**JPetStore Performance Test – Final Report**

**Test Scenario**

* **Application:** <https://jpetstore.aspectran.com/>
* **Script Flow:**
  1. Launch Home Page
  2. Click **Sign Up**
  3. Fill registration form & save account info (unique user data)
  4. Login using created users
  5. Logout
* **Rendezvous:** Added at Login form
* **Users:** 10
* **Ramp-up:** 2 users every 2 seconds
* **Schedule:** Run until completion
* **SLA:** Average response time ≤ 2 seconds for all transactions

**Transaction Summary :**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Transaction Name** | **Avg (s)** | **Min (s)** | **Max (s)** | **Samples** | **Notes** |
| TR1\_JPetStore\_Launch | 7.013 | 0.229 | 59.649 | 9 | One extreme outlier at 59.649s – possible network/env delay |
| TR2\_JPetStore\_ClickSignUp | 0.181 | 0.173 | 0.214 | 9 | Stable performance |
| TR3\_JPetStore\_SaveAccountInformation | 40.292 | 0.517 | 109.313 | 9 | Major spike at 109.313s – backend/server delay suspected |
| TR4\_JPetStore\_Login | 0.508 | 0.383 | 0.73 | 8 | Slight variance but within SLA |
| TR5\_JPetStore\_Logout | 0.354 | 0.343 | 0.38 | 8 | Stable |

### ****Observations :****

1. **SLA Compliance:**
   * SLA target was **average response time ≤ 2 seconds** for all transactions.
   * **Result:** **FAILED** — 2 out of 5 transactions exceeded the SLA limit.
     + **TR1 (Launch):** Average = **7.013s**, Max = 59.649s → SLA Breach
     + **TR3 (Save Account):** Average = **40.29s**, Max = 109.313s → SLA Breach
   * The remaining transactions (TR2, TR4, TR5) met the SLA threshold.
2. **Response Time Spikes:**
   * TR1 and TR3 both exhibited extremely high maximum response times, indicating possible backend delays or network issues.
3. **Sample Count Mismatch:** TR4 (Login) and TR5 (Logout) recorded **8 samples** instead of 9, suggesting one iteration did not execute these steps.
4. **Execution Errors:** Two Vusers experienced **step download timeout errors**, possibly due to network latency or server connection interruptions.
5. **Performance Stability:** Aside from TR1 and TR3 breaches, the other transactions showed stable and consistent performance.
6. **Recommendations:**
   * Investigate backend/server logs for TR1 and TR3 delays.
   * Re-run with an extended duration (30–60 minutes) to validate stability over time.
   * Address timeout errors by tuning network and server configurations.
   * Implement robust correlation to handle redirects dynamically.

## ****Executive Summary****

A performance test was conducted on the **JPetStore** application using LoadRunner to simulate 10 concurrent users under a ramp-up pattern of 2 users every 2 seconds. The objective was to measure average transaction response times and validate against an SLA target of **≤ 2 seconds average** per transaction.

The test identified **SLA breaches** in **2 out of 5 transactions**:

* **TR1 (Launch):** Avg = **7.013s**, Max = 59.649s
* **TR3 (Save Account):** Avg = **40.29s**, Max = 109.313s

The remaining transactions (TR2, TR4, TR5) met the SLA requirements. Execution logs also recorded **two step download timeout errors**, and there were sample count mismatches for TR4 and TR5, indicating an incomplete iteration for one Vuser.

Overall, while most transactions performed within acceptable limits, the **Launch** and **Save Account** steps require immediate investigation to address backend or network delays.

## ****Conclusion****

* The test run partially met SLA requirements, with **40% of transactions breaching the SLA** on average response time.
* **TR1 and TR3** are the primary bottlenecks, both showing significant max time spikes, suggesting intermittent server delays or potential inefficiencies in processing.
* Step download timeout errors and sample count mismatches highlight stability concerns that need to be addressed before scaling the load further.
* It is recommended to perform a **root cause analysis** on TR1 and TR3, optimize the affected backend processes, and re-run the performance test for validation.
* Long-duration and higher-load scenarios should be executed after resolving these issues to confirm stability and scalability.