**Webservice basic interview Question**

1. **What is SOA**

SOA – Service Oriented Architecture

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1. **How to test the Application without GUI**

Using API testing

1.WBT testing

2.Webservice Testing

1. **What is middleware testing?**

The developers would have created an interface. With the help of this Interface the test engineer is able (getting access) to test the Source code.

1. **What are main differences between API and Web Service?**

API [ Application Programming Interface] – It is an interface between two Programs

Web Service is the mechanism or medium of communication through two applications exchange the data irrespective of their underline technology.

1. **Difference between Unit testing & Web Service API testing**

Testing each and every line of the source code using Unit Testing tools is called as Unit Testing.

Testing the request and response between two applications is called web services testing.

1. **Difference between frontend & Backend testing**

|  |  |
| --- | --- |
| **Front End Testing** | **Back End Testing** |
| Front End Testing is always performed on GUI | Back End Testing is done on business layer |
| Testing becomes slower because it have to wait for browser rendering time | It is faster and saves time |
| Performance testing is not easy | Performance testing is easy and faster |
| Adhoc, Compatibility and Usability testing is possible | Adhoc, Compatibility and Usability testing is difficult |
| End to end testing is easy | End to end testing is difficult |

1. **Difference between Soap Web Service & Rest Web Service**

|  |  |
| --- | --- |
| **SOAP Web service** | **REST web service** |
| Simple object access protocol | Representational state transfer |
| SOAP is a Protocol | REST is architectural style |
| It supports XML data format only | It supports JSON, XML, JavaScript, HTML, Text data formats |
| SOAP can’t use REST web services as it is a protocol | REST can use SOAP since it is concept |
| SOAP APIs/ services are exposed via .wsdl file | REST APIs/Services are exposed via URI |
| SOAP is designed using too many standards | REST does not define too many standards |
| SOAP defines its own Security | Inherits security measures like Oauth-1.0, Oauth-2.0, Bearer token etc.., |
| SOAP is less preferred than REST | REST is more preferred than SOAP |

1. **Difference between XML & JSON language**

|  |  |
| --- | --- |
| **JSON** | **XML** |
| JSON data has a data type | XML data is type less |
| light weight | consumes more memory |
| Supports various data types like string, number, array, Boolean, null, Object | All XML data should be string |
| JSON is extension of JavaScript | XML is an extension of HTML |
| JSON is support by most browser | Cross-browser XML parsing can be tricky |
| Retrieving value in JSON is easy compared to xml | Retrieving value in XMLis difficulty compared to JSON |
| JSON is faster & easier for transporting the data | XML is slower |
| It doesn’t support comments | It supports comments |
| JSON files are easy to read as compared to XML | XML documents are relatively more difficult to read and interpret |
| It is less secured | It is more secure than JSON |
| Content type of JSON is application/json | Content type of XML is application/XML |
| Data is readily accessible as JSON Objects | XML data needs to be parsed |

1. **What is API?**

Application programming interface acts like a bridge/ interface/ a connection between two programs/machines/applications.

1. **Why API testing is required?**

to ensure that APIs are reliable, secure, and performant, thereby contributing to the overall quality of the software.

1. **What is Web Service?**

●Web Services is the mechanism or the medium of communication through which two applications/machines exchange the data irrespective of their underlying technology.

● Web services help two applications exchange information with each other when running on the same or different platforms.

● Web service helps us to share the functionality of one application to any other application without sharing the source code & database data.

● All web services are exposed via API.

● **All web services are API, but all APIs are not web services.**

1. **Why Web Service testing required?**

Web services testing is required in order to make sure that all the services exposed by the provider are working as expected with respect to functionality, performance, scalability, security etc.

(OR)

The purpose of web services testing is to verify that all of the APIs exposed by your application are working as expected WRT functionality, performance, scalability & security.

1. **What is the Advantages of Web service?**

**1. Web Services Interoperability (WS-I)**

● Web Services are “Application, Platform and technology Independent”.

● **Ex:** Uber/ OLA and Google Maps share the data among each other.

**2. Loosely Coupled**

● Each application is independent of one another. Hence changes done to one application will not impact the “unrelated areas”.

**3. No need of re-inventing the wheel/ build the feature from scratch**

● Web Services reduces the software development time.

● This helps the other business partners to quickly develop applications and start doing business.

● This helps businesses to save time and money by cutting development time.

● **Ex:** Uber/ OLA can make use of Google Maps.

**4. Business Opportunity**

● Web Services will open the door for new business opportunities by making it easy to connect with partners.

● **Ex:** Dominos can get the order from Food Panda/ Swiggy along with getting orders from its own site.

**5. Service Reuse**

● Web Services takes code reuse a step further.

