**Automation tool chosen and why:**

Selenium is popular automation tool used for testing web applications. Enables automation for repetitive tasks, test application functionality and improves overall testing functionality.  
  
It’s open source, Cross-platform supporting multiple programming languages and can be used on various operating systems including Windows, macOS, and Linux.

It supports multiple browsers including Google Chrome, Firefox, Internet Explorer and Safari allowing testing on the above different operating systems.

It’s flexible allowing a range of testing options including unit testing, functional testing, and acceptance testing.

Can be integrated with other tools such as Jenkins, Docker, and TestNG.  
  
Large community, providing users with access to resources, tutorials and support.

**Installing the Selenium Chrome extension:**

* Go to the Chrome Web Store and search for the "Selenium IDE" extension.
* Click "Add to Chrome" and follow the on-screen instructions to install the extension.

Open Selenium IDE:

* Open Chrome and click on the Selenium IDE icon in the toolbar to launch the IDE.
* Alternatively, you can type "[chrome://extensions](chrome://extensions/)" in the address bar, find the Selenium IDE extension, and click "Launch".

Import your project:

* Click on the "Open an existing project" button on the home screen.
* Navigate to the location of your Selenium project files and select the appropriate file (such as a “. side" file).

Run your test cases:

* Click on the "Play current test case" button (a green "play" button) to run the current test case.
* To run all test cases in your project, click on the "Run all test cases" button (a blue "play" button).

**Testcases for VanillaJS Todo Application:**

1. Add a new task: Verify that a new task can be added to the Todo list by entering a task in the input field and clicking the "Add" button.
2. Edit a task: Verify that a task can be edited by clicking on the task text, editing it, and pressing Enter to save the changes.
3. Mark a task as completed: Verify that a task can be marked as completed by clicking the checkbox next to the task.
4. Filter tasks by status: Verify that the tasks can be filtered by All, Active, and Completed status by clicking the appropriate buttons at the bottom of the list.
5. Delete a task: Verify that a task can be deleted by clicking the "x" button next to the task.
6. Mark all tasks as completed: Verify that all tasks can be marked as completed by clicking the "Mark all as complete" button.
7. Clear completed tasks: Verify that completed tasks can be cleared by clicking the "Clear completed" button.
8. Persistence: Verify that tasks persist after the page is reloaded by adding tasks, refreshing the page, and checking that the tasks are still present.
9. Keyboard shortcuts: Verify that the keyboard shortcuts (e.g., Enter to add a task, escape to cancel editing) work as expected.