Module-4 Automation Core Testing (Load Runner Up and Selenium IDE)

- Which components have you used in Load Runner?

1. Load Generator generates the load against the application by following scripts.
2. VuGen (Virtual User Generator) for generating and editing scripts.
3. Controller controls, launches and sequences instances of Load Generator - specifying which script to use, for how long etc.

- How can you set the number of Vusers in Load Runner?

You can set the number of Vusers **in the controller section while creating your scenarios**. Many other advanced options like ramp-up, ramp-down of Vusers are also available in the Controller section

- What is Correlation?

Correlation is **a statistical measure that expresses the extent to which two variables are linearly related** (meaning they change together at a constant rate). It's a common tool for describing simple relationships without making a statement about cause and effect.

- What is the process for developing a Vuser Script?

Step 1- Record the Vuser Script.
Step 2- Playback and improve the recorded vuser script.
Step 3- Define and test the different run-time parameters.
Step 4- Use the script in a LoadRunner scenario.

- How Load Runner interacts with the application?

LoadRunner is a software testing tool from Micro Focus. It is used to test applications, measuring system behaviour and performance

under load. LoadRunner can **simulate thousands of users concurrently using application software, recording and later analyzing the performance of key components of the application**.

- How many VUsers are required for load testing?

  For HTTP (S) test each Load Injector can handle approximately **up to 1000 concurrent HTTP users**. For Web page or Web application test each Load Injector can handle approximately up to 25 concurrent users.

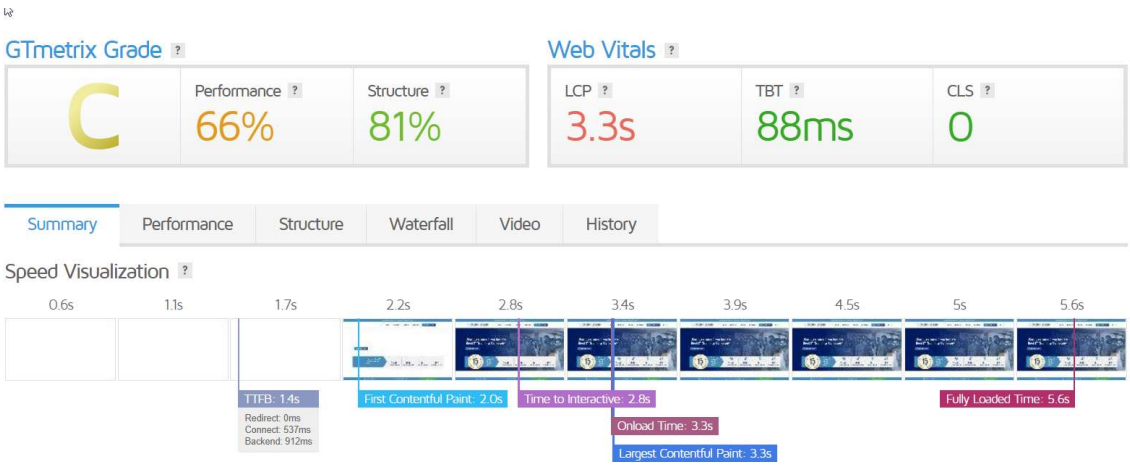
- What is the relationship between Response Time and Throughput?

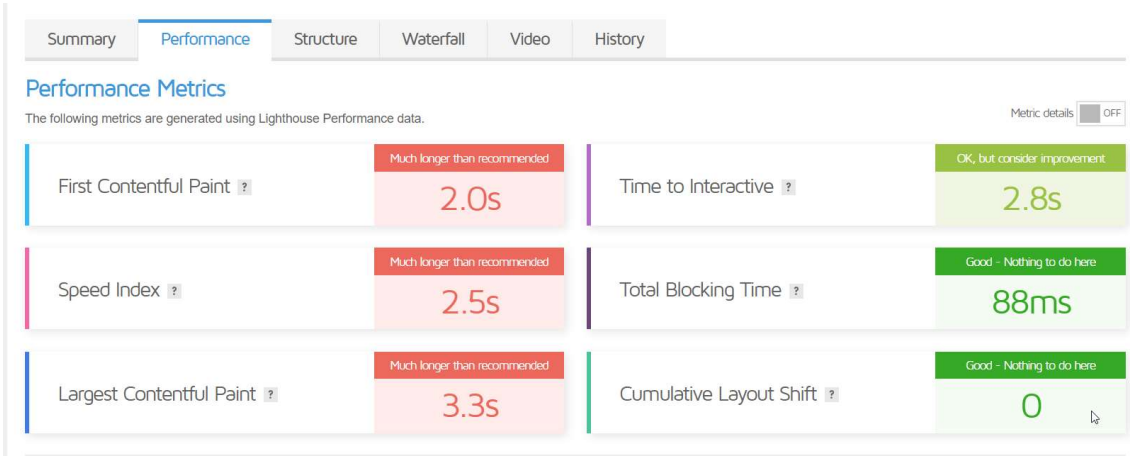
  Response time and throughput are related. **The response time for an average transaction tends to decrease as you increase overall throughput**. However, you can decrease the response time for a specific query, at the expense of overall throughput, by allocating a disproportionate amount of resources to that query.

