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Assesment

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# Testing & Review

1. **What is Software Testing?**

It is a process in which the functionalities are evaluated and it tries to identify possible errors.

1. **Why is Testing necessary?**

It is necessary to make shure the software fulfils the standards and to highlight any potential defect.

1. **Define:**
   1. **Unit Testing**

It is focused on testing individual units or components of the software

* 1. **Integration Testing**

It is focused on the interaction between different components or systems.

* 1. **System Testing**

To verify if the functional and Non-functional components of the system are as they were designed and specified. They validate the system is complete and works.

* 1. **Acceptance Testing**

Last phase of the software testing process. Actual Sofware users test the Sofware to make shure it can handle the required tasks in the real world.

* 1. **User Experience Testing**

Test different aspects of the user experience in an app to determine the best way to interact

* 1. **Functional Testing**

To guarantee all characteristics and functionalities of a software behave as expected

* 1. **Non-Functional Testing**

To guarantee performance, scalability, security of a software behaves as expected

* 1. **Performance Testing**

Non-funtional test that determines the stability of a program when it is put through a determinate workload.

* 1. **What is Test Plan?**

It is a set of instructions that define what kind of tests will be done, what environment and resources.

* 1. **What is Test Design?**

Is to design and prioritize test cases

* 1. **Explain Test Execution**

Test execution consists of executing test cases manually or automated, comparing results vs expected scenarios and report defects.

1. **What is Automation?**

Technology or technique that tries processes occur with less human interaction

# SQL

1. **What do you mean by DBMS?**

DataBase Management System (DBMS) serves as an interface between an end-user and a database, allowing users to create, read, update, and delete data in the database.

**What are its different types?**

* **1. Relational Database**

It is based on the relational model and a precise data representation in tables. Each row in the table is documented with a particular ID called the key in a relational database.

* **2. Object-Oriented Database(OOD)**

Object-Oriented Database are based on objects in object-oriented programing (OOP). In OOP, an entity is represented as an object and objects are stored in memory. Objects have members such as fields, properties, and methods. Objects also have a life cycle that includes the creation of an object, use of an object, and deletion of an object. OOP has key characteristics, encapsulation, inheritance, and polymorphism**.**

* **3. Hierarchical Database**

The tree-like organization defines the schema for hierarchical databases. There is generally a root “parent” directory of data stored as records links to other subdirectory branches. Each subdirectory branch may link to various other subdirectory branches.

The hierarchical database structure dictates that, while a parent record can have many child records, each can only have one parent record.

* **4. Network database**

A network database is a model wherein numerous member records or files can be connected to multiple owner files and vice versa. The model can be regarded as an upside-down tree where each member’s information is the branch linked to the owner, which is the bottom of the tree. Relationships are in a net-like form where each element can point to multiple data elements and be pointed to by multiple data elements.

1. **What do you mean by table and field in SQL?**

Are objects of a DB that behave as information containers, in which information is logically organized in rows and columns.

1. **What are joins in SQL?**

Joins are used to combine data from two or more tables

1. **What is the difference between CHAR and VARCHAR2 datatype in SQL?**

**CHAR:** The char data type is used to store the character values. It is a fixed-length data type. Once initialized we cannot change the size at execution time. Hence, it is also called a Static datatype. Up to 2000 bytes

**VARCHAR2:** The VarChar2 data type is used to store the character values. It is a variable-length data type. we can change the size of the character variable at execution time. Hence, it is also called a Dynamic datatype. Up to 4000 bytes.

1. **What is the Primary key?**

The PRIMARY KEY constraint identifies each record in a table as unique. Primary keys cannot contain NULL values.

A table can have only ONE primary key; and in the table, this primary key can consist of single or multiple columns (fields).

1. **What are Constraints?**

SQL constraints are used to specify rules for the data in a table. Constraints are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the table. If there is any violation between the constraint and the data action, the action is aborted.

Examples: *NOT NULL, UNIQUE*

1. **What is the difference between DELETE and TRUNCATE statements?**

Delete removes single or multiple records from a table after a WHERE condition, whereas truncate removes complete data from the table Regardless of whether any conditions are met.

1. **What is a Unique key?**

The UNIQUE constraint ensures that all values in a column are different.

# JIRA

## Describe your experience working with JIRA or any other issue tracking tool

I took a bootcamp related to QA automation testing, we were working on Azure DevOps. We created test cases based on the user stories and we defined who was going to perform the test, and how long it should take and what browser would be used.

