CC LAB2

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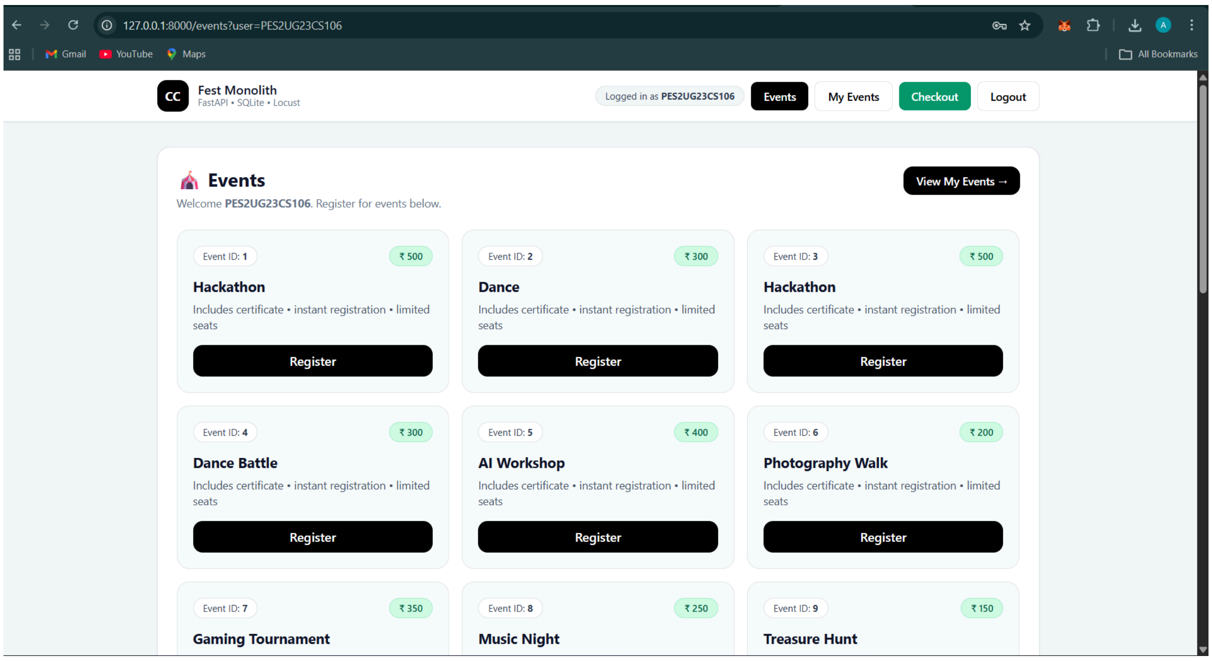
Screenshot 1



127.0.0.1:8000/events?user=PES2UG23CS106

Fest Monolith
FastAPI • SQLite • Locust

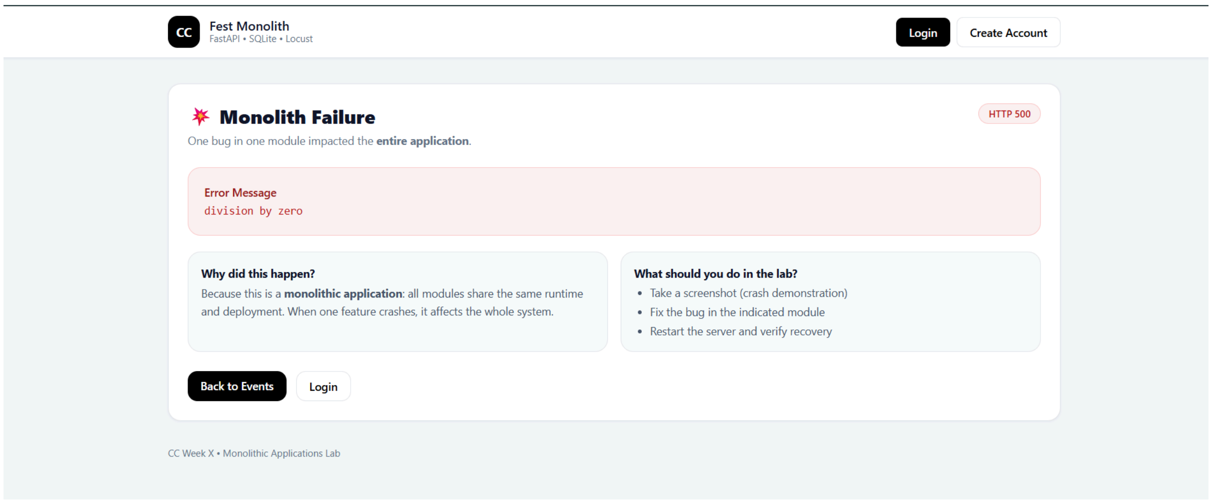
Logged in as PES2UG23CS106 | Events | My Events | Checkout | Logout

Events
Welcome **PES2UG23CS106**. Register for events below.

