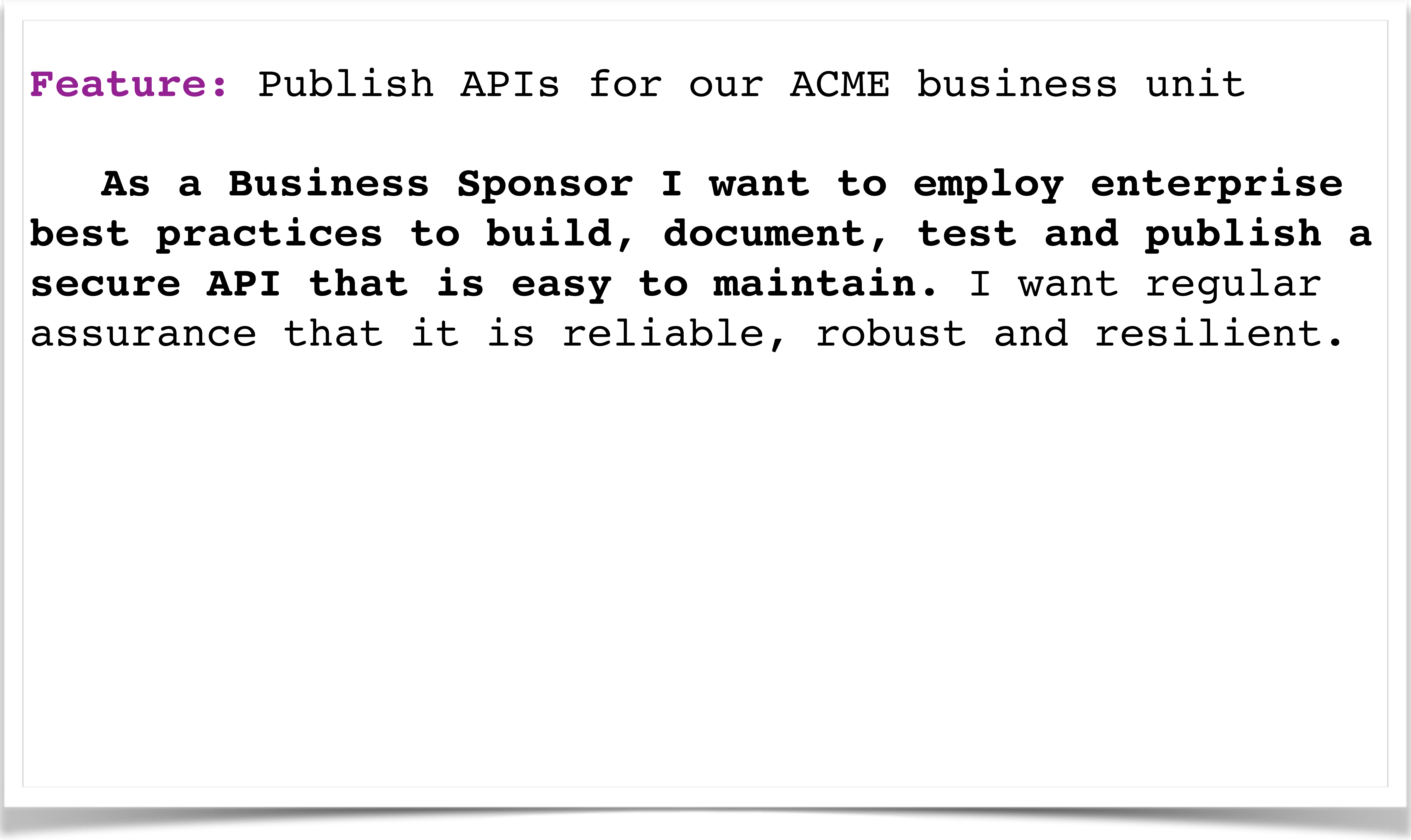
# Automation & Governance

## agility in an API-first world

# Definition of Done



**Feature:** Publish APIs for our ACME business unit

**As a Business Sponsor I want to employ enterprise best practices to build, document, test and publish a secure API that is easy to maintain.** I want regular assurance that it is reliable, robust and resilient.

# Stage 1: Adoption

- Select an API management platform
- Deploy an secure API management platform
- Securely wire it to your backend services
- Understand your API architecture patterns
    - Internal, B2B, B2C, E2E, public, etc
- Establish an competent API practice

# Stage 2: Acceleration

- Automate infrastructure provisioning
- Document a governance model
  - Embrace the open API specification
- Standardise non-functional components
- Automate software development lifecycle
- Adopt micro-services

# Stage 3: Governance

- Accurate Documentation
- Re-usable Micro Services
- Re-purpose Legacy Services
- Effortless Interoperability
- Rigorous Quality Assurance
- Monitor Business Continuity

# Stage 4: Agility

- Automate API integration
- Automate micro services
- Automate testing
- Automate documentation
- Automate governance