# GIT

1. **What is Git?**

It is a free tool used for code management

1. **What do you understand by the term ‘Version Control System’?**

Having control or details on every change made in a product or code

1. **What is a Git repository?**

Is a place where the files of a project are stored, also stores every change of it.

1. **How can you initialize a repository in Git?**
2. Create and enter a new directory of the project
3. Type git init
4. Create or modify a file inside the project directory
5. Type git add
6. Do a first commit
7. **Name a few Git commands with their function.**

**git commit –m** It is used to add a comment

**Git init** It is used to create a new blank repository

**Git push origin master** It is used to push local content to your repository

**Git clone** It is used to copy a git repository to a local directory

1. **What are the advantages of using Git?**

Backup of every change made on a project

Codes can be easily committed

Code collaboration

1. **What is the correct syntax to add a message to a commit?**

git commit –m “Message”

1. **Which command is used to create an empty Git repository?**

Git init

1. **What does git pull origin master do?**

It downloads new changes from the branch named master on the remote named origin and integrates them into your local HEAD branch.

1. **What does the git push command do?**

 Git push command is used to push the local repository content to a remote repository

1. **What do you understand about the Git merge conflict?**

Conflict arises when two separate branches have made edits to the same file, or when a file has been deleted in one branch but edited in the other

1. **How do you resolve conflicts in Git?**

By opening and editing the file that has different content and remove arrows, and divider lines

1. **What does git clone do?**

Clones a repository into a newly created directory, creates remote-tracking branches for each branch in the cloned repository

1. **What is the functionality of git clean command?**

Deletes files on the directory that are untracked, it does not remove files that are in the git.ignore and directories

1. **How is Git merge different from Git rebase?**

\*Git merge takes the contents of a source branch and integrates it with a target branch. Only the target branch is changed. The source branch history remains.

\*Git rebase compresses all the changes into a single “patch.” Then it integrates the patch onto the target branch. Unlike merging, rebasing flattens history. It transfers the completed work from one branch to another

1. **How do you recover a deleted branch that was not merged?**

* Step 1: History logs of all the references

Get a list of all the local recorded history logs for all the references

$ git reflog

* Step 2: Identify the history stamp

Find the ‘Id’ of the latest work of your branch

* Step 3: Recover

To recover back the deleted branch use the command ‘git checkout’ passing the HEAD pointer reference with the index id

$ git checkout -b “Deleted branch” HEAD@{#}

1. **What’s the difference between reverting and resetting?**

**git reset** is used to undo changes in your working directory that haven't been comitted yet.

**git revert** creates a new commit that undoes the changes from a previous commit. This command adds new history to the project (it doesn't modify existing history).

1. **How can you discover if a branch has already been merged?**

By typing *$git branch --merged master* , this command lists branches merged into *master*

# JAVA

1. **What is JAVA?**

It is a programming language like C++ and python

1. **What are the features of JAVA?**

Object-oriented, high-level programming and it can be ran on any computer architecture (desktop and mobile)

1. **What do you mean by Constructor?**

It is a special method used to initialize objects

1. **What is meant by the Local variable and the Instance variable?**

An instance variable is a variable that is declared in a class but outside a method while the local variable is a variable declared within a method or a constructor

1. **What is a Class?**

A class is a template or blueprint used to create objects and to define object data types and methods

1. **What is an Object?**

Objects represent real life entities that have a state(value) and behavior

1. **Explain Inheritance**

Inheritance is a mechanism wherein a new class is derived from an existing class. In Java, classes may inherit or acquire the properties and methods of other classes.

A class derived from another class is called a subclass, whereas the class from which a subclass is derived is called a superclass.

1. **Explain Encapsulation**

Encapsulation in Java is a mechanism of wrapping the data (variables and methods) together as a single unit. In encapsulation, the variables of a class will be hidden from other classes and can be accessed only through the methods of their current class. Therefore, it is also known as data hiding.

1. **Explain Polymorphism?**

It refers to the ability of a class to provide different implementations of a method, depending on the type of object that is passed to the method.

1. **What is meant by Method Overriding?**

During inheritance in Java, if the same method is present in both the superclass and the subclass. Then, the method in the subclass overrides the same method in the superclass. This is called method overriding.

1. **What is meant by Overloading?**

The action when we create methods with the same name only if they differ in parameters

1. **What is meant by Interface?**

An Interface in Java programming language is defined as an abstract type used to specify the behavior of a class. An interface in Java is a blueprint of a class. A Java interface contains static constants and abstract methods.

