Software Testing

CANTATA



AI-Assisted Unit Testing

Bring the flexibility of AI into your Cantata testing workflows.

Cantata introduces two approaches to AI-assisted testing, allowing development teams to choose how they incorporate AI into their existing unit testing processes.
From agent-driven workflows to integrated test case generation, Cantata combines AI capabilities with its established C/C++ unit testing tooling.

Two Ways to Work with AI

Cantata AI Skill

For advanced users seeking flexibility and control.

Extend your AI agent with Cantata capabilities.

Enable your chosen AI agent framework to perform Cantata activities, including code analysis, test generation and test results interpretation.

With an open-ended, instruction-driven approach, the Cantata Skill allows AI agents to work iteratively with your files and testing objectives.

AI Test Case Generation

For users who prefer a guided, point-and-click experience.

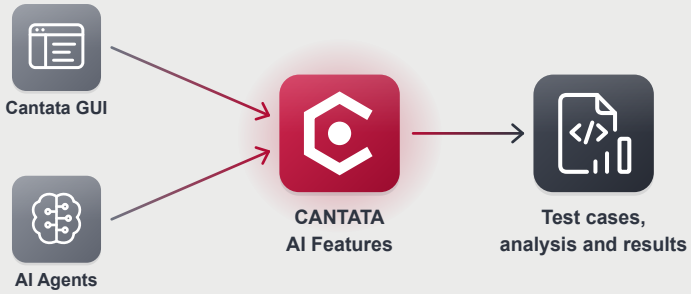
Generate test cases directly from your development environment.

Available through the Cantata GUI in Visual Studio Code and Eclipse, AI Test Case Generation provides an additional test generation option alongside AutoTest.

While AutoTest follows a methodical, deterministic approach, AI-assisted generation aims to create more natural and intuitive test cases, including meaningful names and descriptions.

Flexible AI Integration

Choose the approach that best suits your workflow, from AI agent-driven automation to integrated, point-and-click test generation.



Cantata AI Capabilities in Detail

Cantata AI Skill

Bring Cantata functionality into your AI agent workflows.

The Cantata AI Skill extends your chosen AI agent framework with specialised testing capabilities.

Dedicated integration guides are available for Claude Code, OpenAI Codex, GitHub Copilot and OpenCode.

Compatible AI Agent Frameworks


Claude Code


OpenAI Codex


GitHub Copilot


OpenCode

These capabilities include:

- ✓ **Code Analysis:** Use Cantata to analyse source code.
- ✓ **Test Generation:** Generate Cantata test cases through agent-driven workflows.
- ✓ **Results Interpretation:** Analyse test results to help identify issues and guide further testing.
- ✓ **Coverage Analysis:** Analyse code coverage results to identify gaps and support the generation of test cases.
- ✓ **White-Box Testing:** Leverage Cantata's white-box testing capabilities, including static access.

Beyond these specialised capabilities, the Cantata AI Skill supports open-ended, instruction-driven workflows, allowing AI agents to work iteratively towards your testing objectives.

As with any LLM-based workflow, clear and accurate prompts are important for achieving effective results.

AI Test Case Generation

An AI-powered alternative for generating Cantata test cases.

AI Test Case Generation is available within the Cantata GUIs for Visual Studio Code and Eclipse.

It offers an additional approach to test case generation alongside Cantata AutoTest, with each using a different method:

- **AutoTest:** Methodical and deterministic test case generation.
- **AI Test Case Generation:** An AI-driven approach designed to produce more natural and intuitive test cases, with meaningful names and descriptions.



Bring Your Own Model

AI Test Case Generation supports compatible AI models using the following authentication methods:

- **OpenAI-style:** Authorization: Bearer
- **Anthropic-style:** x-api-key
- **Azure-style:** api-key

These authentication methods provide compatibility with a wide range of AI providers, giving users flexibility in choosing their preferred model.

For optimal results, more capable AI models are recommended, as the quality of generated test cases depends on the capabilities of the selected model.

Request a demo and learn more at **sales@qa-systems.com.**

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