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**Prompt:**

Act as a senior database architect. Using Chain-of-Thought reasoning, analyze these application requirements step-by-step and recommend the optimal database type:

Requirements:

Social platform for millions of users.

Data types: user profiles, posts, user connections.

High read speed essential.

Read:Write ratio = 80%:20%.

Must scale efficiently with user growth.

Perform CoT analysis by:

a) Breaking down EACH requirement’s technical implications

b) Mapping requirements to database characteristics (e.g., consistency models, scalability approaches, query patterns)

c) Comparing SQL vs NoSQL (document/graph/column) trade-offs SPECIFICALLY for this use case

d) Selecting the optimal database type with justification against all 5 requirements.

Structure output as:

Requirement Analysis (Step-by-step breakdown)

Database Comparison

Decision & Justification (showing how choice satisfies each requirement)