Abstract

Testing data-centric applications is always a challenging and a time consuming task. The goal of this paper is to present a test automation framework for testing data warehouse and business intelligence applications using an open source test automation tool. An Implementation methodology for multithreaded test execution is be explained that brings down the test execution time significantly. It is a rigorous task to test the applications with high dimensionality of data as the number of test inputs is huge. Over and above it requires a huge amount of time to test the data-centric application as the test cases needs to be executed with various input combinations to bring out the application failures. An effective way for selecting quality test data using boundary value analysis, equivalence portioning and orthogonal array technique is presented in this paper. A methodology for preparing a quality data set for testing using various
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pre-processing and data mining techniques are experimented. A Strategy data selection and reduction for effective testing is described. A mechanism for reducing the test inputs to perform a risk oriented testing is also presented. Overall, a step by step approach for testing high dimensional data-centric web applications compressively, using selenium, weka and R tools is presented.

References

- Zhen Li; Yong Hu Sun.; "Use Selenium Grid to enhance testing of web applications," IBM Technical Library&quot;, 07 June 2011.


- Mark Hall, Eibe Frank, Geoffrey Holmes, Bernhard Pfahringer, Peter Reutemann, Ian H. Witten (2009); The WEKA Data Mining Software: An Update; SIGKDD Explorations, Volume 11, Issue 1.


- Unmesh Gundecha, &quot;Distributed Testing with Selenium Grid;&quot; Packt Publishing, November 2012.

Index Terms

Computer Science

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Keywords

Test Automation Framework Orthogonal Array testing Test Data preparation
Selenium web testing
Risk Oriented Testing
Data Driven Testing
Boundary Value Analysis

Equivalence Partitioning

Rule based data extraction engine (RBDEE).