● **Ex:** An organization can have a “Single Payment Gateway Services” which helps other web applications of the organization to interact.

**6. Scalability**

● Balancing the load by scaling up and down the servers.

1. **Types of Web Service testing**

**Types of web services Testing**

1. SOAP Web Service Testing

2. REST Web Service Testing

1. **What is Restful**

"RESTful" refers to web services that adhere to the principles of REST (Representational State Transfer), an architectural style for designing networked applications.

1. **Which scripting language will use in REST and SOAP Web Service**

JavaScript, Python, Ruby, PHP

1. **What is the syntax of URL & explain?**

**WEB URL:**

● Web uniform Resource locator is used to uniquely identify the specific web resource within the web application.

● Every web application should have its unique address in the form of a URL.

● URL is the one & only way to access web applications via a browser.

**Syntax: - Protocol://DomainName:PortNumber/ResourcePath?QueryString#FragmentId**

**Protocol:**

● When one application wants to communicate with another application there needs to be a common language which both the application understands, hence we use protocol.

● Protocol acts like a common language between two different applications/programs/machines to exchange information between them.

● It is a set of rules / instructions.

● Protocol is optional information in the URL & it is not case sensitive.

● The browser always sends a request & receives a response via HTTP protocol hence it is called HTTP request/ HTTP response.

**Types of protocol:**

1. HTTP-> Hypertext Transfer Protocol

2. HTTPS-> Hypertext Transfer Protocol Secure

3. FTP-> File Transfer Protocol. Ex: Google Drive

4. SMTP-> Simple Mail Transfer Protocol. Ex: Gmail

**Domain Name:**

● It is used to uniquely identify the specific server or computer within the network or area in which a web application is present.

● A domain name might be a computer name or IP address.

● It's mandatory information.

Ex: www.amazon.com -> commercial

.org -> Organization

.edu -> education

.gov -> government

.in -> India

**Port Number:**

● It is used to uniquely identify the specific software/ application inside the computer.

● In the URL this is optional information.

● If we are using the IP Address, then only the Port Number is required.

● Mobile automation-4000 series

● WebLogic- 2digits

● Apache J-boss – 3digits

● Apache tomcat- 4digits (in FireFlink we make use of Apache Tomcat)

● **Ex:** localhost:8888 -> V-Tiger

localhost:8080 -> Jenkins

localhost:4723 -> Appium

**Resource Path:**

● It is used to uniquely identify the specific web resource within the application server (web application).

**Query String:**

● Used to filtering the condition.

● It is one of the parameters/components of the URL which is used to specify/filter a condition / pass a value to a specific parameter.

● It always begins with “?”

● It is always written in “name” = value pairs.

● We can have any number of name value pairs separated by “&”

● **Ex:** http/localhost:8888/index.php?module=leads&action=index

**Fragment ID:**

● It is used to uniquely identify the specific fragment or section in the webpage.

● It’s not a mandatory field in URL.

● It should always begin with #

● **Ex:** #inbox, #Drafts etc..,

1. **Difference between URL and URI**

URL - uniform Resource locator is used to uniquely identify the specific web resource within the web application

URI – A URI is a string of characters used to identify a resource either by location, name, or both.

URI = URL+URN

1. **What is http Method? explain https method required in web service testing**
2. **What is CRUD operation**
3. **What is status code & list out the status Code?**
4. **What exactly you verify in Webservice API testing**
5. **Prerequisite for WebServcie testing ?**
6. **What is Query parameter & why its required ?**
7. **What is the properties of the HttpRequest**
8. **What is the properties of the HttpResponse**
9. **How you used to verify your API using Front End? Are you using any Tool?**
10. **Any API debugging tool which you used**
11. **. How are you passing your data (required info) while testing APIs?**
12. **What is Caching? Advantages and Disadvantages**
13. **What are cookies? Advantages and Disadvantages**

**Rest Assured Introduction Interview Question:**

1. **What is RestAssured**
2. **Why RestAssured for API testing and why not Postman?**
3. **Why ResAssured is popular**
4. **Pre requsite for RestASsured**
5. **Rest Assured supported languages?**
6. **Advantages of Rest Assured?**
7. **What is use of RestAssured class in restAssured?**

**RestAssured Architecture Interview Question:**

1. **RestAssured is a class or interface ?**
2. **What is the use of RequestSpecification API in restAssured;**
3. **What is the use of RequestSpeBuilder API in restAssured;**
4. **What is the use of Response API in restAssured;**
5. **What is the use of ResponseSpeBuilder API in restAssured?**
6. **What is the use of ValidatbaleResponse API in restAssured?**
7. **What is the return type of all CRUD Methods?**
8. **Why HTTP methods available in Both Restassured as well as RequestSpecification**

