



THREESIXTY LOGICA TESTING SERVICES



CASE STUDY ON REGRESSION TESTING

CLIENT

Our client is a leading provider of examination development software used in high-stakes hiring decisions in U.S. It is a suite of web-based tools that allows experts to collaborate remotely to develop examinations for use in certification and organizational hiring systems. It specialises in Employment Testing, Certification Examinations, Psychometric Consultation and Software Development.

APPLICATIONS AND REQUIREMENTS

Our client has two dependent applications:

1. Exam Developer (Creates Manager/Organization/projects/Item bank etc.)
2. Exam Administrator (Manager created in Exam Developer can create exams and assigned to students)

We were required to:

1. Automate all the scenario of Exam Administrator and Exam Developer.
2. Script should be executed against every new build for Regression Testing.
3. Each script should be Independent and quick.
4. No explicit wait time
5. Script execution does not take much time to execute.
6. Pre-requisite data should be checked only one time.

TOOLS AND TECHNOLOGY

- Selenium Webdriver with C#
- NUnit framework
- Cache framework to reduce execution time
- Jenkins CI tool

PROBLEM STATED/CHALLENGES FACED

While automating below challenges were faced:

- Each script should be run independently.
- Ensure function reusability
- Application does not support more than one instance per browser execution in parallel.

- User/application setting gets changed if we execute script with same data set in different machine in parallel.
- Independent script takes long time to check prerequisite data setup (each script verify the required data set and creates if not already exist.)

PROCEEDING AND SOLUTIONS

- We implemented scripts in such a way that each script first sets up pre-requisite data and completes execution.
- Implemented Cache framework and put all the pre-requisite data under conditional statement so that conditional data skips if value found in cache.
- All data from the data set was read once and stored in cache for further execution.
- Eliminated most of the Thread.sleep() and unused WaitForElementEnabled() function.
- Setup Jenkins CI tool so that all the scripts are executed automatically and execution result was shared via email after script execution.
- Setup Jenkins Master slave for parallel script execution.

ADVANTAGES OF THE TOOLS USED

- By implementing Cache framework, total execution time was reduced by 1/3.
- Using Jenkins CI tool we were able to execute scripts in more than two different nodes (Master/slave) with different data sets at the same time.
- Integrated Jenkins with SVN repository so that checkout code updated each time when the execution starts.
- Using Jenkins CI tool, manual effort was not required to execute automation scripts.

BENEFITS TO THE CLIENT

- Time and cost involved in Regression testing was saved.
- User friendly reporting via email.
- The client was able to focus his attention on the right areas by analyzing execution reports, sent via Jenkins.

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