**How do you implement Test Automation Process/ Test Automation process?**

**Requirement Gathering Phase:**

* Identifying the scope for the Test Automation.
* Extracting the automatable Test Cases from Regression or Smoke Test Suite.
* Identifying the Test Data source [ database, excel file, feature files, properties, etc]
* Identifying the different components in the Test Automation scope [ browser, API services, Excel sheet, interfaces, json files, REST and Soap Services etc].
* Selecting preferred programing language [Eg. Java/C#]
* Version control system where the Automation code will be stored [ GitHub, SVN,CVS ].
* Preferred Unit testing framework [ Eg. Junit, TestNG ]
* Preferred Build tools [Eg. Maven, Ant, etc.]
* Preferred folder structure [Eg quick Start archetype]
* Test Execution mechanism [Eg. Jenkins, Window task Scheduler, through command prompt, as a part of development build (CI), running locally using IDE or Saucelab]
* Preferred Mapping mechanism between manual and automated test [Eg. Excel sheet, cucumber, fitness, keyword driven framework]
* Preferred Reports [EG. User defined reports, cucumber reports, TestNG reports, screenshots reports, build monitor reports etc]
* Preferred Test framework configuration parameters [Eg. Command line, environment variables, Jenkins, properties file, pom.xml file global constrains].
* Preferred Test execution tools [Eg. Selenium Grid, SauceLabs, Virtual Machines, Headless testing tools]

**Analysis Phase:**

* Identifying the best set of tools which fits to the company process, budget, application, language, other preferred values from above.
* Create a sample dummy project with the best combinations from above.
* Create Test plan document which includes the below sections

1. Scope
2. Types of Testing
3. Environments
4. Testing Resources
5. Test Automation Framework
6. Risk Analysis
7. Maintenance Procedures
8. Test Deliverables

* Create a Skeleton project on Maven and generate folder structure, dependencies, properties file and any Run time parameters.
* Add the following dependencies as per Test plan

1. Junit
2. Cucumber
3. Selenium
4. Log4J
5. POI in case of data driven Test framework

* Create a different levels of Test suites as Regression Test suite and Smoke Test Suite, resource folder for Cucumber Feature files.
* Create Page Object Model design document including interface, abstract classes, Base Page, Base test and Browser factory etc.
* Review the document with the Development Manager and get sign off.
* Create Automation testing task stores in JIRA.

**Implementation Phase:**

* Create a cross browser specific driver class which return remote Web Driver based on browser selection done from command line arguments.
* mvn clean test -Dbrowser=firefox Dtest=smoketest Denv=test
* Create a common Utility class which holds all the re-useable Util functions.
* Create a user defined Web Driver objects which add more functionalites.
* Create a user- defined assertions which generates detail report.
* Implement all the page object methods.
* Create feature files and Test Data.

**Maintenance Phase:**

* Changing the locators if any UI changes are happening in the application.
* Remove any older functionalities.
* Improve the framework on the go.