



# End-to-End Testing Tools

Demo on how to use Cypress and Cucumber  
to test front-end and back-end code.

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**PROS**

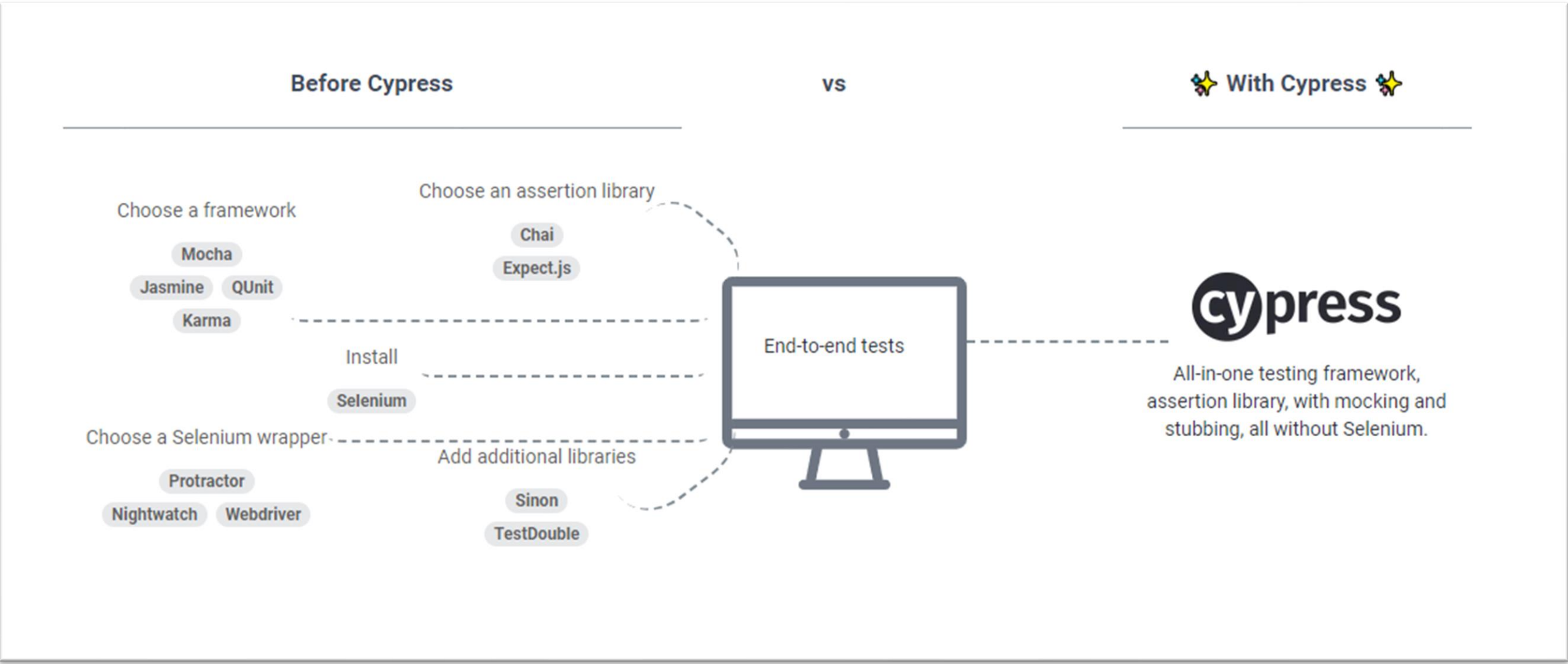
# Why test?

Thorough testing is necessary to discover bugs/defects that need to be resolved prior to delivery to client. This ensures the dependability, security, and quality of the software.

# CYPRESS

# What's Cypress?

A complete-end-to-end testing experience



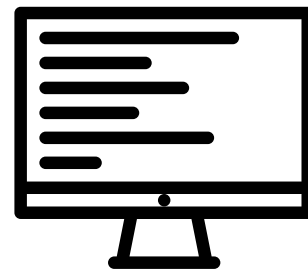


# Why Cypress?

- Works on any front-end framework or website.
- For Developers and QA Engineers.
- Supports Time Travel and Real Time Reloads.
- Cypress runs much, much faster.
- With Cypress it's possible to:



- Set up tests



Write tests



Run tests



Debug tests

# Getting Set Up.

Install Node (version 14)

