CC LAB - 2

SRN: PES1UG23AM219
NAME: PRIYANKA S
SECTION: D

SS1:events

SS2:monolith failure

SS3:after correcting checkout

CC **Fest Monolith**
FastAPI • SQLite • Locust

Login   Create Account

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

Total Payable

₹ 9500

✅ 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

```
INFO:     127.0.0.1:57447 - "GET /checkout HTTP/1.1" 200 OK
```

SS4:before optimizing checkout

LOCUST

Host	Status	Users	RPS	Failures			
http://localhost:8000	RUNNING	1	0.6	0%	EDIT	STOP	RESET

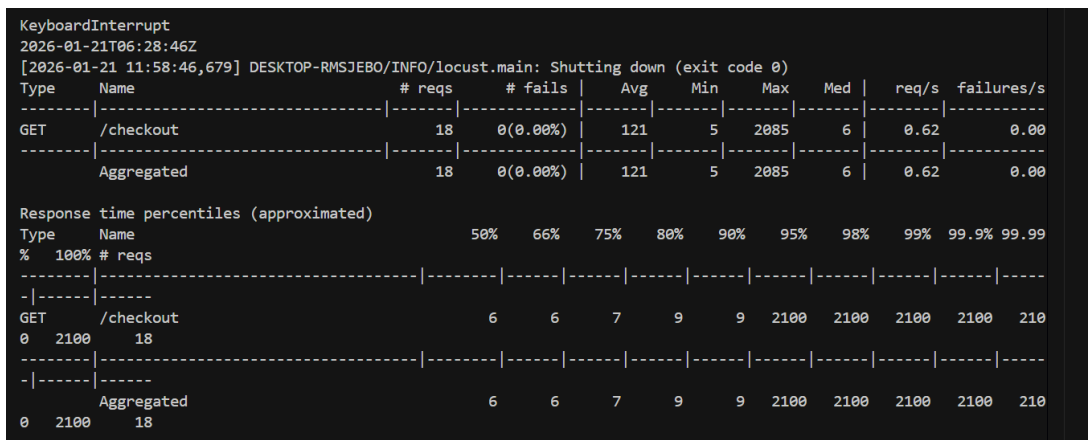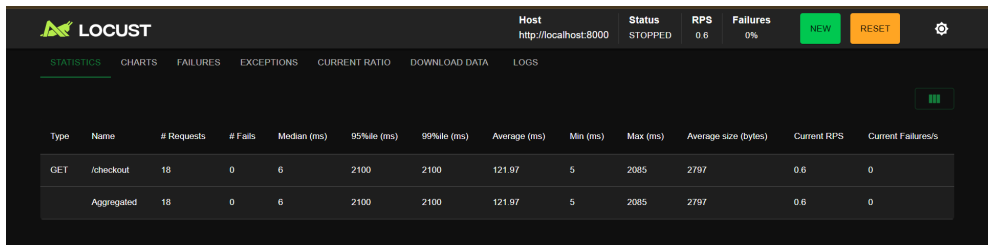STATISTICS   CHARTS   FAILURES   EXCEPTIONS   CURRENT RATIO   DOWNLOAD DATA   LOGS

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	/checkout	17	0	9	2000	2000	128.57	5	2040	2797	0.6	0
	Aggregated	17	0	9	2000	2000	128.57	5	2040	2797	0.6	0

```
Traceback (most recent call last):
  File "C:\Users\priyanka\OneDrive\Desktop\uni\sem_6\CC\Lab\21-01-2026\PES1UG23AM219\.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
2026-01-21T06:24:02Z
[2026-01-21 11:54:02,947] DESKTOP-RMSJEBO/INFO/locust.main: Shutting down (exit code 0)
Type    Name # reqs      # fails |    Avg     Min     Max    Med |   req/s  failures/s
--------||-------|-------------|-------|-------|-------|-------|--------|-----------
GET     /checkout     19    0(0.00%) |    116       4    2039       9 |    0.64        0.00
--------||-------|-------------|-------|-------|-------|-------|--------|-----------
        Aggregated    19    0(0.00%) |    116       4    2039       9 |    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     9     10     11     12     17   2000   2000   2000   2000   2000   2000     19
--------||--------|------|------|------|------|------|------|------|------|------|------|------
        Aggregated    9     10     11     12     17   2000   2000   2000   2000   2000   2000     19
```

