



# QScriptor

## LLM-Powered TestCafe Script Generator

*A smart automation assistant to elevate  
quality across Qmatic products*

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**QMATIC**

# Driving Quality at Qmatic

## The Role of Automation and the Case for TestCafe

Quality Assurance is crucial in Qmatic applications because they directly power mission-critical customer experiences across industries like healthcare, government, and retail. Every transaction, appointment, or customer queue relies on the flawless operation of Qmatic's digital solutions. Any defect can result in real-world disruptions and reputation damage.

To ensure reliability, Qmatic prioritizes test automation. Manual testing alone cannot keep up with the scale, complexity, and rapid development cycles of Qmatic applications. Automated testing provides faster feedback, consistent results, broader coverage, and cost efficiency. This enables Qmatic to confidently release updates while minimizing risk.

TestCafe is Qmatic's test automation framework of choice because it:

- Requires no browser plugins or WebDriver dependencies
- Runs tests efficiently across multiple browsers and platforms
- Supports JavaScript/TypeScript out of the box
- Provides powerful selectors and fast parallel test execution

By integrating TestCafe into its automation strategy, Qmatic delivers high-quality, scalable applications that outperform competitors in both user experience and stability.

# QScriptor's Role in Streamlining QA and Driving Business Growth

QScriptor dramatically streamlines the process of writing TestCafe automation scripts by allowing QA engineers to describe test scenarios in plain English. The tool handles the rest using AI. This eliminates the need to manually write boilerplate code or memorize TestCafe syntax, making test creation faster, easier, and less error-prone.

Task	Manual Approach	With QScriptor
Writing test logic	Requires expert knowledge and scripting time	Done instantly by describing the scenario
Boilerplate and setup code	Written repeatedly for each new test	Automatically handled by the LLM
Syntax troubleshooting	Prone to typos and coding errors	AI writes syntactically valid TestCafe code
Onboarding new testers	Time-consuming training on framework and syntax	Non-technical users can begin testing quickly
Regression and exploratory test writing	Slow and repetitive	Scenarios can be generated on the fly

## Time & Effort Benefits:

- Reduces script development time by 70–90%
- Cuts onboarding time for new QA engineers
- Reduces errors and rework caused by incorrect scripting
- Speeds up test cycle execution by enabling faster test creation

