TEST
PLAN

Education Department Website Load & Performance Testing

Objective

- Measure website performance under load.
- Identify response times for critical pages.
- Detect potential bottlenecks or failures during high traffic.

Website Under Test

- URL: https://moe.gov.lk/en/welcome/
- Key Pages to Test:
    1. Home Page
    2. About / Department Info Pages
    3. Contact Page

Test Scope

In-Scope:

- HTTP response time of pages
- Number of concurrent users the site can handle
- Error rate under load

Out-of-Scope:

- Security testing (login, admin portal)
- Backend database testing (not accessible)

Test Strategy

- **Type:** Load Testing / Stress Testing
- **Tool:** Apache JMeter
- **Execution:** Simulate multiple users browsing the website.

Test Environment

- Local machine with JMeter installed (or dedicated test server)
- Browser: Chrome / Firefox (for comparison if needed)
- Internet connection stable for testing

JMeter Test Plan Structure

1. **Test Plan** → Name: Education Dept. Load Test
2. **Thread Group**
   - Number of Threads (Users): 50–500 (adjust based on requirement)
   - Ramp-Up Period: 60 seconds
   - Loop Count: 1–5 (simulate repeated browsing)
3. **HTTP Request Defaults**
   - Server Name: `moe.gov.lk`
   - Protocol: `https`
4. **HTTP Requests (Sampler)**
   - Home Page → `/en/welcome/`
   - About Page → `/en/about/`
   - Contact Page → `/en/contact/`
5. **Listeners**
   - View Results in Table
   - Graph Results
   - Aggregate Report

Test Data

- Not required for simple page load tests.
- If forms exist (search or contact), prepare test input like names, emails.

Performance Metrics to Capture

- Average Response Time
- Maximum Response Time
- Throughput (requests/sec)
- Error Rate
- Number of Successful / Failed Requests

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Result	Actual Result	Status
TC_001	Home Page Load Test	1. Open JMeter and create Test Plan.2. Add Thread Group (50 users, ramp-up 60s).3. Add HTTP Request for `/en/welcome/`.4. Add Listener (View Results Tree / Summary Report).5. Run the test.	N/A	Home page loads successfully for all users; avg. response time < 2 sec.		Pass/Fail
TC_002	About Page	1. Add HTTP Request for `/en/about/`.2. Set Thread Group to 100	N/A	About page loads without errors; HTTP		Pass/Fail

		users, ramp-up 120s.3. Add Listener (Summary Report / Graph Results).4. Run the test.		status 200; response time < 3 sec.		
TC_003	High Load Stress Test	1. Set Thread Group users = 500, ramp-up 300s.2. Add HTTP Requests for Home, About, and Contact pages.3. Add Listener (Summary Report / Aggregate Report).4. Run the test.	N/A	Website handles high load; monitor for errors or timeouts; minimal failures.		Pass/Fail