API Testing Mastery

▶ PREVIEW

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Test Case Development

Test Execution and Reporting

API Specification Review

Test Specification Development

Test Framework Development
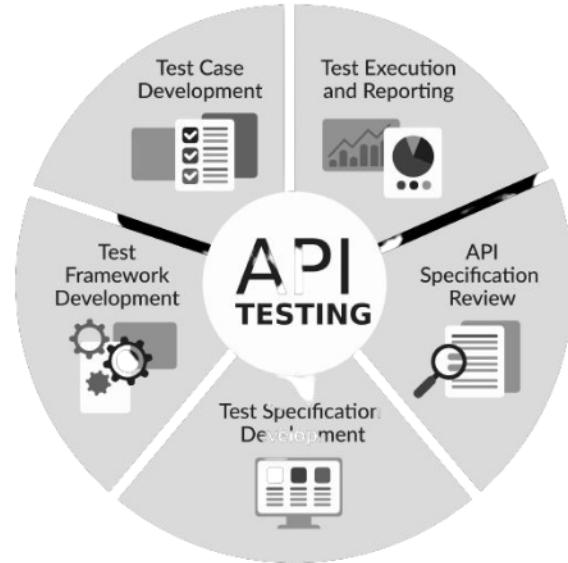
API TESTING

4x API Testing Projects

Agenda of Session

- **Projects**

- **JS Overview, POSTMAN JS API**

- **Request Chaining**

- **POSTMAN Post Script Test**

- **Jenkins Overview**

- **Running POSTMAN collection in Jenkins**

- **Json Parsing**

- **JSON Schema Validation**

Quiz

Which variable has the Highest priority?
1. Global
2. Local
3. Collection
4. Environment

Quiz

What are the various authorization methods provided by Postman?

401
Response

Quiz

- API Key
- Bearer Token
- Basic auth
- Digest auth
- Oauth 1.0
- Oauth 2.0
- Hawk Authentication
- AWS Signature
- NTLM Authentication

401
Response

Quiz

Name some tools used for API Testing?

401
Response

Quiz

Postman
Katalon Studio
SoapUI
Tricentis Tosca
Apigee
Jmeter

401
Response

Quiz

How do you set the same headers for all requests in a Postman Collection?

Right-click on the collection, navigate to the pre-request tab.
Add the below lines of code in the script to add a request header for all the requests present in the collection.

```
pm.request.headers.add({
    key: 'TestHeader',
    value: 'testValue'
});
```

401
Response

Quiz

Consider that you get the following response to the request:

```json
{
  "timestamp": 1331856000000,
  "status": 401
}
```

401
Response

var jsonResponse = JSON.parse(responseBody); postman.setGlobalVariable("ts", jsonResponse.timestamp);

var jsonResponse = JSON.parse(responseBody); postman.setEnvironmentVariable("ts", jsonResponse.timestamp);

var jsonResponse = JSON.parse(responseBody); postman.setEnvironmentVariable("ts", timestamp.jsonResponse);

var jsonResponse = JSON.parse(responseBody); postman.setEnvironmentVariable("ts", timestamp.jsonResponse);

Quiz

Which among the below options can be used to get the message from response headers?

pm.getResponseHeader.message

pm.getResponseHeader(message);

pm.headers.message;

responseHeaders.message

401
Response

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Quiz

How do you access variable values from a file inside pre-request and test scripts?

data.var_name

data['var_name']

Both a and b

Variables cannot be accessed from file in the scripts.

401
Response

Quiz

Which is the correct form to insert an environment variable into a script in the tests tab?

environment["var_name"]

{{var_name}}

EnvironmentVariable.var_name

pm.setEnvironmentVariable("var_name")

401
Response

JavaScript Variables Revise

Request URL: http://{{domain}}/users/{{userId}}

Headers (key:value): X-{{myHeaderName}}:foo

Request body: {"id": "{{userId}}", "name": "John Doe"}

Assertions vs. Exception handling

- Assertions should be used to check something that should never happen,
- an exception should be used to check something that might happen.
- Example, a function might divide by 0, so an exception should be used, assertion could be used to check that the stack pointer is always >= 0
- An assertion would stop the program from running, but an exception would let the program continue running.
- **if an assertion fails it means that your code is wrong**

Javascript OverView

JavaScript Variables

JavaScript Data Types

JavaScript Functions

JavaScript Objects & Arrays

JS Conditional Statements If-Else, Switch, ForLoop

JS Cheatsheet - https://sdet.live/9QWJ

Javascript OverView

Practice

https://jsbin.com/kekusuj/1/edit?js,console

https://jsbin.com/yujekuj/edit?js,console

Javascript OverView

	var	let	const
origins	pre ES2015	ES2015(ES6)	ES2015(ES6)
scope	globally scoped OR **function** scoped. attached to window object	globally scoped OR **block** scoped	globally scoped OR **block** scoped
global scope	is attached to Window object.	not attached to Window object.	attached to Window object.
hoisting	**var** is hoisted to top of its execution (either global or function) and initialized as **undefined**	**let** is hoisted to top of its execution (either global or block) and left **uninitialized**	**const** is hoisted to top of its execution (either global or block) and left **uninitialized**
redeclaration within scope	yes	no	no
reassigned within scope	yes	yes	no

