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Interview Prep Repository

This repository contains system design diagrams, technical notes, and devops scenario answers for large-scale engineering interviews.

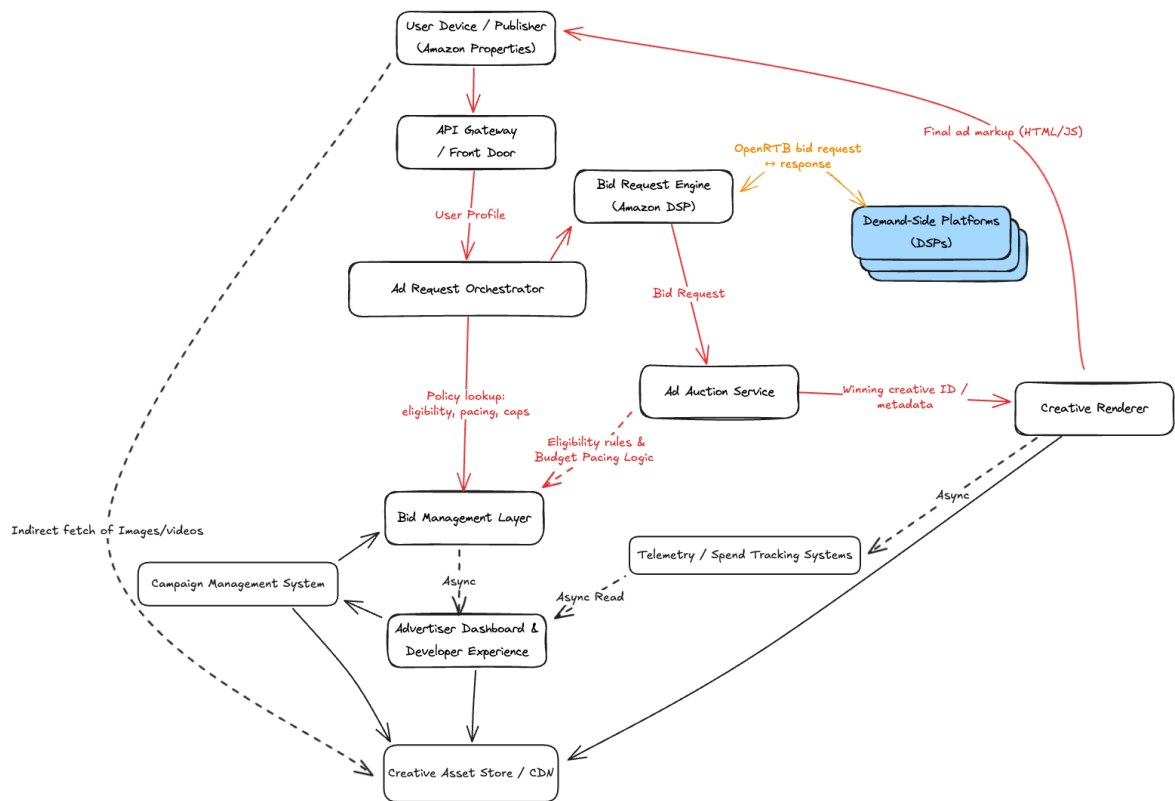
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- System Design
 - Approach & Key Questions
- DevOps & Scenario Questions
- Manager Behavioral Questions (External Repo)