- What is the difference between hits/second and requests/second?

  Hits/second are the number of HTTP requests made by VUsers to the Web Server in a scenario or session step run on a per second basis. Requests/second are the number of requests completed during each second of scenario run.

- To test the Performance testing on “Tops Technologies website” :- https://www.topsint.com/





Summary | Performance | **Structure** | Waterfall | Video | History

Show Audits Relevant to: **All** | FCP | LCP | TBT | CLS

IMPACT	AUDIT		
High	**Reduce initial server response time** FCP LCP	Root document took 912ms	⌄
Med	**Avoid an excessive DOM size** TBT	1,661 elements	⌄
Med	**Serve static assets with an efficient cache policy**	Potential savings of 1.09MB	⌄
Med-Low	**Use a Content Delivery Network (CDN)**	38 resources found	⌄
Med-Low	**Eliminate render-blocking resources** FCP LCP	Potential savings of 262ms	⌄
Low	**Use passive listeners to improve scrolling performance**	1 event listener not passive	⌄
Low	**Reduce unused CSS** FCP LCP	Potential savings of 44.4KB	⌄
Low	**Reduce unused JavaScript** LCP	Potential savings of 189KB	⌄
Low	**Avoid chaining critical requests** FCP LCP	21 chains found	⌄
Low	**Preconnect to required origins** FCP LCP	Potential savings of 149ms	⌄
Low	**Avoid long main-thread tasks** TBT	4 long tasks found	⌄
Low	**Serve images in next-gen formats**	Potential savings of 372KB	⌄

What do these audits mean?

These audits are best practices established by Google to help build websites for optimal front-end performance.

Each audit is assessed based on your adherence to them and ordered by the most likely impact to your page's performance.

Note that Structure audits do not directly affect your Performance score, however addressing them can serve as good starting point to improve page load times overall. Additionally, some of the audits are correlated and thus, fixing one audit may affect others.

Learn about all the audits

Need optimization help?

We've written various guides and articles to help you improve your page performance:

How to Guides

Optimization Explained

Low	Avoid enormous network payloads LCP	Total size was 1.40MB
Low	Properly size images	Potential savings of 5.26KB
Low	Reduce JavaScript execution time TBT	419ms spent executing JavaScript
Low	Avoid serving legacy JavaScript to modern browsers TBT	Potential savings of 11.0KB
Low	Defer offscreen images	Potential savings of 46.8KB
N/A	Largest Contentful Paint element LCP	1 element found
N/A	Avoid large layout shifts CLS	5 elements found
N/A	Minimize main-thread work TBT	Main-thread busy for 1.1s
N/A	Reduce the impact of third-party code TBT	Total size was 381KB
N/A	User Timing marks and measures	

Summary | Performance | Structure | Waterfall | Video | History

Waterfall Chart

Fullscreen | Download HAR

A request-by-request visualization of the page load. Learn how to read a waterfall chart.

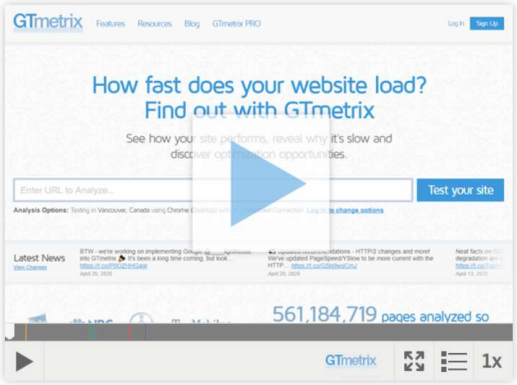
Registered users have access to Resource Usage Graphs!

See how your page utilizes system resources and add more insight to your Waterfall Chart.

Log in or Create an Account

Summary | Performance | Structure | Waterfall | Video | History

Page Load Video



See your page load with videos

Logged in users can record a video of this page loading and pinpoint exactly where bottlenecks and stoppages occur.

- Slow playback up to 4x to visualize loading behaviour
- Jump to major milestones like First Paint and Onload
- Download and embed videos

Log in | Create a free account