Accelerate your Software Testing with Generative AI

In this practical course dedicated to AI for software testing, you will learn how to use generative AI to improve and accelerate your testing processes (design, optimisation and test automation).

The training content complies with the ISTQB Certified Tester – Testing with Generative AI (CT-GenAI) syllabus.

The objectives of this training are to:

- Present the essential knowledge on Generative AI:
  - Types of AI
  - Large Language Models (LLMs)
  - Learning, context window, hallucination
- Introduce the main techniques for querying AI models: prompt engineering. Use cases for software testing are applied through a real web application, including test design, test optimization, and test automation.
- Cover the risks and limitations of Generative AI, such as hallucinations, risks of data leakage and cybersecurity issues, as well as the energy costs of AI computations.
- Demonstrate methods for developing applications based on Generative AI, such as LLM-based AI agents.
- Contribute effectively to defining and implementing a Generative AI strategy and roadmap for software testing within an organization.
- Summarize, discuss, and share the operational implementation of Generative AI for testing.

By the end of this training, each participant will be able to:

- Explain the differences between types of AI, distinguish between different LLMs, and list querying techniques for LLMs.
- Present the main techniques for querying Generative AI models, such as structured prompting, example-based prompting (few-shot prompting), and techniques for analyzing project documents as well as creating effective prompts to accelerate test design, optimization, and automation tasks.
- Detect hallucination issues and find solutions to address them, define an approach to using Generative AI to prevent data leaks and cybersecurity risks, and estimate the carbon footprint of Generative AI usage.
- Explain the architecture of a Generative AI application based on LLMs, explain the RAG (Retrieval-Augmented Generation) technology, and the principles behind agents powered by Generative AI.
- Define a strategy for implementing Generative AI in their environment, and share with colleagues what should be prioritized in using Generative AI to achieve concrete benefits while avoiding risks.

Description :

Learn how to enhance your software testing practices by integrating Generative AI through a hands-on, practice-driven approach (over 70% of the course).
You will explore the foundations of Generative AI, understand how to craft effective prompts for various LLMs, and apply best practices across test case design, automation, and anomaly analysis.
By the end of the course, you will be able to identify opportunities and limitations of AI-augmented testing and confidently integrate these technologies in real-world QA workflows.

Teaching resources used:

☑ Interactive presentations ☑ Live code examples and demos
☑ Practical workshops (70% of training) ☑ Access to AI models and environments
☑ Online collaboration tools & test case repositories ☑ Theory ☑ Active ☑ Interrogative

Evaluation:

- Before the training: Entry questionnaire to assess initial knowledge.
- During the training: Knowledge activation quizzes. Multiple assessments throughout the course to measure skill acquisition.
- At the end of the training: Final evaluation quiz accompanied by a case study.

Certification :

A skills certificate will be issued to each trainee at the end of the course.
ISTQB Certification: Take the exam and earn the ISTQB CT-GenAI certification.

Accessibility :

Accessibility If you have any disability or need specific accommodations, please contact us at: contact@upskill4it.com

Access times :

Online (live virtual with trainer) or on-site in-company format.
Once the registration is validated, the training date is proposed within 48 hours

Duration :

This training lasts 2 day and is given face-to-face on an inter-company basis or online.

Format :

Live online with a trainer or on-site within your organization

Target audience :

- Quality Engineers, QA Manager
- Testers, Test Consultants
- Developers, Test Automation Engineers
- Product Owner, Project Managers
- Business Analysts

Next sessions :

- 3 - 6 March 2026
- 22 - 23 June 2026
- 12 - 15 October 2026

Prerequisites for the training:

- Basic knowledge of software testing
- Ease with digital tools

Update :

Date 03/09/2025 – V:003

Introducing the trainers :

Bruno Legeard,
Trainer, consultant, expert in software testing and AI for testing

Bruno is an expert in AI for testing.
He is involved in the development of AI-integrated tools at Smartesting and in evaluating generative AI for their application in software testing.
He also actively contributes to the French Software Testing Committee and to ISTQB within technical working groups

Anne Kramer,
Trainer software testing and AI for testing

Since her first model-based testing project in 2006, Anne has continuously promoted MBT – as project manager, consultant, trainer, and author.
In 2022, she joined Smartesting, where she discovered a whole new type of models: Large Language Models (LLMs) and Generative AI. With the support of Smartesting's AI experts, Anne gained in-depth knowledge of using ChatGPT.
It is this knowledge that she now wishes to share in this training.

Summary

Section 1 – Introduction to Generative AI for Software Testing

1. Foundations and key concepts of Generative AI
2. Leveraging Generative AI in software testing: general principles

Section 2 – Prompt Engineering for Effective Software Testing

1. Developing effective prompts
2. Applying prompt engineering techniques to software testing tasks
3. Evaluating Generative AI outputs and refining prompts for testing tasks

Section 3 – Managing Risks of Generative AI in Software Testing

1. Hallucinations, reasoning errors, and bias
2. Data confidentiality and security risks of Generative AI in software testing
3. Energy consumption and environmental impact of Generative AI for testing
4. Regulations, standards, and best-practice frameworks for AI

Section 4 - LLM-Based Testing Infrastructure for Software Testing

1. Architectural approaches for LLM-based testing infrastructures
2. Fine-Tuning and LLMOps: operationalizing Generative AI for software testing

Section 5 – Deployment and Integration of Generative AI in Testing Organizations

1. Roadmap for adopting Generative AI in software testing
2. Managing change when adopting Generative AI for software testing

This training is open to everyone and can be taken independently of the certification exam.

Participants who already hold the ISTQB® Foundation Level certification may, at the end of the training, sit the official exam to obtain an internationally recognized certificate:

ISTQB Certified Tester – Testing with Generative AI (CT-GenAI)

All participants benefit from the same learning content, with the exam remaining optional.