

# CC LAB-2

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PES1UG23CS099

SS1:

The screenshot shows the 'Events' section of the Fest Monolith application. The user is logged in as 'PES1UG23CS099'. The page displays eight event cards:

- Event ID: 1** (₹ 500) - **Hackathon**: Includes certificate • instant registration • limited seats. **Register** button.
- Event ID: 2** (₹ 300) - **Dance**: Includes certificate • instant registration • limited seats. **Register** button.
- Event ID: 3** (₹ 500) - **Hackathon**: Includes certificate • instant registration • limited seats. **Register** button.
- Event ID: 4** (₹ 300) - **Dance Battle**: Includes certificate • instant registration • limited seats. **Register** button.
- Event ID: 5** (₹ 400) - **AI Workshop**: Includes certificate • instant registration • limited seats. **Register** button.
- Event ID: 6** (₹ 200) - **Photography Walk**: Includes certificate • instant registration • limited seats. **Register** button.

SS2:

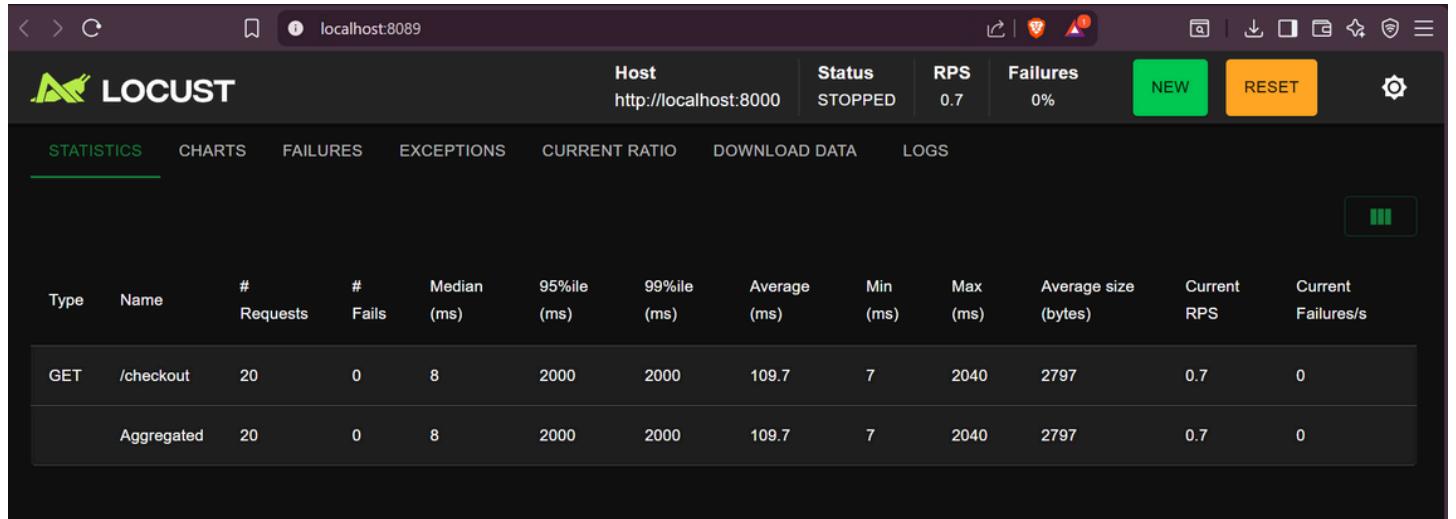
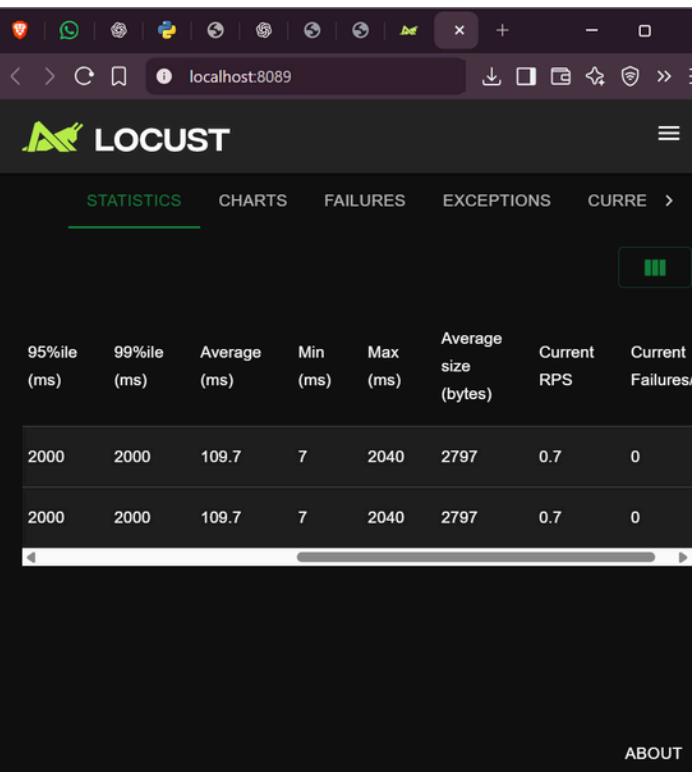
The screenshot shows the 'Checkout' page of the Fest Monolith application. The user is logged in as 'PES1UG23CS099'. The page includes:

