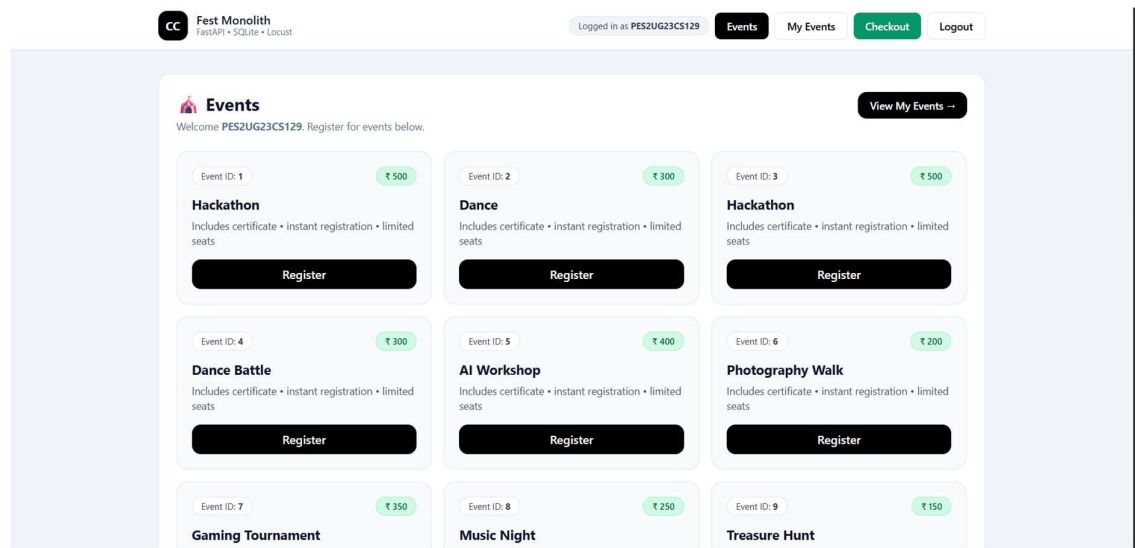


Cc lab 2

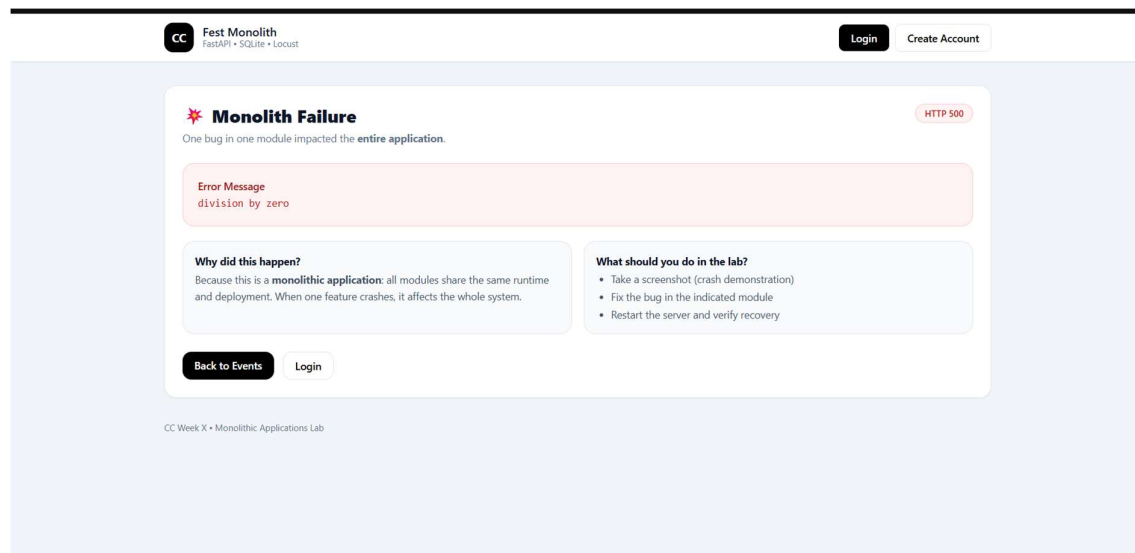
Name – bhuvan hebbar

Srn – pes2ug23cs129

SS1




SS2




```
INFO: Started server process [2444]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:58039 - "GET /checkout HTTP/1.1" 500 Internal Server Error
ERROR: Exception in ASGI application
Traceback (most recent call last):
```

SS3

 **Fest Monolith**
FastAPI • SQLite • Locust

LoginCreate Account



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

```
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:49693 - "GET /checkout HTTP/1.1" 200 OK
█
```

SS4

Visual Studio Code editor showing a Python script for Locust and the Locust web interface.