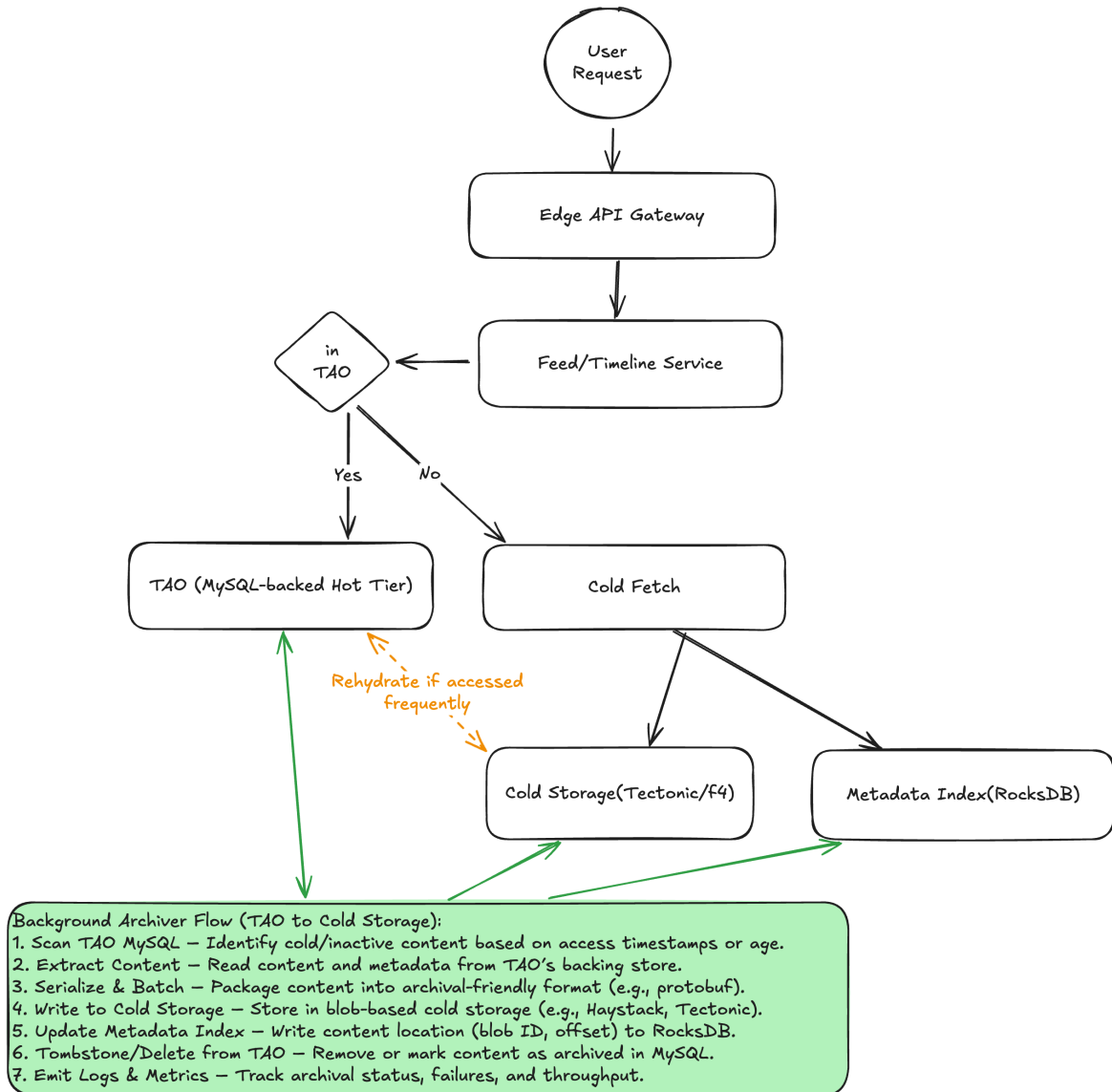
System Design

A collection of system design diagrams and detailed design notes:

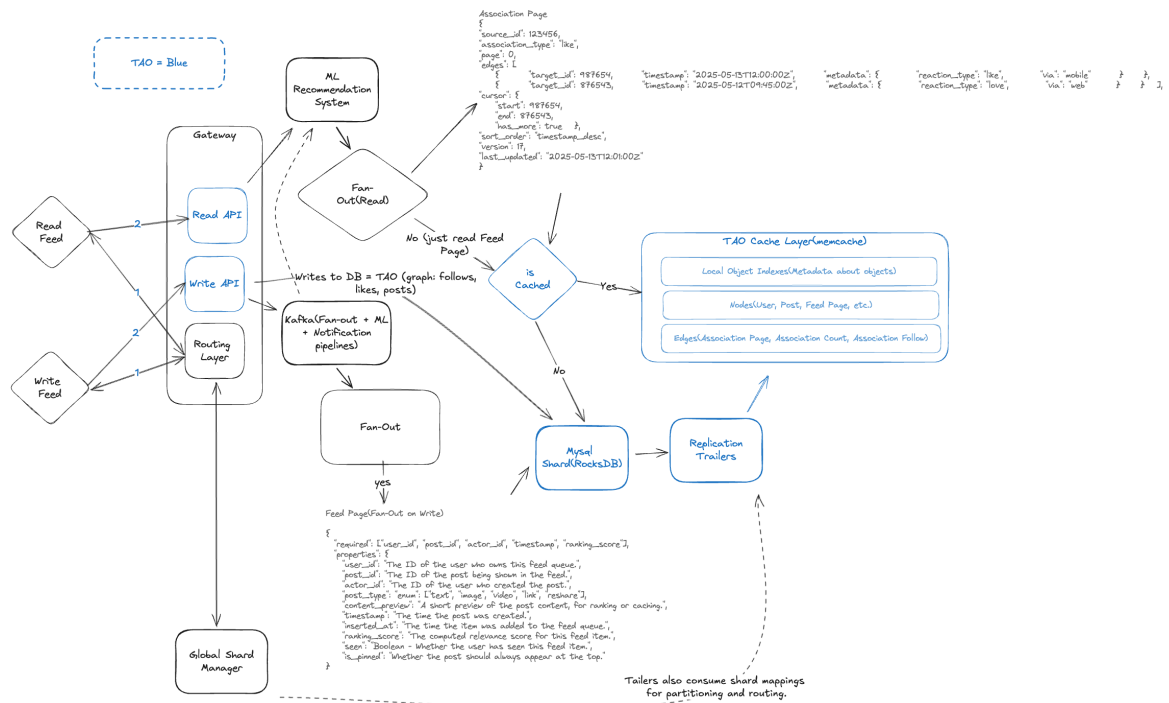
- [Amazon Ads](#)



