Manual & Automation Testing

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What is Software Testing?

Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free.

It involves execution of software system components using **manual** or **automated** tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements

What is Manual Testing?

- It is a software testing process in which test cases are executed manually without using any external tool.

- The tester will manually execute test cases based on the end user's perspective. By manually testing an application we can determine whether the application is working as per the mentioned requirements or not.

- Test cases are executed and implemented completely manually. Even the test reports are generated manually.

- Manual testing software is compulsory for every recently built software before automation testing.

- Manual testing requires great time and effort, yet it gives the guarantee of bug-free software.

Types of Manual Testing

- **White Box Testing:** The white box testing is done by Developer, where they check every line of a code before giving it to the Test Engineer. Since the code is visible for the Developer during the testing, that's why it is also known as White box testing.

- **Black Box Testing:** The black box testing is done by the Test Engineer, where they can check the functionality of an application or the software according to the customer /client's needs. In this, the code is not visible while performing the testing; that's why it is known as black-box testing.

- **Gray Box Testing:** Gray box testing is a combination of white box and Black box testing. It can be performed by a person who knew both coding and testing. And if the single person performs white box, as well as black-box testing for the application, is known as Gray box testing.

Manual Testing Process

Advantages of Manual Testing

- **<u>Accurate</u>**: Automated tools are smart, but they're not as smart as humans. There are certain things that only a real person with real-world experience can spot.
- **<u>Gives human insight</u>**: Manual software testers bring a valuable human perspective as well as accuracy, by focusing on the look and feel of a product.
- **<u>Adaptable:</u>** The manual method is particularly useful in ad-hoc testing, as it's easily adaptable when unplanned changes are made to software.
- **<u>Inexpensive</u>**: Although manual testing requires skilled labor, it can actually save your company money as it doesn't need any expensive tools.

Disadvantages of Manual Testing

- **<u>Resource-heavy:</u>** Manual testing is undeniably more time-consuming than automation, which means the testing process is slower and can sometimes be more costly.
- **<u>Not always suitable:</u>** Certain types of testing, such as performance and load testing, are not suited to manual methods.
- **<u>Potential for error:</u>** Humans are smarter than machines in many ways, but they're also prone to human error.
- **<u>Not reusable:</u>** As the manual testing process can't be recorded, manual tests are not reusable you'll need to develop separate test cases for each new application.

Manual Testing Tools

JIRA Tool

The most regularly used bug tracking tool is JIRA, which is an open-source tool. It is used for bug tracking, project management, and issue tracking.

Features   of   JIRA
1.   It   is   a   time-saving   tool.
2. Jira is used to track the defects and issues.
3. It is used to establish the documentation tasks.
4. Jira is a very useful tool in tracking the improvement of our documentation
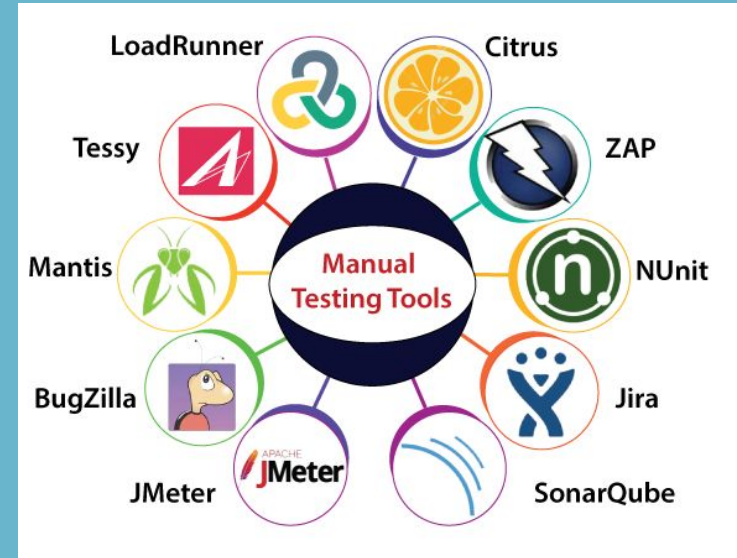
What is Automation Testing?

- Automation Testing is a software testing technique that performs using special automated testing software tools to execute a test case suite.

- Automation testing is a type of software testing that involves automated test case execution using an automation tool.

