



LoadRunner Tutorial for Beginners

Introduction

When you embark on your own journey in performance testing, you can find it quite daunting. Beginners find it rather tricky to handle the complexity of LoadRunner Pro itself, with the choice of protocol being merely one aspect that needs to be understood in addition to the logic in the Vuser script. If you find yourself being apprehensive about having to resort to coding in C because you're not sure how you can handle simulating tens of thousands of users without halting your system, you're in luck!

This LoadRunner tutorial for beginners reduces the barrier to entry, so you can easily follow along with VuGen, Controller, or Analysis. It is designed to help you apply concepts, to get you beyond "tool fatigue" and into analyzing bottlenecks.

Are you ready to unlock performance testing mastery? Check out our detailed [LoadRunner Course Syllabus](#) to know more about the overall plan right from recording to advanced correlation & parameterization.

Why Students or Freshers Learn LoadRunner?

Learning LoadRunner as an academic or fresher talent is an informed decision to enter the remunerative profession called performance engineering. Though most newbies prefer to learn functional testing, professionals in load runner have better protection from layoffs or termination, along with attractive join bonuses, owing to the high degree of complexity associated with load runner.

- **Enterprise Demand:** Leading the market share in Fortune 500 corporations (Banking, Healthcare, and ERP) that demand high-scale stability.
- **High Salary Potential:** For performance testing specialists, the starting salaries are expected to be high in comparison to those of manual testers and simple automation testers.
- **Protocol Flexibility:** While open-source software is limited to web traffic, LoadRunner allows you to work with over 50+ protocols (SAP, Oracle, Citrix, MQTT) to be tech-stack agnostic.
- **End to End Skillset:** You do not merely click to learn; you get expert knowledge of server designs, bottlenecking, and monitoring.
- **Job Longevity:** A proven path in job longevity is to transition from being a Performance Tester to becoming a Performance Engineer/SRE (Site Reliability Engineer).

Gear up for your first interview. Get our [LoadRunner Interview Questions and Answers](#) and conquer technical questions such as dynamic correlation, parameterization, and result analysis by studying our answers.

Take your Knowledge
Test Report

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Step-by-Step LoadRunner Tutorial for Beginners

This LoadRunner tutorial is a one-stop resource for learning LoadRunner, the best available technique in the field of performance testing. It acts as a perfect learning companion for all those who are interested in shifting from other streams to Performance Engineering.

Step 1. Introduction to LoadRunner Architecture

Before going into detail regarding configuration, it is essential to identify what the three major parts of LoadRunner consist of. They can be considered to represent “Brain,” “Body,” and “Eyes” related to your performance test:

- **VuGen (Virtual User Generator):** It is used for business process recording and scripting.
- **Controller:** Used in designing the scenario of the load test (scheduling users, ramp-up, and so on).
- **Analysis:** This was utilized to analyze the results. Additionally, analysis was performed to generate graphs as well as pinpoint bottlenecks.

Step 2. Installation and Setup

LoadRunner Professional is a commercial product, although there is a “Community Edition” available from OpenText (formerly Micro Focus) that is free for up to 50 virtual users, which is ideal for learning purposes.

2.1: System Requirements

Make sure that your machine has these requirements to prevent lag during execution:

- **OS:** Windows 10 or 11, 64-bit
- **RAM:** At least 8 GB, but preferably 16 GB.
- **Storage:** 10GB Free Disk Space.

- **Browser:** Internet Explorer 11, Microsoft Edge Browser, or Chrome (for screen recordings).

2.2: Downloading and Installing

1. Visit the **OpenText** site to register for LoadRunner Professional Community Edition.
2. Download the full package for the program's setup, which could be a *.zip* or *.exe* file.
3. It has to be run as **Administrator**.
4. It will check the prerequisites, which could be **.NET Framework 4.8** or **Visual C++** redistributables, Click "**Install**" to let LoadRunner do the installation automatically.
5. Click on the prompts and choose "Full Installation" to install all three components: VuGen, Controller, and Analysis.

Step 3. Scripting with VuGen (The "Brain")

VuGen records the communication that occurs from the client to server. For most web applications, we work with the Web – HTTP/HTML protocol.

3.1: Create a New Script

- Open **VuGen**.
- Click on **File** → **New Script and Solution**.
- Select **Single Protocol** → **Web – HTTP/HTML**.
- Give a name to your script, for example, *FlightBooking_Test*, and click "**Create**".

