

# Stress Test Plan

How we prove the system serves 30,000 users at the same time, as required by clause 1.18.

|                 |         |                 |              |
|-----------------|---------|-----------------|--------------|
| DATE            | VERSION | TEST TOOL       | LOCATION     |
| 15 October 2026 | 1.0     | k6, self-hosted | AWS Malaysia |

## 01 What we must prove

|                                    |                                      |                                   |                                |
|------------------------------------|--------------------------------------|-----------------------------------|--------------------------------|
| 30,000                             | 200,000                              | 30 min                            | 99%+                           |
| users on the site at the same time | applications already in the database | holding full load without failure | success on every critical step |

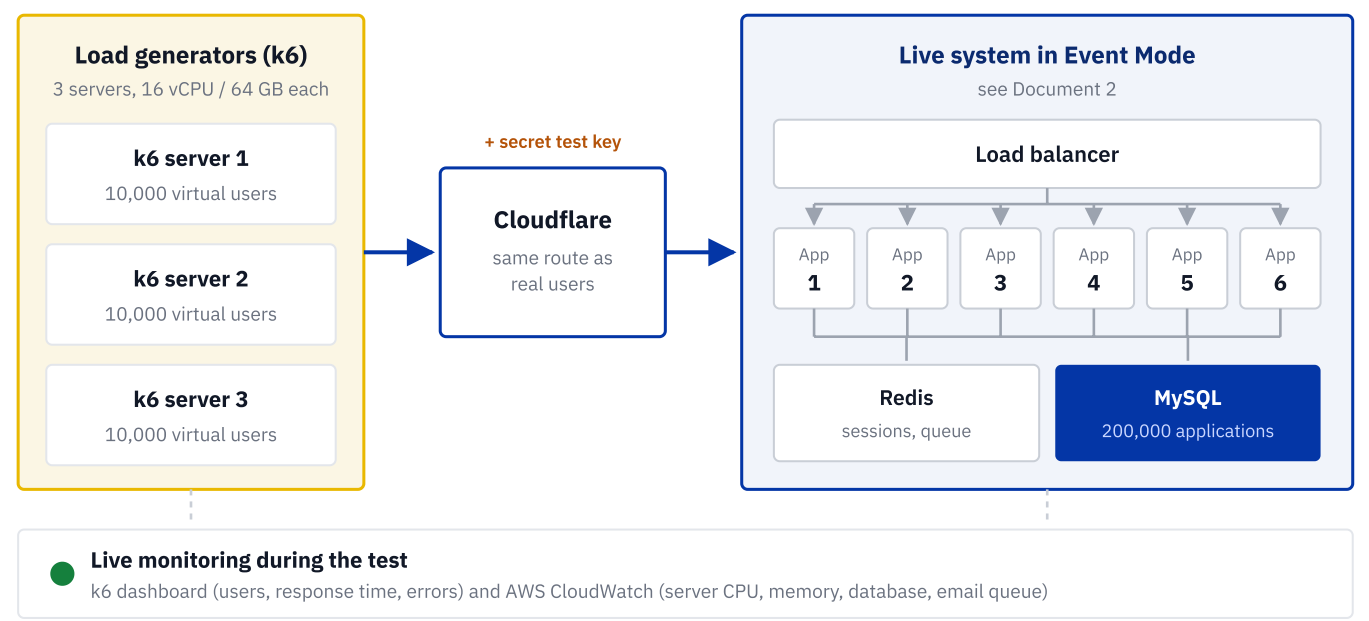
### PASS CRITERIA FOR EACH CRITICAL STEP

| CRITICAL STEP                        | MUST SUCCEED | RESPONSE TIME (P95) |
|--------------------------------------|--------------|---------------------|
| Open the landing page                | 99%          | under 2 s           |
| Security check and start application | 99%          | under 3 s           |
| Receive the verification email link  | 99%          | under 5 min         |
| Save a form step                     | 99%          | under 3 s           |
| Upload a photo                       | 99%          | under 8 s           |
| Submit and get a reference number    | 99.5%        | under 5 s           |
| Check application status             | 99%          | under 3 s           |

p95 = 95 out of every 100 users get their answer within this time. After the test we also check the data: every submitted application is in the database, no reference number is used twice, and every photo is stored.