View My Events →

Event ID	Price	Event	Details
1	₹ 500	Hackathon	Includes certificate • instant registration • limited seats
2	₹ 300	Dance	Includes certificate • instant registration • limited seats
3	₹ 500	Hackathon	Includes certificate • instant registration • limited seats
4	₹ 300	Dance Battle	Includes certificate • instant registration • limited seats
5	₹ 400	AI Workshop	Includes certificate • instant registration • limited seats
6	₹ 200	Photography Walk	Includes certificate • instant registration • limited seats
7	₹ 350	Gaming Tournament	
8	₹ 250	Music Night	
9	₹ 150	Treasure Hunt	

Screenshot-2



Fest Monolith
FastAPI • SQLite • Locust

Login | Create Account

Monolith Failure
HTTP 500
One bug in one module impacted the **entire application**.

Error Message
```
division by zero
```

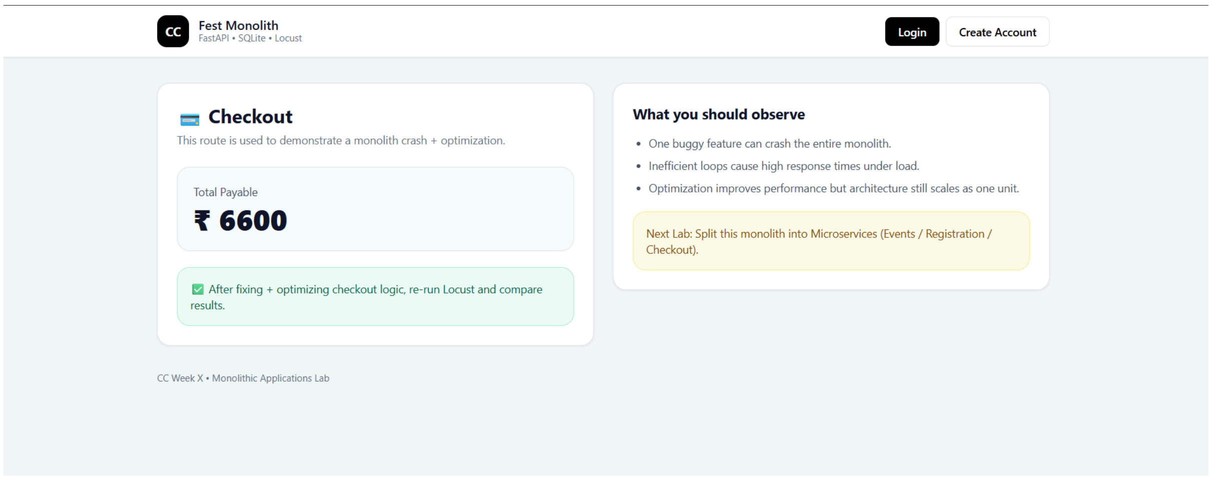
Why did this happen?
Because this is a **monolithic application**: all modules share the same runtime and deployment. When one feature crashes, it affects the whole system.

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

Screenshot-3



Checkout

This route is used to demonstrate a monolith crash + optimization.

Total Payable

₹ 6600

✓ After fixing + optimizing checkout logic, re-run Locust and compare results.

