Project:

STUDY CONTROL SYSTEM FOR UNIVERSITIES
DIPLOMADA#1100266
MILESTONE 2 COMPLIANCE REPORT
Web3 portal load and scalability testing scheme

1. Definition of objectives: Before starting testing, it is important to establish the objectives to be achieved, such as determining the maximum capacity of concurrent users that the portal can handle without performance degradation.

2. Identification of loading scenarios: Different loading scenarios must be identified that simulate the expected behavior of users in the portal, such as browsing different sections, performing searches, uploading images or downloading files.

3. Configuring the test environment: It is necessary to configure a test environment that is as similar as possible to the portal's production environment, including the server, database and network infrastructure.

4. Testing tools: Specialized tools should be selected to perform load and scalability tests, such as Apache JMeter, LoadRunner, Gatling or Siege, which allow simulating multiple users accessing the portal simultaneously.

5. Execution of load tests: The load scenarios defined above are executed to simulate the behavior of multiple users accessing the portal at the same time. Portal performance is monitored in terms of response time, resource usage, and errors.

6. Analysis of results: The results obtained during the tests are analyzed to identify bottlenecks, critical points of failure and areas for improvement in the performance of the portal.

7. Optimization and adjustments: Based on the results obtained, adjustments are made to the portal configuration, the underlying infrastructure or the source code to improve the load capacity and scalability of the system.

8. Scalability Testing: Additional testing is performed to evaluate the portal's ability to scale horizontally or vertically, that is, add more servers or resources to handle greater user load.

9. Documentation and reporting: The results obtained during the tests are documented, along with the recommendations for improvement and adjustments made. A detailed report is generated to serve as a reference for future testing and optimization.

By following this load and scalability testing scheme, you can ensure that your web portal can efficiently handle a high volume of users without compromising its performance or availability.