**RestAssured- CRUD Operation**

1. **How to perfrom CRUD operation in restAssured?**
2. **How many ways we can create a post Request in RestAssured ?**
3. **How to post complex Request In RestAssured?**
4. **Advantages of BDD in RestAssured**
5. **How to use BDD feature in RestAssured?**
6. **What is the use given(), when() , then() in RestAssured?**

**Serilization**

1. **What is serilization and deseilization?**
2. **Why serilization required in API testing**
3. **Have you used in Parsing tool JSON serilization**
4. **How to convert JAVA🡺 JSON and JSON 🡺JAVA**
5. **What is ObjectMapper?**
6. **What is POJO class?**
7. **Can you write one POJO class**

**Complex post request**

1. **How many ways we can post a request via RestAssured?**
2. **How to post a complex request**
3. **Can you write one restassured program to post complex request**
4. **Where do you use hashmap in restassured and why**
5. **Why JobjectObject class is required in restassured**
6. **Why pojo class required in restassured**

**Response validation with RestAssured Assertion**

1. **What exactly you verify in response**
2. **How to put assertion in restassured?**
3. **What exactly you verify in response header**
4. **What exactly you verify in response Body**
5. **How do we verify the response time in response**
6. **How do we verify the complex response in jsonbody**
7. **What Jsonpath and write few example?**
8. **How do we verify the dynamic response**
9. **How to capture the multiple data from Complex jsonbody**
10. **How to extract required data from response**
11. **Write one complex response body**
12. **Why JSONPATH libraries reqyuured in RestAssured**
13. **Write one Complex JSonXpath for the response body**
14. **Any open source toll used to write jsonpath ?**
15. **How to traverse in JSON response body**
16. **What is connection = alive**
17. **What did you verify in response header and body**

**Request chaining**

1. **What is request chaining ?**
2. **Write one sample program for request chaining**
3. **How to automate end to end scenario in API testing**
4. **How to automate micro webservice architecture based application**
5. **Write one sample restassured program for request chaining**

**Type of parameters**

1. **What is API parameter and explain the types parameter?**
2. **Difference between path and Query parameter**
3. **Difference between from and Query query parameter**

**Authentication**

1. **What is Authentication and authorization in API testing**
2. **Explain type of authentication**
3. **What is oauth protocol in api testing**
4. **Difference between digestive and preemptive auth**
5. **Difference between Outh1.0 and Outh2.0**
6. **What is bearer token authentication?**
7. **What is the status code of Forbidden and unauthorized**

**Encryption and Decryption**

1. **What is encryption ?**
2. **What is encoding**
3. **Difference type of encryption**
4. **What is public and private key in encryption**
5. **Which encryption technique used in restassured in basic auth**
6. **What is BASE-64 encryption**

**Data driven testing**

1. **Why data driven testing in rest api testing**
2. **How to execute same API request with multiple set of data**
3. **Write one sample program to execute API with multiple data**
4. **Why random class in API testing**
5. **Advantages of data driven testing**

**Data Simulation**

1. **What is synthetic data**
2. **What is data simulation tool, and why required?**
3. **How many ways to develop data simulation tool**
4. **What to create data simulation tool**

**Mocking**

1. **What is mock/Stub/ data virtualization**
2. **Why mock is required in testing**
3. **Why you used any tool to develop mocking**
4. **What is mock data and mock server?**
5. **How to create mock server**
6. **Difference between data simulation and mocking**
7. **Where did you used mocking solution in your previous project?**
8. **Can we develop mocking solution for dependent business module?**
9. **Can we develop mocking solution for third part application which integrated via API ?**
10. **How run mock server ?**
11. **Write one sample restassured to program to use mock server**

**Utility**

1. **Explain the type of utility used in your API Framework?**
2. **What generic and business utility**
3. **Write few sample rest API utility used in framework?**
4. **Explain the advantages of utilities**

**Unit testing**

1. **Which unit testing tool used in your Framework**
2. **Explain the annotation used in your framework**
3. **How to execute batch in api testing?**
4. **How to execute same suite in difference environment**
5. **Where do SET BASE\_URI and AUTH**
6. **What is use RequestSpecBuilder and ResponsespecBuilder in API testing and where its being used in you framework**

**END points**

1. **. what is endpoints**
2. **. Where did you kept end points in your framework**
3. **. How may end points you tested in your framework**

**Rest Assured FrameWork**

1. **. explain the restassured framework components**
2. **. Explain the execution flow of the framework components**
3. **. Can we execute restAssured framework via JEnkins**

**Others**

1. **. How to handle SSL & TSL certification in restAssured?**
2. **. what is GRPC in API testing**
3. **. what is GRPH-QL in api testing**
4. **. how to handle cookies in api testing**
5. **Can we handle OTP in api testing**
6. **. how to upload image in API testing**