

Catch bugs faster: test your API

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Who am I?

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Agenda

- Common issues of UI automated testing
- API tests complementing UI tests
- API test automation demo with Postman
- Run Postman collections with Docker

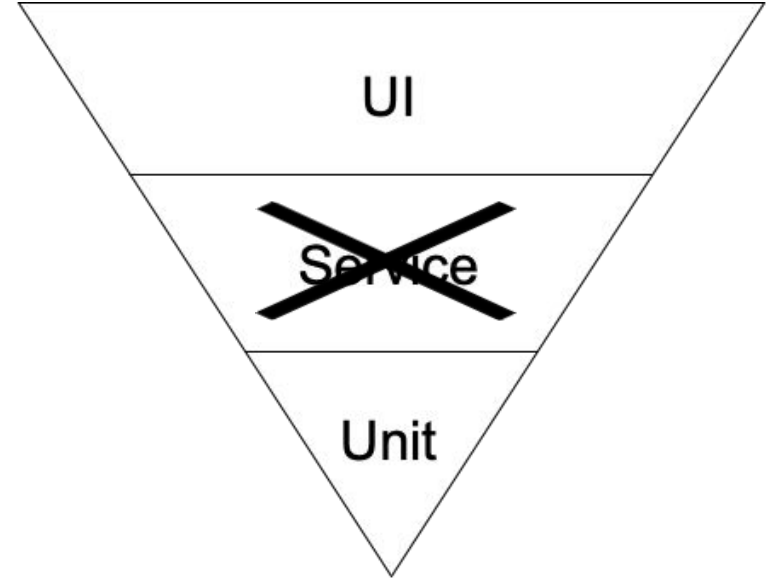
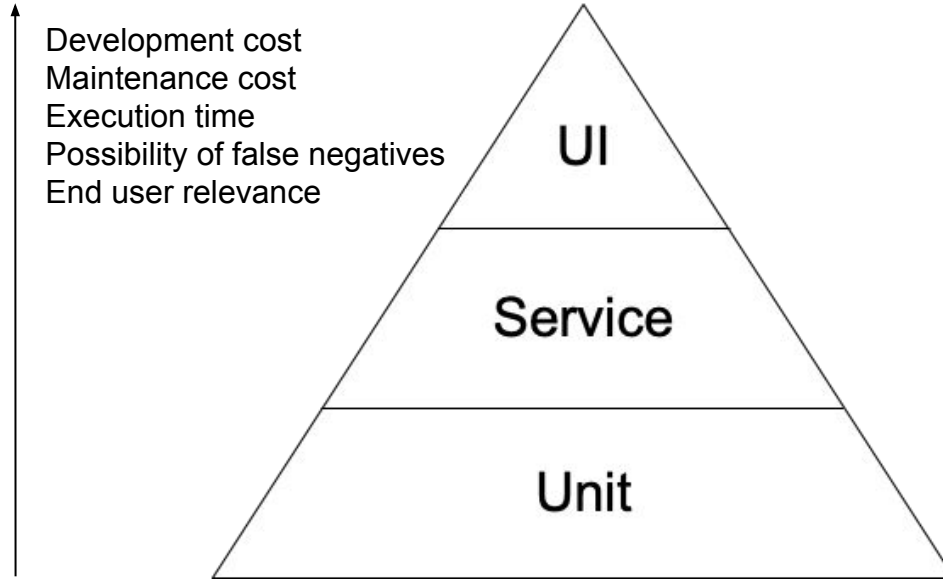
Common UI automated testing issues

- Failures related to UI changes
- Failures related to slowness of the application
- Issues with third party systems



