

Mini Project-2

PERFORMANCE TEST PLAN

1. Objectives

Objective 1: Ensure the landing page loads within 10 seconds under a load of 100 or more than concurrent users.

Objective 2: Verify the server can handle peak loads without significant degradation in performance.

Objective 3: Identify any performance issues that arise under simulated load conditions.

2. Performance Testing Tool

Tool: Apache JMeter

3. Test Scenarios

Scenario 1: 10 users accessing the landing page simultaneously.

Scenario 2: 50 users accessing the landing page simultaneously.

Scenario 3: 100 users accessing the landing page simultaneously.

4. Test Steps

Setup JMeter:

Download and install Apache JMeter.

Create a test plan in JMeter with the following components:

Thread Group: Configure to simulate the number of users.

HTTP Request: Set to the URL of the landing page.

Listeners: Add "View Results in Table" and "Summary Report" to record performance data.

Execute Test Scenarios:

Run Scenario 1: Simulate 50 users.

Run Scenario 2: Simulate 100 users.

Run Scenario 3: Simulate 200 users.

Record Performance Data:

Collect data on response times, throughput, and error rates from the JMeter summary

report and results table.

5. Performance Analysis

Compare the recorded response times against the objective of 3 seconds.

Analyze throughput and error rates to identify performance degradation points.

6. Document Performance Issues

Log in to JIRA:

Create a new project or use an existing one for performance testing.

Create Issues in JIRA:

Issue Type: Bug or Performance Issue

Summary: Concise description of the performance issue.

Description:

Detail the scenario under which the issue was observed.

Include the number of concurrent users, response times, and any observed errors.

Attachments:

Upload relevant screenshots of JMeter results.

Attach the JMeter test plan and summary report.

Sample JIRA Issue:

Summary: Landing page response time exceeds 3 seconds under 100 concurrent users

Description:

During performance testing, the landing page response time was observed to exceed the objective of 3 seconds under a load of 100 concurrent users.

Test Scenario:

- Number of Users: 100
- Test Tool: Apache JMeter
- Response Time: 4.5 seconds (average)

***Steps to Reproduce*:**

1. Simulate 100 concurrent users accessing the landing page using JMeter.
2. Observe the response time and throughput in the summary report.

***Attachments*:**

- [Screenshot of JMeter Summary Report]
- [JMeter Test Plan]

Assign and Tag Issues:

Assign the issue to the relevant team member.

Tag with appropriate labels (e.g., 'performance', 'landing-page').

7. Example Performance Data Collection

Scenario 1: (10 Users):

Average Response Time: 2.5 seconds

Scenario 2: (50 Users):

Average Response Time: 4.5 seconds

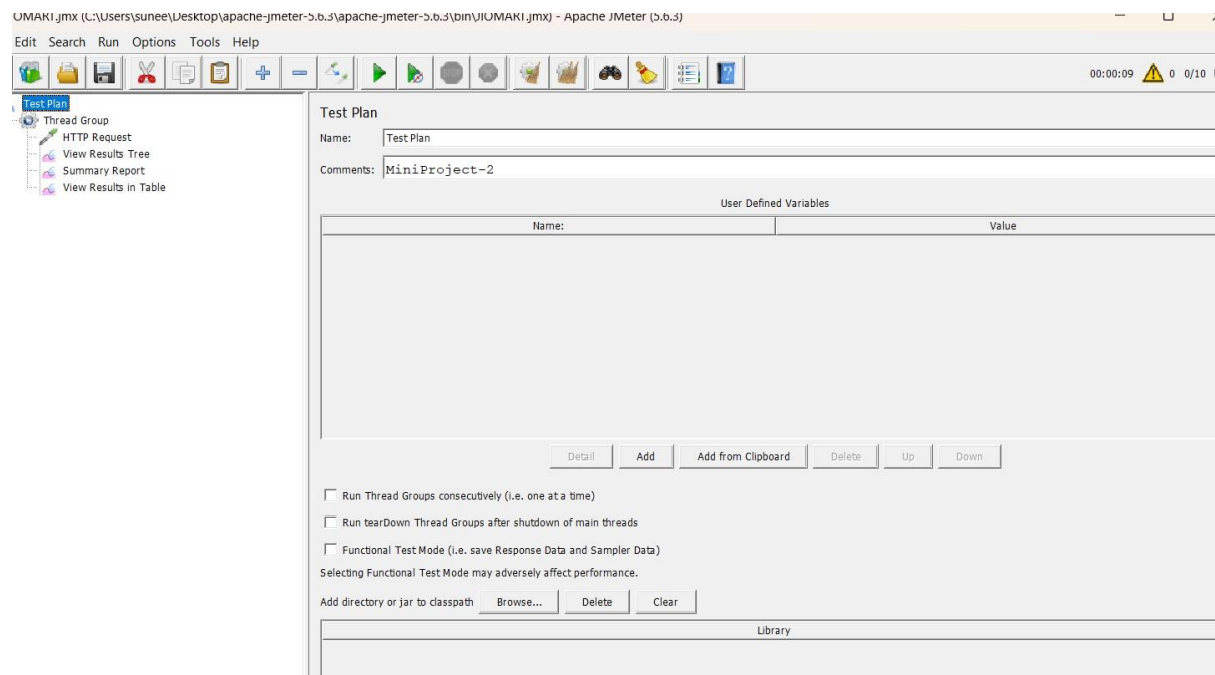
Scenario 3 : (100 Users):

