🔄 Retesting

**📄 Phase Description**

Re-run performance tests to **verify** the effectiveness of optimizations:

* Ensure resolved performance issues remain fixed.
* Confirm no **new** issues have been introduced.

**🎯 Key Objectives**

* ✅ Validate **effectiveness** of performance improvements.
* 📊 Ensure system still meets performance requirements.
* 🛡 Detect **new** bottlenecks or regressions caused by changes.

**🪜 Steps in Retesting**

1️⃣ **♻ Re-run Performance Tests**

* Execute the same tests used initially.
* Use identical scripts, scenarios, and load conditions for consistency.

2️⃣ **📊 Compare Results**

* Compare new results against **baseline** (before optimization).
* Check KPIs: response time, throughput, resource utilization.

3️⃣ **🛠 Verify Fixes**

* Ensure original issues are resolved.
* Confirm optimizations had the intended effect.

4️⃣ **🔍 Check for Regression**

* Ensure no **new** performance issues appear.
* Look for degraded performance in unrelated areas.

5️⃣ **⚙ Validate Under Different Load Conditions**

* Test under peak and stress loads.
* Confirm stability in all expected usage scenarios.

6️⃣ **📡 Monitor System Behavior**

* Use monitoring tools to observe CPU, memory, disk I/O, and network.
* Detect hidden issues during retesting.

7️⃣ **📝 Document Results**

* Record metrics and compare with baseline.
* Log any remaining issues for further optimization.

**📅 Test Execution Matrix**

| **Cycle** | **Run** | **Scenario** | **Load Test** | **Stress Test** | **Spike Test** | **Endurance Test** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | Scenario 1 | ✔ |  |  |  | Initial load test |
| 1 | 2 | Scenario 1 |  | ✔ |  |  | Initial stress test |
| 1 | 3 | Scenario 1 |  |  | ✔ |  | Initial spike test |
| 1 | 4 | Scenario 1 |  |  |  | ✔ | Initial endurance test |
| 1 | 5 | Scenario 2 | ✔ |  |  |  | Initial load test |
| 1 | 6 | Scenario 2 |  | ✔ |  |  | Initial stress test |
| 1 | 7 | Scenario 2 |  |  | ✔ |  | Initial spike test |
| 1 | 8 | Scenario 2 |  |  |  | ✔ | Initial endurance test |
| 2 | 1 | Scenario 3 | ✔ |  |  |  | Second load test |
| 2 | 2 | Scenario 3 |  | ✔ |  |  | Second stress test |
| 2 | 3 | Scenario 3 |  |  | ✔ |  | Second spike test |
| 2 | 4 | Scenario 3 |  |  |  | ✔ | Second endurance test |
| 2 | 5 | Scenario 4 | ✔ |  |  |  | Second load test |
| 2 | 6 | Scenario 4 |  | ✔ |  |  | Second stress test |
| 2 | 7 | Scenario 4 |  |  | ✔ |  | Second spike test |
| 2 | 8 | Scenario 4 |  |  |  | ✔ | Second endurance test |