

CC Lab

Lab 2 - Submission

Name: Gauthamdev R Holla


SRN: PES2UG23CS197

Branch: CSE

Sem: 6

Section: C

SS1:

 Fest Monolith
FastAPI • SQLite • Locust


Logged in as PES2UG23CS197

Events

My Events

Checkout

Logout

 **Events**

View My Events →

Welcome PES2UG23CS197. Register for events below.

Event ID: 1

₹ 500

Hackathon

Includes certificate • instant registration • limited seats

Register

Event ID: 2

₹ 300

Dance

Includes certificate • instant registration • limited seats

Register

Event ID: 3

₹ 500

Hackathon

Includes certificate • instant registration • limited seats

Register

Event ID: 4

₹ 300

Dance Battle

Includes certificate • instant registration • limited seats

Register

Event ID: 5

₹ 400

AI Workshop

Includes certificate • instant registration • limited seats

Register

Event ID: 6


₹ 200

Photography Walk

Includes certificate • instant registration • limited seats


Register

SS2:

 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

SS3:

cc

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).

SS4:

LOCUST

Host
http://localhost:8000

Status
STOPPED

RPS
0.6

Failures
0%

NEW

RESET

⚙️

STATISTICSCHARTSFAILURES EXCEPTIONSCURRENT 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	19	0	4	2000	2000	112.93	3	2041	2797	0.6	0
	Aggregated	19	0	4	2000	2000	112.93	3	2041	2797	0.6	0

KeyboardInterrupt

2026-01-20T09:13:29Z

[2026-01-20 14:43:29,154] DESKTOP-Q06NKKIK/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%)	112	3	2041	4	0.65	0.00
	Aggregated	19	0(0.00%)	112	3	2041	4	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	4	4	4	4	42	2000	2000	2000	2000	2000	2000	19
	Aggregated	4	4	4	4	42	2000	2000	2000	2000	2000	2000	19

SS5:

LOCUST

Host
http://localhost:8000

Status
CLEANUP

RPS
0.8

Failures
0%

EDIT

STOP

RESET

⚙️

STATISTICSCHARTSFAILURES EXCEPTIONSCURRENT 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	3.06	2000	2000	105.33	3	2044	2797	0.8	0
	Aggregated	20	0	3.06	2000	2000	105.33	3	2044	2797	0.8	0

```
KeyboardInterrupt
2026-01-20T09:25:45Z
[2026-01-20 14:55:45,483] DESKTOP-Q06NKKIK/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%)      105      3      2043      3      0.69      0.00
-----
Aggregated      20      0(0.00%)      105      3      2043      3      0.69      0.00

Response time percentiles (approximated)
Type      Name      50%      66%      75%      80%      90%      95%      98%      99%      99.9%      99.99%      100%      # reqs
-----
GET      /checkout      3      3      3      4      4      2000      2000      2000      2000      2000      2000      20
-----
Aggregated      3      3      3      4      4      2000      2000      2000      2000      2000      2000      20
-----
```

SS6:

 **LOCUST**

Host
http://localhost:8000

Status
CLEANUP


RPS
0.6

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?user=locust_user	17	0	170	2200	2200	289.05	165	2223	21138	0.6	0
	Aggregated	17	0	170	2200	2200	289.05	165	2223	21138	0.6	0

```
KeyboardInterrupt
2026-01-20T09:29:26Z
[2026-01-20 14:59:26,801] DESKTOP-Q06NKKIK/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      17      0(0.00%)      289      165      2222      170      0.60      0.00
-----
Aggregated      17      0(0.00%)      289      165      2222      170      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      170      170      170      170      170      2200      2200      2200      2200      2200      2200      17
-----
Aggregated      170      170      170      170      170      2200      2200      2200      2200      2200      2200      17
-----
```

SS7:

 **LOCUST**

Host
http://localhost:8000

Status
RUNNING

Users
1


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	/events?user=locust_user	10	0	3.1	2000	2000	206.04	3	2029	21138	0.7	0
	Aggregated	10	0	3.1	2000	2000	206.04	3	2029	21138	0.7	0

```
KeyboardInterrupt
2026-01-20T09:41:33Z
[2026-01-20 15:11:33,960] DESKTOP-Q06NKKIK/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                    11          0(0.00%)    187       3      2028       3         0.64         0.00
-----
Aggregated                                11          0(0.00%)    187       3      2028       3         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                    3         4         4         4         4      2000      2000      2000      2000      2000      2000      11
-----
Aggregated                                3         4         4         4         4      2000      2000      2000      2000      2000      2000      11
-----
```

SS8:

 **LOCUST**

Host
http://localhost:8000

Status
RUNNING

Users
1


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	/my-events?user=locust_user	6	0	62	2100	2100	402.08	61	2103	3144	0.5	0
	Aggregated	6	0	62	2100	2100	402.08	61	2103	3144	0.5	0

```
KeyboardInterrupt
2026-01-20T09:44:56Z
[2026-01-20 15:14:56,892] DESKTOP-Q06NKKIK/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                    7          0(0.00%)    353       61      2103       62         0.65         0.00
-----
Aggregated                                7          0(0.00%)    353       61      2103       62         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      /my-events?user=locust_user                    62        63        63        63      2100      2100      2100      2100      2100      2100      2100      7
-----
Aggregated                                62        63        63        63      2100      2100      2100      2100      2100      2100      2100      7
-----
```

SS9:

 **LOCUST**

Host
http://localhost:8000

Status
RUNNING

Users
1


RPS
0.6

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?user=locust_user	8	0	3	2000	2000	257.83	3	2040	3144	0.6	0
	Aggregated	8	0	3	2000	2000	257.83	3	2040	3144	0.6	0

```
KeyboardInterrupt
2026-01-20T09:46:45Z
[2026-01-20 15:16:45,254] DESKTOP-Q06NKKIK/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                    9          0(0.00%)    229       2      2039       3         0.58         0.00
-----
Aggregated                                9          0(0.00%)    229       2      2039       3         0.58         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                    3         3         3         4      2000      2000      2000      2000      2000      2000      2000      9
-----
Aggregated                                3         3         3         4      2000      2000      2000      2000      2000      2000      2000      9
-----
```

Questions:

1) *What was the bottleneck?*

Unnecessary loops that were wasting memory.

2) *What change did you make?*

Removed the unnecessary loops.

3) *Why did the performance improve?*

Loops that were wasting memory were removed.