Average Response Time: 7.0 seconds

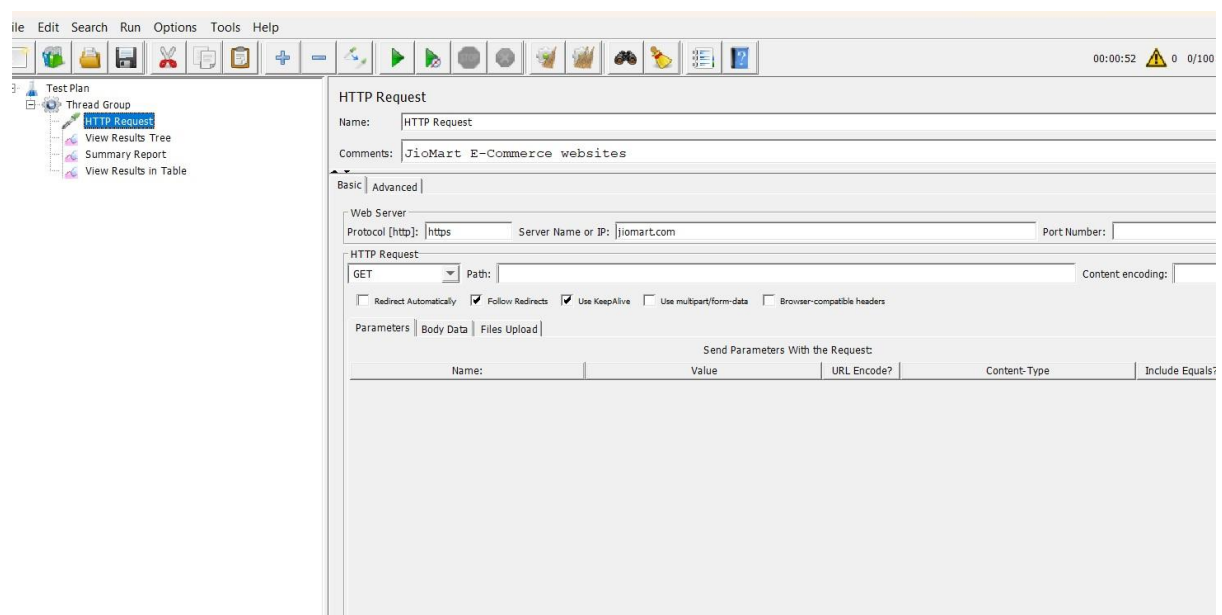
By following this plan, we can systematically test, analyze, and document the performance of our landing page under various load conditions.

LANDING PAGE:

Test Plan:



HTTP Request



10 Users Load Test:

The screenshot shows the 'View Results in Table' window in Apache JMeter. The window title is 'View Results in Table'. The 'Name' field contains 'View Results in Table'. The 'Comments' field contains '10 user load test'. Below the comments, there is a section for 'Write results to file / Read from file' with a 'Filename' field and a 'Browse...' button. To the right of this section are checkboxes for 'Log/Display Only: Errors', 'Successes', and a 'Configure' button. The main area of the window displays a table with 10 rows of test results.

