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ISTQB® CT-GenAI Certification Training - Testing with Generative AI

2 days (14 hours)

Overview

The ISTQB® Certified Tester - Testing with Generative AI (CT-GenAI) certification enables you to master the use of generative AI in software testing activities and to assess the risks, limitations, and opportunities associated with LLMs in modern QA processes.

Our ISTQB® CT-GenAI certification training will help you understand how to leverage generative AI in the design, generation, automation, execution, and analysis of software tests.

You will learn to effectively use LLMs and prompt engineering to generate test cases, produce datasets, support test automation, and improve quality processes.

You will be able to identify the risks associated with generative AI-based systems: hallucinations, bias, non-determinism, privacy issues, lack of reproducibility, and limitations of generative models.

Through a modern QA-oriented approach, this training will also help you understand the challenges associated with LLM-based testing infrastructures, LLMOps approaches, generative AI governance, and the integration of these technologies into a testing organization.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the principles of generative AI as applied to software testing.
- Use LLMs to support QA and test automation activities.
- Master the basics of prompt engineering applied to software testing.
- Identify the risks, limitations, and biases of systems based on generative AI.
- Understand the governance, security, and compliance challenges associated with LLMs.
- Effectively prepare for the official ISTQB® CT-GenAI certification exam.

Target Audience

- Software testers
- QA engineers
- Test Automation Engineers
- SDETs
- Software Quality Managers
- Developers Involved in Testing
- QA Consultants
- Teams working on projects incorporating generative AI
- Professionals wishing to prepare for the ISTQB® CT-GenAI certification

Prerequisites

- Basic knowledge of software testing and quality assurance.
- Understanding of the fundamental concepts of the software development lifecycle.
- Some experience in QA or Test Automation is appreciated.
- General knowledge of generative AI or LLM tools is appreciated.
- Understanding of technical English.
- Test My Knowledge

Technical Requirements

- Laptop with at least 8 GB of RAM.
- Stable internet connection to access AI platforms and training materials.
- A recent web browser is recommended.
- Access to one or more generative AI tools during the hands-on workshops.

Note: Ambient IT does not own the ISTQB® certifications. ISTQB® is a registered trademark of the International Software Testing Qualifications Board.

Curriculum for our ISTQB® CT-GenAI certification training - Testing with Generative AI

[Day 1 - Morning]

Fundamentals of Generative AI for Software Testing

- Understanding the principles of generative AI applied to software testing
- Identifying the capabilities and limitations of LLMs in a QA context
- Distinguish between AI testing, AI-assisted testing, and testing of AI-based systems
- Understand the uses of generative AI in testing activities
- Positioning the ISTQB® CT-GenAI certification within the QA career path
- Hands-on workshop: Identify relevant use cases for generative AI in a software testing process.

Prompt engineering for software testing

- Understanding the structure of an effective prompt for testing activities
- Using zero-shot prompting, few-shot prompting, and structured instructions
- Adapting prompts to test design, execution, and analysis tasks
- Evaluating the quality of responses generated by an LLM
- Iterate on prompts to improve accuracy, consistency, and usability
- Hands-on workshop: Designing and improving prompts to generate test cases from functional requirements.

[Day 1 - Afternoon]

Applying generative AI to testing activities

- Using generative AI for requirements analysis and risk identification
- Generating scenarios, test cases, and test data
- Assisting in the creation of test automation scripts
- Using generative AI for defect analysis and execution report analysis
- Applying generative AI to test control and monitoring tasks
- Hands-on workshop: Generating test cases, datasets, and test scripts using generative AI.

Risks, limitations, and quality of generated results

- Understanding the non-deterministic behavior of LLMs
- Identifying risks of hallucination, incorrect reasoning, and bias
- Evaluating the reliability, traceability, and reproducibility of generated results
- Understanding risks related to data privacy and security
- Identify mitigation techniques applicable to testing with generative AI
- Hands-on workshop: Analyzing AI-generated responses and detecting hallucinations, biases, and reasoning errors.

[Day 2 - Morning]

LLM-based testing infrastructure

- Understanding the role of an LLM-based testing infrastructure

- Identify the components of a generative AI-assisted testing pipeline
- Understanding fine-tuning for specific testing tasks
- Understanding LLMOps principles applied to testing activities
- Compare SaaS, private, open-source, and specialized model approaches
- Hands-on workshop: Design a target architecture to integrate an LLM into a software testing process.

Governance, compliance, and organizational integration

- Understanding the risks associated with shadow AI in testing teams
- Identify selection criteria for LLMs and SLMs for QA tasks
- Define a generative AI adoption strategy for software testing
- Recognizing the evolution of testing roles, responsibilities, and processes
- Identify relevant regulations, standards, and best practices
- Hands-on workshop: Building a roadmap for adopting generative AI in a testing organization.

[Day 2 - Afternoon]

Preparation for the ISTQB® CT-GenAI certification

- Review the learning objectives of the ISTQB® CT-GenAI syllabus
- Understand the expected cognitive levels: K1, K2, and K3
- Identify the key concepts to master for the exam
- Practice with sample questions and case studies
- Develop an effective study strategy
- Hands-on workshop: Take a practice exam + review answers.

Further reading

Target Audience

This training is designed for both individuals and companies—large or small—seeking to train their teams in new advanced IT technologies or to acquire specific professional knowledge or modern methods.

Placement upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.