**API Load and Stress Testing**

We use Locust, an open-source load tes ng tool, to simulate real-world traffic and evaluate the performance of our backend APIs under stress. Locust allows us to define user behavior using Python scripts, making it flexible and developer-friendly for tes ng various API endpoints in parallel.

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| --- | --- | --- | --- | --- |
| **Module / API** | **Total users** | **Failures** | **Description** | **Url** |
| Authentication Module  - loginComplete | 200 | 0 | - 100% total ratio  - 1 API running concurrently in load test | [Auth\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/EVteuYmXZkdFnwb7CgClv7MBpU1Ouk0CdU4VZCb9iCEE0A?e=UlDVhk) |
| Plans Module  - getMemberPlan  - getPlans  - getRandomPlan | 200 | 0 | - App API total ratio of 100% per class of 33.3%  - 3 API running concurrently in load test | [Plans\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/EUf20avi3j9KjVr4e0J2N18BcnLhpR6ALVDCnVpmnyRDHA?e=EqSVGH) |
| Payment Module  - getAggDefault  - getDefaultsId  - getHistoryId  - getPaymentHist | 200 | 0 | - App API total ratio of 100% per class of 25.0%  - 4 API running concurrently in load test | [Payment\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/EVNIftCT_aNKjFP1rw5HGCUBwLnh9YDDk1Rid_TPdClnEw?e=8YHgFt) |
| Upgrade Module  - applyUpgrade  - calculateAmount  - validatePromo | 20 | 5 | - The API includes request level validation and currently supports only one test account.  - 3 API running concurrently in load test  - Upgrade membership requests fail if a transaction has already been processed for that account, as the system allows only one transaction per account due to validation rules. | [Upgrade\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/ESgfqLsRvAxNqwzSJyPew9IBLDPyXZNyHLRfnikXJ3JzJQ?e=fYsZgV) |
| Payment Overdue Module  - postChangeCard  - postPayOverdue  - postUpdtateStat | 20 | 5 | - The API performs validation on each request, and currently, we are using only one test account for testing purposes.  - 3 API running concurrently in load test  - The request failed due to a payment overdue validation, which restricts Payment\_OverdueModule\_Report\_Load\_Test.png the system to accepting only one transaction per account. | [Payment\_OverdueModule\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/Ef-LPUwz1HtAk8PUbSmAPx4BBXa968kc_I_yV6K-47oDVA?e=CxyrbO) |
| Member Module  - getMemberAgg  - getMemberEmail  - getMemberPgId | 200 | 0 | - App API total ratio of 100% per class of 33.3%  - 3 API running concurrently in load test | [Member\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/Ea1ZwwcAOklJjWmZtlP6nt0Bn9XPprPQExmaHDc3UQHlCA?e=TBHsgf) |
| Freeze Module  - getFreezeStatus  - postFreeze | 20 | 5 | - The API enforces validation on each request, and currently, we are limited to one test account for testing.  - The request failed due to the freezing validation, which allows only one freeze transaction per account. | [Freeze\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/ETLQcHAxdmhJq_nQtMV6Hg0BzY6zMc8hWRMXTg_xsedpnQ?e=oaU6ZS) |
| Cancellation Module  - checkIsCancelled  - postCancellation | 20 | 5 | - The API performs validation on every request, and we are currently using only one test account for testing.  - The request failed due to cancellation validation, which permits only one cancellation transaction per account. | [Cancellation\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/EaiLg7Kzz-dCrbrkzXevUUkBODPBcCnJ8LvdAp4TdcTIdw?e=TCCT3t) |
| OTP Module  - generateOtp  - verifyOtp (not performed) | 10 | 5 | - The API applies validation on each request, and we are currently limited to one test account for testing purposes.  - The request failed due to the validation rules applied in the generate OTP API.  - Please Note: Load testing was not performed on the verifyOtp endpoint, as it is not testable under load conditions (e.g., we cannot retrieve the OTP sent to the user during testing). | [OTP\_Module\_Report\_Load\_Test.pdf](https://gymnationuae-my.sharepoint.com/:b:/g/personal/anthony_tinio_gymnation_com/EU5HbrVbkENDr3rEdDh-krMB-fco6u0QcK9NqHQSYmDmaw?e=mQg7ZK) |