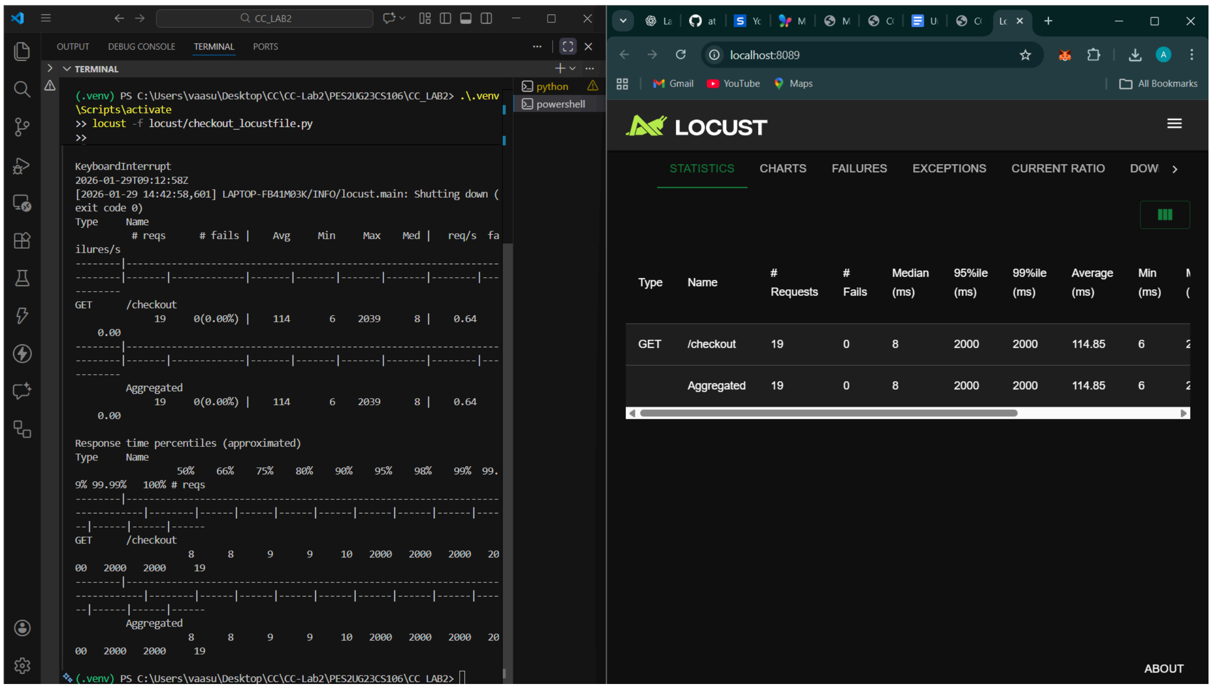
What you should observe

- 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.

Next Lab: Split this monolith into Microservices (Events / Registration / Checkout).

CC Week X • Monolithic Applications Lab

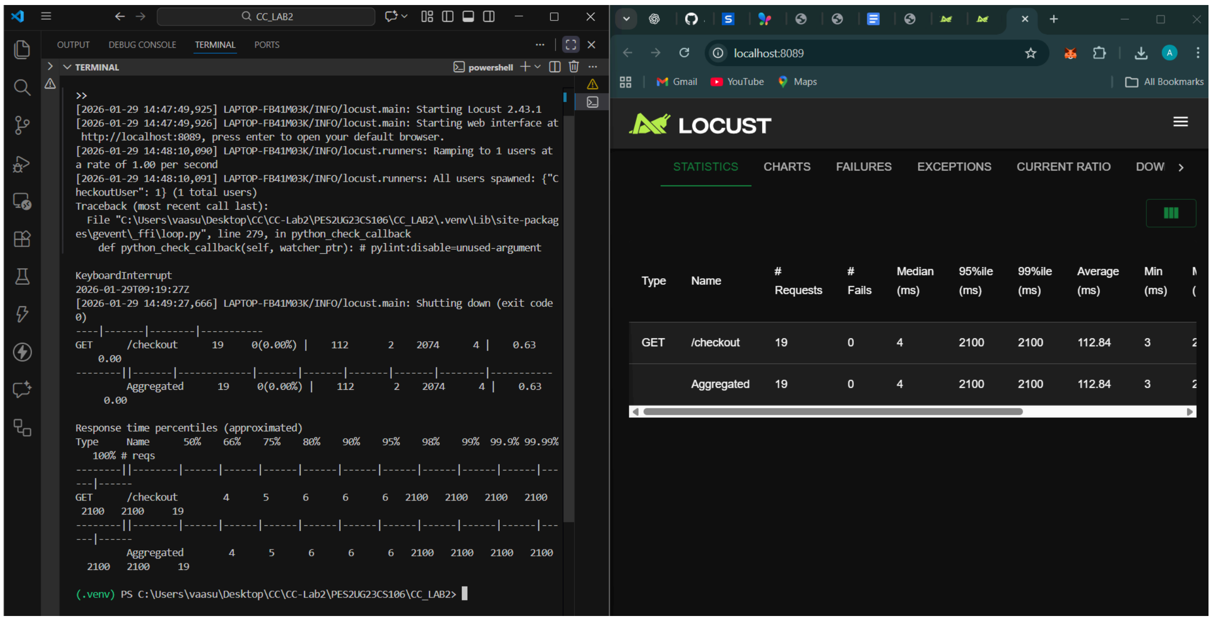
Screenshot 4



```
(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2> .\.venv
\Scripts\activate
>> locust -f locust/checkout_locustfile.py
>>

KeyboardInterrupt
2026-01-29T09:12:58Z
[2026-01-29 14:42:58,601] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (
exit code 0)
Type     Name
          # reqs      # fails |    Avg     Min     Max    Med |   req/s  fa
ilures/s
--------|------------------------------------------------------------------
--------|-------|------------|-------|-------|-------|-------|--------|---
--------
GET      /checkout
             19     0(0.00%) |    114       6    2039      8 |    0.64
    0.00
--------|------------------------------------------------------------------
--------|-------|------------|-------|-------|-------|-------|--------|---
--------
         Aggregated
             19     0(0.00%) |    114       6    2039      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      /checkout
                    8      8      9      9     10   2000   2000   2000    20
00   2000   2000     19
--------|------------------------------------------------------------------
-----------|--------|------|------|------|------|------|------|------|----
--|------|------|------
         Aggregated
                    8      8      9      9     10   2000   2000   2000    20
00   2000   2000     19
(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC LAB2>
```