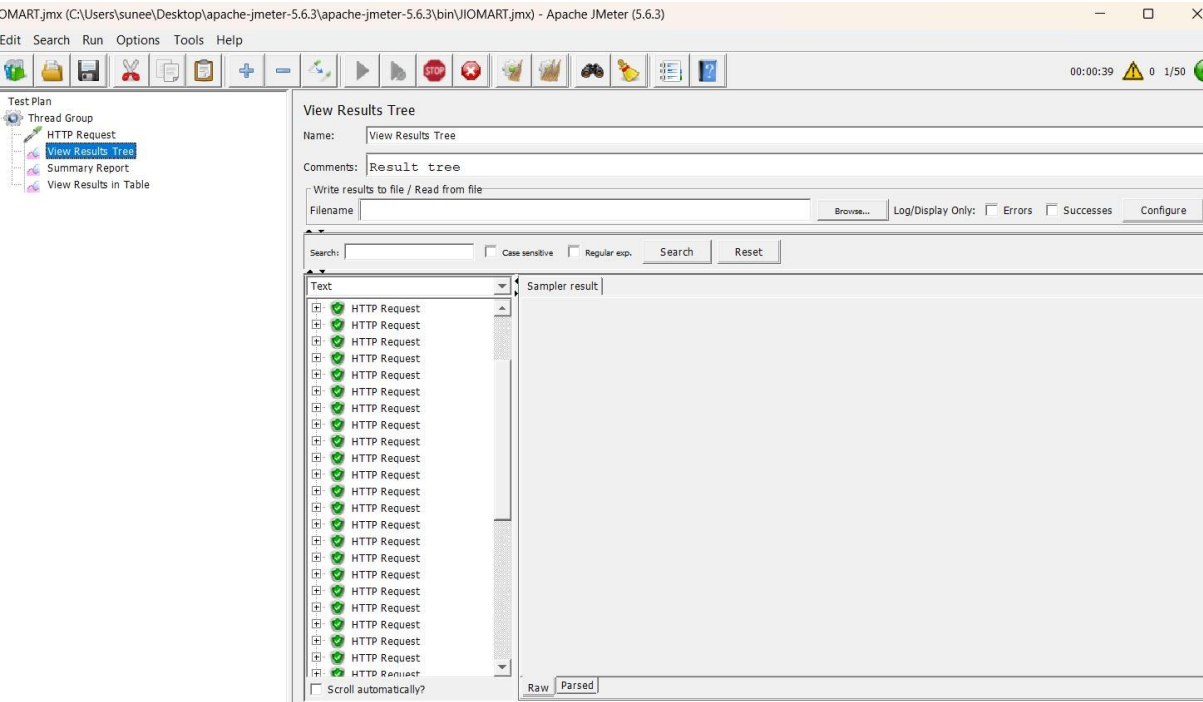
Sample #	Start Time	Thread Name	Label	Sample Time(...)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
1	11:28:22.138	Thread Group 1-2	HTTP Request	2564	✓	154339	230	890	793
2	11:28:23.132	Thread Group 1-3	HTTP Request	1629	✓	154303	230	274	167
3	11:28:21.446	Thread Group 1-1	HTTP Request	3341	✓	154340	230	1583	1486
4	11:28:24.134	Thread Group 1-4	HTTP Request	2141	✓	154303	230	1262	988
5	11:28:25.135	Thread Group 1-5	HTTP Request	1408	✓	154303	230	821	722
6	11:28:26.134	Thread Group 1-6	HTTP Request	920	✓	154302	230	284	184
7	11:28:27.136	Thread Group 1-7	HTTP Request	914	✓	154302	230	301	180
8	11:28:28.139	Thread Group 1-8	HTTP Request	949	✓	154303	230	285	183
9	11:28:29.140	Thread Group 1-9	HTTP Request	843	✓	154301	230	237	164
10	11:28:30.135	Thread Group 1...	HTTP Request	859	✓	154301	230	281	195

Summary Report:

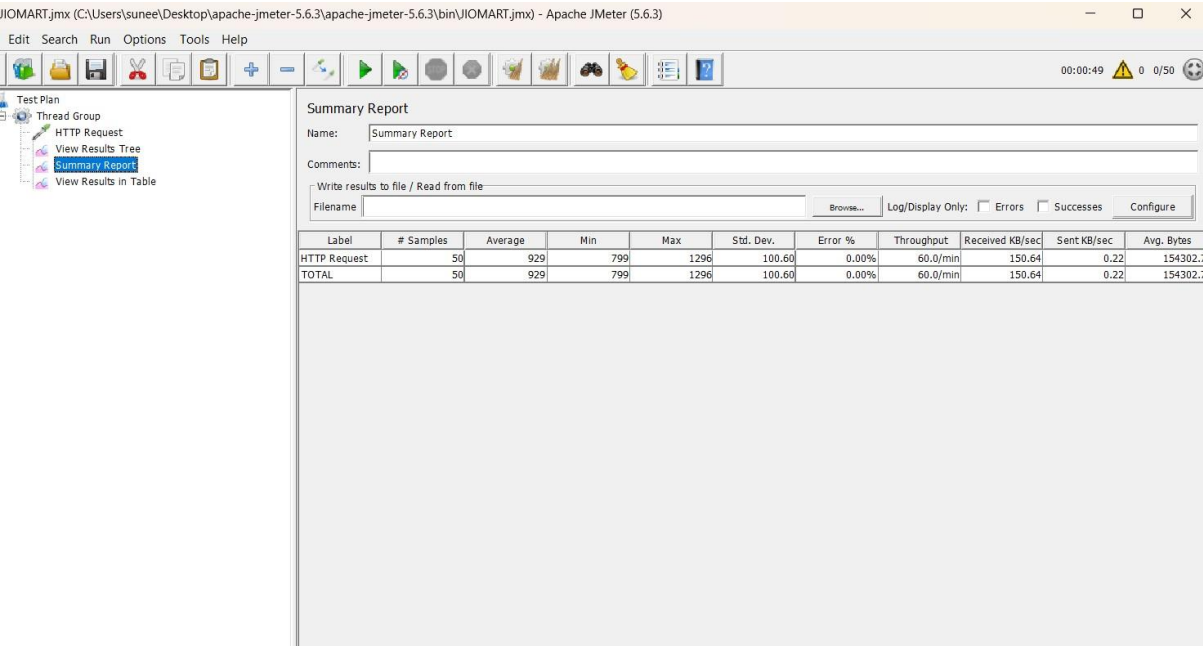
The screenshot shows the 'Summary Report' window in Apache JMeter. The window title is 'Summary Report'. The 'Name' field contains 'Summary Report'. The 'Comments' field is empty. Below the comments, there is a section for 'Write results to file / Read from file' with a 'Filename' field and a 'Browse...' button. To the right of this section are checkboxes for 'Log/Display Only: Errors', 'Successes', and a 'Configure' button. The main area of the window displays a table with aggregated test statistics.

