

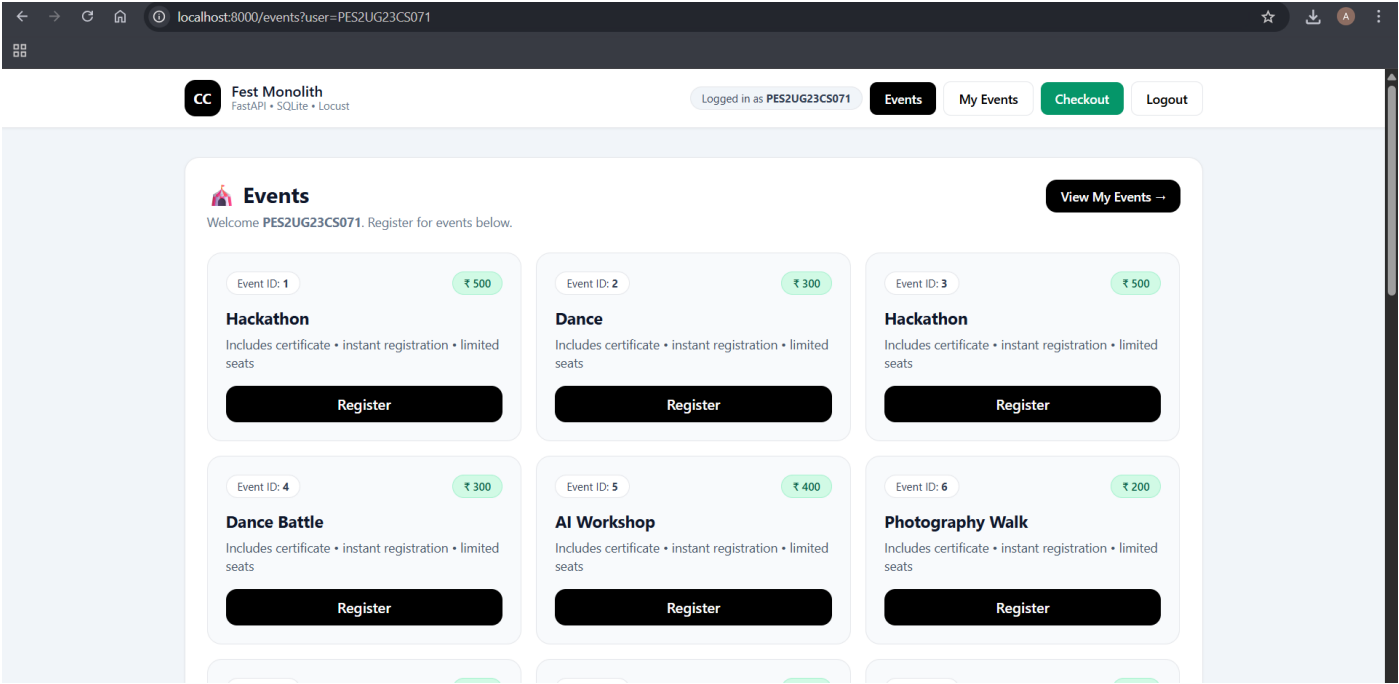
# CLOUD COMPUTING

## LAB-2

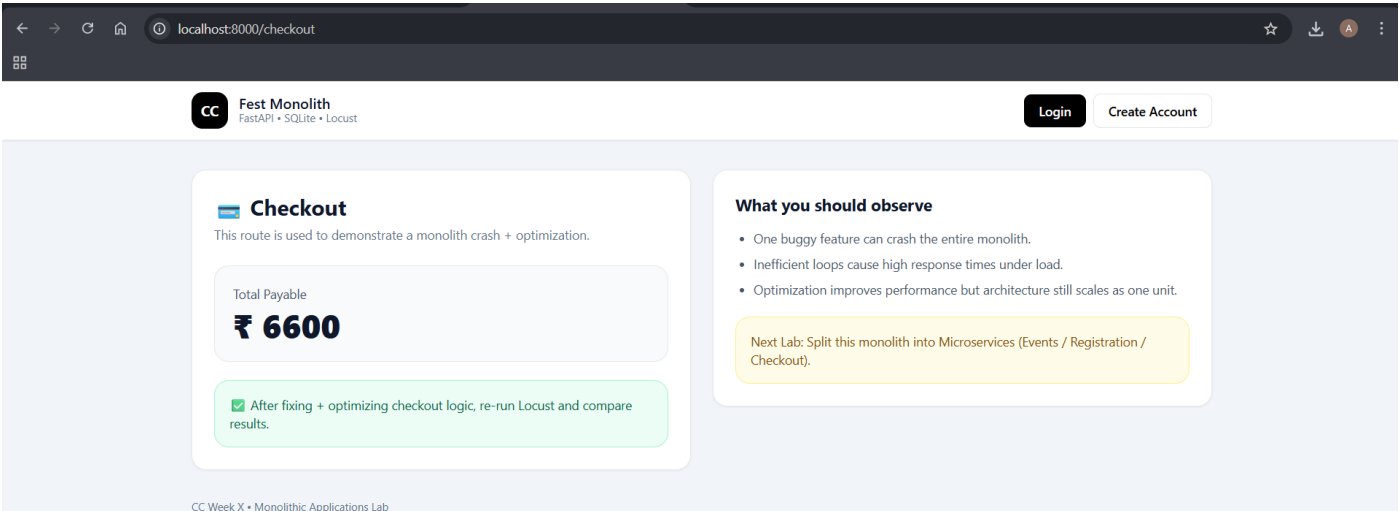
**SRN:** PES2UG23CS071

**NAME:** ANIRUDH MURALEEDHARAN'

**SS-1:**



**SS-2:**



```
ZeroDivisionError: division by zero
INFO:      127.0.0.1:49965 - "GET /checkout HTTP/1.1" 200 OK
INFO:      127.0.0.1:52921 - "GET /checkout HTTP/1.1" 200 OK
INFO:      127.0.0.1:64805 - "GET /checkout HTTP/1.1" 200 OK
```

SS-3

localhost:8000/checkout

CC

Fest Monolith  
FastAPI • SQLite • Locust

LoginCreate Account

★

Monolith Failure

One bug in one module impacted the **entire** application.

Error Message

division by zero

Why did this happen?

Because this is a **monolithic application**: all modules share the same runtime and deployment. When one feature crashes, it affects the whole system.

What should you do in the lab?

Take a screenshot (crash demonstration)

Fix the bug in the indicated module

Restart the server and verify recovery

Back to Events

Login

CC Week X • Monolithic Applications Lab

ZeroDivisionError: division by zero  
INFO: 127.0.0.1:64447 - "GET / HTTP/1.1" 404 Not Found  
INFO: 127.0.0.1:51395 - "GET /checkout HTTP/1.1" 500 Internal Server Error  
ERROR: Exception in ASGI application  
Traceback (most recent call last):  
File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\uvicorn\protocols\http\h11\_impl.py", line 410, in run\_asgi  