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	M (
GET	/checkout	19	0	8	2000	2000	114.85	6	2
	Aggregated	19	0	8	2000	2000	114.85	6	2

Screenshot-5



```
>>
[2026-01-29 14:47:49,925] LAPTOP-FB41M03K/INFO/locust.main: Starting Locust 2.43.1
[2026-01-29 14:47:49,926] LAPTOP-FB41M03K/INFO/locust.main: Starting web interface at
 http://localhost:8089, press enter to open your default browser.
[2026-01-29 14:48:10,090] LAPTOP-FB41M03K/INFO/locust.runners: Ramping to 1 users at
a rate of 1.00 per second
[2026-01-29 14:48:10,091] LAPTOP-FB41M03K/INFO/locust.runners: All users spawned: {"C
heckoutUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:19:27Z
[2026-01-29 14:49:27,666] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (exit code
0)
----|-------|--------|----------
GET      /checkout      19     0(0.00%) |    112       2    2074      4 |    0.63
    0.00
--------||-------|------------|-------|-------|-------|-------|--------|----------
         Aggregated      19     0(0.00%) |    112       2    2074      4 |    0.63
     0.00

Response time percentiles (approximated)
Type     Name       50%    66%    75%    80%    90%    95%    98%    99%  99.9% 99.99%
   100% # reqs
--------||-------|------|------|------|------|------|------|------|------|------|---
---|------
GET      /checkout        4      5      6      6      6   2100   2100   2100   2100
 2100   2100     19
--------||-------|------|------|------|------|------|------|------|------|------|---
---|------
         Aggregated       4      5      6      6      6   2100   2100   2100   2100
  2100   2100     19

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2>
```