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received KB/sec	Sent KB/sec	Avg. Bytes
HTTP Request	10	1556	843	3341	821.65	0.00%	1.0/sec	157.83	0.24	154305
TOTAL	10	1556	843	3341	821.65	0.00%	1.0/sec	157.83	0.24	154305

50 Users Load Test



Summary Report



100 Users Load Test:

Sample #	Start Time	Thread Name	Label	Sample Time	Status	Bytes	Sent Bytes	Latency	Connect Time
76	11:40:41.264	Thread Group ...	HTTP Request	1654	Success	154303	230	284	199
77	11:40:41.764	Thread Group ...	HTTP Request	1632	Success	154303	230	284	191
78	11:40:42.277	Thread Group ...	HTTP Request	1615	Success	154303	230	270	170
79	11:40:42.777	Thread Group ...	HTTP Request	1647	Success	154303	230	273	171
80	11:40:43.264	Thread Group ...	HTTP Request	1681	Success	154303	230	267	192
81	11:40:43.765	Thread Group ...	HTTP Request	1619	Success	154303	230	277	175
82	11:40:44.265	Thread Group ...	HTTP Request	1787	Success	154302	230	387	310
83	11:40:44.774	Thread Group ...	HTTP Request	1636	Success	154303	230	281	174
84	11:40:45.270	Thread Group ...	HTTP Request	1629	Success	154303	230	254	166
85	11:40:45.779	Thread Group ...	HTTP Request	1881	Success	154302	230	272	185
86	11:40:46.266	Thread Group ...	HTTP Request	1761	Success	154303	230	237	160
87	11:40:46.765	Thread Group ...	HTTP Request	1864	Success	154304	230	247	174
88	11:40:47.274	Thread Group ...	HTTP Request	1991	Success	154303	230	506	396
89	11:40:47.767	Thread Group ...	HTTP Request	1628	Success	154303	230	242	150
90	11:40:48.264	Thread Group ...	HTTP Request	1731	Success	154303	230	385	244
91	11:40:48.766	Thread Group ...	HTTP Request	1702	Success	154303	230	260	168
92	11:40:49.268	Thread Group ...	HTTP Request	1746	Success	154303	230	245	168
93	11:40:49.766	Thread Group ...	HTTP Request	1628	Success	154304	230	247	163
94	11:40:50.268	Thread Group ...	HTTP Request	1601	Success	154303	230	243	166
95	11:40:50.768	Thread Group ...	HTTP Request	1675	Success	154304	230	329	245
96	11:40:51.267	Thread Group ...	HTTP Request	1604	Success	154303	230	258	174
97	11:40:51.764	Thread Group ...	HTTP Request	1567	Success	154302	230	242	163
98	11:40:52.271	Thread Group ...	HTTP Request	1667	Success	154302	230	281	204
99	11:40:52.766	Thread Group ...	HTTP Request	1618	Success	154303	230	283	182
100	11:40:53.263	Thread Group ...	HTTP Request	1640	Success	154302	230	287	196

Summary Reports:

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received KB/sec	Sent KB/sec	Avg. Bytes
HTTP Request	100	1747	1567	2198	137.50	0.00%	2.0/sec	294.70	0.44	154303.2
TOTAL	100	1747	1567	2198	137.50	0.00%	2.0/sec	294.70	0.44	154303.2