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Performance Testing using JMeter improves response time

Client 👤

The client is a software rating board company in the entertainment industry. It allocates age and content ratings, implements industry-approved advertising standards for computer and video games in Canada and the United States, and guarantees reliable online privacy standards.

Challenge 🧩

The client wanted to scale their rating applications for real time users' access. They faced performance issues and were unable to figure out the problem areas causing low performance on their rating application. Performance benchmarking was an important factor for the client. They needed to verify the response time of the rating application from multi geographic locations to understand and take logical steps to remove bottlenecks.

Marlabs Solution 🎯

Marlabs' performance improvement approach involved executing baseline test and multiple cycles of test executions for different load levels after code optimizations, where tests were executed in a production replica environment.

This involved the following steps:

- Perform load testing exercise on the rating application that can support 500 users
- Identify business critical scenarios to be used for load testing the application
- Publish a performance test plan to set the expectations for stake holders

- Create and execute Web and Web services based scenario scripts using open source JMeter tool for load, stress, and reliability testing
- Execute probing test for multi geography locations
- Assist the development team to address the root cause for the high response time

Analysis and performance improvement observations and actions:

- Fine-tuned SQL queries using SQL Profiler where execution time for submissions stored procedures was very high
- Tested and verified that the application will work in a Web farm scenario without any issues
- Different components such as PDF generation and sending emails were separated out and were subjected to run as separate services on the same server
- Ensured that ratings for different agencies were run as different services to rectify Stored Procedure execution, which was causing the issue.

Benefits

- Ensured smooth functioning of the application
- Improved response time
- Improved scalability by reducing database bottlenecks

Technologies

- ASP.NET
- SQL Server 2008 R2
- Web HTTP/S
- JMeter & BlazeMeter