Install Cypress

Install the cypress-realworld-app

## Test status menu

See how many tests passed or failed, and how long they took to run

## Viewport sizing

Test responsive layouts by changing your app's viewport size

The screenshot displays the Cypress test runner interface. On the left, the 'Test status menu' shows a summary of test results: 6 passed (green checkmarks), 0 failed (red X), and 0 pending (grey circle). Below this, the 'Command Log' lists the steps of the test, including 'db:seed', 'filtering within users data', 'Authenticating | Austen48', and a series of GET requests to various endpoints like '/login', '/bankAccounts', '/transactions/public', and '/notifications'. The 'App preview' on the right shows the application running at 'http://localhost:3000/transaction/new'. It features a blue header with 'Real World App' and a 'NEW' button. The main content area displays a search bar with the placeholder '[data-test=user-list-search-input]' and a list of users: Delta Littel, Citlalli Herzog, Misael Hettinger, and Ivory Christiansen. The bottom of the interface shows 'Built by Cypress'.

## Command Log

Hover over a command in the log and the app preview shows you exactly what it looked like when the test ran. Our users call it time travel ✨

## App preview

While test commands execute, see what happens in your app in real time. Use your DevTools to inspect or debug each command

# Cypress Resources

For more info on how Cypress works, including documentation and tutorials, please visit <https://www.cypress.io/>

For instructions on installing the Real World App please visit <https://github.com/cypress-io/cypress-realworld-app>





# CUCUMBER

# First, Behavior-Driven Development

- Also known as BDD
- An agile software development process
- Focuses on expected behavior
- Encourages collaboration across whole team
- Goal: agree on a how an application should behave based on concrete examples.

# BDD Process



## Discovery

What it *could* do: Agree on concrete examples from User Story.