SS5:after optimizing checkout
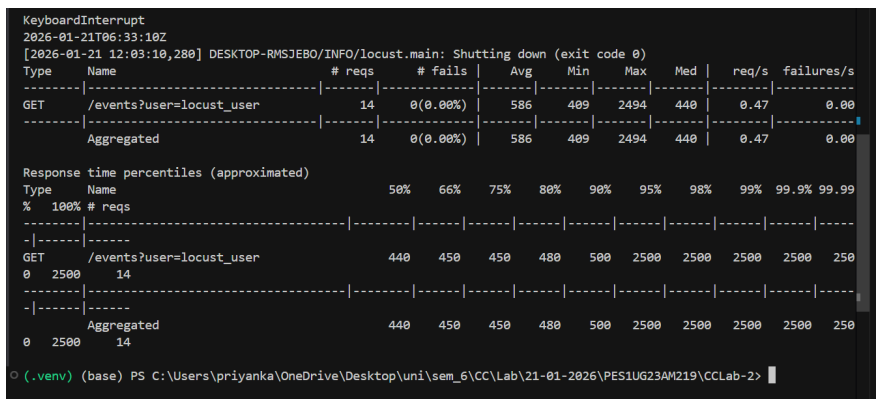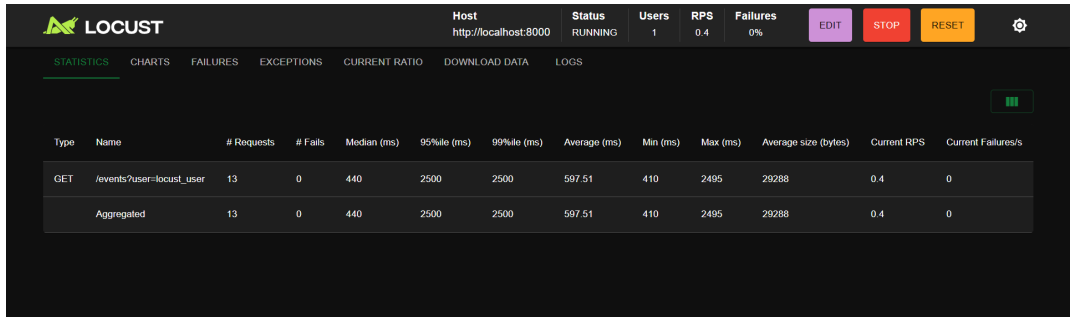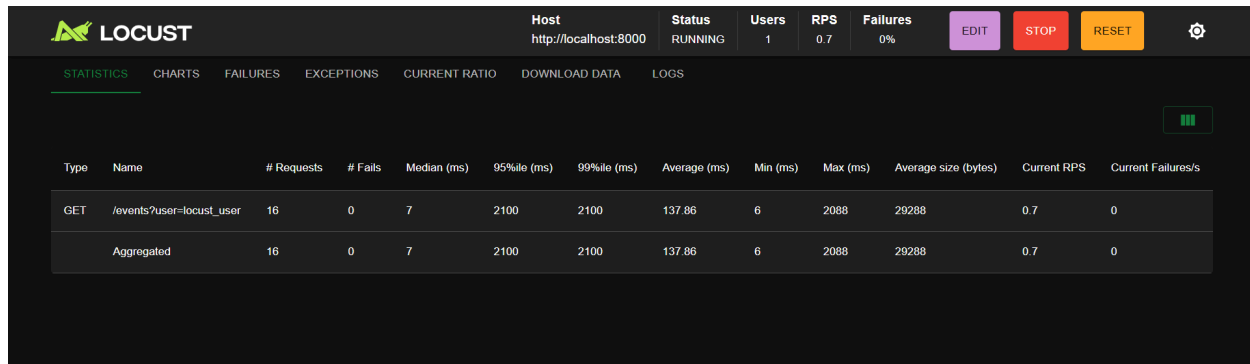


```
KeyboardInterrupt
2026-01-21T06:28:46Z
[2026-01-21 11:58:46,679] DESKTOP-RMSJEBO/INFO/locust.main: Shutting down (exit code 0)
Type     Name                                    # reqs     # fails  |   Avg    Min    Max    Med  |   req/s  failures/s
--------|----------------------------------------|--------|--------------|-------|-------|-------|-------|--------|-----------
GET      /checkout                                   18     0(0.00%) |   121      5   2085      6 |   0.62        0.00
--------|----------------------------------------|--------|--------------|-------|-------|-------|-------|--------|-----------
         Aggregated                                  18     0(0.00%) |   121      5   2085      6 |   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      /checkout                                          6      6      7      9      9   2100   2100   2100   2100  210
0    2100     18
--------|----------------------------------------|--------|------|------|------|------|------|------|------|------|-----
- |------|------
         Aggregated                                         6      6      7      9      9   2100   2100   2100   2100  210
0    2100     18
```

