



Workshop Full Stack Testing





<https://github.com/up1/workshop-full-stack-testing>



Workshop

Design test cases

Test strategies

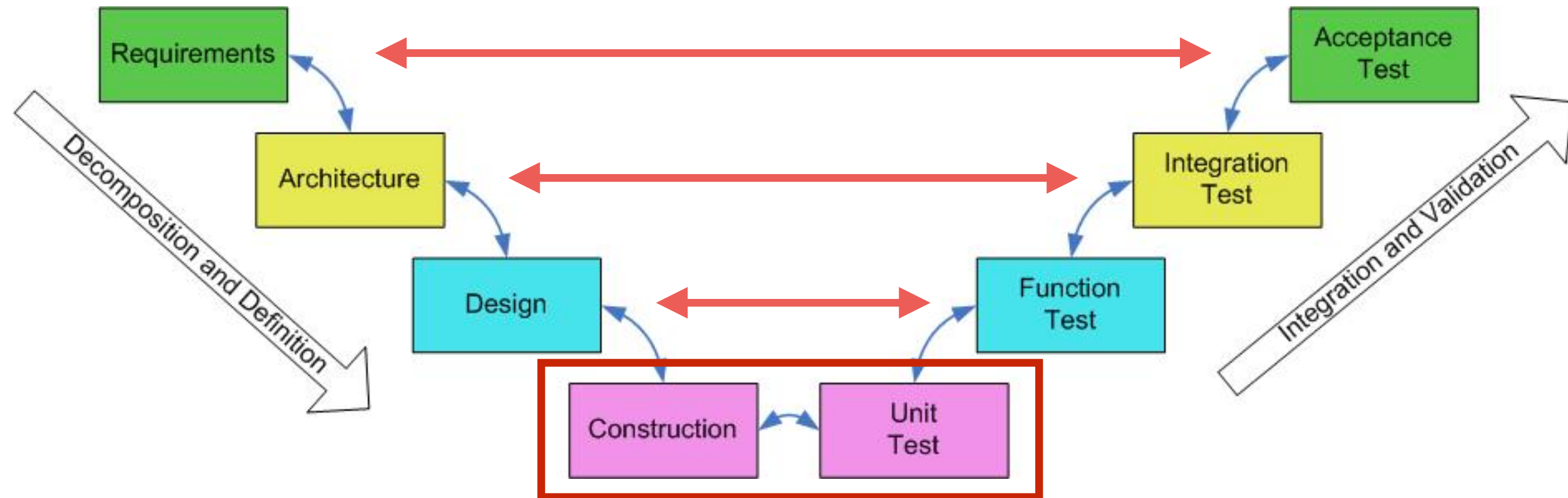
Testing

Automated Testing

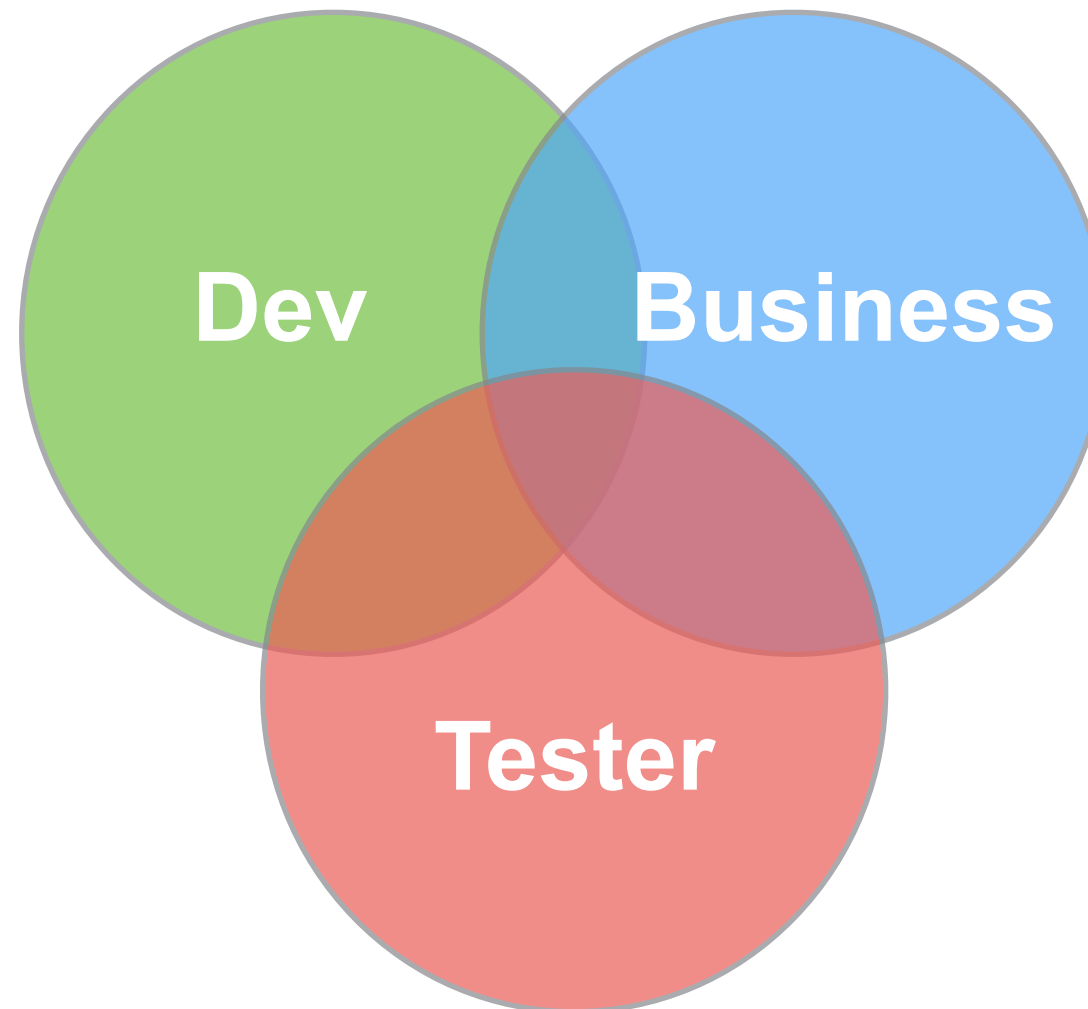
Continuous Testing



V Model



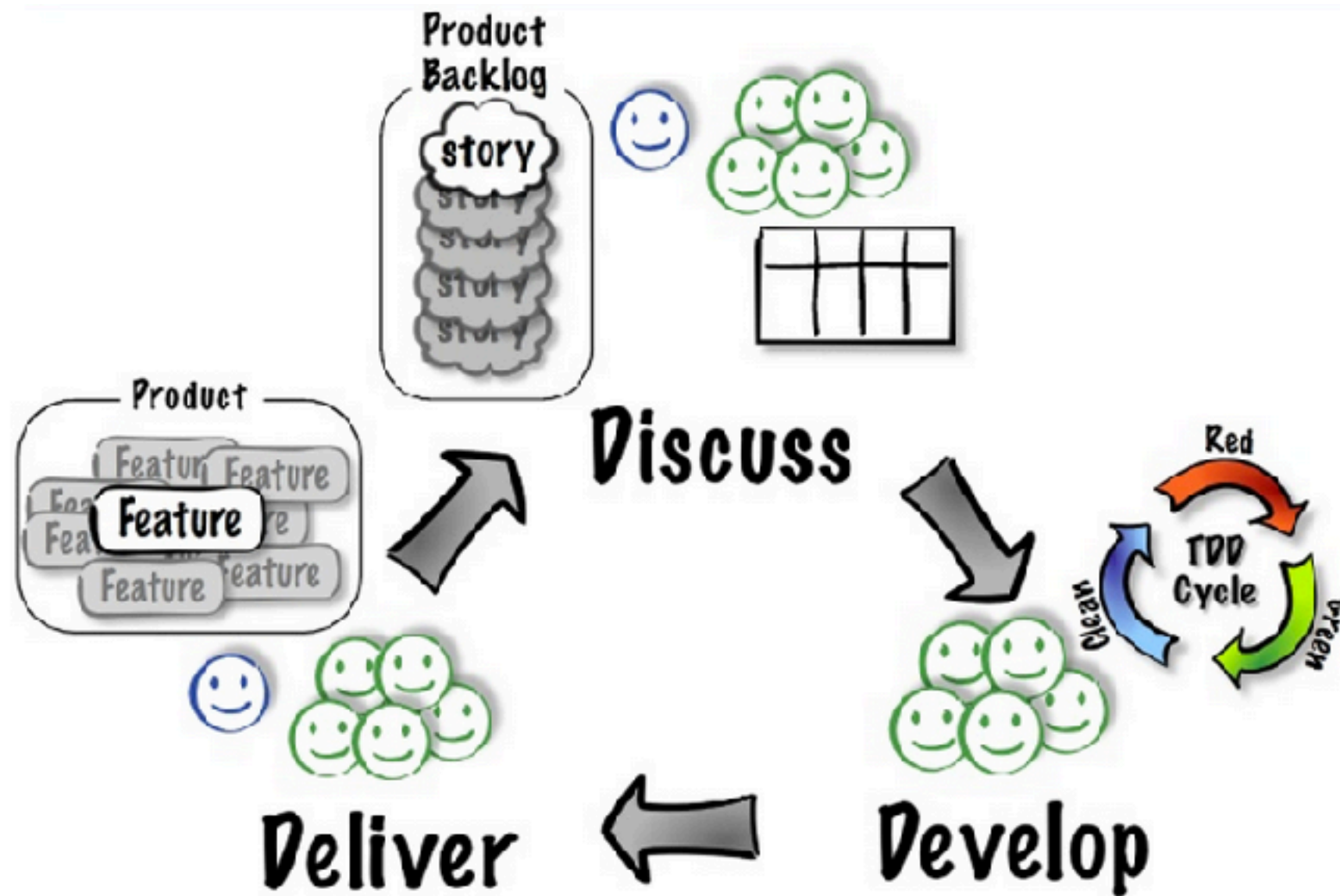
Power of Three



THINK before coding



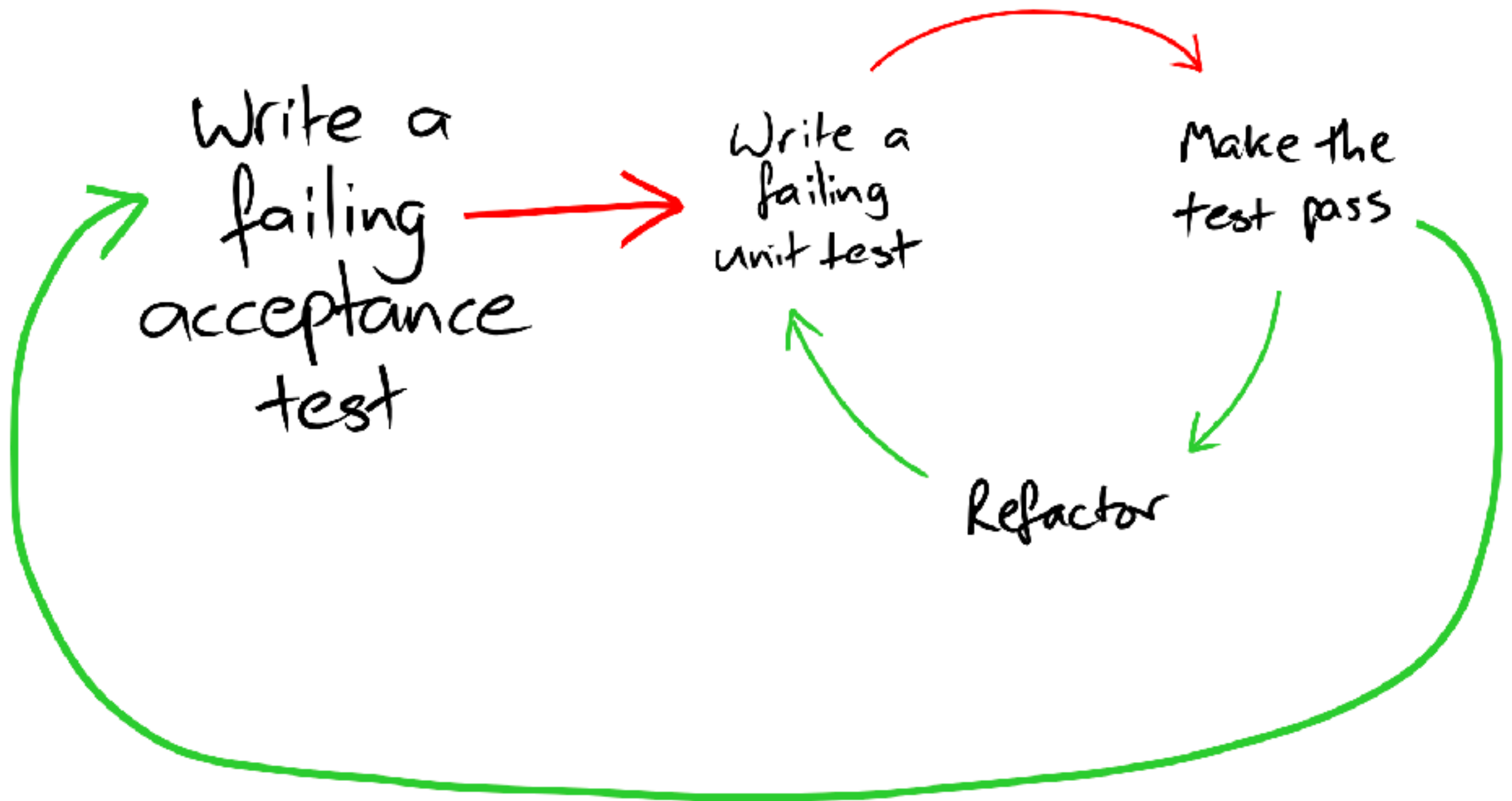
Acceptance Test-Driven Development



(Model developed with Pekka Klärck, Bas Vodde, and Craig Larman.)



