

## **Report about Failure Analysis and Improvement Suggestions**

### **1. Observations:**

While analyzing the log file, I noticed a lot of failed requests, especially with 4xx and 5xx status codes. Most 4xx errors were from client-side issues like wrong or missing URLs. The 5xx errors pointed to temporary server problems. Some days and times had more of these failures than others..

(4xx & 5xx mean to Errors code , like : Error404 Not Found ! , etc...)

### **2. How to Reduce Failures:**

To reduce 4xx errors, we should make sure all internal links and resources are correct and updated. Setting proper access controls can also help stop unauthorized access. For 5xx errors, monitoring server performance and improving back-end handling during busy times can help. Using tools like fail2ban can limit repeated requests from the same IP.

### **3. Suggestions to Improve System and Performance:**

I suggest using real-time monitoring tools like ELK Stack or Prometheus to track traffic and errors early. Rotating logs can help manage them better. Setting up alerts for repeated errors or traffic spikes can improve reaction time. Also, improving server settings, adding caching, and reducing database load can boost overall performance.