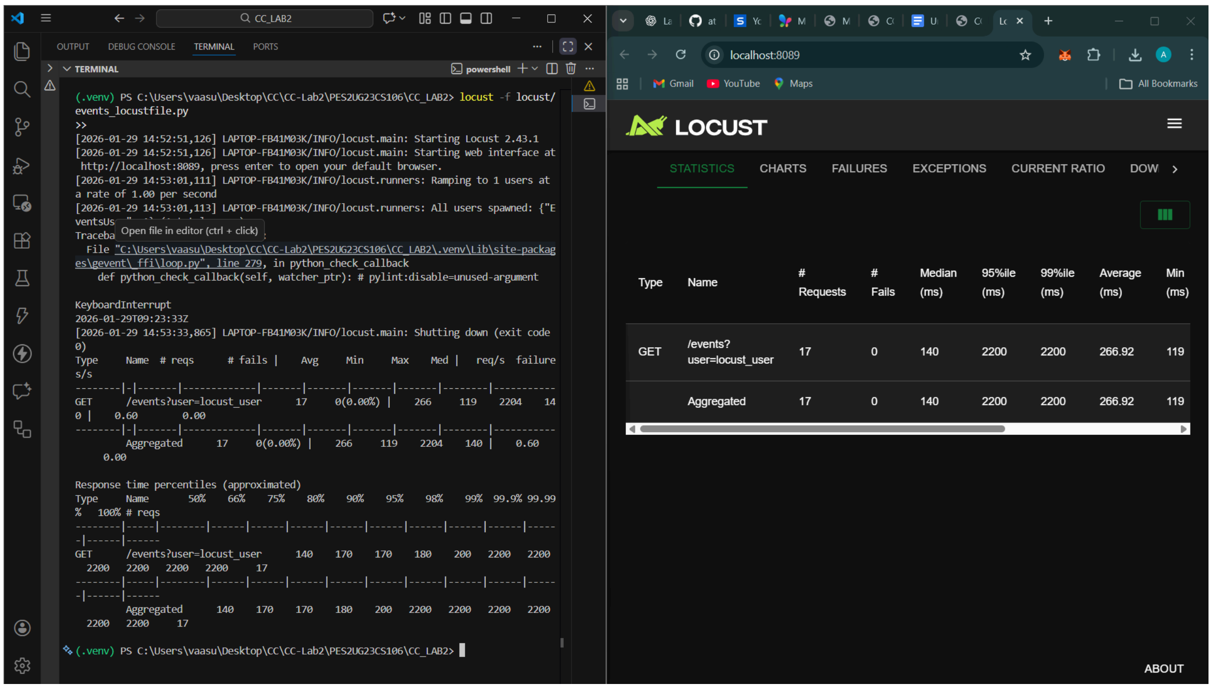
localhost:8089

LOCUST

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOW

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	M (
GET	/checkout	19	0	4	2100	2100	112.84	3	2
	Aggregated	19	0	4	2100	2100	112.84	3	2

Screenshot 6



```
(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2> locust -f locust/
events_locustfile.py
>>
[2026-01-29 14:52:51,126] LAPTOP-FB41M03K/INFO/locust.main: Starting Locust 2.43.1
[2026-01-29 14:52:51,126] LAPTOP-FB41M03K/INFO/locust.main: Starting web interface at
 http://localhost:8089, press enter to open your default browser.
[2026-01-29 14:53:01,111] LAPTOP-FB41M03K/INFO/locust.runners: Ramping to 1 users at
a rate of 1.00 per second
[2026-01-29 14:53:01,113] LAPTOP-FB41M03K/INFO/locust.runners: All users spawned: {"E
ventsUs
Traceba
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:23:33Z
[2026-01-29 14:53:33,865] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (exit code
0)
Type     Name  # reqs      # fails |    Avg     Min     Max    Med |   req/s  failure
s/s
--------|-|-------|------------|-------|-------|-------|-------|--------|----------
GET      /events?user=locust_user      17     0(0.00%) |    266     119    2204    14
0 |    0.60       0.00
--------|-|-------|------------|-------|-------|-------|-------|--------|----------
         Aggregated      17     0(0.00%) |    266     119    2204    140 |    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      /events?user=locust_user      140    170    170    180    200   2200   2200
  2200   2200   2200   2200     17
--------|-----|-------|------|------|------|------|------|------|------|------|----
-|------|------
         Aggregated      140    170    170    180    200   2200   2200   2200   2200
  2200   2200     17

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2>
```