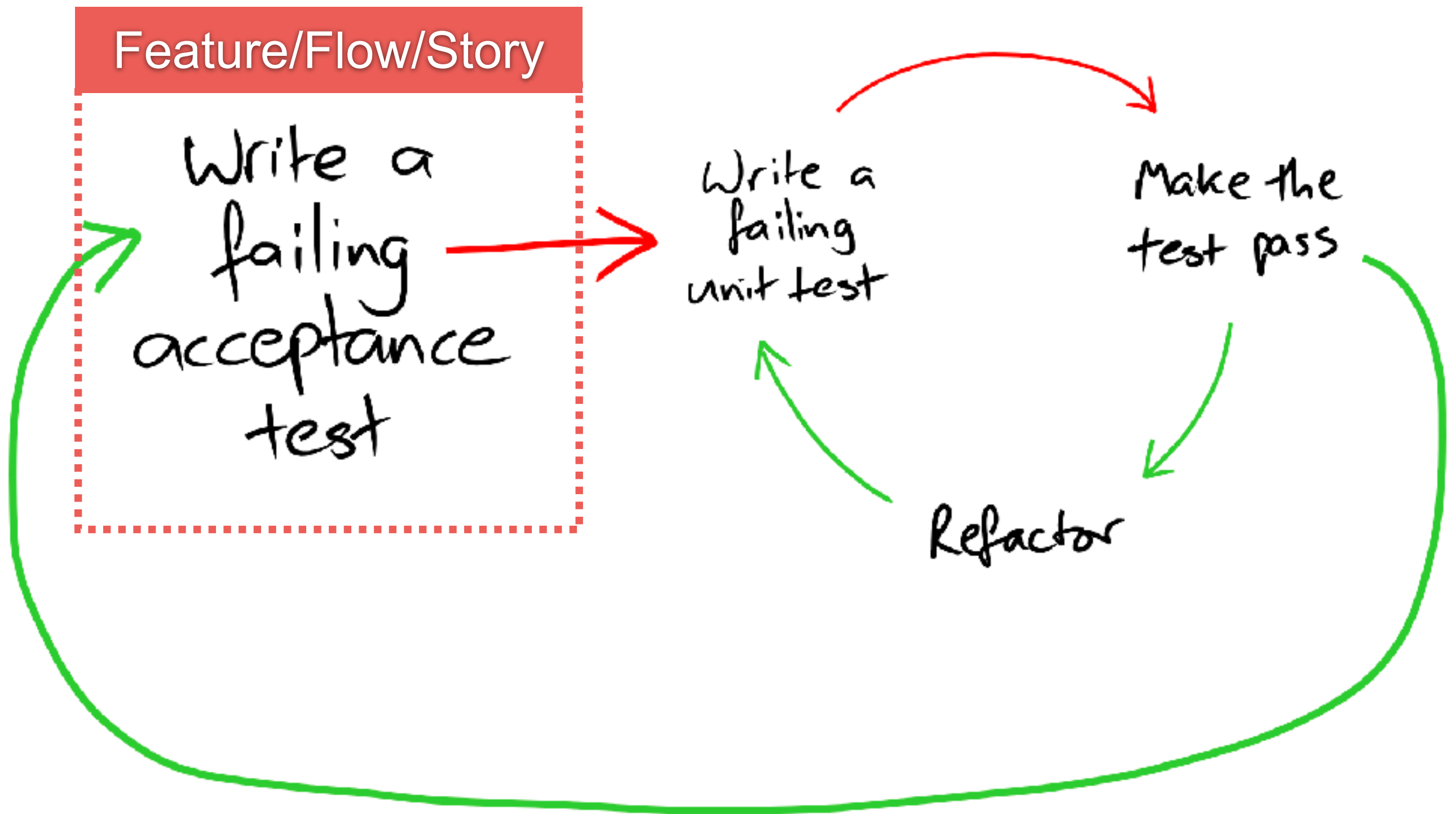
Outside-in develop/test



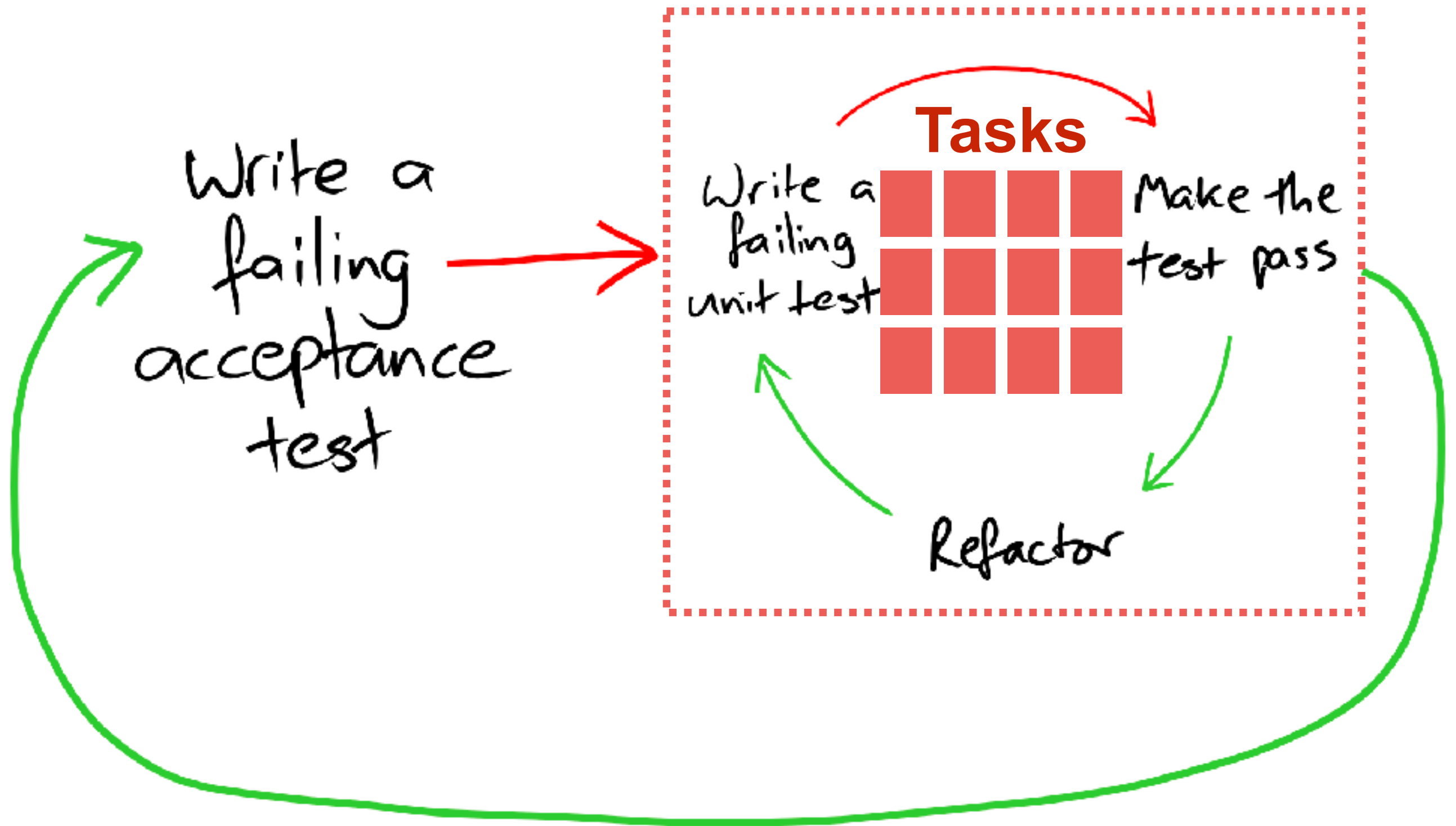
<http://www.growing-object-oriented-software.com/>



