

Performance Testing - Jmeter

Course Duration: 40 Hr.

Performance Testing Concepts

What is performance testing

Performance Life Cycle

Load Testing

Stress Testing

Endurance Testing

Spike Testing

Threads, Rampup, duration, rampdown

Scenario, flow and script

Work Load Modelling

Perf Vs Prod Environment

Test Data

Load Generator

Understanding Application behaviour

Performance acceptance criteria

Performance reporting fundamentals

Jmeter Introduction

Jmeter Features

Setup and Installation

Jmeter GUI overview

Introducing various elements

Creating a basic test plan

Running a basic performance test

Jmeter Script Recording

Setting up proxy server

Recording a website

Recording from other ways

Formatting/managing test plan

Script replay

Thread Group

Introduction

Covering different types:

Single thread group Multiple thread group Arrival

Concurrency

Stepping

Ultimate

TearDown

Samplers

Introduction

Use of different samplers

HTTP Request

FTP Request

TCP Sampler

JDBC Sampler

SOAP/XML-RPC

Debug Sampler

Config Elements

Http Cookie Manager

Http Header Manager

Http Cache Manager

Http Request Default

Counter and its use

Random Variable

User Defined Variable

CSV Data Set Config

Writing data to file

Listeners

Introduction to listeners View Result in Tree

View Result in Tables Summary Reports

Aggregate Report

Different Graphs reports and concepts Understanding

Performance Reporting metrics:

Average

Mean

Median 90,95,99% line Std

Deviation Response time

Latency Throughput Bytes

Connect Time

Save Response to a file Simple Data

Writer

Timers

Introduction
Use of Timers
Managing load/users through timers
Constant Timer
Uniform Random Timer
Synchronizing timers
Constant Throughput timer

Pre and Post Processor

Introduction to Pre/Post Processor Use
case
User Parameter
Sample Timeout
Regular Expression Extractor
Json Extractor
Result Status Action Handler
BeanShell Pre and Post Processor (Separate detailed Session on
this)

Logic Controllers

Overview
Transaction Controller
Once only Controller
Loop Controller
Interleave Controller
Throughput controller
If controller
While Controller

For Each Controller

Module Controller

Include controller

Simple Controller

Random Controller

Assertions

Introduction to assertions

Finding best content to assert

Response Assertion

Size Assertion

HTML Assertion

Duration Assertion

XML Assertion

BeanShell Assertion

Jmeter Functions

Encoding Functions (base64, urlDecode, urlEncode, char, escapeHTML) Random Number

Random date and Time

String Functions (toUpper, toLower, subString, randomString, changeCase, strLen..) ChooseRandom Is Defined

threadNumber

randomFromMultipleVar

Other function overview

Bean Shell Scripting

Basic Understanding

Getting and setting variables
Understanding scope

DB testing

Basic concepts
Building JDBC test plan
Running test and reading report

Non GUI and Distributed Mode

Optimizing Jmeter resource usage
Running Jmeter from Command Line
Distributed Testing using Jmeter

Jmeter Reports and Graphs

Generating HTML report
Analysing test result in Excel
Performance reporting key terms

Application resource monitoring and test result analysis

Performance test an application
Monitoring different performance parameters
Identifying issues and bottlenecks

Jmeter Plugins

Make use of plugins
Selenium integration
Various ThreadGroups
RandomCSV
Throughput Shaping timer

Advance Performance test plan design

Using various elements to design advance performance test plan

Fixed load scenario

Fixed concurrent user scenario

Jmeter Properties

Understanding properties files

Get familiar with various properties keys

Integration with Webservices API Testing

Introduction to Webservices

WSDL

UDDI SOAP Message (Request & Response)

Test Plan for Webservice

WebService/SOAP Sampler

Integration with BlazeMeter