- Checkout**: Total Payable ₹ 6600.
- A note: After fixing + optimizing checkout logic, re-run Locust and compare results.
- What you should observe**:
  - One buggy feature can crash the entire monolith.
  - Inefficient loops cause high response times under load.
  - Optimization improves performance but architecture still scales as one unit.
- A note: Next Lab: Split this monolith into Microservices (Events / Registration / Checkout).

SS4:before

```
[2026-01-29 18:53:18,956] LAPTOP-058C27QA/INFO/locust.main: Shutting down (exit code 0)
Type      Name                      # reqs    # fail
ls | Avg     Min      Max     Med | req/s failures/s
----|-----|-----|-----|-----|-----|-----|-----|
GET      /checkout                  20        0(0.00
%) | 109      6      2040      8 | 0.67      0.00
----|-----|-----|-----|-----|-----|-----|-----|
Aggregated                         20        0(0.00
%) | 109      6      2040      8 | 0.67      0.00

Response time percentiles (approximated)
Type      Name                      50%    66
% 75%    80%    90%    95%    98%    99%    99.9% 99.99% 100%
# reqs
----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET      /checkout                  8        2000
9      9      9      11      2000      2000      2000      2000      2000
----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated                         8        2000
9      9      9      11      2000      2000      2000      2000      2000
----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC_Lab-2>
```