02 Test setup

Three test servers in AWS Malaysia act as 30,000 virtual users. Their traffic takes the same route as real users, through Cloudflare, to the live system in Event Mode.



| ITEM                     | HOW WE HANDLE IT                                                                                                             |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Same route as real users | Test traffic goes through Cloudflare like everyone else. No shortcut to the servers.                                         |
| Bot protection           | Test traffic carries a secret key, so the bot check lets it in. The key works only in the test window and expires by itself. |
| Emails                   | Emails are created and queued as normal but written to a log, not sent. No mail goes to 30,000 fake addresses.               |
| Test data                | Every fake applicant uses @ujibeban.vmispro.com. All of it is deleted after the test. Real records are never touched.        |

### 03 Who the 30,000 virtual users are

Each virtual user behaves like a person: reads, types, then clicks. The mix follows the expected launch day.

#### VISITOR

60%

18,000 users

Opens the promotion page in BM and English. Waits 20-60 s between pages.

#### APPLICANT

30%

9,000 users

Full registration: security check, email, verify, terms, register, 5-step form (80% upload a photo), submit. 30-90 s per step.

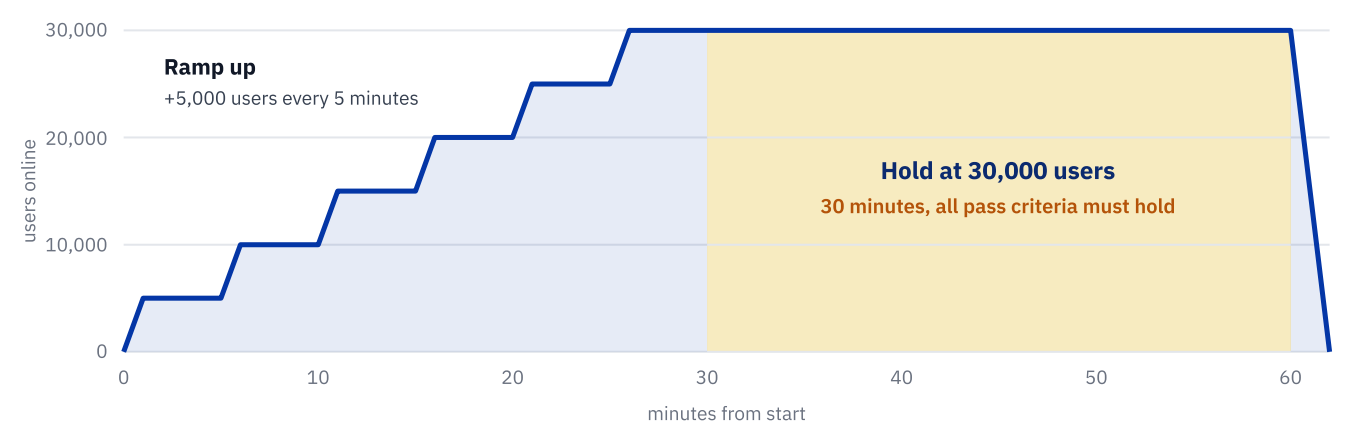
#### STATUS CHECKER

10%

3,000 users

Opens the email link and checks the application status. Waits 15-30 s.

#### LOAD OVER TIME IN THE MAIN TEST



Total run time 62 minutes, including 2 minutes to ramp down.

### 04 Five test runs

1

#### Smoke

10 users

Checks the scripts match every screen.

2

#### Baseline

500 users, 10 min

Measures speed with no pressure. Confirms the server count.