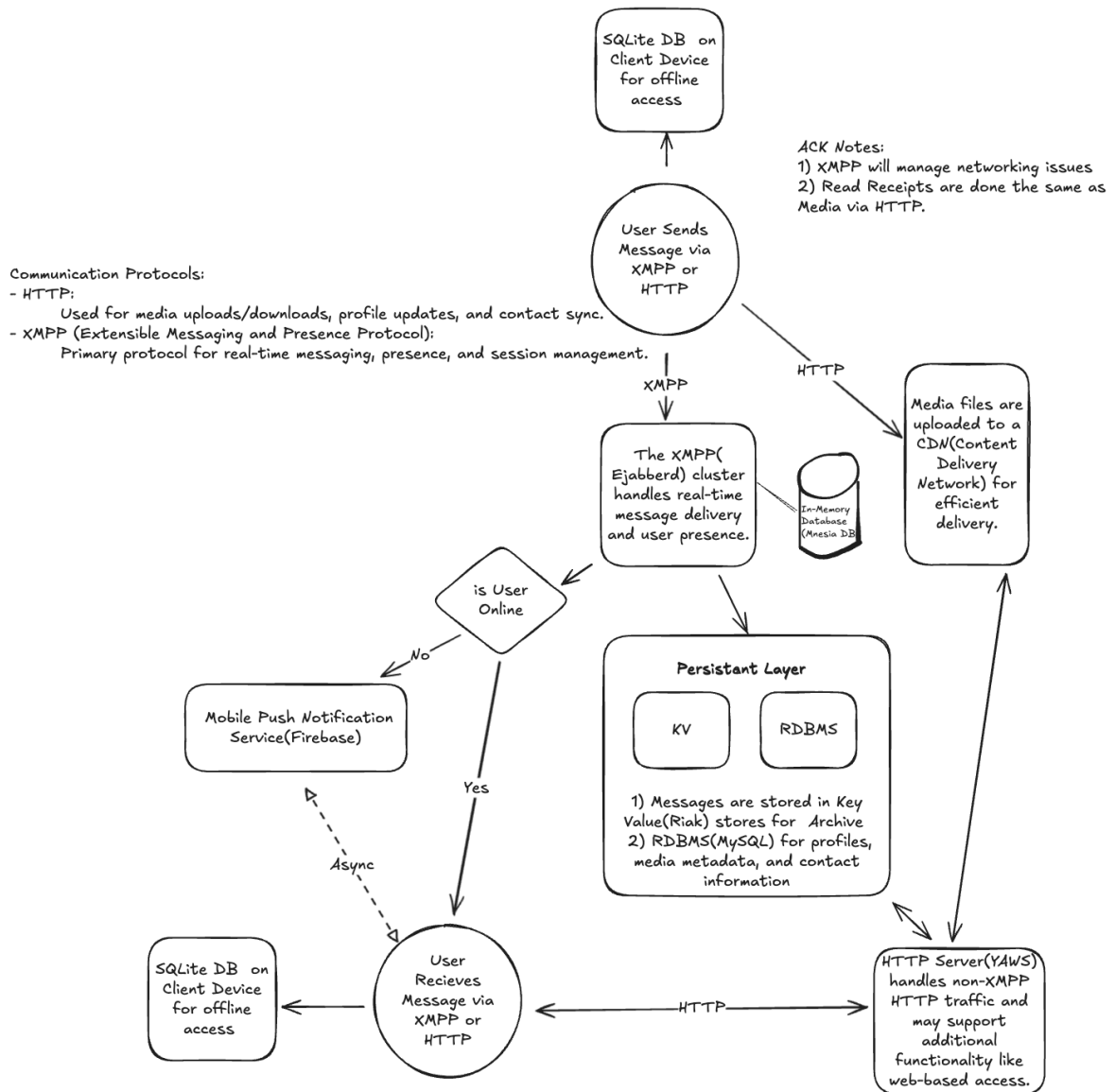
- Facebook Cold Storage