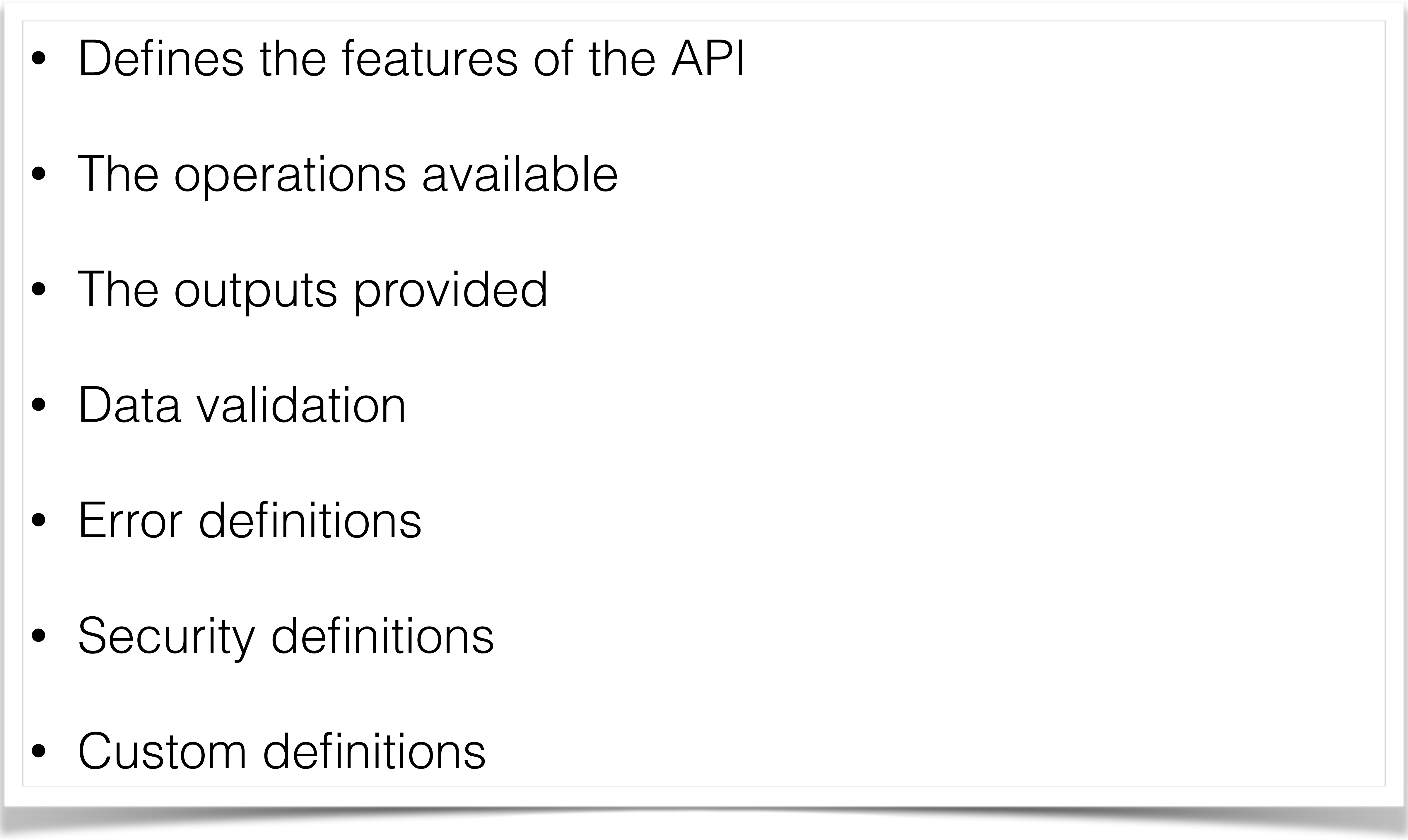
12
3
6
9

Standardise

Simplify

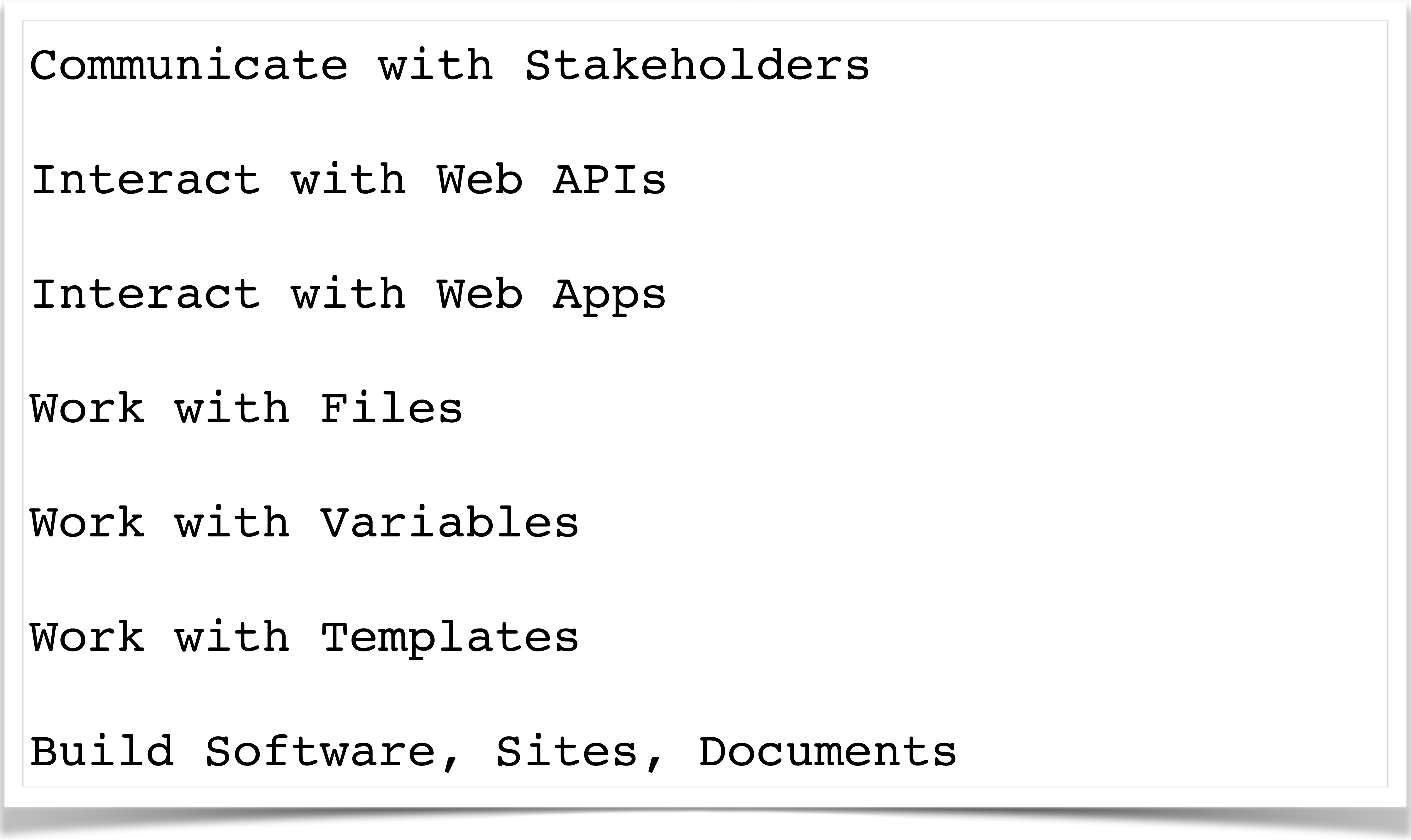
Celebrate

# Standards: Open API



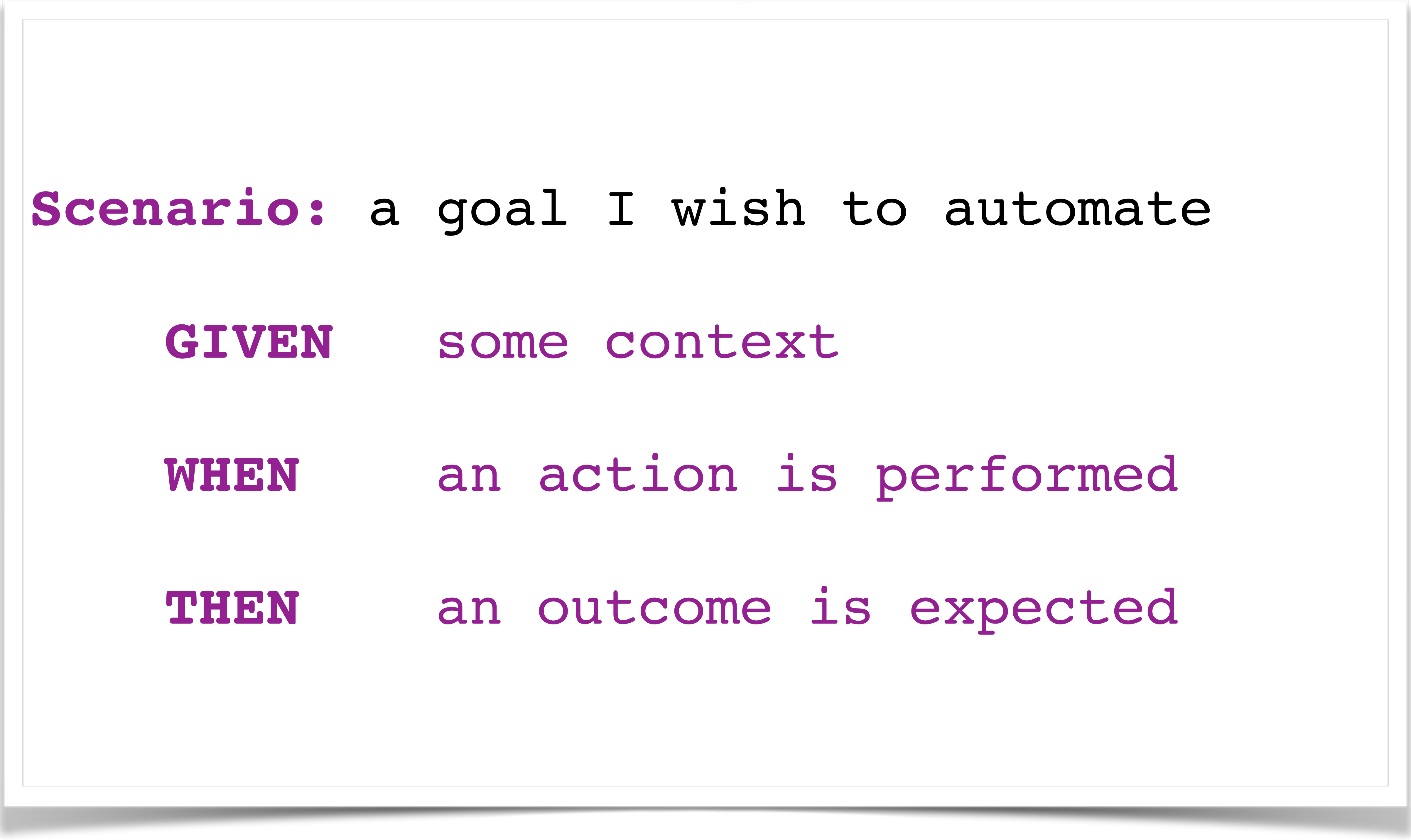
- Defines the features of the API
- The operations available
- The outputs provided
- Data validation
- Error definitions
- Security definitions
- Custom definitions

