

ToiletPaper #103

Powerful HTTP end-to-end tests with Karate

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✗ Problem

E2E testing of HTTP endpoints can be time-consuming, especially when dealing with elaborate JSON or XML requests. You could of course use frameworks such as [Postman](#), [Rest-Assured](#) or [Spring MockMvc](#), but in turn they suffer from issues like tracking of changes, setup of the environment, maintenance of test data, or ease of test execution and the corresponding reporting.

✓ Solution

[Karate](#) is a framework to smoothly implement E2E tests with direct support of [JSON](#) and [XML](#) for requests and validation of responses as well as [interoperability with Java](#) and [JavaScript](#). Test cases are formulated [semi-naturally in Gherkin](#) – good POs provide this as acceptance criteria in their stories! Test results are summarized in [reports](#), which contain the HTTP exchange and the assertions. With a little extra effort, you can [reuse tests](#) and answers from previous tests. In addition, Karate comes with a [mock server](#) and even performs [load tests](#).

➔ Example

The following example checks an XML response where the order is irrelevant (you might compare the actual response from [mocky.io](#) with the expectation in the test):

```
Feature: jambit API

  Scenario: Checking mission and motto collectively
    Given url "http://www.mocky.io/v2/5bd9ab282f00005c0006d262"
    And header Accept = "application/xml"
    When method get
    Then status 200
    And match response contains
      """
      <jambit>
      <mission>100% Begeisterung</mission>
      <motto>Where innovation works</motto>
      </jambit>
      """
```

The following test suite defines the URL for subsequent test cases and then the parameterized test randomly checks three expectations:

```
Feature: Users API

  Background:
    * url "https://jsonplaceholder.typicode.com/"

  Scenario Outline: Given user ID, validate company name
    Given path "users", <id>
    When method get
    Then status 200
    And match response.company.name == "<companyName>"

  Examples:
    | id | companyName |
    | 1  | Romaguera-Crona |
    | 3  | Romaguera-Jacobson |
    | 7  | Johns Group |
```

+ Further Aspects

- [Karate on GitHub](#)
- [Gherkin Syntax](#)
- [Acceptance test-driven development on Wikipedia](#)