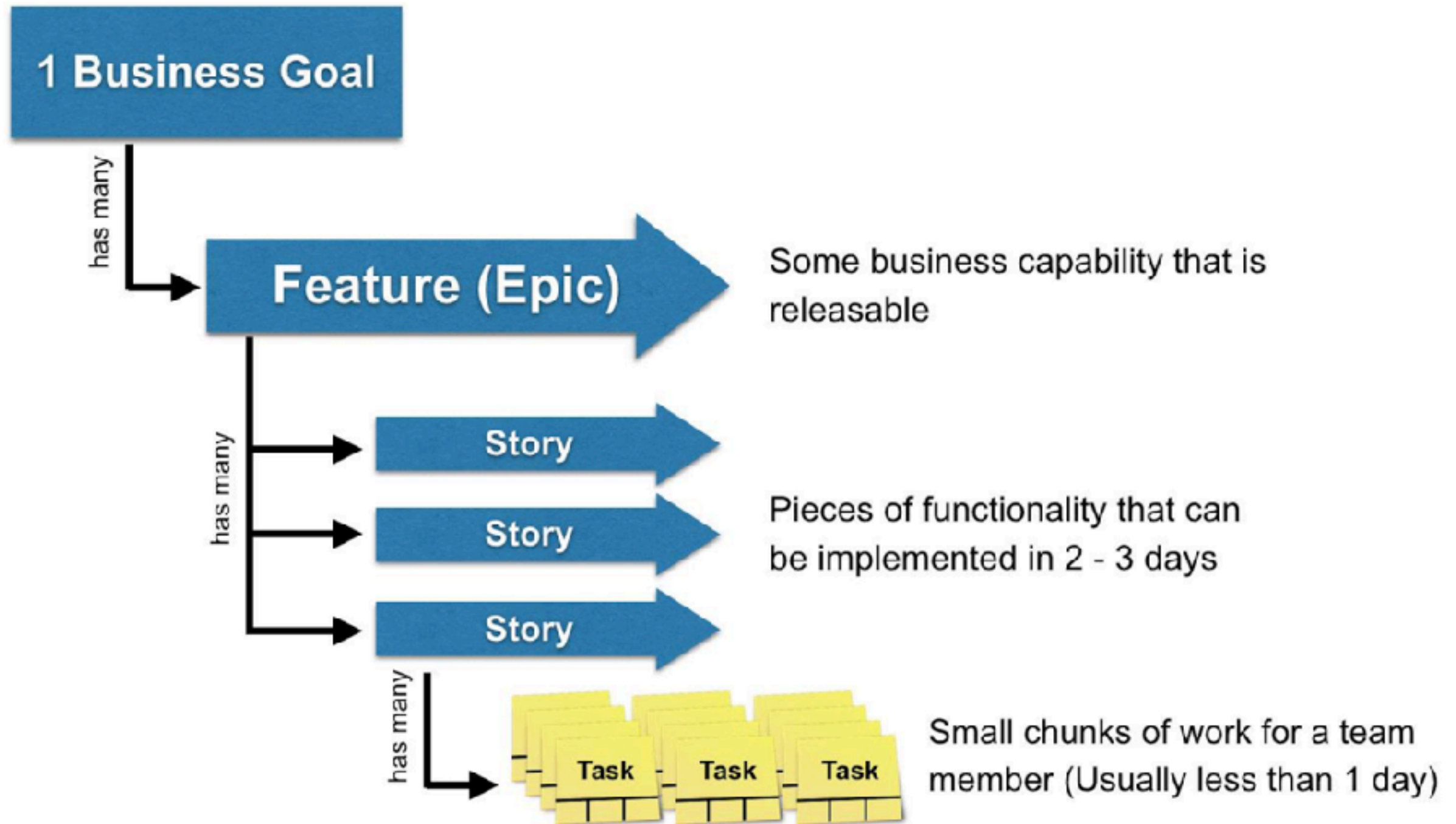
Outside-in develop/test



Outside-in develop/test



Work break down

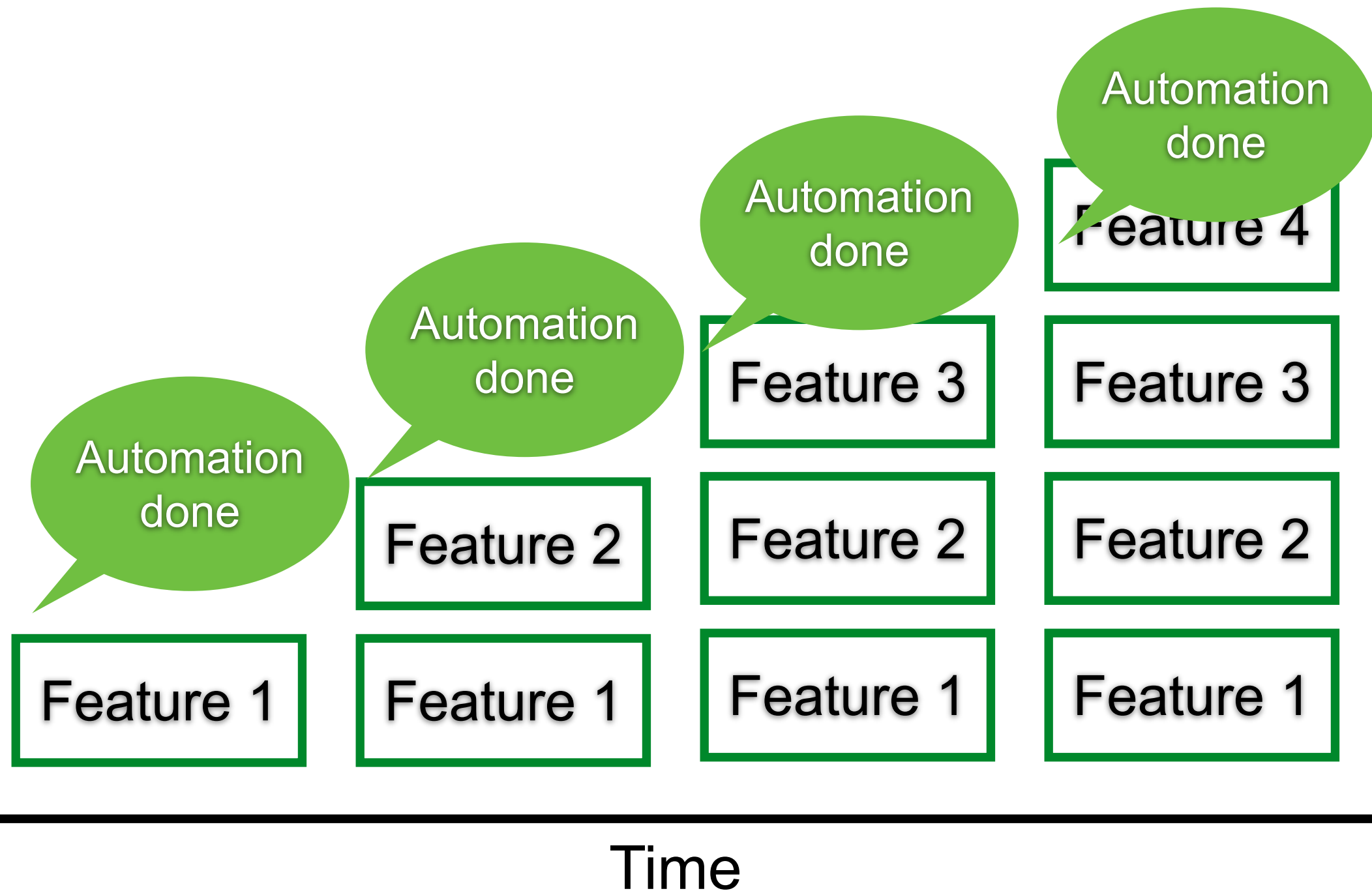


Iterative and Incremental process



Iterative and incremental process

Done = coded and tested



Workshop



Register feature

As a new user,

**I want to create an account with
User name and password**

So that only I can access my information



Login feature

As a member,

**I want to login to system with
User name and password**




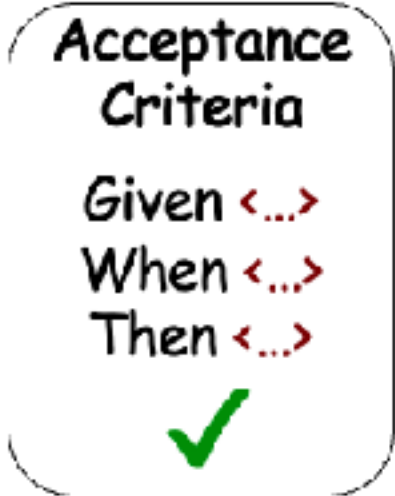
So that only I can access my information



Acceptance Criteria ?



4C Models for Use Stories

Context (Validation)	Card	Conversation	Confirmation (Verification)
<p>Epic Name, Story Name</p>  <p>The screenshot shows a mobile app interface titled 'Donate Items'. It asks 'What do you want to donate?' and lists five categories: Furniture, Electronics, Clothes, Toys, and Other. A green thumbs up icon is overlaid on the bottom right of the app interface.</p>	 <p>As a <...> I want <...> so that <...></p>	 <p>Discussions between stakeholders to agree on the story details.</p>	 <p>Acceptance Criteria Given <...> When <...> Then <...></p> <p>✓</p>



As a user,
I want to be able to log into the application using my username and password,
So that I can access my personal data and interact with the application.

Acceptance Criteria:

1. When I navigate to the application, I should see a login form.
2. The login form should have fields for entering my username and password.
3. If I enter a valid username and password and click on the 'Login' button, I should be taken to my dashboard.
4. If I enter an invalid username or password, I should see an error message indicating that the login attempt was unsuccessful.
5. If I forget my password, there should be a 'Forgot Password' link that will guide me through the process of resetting it.
6. My password should be masked as I type it into the password field for security purposes.
7. After successful login, I should not be able to navigate back to the login page unless I log out.



As a new user,
I want to be able to register for an account using a username, email, and password,
So that I can create a personal profile and start using the application.

Acceptance Criteria:

1. When I navigate to the application, I should see an option to register for a new account.
2. The registration form should have fields for entering my desired username, email, and password.
3. The form should check that my desired username is unique.
4. The form should validate that my email is in the correct format.
5. The form should enforce password complexity requirements to ensure my account's security.
6. If I enter valid information and click on the 'Register' button, I should receive a confirmation email.
7. After confirming my email, I should be able to log in with the username and password I registered.
8. If I enter invalid or duplicate information, I should see an error message indicating the problem.



Design your Test cases ?



Tests Cases
=
Business Criteria/Flow
+
Examples (real data)