# Simplify: Specifications



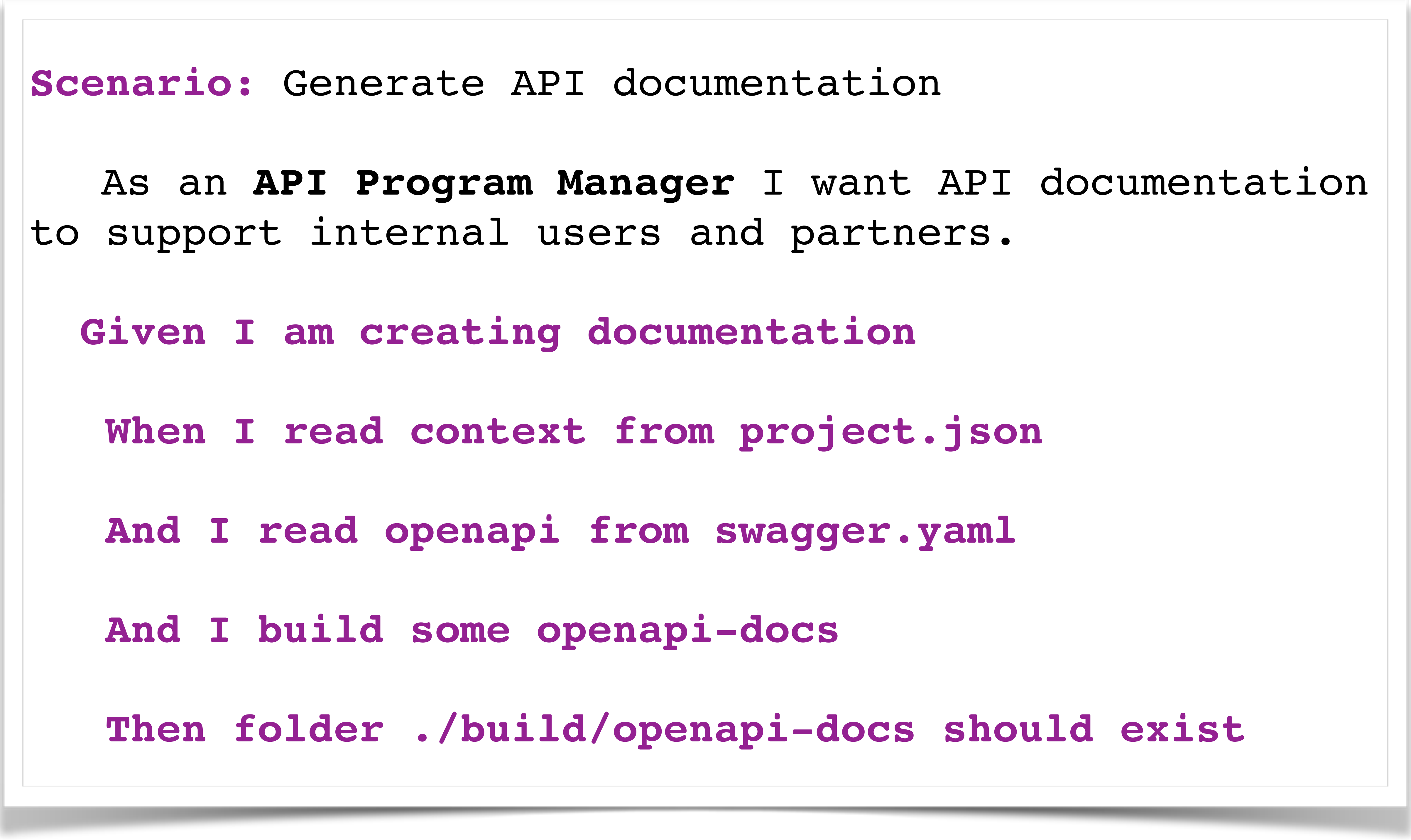
```
Communicate with Stakeholders

Interact with Web APIs

Interact with Web Apps

Work with Files

Work with Variables

Work with Templates

Build Software, Sites, Documents
```