result = await app( # type: ignore[func-returns-value]  
self.scope, self.receive, self.send

SS-4:

localhost:8089

LOCUST

Host  
http://localhost:8000

Status  
CLEANUP

RPS  
0.7

Failures  
0%

EDIT

LOADING

RESET

⚙️

STATISTICSCHARTSFAILURESEXCEPTIONSCURRENT RATIODOWNLOAD DATALOGS


⏸

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	/checkout	20	0	8	2100	2100	111.89	4	2079	2797	0.7	0
	Aggregated	20	0	8	2100	2100	111.89	4	2079	2797	0.7	0

[2026-01-29 15:03:06,968] LAPTOP-QRNI4MKI/INFO/locust.main: Starting web interface at http://localhost:8089, press enter to open your default browser.  
[2026-01-29 15:03:21,137] LAPTOP-QRNI4MKI/INFO/locust.runners: Ramping to 1 users at a rate of 1.00 per second  
[2026-01-29 15:03:21,146] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"CheckoutUser": 1} (1 total users)  
Traceback (most recent call last):  
File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\\_ffi\loop.py", line 279, in python\_check\_callback  
def python\_check\_callback(self, watcher\_ptr): # pylint:disable=unused-argument  
  
KeyboardInterrupt  
2026-01-29T09:36:11Z  
[2026-01-29 15:06:11,422] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)  
Type Name # reqs # fails | Avg Min Max Med | req/s failures/s  
GET /checkout 20 0(0.00%) | 111 3 2079 8 | 0.68 0.00  
Aggregated 20 0(0.00%) | 111 3 2079 8 | 0.68 0.00  
  
