

REAL WORLD USE CASES TO USE NO SQL DB IN EACH INDUSTRY

1. Retail

Use Case: Product Catalog Management

- **Why NoSQL:** NoSQL databases (like MongoDB or Couchbase) handle **flexible, semi-structured data** very well. Retailers often deal with a **wide variety of products** with different attributes (e.g., electronics, clothes, books), and these attributes can vary from product to product.
- **Benefits:**
 - Schema-less design allows easy addition of new product types.
 - Fast querying and filtering for online storefronts.
 - Scales horizontally to handle traffic spikes (e.g., during Black Friday).

Real Example: eBay uses NoSQL for handling product listings and user data.

2. Banking

Use Case: Fraud Detection and Real-time Analytics

- **Why NoSQL:** In fraud detection, banking systems must **process and analyze high-velocity transactional data in real time**. NoSQL databases like Apache Cassandra or HBase support **high write throughput and horizontal scalability**, making them ideal for such tasks.
- **Benefits:**
 - Real-time ingestion and analysis of millions of transactions.
 - High availability across data centers.
 - Time-series and event-based data handling.

Real Example: Capital One uses NoSQL technologies for real-time decisioning in risk assessment.

3. Social Media

Use Case: User Profile and Feed Storage

- **Why NoSQL:** Social media platforms manage **massive volumes of unstructured or semi-structured data** — like posts, comments, likes, media files — and must deliver **real-time feeds** to millions of users.
- **Benefits:**
 - Stores diverse content types and metadata.
 - Scales to billions of documents and users.
 - Enables fast lookups, recommendations, and feed generation.

Real Example: Facebook uses Cassandra and RocksDB for messaging and real-time data feeds.

4. Education

Use Case: Learning Management Systems (LMS) with Personalized Content

- **Why NoSQL:** Educational platforms need to store **user-generated content, personalized learning paths, quizzes, course materials**, and usage analytics — which are highly variable in structure.
- **Benefits:**
 - Schema flexibility allows quick iterations on course designs.
 - Real-time progress tracking and analytics.
 - Handles large-scale user bases for MOOCs (Massive Open Online Courses).

Real Example: Coursera uses NoSQL for content delivery and learner analytics.

