REST API Testing

JSON: {

id:78

Name:testing

}

XML:

<id>78</id>

<name>Medha</name>

What to test: Functional Testing

Security Testing

Load/Performance

Levels of testing:

Blackbox – via UI

Whitebox – request params, response, you can access the code

Grey box – req params, url, type of request, optional/required, json/xml

Internal webservices

External webservices

Rest(representational state transfer) API: Set of methods exposed by any particular serviceprovider, using API’s is like one piece of s/w is talking to other s/w.

www.Programmableweb.com – list of API’s:

Some are:

Google API - https://console.developers.google.com

Twitter API -

https://dev.twitter.com/rest/reference/post/statuses/update

<https://apps.twitter.com/app/new> - to create your own app and generate keys

Stackoverflow API

Facebook API

Http Methods:

Post-(create) creating new user – id -789

Just like some information.

Get-(read)

Put –(update) id- 73784676

Post some data to FB- Today is restAPI

Delete

Authentication:

OAuth – authentication protocol

API key

Plugins:

Chrome:

Postman

Advanced Rest Client

Firefox: Poster

RestClientTools:

Desktop based Rest Client – eclipse plugin for rest, intelliji idea

Browser Plugins- Firefox-poster, RestClient,RestEasy

Chrome-Postman, Advanced RestClient, DHC-APICLient

Commandline - test tools-http

**Objectives of Testing:**

1. Verify Response/status code (success-200,201 etc ; clienterror-400-badrequest,401,404 ; 500-server side etc etc)  
   2. Verify Response Line (OK, SUCCESS etc etc)  
   3. Verify Presence of desired headers in response (application/json, image/png etc etc) – response type  
   4. Verify response body for elements exists or not, count, value5.Validate response schema – xml/schema, json/schema

Request:

The service url

Request params- mandatory /optional

Type of request – json/xml/text

ApiKey/oauth/clientid

Why Automation:

Huge response cannot always be manually automated

Set of testcases

DbConnection validation

Read from properties file

SoapUiPro, Automation using programming lang’s –java,c,c#.....

HttpClient jar in java

RestAssured API jar – javaon top of HttpBuilder

Supports requests- post,put,get,delete, head,options

Validate and verify the requests

Create - Post

Read-Get

Update-Put

Delete-Delete

<https://github.com/rest-assured/rest-assured/wiki/GettingStarted>

JsonParsing:

1. Java-JsonObject, Jayway- JSonPath, XMlPath
2. SpringF/w- json converters
3. Jackson lib – MappingJackson2HttpMessage
4. Google- gson- GsonHttpMessageConverter
5. get(“/url”).then().body(“addresses.address.city”)
6. get(“url”).path(“groceries.item…”)

Request/response Payload- request/response xml – concentrating on some specific points.