- So, basically, it automates the manual testing process. The tester writes test scripts and then runs the test scripts either on-demand or schedule them for periodic executions. This reduces the overall testing time, thus helping in faster product releases.

Automation Testing Process
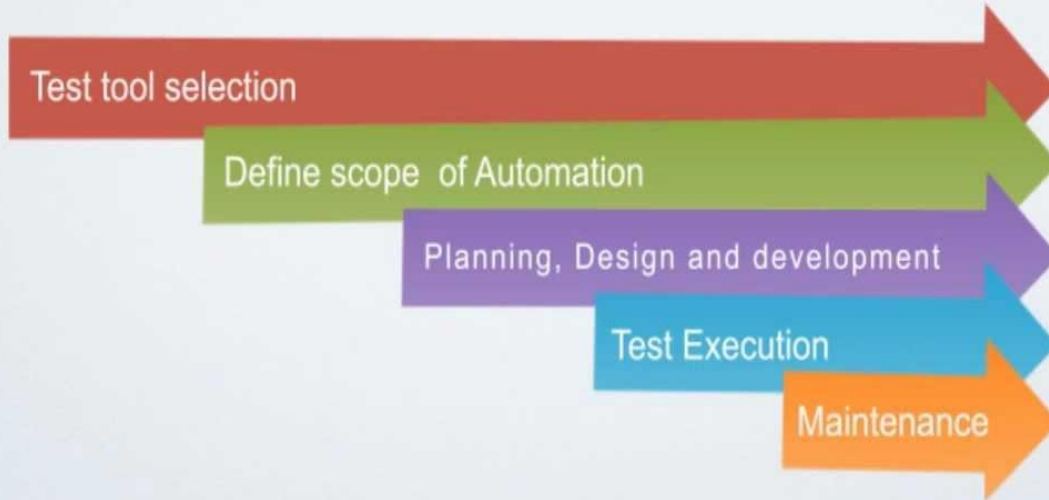
Automation Testing Tools

Selenium

It is an open-source and most commonly used tool in automation testing. This tool is used to test web-based applications with the help of test scripts, and these scripts can be written in any programming language such as java, python, C#, Php, and so on.

Features of JIRA
1. Selenium supports only web-based application
2. Selenium web-driver is powerful because it supports multiple programming languages, various browsers, and different operating systems and also supports mobile applications like iPhone, Android.

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WEBSITE
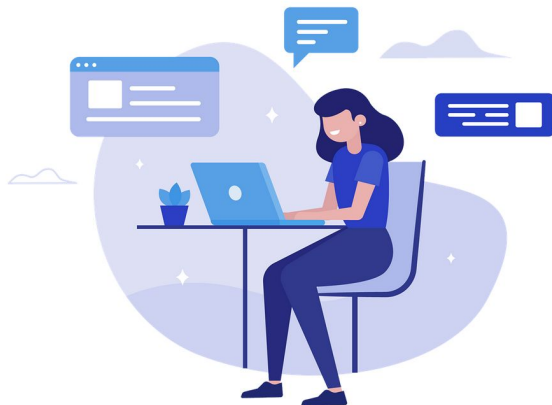
Student Sign In

login into BMSCE campus

USN

Enter USN

Password   Forgot password?

Enter your password

Sign In

If any queries or issues kindly contact
campus@bmsce.ac.in

Se   • Selenium IDE is recording...

https://webcampus.bmsce.in/student

	Command	Target	Value
1	✓ open	https://webcampus.bmsce.in/student	
2	✓ set window size	1136x672	
3	✓ click	id=usn	
4	✓ type	id=usn	**1BM19IS219**
5	✓ click	id=password	

Advantages of Automation Testing

- Much faster than manual Testing

- Human Intervention is not required during execution

- Reusable test scripts

- Improves accuracy

Disadvantages of Automation Testing

- Tests only check what's been programmed

- Expensive

- Inability to Test UX

- Loss of Human Element

Comparing Manual Testing and Automation Testing

	Manual Testing	Automated Testing
Investment on	Human resources since humans test the software	Automation tools since testing is done by the use of various automation tools
User-friendliness	It checks for user friendliness	It cannot guarantee user friendliness
Programming knowledge	Not required	Required
Time consumption	More since humans test the product	Much lesser since testing is automated

Thank you