localhost:8089

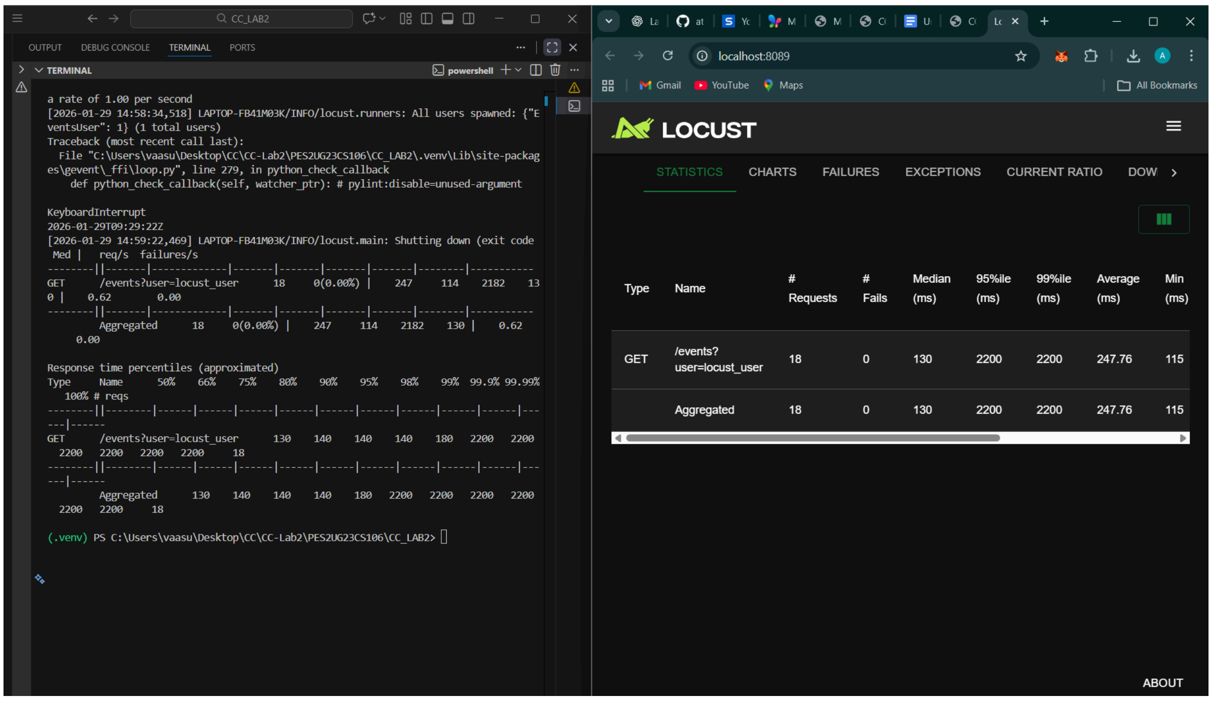
LOCUST

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOW

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)
GET	/events?user=locust_user	17	0	140	2200	2200	266.92	119
	Aggregated	17	0	140	2200	2200	266.92	119

ABOUT

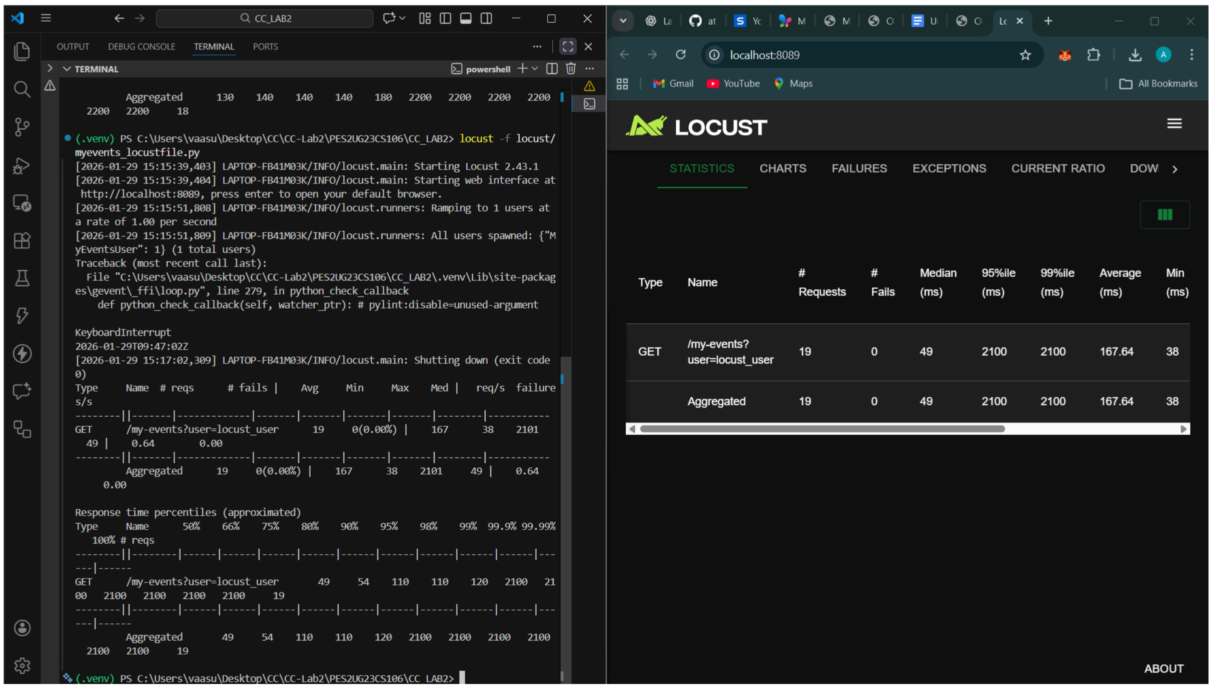
Screenshot-7



```
a rate of 1.00 per second
[2026-01-29 14:58:34,518] LAPTOP-FB41M03K/INFO/locust.runners: All users spawned: {"E
ventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:29:22Z
[2026-01-29 14:59:22,469] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (exit code
 Med |   req/s  failures/s
--------||-------|------------|-------|-------|-------|-------|--------|----------
GET      /events?user=locust_user      18     0(0.00%) |    247     114    2182    13
0 |    0.62        0.00
--------||-------|------------|-------|-------|-------|-------|--------|----------
         Aggregated      18     0(0.00%) |    247     114    2182    130 |    0.62
     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      130    140    140    140    180   2200   2200
  2200   2200   2200   2200     18
--------||--------|------|------|------|------|------|------|------|------|------|---
---|------
         Aggregated      130    140    140    140    180   2200   2200   2200   2200
  2200   2200     18

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2> 
```

