**Manual Testing**-

Test the software without using any automated tool.

We do manual testing because some things are better checked by a human to ensure the software is user-friendly, flexible, and works correctly in real-world situations, which machines can’t always judge.

For example, a new e-commerce website is launched, a manual tester will click buttons to see if they work, check if images load correctly.

How Manual Testing works-

1. Understand requirements

Read the instructions that explain how the software should work

1. Create test cases

Write down what to test, input values and expected results.

* Example
* **Test Case**: Check login with valid credentials
* **Input**: Username/ Password
* **Expected Result**: Redirect to dashboard

1. Set test environment

* Install the software or open the app on your system
* Make sure it ready for testing

1. Execute test cases

* Perform each test manually:
* Compare actual result with expected result

1. Report bugs

* If somethings fail, report it with:
* Step to reproduce
* Screenshots
* Expected vs actual result

1. Retest or regression testing

* Once the developer fixes the bug, we test again to confirm it resolved.
* Then check if the fix broke anything else.

Advantages- Best for small projects & doesn’t need coding skills

Disadvantages- Time taken more.

**Automation Testing**-

Test the software using automation tools instead of doing it manually. We do it to make testing faster, more accurate and repeatable especially when software is larger.

If a website updates every week, instead of manually checking every page and feature, automation tool like selenium or cypress can automatically test all pages in minute and report any error.

How Automation Testing Works-

1. Select test cases to automate

* Choose test that are repetitive, time consuming
* Example. Log in test, from validation

1. Choose automation tool

* Selenium- for web app
* Cypress- for modern web app
* TestNG/Junit- For java-based testing

1. Write test script

* Use programming language to write test script

1. Run test automatically

* We can run all script together with one command
* The tool automatically open browser, performs the steps, check if result is correct.

1. View test report

* After running, tools give a report showing-

1. Passed Test
2. Failed test
3. Error logs
4. Maintain

* If the application changes, test script also need to be update

Advantages- Faster than manual testing, can run 24/7, good for repeated testing.

Disadvantages- Requires coding knowledge

**orangeHRM**- It is a sample HR management system. By using this software, we can manage employee in company. We can track employee info, attendance, leaves. Companies use it to make HR task easier and organized.

**Sauce** **Demo** – It is a demo e-commerce website used for testing practice. It is used for learning and testing not real shopping.

**Selenium**- It is automation testing tool used to test web applications.

It helps tester automatically open browser, click buttons, enter text so instead of doing this manually, Selenium does it using script.

**Jira**-

It is a project management and bug tracking tool used by software teams. It helps to plan, track and manage your work. By using Jira tool, you can create and assign tasks to team members. Also, we can log bugs with details like steps to reproduce, screenshots, expected vs actual results.

Jira tool helps team to stay organized and meet deadlines. You can assign task, set deadline, track progress and generate reports.

1. Assigned test related task

* The project manager or test lead creates the task like:

1. Test log in functionality
2. Perform regression testing

* We can see these assigned to you in Jira under To Do or Assigned to Me.

1. Test the application manually

* We open the app or website and follow the test cases
* If everything works fine 🡪 we marked it as passed
* If we find a problem 🡪 then we can raise a bug in Jira

1. Raise a bug in Jira

When you find a defect, you create a new issue of type Bug

* Issue- In this field, there is bug
* Summary- Short title of problem
* Description- Detailed steps to reproduce the bug
* Expected result- What should happen
* Actual result- what really happened
* Priority- How serious it is
* Assignee- developers name
* Attachment- Screenshots or video

1. Developer fixes the Bug

After we raise the bug -

* Jira send a notification to the developer
* The developer fixes it
* Changes the status from To Do 🡪 In progress 🡪In review

1. Retest the bug

Once fixed-

* We retest the same scenario
* If it works now 🡪 mark it as Resolved/ Closed
* If it still fails 🡪mark as reopen

1. Track all bugs and report

In this phase we view all the bug that are reported by us 🡪 check how many bugs are fixed or pending 🡪 create test summary report.