Before automation, I make sure

* **Application is stable**
* **Manual testing is done**
* **No further requirements change. Requirements are approved.**

**I pick high label and repeatable test cases that cover end to end testing for automation.**

Select Test Case that need to **execute** in **every iteration**.

We also **prioritize test cases** that have a business priority.

**When the code** is developed for the first time, the development team deploys the code in DEV environment. After developers finish their testing in the Dev environment they deploy the code in staging environment. In staging environment I do some smoke test to ensure build is stable for further testing.

(Manual test) and then codes are get deployed into the QA environment. That's when I start my regression test.

When I confirm, there is no Bug I push it to the Production environment and right before pushing to the Production environment we do some Sanity test to ensure major and vital functionalities of the application is working as expected.

**[Add This If Want]**In our project, we use Selenium automation tool with Eclipse IDE, Java as a programming language, and We use Hybrid Framework **with TestNG** by using **Page Object Model** design pattern approach with **Page Factory.**We also created as much reusable methods as possible so the code isn't repeated and maintenance is easy.

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**More Points to Select  Automation Candidate Test Case:**

I selected the right candidates for regression testing by considering:

• Which functionality is most important to the project intended?

• Which functionality is most visible to the user?

• Which functionality has the largest safety impact?

• Which functionality has the largest financial impact on users?

• Which aspects of the application are most important to the customer?

• Which parts of the code are most complex, and thus most subject to errors?

• Which part of the application were developed in rush and panic mode?

• Which part of the requirements and design are unclear or poorly thought out?

• What do the developers think are the highest-risk aspects of the application?

• What kinds of problems would cause the most customer service complaints?

• What kinds of tests could easily cover multiple functionalities?

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**(As per Heaven Bhai) Automation Process:**

1. Manual Testing is done.
2. Requirements are not changing.
3. Tool Selection: Selenium
4. Select Automation candidate Test Case.
5. Framework Concept.
6. Developing Script
7. Enhance Script
8. Execute Script
9. Debugging
10. Submit Report.

**What is Automation Testing?**

**Answer:** It's a technique of executing test cases using Automation tool.

**Automation Testing Lifecycle?**

**Answer:** Developers develop the code of the application as per client requirement.

Then Developer assigns the application to the tester to test manually. After first two release on the third release Complex functionalities gets picked for automation. After a KT (knowledge Transfer) session between testers, I use the following criteria like:

* Feasibility check
* Check if the application is stable
* Develop script
* Test execution
* Generate report

**Automation Test Life Cycle [Another Explanation]**

For Automation Test Life Cycle We will talk about following sections:

1- **Automation feasibility analysis**

2- **Test Plan/Test Design**

3- **Environment Setup/Test lab setup**

4-**Test Script development/ Automation Test Case development**

5-**Test script execution**

6- **Generate test result / Analyses of result**

**Explanation:**

**Automation feasibility analysis:**In this section you have to think from different perspective. The main objective of this phase will be to check feasibility of automation. So your main focus will be on below points.

-Which test case can be automated and how we can automate them

-Which module of your application can be tested and which cannot be automated   
-Which tools we can use for our application (like Selenium, QTP etc.) and which tools will be best of our application

-Take following factors into consideration like Team size, Effort and cost involved for tools which we will use.

**Test Plan/Test Design:** This phase plays very important role in Automation test life cycle. In this phase you have to create a Test plan by considering below point into considerations.

-Fetch all the manual test case from test management tool that which TC has to automate.

-Which framework to use and what will be advantage and disadvantage of the framework which we will use.

-Create a test suite for Automation test case in Test Management tool.

-In test plan you can mention background, limitation, risk and dependency between application and tools.

-Approval from client/ Stack holders.

**Environment Setup/Test lab setup:** By name itself you can understand that we need to setup machine or remote machine where our test case will execute.

-In this section you can mention how many machine you want.

-What should be the configuration in terms of hardware and software.

**Test Script development/ Automation test case development:** In this phase you have to start develop automation script and make sure all test script is running fine and should be stable enough.   
-Start creating test script based on your requirement

-Create some common method or function that you can reuse throughout your script

-Make your script easy, reusable, well-structured and well documented so if third person check your script then he/she can understand your scripts easily.

-Use better reporting so in case of failing you can trace your code

-Finally review your script and your script should be ready before consumption.

**Test script execution:**Now it’s time for execution of test scripts, in this phase you have to execute all your test script. Some points to remember while execution

-Your script should cover the entire functional requirement as per testcase.

-Your script should be stable so it should run in multiple environment and multiple browsers (depends on your requirement)

-You can do batch execution also if possible so it will save time and effort.

