RESTful API Automation Testing Using JAVA REST-Assured with Framework Development

Course Outline

Thrive **Automation**

Section 1- Setup Environment:

1. Install JAVA and setup
2. Install Intellij IDEA / Eclipse

Section 2-Java Programming Fundamentals (LEVEL 1):

1. Create new project, explain Main() and method Print
2. Variables and Data Types
3. Operators
4. Conditional Statements: IF, ELSE and ELSEIF Statements
5. Attached - **Programming Problem Solving Questions**

Section 3- Java Programming Fundamentals (LEVEL 2):

1. Loops
2. Arrays
3. List
4. Functions/Methods
5. Scoping in Java
6. Java Internal Working
7. Attached - **Programming Problem Solving Questions**

Section 4- Object Oriented Programming:

1. What is Object?
2. What is Constructor?
3. Encapsulation?
4. Inheritance?
5. Polymorphism?

Section 5- REST APIs Introduction:

1. What is API, API usage and its pros and cons?
2. Types of APIs? And REST vs. SOAP (with its pros and cons)?
3. HTTP protocol, terminologies and methods (GET, POST, PUT, DELETE) etc.

Section 6- API Manual Testing on Postman:

1. Installation/Introduction of Postman and its usages
2. Create GET call
3. Create POST call
4. Create PUT call
5. Create DELETE call
6. Request Body vs. Response Body
7. Explore Twitter API

Section 7- Maven Setup with Others:

1. Introduction of Maven
2. Install/setup Maven
3. Setup Rest-Assured/TestNG

Section 8- JSON Understanding:

1. Explain JSON with structure & how it works in modern applications
2. Practical: How to create JSON for practice (Create sample JSON body for Practice)

Section 9- Rest-Assured Understanding:

1. Introduction to Rest-Assured Library and its usage
2. Explain build-in **'Rest-Assured' classes and methods**
3. Explain **'RequestSpecification'** class
4. Create GET request with Rest-Assured Client
5. **Path parameter, query parameters, header, URL, URI, Resources** in Rest-Assured
6. Create **POST request** with Rest-Assured
7. Create **PUT request** with Rest-Assured
8. Create **DELETE request** with Rest-Assured

Section 10- Assertions/Validation:

1. What are Assertions/Validation and its types
2. Implement Assertions

Section 11- Request/Payload Creation Techniques:

1. Create/read JSON with JsonObject Class
2. Create/read JSON with Text File
3. Create/read JSON using POJO techniques

Section 12- API Automation Framework:

1. What is the framework and its needs?
2. What are the advantages of Framework?
3. Types of Frameworks and Techniques?

Section 13- Framework Development:

1. API Automation Framework Design
2. API Automation Framework Implementation

Resources and Code will be available at:

https://github.com/thriveautomation/rest-assured-automation