

Exercise 4_6 – Solution

PTFL-4.2.5 (K4) Analyze throughput and concurrency when developing performance tests

Scenario:

An international travel website has embarked on a project to upgrade the flight booking functionality of its website. The current booking engine is slow and cumbersome.

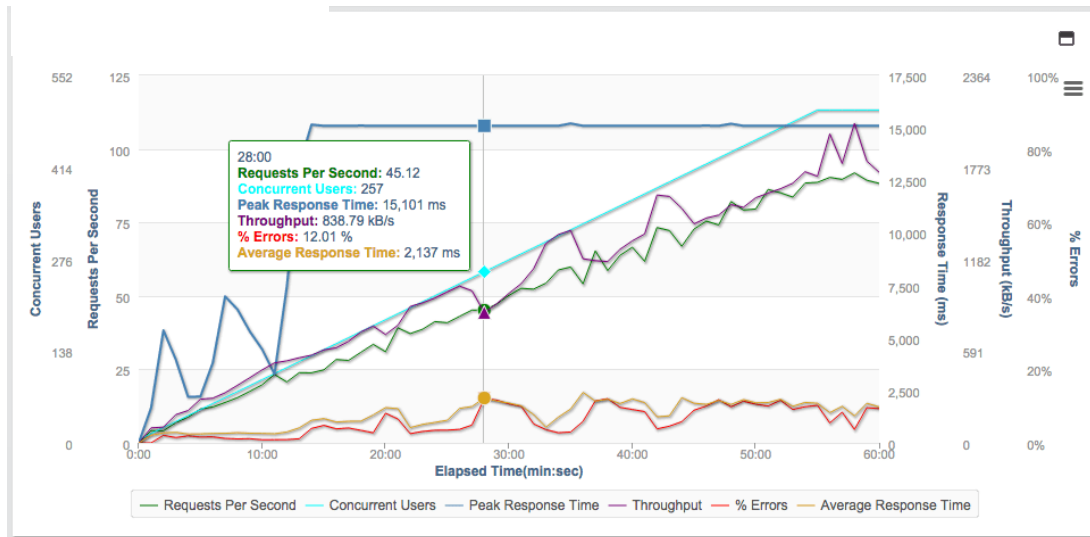
The time currently measured for a customer on average to complete a booking is 3.7 minutes. Observations reveal that on average, a customer takes 35 seconds to enter data and click the button to proceed to the next step in the process. There are three steps in the booking process. The fastest time observed for a tester to complete the booking process is 2.1 minutes.

You have the following information available to help plan performance tests:

- Network monitoring reports
- Web server monitoring reports
- Website analytics reports
- Server error logs
- Transaction reports which show the number of flights booked hourly each day

This information is compiled daily and displayed in a dashboard and also exported to a spreadsheet format as shown on the next page.

Exercise 4_6 Solution



	A	B	C	D	E	F
1	Travel World Performance Monitoring					
2						
3	Date Range	1/1/XXXX	1/30/XXXX			
4						
5	Website					
6	Avg Hits/Hr	Avg Sessions/Hr	Avg Sessions/Day	Avg. Bookings/Hr	Avg. Bookings/Day	Avg. Users/Hr
7	3540	423	9980	136	7804	503
8						
9	Network					
10	Avg KBytes/S	Avg Response Ti	Avg Packet Loss/H	Avg Errors/Hr		
11	930	8200 ms	203	120		
12						

Analyze this information to determine throughput and concurrent usage of the current website.

Throughput:

In the syllabus, throughput is computed as [number of virtual users] / ([processing time] + [think time])

In this case, throughput on average for the time period shown would be: $503 / (117 \text{ secs} + 105 \text{ secs}) = 2.27 \text{ bookings/second}$ on average.

NOTE: The average total time per booking is 222 seconds, of which 105 seconds is think time.

Concurrent usage:

There are 503 users on the site per hour, but of that number 136 per hour actually complete bookings.

Other ways to determine throughput: Avg bookings per hour = 136, Avg bookings per day = 7,804