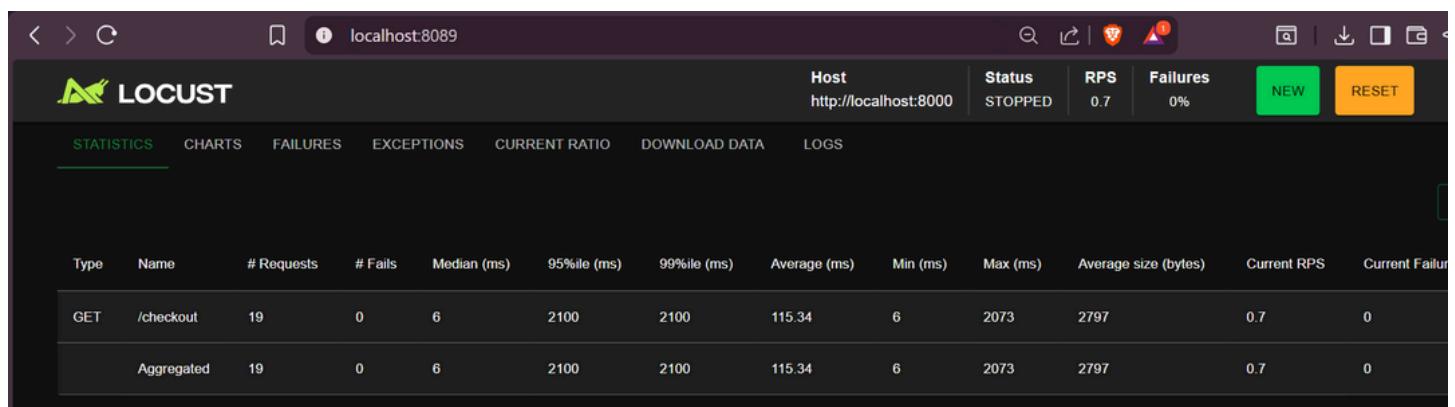
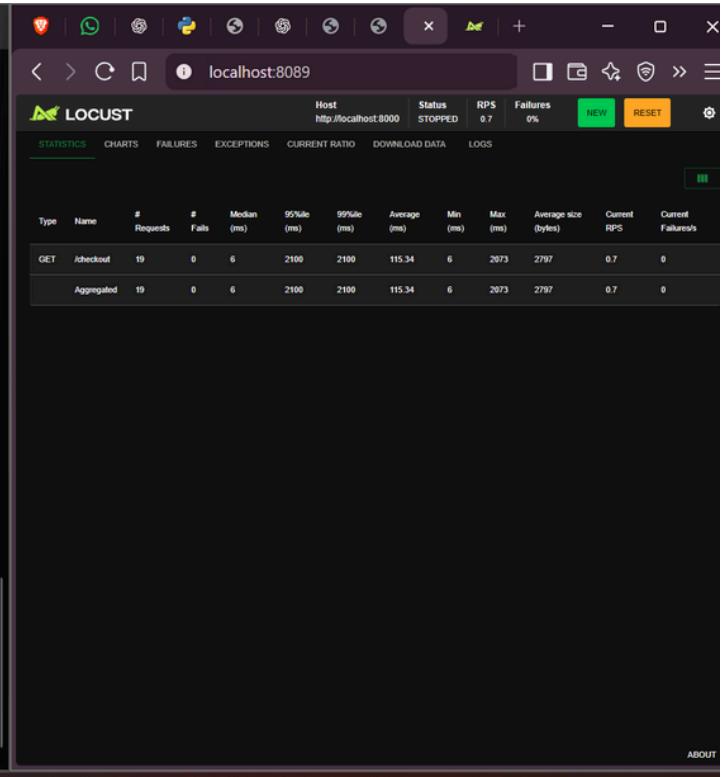


## SS5:after

```
C:\Windows\System32\cmd.e x + - □ ×

def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T13:33:53Z
[2026-01-29 19:03:53,358] LAPTOP-058C27QA/INFO/locust.main: Shutting down (exit code 0)
Type      Name # reqs    # fails |     Avg      Min      Max      M
ed |      req/s failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|
GET      /checkout      19      0(0.00%) |     115      5     2073
6 |      0.65      0.00
-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|
          Aggregated      19      0(0.00%) |     115      5     207
3       6 |      0.65      0.00
-----|-----|-----|-----|-----|-----|-----|-----|
Response time percentiles (approximated)
Type      Name      50%      66%      75%      80%      90%      95%      98%
      99%      99.9%      99.99%      100% # reqs
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|
GET      /checkout      6        7        7        7        8        2100
2100    2100    2100    2100    2100    19
-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|
          Aggregated      6        7        7        7        7        8        2100
2100    2100    2100    2100    2100    19
-----|-----|-----|-----|-----|-----|-----|-----|
(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC_Lab-2>
```