## Business & Revenue Impact for Qmatic:

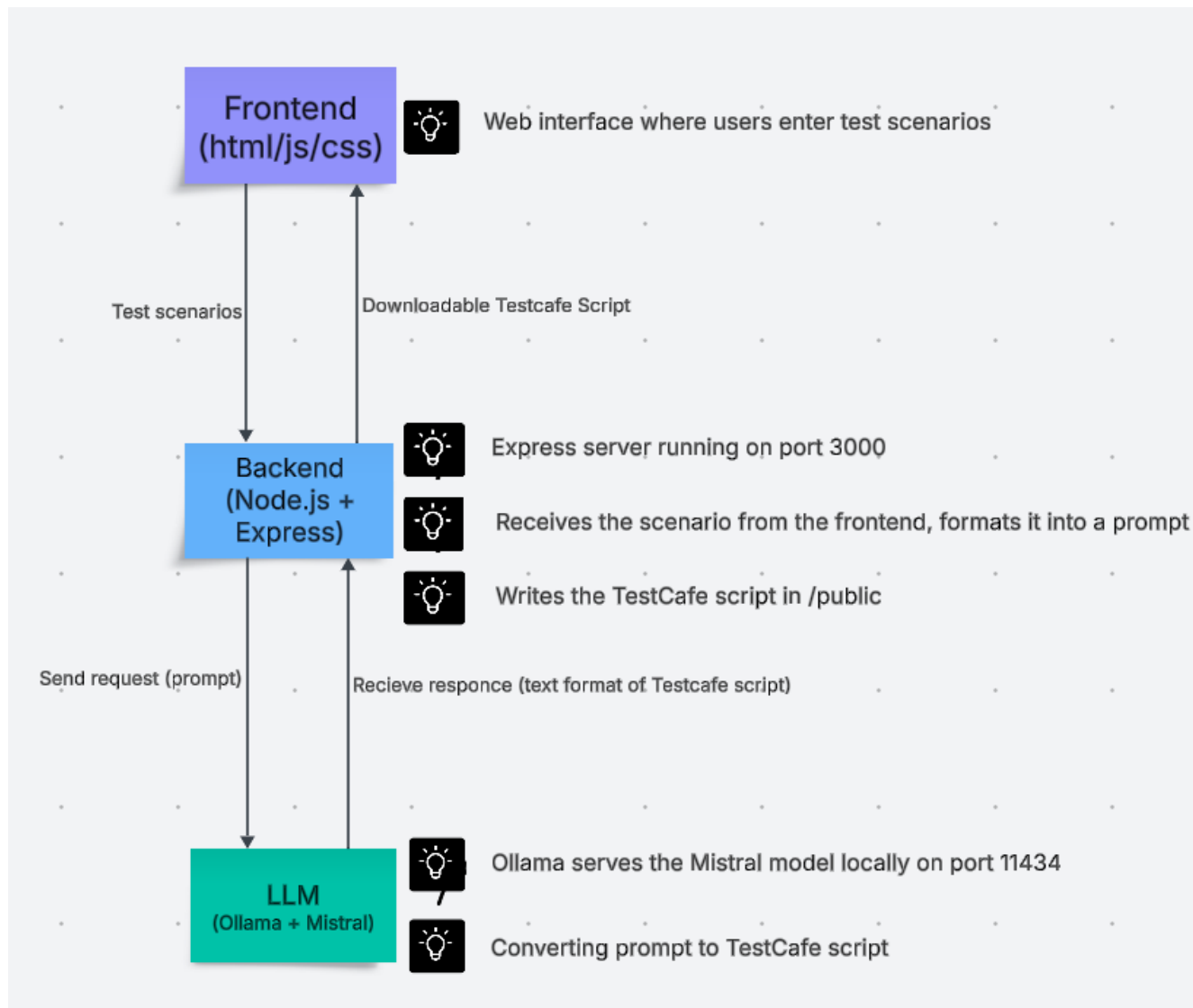
- **Faster Release Cycles:** More frequent and reliable software releases, which boosts customer satisfaction and retention.

- **Improved Test Coverage:** Leads to fewer bugs escaping into production, reducing customer support costs.
- **Operational Efficiency:** Frees up valuable QA resources to focus on exploratory testing and high-value work.
- **Competitive Edge:** By automating the most time-consuming part of test creation, Qmatic can innovate faster and adapt quicker to market needs.

Ultimately, QScriptor enhances productivity, elevates quality, and contributes directly to cost savings and faster time-to-market, driving a measurable revenue impact across Qmatic's software delivery pipeline.

# QScriptor Technical Architecture

QScriptor is a full-stack application that combines a web-based user interface with a local AI model for dynamic code generation. Users simply describe a test scenario in natural language and instantly receive a downloadable TestCafe .js script within seconds.



# Rationale Behind Using Mistral LLM with Ollama Integration

For the Qmatic AI Hackathon, choosing the right large language model was critical, both in terms of cost and flexibility. Mistral LLM, running via Ollama, stood out as an ideal solution for several key reasons:

## Free and Open-Source

Mistral is a powerful, open-weight model that is completely free to use, making it perfect for hackathon environments where cost is a consideration. Unlike many commercial APIs that charge based on usage, Mistral allows full access to advanced language capabilities without any licensing fees.

## Locally Hostable

Running Mistral via Ollama allows the model to be hosted locally on a QA's machine. This brings several major benefits:

- No dependency on cloud services – works offline and doesn't require an internet connection.
- Faster response times – local inference is often quicker than sending requests to remote APIs.
- Enhanced privacy and control – data never leaves the local environment, making it ideal for testing sensitive use cases.

## Great for Prototyping and Innovation

With zero cost and full control over the environment, Mistral via Ollama provides the perfect setup for fast experimentation. Whether you're building quick prototypes or testing advanced automation workflows, it enables rapid iteration without worrying about API limits or network latency.