# Business Defined Development (BDD)



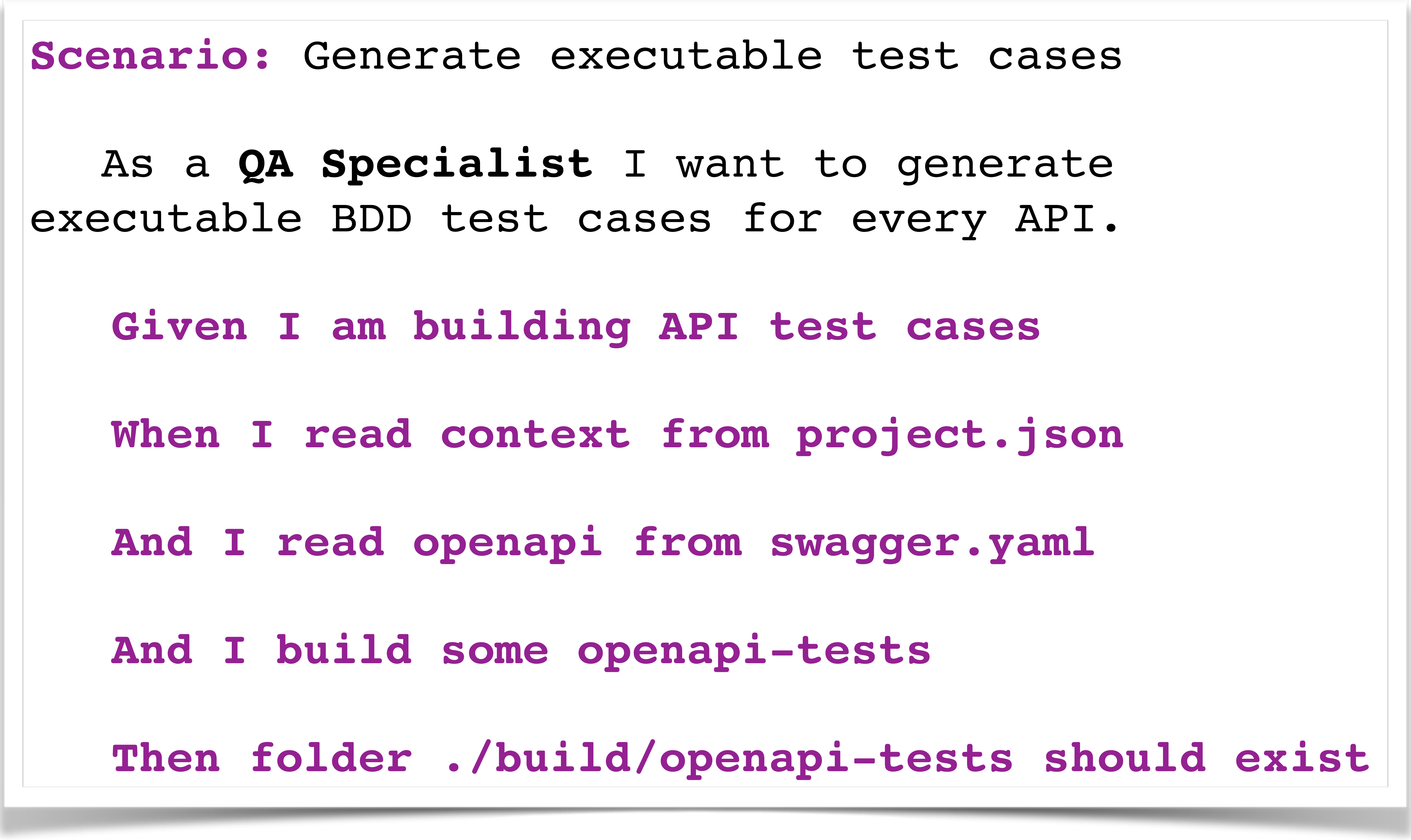
```
Scenario: a goal I wish to automate

    GIVEN    some context

    WHEN     an action is performed

    THEN     an outcome is expected
```

# Documentation



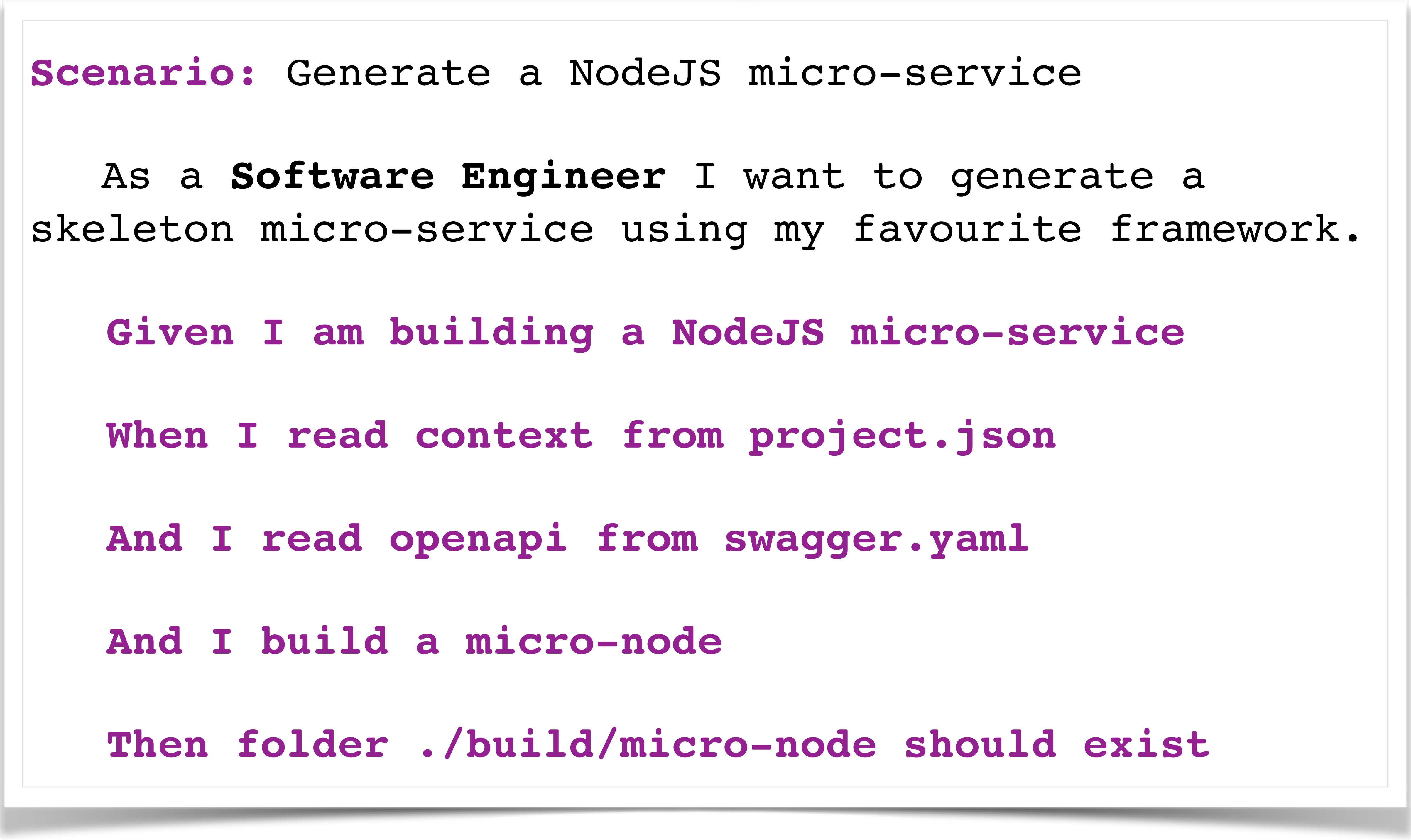
```
Scenario: Generate API documentation

   As an API Program Manager I want API documentation
to support internal users and partners.

  Given I am creating documentation

   When I read context from project.json

   And I read openapi from swagger.yaml

   And I build some openapi-docs

   Then folder ./build/openapi-docs should exist
```