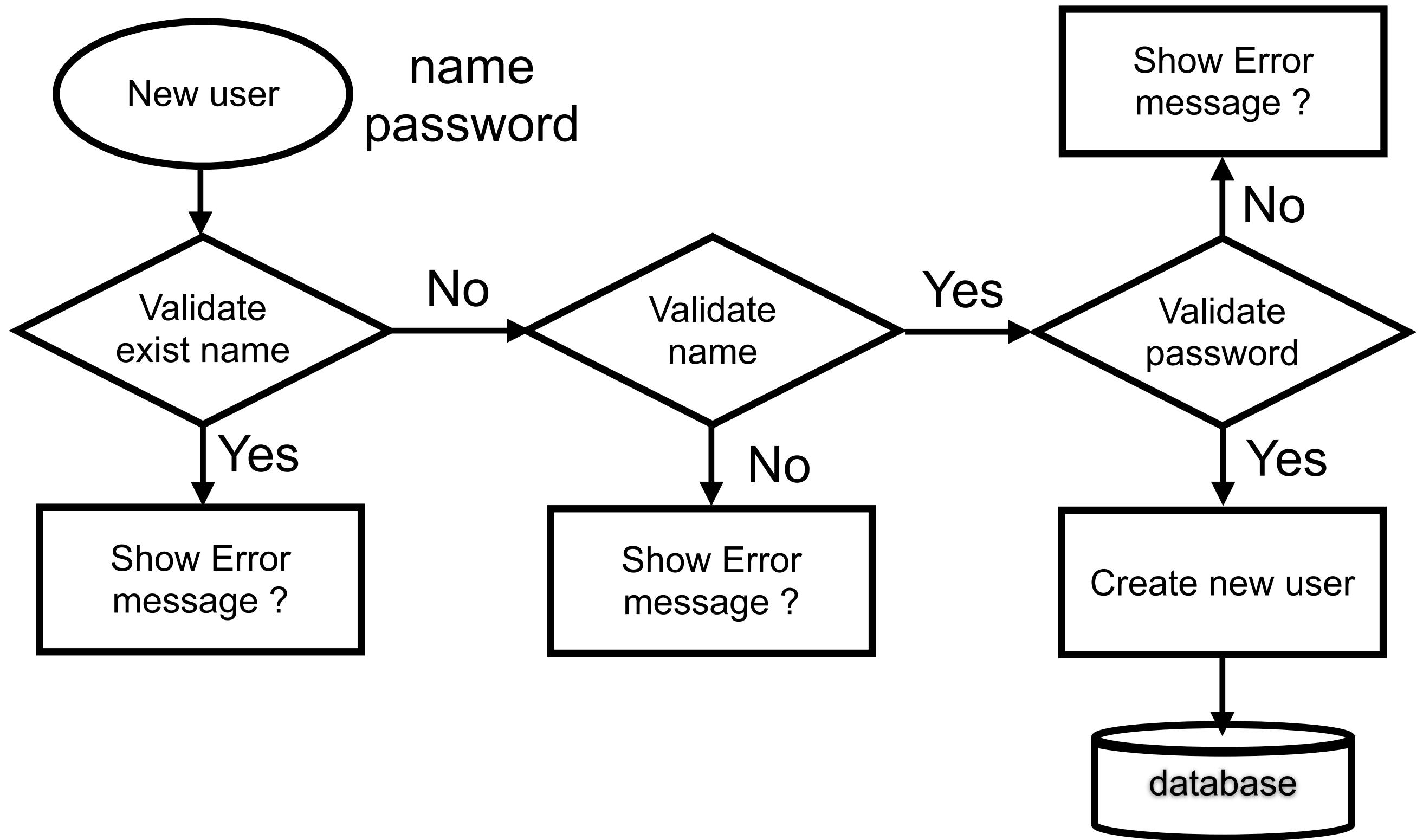


Test case + Test data ?

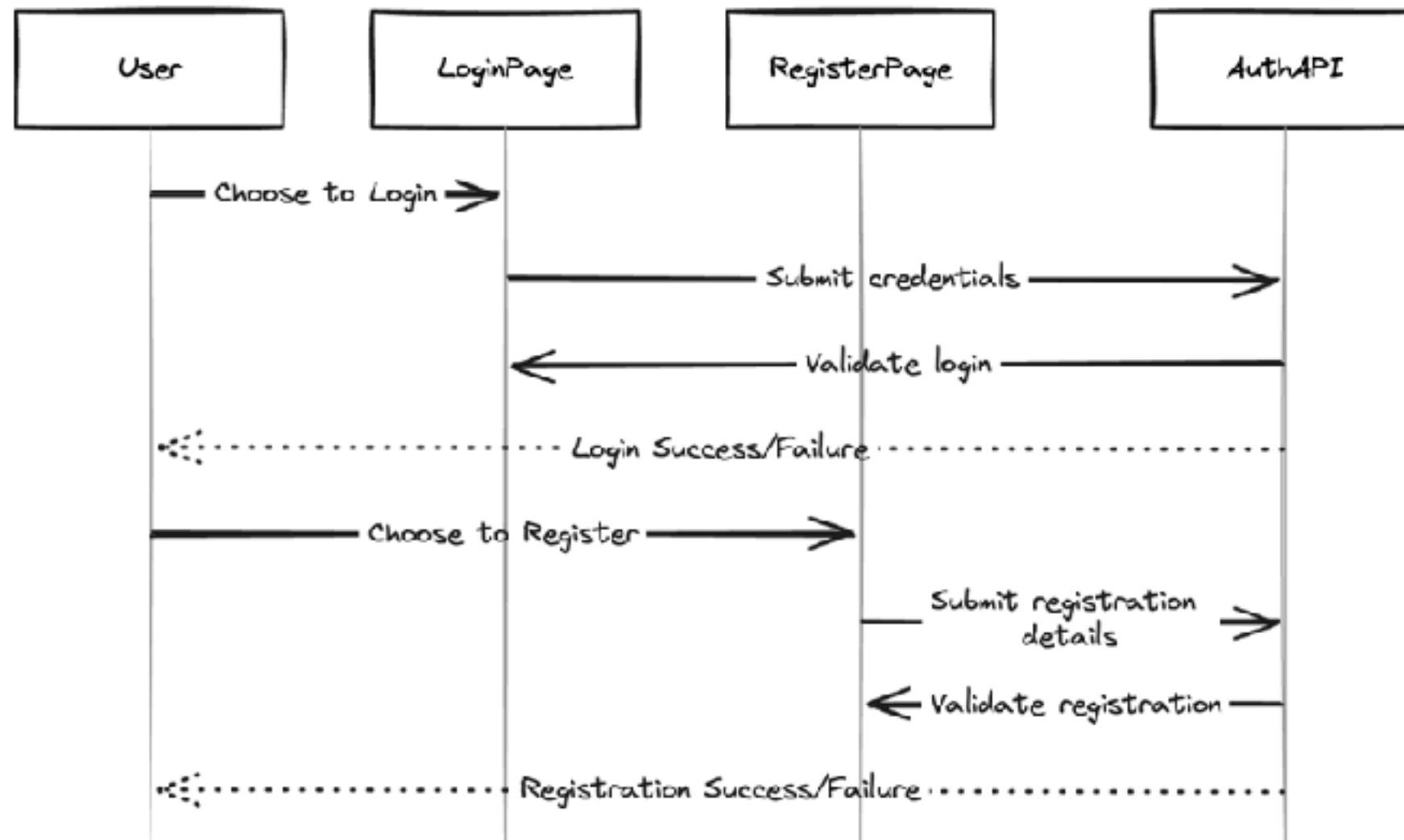
Test case name	Business rules	Inputs	Expected Result



Flow ?



