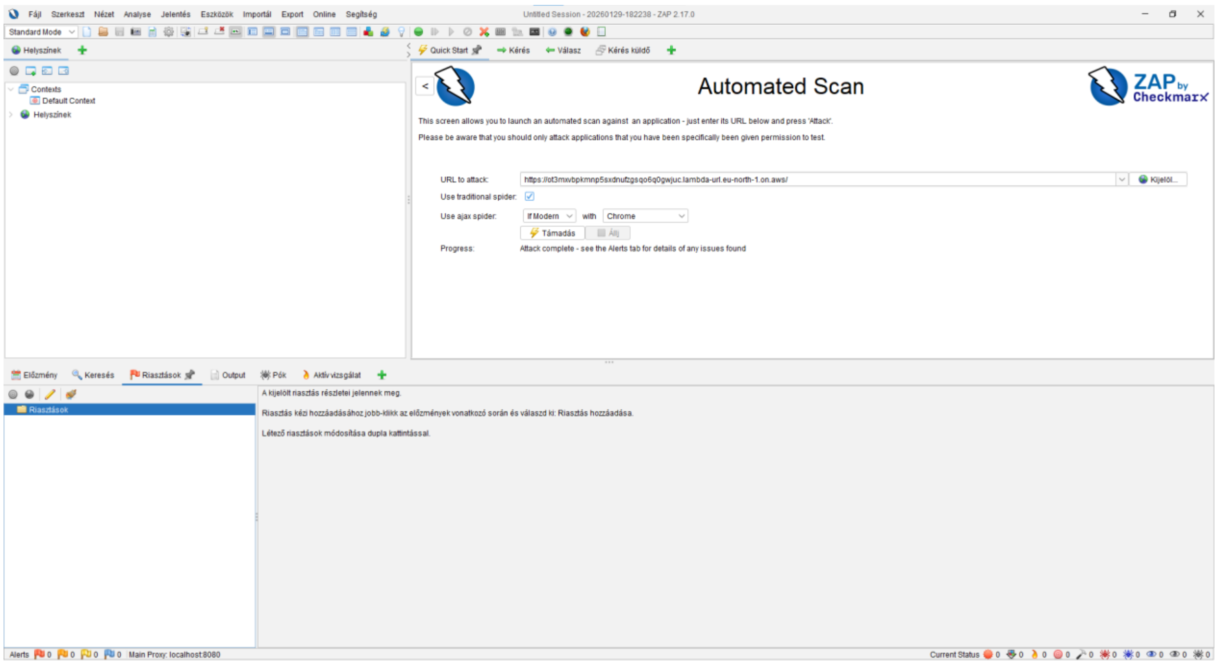


Untitled Session - 20260129-182238 - ZAP 2.17.0

Automated Scan

This screen allows you to launch an automated scan against an application - just enter its URL below and press 'Attack'.

Please be aware that you should only attack applications that you have been specifically been given permission to test.

URL to attack: https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-north-1.on.aws/ Kijelöl...