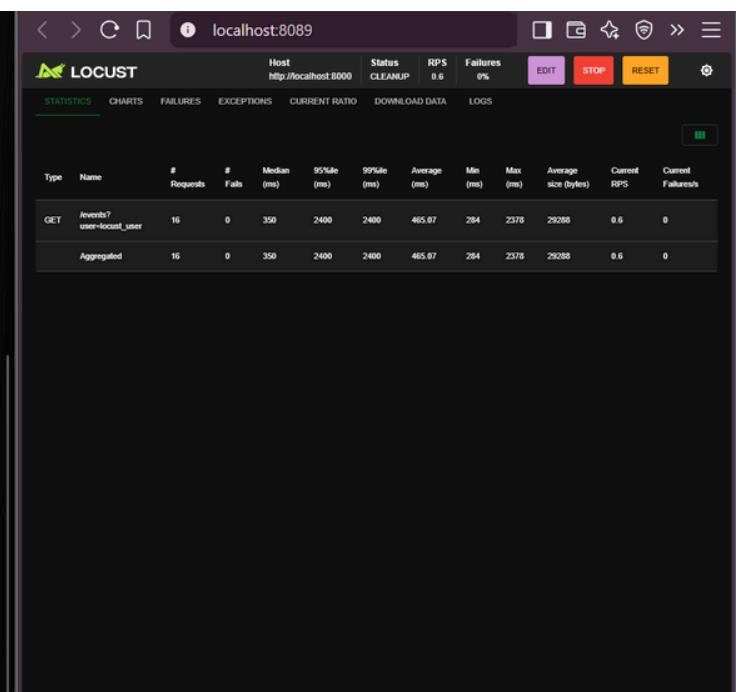
## SS6:before events

```

      Type      Name          # reqs    # fail
ls |      Avg      Min      Max     Med |    req/s   failures/s
----+-----+-----+-----+-----+-----+-----+
GET      /events?user=locust_user           16    0(0.00
%) |      465     283    2377    350 |     0.55     0.00
----+-----+-----+-----+-----+-----+-----+
----+-----+-----+-----+-----+-----+-----+
      Aggregated          16    0(0.00
%) |      465     283    2377    350 |     0.55     0.00

Response time percentiles (approximated)
      Type      Name          50%    66
%      75%      80%      90%      95%      98%      99%  99.9%  99.99%  100%
# reqs
----+-----+-----+-----+-----+-----+-----+-----+
----+-----+-----+-----+-----+-----+-----+-----+
GET      /events?user=locust_user           350    36
0      370     370     390    2400    2400    2400    2400    2400    2400
16
----+-----+-----+-----+-----+-----+-----+-----+
----+-----+-----+-----+-----+-----+-----+-----+
      Aggregated          350    36
0      370     370     390    2400    2400    2400    2400    2400    2400
16

```



The screenshot shows the Locust web interface at [localhost:8089](http://localhost:8089). The top navigation bar includes a bookmark icon, a search bar with the URL, and various browser control icons. The main header features the Locust logo and navigation tabs: STATISTICS (highlighted in green), CHARTS, FAILURES, EXCEPTIONS, CURRENT RATIO, DOWNLOAD DATA, and LOGS. On the right side of the header are buttons for EDIT (purple), STOP (red), and RESET (yellow), along with a gear icon for settings. Below the header is a table with the following data:

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/events?user=locust_user	16	0	350	2400	2400	465.07	284	2378	29288	0.6	0
Aggregated		16	0	350	2400	2400	465.07	284	2378	29288	0.6	0

## SS7:after events

The Locust performance testing dashboard displays real-time metrics for a test scenario. The top navigation bar includes links for 'STATISTICS' (highlighted in green), 'CHARTS', 'FAILURES', 'EXCEPTIONS', 'CURRENT RATIO', 'DOWNLOAD DATA', and 'LOGS'. The 'Host' is set to `http://localhost:8000`. The current status is 'CLEANUP' with 0.7 RPS and 0% failures. Action buttons include 'EDIT' (purple), 'STOP' (red), and 'RESET' (yellow). A gear icon for settings is also present.