Response time percentiles (approximated)  
Type Name % 100% # reqs 50% 66% 75% 80% 90% 95% 98% 99% 99.9% 99.99  
GET /checkout 0 2100 20 8 9 9 9 35 2100 2100 2100 2100 210  
Aggregated 0 2100 20 8 9 9 9 35 2100 2100 2100 2100 210  
  
(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab->

SS-5:

← → ↺ 🏠 🌐 localhost:8089 ☆ ⬇️ 👤 ⋮



Host

http://localhost:8000

Status

CLEANUP

RPS

0.7


Failures

0%

EDIT

STOP

RESET



STATISTICS

CHARTSFAILURESEXCEPTIONSCURRENT RATIODOWNLOAD DATALOGS

⏸

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	/checkout	20	0	7	2100	2100	111.31	4	2084	2797	0.7	0
	Aggregated	20	0	7	2100	2100	111.31	4	2084	2797	0.7	0

```
[2026-01-29 15:07:15,098] LAPTOP-QRNI4MKI/INFO/locust.runners: Ramping to 1 users at a rate of 1.00 per second
[2026-01-29 15:07:15,098] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"CheckoutUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:38:47Z
[2026-01-29 15:08:47,996] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)
Type      Name      # reqs      # fails      Avg      Min      Max      Med      req/s      failures/s
-----
GET      /checkout      20      0(0.00%)      111      3      2084      7      0.68      0.00
Aggregated      20      0(0.00%)      111      3      2084      7      0.68      0.00


Response time percentiles (approximated)
Type      Name      50%      66%      75%      80%      90%      95%      98%      99%      99.9%      99.99
%      100%      # reqs
-----
GET      /checkout      7      8      9      9      25      2100      2100      2100      2100      210
0      2100      20
Aggregated      7      8      9      9      25      2100      2100      2100      2100      210
0      2100      20

(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab-2>
```

SS-6:

BEFORE:

← → ↺ 🏠 🌐 localhost:8089 ☆ 👤 ⋮



Host

http://localhost:8000

Status

CLEANUP

RPS

0.5


Failures

0%

EDIT

STOP

RESET



STATISTICS

CHARTSFAILURESEXCEPTIONSCURRENT RATIODOWNLOAD DATALOGS

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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	14	0	380	2400	2400	514.5	274	2440	21138	0.5	0
	Aggregated	14	0	380	2400	2400	514.5	274	2440	21138	0.5	0

```
[2026-01-29 15:12:38,263] LAPTOP-QRNI4MKI/INFO/locust.runners: Ramping to 1 users at a rate of 1.00 per second
[2026-01-29 15:12:38,266] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"EventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

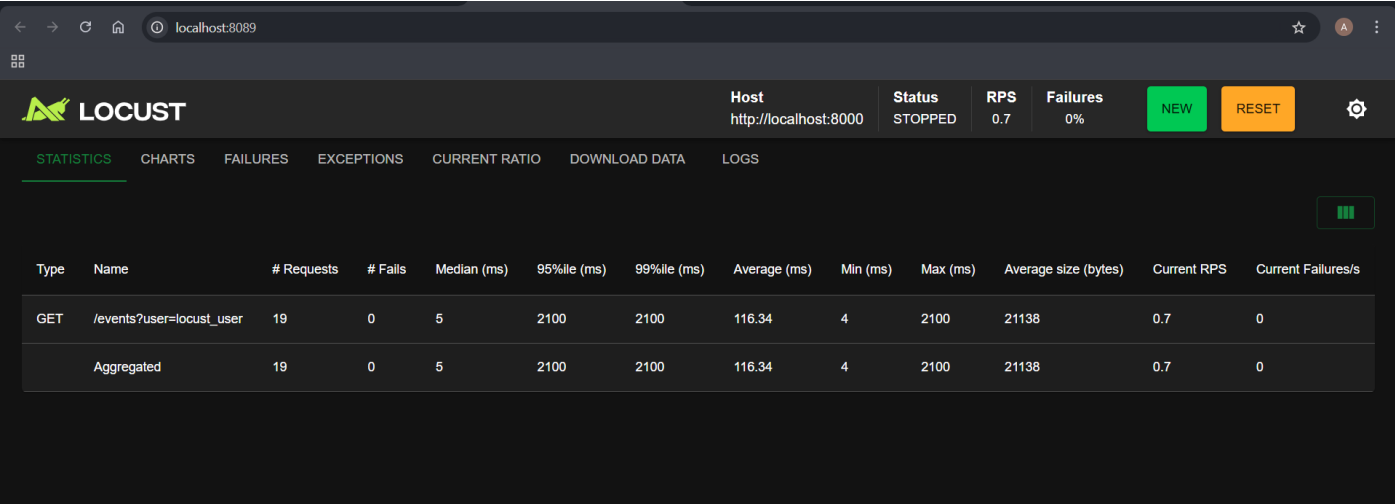
KeyboardInterrupt
2026-01-29T09:43:51Z
[2026-01-29 15:13:51,342] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)
Type      Name      # reqs      # fails      Avg      Min      Max      Med      req/s      failures/s
-----
GET      /events?user=locust_user      14      0(0.00%)      514      274      2440      380      0.49      0.00
Aggregated      14      0(0.00%)      514      274      2440      380      0.49      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      380      400      400      410      420      2400      2400      2400      2400      240
0      2400      14
Aggregated      380      400      400      410      420      2400      2400      2400      2400      240
0      2400      14

(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab-2>
```

