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Route: /events

What was the bottleneck?

The /events route contained an unnecessary CPU-intensive loop that executed a large number of iterations for every incoming request. This loop did not contribute to generating the response but significantly increased CPU usage and response time. As observed in the Locust results (SS6), this caused high latency and request failures during load testing.

What change did you make?

The redundant loop was removed from the /events route implementation. The route was optimized to perform only the required database query to fetch event details, followed by direct HTML template rendering without any unnecessary computation.

Why did the performance improve?

By removing the unnecessary CPU-bound loop, the server no longer wasted processing time on redundant operations. This eliminated CPU blocking and allowed the application to respond immediately after retrieving data from the database. As a result, the average response time reduced significantly (as seen in SS7), and the overall performance of the /events route improved under load.

Route: /my-events

What was the bottleneck?

The /my-events route included an artificial delay caused by a loop that executed approximately 1.5 million iterations per request. This resulted in excessive CPU consumption and increased response times, as clearly visible in the Locust statistics before optimization (SS8).

What change did you make?

The artificial loop was removed from the /my-events route. After optimization, the route performs only the necessary database query to fetch the user-specific events, followed by rendering the response template.

Why did the performance improve?

Eliminating the CPU-intensive loop prevented unnecessary processing and reduced the workload on the server. With only essential operations remaining, the server handled requests more efficiently. Consequently, the average response time dropped significantly (as shown in SS9), with zero request failures, demonstrating improved and stable performance.