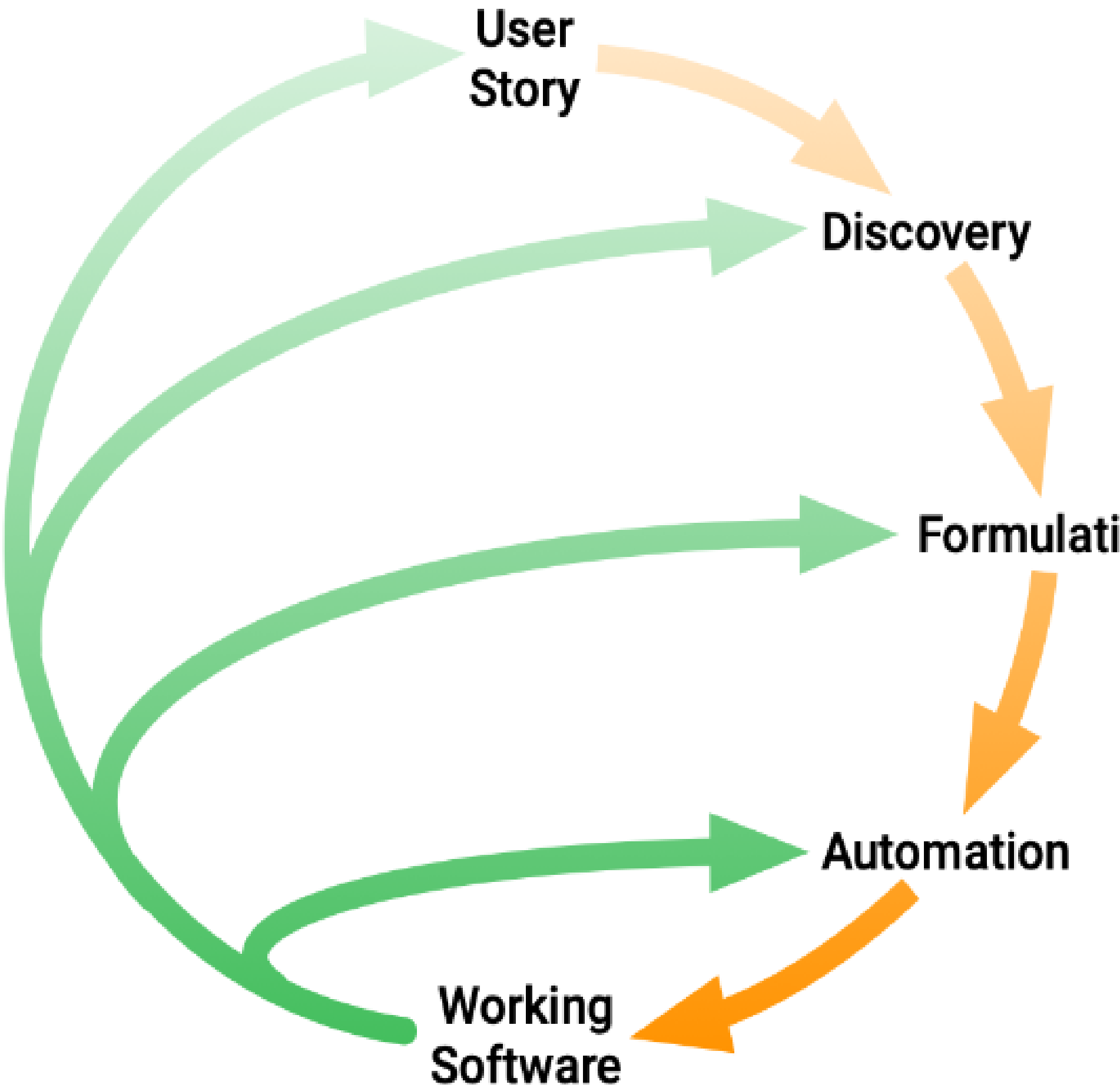
## Formulation

What it *should* do: Document the examples.



## Automation

What it *actually* does: Implement the documented behavior.



# Now, What's Cucumber?

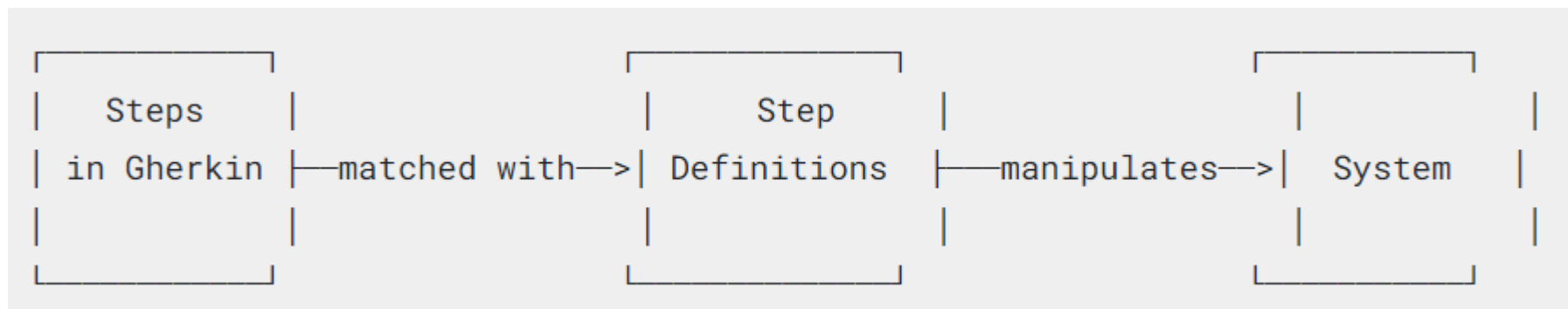
- Cucumber is a tool that supports the BDD process.
- Reads plain text specifications and verifies software follows them.
- Specifications are made of *examples*, or *scenarios*, ex:

```
Scenario: Breaker guesses a word  
  Given the Maker has chosen a word  
  When the Breaker makes a guess  
  Then the Maker is asked to score
```

- Scenarios are made of *steps*.

# Cucumber Scenarios

- Scenarios have 2 parts: Gherkin syntax and Step Definitions
- What's Gherkin?
  - A set of grammar rules to give plain text structure
  - Gherkin documents are stored in .feature text files
- What are Step Definitions?
  - Connect Gherkin steps to programming code



- Can be written in many programming languages. JavaScript example:

```
When("{maker} starts a game", function(maker) {  
  maker.startGameWithWord({ word: "whale" })  
})
```



# Cucumber Resources



- For more info on how Cucumber works, including documentation and tutorials, please visit <https://cucumber.io/>
- To access the complete code for the cucumber tutorial and these slides please visit <https://github.com/mhenini/CucumberDemo>

Or scan





# Thank You

[pros.com](https://pros.com)