3.2: Recording a Business Flow

We will make use of the 'Web Tours' sample application provided with LoadRunner.

1. Click on the **Record** button (red circle).
2. Now, select your browser (Chrome or Edge) to enter this URL: *http://localhost*

3. The operations to be executed are: *Login* → *Search Flight* → *Book Ticket* → *Sign Off*.
4. Click **Stop Recording**. The C-based script will then be generated in VuGen.

3.3: Script Enhancement (Example Code)

A recorded script has “static” characteristics. In order to use the script with multiple people, both **Correlation** (recording dynamic identifiers) and **Parameterization** (use of various login names) are required.

Below is an example of how a correlated script appears in C:

```
Action() {  
  
    // 1. Capture the Dynamic Session ID (Correlation)  
  
    web_reg_save_param_ex(  
  
        "ParamName=userSession",  
  
        "LB=userSession value=",  
  
        "RB=>",  
  
        SEARCH_FILTERS,  
  
        LAST);  
  
    // 2. Perform Login with Parameterized Username (Parameterization)  
  
    web_submit_data("login.pl",  
  
        "Action=http://localhost:1080/cgi-bin/login.pl",
```

```

        "Method=POST",

        "TargetFrame=",

        "RecContentType=text/html",

        ITEMDATA,

        "Name=username", "Value={p_Username}", ENDITEM, // {p_Username} is a
parameter

        "Name=password", "Value=bean", ENDITEM,

        "Name=userSession", "Value={userSession}", ENDITEM, // Using the correlated
value

        LAST);

    return 0;

}

```

Step 4. Creation of Scenarios within the Controller (The “Body”)

Once you have finished your script and it replays well in VuGen, you can now introduce volumes.

1. Open the **Controller**.
2. Import your **VuGen** script.
3. **Define the Load:** It is essential to define the number of **Vusers** that will run. *For example: 50 Vusers.*
4. **Schedule the Scenario:**

- **Ramp-up:** Rate at which users join the test (for example, 2 users every 15 seconds).
 - **Duration:** Length of time for testing (for example, 1 hour).
 - **Ramp down:** The speed at which users leave.
5. **Add Load Generators:** Decide which machines are going to be used as load generators.

Step 5. Results Analysis (The “Eyes

Once the testing process has concluded, the Analysis tool reads the `.lrr` file, which contains results, and generates comprehensible graphs.

Key Metrics to Watch:

- **Average Response Time:** The time required for a transaction to be completed. Wherever there are peaks.
- **Throughput:** The data (bytes) that the server sends to the Vusers.
- **Hits per Second:** The total number of HTTP requests sent to the server.
- **Errors per Second:** Look out for 404 (Not Found) and 500 (Internal Server Error) errors.

If the “**Average Response Time**” rises while the “**Throughput**” remains constant or decreases, you have discovered a bottleneck.

Ready to challenge your skills? Take a look at this [LoadRunner Challenges and Solutions](#), which contains actual issues in troubleshooting SAP, Citrix, and Web protocols.

Real Time Examples for LoadRunner Tutorial for Learners

In order to comprehend LoadRunner thoroughly, you should realize its relevance to various business sectors. Every business situation demands its own strategies for script writing, protocol definition, and bottleneck analysis.

E-commerce Flash Sale (High Volatility)

Scenario: A retail behemoth such as Amazon/Flipkart promotes a “Big Billion Day” sale with millions of customers trying to purchase a limited product stock simultaneously.

- **The LoadRunner Methodology:** This involves the usage of the Web HTTP/HTML protocol to simulate user login, product searches, as well as clicks on the “Add to Cart” buttons.
- **The Goal:** To assess the Concurrent User level. If the database freezes during the transaction for the payment, LoadRunner determines if the problem lies in the Web Server or the Database tier.

Banking Core Migration (Data Integrity & Security)

Scenario: In this scenario, a bank is moving its legacy applications to a brand-new web portal. The bank requires that their thousands of bank tellers process deposits as well as withdrawals without damaging data integrity.

- **LoadRunner Methodology:** This may require sophisticated correlation for dealing with dynamic tokens and Security Headers. Additionally, you may make use of the Citrix and SAP protocols based on the backend configuration available in the concerned bank.
- **The Goal:** To gauge End-to-End Latency. A system slowdown of even 2 seconds for financial transactions leads to an enormous number of backlogs.