SS-7:

AFTER:



```
[2026-01-29 15:17:16,369] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"EventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

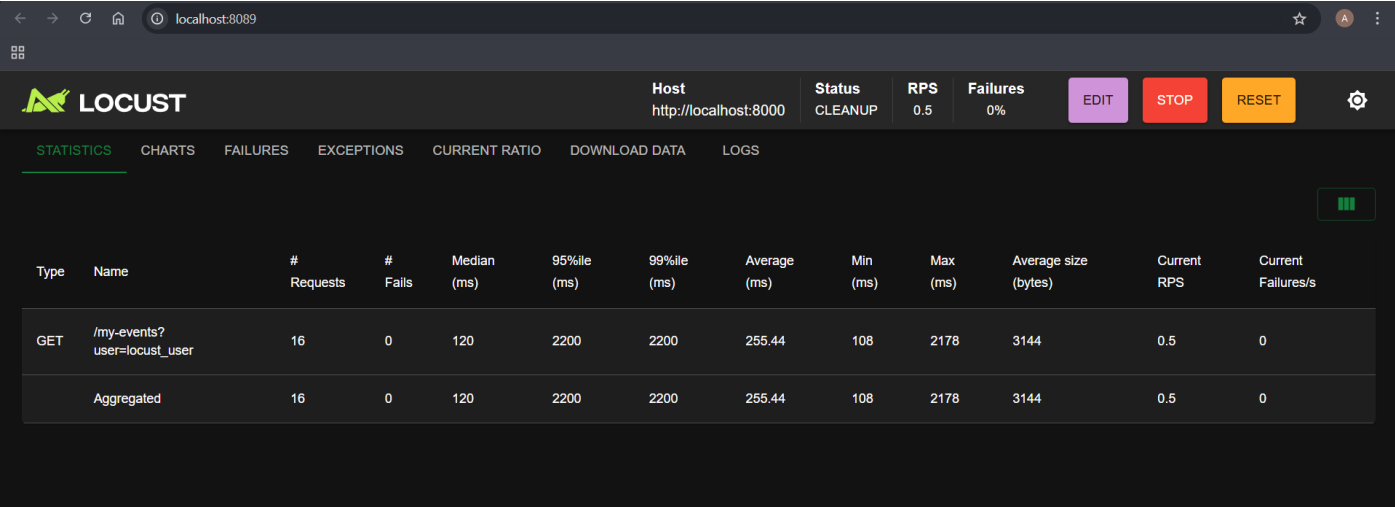
KeyboardInterrupt
2026-01-29T09:48:35Z
[2026-01-29 15:18:35,644] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)
Type      Name                                     # reqs  # fails  Avg    Min    Max    Med    req/s  failures/s
-----
GET      /events?user=locust_user                    19      0(0.00%)  116     3    2099     5     0.64    0.00
-----
Aggregated                                     19      0(0.00%)  116     3    2099     5     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                    5      7      7      9     18    2100    2100    2100    2100    210
0 2100 19
-----
Aggregated                                     5      7      7      9     18    2100    2100    2100    2100    210
0 2100 19
-----

(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab-2>
```

SS-8:

BEFORE:



← → ↺ 🏠 📄 localhost:8089 ☆ A ⋮

 **LOCUST**

Host  
http://localhost:8000

Status  
CLEANUP

RPS  
0.7

Failures  
0%

EDIT

STOP

RESET

⚙️

STATISTICS

CHARTSFAILURESEXCEPTIONSCURRENT RATIODOWNLOAD DATALOGS

⏸

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	18	0	5	2100	2100	121.66	3	2080	3144	0.7	0
	Aggregated	18	0	5	2100	2100	121.66	3	2080	3144	0.7	0

```
[2026-01-29 15:19:21,360] LAPTOP-QRNI4MKI/INFO/locust.main: Starting web interface at http://localhost:8089, press enter to open your default browser.
[2026-01-29 15:19:37,305] LAPTOP-QRNI4MKI/INFO/locust.runners: Ramping to 1 users at a rate of 1.00 per second
[2026-01-29 15:19:37,310] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"MyEventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:50:21Z
[2026-01-29 15:20:21,727] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)
Type      Name                                     # reqs  # fails  Avg    Min    Max    Med    req/s  failures/s
-----
GET      /my-events?user=locust_user                16      0(0.00%) 255    107    2178   120    0.57   0.00
-----
Aggregated                                16      0(0.00%) 255    107    2178   120    0.57   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                130    140    150    150    160    2200   2200   2200   2200   220
0 2200 16
-----
Aggregated                                130    140    150    150    160    2200   2200   2200   2200   220
0 2200 16
-----

(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab-2>
```

**SS-9:**

**AFTER:**

← → ↺ 🏠 📄 localhost:8089 ☆ A ⋮

 **LOCUST**

Host  
http://localhost:8000

Status  
CLEANUP

RPS  
0.7

Failures  
0%

EDIT

STOP

RESET

⚙️

STATISTICS

CHARTSFAILURESEXCEPTIONSCURRENT RATIODOWNLOAD DATALOGS

⏸

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	18	0	5	2100	2100	121.66	3	2080	3144	0.7	0
	Aggregated	18	0	5	2100	2100	121.66	3	2080	3144	0.7	0

```
[2026-01-29 15:21:02,108] LAPTOP-QRNI4MKI/INFO/locust.main: Starting Locust 2.43.1
[2026-01-29 15:21:02,109] LAPTOP-QRNI4MKI/INFO/locust.main: Starting web interface at http://localhost:8089, press enter to open your default browser.
[2026-01-29 15:21:15,877] LAPTOP-QRNI4MKI/INFO/locust.runners: Ramping to 1 users at a rate of 1.00 per second
[2026-01-29 15:21:15,880] LAPTOP-QRNI4MKI/INFO/locust.runners: All users spawned: {"MyEventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\.venv\Lib\site-packages\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:52:55Z
[2026-01-29 15:22:55,097] LAPTOP-QRNI4MKI/INFO/locust.main: Shutting down (exit code 0)

Type      Name                                     # reqs      # fails | Avg      Min      Max      Med | req/s  failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
GET      /my-events?user=locust_user              18          0(0.00%) | 121       3      2080       5 |  0.62    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
Aggregated                                     18          0(0.00%) | 121       3      2080       5 |  0.62    0.00

Response time percentiles (approximated)
Type      Name                                     50%      66%      75%      80%      90%      95%      98%      99%      99.9%      99.99
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
GET      /my-events?user=locust_user              5         6         8         9        29      2100      2100      2100      2100      210
0 2100 18
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
Aggregated                                     5         6         8         9        29      2100      2100      2100      2100      210
0 2100 18

(.venv) C:\Users\Anirudh\Desktop\Sem 6\Cloud Computing\PES2UG23CS071\CC Lab-2>
```

**/events Route:**

**Performance Issue:** Each time this route was accessed, the server executed a large loop that served no functional purpose. This caused unnecessary CPU usage and increased the page load time.

**Modification:** The redundant loop was removed so that the route now only retrieves event information from the database and renders the page.

**Performance Benefit:** By eliminating the extra processing, the server handles requests more efficiently, resulting in faster responses.

**/my-events Route:**

**Performance Issue:** This endpoint contained an artificial loop that iterated millions of times, introducing avoidable delays for every request.

**Modification:** The loop was removed, leaving only the essential database query and template rendering logic.

**Performance Benefit:** With unnecessary computations eliminated, the server responds quicker and the endpoint performs noticeably better.