There can be only abstract methods in the Java interface, not method body. It is used to achieve abstraction and multiple inheritance in Java

To access the interface methods, the interface must be "implemented" (kinda like inherited) by another class with the implements keyword (instead of extends). The body of the interface method is provided by the "implements" class.

1. **Explain about Public and Private access specifiers.**

**Public Access Modifiers:**

If a class is declared as public, then we can access that class from anywhere.

**Private Access Modifiers:**

This modifier is only applicable to constructor, methods inside the classes.

 If a variable or methods or constructor is declared as private then we can access them only from within the class i.e from outside the class we can’t access them.

1. **Difference between HashMap and HashTable.**
2. HashMap is non-syncronized and is not thread safe while HashTable is thread safe and is synchronized.
3. HashMap allows one null key and values can be null whereas HashTable doesn't allow null key or value.
4. HashMap is faster than HashTable.
5. **Difference between HashSet and TreeSet.**
6. A TreeSet is a set where the elements are sorted.
7. A HashSet is a set where the elements are not sorted or ordered. It is faster than a TreeSet. The HashSet is an implementation of a Set.
8. **What is the meaning of Collections in Java?**

Java collections refer to a collection of individual objects that are represented as a single unit. You can perform all operations such as searching, sorting, insertion, manipulation, deletion, etc.

1. **What are all the Classes and Interfaces that are available in the collections?**

Interfaces (Set, List, Queue, Deque) and classes ([ArrayList](https://www.javatpoint.com/java-arraylist), Vector, [LinkedList](https://www.javatpoint.com/java-linkedlist), [PriorityQueue](https://www.javatpoint.com/java-priorityqueue), HashSet, LinkedHashSet, TreeSet).

1. **What is meant by Ordered and Sorted in collections?**

\*An ordered collection maintains the order of the elements based on the sequence you put stuff into/remove them from the collection.

\*A sorted collection keeps the elements sorted based on a sort criteria.

1. **Explain the different lists available in the collection.**

A List is an ordered Collection of elements which may contain duplicates.

**Array List:**

* Fast iteration and fast Random Access.
* It is an ordered collection (by index) and not sorted.
* It implements Random Access Interface.

**Vector:**

* Vector methods are synchronized.
* Thread safety.
* It also implements the Random Access.
* Thread safety usually causes a performance hit.

1. **Explain about Set and their types in a collection.**

**In a set there can not be repetitive elements**

Java contains three general-purpose Set implementations: HashSet, TreeSet, and LinkedHashSet

HashSet, which stores its elements in a hash table, is the best-performing implementation; however it makes no guarantees concerning the order of iteration.

TreeSet, which stores its elements in a red-black tree, orders its elements based on their values; it is substantially slower than HashSet.

LinkedHashSet, it orders its elements based on the order in which they were inserted into the set (insertion-order).

1. **Explain about Map and its types.**

A Map is an object that maps keys to values. A map cannot contain duplicate keys: Each key can map to at most one value.

The Java contains three general-purpose Map implementations: HashMap, TreeMap, and LinkedHashMap.

**Hashmap:** provides all of the optional map operations, and permits null values and the null key. This class makes no guarantees as to the order of the map; in particular, it does not guarantee that the order will remain constant over time.

The HashMap class is roughly equivalent to Hashtable, except that it is unsynchronized and permits nulls.

**ThreeMap:** sorts all its entries according to their natural ordering. For an integer, this would mean ascending order and for strings, alphabetical order.

**LinkedHashMap:** It is just like HashMap with an additional feature of maintaining an order of elements inserted into it. HashMap provided the advantage of quick insertion, search, and deletion but it never maintained the track and order of insertion, which the LinkedHashMap provides where the elements can be accessed in their insertion order.

1. **What is meant by Exception?**

**Exception in Java** is an event that interrupts the execution of program instructions and disturbs the normal flow of program execution.

It is an object that wraps an error event information that occurred within a method and it is passed to the runtime system.

1. **What are the types of Exceptions?**

**Checked exceptions:** These are the exceptions that are checked by the compiler at compile time. If a method throws a checked exception, then the caller of the method must either handle the exception or declare it in the throws clause.

**Unchecked exceptions:**These are the exceptions that are not checked by the compiler at compile time. They include runtime exceptions and errors.

