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**Performance Analysis of Web Applications**

The report shows the results of load testing on three websites: [**https://leetcode.com**](https://leetcode.com), [**https://codeforces.com**](https://codeforces.com), and [**https://www.codechef.com**](https://www.codechef.com), using 50 and 100 user threads in Apache JMeter with a ramp-up time of 100 seconds. Two types of tests were run at the same time. The first test used manually created HTTP requests to the websites, while the second test used data collected through the Firefox proxy. The proxy was used to record the various calls made by the websites using the Recording Controller, and all the recorded requests were tested.

**Duration Assertions**

The duration assertion times for leetcode, codeforces and codechef were set to 150ms each. The results were proportional to the number of samples. So, I adjusted the duration assertion according to the samples to get an accurate assessment.

**Comparisons of Shortest, Longest, and Average Execution Time**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Web Application** | **Number of Samples** | **Error%** | **Avg (ms)** | **Min (ms)** | **Max (ms)** |
| https://leetcode.com/ | 50 | 26.84 | 287.4 | 237 | 666 |
| 100 | 24.67 | 282 | 243 | 317 |
| https://codeforces.com/ | 50 | 26.51 | 71 | 12 | 96 |
| 100 | 27.31 | 81.3 | 14 | 103 |
| https://www.codechef.com/ | 50 | 49.98 | 163.32 | 76 | 279 |
| 100 | 65.28 | 62.58 | 4 | 388 |

**Comparisons of Overall Throughput, Data Reception, and Data Transmission**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Web Application** | **Number of Samples** | **Throughput (req/sec)** | **Received (KB/sec)** | **Sent (KB/sec)** |
| https://leetcode.com/ | 50 | 0.51 | 0.41 | 1.51 |
| 100 | 1.01 | 0.82 | 2.97 |
| https://codeforces.com/ | 50 | 0.53 | 1.48 | 0.21 |
| 100 | 1.01 | 2.81 | 0.41 |
| https://www.codechef.com/ | 50 | 0.52 | 0.19 | 0.93 |
| 100 | 0.99 | 0.366 | 1.77 |