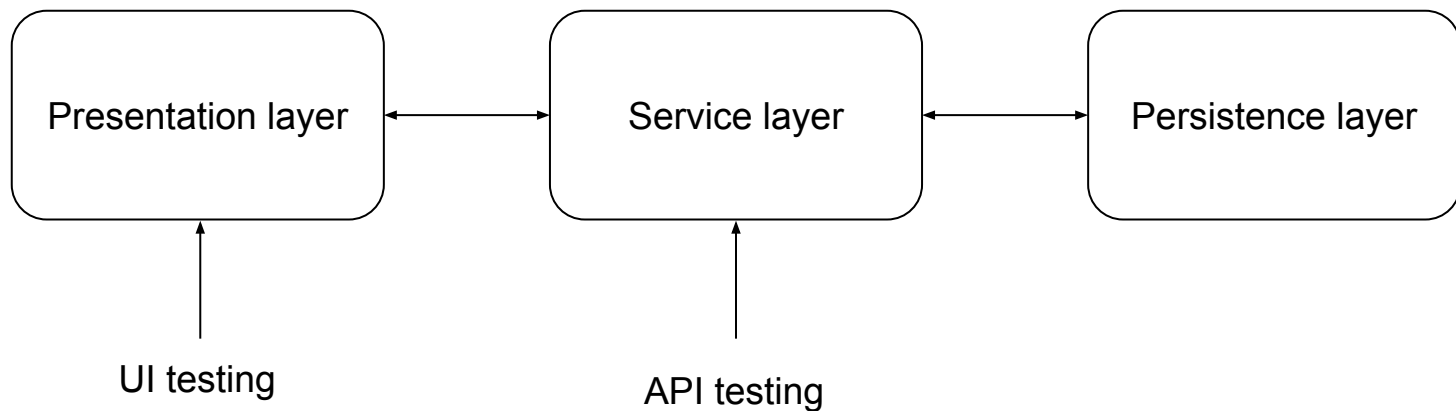
- Great amounts of time spent on test maintenance
- Cost may lead to quit test automation

Test automation pyramid



API testing to the rescue

API (Application Programming Interface) is a set of procedures that are open for others so that applications interact with other applications.



Benefits of API testing

- Tests business logic layer and system's resilience
- Better test coverage
- Tests take considerably less time to run than UI tests
- Maintenance is much easier and less costly
- Create test data for UI automated tests

In conclusion

- Keep UI automation to a minimum
- Use it to test the UI
- Delegate business logic tests to the API
- Complement UI automation with API tests

Before the demo...

HTTP 101!

HTTP Basics

- HTTP (Hypertext Transfer Protocol) is a communications request-response protocol
- The HTTP request is sent to get or manipulate information
- The HTTP response will say if the request was successful or not

HTTP Request

- Request Line (verb, url, protocol version)
- Request Headers
- An empty line
- Optional Request Body

The diagram illustrates the structure of an HTTP request. It shows a sequence of lines numbered 1 through 9. Line 1 is the Request Line, which is divided into three parts: 'Verb' (POST), 'URL' (/v3/campaigns), and 'Protocol' (HTTP/1.1). Lines 2 through 5 are grouped under the label 'Headers' with a bracket. Line 6 is an empty line. Lines 7 through 9 are grouped under the label 'Body' with a bracket. The body content is a JSON object: { "sender_id": 397763 }.

```
1 POST /v3/campaigns HTTP/1.1
2 Host: api.sendgrid.com
3 Authorization: Bearer API-KEY
4 Content-Type: application/json
5 cache-control: no-cache
6
7 {
8   "sender_id": 397763
9 }
```

Labels and Brackets:

- Verb**: Points to the first part of line 1 (POST).
- URL**: Points to the second part of line 1 (/v3/campaigns).
- Protocol**: Points to the third part of line 1 (HTTP/1.1).
- Headers**: A bracket groups lines 2 through 5.
- Body**: A bracket groups lines 7 through 9.

HTTP Response

- Status Line (protocol, status code)
- Response Headers
- An empty line
- Optional Response Body

Protocol Status code

Headers

```
1 HTTP/1.1 400 Bad Request
2 Server: nginx
3 Date: Wed, 16 Jan 2019 12:13:27 GMT
4 Content-Type: application/json; charset=utf-8
5 Transfer-Encoding: chunked
6 Connection: keep-alive
7 Status: 400 Bad Request
8 Cache-Control: no-cache
9
10 {
11     "errors": [
12         {
13             "field": "title",
14             "message": "title can't be blank"
15         }
16     ]
17 }
```

Body

Demo

<https://www.getpostman.com/downloads/>

https://sendgrid.com/docs/API_Reference/api_v3.html

https://learning.getpostman.com/docs/postman/collection_runs/command_line_integration_with_newman/

Docker

- Docker is a tool that allows to easily deploy applications in a container that runs on the host operating system
- Containers are created from "images" that specify their contents
- Docker-compose: tool for defining, configuring and running Docker containers

Want to know more?

- Postman documentation: <https://learning.getpostman.com/docs/>
- Postman blog: <http://blog.getpostman.com/>
- Online course on automating API tests using Postman:
<https://testautomationu.applitools.com/exploring-service-apis-through-test-automation/>

THANK YOU!

Q&A

ERROR 418



I'm a Teapot