Use traditional spider: ✓

Use ajax spider: If Modern with Chrome

Támadás Állj

Progress: Attack complete - see the Alerts tab for details of any issues found

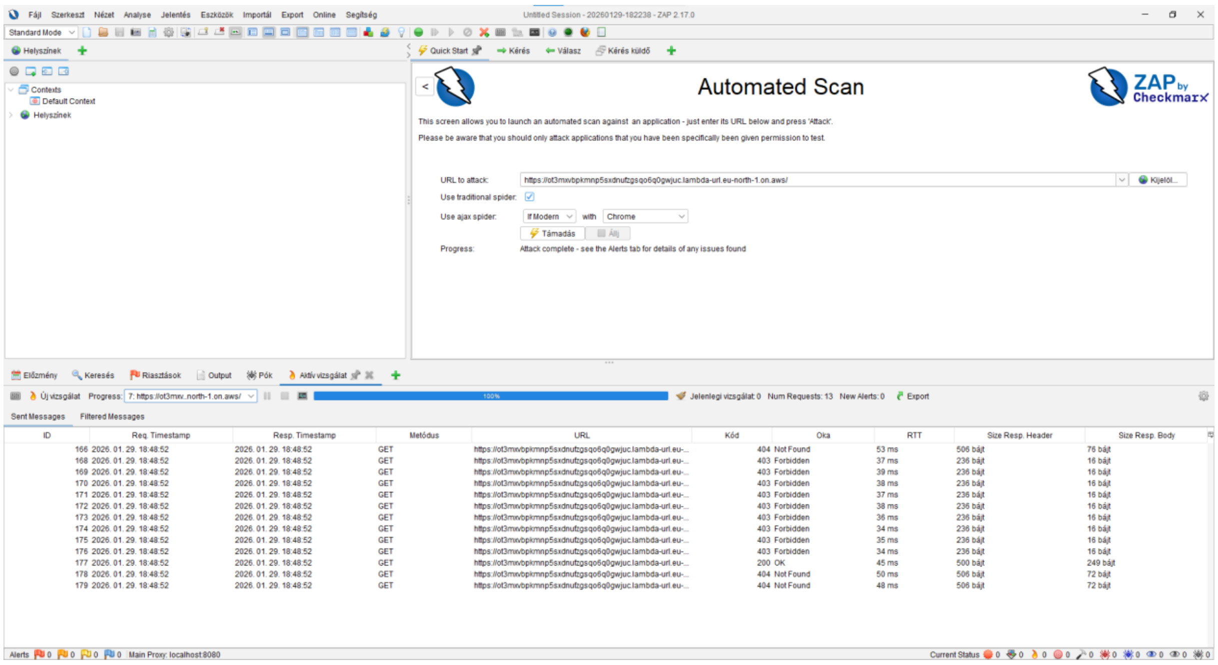
A kijelölt riasztás részletei jelennek meg.

Riasztás kézi hozzáadásához jobb-klikk az előzmények vonatkozó során és válaszd ki: Riasztás hozzáadása.

Létező riasztások módosítása dupla kattintással.

Alerts 0 0 0 0 Main Proxy: localhost:8080

Current Status 0 0 0 0 0 0 0 0 0 0



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Use ajax spider: If Modern with Chrome

Progress: Attack complete - see the Alerts tab for details of any issues found

Progress: 7: https://ot3mxv..north-1.on.aws/ 100% Jelenlegi vizsgálat: 0 Num Requests: 13 New Alerts: 0

ID	Req. Timestamp	Resp. Timestamp	Metódus	URL	Kód	Oka	RTT	Size Resp. Header	Size Resp. Body
166	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	404	Not Found	53 ms	506 bájt	76 bájt
168	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	37 ms	236 bájt	16 bájt
169	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	39 ms	236 bájt	16 bájt
170	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	38 ms	236 bájt	16 bájt
171	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	37 ms	236 bájt	16 bájt
172	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	38 ms	236 bájt	16 bájt
173	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	36 ms	236 bájt	16 bájt
174	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	34 ms	236 bájt	16 bájt
175	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	35 ms	236 bájt	16 bájt
176	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	403	Forbidden	34 ms	236 bájt	16 bájt
177	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	200	OK	45 ms	500 bájt	249 bájt
178	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	404	Not Found	50 ms	506 bájt	72 bájt
179	2026. 01. 29. 18:48:52	2026. 01. 29. 18:48:52	GET	https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambda-url.eu-...	404	Not Found	48 ms	506 bájt	72 bájt

