Performance and Stress Testing

Course Summary

Description

This course addresses the multiple levels of performance testing from single-shot through stress. It includes the unique focus of single-shot, “smoke”, normal, spike, hot spot, bounce, and stress levels of performance testing. It defines the components of the Performance Response Time graph starting with single-shot, and continuing through the “knee”, the maximum acceptable response times, and “gridlock”. It provides specific approaches for gathering the test data, such as John Musa’s Operational Profile. It includes the key functions of performance test tools and examples of some commonly used vendor’s performance tool features. Students work individually and in teams developing and refining a Performance and Stress Test plan throughout the class.

Objectives

At the end of this course, students will be able to:

- Identify key points on a performance graph
- Recognize the definitions for the different levels of performance testing
- Discuss the contents and role of the Operational profile
- List common functions provided by performance test tools

Topics

- Introduction
- Levels of performance testing
- Performance environment
- Wrap-up
- Exercises

Audience

This course designed for System and IP testers.

Prerequisites

Students should have some familiarity with the key terms used to describe software testing. Attendance at an introductory Testing Overview class is recommended.

Duration

One half day

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Course Outline

I. Introduction
- A. Course objectives
- B. Outline
- C. Schedule
- D. The performance test graph
- E. Exercise: identify points on a performance graph
- F. Exercise: start a Performance Test Plan

II. Levels of performance testing
- A. How fast does it need to be?
- B. Single shot
- C. "Smoke"
- D. Normal(s)
- E. Musa's Operational Profile
- F. "Soak"
- G. Spike
- H. "Hot spot"
- I. Bounce
- J. Stress
- K. Exercise: add test levels to a Performance Test Plan
- L. Planning performance testing for new software (no baselines)

III. Performance environment
- A. Functions tools can provide
- B. Functions tools may not provide
- C. Possible sources
- D. company choices
- E. Exercise: add test environment to the Performance Test Plan

IV. Wrap-up
- A. Review of key points
- B. Objectives achieved
- C. Assessment
- D. Evaluations

V. Exercises
- A. Identify points on a performance graph
- B. Start a Performance Test Plan
- C. Add test levels to a performance Test Plan
- D. Add test environment to the Performance Test Plan

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