RPA Specialization

Course 3: UI Automation and Selectors

Tools and Approcah to Fine-Tune Selectors

Tools and Approach to Fine-Tune Selectors

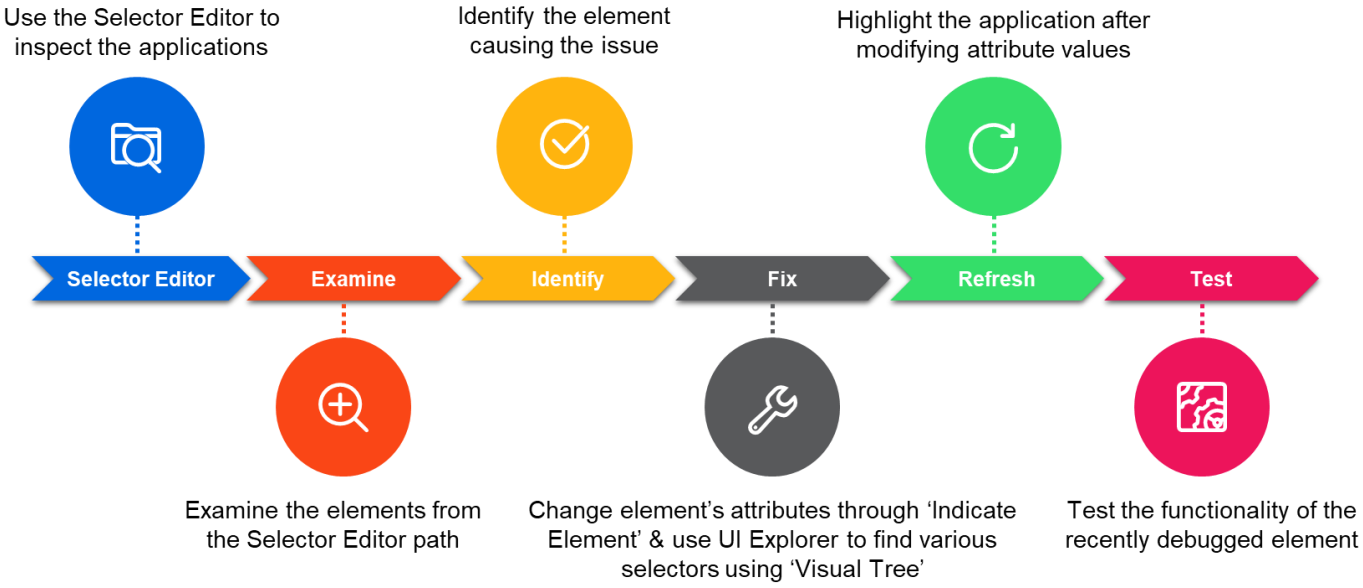
In the case of selectors, fine-tuning is used to refine selectors to have the workflow correctly executed in situations in which the generated selector is unreliable, too specific, or too sensitive with regard to system change. It mainly consists of small, simple changes such as adding wildcards, using the repair function or using variables in selectors.

In most cases in which the selectors automatically generated are not reliable enough, fine-tuning solves the issue. However, there are some difficult situations for which there are other approaches:

- **Anchor Base:** Useful in cases in which the attribute values are unreliable (generated at each execution, for example), but a UI element is stable and linked to the target UI element. The Anchor Base activity has two parts: locating the anchor UI element (like 'Find Element') and performing the desired activity.
- **Relative Selector**: It incorporates the information about the anchor's selector in the selector of the target UI element. However, the new selector will probably need additional editing, as the first selector part will still be in the new selector. So that part (like a dynamic ID) needs to be removed, and the selector will stabilize using the anchor's selector.
- **Visual Tree Hierarchy**: Useful when the target UI element's selector is not reliable, but the selector of the UI element right above in the hierarchy is. However, the selector needs further editing and validation, as the dynamic part needs to be removed. At the same time, the user needs to make sure that the target element can be identified with a unique attribute.
- **Find Children**: It identifies the children of a certain UI element. The output of the activity is the collection of children. So, to make it work, the user needs to come up with a mechanism to identify only the target UI element (using one of its attributes that makes it unique between the children but wouldn't be enough to identify it universally).

Approach to Fine-Tune Selectors

Selector Editor can be used for checking selectors and UI Explorer for debugging selectors. UI Explorer enables the user to inspect all the attributes used to identify the element causing the issue. Once the element has been identified, the debugging process starts. Fine-tuning a selector involves changing the element's attributes, either adding or removing them, and using wildcards where specific attributes have variable values inside them.



The recommended approach that can be adapted to fine-tune selectors can have the following steps:

- **Selector Editor:** Inspect the applications
- **Examine:** Examine the elements from the Selector Editor path
- **Identify:** Identify the element causing the issue. Once the issue is identified and resolved, click Validate to ensure that the Validate button turns green.
- **Fix:** Change the element's attributes through Indicate Element or Repair and use UI Explorer to find various selectors using Visual Tree
- **Refresh:** Highlight the application after modifying attribute values
- **Test:** Test the functionality of the recently debugged element