Alerts 0 0 0 0 Main Proxy: localhost:8080

Current Status 0 0 0 0 0 0 0 0 0 0

and zero security vulnerability shows a ZAP

create a locustfile.py in the root:

touch locustfile.py

import json

from locust import HttpUser, task, between

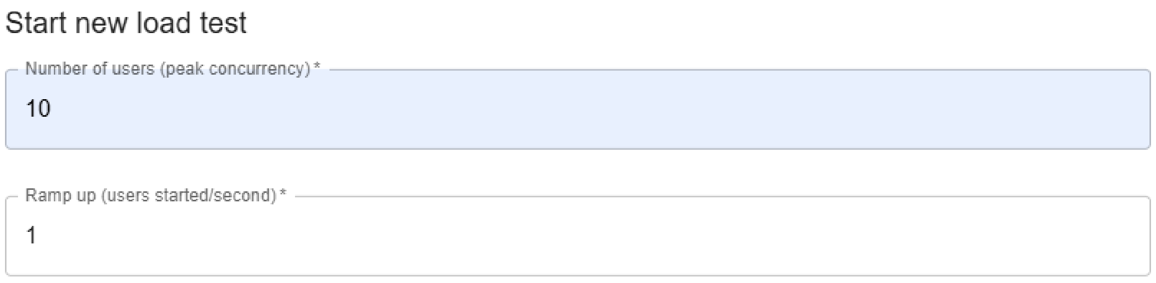
class AgnosticLambdaUser(HttpUser):

```
    # Avarage wait time between tasks
    wait_time = between(1, 2)
    # Base URL for the Lambda function endpoint
    @task
    def test_lambda_endpoint(self):
        payload = {
            "test_key": "locust_test_v2",
            "source": "performance_validation"
        }

        headers = {
            "Content-Type": "application/json"
        }

        # Root path test
        with self.client.post("/", data=json.dumps(payload), headers=headers,
catch_response=True) as response:
            if response.status_code == 200:
                res_data = response.json()
                if res_data.get("status") == "success":
                    response.success()
                else:
                    response.failure(f"Unexpected status logic: {res_data}")
            else:
                response.failure(f"HTTP Error: {response.status_code}")
    # Test for security headers on non-existent route
    @task(1)
    def test_security_route_protection(self):
        with self.client.get("/robots.txt", catch_response=True) as response:
            if response.status_code == 404:
                if "Strict-Transport-Security" in response.headers:
```

```
        response.success()
      else:
        response.failure("Security headers missing from 404 response")
    else:
      response.failure(f"Route protection failed: {response.status_code}")
```

```
git add locustfile.py
git commit -m "feat: add locustfile.py"
git push
```

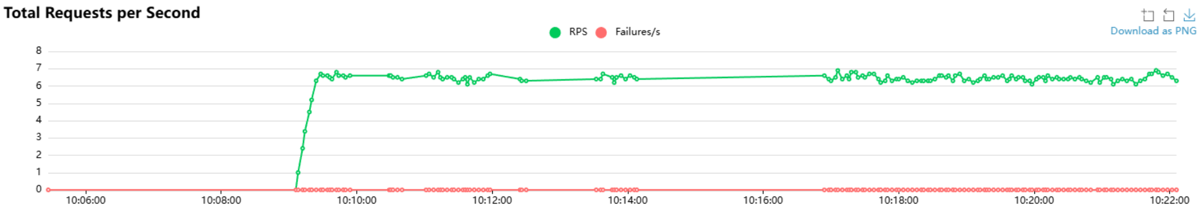
than terminal:
locust -f locustfile.py
open a browser: http://localhost:8089
and start test