-In case of failure your script should take screen shots.

-If test case is failing due to functionality, you have to raise a bug/defect.

**Generate test result / Analyses of result:**This is the last phase of Automation test life cycle in which we will gather test result and will share with team/client/stack holders.

-Analyze the output and calculate how much time it takes to complete the testcase.

-You should have good report generation like XSLT report, TestNG report, ReporterNG etc.

**When will you automate a test?**

**Answer:** Automation is preferred in following cases

* Repetitive Tasks
* Smoke and Sanity Test
* Test with multiple data set
* Regression Test cases

**How many test cases have you automated per day?**

**Answer:** Well, the number depends on the complexity of the test cases. When the complexity was limited, I was able to automate 5 to 6 test cases per day. Sometimes, I was able to automate only one test case for complex scenarios. I've also broken down my test cases into different components like, take input, do the calculation, and verify the output. For very complex scenarios have taken 2 or more days.

**When will you not automate?**

**Answer:** When the Application under Test changes frequently, one time test cases

**What are the steps involved in the Automation process?**

**Answer:**

* Selecting the Test tool
* Define scope of automation
* Planning, design, and development
* Test Execution
* Maintenance

**Complete Process to Automate a Test Case?**

**Answer:**

1. **Decide what Test Cases to Automate**
2. **Test Early and Test Often.**
3. **Select the Right Automated Testing Tool**
4. Divide your Automated Testing Efforts
5. Create Good, Quality Test Data
6. Create Automated Tests that are Resistant to Changes in the UI
7. Keep all your work on cloud like git
8. Create a bat file to run the script from outside IDE
9. Link the frame work to Jenkins pipeline.
10. Report should be email able, Or in the format in which client feel easy.

**Note:**Follow the 3R;

* **Refactoring**
* **Realign and**
* **Re-Transform**

Then first you need to check the flow and components that all steps are possible to execute in Testing or production environment. For this you need to check the screenshot taken by Functional team or Manual team if you have both in your organizations. It depends in which environment need to develop.

Like if you have some steps for windows application handling or pdf validations then you need to think for third party tool integration into Framework.

This will help you to check the feasibility of test case for Automation.

After checking all the details you can mark this test case as ready for automation. And assign task to individual who can work on particular. Hope this will help you to clarifying you doubt.

**What is Automation Lifecycle? Explain stages of Automation Lifecycle.[BootCamp Answer]**

**Answer:**Automation testing means using an automation tool to execute your test case suite. Automation life cycle is a multi-stage process that supports the activities required to utilize and introduce an automated test tool, develop and run test cases, develop test design, build and handle test data and environment.

Stages of Automation Lifecycle;

I.       Test tool selection

II.      Define the scope of Automation

III.     Planning, Design, and Development

IV.     Test Execution

V.      Maintenance

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**Automation Process By Marious:**

**Automation process:** We use cucumber frameworks in our automation scripts and also implemented Page FACTORY. We also created as much reusable methods as possible so the code isn't repeated and maintenance is easy. We mostly pick high level test cases for our regression candidates that does end to end testing and ones that are high business priority**.**

Before we even begin the automation process, we have to determine if the application is stable. We also have ensured that the exit criteria are met; we will then have to decide as a team what types of resources will be best selected for our project. In my current work experience, we use Eclipse IDE, Java as a programming language, and BDD with Cucumber Framework to perform the automation process. When selecting test cases, we usually choose high level test cases that cover end to end testing. We also prioritize test cases that have a business priority. Once the test cases have been selected, we will then decide what tools should be incorporated. As a team, we decided to use a behavior driven development framework because we felt it best represented our project.

**Describe your framework?**

So yeah we use TestNG Framework with page object model design pattern implemented with Page Factory. We use Maven as a build management tool for our dependencies. We also integrated TestNG with surefire plugin so we can execute our runner classes from Jenkins. We time our smokes to execute 2x a day, one in the morning and one at night. We have a build trigger for our Regression Suite to run whenever we push a new build into the next environment. We also manually execute our Regression Suite 2x every sprint.

**Describe project -**so what we're working on is what's called the "notifications project." Here, we are creating notifications for modules such as checking’s, savings, transfer, and payment. There are notifications such as wire transfer, balance threshold, personal info modified, or if a new user was added, etc. We have different roles which are given different permissions to create, group, and choose notifications. It can range from creating notifications to how would they like to receive them such as via text, email, or push. The purpose of this project is to give the end-user more awareness of all the transactions and changes going on with their account.

Design the test cases> attached to the story and design the test steps/test results.