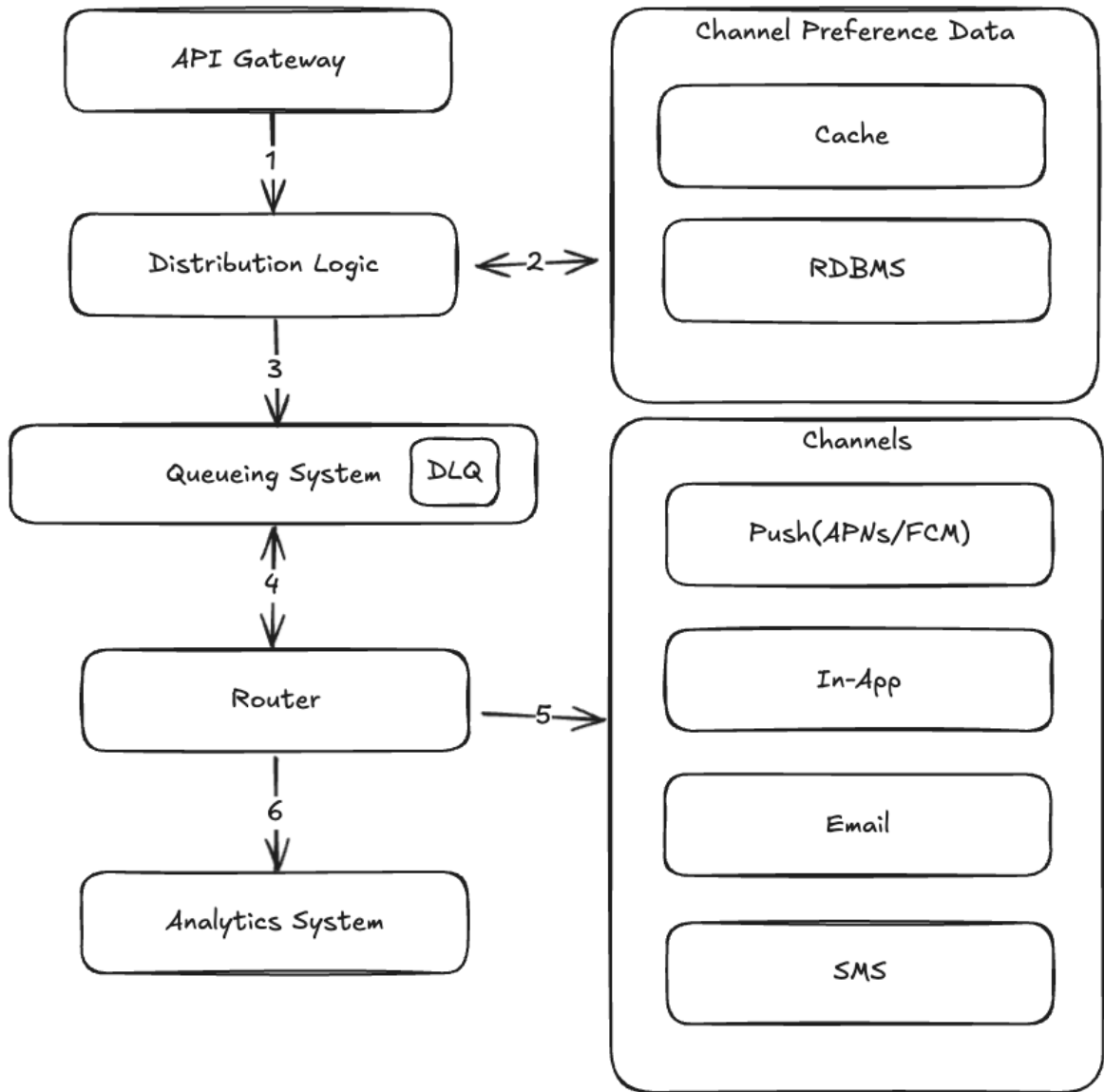
- Facebook News Feed



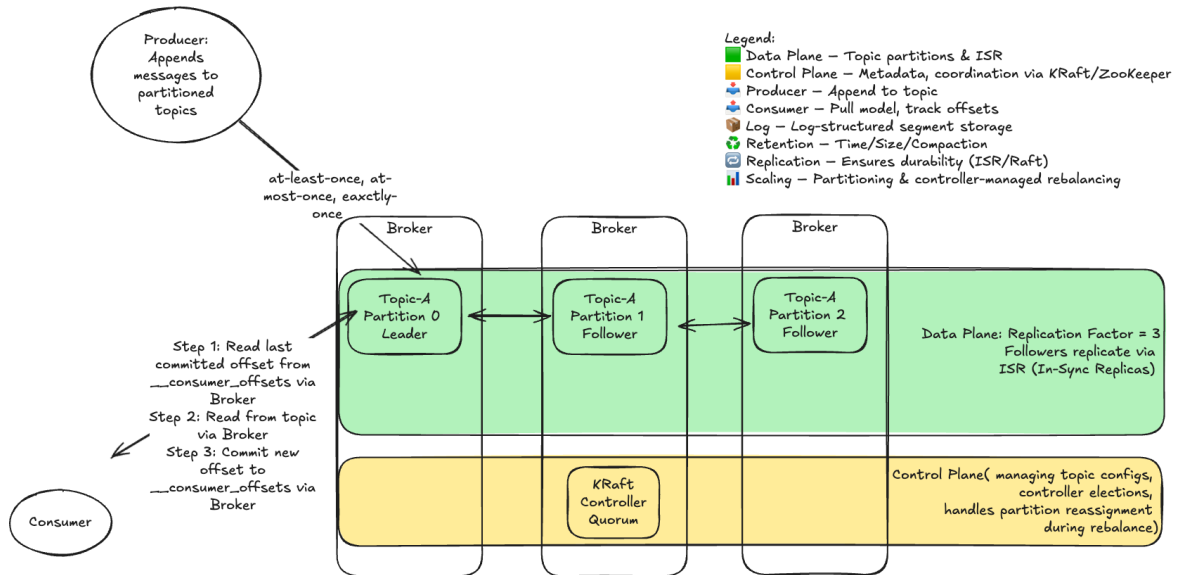