1. **What are the different ways to handle exceptions?**

Java provides Two different options to handle an exception:

**Try-catch-finally** approach to handle all kinds of exceptions.

**Try-with-resources** statement is a try statement that declares one or more resources. The resource is as an object that must be closed after finishing the program. The try-with-resources statement ensures that each resource is closed at the end of the statement execution

# MAVEN

1. **Explain what is Maven? How does it work?**

Maven is a build automation tool used primarily for Java projects. Maven can also be used to build and manage projects written in C#, Ruby, Scala, and other languages.

Based on the Project Object Model (POM) an XML file describes the software project being built, its dependencies on other external modules and components, the build order, directories, and required plug-ins. Maven dynamically downloads Java libraries and Maven plug-ins

1. **Mention the three build lifecycle of Maven?**

There are three built-in build lifecycles: default, clean and site. The **default** lifecycle handles your project deployment, the **clean**lifecycle handles project cleaning, while the **site** lifecycle handles the creation of your project's web site.

1. **Explain what is POM?**

It is an XML file that contains information about the project and configuration details used by Maven to build the project. It contains default values for most projects.

Is the metadata that Maven needs to work with your project. it is located in the root directory of each project.

1. **Explain what is Maven artifact?**

The artifact is the resulting output of the maven build, generally a .jar file. Artifacts in maven are identified by a coordinate system of groupId, artifactId, and version. Maven uses the **groupId, artifactId**, and **version** to identify dependencies (usually other jar files) needed to build and run your code.

1. **Explain what is Maven Repository? What are their types?**

It is a directory where all the project jars, library jar, plugins or any other project specific artifacts are stored and can be used by Maven easily. There are three types of maven repositories:

1. **Local** repository is a directory on the computer where Maven runs. It caches remote downloads and contains temporary build artifacts that you have not yet released.
2. **Remote** repositories refer to any other type of repository, accessed by a variety of protocols such as https:// These repositories might be a truly remote repository set up by a third party to provide their artifacts for downloading
3. **Central:** Maven central repository is repository provided by Maven community. It contains a large number of commonly used libraries
4. **Why Maven Plugins are used?**

A plug-in is a piece of software that adds new features or extends functionality on an existing application.

**Plugins perform tasks for a Maven build. These are not packaged in the application.** Any task executed by Maven is performed by plugins.

* Build plugins are executed during the build and configured in the <build/> element.
* Reporting plugins are executed during the site generation and configured in the <reporting/> element.

1. **List out what are the build phases in Maven?**

A build phase represents a stage in the build lifecycle.

validate - validate the project is correct and all necessary information is available

compile - compile the source code of the project

test - test the compiled source code using a suitable unit testing framework. These tests should not require the code be packaged or deployed

package - take the compiled code and package it in its distributable format, such as a JAR.

verify - run any checks on results of integration tests to ensure quality criteria are met

install - install the package into the local repository, for use as a dependency in other projects locally

deploy - done in the build environment, copies the final package to the remote repository for sharing with other developers and projects.

1. **Explain what would the “jar: jar” goal do?**

It creates a jar file in the Maven build directory without recompiling any source classes.

1. **Explain how to run test classes in Maven?**
   1. Open console
   2. $mvn test -Dtest=classname

# SELENIUM

1. **What are the limitations of Selenium testing?** 
   * Selenium cannot extend support to the Windows applications; it only works on the web based applications.
   * Selenium is not capable of performing mobile automation on its own.
   * Selenium does not have any inbuilt reporting feature.
   * Selenium has challenges handling frames and pop ups.
   * Selenium has enormous timeout, sync and page load issues.
   * Selenium does not automate captcha.
   * Selenium does not automate barcodes.
   * Selenium depends on third party frameworks like TestNG, Cucumber for the reporting.
   * Selenium does not support automation testing of video and audio
2. **What are the testing types supported by Selenium?** 
   * Functional Testing
   * Regression Testing
   * Sanity Testing
   * Smoke Testing
   * Cross Browser Testing
   * Integration Testing
3. **Mention the types of Web locators.**

The types of locators are:

* className
* cssSelector
* id
* linkText
* name
* partialLinkText
* tagName
* xpath

To access all these locators, Selenium provides the “[***By***](https://www.selenium.dev/selenium/docs/api/java/org/openqa/selenium/By.html#:~:text=Find%20elements%20based%20on%20the%20value%20of%20the%20%22class%22%20attribute,and%20%22two%22%20will%20match.)” class, which helps in locating element

1. **What are the types of waits supported by WebDriver?**

**Implicit Wait** directs the Selenium WebDriver to wait for a certain measure of time before throwing an exception. Once this time is set, WebDriver will wait for the element before the exception occurs.