# Test Cases



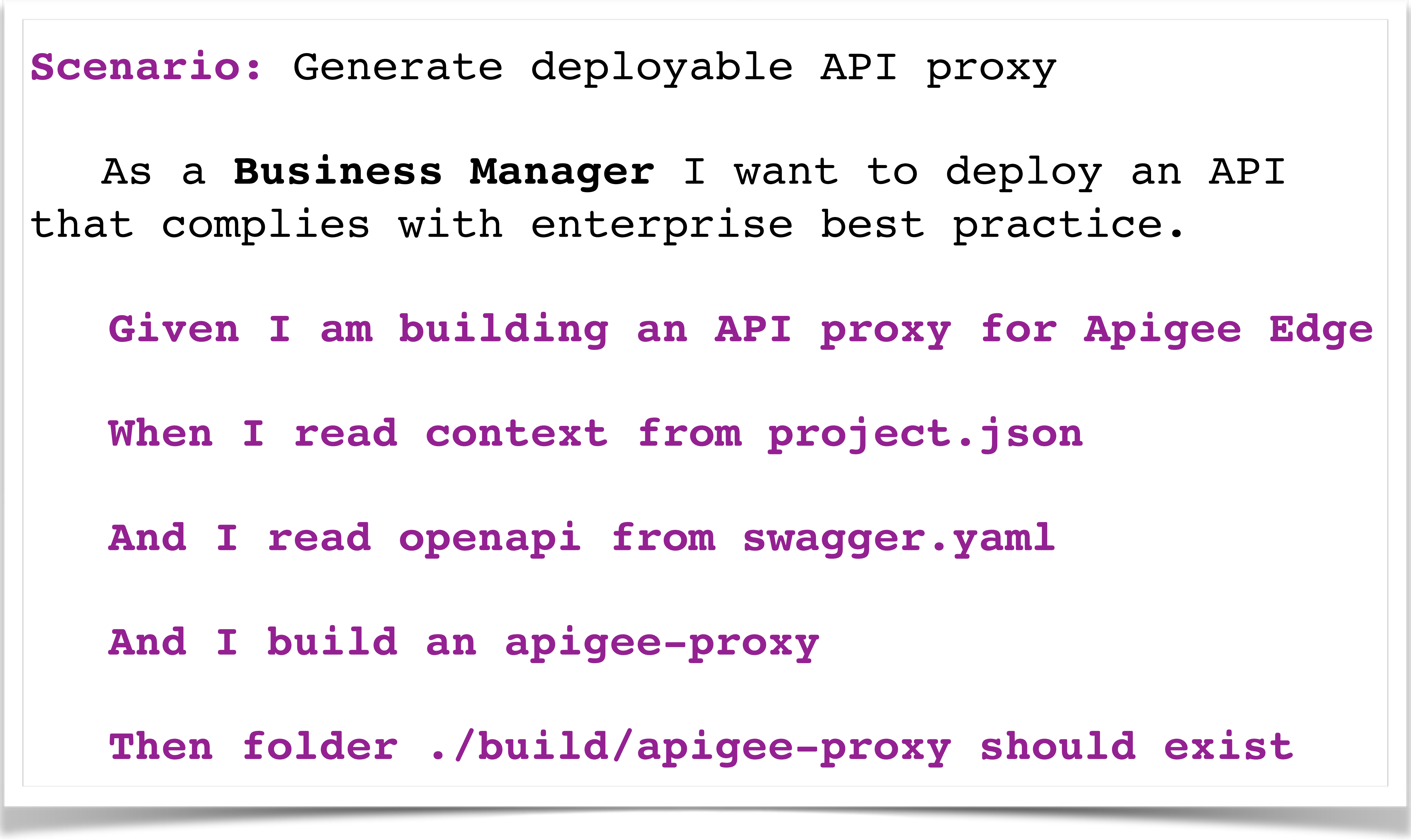
```
Scenario: Generate executable test cases

   As a QA Specialist I want to generate
executable BDD test cases for every API.

    Given I am building API test cases

    When I read context from project.json

    And I read openapi from swagger.yaml

    And I build some openapi-tests

    Then folder ./build/openapi-tests should exist
```

