



## Case Study

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# Test Tools and Testing Framework Setup

(HP QTP, HP QC, JMeter, and Security testing tools)

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**Your company information**

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<b>Solution group</b>	Testing Services Group
<b>Solution offering</b>	Installation and Setup of Functional ,Performance and Security Tools
<b>Project name or title</b>	Testing Tools and Framework Setup

## Client profile

Client is a leading national provider of professional education and training for the financial services, real estate, management and business sectors in Australia. Starting as a small test prep company in 1938, Client has pioneered new territory in online higher education and professional training with innovation and imagination. Through new technologies and a personalized approach to learning, Client is opening doors to educational opportunities and inspiring people to strive for their personal best.

## Business situation

With over 600 locations in more than 30 countries, Client employs more than 31,000 people worldwide. Client Asia Pacific has exponentially grown over the last few years to become a leading education provider in Hong Kong, Singapore, China and Australia. With over 900 staff across the region, Client Asia Pacific offers students vocational education and higher education courses both in a campus environment and increasingly through sophisticated and innovative e-learning platforms.

In Australia, Client offers education programs in both vocational education and higher education. Providing pathways from certificate level all the way through to masters degrees.

We can tailor courses to individual business needs by developing customized training solutions. Access to an extensive range of technical content and expertise enables us to tailor programs for any organization

## Technical situation

The Client is running more than 50 applications on different platforms .The testing was manual with no pre defined structure. Requirements for applications exist on excel sheets with no tracking for requirement changes or coverage .Functional Testing was mostly performed by Business Users, lacking Technical skills to test the application in the given time framework. No performance or Security Testing was done for either of their applications. So we provide below solutions to the client

- Install and Setup HP QC
- Install and Setup HP QTP
- **Designing Automation Framework** for Functional Testing using HP QTP
- Create 10 golden scripts for sample in Automation framework using HP QTP
- Importing Requirements and Test cases in QC
- **Install and Setup JMeter** Performance Tool.
- Performance Testing few key Performance testing scenarios and create performance summary report
- **Install and Setup Security tools-** W3af,Wapiti,WebSecurify
- Perform Security Testing on one key application and create security testing report
- Knowledge Transfer and Training to Internal team for testing tools
- Existing Test Process Evaluation and **recommend Test process Improvements**

## Solution

Adactin proposed and implemented Tool Setup and Framework Installation and Setup process which was divided into 6 Phases

Testing Tools Implemented-

- HP Quality Center – TestManagement Tool
- HP QTP – Functional Automation Tool
- JMeter – Open Source Performance Testing Tool
- Websecurity – Open Source Security Testing Tool
- Wapiti - Open Source Security Testing Tool
- W3AF - Open Source Security Testing Tool

Phase 1- Installation and Setup of HP QC

- Install HP QC
- Setup HP QC Server
- Linked with their existing Database server
- Importing Requirements and Test Cases
- Linking the Test Cases with their requirements
- Showing the coverage of Requirements
- Setup structure including key fields and workflows in Quality Center
- Setup Quality Center guideline and usage document

Phase 2- Installation and Setup of HP QTP

- Install QTP
- Setup "HAT" (Hybrid Automation Testing Framework) using QTP
- Analysis and understanding the Applications for writing sample test scripts
- Setting up the testing environment
- Get all external resources required from the client(Application and Test Data )
- Implement AdactIn's propriety "HAT" Framework in client environment
- Automating the workflows for 10 golden scripts
- Writing test scripts as defined in Framework
- Running all the scripts and shared results with client

Phase 3- Installation and Setup of Performance Tool

- Installation of JMeter
- Setting up the Testing Environment
- Get all external resources required from the client(Application and Test Data )
- Creating JMeter test script for one of the client application.
- Adding Correlation, Parameterization and Transaction Controls to the sample script
- Executing the Scripts
- Creating Performance Test summary report on the basis of throughput and 90% Line

- Categorizing the Transactions with their severity after analyzing application Performance

#### Phase 4- Installation and Setup of Security Tool

- Installation of W3af,Wapiti and WebSecurity Testing tools
- Setting up the testing Environment
- Getting the application URL for which security testing needs to be done as a sample to the client
- Running scans on the client application with tools mentioned above
- Exporting reports from each tools
- Creating Security test summary reports for all tools and analyzing the results on the basis of vulnerabilities or issues found in application through scan

#### Phase 5- Test Process Improvement

- Understand existing Testing process followed by client
- Understand the current pain areas and quality issues
- Find gaps in their current testing process
- Recommend modification and improvements to current testing process
- Provide Testing template for key artifacts used in testing process

#### Phase 6- Training

- Providing the hands on training of QC and QTP to the team
- Making client familiar how to use the Business components of QC
- Providing training and Templates to create AdactIn's HAT Framework
- Providing training and Templates for Security and Performance Tool implemented

## Benefits

Find below benefits of technical solution proposed to the client

- Setup of Test Management tool QC helped in improving overall test quality and defining end outcomes out of testing effort
- TestCase maintenance was much easier and could be done at one central plan
- Setup of automation framework and guideline helped client in getting a headstart into Automation and thereby improving their application quality
- More coordinated application testing between business users, developers and testers was now possible
- Apart from functional testing, client team started testing non-functional aspects like Security and Performance testing
- Performance testing effort detected some serious issues with the application which were rectified by client
- Security testing effort detected some serious vulnerabilities in client applications, which could have caused big business impact but were rectified well in time.
- All the solutions implemented could be used over more 50 application client had, which gave them big win.

## Products and services we used

- OS – Windows2008 SP1 , Windows2008 SP2
- Database – SQL Server 2000
- VBScript
- Automation Testing Tools – HP QC, HP QTP
- Performance Tools – JMeter
- Security Tools – W3af,Wapiti,Websecurify

## Assistance provided by client resources

- Assistance provided by client's IT team in setting up QC Server
- Assistance provided by client's IT team in setting up QTP
- Client's IT team helped in setting up Testing Environment
- Client's Development team provided applications URL with login details and test data

## For More Information

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