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)
GET	/events?user=locust_user	18	0	130	2200	2200	247.76	115
	Aggregated	18	0	130	2200	2200	247.76	115

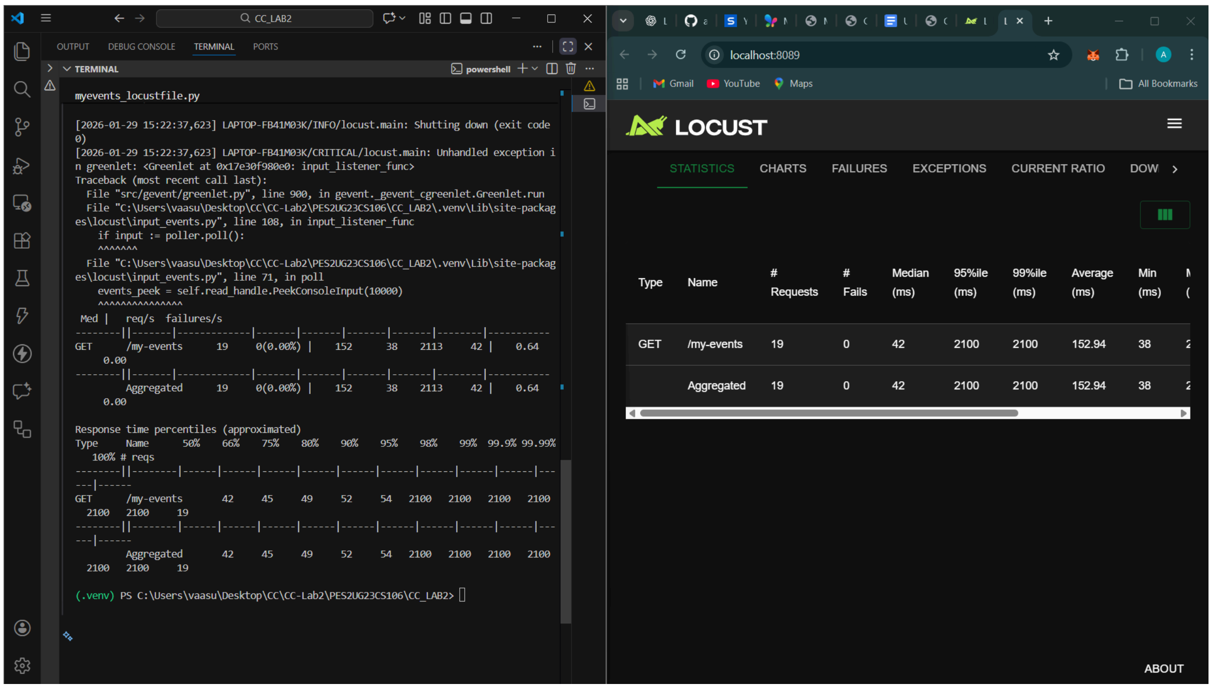
Screenshot-8



```
         Aggregated      130    140    140    140    180   2200   2200   2200   2200
  2200   2200     18

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2> locust -f locust/
myevents_locustfile.py
[2026-01-29 15:15:39,403] LAPTOP-FB41M03K/INFO/locust.main: Starting Locust 2.43.1
[2026-01-29 15:15:39,404] LAPTOP-FB41M03K/INFO/locust.main: Starting web interface at
 http://localhost:8089, press enter to open your default browser.
[2026-01-29 15:15:51,808] LAPTOP-FB41M03K/INFO/locust.runners: Ramping to 1 users at
a rate of 1.00 per second
[2026-01-29 15:15:51,809] LAPTOP-FB41M03K/INFO/locust.runners: All users spawned: {"M
yEventsUser": 1} (1 total users)
Traceback (most recent call last):
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\gevent\_ffi\loop.py", line 279, in python_check_callback
    def python_check_callback(self, watcher_ptr): # pylint:disable=unused-argument

KeyboardInterrupt
2026-01-29T09:47:02Z
[2026-01-29 15:17:02,309] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (exit code
0)
Type     Name  # reqs      # fails |    Avg     Min     Max    Med |   req/s  failure
s/s
--------||-------|------------|-------|-------|-------|-------|--------|----------
GET      /my-events?user=locust_user      19     0(0.00%) |    167      38    2101
  49 |    0.64        0.00
--------||-------|------------|-------|-------|-------|-------|--------|----------
         Aggregated      19     0(0.00%) |    167      38    2101     49 |    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      /my-events?user=locust_user       49     54    110    110    120   2100   21
00   2100   2100   2100   2100     19
--------||--------|------|------|------|------|------|------|------|------|------|---
---|------
         Aggregated       49     54    110    110    120   2100   2100   2100   2100
  2100   2100     19

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC LAB2> 
```