Parsing JSON

'{"name":"John", "age":30, "city":"New York"}'

const obj = JSON.parse('{"name":"John", "age":30, "city":"New York"}');

https://www.getpostman.com/collections/780b145eb10cb133c397

Quiz

 Can global scope variables have duplicate names in postman?
True
False

JavaScript libraries

```
responseHTML = cheerio(pm.response.text());

console.log(responseHTML.find('[name="firstName"]'
).val());
```

JavaScript Libraries

How to compare value of a response with an already defined variable?

```
// Getting values from response
var jsonData = pm.response.json();
var username = jsonData.userName;

// Saving the value for later use
pm.globals.set("username", username);
```

```
pm.test("Your test name", function () {

    var jsonData = pm.response.json();

    pm.expect(jsonData.value).to.eql(pm.globals.get("username"));

});
```
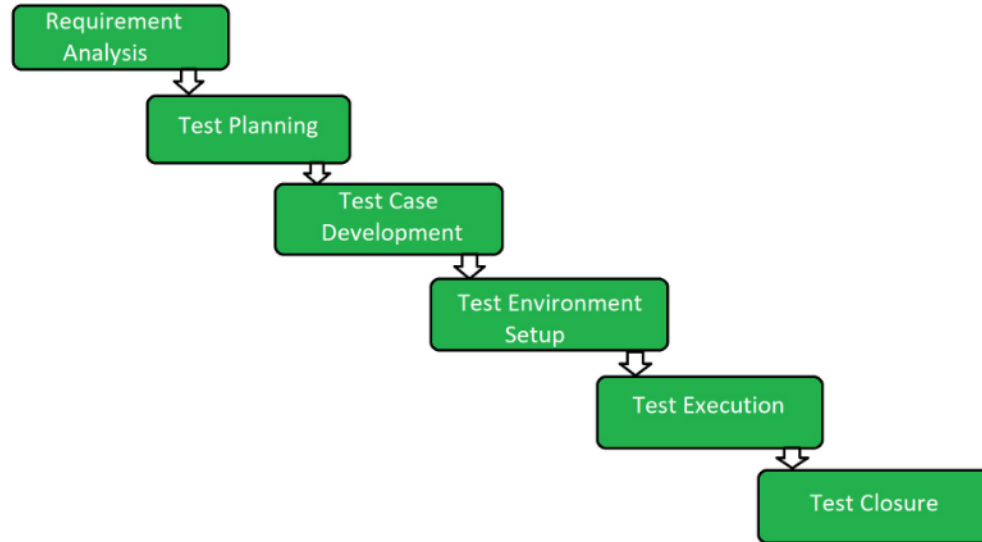
3rd Project GITHUB Repo APIs

Manually Test APIs

STLC

Requirement Analysis

Test Planning

Test Case Development

Test Environment Setup

Test Execution

Test Closure

Manually Test

Step1 :

Req Analysis - Understand the Req using API Doc

https://docs.github.com/en/rest/repos/repos#create-an-organization-repository

Confluence Doc -

https://bugz.atlassian.net/l/cp/DgHWT9QL

Manually Test

Step2 :

Test Plan - https://sdet.live/testplan

Manually Test

Step3 :

Test Cases - https://sdet.live/tc-template

https://docs.google.com/spreadsheets/d/1m1fYVq5hAijY

MJgP7iZESQDBkFihzqHw/edit?usp=sharing&ouid=104755

920778477387077&rtpof=true&sd=true

Manually Test

Step4 : Test env

1. POSTMAN

2. Drive

3. Excel

4. CMD

Manually Test

Step5 : Test Execution & AUTOMATION

On POSTMAN.

Manually Test

Step6 : Closure

Test Report

1. Newman Execution

2. Manual execution report

https://sdet.live/9ckA

3rd Project GITHUB Repo APIs

1. GitHub Repo API Documentation.

2. CRUD OPeration on the Repo

3. Test cases of the GitHub Repo.

4. Writing POSTMAN Scripts.

5. Execution of the Scripts using Newman

3rd Project GITHUB Repo APIs

1. https://docs.github.com/en/rest/repos/repos#create-an-organization-repository

2. CRUD

3rd Project GITHUB Repo APIs

1. Get a repository.

2. Update a repository.

3. Delete a repository.

4. Create an organization repository

3rd Project GITHUB Repo APIs

Integration Scenario for the Github Repo API

Create -> Update -> Read -> Delete

LIVE CRUD in Postman #1

NewMan Commands

- npm install -g newman

- newman run -h

- Run collection -
  newman run mycollection.json
- Run Collection with Env -
  newman run https://www.postman.com/collections/cb208e7e64056f5294e5 -e dev_environment.json
- **-**e - environment, -g global , -d for iteration, --f folder, -n 3 iteration count.

- --delay-request [number] , --timeout-request
- --bail - Stop if any test fails
- -k for insecure

NewMan Reports

- **Newman-reporter-htmlextra**
  - newman run collection.json -r htmlextra
  - https://github.com/DannyDainton/newman-reporter-htmlextra

JIRA with Basic Auth

- https://www.getpostman.com/collections/460b3c9cd7b62669cd97
-

POSTMAN LIVE Projects

- https://www.getpostman.com/collections/759cc00b76c41cdc9435

Quiz

What are some of the JS libraries available in Postman?

401
Response

Thanks, for attending Class

I hope you liked it. Say Thanks in Comment :)

Fin.