## **Performance Testing for Luma Site**

## **Chosen Area for Performance Testing: Checkout Flow**

The checkout process is the most critical business flow in any eCommerce platform which I feel is my area to perform this test. It involves Cart operations, Shipping & payment data submission, Order confirmation and Backend inventory and order service integration.

## **Performance Test Scenarios:**

### **1. Add-to-Cart to Checkout Latency**

**Goal:** Measure how long it takes to add items to cart and reach the checkout page.

**Parameters to Measure:**

* Time to first byte (TTFB)
* Cart page response time
* Shipping and payment POST response times
* Order confirmation page load time
* % of failed/slow transactions (>5s)

### **2. Sign In & Session Handling**

**Goal:** Ensure login functionality is fast and scalable under load.

**Parameters:**

* Login request response time
* Session creation time
* Error rate under load
* Throughput (logins/sec)

### **3. Product Search & Listing**

**Goal:** Evaluate how quickly product search results load.

**Parameters:**

* Search API response time
* Time to display product grid

### **4. Order History Lookup**

**Goal:** Check the speed and stability of the "My Orders" section.

**Parameters:**

* Order table load time
* Order detail view latency
* Backend read performance

## **Tool Suggestions:**

* **Load Testing Tool:** JMeter
* **Monitoring:** New Relic, Grafana + Prometheus, or Datadog