

# HPE LR230 – Protocol Library for LoadRunner 11.x

## Overview

The Protocol Library for LoadRunner course is designed to introduce the student to the methodologies and practices needed to use protocols with LoadRunner to analyze the performance of mission-critical business application systems across an enterprise. Protocols covered in the course include: Citrix, Web Services, Ajax True Client Protocol, and Oracle NCA.

## Learning method

You will receive expert instruction from a LoadRunner specialist who will present the course using slide presentation and facilitated discussion. At the end of each chapter there will be review questions followed by a hands on exercise to ensure understanding of each lesson. The hands-on labs for this course use version 11.5 of the software. Each student will receive a copy of the Protocol Library for LoadRunner manual. This manual is used throughout the course and proves a useful reference tool upon completion of the course.

**Duration:** 2 days

## Who will benefit from this course?

This is an ideal course for all people who need to use LoadRunner such as:

- Quality Assurance and Performance Engineers who need to use LoadRunner protocols.

## Course prerequisites

- A conceptual understanding of business applications, server systems, networking, and IT infrastructures
- A solid foundation in load testing concepts and/or must have performed load testing using LoadRunner or Performance Centre tools or completed the LoadRunner or Performance Centre Essentials course

## What you can expect to gain from this course?

At the end of the course, you will be able to:

- Describe the various protocols supported by LoadRunner 11.5
- Describe the basic architecture of different LoadRunner protocols
- Describe the Virtual User Generator (VuGen) and virtual users
- Produce LoadRunner scripts for different protocols
- Describe the LoadRunner function types
- Use script and step navigator tools to generate LoadRunner scripts
- Set up the environment for the mobile Android emulator
- Describe the technologies of the different protocols
- Implement tips and tricks for LoadRunner protocols
- Describe the differences in software load testing for different LoadRunner protocols

## Course Content

### Protocol Module 1: Course Overview and Introduction to the LoadRunner Protocol Library

- Describe the course objectives and course contents
- Describe how to participate in the virtual classroom
- Describe the lab environment
- Discuss the Virtual User Generator (VuGen) and virtual users
- Describe the various protocols supported by LoadRunner 11.5
- Provide a list of sample applications and corresponding LoadRunner protocols that you can use with VuGen

### Module 2: Working with the Citrix Protocol

- Describe the basic Citrix architecture
- Explain the LoadRunner (LR) Citrix agent
- Produce LR scripts for the Citrix protocol
- Use script and snapshot views for the Citrix protocol
- Familiarize yourself with the various types of LR functions
- Discuss the concept of synchronization for Citrix protocol
- Implement tips and tricks for Citrix protocol

### Module 3: Using Web Services

- Describe Service-Oriented Architecture (SOA) and web services
- Explain the operational principles of SOA
- Describe the Web Service Definition Language (WSDL) document
- Create test scripts for testing your SOA environment using VuGen
- Import a WSDL XML file
- Insert a web service (WS) call to a WSDL file
- Parameterize and correlate a WSDL file
- Use the Checkpoint feature for web services
- Add elements to web services using recursive elements

### Module 4: Implementing the Ajax TruClient Protocol

- Describe the Web 2.0 sites and the advantages of using the TruClient protocol
- Record and describe the TruClient script
- Explain the TruClient step editor
- Use the TruClient toolbox
- Manage the flow control of the scripts
- Resolve object identification issues in the scripts
- Enhance Asynchronous JavaScript and XML (Ajax) TruClient scripts

### Module 5: Introducing the Oracle NCA Protocol

- Explain the basic concepts of the Oracle Network Computing Architecture (NCA) protocol
- Record a script using the virtual user generator (VuGen)
- Record application objects by name
- Retrieve information about an object (object properties and window properties)
- Discuss Oracle NCA record and replay tips and best practices

### Module 6: Working with the Mobile Application Protocol

- Identify the different types of mobile protocols
- Identify the different ways of generating a script for the Mobile Application (HTTP/HTML) protocol, also known as the Mobile App (HTTP/HTML) protocol

- Install and use an Android Emulator to record mobile applications
- Install applications on an Android Emulator
- Record VuGen scripts for applications installed on an Android Emulator
- Generate VuGen scripts using a traffic file in the Analyze Traffic mode

#### Module 7: Working with the .NET Protocol

- Describe the Microsoft .NET framework technologies
- Record a .NET virtual user (Vuser) script using the LoadRunner .NET protocol
- Customize a .NET filter for your recording
- Describe the tips and technologies for the .NET protocol recording

#### Module 8: Working with the Flex Protocol

- Describe Flex technology
- Discuss LoadRunner Flex protocol
- Set up recording options and record a Flex Vuser script
- Replay and debug scripts with LoadRunner transactions, parameters, and correlations
- Implement tips for Flex protocol recording

#### Related Courses

- LR120 – LoadRunner 11.5 Essentials
- LR320 – Advanced Analysis for LoadRunner