

Methodology of Automation Testing using QTP on SRM Applications



Applies to:

SRM 6.0

Summary

SAP is one of the world's leading providers of e-business software solutions. The Automation scripts would lead to creation of scripts in SRM 6.0 landscape. Organizational processes, business requirements besides client expectations have major impact on the quality of the product being delivered.

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Overview

SAP is one of the world's leading providers of e-business software solutions. A basic shopping cart scenario in Enterprise Buyer Professional includes the creation of shopping cart. Employee creates the SC with the required items and a Purchase Order is created. A Purchase Order is directly created from shopping cart or it is created by the Purchaser by entering necessary information. Once a Purchase Order is created, it can be confirmed i.e a confirmation is created after the Purchase Order is ordered. The Automation scripts would lead to creation of scripts in SRM 6.0 landscape.

Once applications are developed it becomes a necessity to test the application at various levels before it enters the market. A thorough test of the application in terms of volume, stress, performance and various other factors ensures the quality of the product and makes it ready to be shipped to the customer.

Test automation is the use of software to control the execution of tests. Commonly test automation involves automating a manual process already in place that uses a formalized testing process.

The goal of any automation project would be to have an automated regression test suite which can be executed against each release or even every build of either of these scenarios to verify the product functionality for a system which has been set up from scratch and one which has been upgraded from the most recent shipping version of the product. To establish this goal a test automation infrastructure must be established that will be used to facilitate the creation of a variety of test scripts.

Fundamentals

As a first step the scenarios to be automated are prioritized, set up and customized. Next step would comprise of gathering the requirements initially at a high-level and then bringing it down to detailed low level requirements following which the detailed design document would be made. Based on the design the coding (Scripting) of actions would be carried out using a tool known as QTP. The final step would comprise of the code-review of the script and a review of the script behavior by the functional experts. The future work comprises of integration of the scripts developed in QTP where batch run of scripts can be performed and logs could be placed in the Central System.

ECATT is the proprietary tool of SAP which can be used for testing SAP based applications. Since this tool does not support WebDynPro ABAP User Interface, a third party tool is required for automation of the application. QTP (Quick Test Professional) is one of the advanced solutions for functional test and regression test automation.

Hence QTP would be one of the functional tools used for developing scripts for the following reasons:

- 1.) QTP supports SAPGUI, ABAP WebDynPro, and Standard Web Pages.
- 2.) QTP uses VB Script as the programming language. Scripting can be used to test complex scenarios in the application.
- 3.) ECATT Integration is supported.
- 4.) It provides better data table integration for Data driven testing.
- 5.) It provides a good reporting facility.

Possible Project Task Break Down Phases

- 1.) Roll-In Phase: The scenarios which have to be automated are defined.
- 2.) Preparation Phase: The Functional Experts would provide the main areas to be automated and a run of the scenario would be done.
- 3.) Planning Phase: All assumptions and limitations will be defined. The scenarios to be automated will be prioritized. The set up and customizing parts will be automated. Necessary master-data will be clearly defined. The specifications document will be created in this phase.
- 4.) Development phase: The design document will be created first. Next the design will be reviewed internally by the functional experts. The scripts would then be developed according to the design. Later the script review and correction process would take place.
- 5.) Integration phase: The scenario would be mapped to the existing test cases. The test plan would be divided into test packages. The QTP Automation scripts will be integrated.
- 6.) Execution phase: The automation scripts will be executed and results would be placed into the logs in the central system.

The Testing Process

Testing with Quick Test involves the following main stages

- 1) Planning
- 2) Understanding Functions and creation of Function Libraries
- 3) Recording or scripting of a scripts.
- 4) Enhancement of the script.
- 5) Execution of scripts.

Selection Of the function based approach

Most of the companies today use the record and run based approach to automate their applications. Sometimes due to frequent changes in the application from the development side the tester need to continuously change the scripts developed hence resulting increased effort.

A solution for this problem would lie in developing flexible scripts which would be able to handle changes in the application.

The function-based approach is a desired (one of the) solution where function libraries are developed and included within each script. This function library consists of various generic functions which are called from within the script. The use of these functions makes the scripts independent of the field's positions in the application which results in lesser effort towards maintenance.

Advantages

1. Reliable: Tests perform the same operations each time they are run thereby eliminating the maintenance effort.
2. Reusability: Reuse functions on different versions of applications.
3. Better Quality Software: More tests in less time with fewer resources can be executed
4. Cost Reduction : Number of resources for regression tests are reduced

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