

# Entity Framework Core Performance Tuning A Worked

Entity Framework Core Performance Tuning A Worked Entity Framework Core Performance Tuning A Worked Example I Briefly introduce Entity Framework Core EF Core and its advantages Highlight the importance of performance optimization for efficient applications Set the stage for a practical worked example scenario II Understanding Performance Bottlenecks Common EF Core performance issues Excessive database calls Inefficient queries Improper data fetching strategies Unnecessary tracking and change tracking Diagnostic Tools SQL Server Profiler EF Core logging Performance counters Example Scenario Introduce a hypothetical application with a specific performance problem Clearly define the performance goal and the current bottleneck III Performance Tuning Strategies 1 Query Optimization Use efficient query syntax LINQ queries raw SQL and stored procedures Optimize query conditions Filter effectively use indexes and consider projections Utilize Include Then Include Reduce database round trips by fetching related data in one shot Leverage Queryable As No Tracking Turn off change tracking for readonly scenarios Implement custom queries Use raw SQL or stored procedures when LINQ doesn't offer sufficient flexibility 2 Data Fetching Strategies Efficient data loading Avoid loading unnecessary data 2 Use lazy loading wisely Consider its impact on performance and memory usage Implement eager loading Preload related data for better performance Utilize ToList and ToArray Materialize query results for optimized processing Track changes strategically Minimize change tracking overhead for readonly scenarios 3 Other Performance Enhancements Proper database design Optimize database schema for efficient querying Caching Implement caching strategies to avoid repeated database calls Asynchronous operations Utilize async/await for improved responsiveness Consider EF Core configuration Optimize connection strings and concurrency settings IV Worked Example Step by Step Solution Detailed analysis of the example scenarios bottlenecks Implementation of specific performance optimization strategies Code examples demonstrating the changes and improvements Performance comparison before and after optimization V Conclusion Recap the performance tuning strategies discussed Emphasize the importance of continuous performance monitoring and analysis Offer further resources for indepth exploration VI Resources Useful links to EF Core documentation blogs and articles Links to performance tuning tools and best practices

VII Call to Action Encourage readers to apply the strategies discussed to their projects Invite readers to share their experiences and challenges in the comments section VIII Example Content Example Query csharp Inefficient query var products contextProducts Includep pCategory Wherep pPrice 100 ToList 3 Optimized query var products contextProducts Wherep pPrice 100 Selectp new pProductName pPrice CategoryName pCategoryCategoryName To List Performance comparison table Optimization Before Optimization After Optimization Query execution time 5 seconds 1 second Database calls 10 2 Memory usage 100 MB 50 MB Note The specific details and code examples in the Worked Example section should be tailored to the chosen scenario Remember to provide clear explanations and visuals to make the content engaging and easy to understand Include realworld examples screenshots and performance graphs to enhance readability Maintain a consistent and professional tone throughout the blog post Proofread carefully before publishing

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um projecto tuning completo deve contemplar pelo menos alguns componentes do interior de um automóvel vamos focar os mais in nas fotos seguintes apresentam se algumas imagens

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