

- Develop a foundational understanding of JMeter
- Determine strategies for recording a test
- Discover how to monitor bottlenecks
- Understand meaningful reporting strategies
- Learn how to Scale tests in the cloud cost effectively

Load and performance testing is complicated due to the holistic nature of finding performance bottlenecks. Rather than complicate matters by introducing the complexities of a proprietary load testing software licensing scheme, with some added engineering effort, you can use an open source framework to manage, record, and execute your tests.

This hands-on class will engage students in running tests against a sample application to help solve issues that include basic test recording, dealing with SSL, and parameterizing tests. It includes theoretical components that discuss how to find bottlenecks, what and how to monitor tests, the importance of results aggregation and reporting, and how to implement it. Lastly, we will discuss the creation of a cost-effective load and performance infrastructure in the cloud so you can scale tests and not break the bank.

## Who Should Attend

This intermediate class contains technical content that teaches JMeter load testing techniques and is appropriate for Software Developer, Software Tester, Test Engineer, Performance Tester, Performance Engineer, Test Lead, DevOps Engineer, and Operational Support roles. Anyone interested in making an elastic load testing infrastructure that can fit into their CI/CD pipeline should also attend.

## Prerequisites

Participants should have some programming knowledge, some knowledge of the http protocol, and a basic understanding of how web servers work.

## Laptop Required

This class involves hands-on activities using sample software to better facilitate learning. Each student should bring a laptop with a remote desktop protocol (RDP) client preinstalled. Connection specifics and credentials will be supplied during class. Please verify permissions with your IT Admin before class. If you or your Admin have questions about the specific applications involved, contact our [Client Support team](#) [1].

## Course Outline

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### Intro to JMeter

Discussion of the tool  
Overview of the UI  
Discussion of Basic Performance testing concepts

### Recording a Test

Step by step instruction for recording a simple test against a sample application  
Examples of how to locally execute that test

### Picking Test Scenarios

Theory section that identifies some rules of thumb for selecting tests  
What to do when you have to create test scenarios from scratch  
How to decide what to test on a brand new system

### Running Tests in Parallel

Introduction of thread groups

Reading the results to a simple test

### **Dealing with HTTPS**

High level discussion of HTTPS concepts

How JMeter handles HTTPS

Hands on run through of recording a test against an HTTPS sample site

### **Building Tests from a Recorded Script**

Discussion on generalizing tests

Walk through of JMeter UI tools that help parameterize tests

### **Running Tests**

Why you should use Jenkins to control test execution

SCM and managing your tests

Exercises with Jenkins

Overview of data dependancies

Discussion of when and how to seed data

### **What to Monitor**

Where to look for bottlenecks

Common free tools to use

Discussion of the usual suspects

### **Results Aggregation and Reporting**

How to collect data

How to normalize the data for a coherent report

The importance of time

### **Scaling in the Cloud**

Demo of a simple, scaleable, cost effective performance testing architecture

Discussion of design decisions and limitations