

**REKOMENDASI OPTIMASI *CACHE STRATEGY PATTERN*
PADA *APPLICANT TRACKING SYSTEM*
BERBASIS WEBSITE** (*Recommendations for Cache Strategy Pattern
Optimization in a Web-Based Applicant Tracking System*).
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ABSTRACT

Applicant Tracking Systems (ATS) face significant performance challenges due to high data volumes, leading to long waiting times and potential system failures. To address this, this research proposes the implementation of database caching to enhance system responsiveness, throughput, and scalability. Despite caching's non-persistent nature, its performance benefits are substantial. This study implements and comparatively analyzes four prominent caching strategies—Cache-Aside, Write-Through, Write-Behind, and Read-Through—within a microservices-based ATS. Evaluation is conducted based on Cache-Hit, Cache-Miss, Response Time, and Resource Utilization, utilizing the Simple Additive Weighting (SAW) method to determine the optimal strategy. Testing results indicate that all implemented caching strategies significantly reduce response time compared to a no-cache baseline. Specifically, Write-Behind demonstrates the most ideal response time (15ms), albeit with increased resource utilization. Based on the SAW method, the Write-Behind strategy is recommended as the most optimal solution for ATS, achieving the highest preference score of 0.3751.

Keywords: *Applicant Tracking System (ATS), Database Caching, Cache-Aside, Write-Through, Write-Behind, Read-Through, Simple Additive Weighting (SAW), Microservices, Go Language, React, Docker.*