis and Mitigation
- Maintainability Factors

06

Implementation and Deployment Strategies

TOPICS

CI/CD Pipeline Integration · Configuration Management for Testware · API Infrastructure Dependencies

07

Test Automation Reporting and Metrics (Part 1)

TOPICS

Data Collection Methods · Analyzing Automation Data

DAY 3

Verification and Continuous Improvement

08

Test Automation Reporting and Metrics (Part 2)

TOPICS

- Constructing and Publishing Test Progress Reports

09

Verifying the Test Automation Solution

TOPICS

Verification of Tool Setup and Environment · Expected Behavior and Troubleshooting · Static Code Analysis for Quality

10

Continuous Improvement

TOPICS

Identifying Improvement Opportunities · Analyzing Deployed Automation Solutions · Restructuring Testware to Align with SUT · Strategic Use of Automation Tools

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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