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I.   Why and when do we use test automation?

a. Why?

- Reduce human errors: Automated tests can be run consistently and accurately, reducing the chance of human error.
- Increase consistency and repeatability: Automated tests can be run the same way every time, ensuring that results are consistent and repeatable.
- Improve test coverage: Automated tests can be run more frequently than manual tests, providing more frequent feedback on the quality of the software.
- Save time and money: Automated tests can be run without human intervention, allowing developers to catch and fix defects early in the development process, which can save time and money in the long run.
- Perform repetitive and time-consuming tasks: Automation can be used to perform repetitive tasks, such as regression testing, and tasks that would be difficult or impossible to perform manually, such as testing the performance of a system under high load.
- Provide better test efficiency: Automation can be used to run a large number of tests in a short amount of time, which is important when testing software that is expected to have a high volume of users or perform a large number of transactions.
- Improve test reliability: Automated tests can be run more frequently than manual tests, providing more frequent feedback on the quality of the software.

b. When?

- The same tests need to be run multiple times: Automation can be used to run regression tests after changes have been made to the system, ensuring that the system still performs correctly.
- Large number of tests need to be run quickly: Automation can be used to run a large number of tests in a short amount of time, which is important when testing software that is expected to have a high volume of users or perform a large number of transactions.
- Testing requires a high degree of accuracy: Automated tests can be run consistently and accurately, reducing the chance of human error.
- Testing is difficult or impossible to perform manually: Automation can be used to perform tests that are difficult or impossible to perform manually, such as testing the performance of a system under high load.
- Testing is a repetitive task: Automation can be used to perform repetitive tasks, such as testing the same functionality across different browsers, platforms, or devices.
- Testing is time-consuming: Automation can be used to reduce the time required to perform testing by eliminating the need for manual intervention.

II.   **Test project description:**

Test project: **muly**.

- The function tested is to Login into System. After registering a valid account, users can click the "Log In" button, then input username/email and Password to the given placeholder. Click "Log In" button to finish the process.

- I create 5 test cases belonged to 2 scenarios passed and failed, consists of: right account, wrong password, leave the Username or Password blank.

- Next, create the **test script** then perform Test Automation using **Katalon** pass through 5 test cases mentioned above.