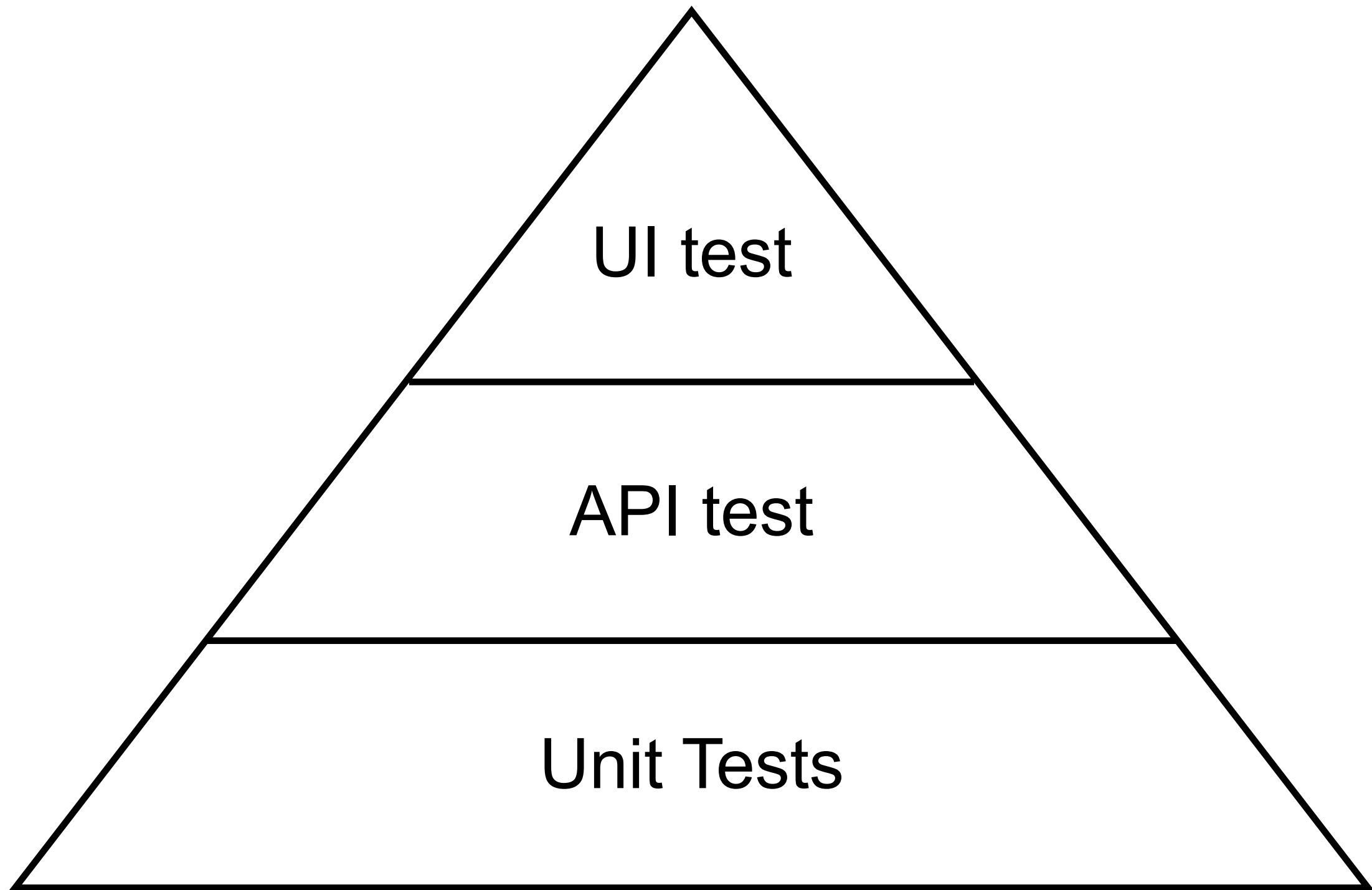
Generate Flow with AI



<https://excalidraw.com/>



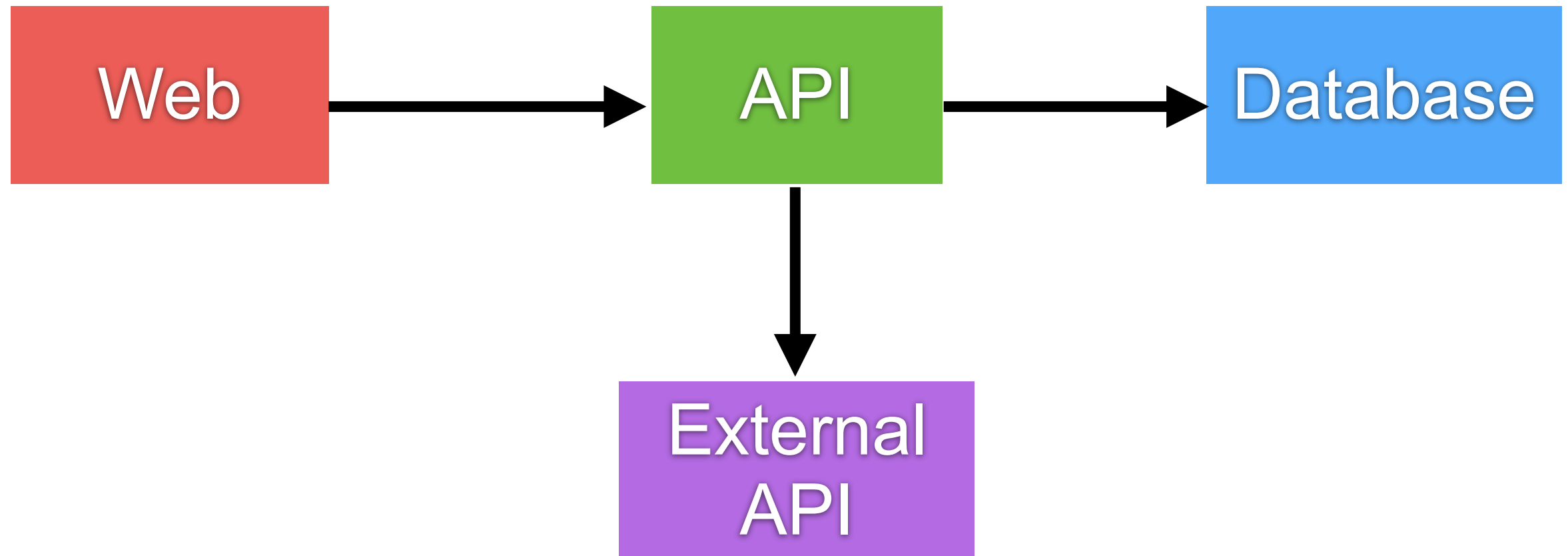
Test cases with Test Level ?



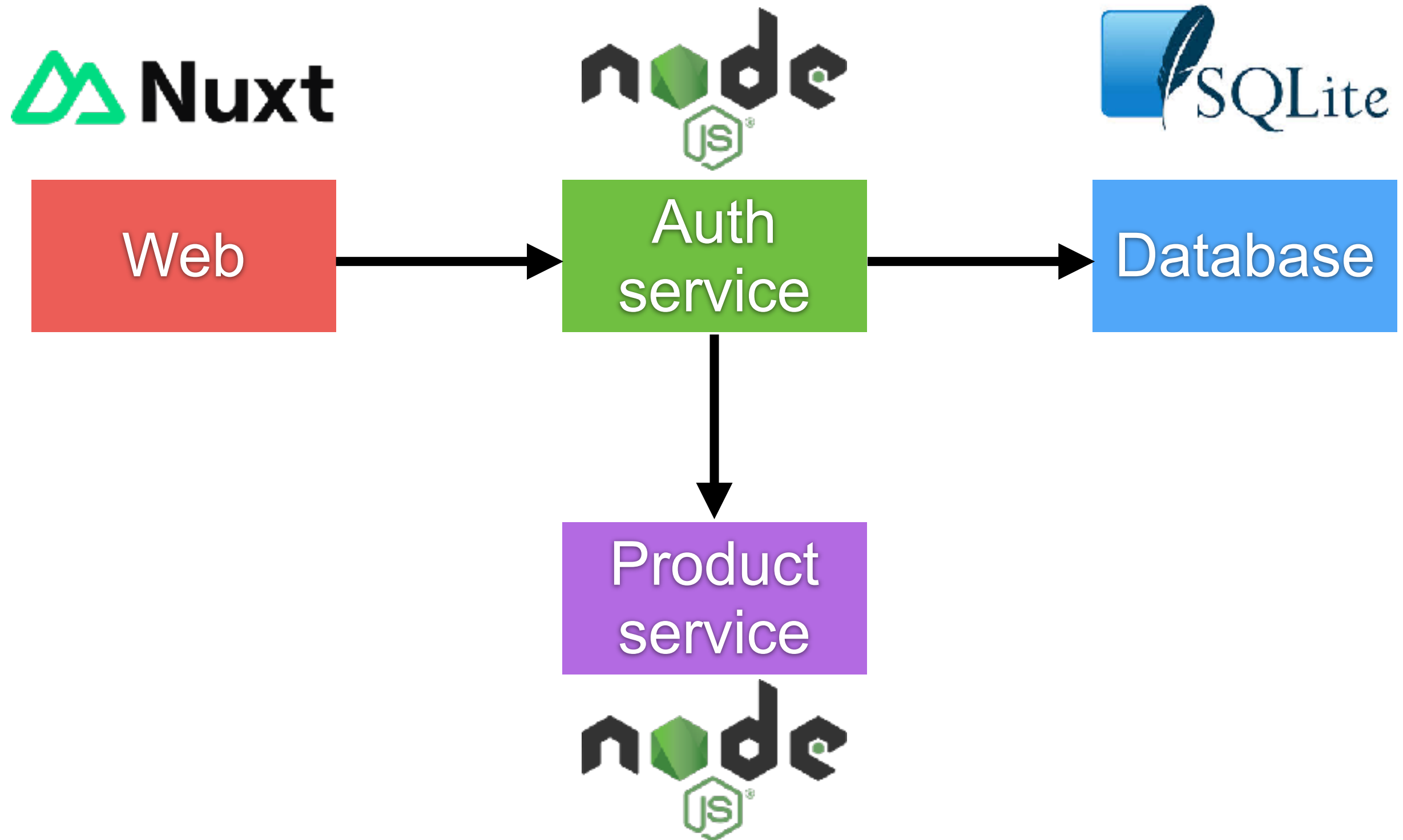
Architecture of system ?