SS6: Before optimizing events


```
KeyboardInterrupt
2026-01-21T06:33:10Z
[2026-01-21 12:03:10,280] DESKTOP-RMSJEBO/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%) |   586    409   2494    440 |   0.47        0.00
--------|----------------------------------------|--------|--------------|-------|-------|-------|-------|--------|-----------
         Aggregated                                  14     0(0.00%) |   586    409   2494    440 |   0.47        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                         440    450    450    480    500   2500   2500   2500   2500  250
0    2500     14
--------|----------------------------------------|--------|------|------|------|------|------|------|------|------|-----
- |------|------
         Aggregated                                        440    450    450    480    500   2500   2500   2500   2500  250
0    2500     14

(.venv) (base) PS C:\Users\priyanka\OneDrive\Desktop\uni\sem_6\CC\Lab\21-01-2026\PES1UG23AM219\CCLab-2>
```

SS7: After optimizing events

/events:

Bottleneck:
 A CPU-intensive loop was executed on every request, unnecessarily increasing response time.

Change Made:
 Removed the redundant computation from the request handling code.

Why Performance Improved:
 Eliminating the blocking operation reduced CPU usage, allowing faster responses and higher throughput.

SS8: Before optimizing myevents


```
KeyboardInterrupt
2026-01-21T06:41:09Z
[2026-01-21 12:11:09,653] DESKTOP-RMSJEBO/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              17      0(0.00%) |    303     165    2226    180  |   0.59        0.00
--------|----------------------------------------|-------|-------------|-------|-------|-------|-------|--------|-----------
            Aggregated                               17      0(0.00%) |    303     165    2226    180  |   0.59        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                       180     180     190     200     210    2200    2200    2200    2200    220
0    2200     17
--------|----------------------------------------|--------|------|------|------|------|------|------|------|------|------|-----
-|------|------
            Aggregated                                        180     180     190     200     210    2200    2200    2200    2200    220
0    2200     17
```

SS9: After optimizing myevents


```
KeyboardInterrupt
2026-01-21T06:43:31Z
[2026-01-21 12:13:31,585] DESKTOP-RMSJEBO/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              21      0(0.00%) |    105       3    2080      6  |   0.72        0.00
--------|----------------------------------------|-------|-------------|-------|-------|-------|-------|--------|-----------
            Aggregated                               21      0(0.00%) |    105       3    2080      6  |   0.72        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                         6       7       9       9      10      12    2100    2100    2100    210
0    2100     21
--------|----------------------------------------|--------|------|------|------|------|------|------|------|------|------|-----
-|------|------
            Aggregated                                          6       7       9       9      10      12    2100    2100    2100    210
0    2100     21
```

\myevents:

Bottleneck:
An unnecessary loop caused the server to spend extra time processing each request.

Change Made:
Removed the redundant loop from the route implementation.

Why Performance Improved:
Requests completed faster with reduced processing overhead, improving concurrency and response time.