

Improving Script Efficiency with QA Wizard Pro's Smart Matching

One of the biggest automated testing challenges is ensuring that scripts can locate the correct controls when they run. This is especially the case when you record a script against a web application that uses dynamic content. Depending on the action you are performing when you record the script, the page may display one set of controls. When you run the script later, the state of the application may change and other controls may appear. The original control may be displayed in a different area of the page with different properties, or it may not be displayed at all. With all these changes, how does the script find the right control?

The application repository is the key to finding controls

When you record a script, QA Wizard Pro captures information about each control and stores the properties for all controls in the application repository. Then, QA Wizard Pro selects a few properties to use as search criteria to help scripts locate controls.

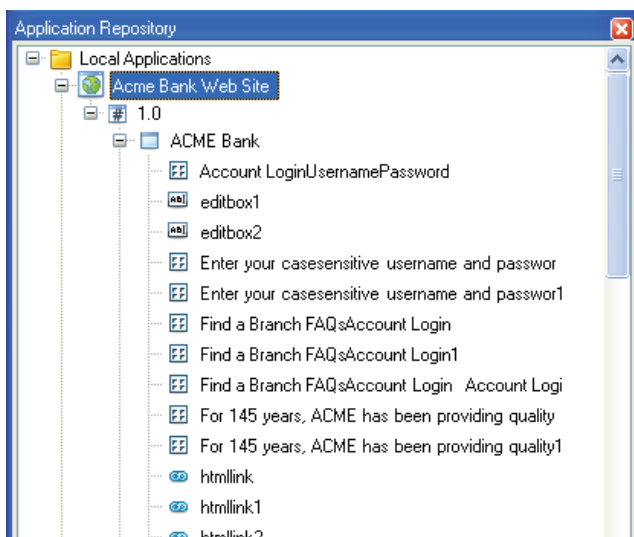


Figure 1: The application repository stores properties for all controls

With a dynamic web application, the values of some of the properties change every time you access an application. When recording a script against a dynamic site, the script might run fine right after you record it because the controls still have the

same properties. When you run the script later, the script may fail because the search criteria values, such as session IDs for links, have changed. To overcome this, QA Wizard Pro uses smart matching to help scripts locate controls by recognizing changes in a shifting dynamic environment.

Smart matching during recording

When you record a script, QA Wizard Pro checks the controls on the page against the application repository. If QA Wizard Pro finds new controls or changes to existing controls, it notifies you of the changes it plans to make based on the new information in the Repository Changes dialog box.

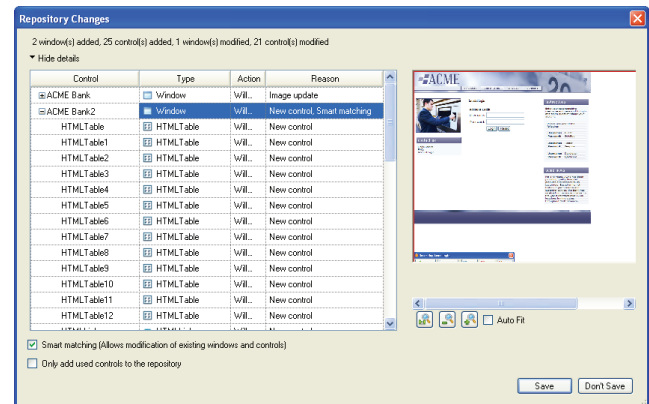


Figure 2: QA Wizard Pro automatically detects changes in the application

You can see which controls will be added or changed based on information gathered during recording. There are several reasons that smart matching might update a control. The properties of the control might have changed since it was initially captured. Another possibility is that smart matching discovered a better way to identify the control because there was incomplete information available during the original recording. For example, suppose you start testing by recording a script that only logs in to a site. Then, you record another script that interacts with other areas of the site. The second script may capture more information about the architecture of the site and provide QA Wizard Pro a clearer understanding of which set of properties make a control unique.

Smart matching finds more controls during playback

There are two situations that may cause the script to have difficulty during playback: the script finds multiple controls that match the criteria or it does not find any matching controls.

More than one control matches the search criteria

In the first situation, a script may find two or more controls that look the same. Using just the designated search criteria, the script might perform an action on the first matching control, or it might confuse the two seemingly identical controls and fail. Smart matching gives scripts a way to sort this out. When a script cannot distinguish between two or more controls, smart matching compares all the properties of the similar controls and determines the probability of each control being the correct one, and the script selects the one with the highest probability.

The script cannot find a control

The second problem scripts encounter is when none of the available controls seem to match the search criteria. This might occur if the name of the control or other search criteria changed between the time the script was recorded and when it was run. Again, smart matching compares the properties for likely matches and calculates the probability of each control being correct.

Smart matching provides tips for improving the application repository

If a script has trouble locating a control but eventually finds it, a warning message is displayed in the Errors window.

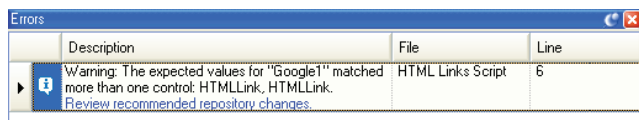


Figure 3: Smart matching offers suggestions for improving searches

The warning explains the issue, suggests a solution, and includes a link to the control in the application repository so you can make the changes. This reduces the time you spend determining search criteria and helps ensure your scripts run without problems.

Making smart matching work for you

Smart matching is always on when you run a script, ensuring that scripts run as smoothly as possible with fewer false errors. You can also review the warnings generated by smart matching and make adjustments to improve your search criteria.

When you are recording a script, you can turn smart matching on and off in the Repository Changes dialog box. This allows you to quickly see which controls will be added or changed by smart matching. When testing a new application, it is helpful to use smart matching to collect application data, identify the dynamic content, and to monitor changes to the application. After the application and its controls are defined and the scripts are running properly, you may want to disable smart matching for future recording.

Scripts that deliver on the promise of automation

How can testing be truly automated when you have to spend time adjusting and fine-tuning search criteria to get scripts to run properly? QA Wizard Pro uses new information to adjust the application repository and reduce manual changes. Smart matching allows scripts to adapt to changing conditions and find the correct controls in even the most complex applications. With QA Wizard Pro and smart matching, your scripts are now as dynamic as your application.