Architecture



Architecture + Technology



API Testing



Auth Service

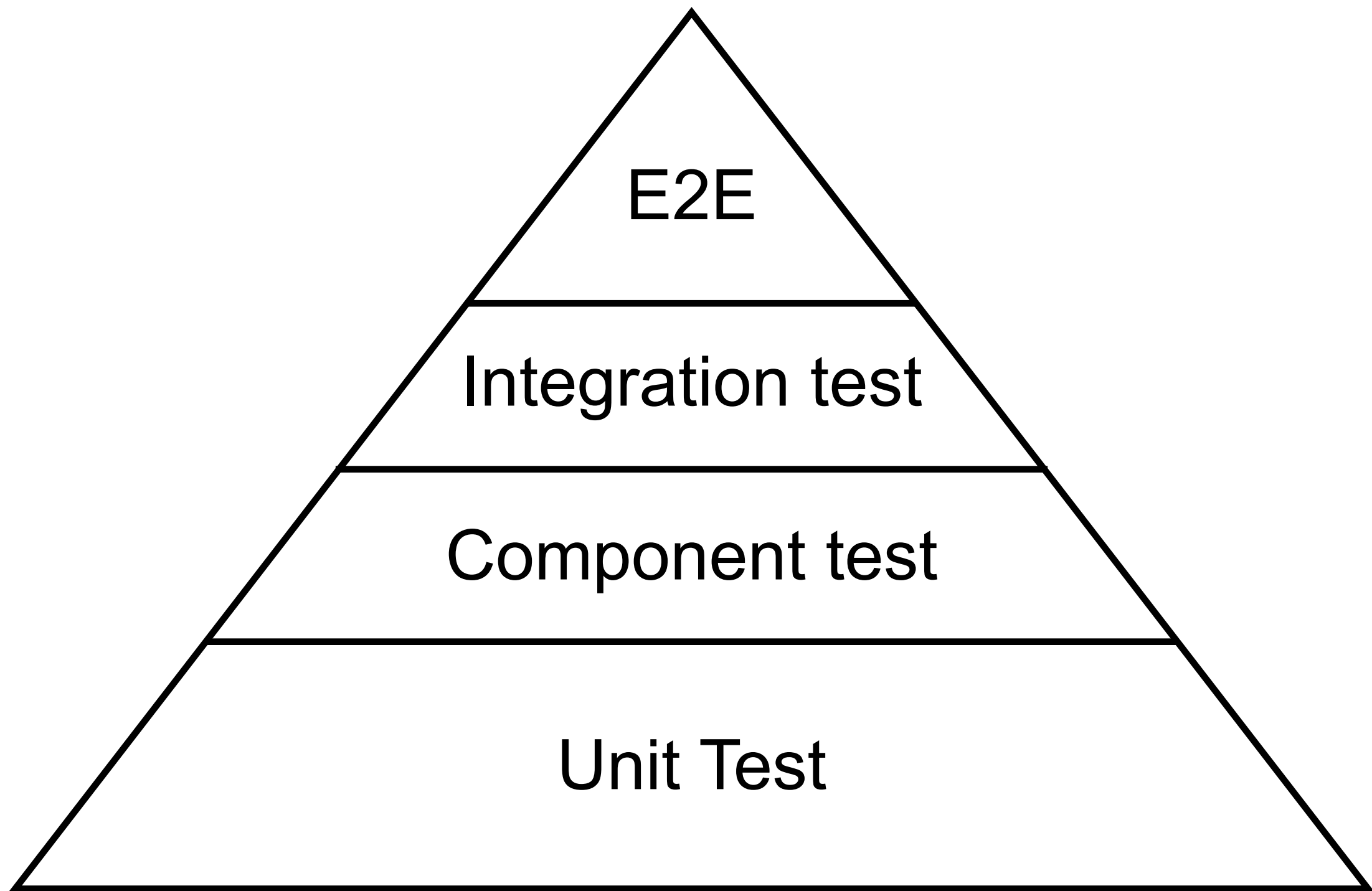


Test case + Test data ?

Test case name	Business rules	Inputs	Expected Result



Test cases with Test Level ?



API Testing tools

Postman
Newman
Coding !!

