Leveraging AI Code Assistants for API Testing
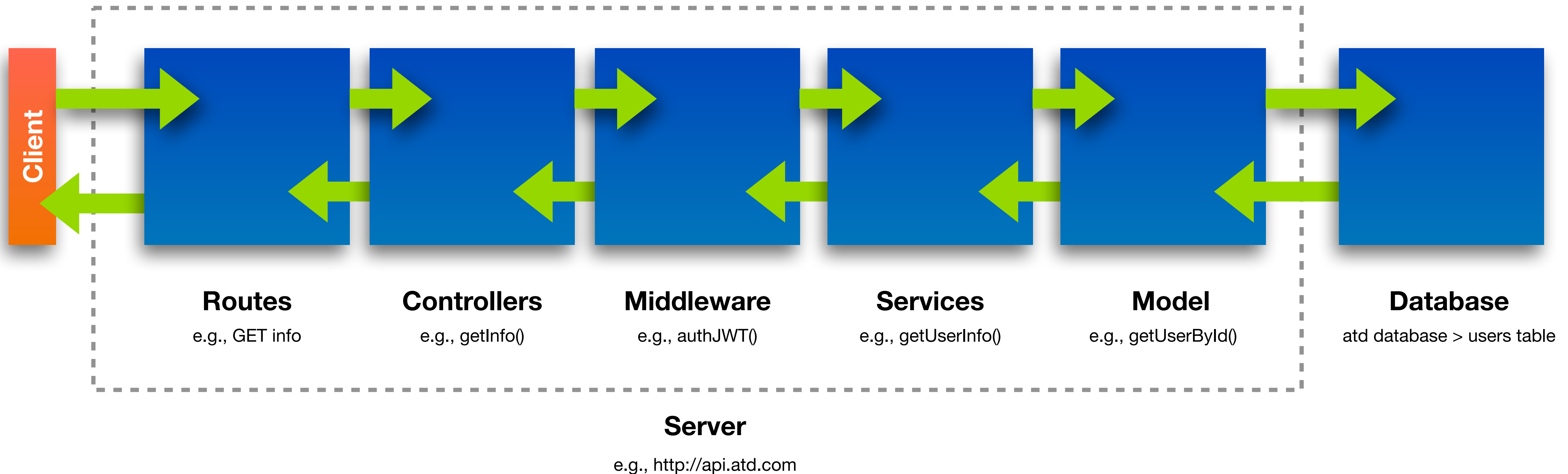
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AGILE
TESTING DAYS

RESTful API Architecture: Basics

Client

Routes
e.g., GET info

Controllers
e.g., getInfo()

Middleware
e.g., authJWT()

Services
e.g., getUserInfo()

Model
e.g., getUserById()

Database
atd database > users table

Server

e.g., http://api.atd.com

Common Approaches Used when Testing APIs

API Spec Checking

Checking if the API **reflects what is documented** into the API Spec

Architecture Compliance Checking

Checking if the API was **implemented in compliance to the selected architecture style** (e.g., REST)

API Functional Testing

Checking if the API **behaves according to the expected business rules.**

API Performance Testing

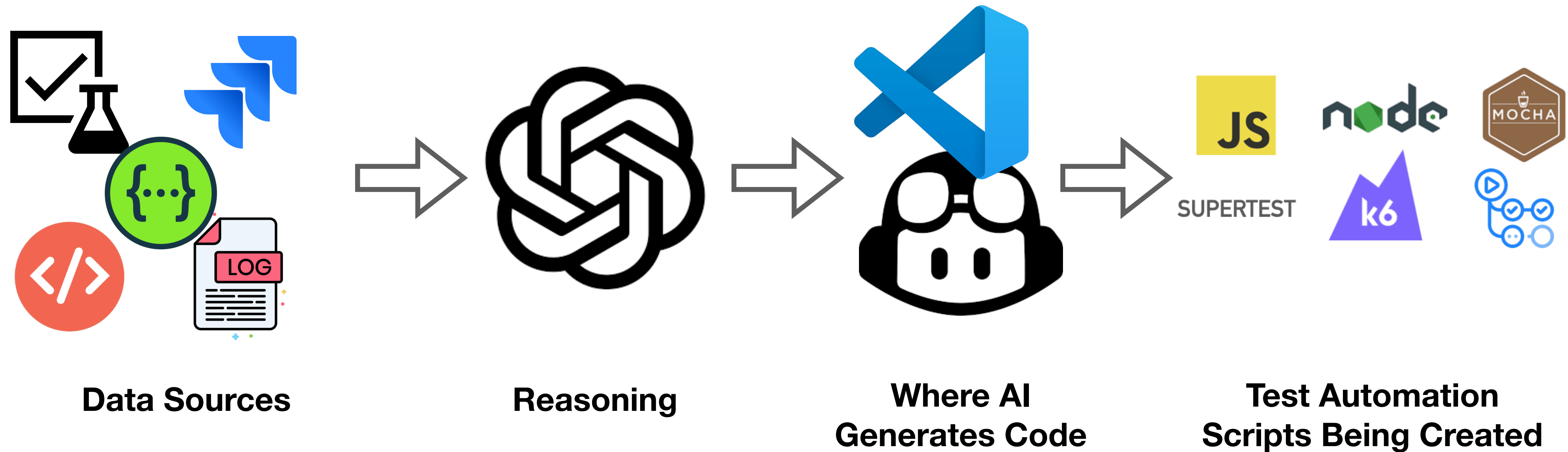Checking how the API **behaves under different levels of traffic and load.**

API Security Testing

Checking if the API **protects data and operations** against unauthorized access, vulnerabilities, and malicious attacks.

Compatibility Testing

Checking if the API works **consistently across different client environments, versions, and configurations.**

How AI-Coding Assistants Can Help on API Testing

AGILE TESTING DAYS

Data Sources

Reasoning

Where AI Generates Code

Test Automation Scripts Being Created

Reasoning

1) Goal

2) Context

3) Rules

4) Examples

5) Format

Reasoning

1) Goal

2) Context

3) Rules

Best suited for coding tasks

4) Examples

5) Format

Demo

Rest API Functional Testing

Repo: github.com/juliodelimas/atd-2025

Demo

Rest API Security Testing

Repo: github.com/juliodelimas/atd-2025

Demo

Rest API Performance Testing

Repo: github.com/juliodelimas/atd-2025

Come tomorrow for a hands-on session and explore more AI-Driven API Testing.