Python Script (checkout_locustfile.py):

```
1 from locust import HttpUser, task, between
2
3 class CheckoutUser(HttpUser):
4     wait_time = between(1, 2)
5
6     @task
7     def checkout(self):
8         self.client.get("/checkout")
9
```

Terminal Output:

```
ing web interface at http://localhost:8089, press enter to open y
our default browser.
GET /checkout 5
2100 17
-----|-----|-----|-----|-----|-----|-----|-----|
2100 17
-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated 5
2100 17
-----|-----|-----|-----|-----|-----|-----|-----|
```

Locust Web Interface (localhost:8089):

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOW

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)
GET	/checkout	17	0	5	2100	2100	127.25	4	2100
Aggregated		17	0	5	2100	2100	127.25	4	2100

Visual Studio Code editor showing the Locust script and the Locust web interface with additional terminal output.

Python Script (checkout_locustfile.py):

```
1 from locust import HttpUser, task, between
2
3 class CheckoutUser(HttpUser):
4     wait_time = between(1, 2)
5
6     @task
7     def checkout(self):
8         self.client.get("/checkout")
9
```

Terminal Output:

```
tions.
(.venv) PS C:\Users\bhuva\Downloads\PES2UG23CS129> locust -f "cc
Lab-2\locust\checkout_locustfile.py"
[2026-01-29 14:37:13,738] LAPTOP-8L1824AV/INFO/locust.main: Start
ing Locust 2.43.1
[2026-01-29 14:37:13,738] LAPTOP-8L1824AV/INFO/locust.main: Start
ing web interface at http://localhost:8089, press enter to open y
our default browser.
[2026-01-29 14:39:53,599] LAPTOP-8L1824AV/INFO/locust.runners: Ra
mping to 1 users at a rate of 1.00 per second
[2026-01-29 14:39:53,599] LAPTOP-8L1824AV/INFO/locust.runners: Al
l 1 users spawned: {"CheckoutUser": 1} (1 total users)
```

Locust Web Interface (localhost:8089):

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOW

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)
GET	/checkout	17	0	5	2100	2100	127.25	4	2100
Aggregated		17	0	5	2100	2100	127.25	4	2100

SS5

▼ PES2UG23CS129

> .venv

▼ CC Lab-2

▼ _pycache_

▼ checkout

▼ _pycache_

▼ _init_.py

▼ locust

> _pycache_

> locust

▼ checkout_locustfile...

▼ events_locustfile.py

▼ myevents_locustfile...

> templates

▼ database.py

▼ fest.db

▼ insert_events.py

▼ main.py

▼ requirements.txt

CC Lab-2 > checkout > .init_.py > ...

1 from database import get_db

2

3 def checkout_logic():

4 db = get_db()

5 db.row_factory = None

6

7 events = db.execute("SELECT fee FROM events").fetchall()

8 # Uncomment this line initially for the crash scenario

9 #1 / 0

10

11 total = 0

12 for e in events:

13 total += e[0]

14

15 return total

16

17

PROBLEMS OUTPUT TERMINAL

Aggregated

4 5 18

0 2100 2100 18

(.venv) PS C:\Users\bhuva\Downloads\PES2UG23CS129>

OUTLINE

TIMELINE

Connect

Spaces: 4 UTF-8 Python .venv (3.12.6) Go Live Prettier

LOCUST

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOW

GET /checkout 18 0 4 2100 2100 120.57 4

Aggregated 18 0 4 2100 2100 120.57 4

SS6

LOCUST

Host http://localhost:8000

Status CLEANUP

RPS 0.5

Failures 0%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

GET /events?user=locust_user 15 0 270 2300 2300 416.12 262 2334 21138 0.5 0


Aggregated 15 0 270 2300 2300 416.12 262 2334 21138 0.5 0

```
KeyboardInterrupt
2026-01-29T09:29:59Z
[2026-01-29 14:59:59,311] LAPTOP-8L1824AV/INFO/locust.main: Shutting down (exit code 0)
Type      Name                                     # reqs   # fails | Avg   Min   Max   Me
-----|-----|-----|-----|-----|-----|-----|-----
GET      /events?user=locust_user                    11      0(0.00%) | 454   257  2321  27
0 |      0.50      0.00
-----|-----|-----|-----|-----|-----|-----|-----
Aggregated                                     11      0(0.00%) | 454   257  2321  27
0 |      0.50      0.00

Response time percentiles (approximated)
Type      Name                                     50%   66%   75%   80%   90%   95%
-----|-----|-----|-----|-----|-----|-----|-----
GET      /events?user=locust_user                    270   270   280   280   280   2300  2
300  2300  2300  2300  2300  11
-----|-----|-----|-----|-----|-----|-----|-----
Aggregated                                     270   270   280   280   280   2300  2
300  2300  2300  2300  2300  11

(.venv) PS C:\Users\bhuva\Downloads\PES2UG23CS129> locust -f "CC Lab-2\locust\events_locustfile.py"
```