- **Messaging System**



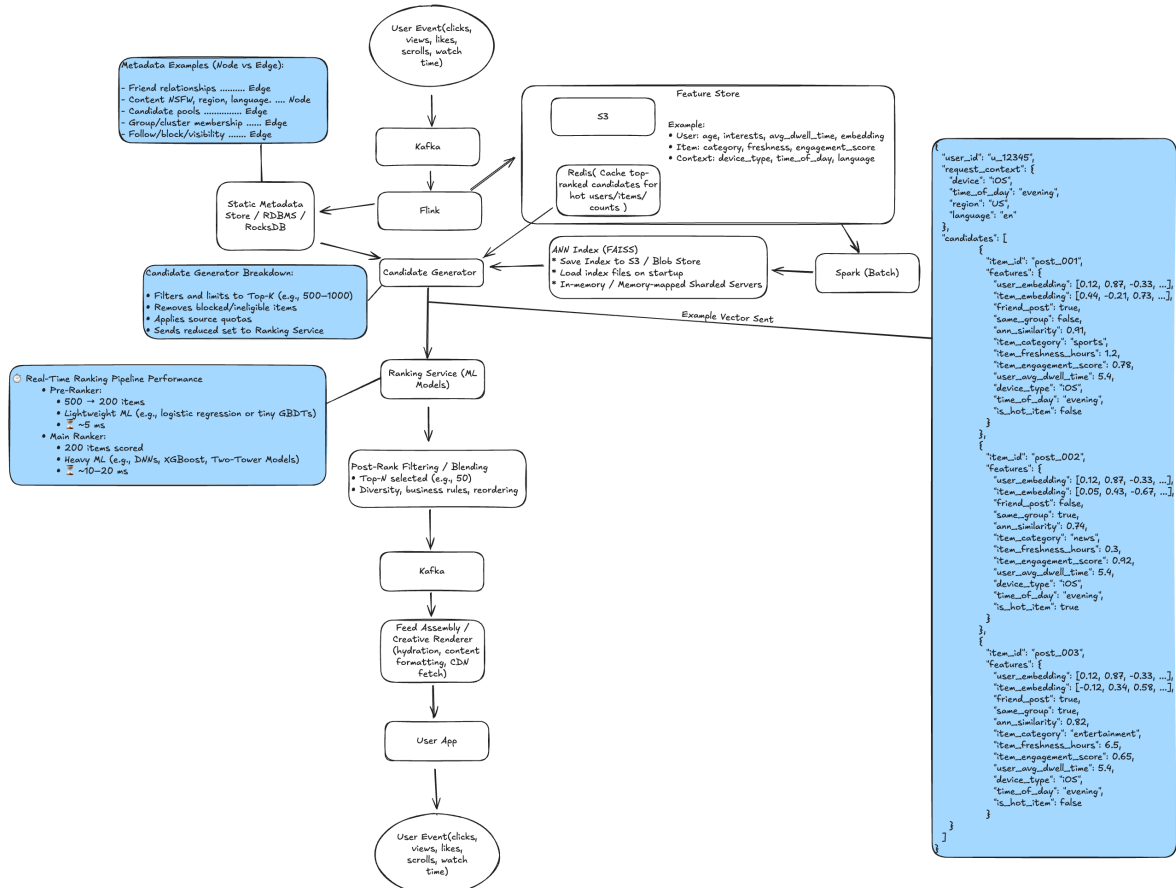
- Notification System