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)
GET	/my-events?user=locust_user	19	0	49	2100	2100	167.64	38
	Aggregated	19	0	49	2100	2100	167.64	38

Screenshot-9



```
myevents_locustfile.py

[2026-01-29 15:22:37,623] LAPTOP-FB41M03K/INFO/locust.main: Shutting down (exit code
0)
[2026-01-29 15:22:37,623] LAPTOP-FB41M03K/CRITICAL/locust.main: Unhandled exception i
n greenlet: <Greenlet at 0x17e30f980e0: input_listener_func>
Traceback (most recent call last):
  File "src/gevent/greenlet.py", line 900, in gevent._gevent_cgreenlet.Greenlet.run
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\locust\input_events.py", line 108, in input_listener_func
    if input := poller.poll():
    ^^^^^^^
  File "C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2\.venv\Lib\site-packag
es\locust\input_events.py", line 71, in poll
    events_peek = self.read_handle.PeekConsoleInput(10000)
    ^^^^^^^^^^^^^^^
 Med |   req/s  failures/s
--------||-------|------------|-------|-------|-------|-------|--------|----------
GET      /my-events      19     0(0.00%) |    152      38    2113      42 |    0.64
     0.00
--------||-------|------------|-------|-------|-------|-------|--------|----------
         Aggregated      19     0(0.00%) |    152      38    2113      42 |    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      /my-events      42     45     49     52     54   2100   2100   2100   2100
  2100   2100     19
--------||-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---
---|------
         Aggregated      42     45     49     52     54   2100   2100   2100   2100
  2100   2100     19

(.venv) PS C:\Users\vaasu\Desktop\CC\CC-Lab2\PES2UG23CS106\CC_LAB2>
```

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)
GET	/my-events	19	0	42	2100	2100	152.94	38
	Aggregated	19	0	42	2100	2100	152.94	38

Changes made across doc:

1. Route: /my-events

Bottleneck:
The route lacked explicit response validation, which could hide failed requests and lead to misleading performance results under concurrent users.
Change Made:
Response handling was optimized using catch_response=True and logical request naming to properly track failures and performance metrics.
Why Performance Improved:
Clear identification of failed requests and organized metrics allowed better evaluation of system behavior, resulting in more effective and accurate performance testing.

2.Route: /events
Bottleneck:
Failures were not being explicitly detected, causing inaccurate success statistics and making it difficult to analyze response behavior under load.
Change Made:
The request was updated to use catch_response=True and response status validation, with request grouping enabled for clearer metrics.
Why Performance Improved:

Accurate failure detection and grouped statistics improved visibility into response times and errors, making performance analysis more reliable during load testing.