Start new load test

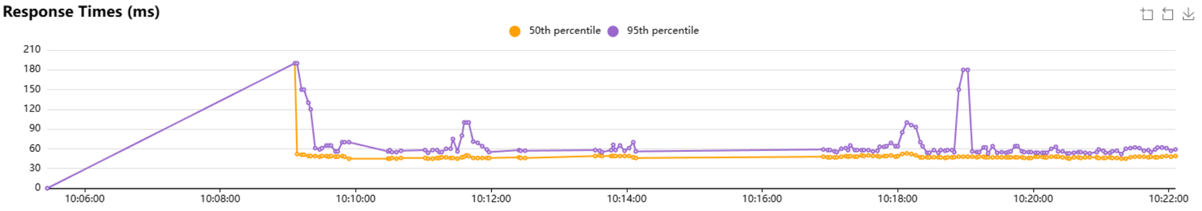
Number of users (peak concurrency) *
10

Ramp up (users started/second) *
1

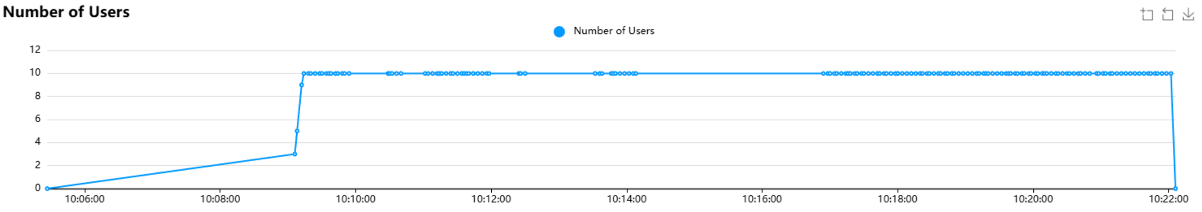
Total Requests per Second



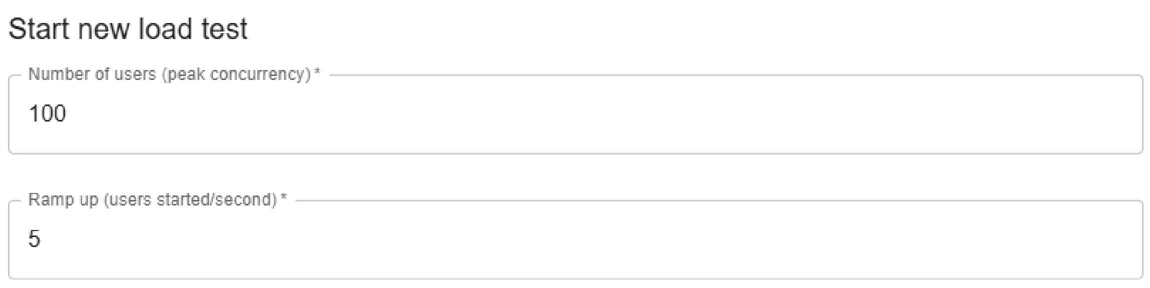
Response Times (ms)



Number of Users



ok than a new test:



Start new load test

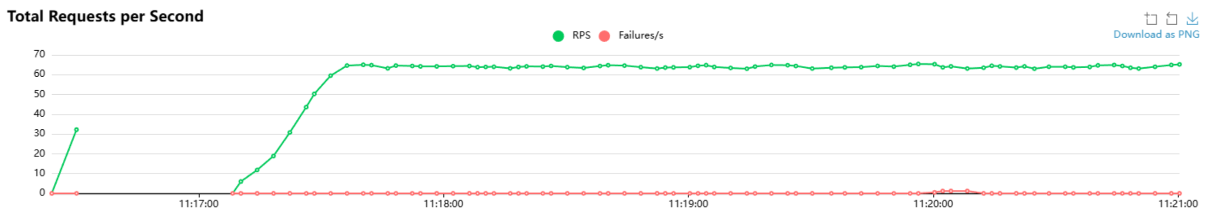
Number of users (peak concurrency) *

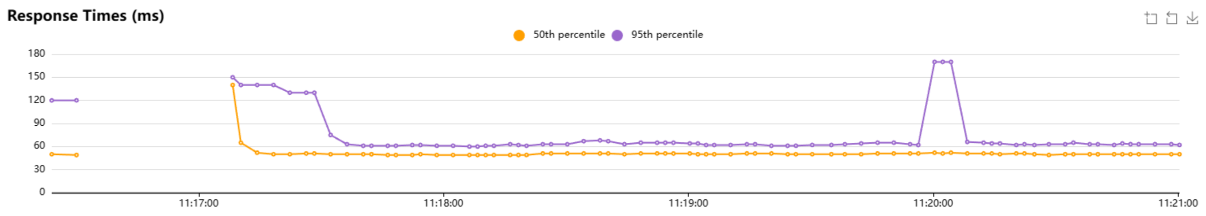
100

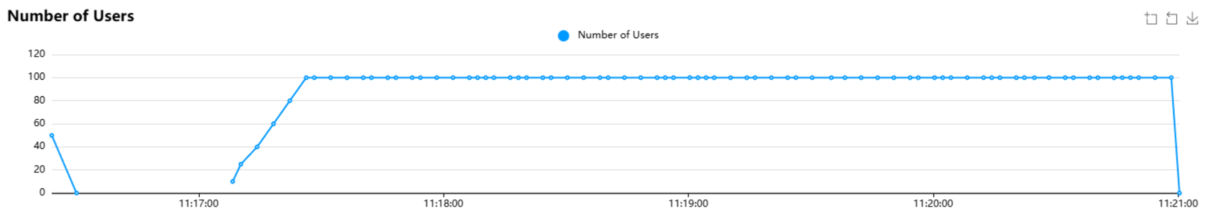
Ramp up (users started/second) *

5

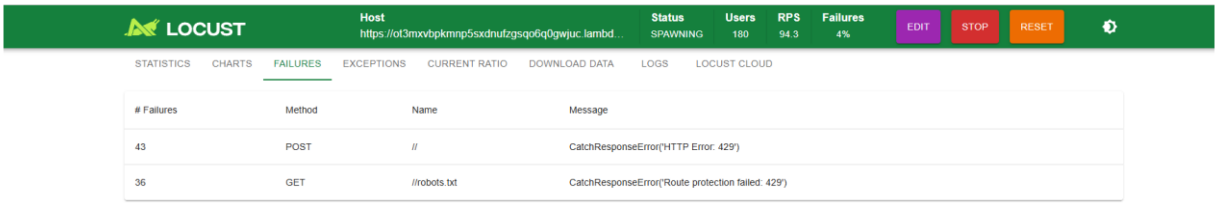
and







and one more new test: 200 users 5 ramp up and i identify between 150 and 180 my system starts failures

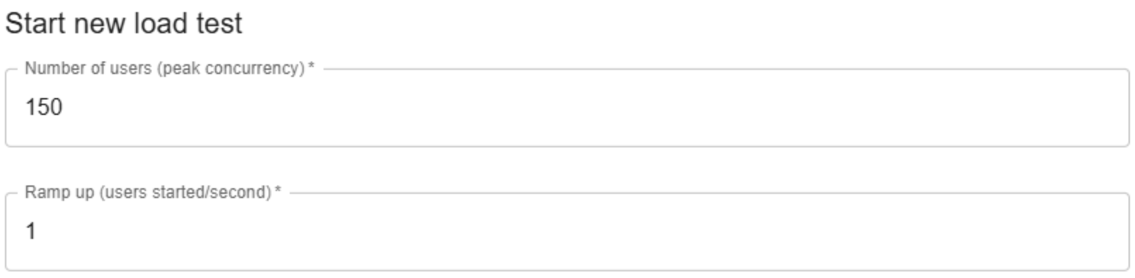


LOCUST

Host	Status	Users	RPS	Failures
https://ot3mxvbpkmnp5sxdnufzgsqo6q0gwjuc.lambd...	SPAWNING	180	94.3	4%

# Failures	Method	Name	Message
43	POST	//	CatchResponseError('HTTP Error: 429')
36	GET	//robots.txt	CatchResponseError('Route protection failed: 429')

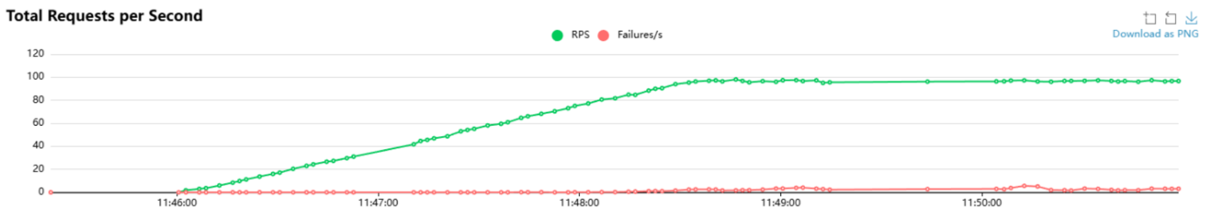
so check this 150 with slow ramp up:

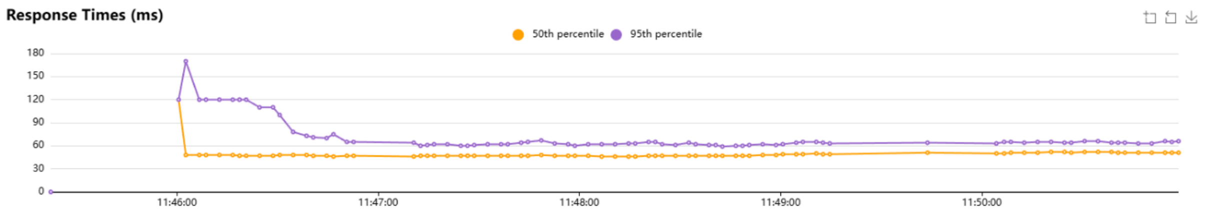


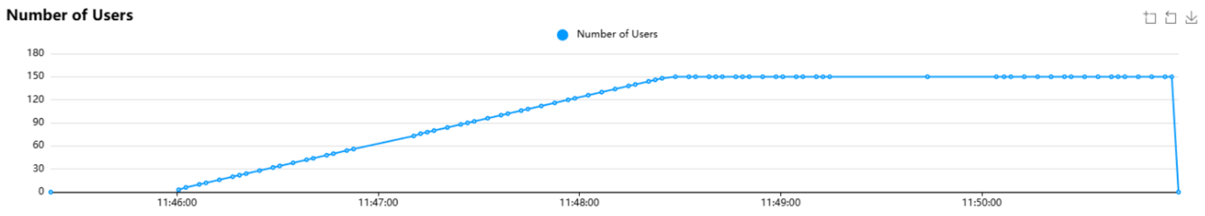
Start new load test

Number of users (peak concurrency) *
150

Ramp up (users started/second) *
1







ctrl+c to stop a locust and get terminal to get a nice html file to your test:

```
mkdir locust_reports
locust -f locustfile.py --headless -u 150 -r 1 --run-time 6m --host https://<YOUR_LAMBDA_URL>
--html locust_reports/v2_performance_report_150.html
```

---

time to level up: (the final test but it can cost you a money so beware!)

ctrl+c to stop a last locust test a terminal and:

```
locust -f locustfile.py --headless -u 1000 -r 10 --run-time 3m --host
https://<YOUR_LAMBDA_URL> --html locust_reports/v2_performance_report.html
```

Final conclusion & engineering summary

The transition from v1 (Elastic Beanstalk/django) to v2 (agnostic serverless Lambda) has been technically validated with the following results:

1. Architectural decoupling: The implementation of the hexagonal/agnostic core ensures that the business logic is independent of the cloud provider's entry points.
2. Performance leap: Median response times were reduced from ~120ms (v1) to 44ms (v2), representing a 2.5x speed increase in request processing.
3. Hardened security: The 0-alert OWASP ZAP status and the Locust-validated HSTS/Security headers ensure a production-ready security posture.
4. Defined limits: Load testing identified the current infrastructure ceiling at approx. 150 concurrent users under standard AWS regional quotas.

   Scalability Note: Testing threshold at 150 concurrent users limit is a default AWS Service Quota (Soft Limit-1000). The system scales horizontally; this threshold can be increased via an AWS Quota Request.

Status: Technical Validation Complete. The core logic and infrastructure performance are validated for production-level traffic.

At this Proof of Concept (PoC) level, implementing automated rollbacks and self-healing mechanisms would have introduced unnecessary configuration complexity. Consequently, measuring and optimizing professional DORA metrics—specifically automated MTTR—is intentionally deferred to the v3 (Infrastructure as Code) phase, where full operational automation will be established.