3

#### Main test

30,000 users, 62 min

The evidence for clause 1.18.

4

#### Ceiling

rising until a limit

Finds the real maximum the system can take.

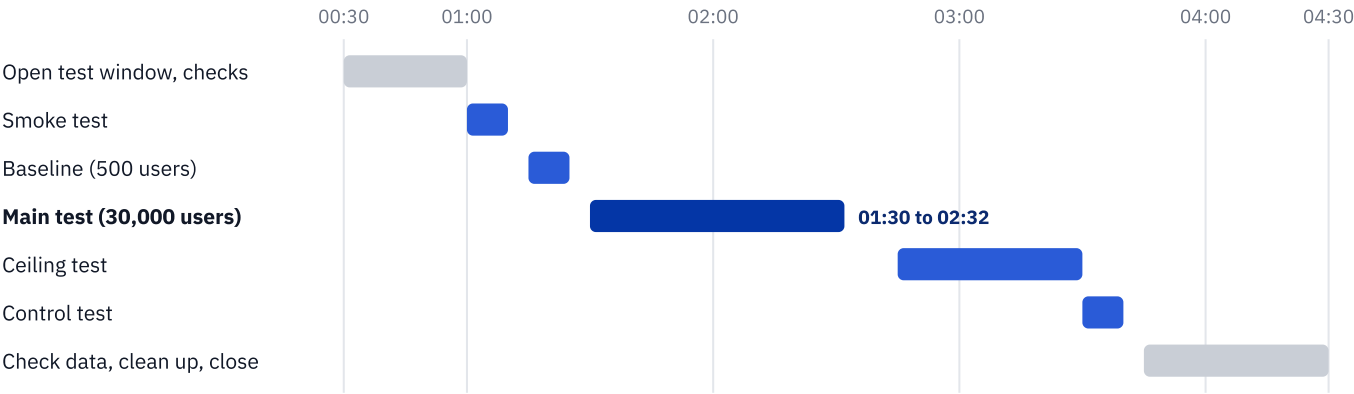
5

#### Control

1 user, no test key

Proves bot check and rate limits still block abuse.

TEST NIGHT TIMELINE



The 200,000 applications are loaded into the database before the night. Night hours avoid disturbing real users.

05 Schedule

|                                                                                           |                                  |                                             |                                                           |                                                            |
|-------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------|
| 1                                                                                         | 2                                | 3                                           | 4                                                         | 5                                                          |
| Day 1                                                                                     | Night 1                          | Day 2-3                                     | Night 2                                                   | After                                                      |
| Set up test servers, switch to Event Mode, load 200,000 applications, smoke and baseline. | Full rehearsal of all five runs. | Fix anything the rehearsal found. Re-check. | Official test. The customer can watch the live dashboard. | Delete test data, back to Normal Mode, deliver the report. |

06 Cost of the test

| ITEM                      | DETAIL                                                                                                                                 | COST (USD) |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|
| Test servers              | 3 x AWS m7g.4xlarge (16 vCPU, 64 GB) at USD 2.08/hour for all three. Switched on only for test nights, about 5 hours each, plus setup. | ~30        |
| Live system in Event Mode | Extra cost over Normal Mode for about 4 test days (about USD 41/day).                                                                  | ~165       |
| Total                     | No paid test service needed.                                                                                                           | ~195       |

AWS on-demand list prices, Malaysia region, October 2026, before tax. A paid cloud test service would cost about USD 4,650 for each 30,000-user run.

07 What you receive after the test

Test report

Clause 1.18 report with pass or fail for every criterion and the proven capacity.

Dashboards

k6 result pages for each run: users, speed, errors over time.

Server graphs

CPU, memory, database and response time at every 5,000-user step.

Data check

200,000 records present, no duplicate reference numbers, photos stored.

Raw results

Full result files, so any figure can be re-checked.

Findings

Anything that slowed down, and what was done about it.