<https://www.npmjs.com/package/newman>



Coding with Test

Jest
SuperTest

<https://jestjs.io/>

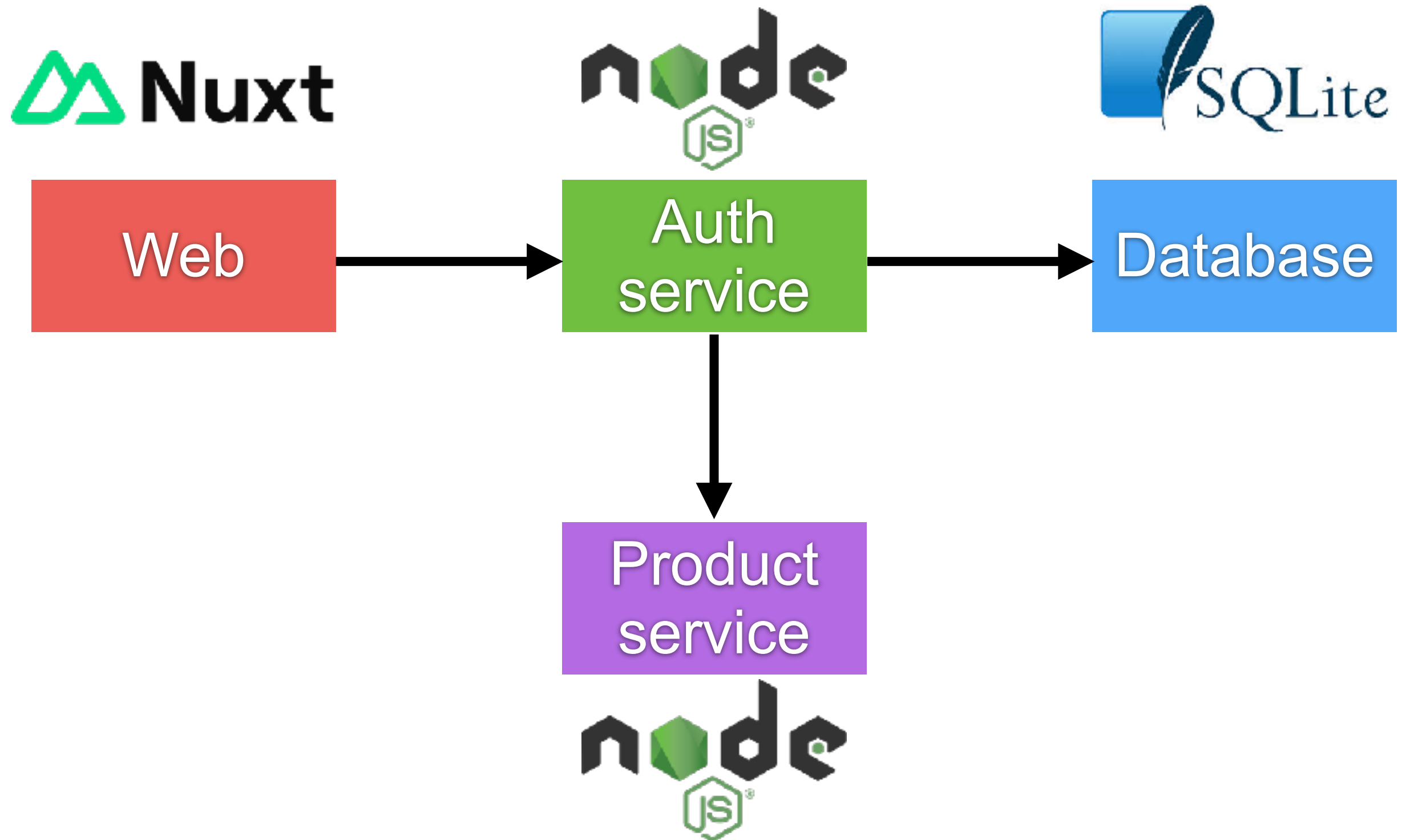
<https://github.com/ladjs/supertest>



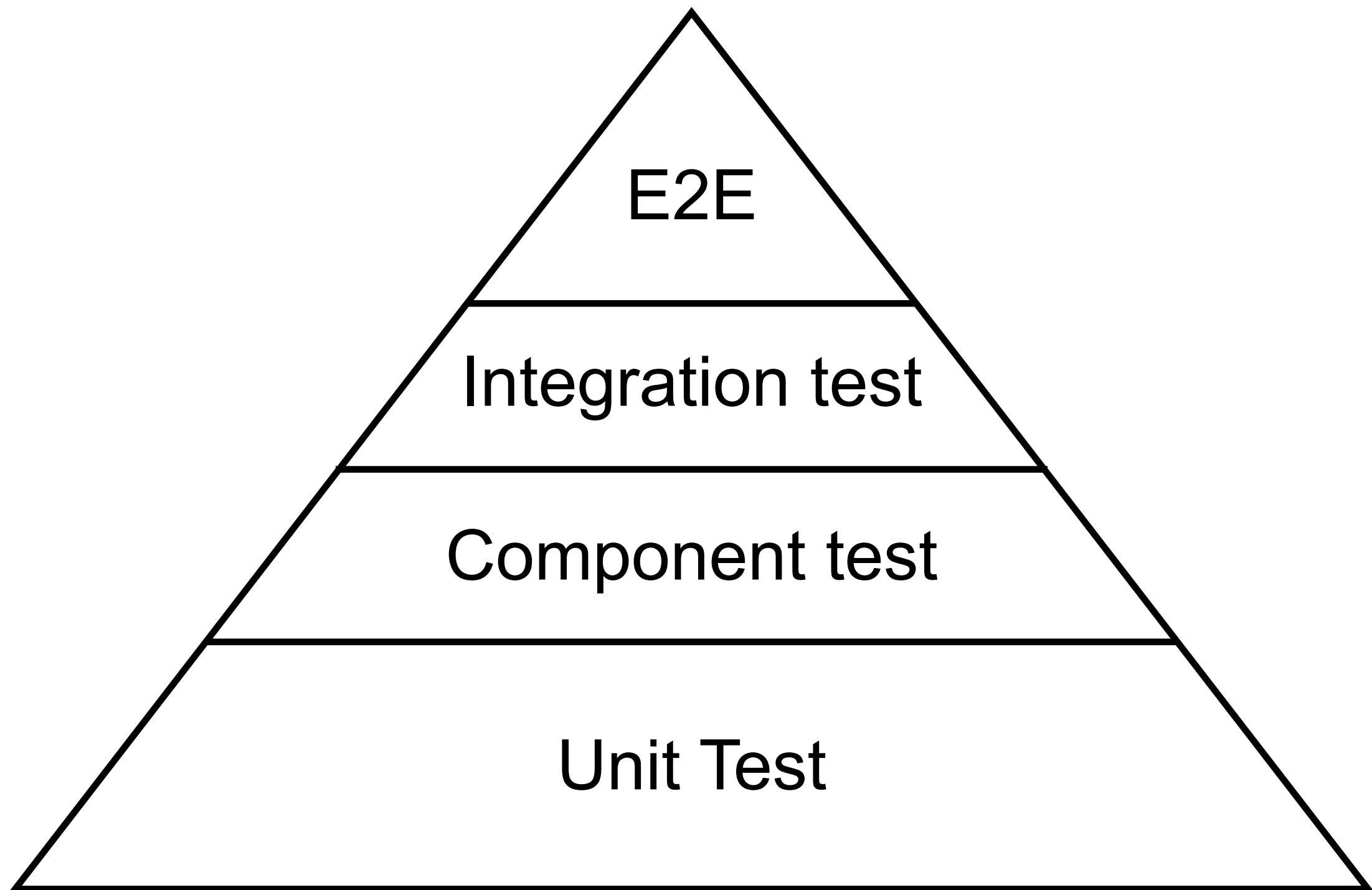
UI Testing



UI testing ?



Test cases with Test Level ?



UI testing tools

Playwright

Cypress

Robot framework + Selenium

Visual testing

Web browser
testing

Component
testing

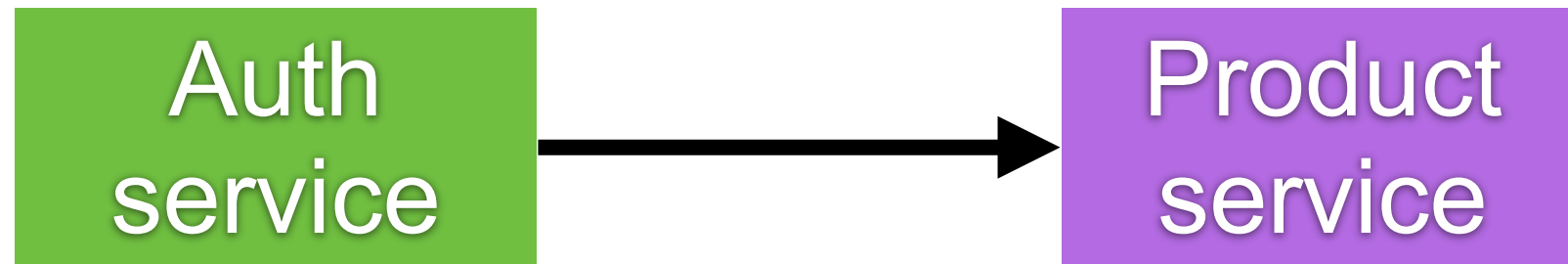


Contract Testing

PACT



Contract testing with Pact







<https://docs.pact.io/>



Pact broker

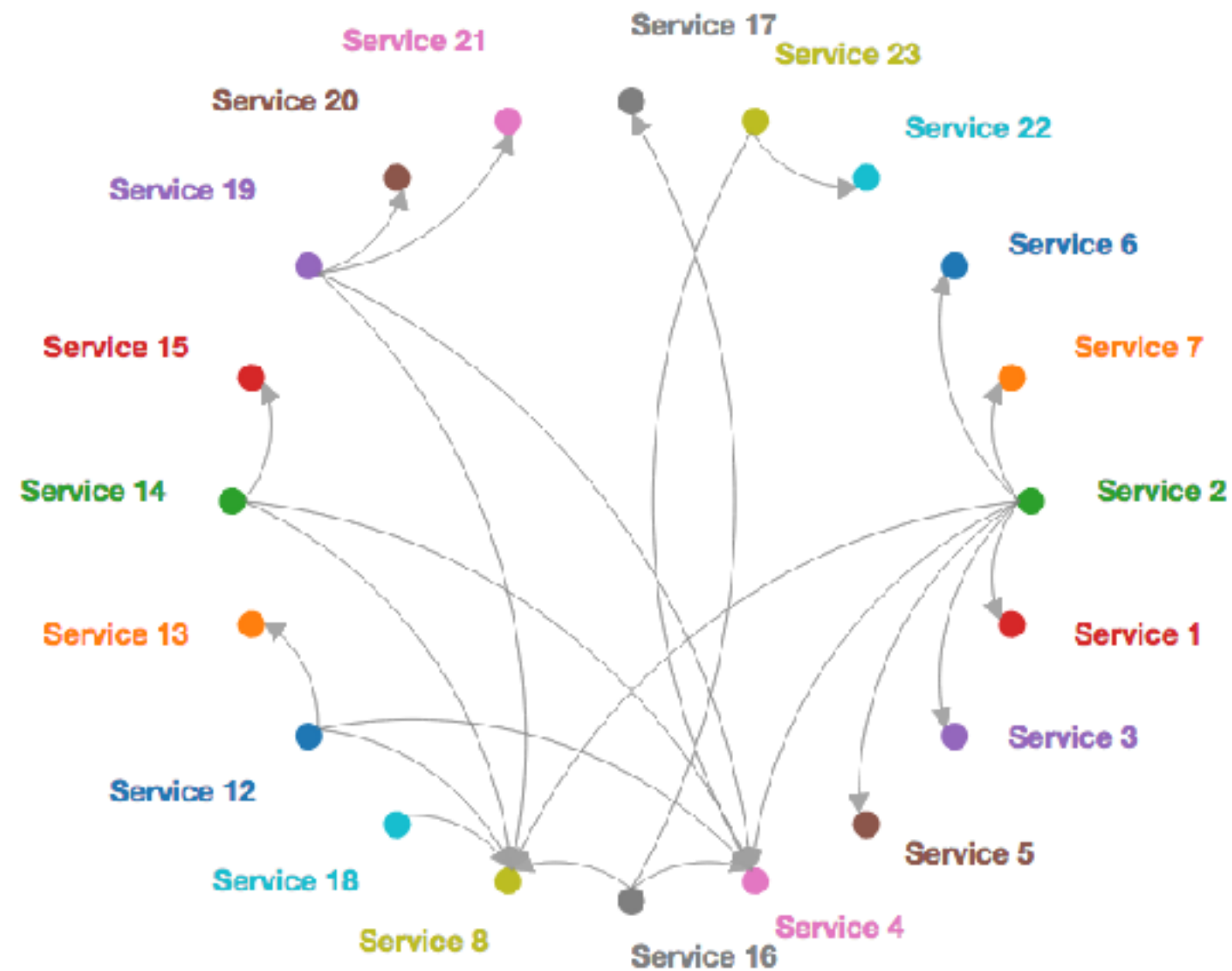
Pacts

Consumer ↓↑		Provider ↓↑	Latest pact published	Last verified
Foo		Animals	2 minutes ago	2 days ago
Foo		Bar	7 days ago	15 days ago ⚠
Foo		Hello World App	1 day ago	
Foo		Wiffles	less than a minute ago	7 days ago
Some other app		A service	26 days ago	less than a minute ago
The Android App		The back end	less than a minute ago	

https://docs.pact.io/pact_broker



Pact broker



https://docs.pact.io/pact_broker



CI/CD with Jenkins




Jenkins



Jenkins

Build great things at any scale

The leading open source automation server, Jenkins provides hundreds of plugins to support building, deploying and automating any project.

 We stand with the people of Ukraine. Please assist humanitarian efforts for the Ukrainian people and those affected by the military invasion of Ukraine by supporting international aid organizations, including the [Ukrainian Red Cross](#)

[Download](#)

[Documentation](#)

<https://www.jenkins.io/>



Q/A