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/events?user=locust_user	19	0	8	2100	2100	116.46	6	2073	29288	0.7	0
Aggregated												
19 0 8 2100 2100 116.46 6 2073 29288 0.7 0												

## SS8: BEFORE MY EVENTS

C:\Windows\System32\cmd.e × + ▾

```
le=unused-argument

KeyboardInterrupt
2026-01-29T13:49:55Z
[2026-01-29 19:19:55,932] LAPTOP-058C27QA/INFO/locust.main: Shutting down (exit code 0)
Type      Name # reqs    # fails |   Avg     Min     Max     M
ed | req/s failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET    /events?user=locust_user      19    0(0.00%) |   116
      6   2073    8 |   0.64    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
      Aggregated    19    0(0.00%) |   116    6   207
      3   8 |   0.64    0.00

Response time percentiles (approximated)
Type      Name 50% 66% 75% 80% 90% 95% 98%
99% 99.9% 99.99% 100% # reqs
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET    /events?user=locust_user      8    8    8    9
      10  2100  2100  2100  2100  2100  2100  19
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
      Aggregated    8    8    8    9    10   2100
      2100  2100  2100  2100  19

(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC Lab-2>
(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC Lab-2>
```

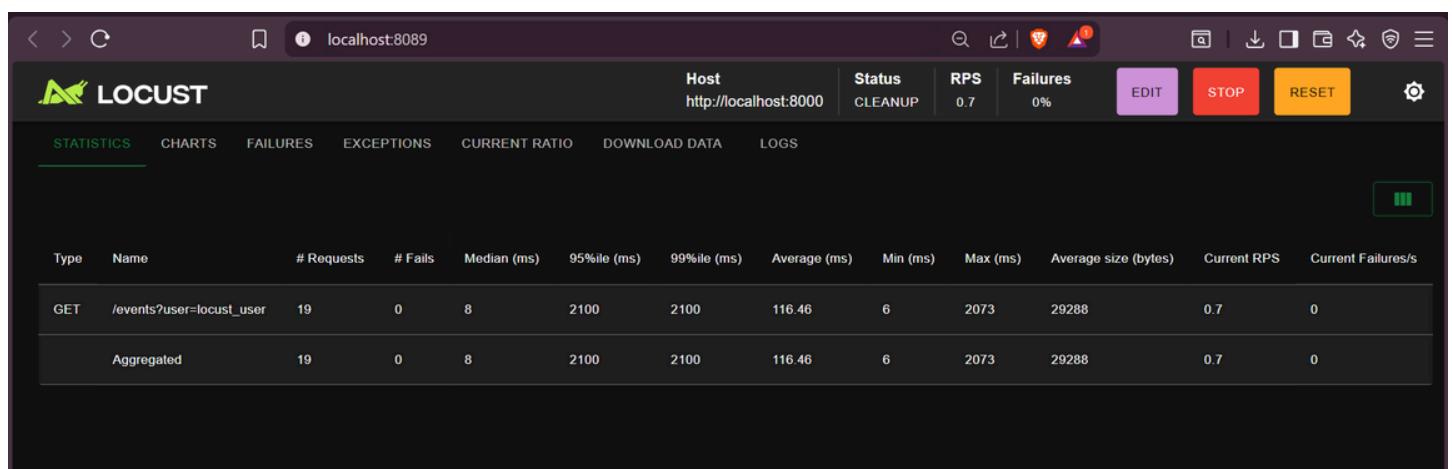
localhost:8089

**LOCUST**

Host http://localhost:8000 Status CLEANUP RPS 0.7 Failures 0%

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/events?user=locust_user	19	0	8	2100	2100	116.46	6	2073	29288	0.7	0
	Aggregated	19	0	8	2100	2100	116.46	6	2073	29288	0.7	0