SS7

 **LOCUST**

Host
http://localhost:8000

Status
CLEANUP


RPS
0.5

Failures
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	/events	16	0	270	2300	2300	400.83	261	2312	21138	0.5	0
	Aggregated	16	0	270	2300	2300	400.83	261	2312	21138	0.5	0

ABOUT

```
KeyboardInterrupt
2026-01-29T09:31:28Z
[2026-01-29 15:01:28,748] LAPTOP-8L1824AV/INFO/locust.main: Shutting down (exit code 0)
Type      Name                                     # reqs      # fails | Avg      Min      Max      Med | req/s  failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET      /events                                     16          0(0.00%) | 400      260     2312     270 | 0.54    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated                                     16          0(0.00%) | 400      260     2312     270 | 0.54    0.00

Response time percentiles (approximated)
Type      Name                                     50%      66%      75%      80%      90%      95%      98%      99%      99.9%  99.99
% 100% # reqs
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET      /events                                     270      280      280      280      290     2300     2300     2300     2300     2300
0 2300 16
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated                                     270      280      280      280      290     2300     2300     2300     2300     2300
0 2300 16
```

SS8

 LOCUST

Host
http://localhost:8000


Status
STOPPED

RPS
0.6

Failures
0%

NEW

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	/my-events?user=locust_user	18	0	97	2100	2100	213.06	93	2132	3144	0.6	0
	Aggregated	18	0	97	2100	2100	213.06	93	2132	3144	0.6	0


ABOUT

```
Type      Name      # reqs  # fails | Avg  Min  Max  Med | req/s  failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET      /my-events  17      0(0.00%) | 226  92  2182  97 | 0.56    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated  17      0(0.00%) | 226  92  2182  97 | 0.56    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  97    98   100   100   190  2200  2200  2200  2200  2200
0 2200    17
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated  97    98   100   100   190  2200  2200  2200  2200  2200
0 2200    17

(.venv) PS C:\Users\bhuva\Downloads\PES2UG23CS129> locust -f "CC Lab-2\locust\myevents_locustfile.py"
```

SS9

 **LOCUST**

Host
http://localhost:8000

Status
CLEANUP


RPS
0.7

Failures
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	/my-events	18	0	110	2200	2200	225.71	104	2151	3144	0.7	0
	Aggregated	18	0	110	2200	2200	225.71	104	2151	3144	0.7	0

ABOUT

```
Type      Name      # reqs  # fails | Avg  Min  Max  Med | req/s  failures/s
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
GET      /my-events?user=locust_user  18      0(0.00%) | 213  93  2132  97 | 0.63    0.00
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated  18      0(0.00%) | 213  93  2132  97 | 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      /my-events?user=locust_user  97    99   110   110   110  2100  2100  2100  2100  2100
0 2100    18
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
Aggregated  97    99   110   110   110  2100  2100  2100  2100  2100
0 2100    18

(.venv) PS C:\Users\bhuva\Downloads\PES2UG23CS129> locust -f "CC Lab-2\locust\myevents_locustfile.py"
```

Route: /events

Bottleneck:

Failures were not properly captured, which resulted in misleading success metrics and made it harder to understand how the system behaved under load.

Change Made:

Enabled `catch_response=True` and added status code checks to explicitly mark failed requests. Also grouped requests to organize the metrics better.

Why Performance Improved:

By correctly identifying failures and grouping requests, the test results became more accurate and easier to interpret, allowing better analysis of response times and system behavior.

Route: /my-events**Bottleneck:**

The route did not explicitly verify responses, which could allow failed requests to go unnoticed and produce inaccurate performance statistics when multiple users accessed the system simultaneously.

Change Made:

Enabled `catch_response=True` and added structured request naming to properly capture failures and organize performance data.

Why Performance Improved:

With clear failure detection and better-organized metrics, the system's behavior became easier to analyze, leading to more reliable and accurate performance evaluation.