However, implicit wait increases test script execution time. It makes each command wait for the defined time before resuming test execution.

**Explicit Wait**

By using the Explicit Wait command, the WebDriver is directed to wait until a certain condition occurs before proceeding with executing the code.

In order to declare explicit wait, one has to use “ExpectedConditions”. The following Expected Conditions can be used in Explicit Wait.

* + - alertIsPresent()
    - elementToBeClickable()
    - elementToBeSelected()

**Fluent Wait** in Selenium marks the maximum amount of time for Selenium WebDriver to wait for a certain condition (web element) becomes visible.

Fluent Wait looks for a web element repeatedly at regular intervals until timeout happens or until the object is found. Fluent Wait commands are most useful when interacting with web elements that can take longer durations to load.

1. **How to type text in an input box using Selenium?**

By using sendkeys() method

1. **How to click on a hyperlink in Selenium?**

By using .linktext(“Locator name”).click()

1. **How to scroll down a page using JavaScript?**

With JavascriptExecutor

JavascriptExecutor js = (JavascriptExecutor) driver;

js.executeScript("window.scrollBy(0,250)", "");

or:

//Scrolling down the page till the element is found

js.executeScript("arguments[0].scrollIntoView();", Element);

1. **How to assert the title of a webpage?**

By getting the title with driver.getTitle() and then comparing the expected title and the actual with AssertEquals()

1. **How to mouse hover over a web element?**

By using the action class:

actions.moveToElement(target).perform();

1. **How to retrieve CSS properties of an element?**

The .css() method is a convenient way to get a computed style property from the first matched element

$(selector).css("propertyName");

1. **What is POM (Page Object Model)?**

It is a design pattern in Selenium that creates an object repository for storing all web elements.

Under this model, for each web page in the application, there should be a corresponding Page Class.

1. **How to take screenshots in WebDriver?**

\*We need to convert the WebDriver object (driver) to **TakeScreenshot**. And call **getScreenshotAs()** method to create an image file by providing the parameter \***OutputType**.FILE.

**File screenshotFile = ((TakesScreenshot) driver).getScreenshotAs(OutputType.FILE);**

\*Then we use the File object to copy the image at our desired location, using the FileUtils Class

**FileUtils.copyFile(screenshotFile , new File("C:\\temp\\screenshot.png));**

1. **Is there a way to type in a textbox without using sendKeys()?**

Yes, by using javaScriptExecutor interface

// Initialize JS object

JavascriptExecutor js = (JavascriptExecutor)driver;

js.executeScript("document.getElementById("textbox\_id").value='new value';);

1. **How to select a value from a dropdown in Selenium WebDriver?**

The Select class of Selenium WebDriver provides the following methods to select an option/value from a drop-down

* selectByIndex
* selectByValue
* selectByVisibleText

1. **What does the switchTo() command do?**

Moving between named windows

driver.switchTo().window("windowName");

1. **How to upload a file in Selenium WebDriver?**

With the Sendkeys method

WebElement upload\_file = driver.findElement(By.xpath("webelement"));

upload\_file.sendKeys("C:/Users/Sonali/Desktop/upload.png");

First need to inspect the element or the button provided for file upload, then by using sendKeys, browse the path where the actual file to be uploaded is kept.

1. **How to set browser window size in Selenium?**

We can set the size of the browser window by the following methods −

**setSize() method**

driver.manage().window().setSize(200,400);

**Javascript executor**

JavascriptExecutor js = (JavascriptExecutor) driver;

js.executeScript("window.resizeTo(450,630);");

1. **When do we use findElement() and findElements()?**

FindElement can pinpoint only one element, the findElements method yields a list of matching web elements.

The return type of findElements is a list whereas the return type of findElement is a WebElement.

WebElement m = driver.findElement(By.linkText("Subject"));

List<WebElement> n = driver.findElements(By.tagName("a"));

1. **What is a pause on an exception in Selenium IDE?**

The pause command is a simple wait command. It is a useful to delay the execution for a specified time. The wait time is in MILLIseconds.

1. **How to login to any site if it is showing an Authentication Pop-Up for Username and Password?**

By passing the username and password along with the web page’s URL.

The syntax for handling this login pop up is:

https://username:password@URL

1. **What is the difference between single and double slash in Xpath?**

Single slash is used to create absolute XPath

Single slash selects an element from the root node.

Double slash is used to create relative XPath.

