

API Testing Course Content

Section 1: Introduction to API Automation

- What is an API with an Example's
- Usage of API
- Why API is growing in demand (API Base APP + Faster + Easier to Isolate + Less Failure)
- API vs Web Service vs Microservice
- SOAP(1998) vs REST(2000) vs GraphQL -- Architecture design
- To see the API call use Developer tool + Network tab or Postman Interceptor

Section 2: Tools available for each Architecture

- Swagger (Design and Documentation)
- Postman (Design,Develop,Manual Test,Automation,CI/CD) - Java Script
- SOAP UI - SOAP + REST - Groovy
- Karate - BDD
- TOSCA - Codeless automation
- REST Assured Framework using Java

Section 3: REST Terminologies

- Consumer vs Provider
- HTTP Methods (CRUD) POST - Create + GET - Read+ PUT + PATCH + DELETE)
- Authentication - No Auth Ex : Weather,Map + Basic Ex : Gmail + OAuth 2 (Open Source Auth) Ex : Payment Gateway(Expiry) + Token Ex :
- HTTP Header (Content Type - Req Data,Accept - Res Data,Cookies - session,Host - req server and port details)

Section 4: Response Code

- 100-199 (Info)
- 200-299(Success)
- 300-399(Redirect)

- 400-499(Client Side Error)
- 500-599(Server Side Error)

Section 5: API Architectures

- SOAP
- REST
- GraphQL

Section 6: Javascript Basics

- What is JavaScript?
- Variables and Datatypes
- Conditional and Looping statements
- Arrays and its methods
- Filter,Reduce and Map
- Variables Types
- String Methods

Section 7: Postman

- What is Postman?
- Postman Installation and SetUp
- Creation of WorkSpace and Collections in Postman
- Creation of Request GET,POST,PUT,PATCH,DELETE in Postman
- Authentication Types in Postman
- Variables Types in Postman
- Test Script Assertion in postman
- Data Driven Testing in Postman
- Handling oAuth2 in Postman
- Mock Server and Schema Validation
- What is NewMan and CI Integration using NewMan
- JSON Essentials

Section 8: TestNG

- TestNG Annotations
- Parameters
- Data Provider

Section 9: Cucumber

- Cucumber Keywords
- Feature file, Step Definition file, Runner file
- Parameterization

Section 10: Rest Assure

- What is Rest Assure?
- RestAssure SetUp
- Request Type Implementation GET,POST,PUT,PATCH,DELETE
- Extract Response and Validation
- What is Hamcrest?
- Implementation of Hamcrest methods
- Logging technic
- Request Headers and Response Headers
- Request and Response Specification
- Request Spec Builder and Response Spec Builder
- GET,POST,PUT,PATCH,DELETE using RestAssure
- POST Payload in multiple ways
- Query Parameter and Path Parameter
- Multipart Form Data
- URL Encoding
- What is JSON Schema?
- JSON Schema Validation
- RequestFilter and ResponseFilter
- Serialization and DeSerialization in RestAssured
- Authentication and Authorization
- OAuth and OAuth2

Section 11: Frameworks

- Rest Assure
- TestNG
- Allure Reports
- Hamcrest
- Jackson

Section 12: Continuous Integration

- Jenkins
- Newman



CREDO SYSTEMZ