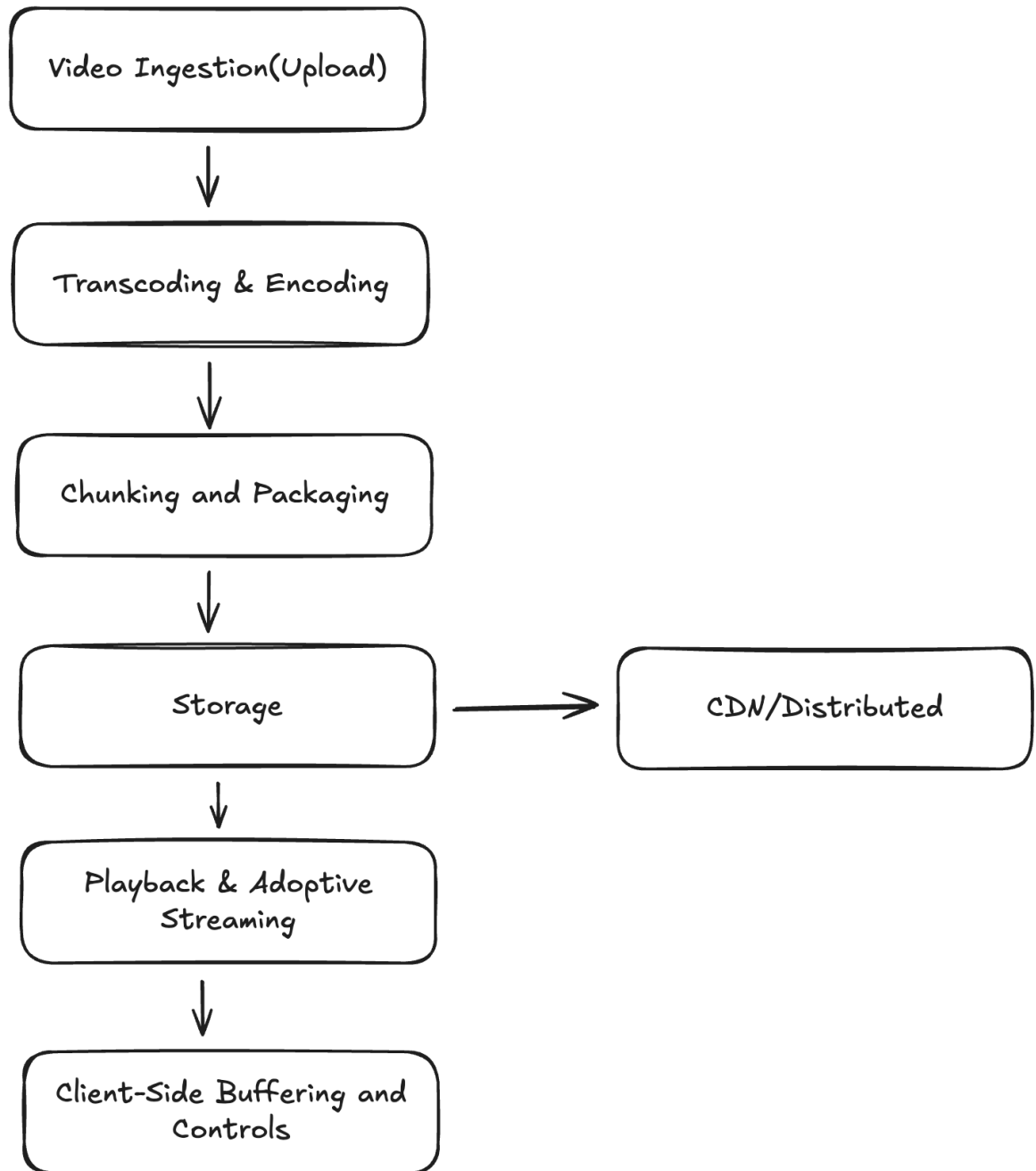
- [Messaging Queue \(Kafka\)](#)