# Development



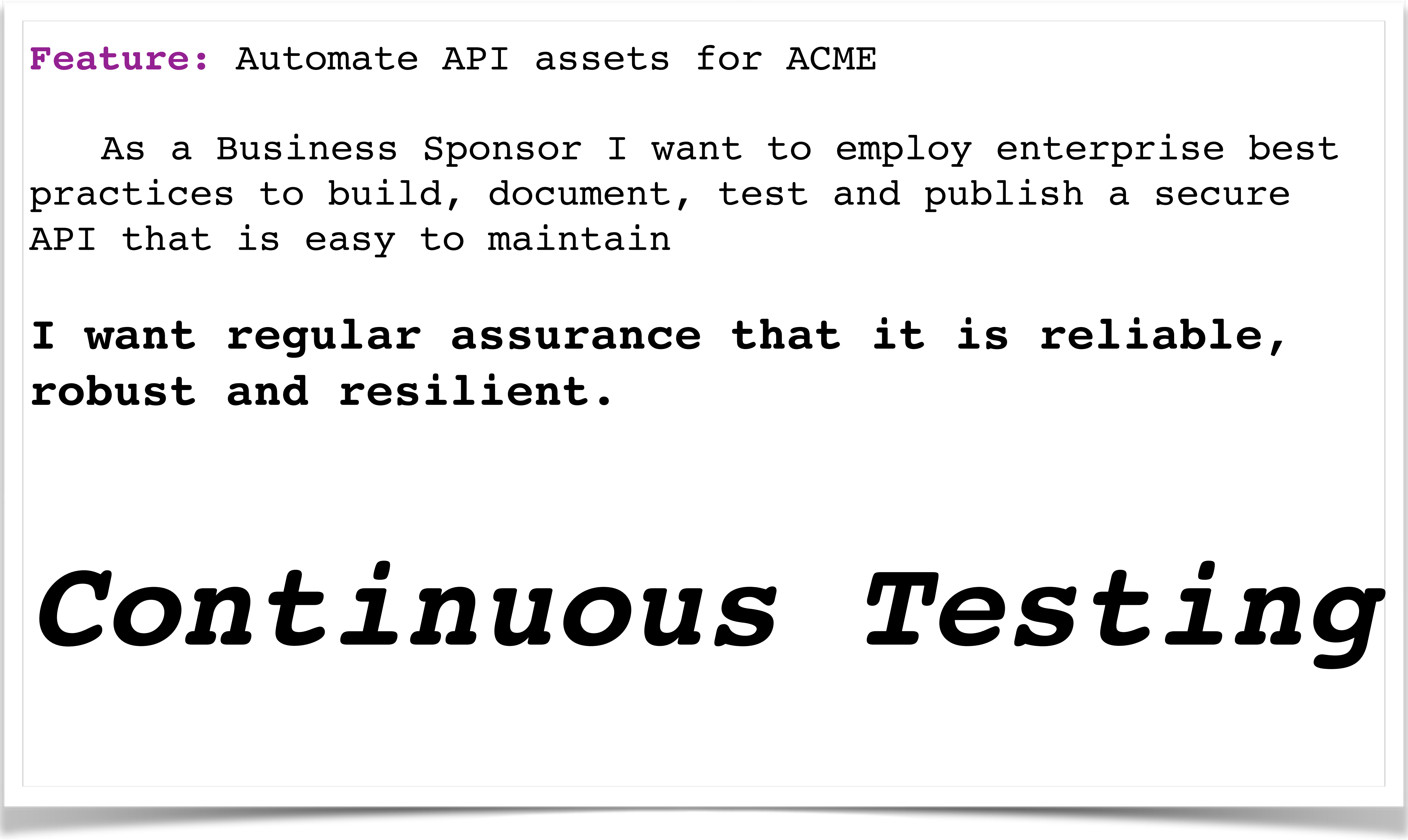
```
Scenario: Generate a NodeJS micro-service

   As a Software Engineer I want to generate a
skeleton micro-service using my favourite framework.

    Given I am building a NodeJS micro-service

    When I read context from project.json

    And I read openapi from swagger.yaml

    And I build a micro-node

    Then folder ./build/micro-node should exist
```

# Deployment



```
Scenario: Generate deployable API proxy

   As a Business Manager I want to deploy an API
that complies with enterprise best practice.

    Given I am building an API proxy for Apigee Edge

    When I read context from project.json

    And I read openapi from swagger.yaml

    And I build an apigee-proxy

    Then folder ./build/apigee-proxy should exist
```