## SS9: AFTER MY EVENTS

C:\Windows\System32\cmd.e × + ▾

```
le=unused-argument

KeyboardInterrupt
2026-01-29T13:59:28Z
[2026-01-29 19:29:28,315] LAPTOP-058C27QA/INFO/locust.main: Shutting down (exit code 0)
Type      Name # reqs    # fails |   Avg     Min     Max     M
ed | req/s failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET    /my-events?user=locust_user      17    0(0.00%) |   1
      31   2122    7 |   0.60    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
      Aggregated    17    0(0.00%) |   131    6   212
      2   7 |   0.60    0.00

Response time percentiles (approximated)
Type      Name 50% 66% 75% 80% 90% 95% 98%
99% 99.9% 99.99% 100% # reqs
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET    /my-events?user=locust_user      7    7    8
      8   2100  2100  2100  2100  2100  2100  17
-----|-----|-----|-----|-----|-----|-----|-----|-----|
-----|-----|-----|-----|-----|-----|-----|-----|-----|
      Aggregated    7    7    8    8    8    2100
      2100  2100  2100  2100  17

(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC Lab-2>
(.venv) C:\Users\hiros\PES1UG23CS099\Monolith_CC_Lab-2\CC Lab-2>
```

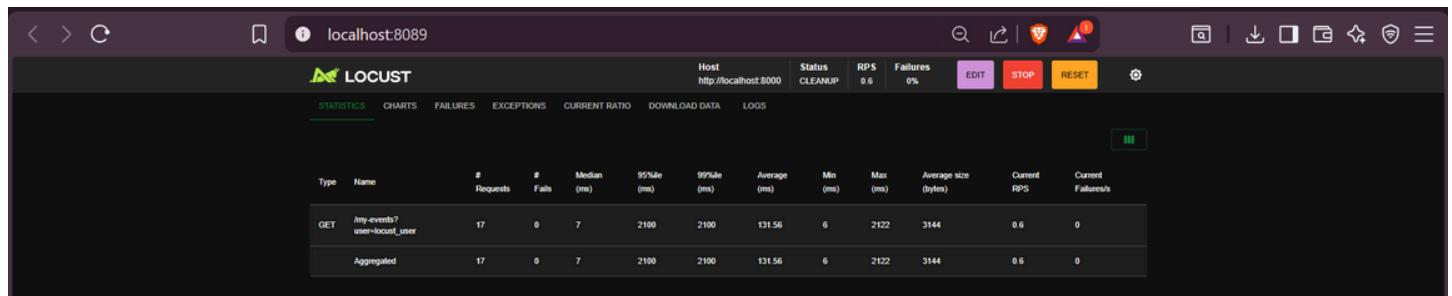
localhost:8089

**LOCUST**

Host http://localhost:8000 Status CLEANUP RPS 0.6 Failures 0%

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/my-events?user=locust_user	17	0	7	2100	2100	131.56	6	2122	3144	0.6	0
	Aggregated	17	0	7	2100	2100	131.56	6	2122	3144	0.6	0



## Route-1:

What was the bottleneck?

The /events page had an unnecessary loop that kept running every time the page was loaded. This extra computation didn't serve any real purpose and slowed down the response.

What change did you make?

I removed the unnecessary loop and kept only the required database query and page rendering logic.

Why did the performance improve?

Since the extra computation was removed, the server had less work to do for each request, which reduced the response time and improved overall performance.

## Route-2:

What was the bottleneck?

The /my-events route contained a loop that performed meaningless iterations on every request, which increased processing time.

What change did you make?

I removed the redundant loop so that the route only executes the database query and displays the results.

Why did the performance improve?

By eliminating unnecessary processing, the route became lighter and faster, resulting in better performance under load.

Short explanation of optimizations

For the /events route, an unnecessary CPU-intensive loop was present inside the route handler. This loop performed meaningless computations on every request. Removing this loop significantly reduced processing overhead and improved the route's performance under load.

Similarly, the /my-events route contained a dummy loop that wasted CPU cycles for each request. After removing this redundant computation, the route became lighter and responded faster.

Overall, these optimizations improved the performance of individual routes without changing the application's architecture. The application remains monolithic, as all components still run within a single codebase and deployment unit, but internal logic improvements led to better efficiency and responsiveness.