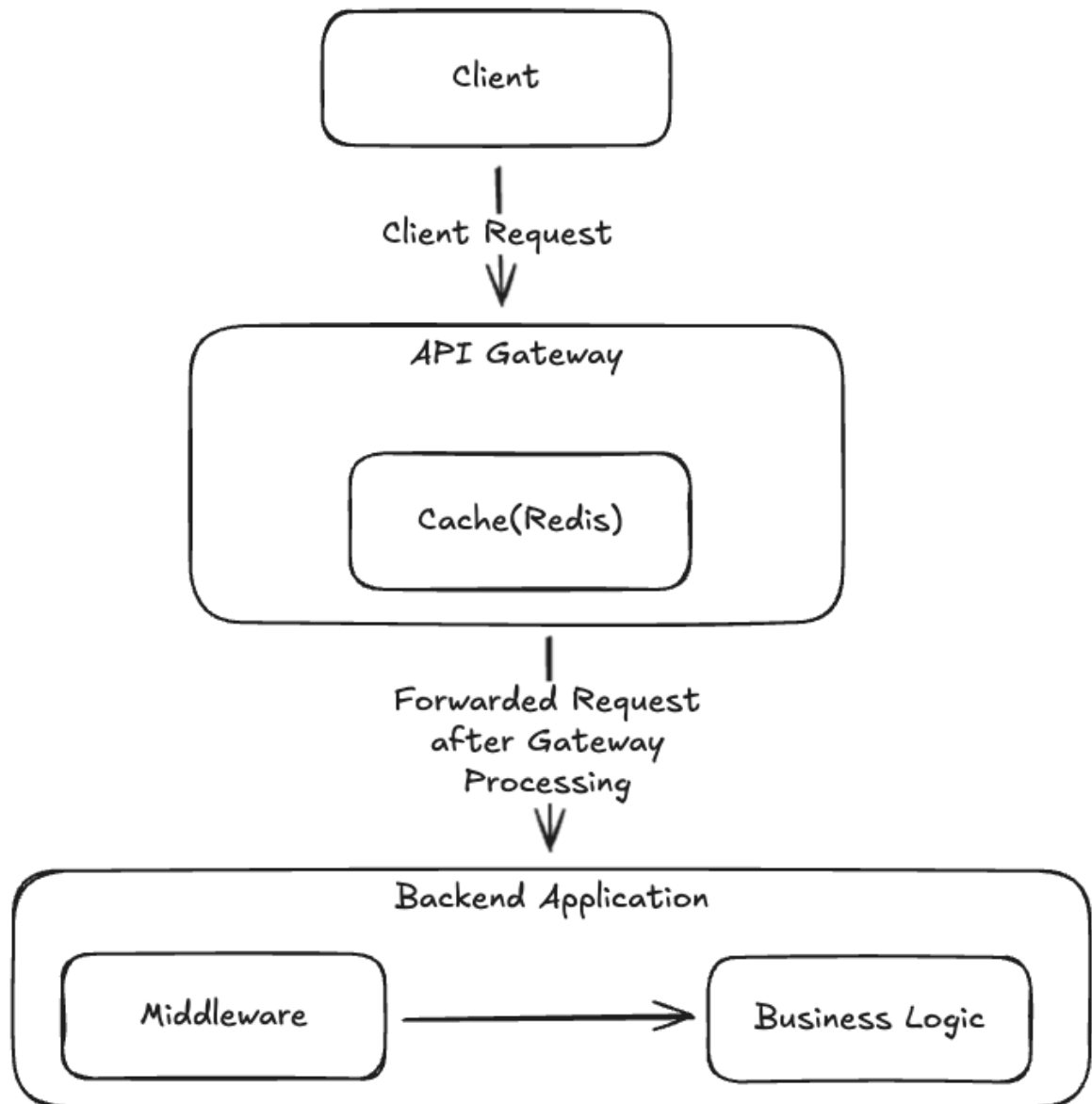
• ML Recommendation System



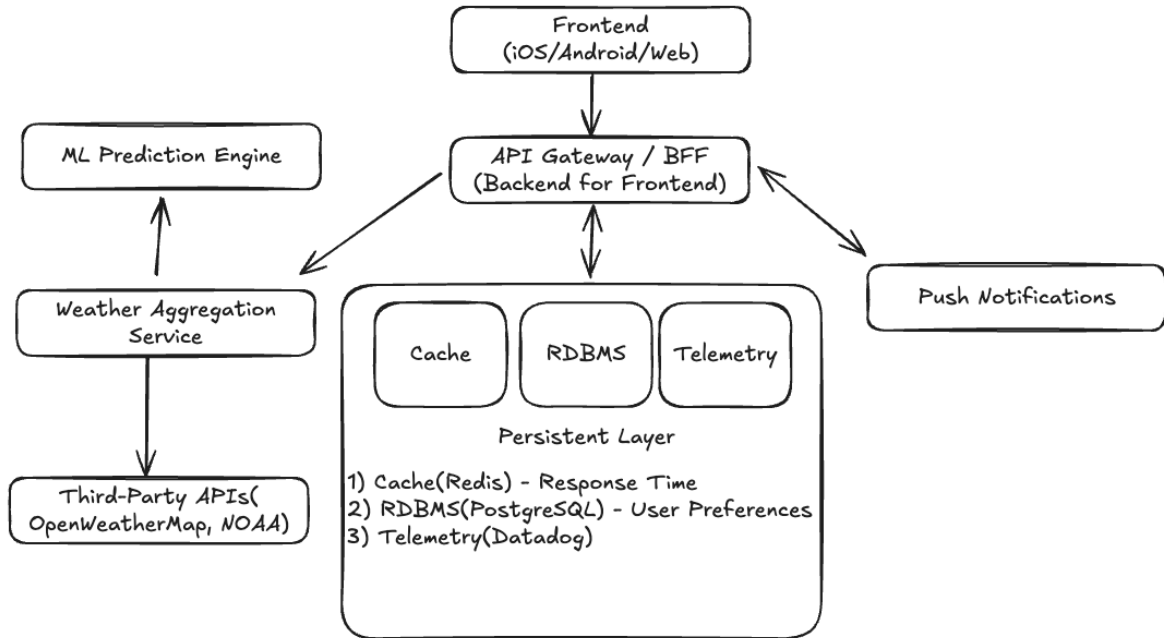
• Video Streaming System



- [Rate Limiter](#)



- [Weather App](#)



Approach & Key Questions

For a structured approach to system design interviews, see the [System Design Approach and Key Questions](#) document. Quick links to each step:

- [Step 1: Requirements Clarification](#)
- [Step 2: Capacity Planning and Scale Estimation](#)
- [Step 3: API and Interface Design](#)
- [Step 4: Data Architecture and Modeling](#)
- [Step 5: System Architecture Overview](#)
- [Step 6: Deep Dive Design Analysis](#)
- [Step 7: Risk Assessment and Mitigation](#)

Essential System Design Components & Trade-offs: - [Data Storage & Management](#) - [Performance & Scalability](#) - [Network Infrastructure & Traffic Management](#) - [API Design & Communication Patterns](#) - [Architecture Patterns & State Management](#) - [Data Processing Patterns](#)

For sample interview questions, see the same document.

How to Edit Diagrams:

All diagrams are `.excalidraw.png` files. To edit: 1. Download the PNG 2. Open [Excalidraw](#) 3. Use “Open” to import and edit 4. Save and commit the updated PNG

DevOps & Scenario Questions

A set of scenario-based devops and operational questions, each with detailed technical answers:

- [Incident Management](#)

- **Cross-Region Replication**
 - **Global Feed for Emerging Markets**
 - **Instagram with Fewer DB Servers**
 - **Microservices Monitoring & Autoscale**
 - **Adopting Unproven Technology**
 - **Small Team, Fast Delivery**
 - **Rebuild Facebook with Limited Resources**
 - **Less Common Questions**
 - Design a system with capped storage
 - Scale the Like button
 - Distributed cache
 - Groups for poor connectivity
 - Archive all Facebook posts
 - SLA-based job queue
 - Self-healing service
-

Manager Behavioral Questions

A collection of common engineering manager behavioral interview questions. Full sample answers are available in the private repository: [brandon-benge/private-interviewprep](https://github.com/brandon-benge/private-interviewprep) (GitHub)

Leadership & People Management