Double slash finds unique parent node

1. **How do you find broken links in Selenium WebDriver?**

* Collect all the links in the web page based on <a> tag.
* Send HTTP request for the link and read HTTP response code.
* Find out whether the link is valid or broken based on HTTP response code.
* Repeat this for all the links captured.

# API

1. **What is an API?**

**Aplication program interface**, it is a software interface that allows two applications to interact with each other without any user intervention

1. **What is a Web service?**

A Web service is a collection of open protocols and standards which are widely used for exchanging data between systems or applications.

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

**Web services require a network.** While APIs can be on- or offline, web services must use a network.

**Web service supports** only HTTP protocol whereas API supports HTTP/HTTPS protocol.

**Web service supports** XML while API supports XML and JSON.

**APIs are protocol agnostic**. While APIs can use any protocols or design styles, web services usually use SOAP (but sometimes REST, UDDI, and XML-RPC).

1. **What is API Testing?**

API testing is a type of [software testing](https://www.techtarget.com/whatis/definition/software-testing) that analyzes an application program interface (API) to verify it fulfills its expected functionality, security, performance and reliability.

1. **What are the advantages of API Testing?** 
   * Access Without UI
   * It is not necessary to have the final product to start testing
   * Major velocity of execution
2. **What are API documentation templates that are commonly used?**

**OpenAPI (Swagger):** Previously called Swagger, this is the most popular Open-source documentation template in the market. It aims to meet the challenges of teaching and documenting APIs at the same time. It uses JSON objects to describe API elements.

**RAML:** Also known as RESTful API Modelling Language, is a simple way of documenting RESTful APIs. It has a RAML to HTML tool to output documentation based on RAML files.

**API Blueprint:** It’s an Open-source documentation template that offers designers an automated way of generating API documents. API Blueprint highly accessible, excelling in the design-first API building philosophy.

1. **What is REST?**

REpresentational State Transfer, or REST, is a design pattern for interacting with resources stored in a server. Each resource has an identity, a data type, and supports a set of actions

**REST** is a set of rules/standards/guidelines for how to build a web API. **Difference between API and REST API?**

* The primary goal of API is to standardize data exchange between web services.
* REST API is an architectural style for building web services that interact via an HTTP protocol.
* REST APIs facilitate client-server communications and architectures. If it’s RESTful, it’s built on this client-server principle, with round trips between the two passing payloads of information.
* REST is optimized for the web. Using JSON as its data format makes it compatible with browsers.

1. **What are the core components of an HTTP request?**

* Verb : Indicate HTTP methods like GET, PUT, DELETE POST, etc
* URI : Uniform Resource Identifier (URI) to identify the resource on server.
* HTTP Version : Indicates version.
* Request Header : Contains metadata like client type, cache settings, message body format, etc for HTTP request message.
* Request Body : Represents content of the message.

1. **Is there any difference between PUT and POST operations?**

* PUT updatates and POST Creates
* PUT method is called when you have to modify a single resource while POST method is called when you have to add a child resource.
* PUT method response can be cached but you cannot cache POST method responses.
* In PUT method, the client decides which URI resource should have, and in POST method, the server decides which URI resource should have.
* If you send the same PUT request multiple times, the result will remain the same but if you send the same POST request multiple times, you will receive different results.

1. **What is URI? What is the main purpose of REST-based web services and what is its format?**

A URI, which stands **for Uniform Resource Identifier**, is a sequence of characters that identifies a web resource by location, name, or both in the World Wide Web. It is a method that allows for the uniform identification of the resources. Basically, there are two types of URIs: URNs (Uniform Resource Names) and URLs (Uniform Resource Locators)

1. **What are SOAP Web services?**

Simple Object Access Protocol (SOAP) is a lightweight XML-based protocol that is used for data interchange between applications. By using SOAP, you will be able to interact with other programming language applications.

1. **What are the differences between SOAP and REST?**

* SOAP is a protocol, and REST is an architectural style. A REST API can actually utilize the SOAP protocol
* REST APIs access a resource for data (a URI); SOAP APIs perform an operation

1. **What is the information received in below codes?**

1xx: **Informational** – Communicates transfer protocol-level information.

2xx: **Success** – Indicates that the client’s request was accepted successfully.

3xx: **Redirection** – Indicates that the client must take some additional action in order to complete their request.

4xx: **Client Error** – This category of error status codes points the finger at clients.

5xx: **Server Error** – The server takes responsibility for these error status codes.