# Assurance



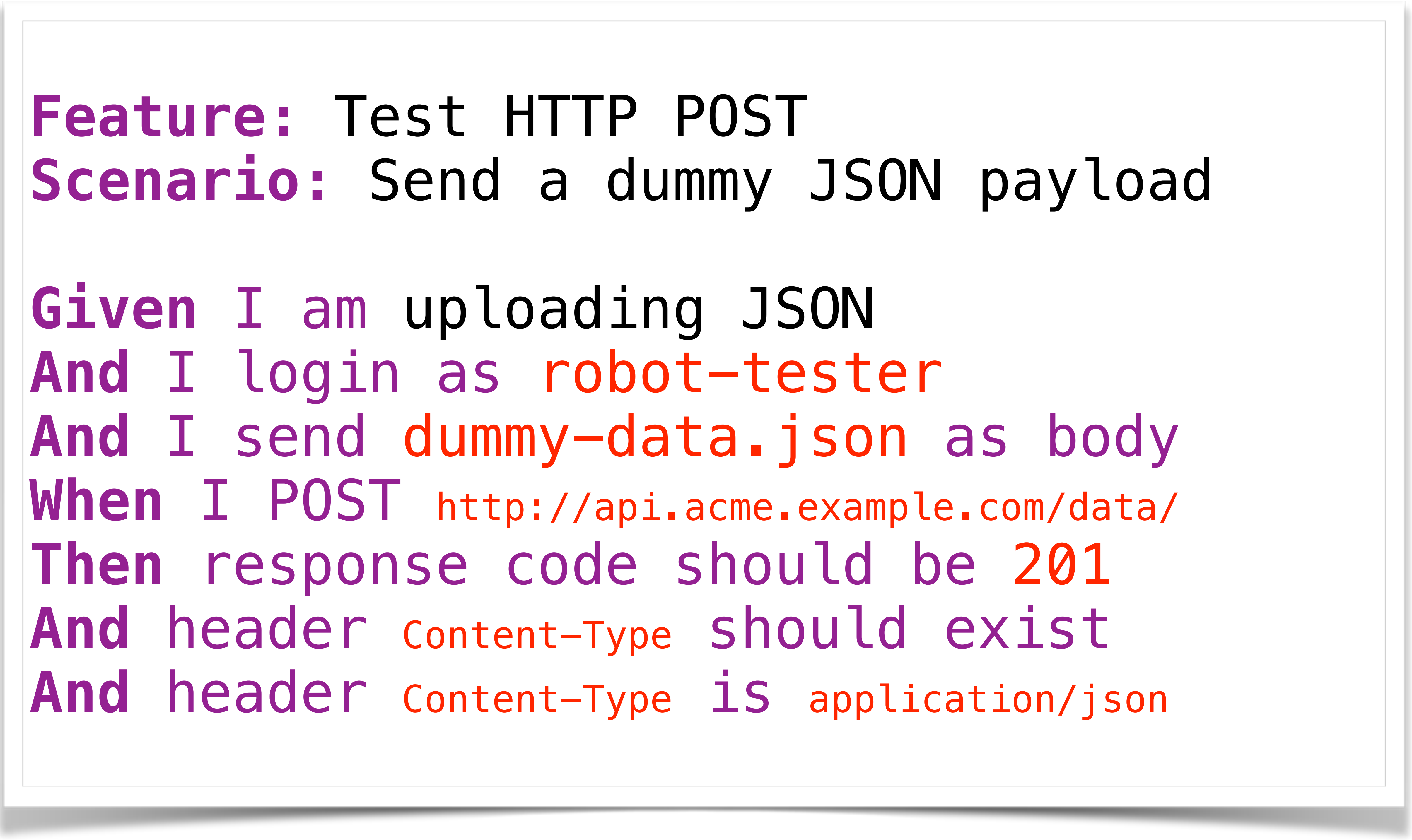
**Feature:** Automate API assets for ACME

As a Business Sponsor I want to employ enterprise best practices to build, document, test and publish a secure API that is easy to maintain

**I want regular assurance that it is reliable, robust and resilient.**

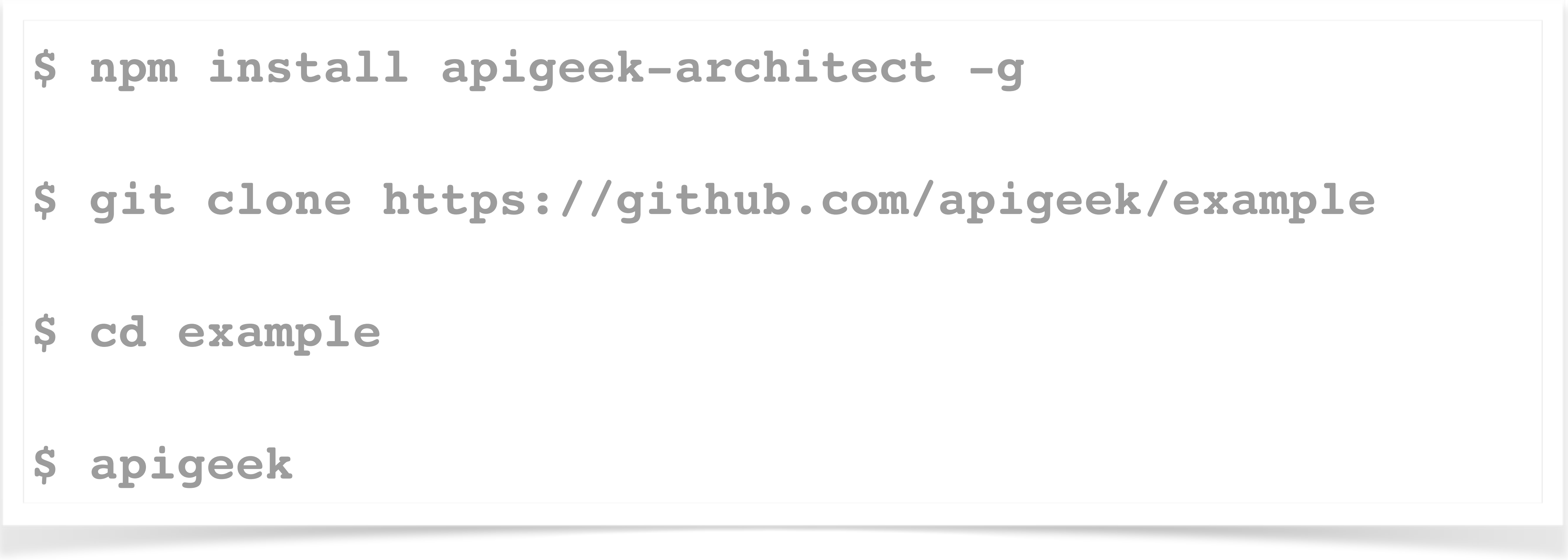
***Continuous Testing***

# Executable English



```
Feature: Test HTTP POST
Scenario: Send a dummy JSON payload

Given I am uploading JSON
And I login as robot-tester
And I send dummy-data.json as body
When I POST http://api.acme.example.com/data/
Then response code should be 201
And header Content-Type should exist
And header Content-Type is application/json
```

# ApiGeek Architect



```
$ npm install apigeek-architect -g

$ git clone https://github.com/apigeek/example

$ cd example

$ apigeek
```

**An Executable Example**

**COMING SOON …**