Healthcare Patient Portal (Consistent Baseline Load)

Scenario: Peak morning activity sees thousands of patients and doctors logging in to the portal in order to check results and schedule appointments.

- **The LoadRunner Approach:** Your Soak Test is designed in the Controller, where a constant load of virtual users is run for 24-48 hours.
- **The Goal:** To look for Memory Leaks. The task assigned to LoadRunner is to observe the utilization of server resources to find out if the memory used is

gradually increasing without being freed, which ultimately causes the system to crash.

Prepared to test these concepts? See our list of [LoadRunner Project Ideas for Beginners](#), from basic web application to API-oriented mobile traffic.

FAQs About LoadRunner Tutorial for Beginners

1. Is LoadRunner easy or hard?

LoadRunner has a moderate to high learning curve. Although its GUI is friendly and easy to use, the difficulty lies in understanding the code of C scripts, manual correlation, and identifying bottlenecks in three-tier architecture. But this tool is one of the most effective once you grasp its concept.

2. Which language is used in LoadRunner?

The programming language traditionally used by LoadRunner, also known as VuGen, is ANSI C. Other supported programming languages are Java, JavaScript, and VB Script for certain protocols. “DevWeb” is a relatively new technology which uses JavaScript, following developer trends.

3. What skills are needed for LoadRunner?

Programming skills: Basic C or JavaScript skills. Networking: Having Understanding of HTTP/HTTPS, TCP/IP, Layers in Analytical: Graph interpretation skills, ability to recognize bottlenecks, etc. Architectural: The knowledge required in this area is about understanding the interactions between servers, databases, and load balancers interact.

4. Which is better, LoadRunner or JMeter?

LoadRunner is more suited for large-scale business applications (SAP, Oracle, Citrix) and has superior in-built analysis capabilities. JMeter is more suited for web testing on a budget because of its openness and extensive functionality in web-related plugins.

5. Which tool is used to compare two scripts in LoadRunner?

The pre-built tool used for comparison of two scripts or two results in LoadRunner is WDiff (Web Diff) Utility. It marks the differences in yellow, so it is easy for the person to

recognize where dynamic values need to be correlated. Another common tool used is WinMerge.

6.Is LoadRunner still used?

Yes, definitely. Although open-source solutions are quite popular, the industry leader for the Fortune 500 in banking, healthcare, and the ERP industry is still LoadRunner, now known as OpenText Performance Engineering, for its unmatched protocols.

7.What is wasted time in LoadRunner?

It refers to the overhead time that LoadRunner takes when performing internal operations, like logging, tracing, and execution of internal logic. This value is subtracted from the overall response time so that you get an accurate time that was taken by the server.

8.Is performance testing good for career?

It is a great career option. Performance testers can easily move on to Performance Engineering or Site Reliability Engineering (SRE). Such roles tend to pay higher compared to functional testing, as the skills involved entail much more complex understanding of system internals and infrastructure.

9.What is the salary of performance test engineer in TCS?

A fresher/entry-level **Performance Test Engineer can expect a salary** ranging from ₹4.2 to ₹6.5 Lakhs per annum at TCS. A more experienced individual with 5+ years could earn anywhere between ₹12 to ₹18+ Lakhs based on their know-how of Optimization & Bottleneck Analysis.

10.Will AI replace performance testing?

No, but it will transform it. At the moment, AI's use involves the automation of script generation and anomaly detection. Despite that, the value of human insights is not lost in the areas of building complex workload models or understanding the "why" of why the system fails or working alongside stakeholders in addressing architectures.

Conclusion

Learning LoadRunner effectively is not about mastering another tool in your arsenal but rather about having the Performance Engineering Mindset. With your ability to progress from recording to correlation to bottlenecking, you will find yourself an essential resource in any technology stack in the enterprise. Though the initial learning curve may not be very kind to you, the payoff comes in terms of immense opportunities for enhanced employment in banking, retail, or healthcare. Since you now comprehend the structure and the fundamentals of scripting, you're ready to apply theory in practice. Take the Next Step. Apply to become a Certified Professional in only 8 weeks with our [**LoadRunner Course in Chennai**](#), and get access to real-time project simulations, expert-level C-scripting projects, and one on one mentoring.