- What is your background and motivations for getting into people management?
- How do you motivate and grow your direct reports?
- How do you support career growth for your engineers?
- Tell me about a time you had to handle a low-performing team member.
- How do you build team culture and trust?
- How do you manage conflict within a team?
- What's your philosophy on performance reviews?
- Tell me about a time you had to deal with a difficult team member.

Execution & Delivery

- Tell me about a time you led a project from inception to launch.
- How do you manage scope, timelines, and stakeholder expectations?
- How do you prioritize technical debt vs. feature work?
- Describe how you handle missed deadlines or roadblocks.
- How do you collaborate with product managers, designers, or other cross-functional partners?
- Explain your cross-functional work and partnership with other teams to drive towards a goal. What considerations and trade-offs need to be agreed upon? How do you build consensus?

Technical Depth & Judgment

- How do you stay technically engaged without micromanaging?
- How do you evaluate technical proposals or architecture reviews?
- Tell me about a hard technical tradeoff your team made.
- How do you assess engineering quality and velocity?
- Have you ever disagreed with an engineer's technical approach? What did you do?

Strategy & Vision

- What's your approach to aligning your team's work with company goals?
- Describe a time you influenced organizational change.
- What metrics do you use to evaluate team health and success?
- How do you contribute to the technical roadmap?

Behavioral & Situational

- Describe a time you made a mistake as a manager. How did you handle it?
 - Tell me about a time you had to manage up (influence leadership).
 - How do you onboard new engineers?
 - Have you ever had to manage a remote or distributed team?
 - What's the hardest decision you've had to make as a manager?
 - Tell me about a project that failed. What did you learn?
 - Tell me about a time when a plan you proposed was not agreed upon.
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