Kemedar: A Scalable and Efficient Proptech Super App

Handling Millions of Properties Across 35 Countries with Cutting-Edge Technology

What is Kemedar?

- Kemedar is the first super app in the proptech industry.
- Multilingual (18 languages) and operational in 35 countries.
- Millions of property listings worldwide.

The Challenge: Scaling for Global Growth

- Millions of properties across 35 countries.
- Slow query performance due to massive dataset size.
- Need for faster, more efficient data retrieval to improve user experience.

The Solution:
A Hybrid MySQL and MongoDB System

- **MySQL**: For structured, relational data (e.g., user accounts, transactions).
- **MongoDB**: For flexible, unstructured data (e.g., property listings with varying attributes).
- **Sharding**: Distribute data across multiple servers based on country for faster queries.
- **Elasticsearch**: For lightning-fast global property searches.

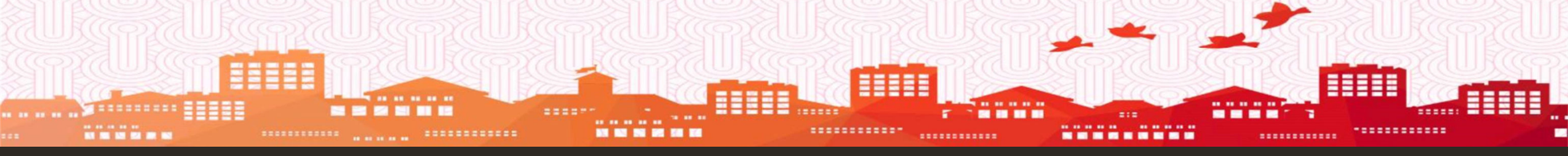
System Architecture: How Our System Works

- **MySQL Sharding**: Data distributed across multiple MySQL instances by country.
- **MongoDB Replica Sets**: High availability and scalability for property listings.
- **Elasticsearch**: Global search engine for cross-shard queries.
- **Caching Layer**: Redis for frequently accessed data.

Load Balancing and Scalability

Load Balancing for Maximum Efficiency

- **MySQL Load Balancng**:
  - Master-slave replication for read/write separation.
  - ProxySQL for query distribution and failover.
- **MongoDB Load Balancing**:
  - Replica sets with primary and secondary nodes.
  - Sharding for horizontal scalability.
- **Application-Level Load Balancing**:
  - Nginx or HAProxy to distribute traffic across application servers.



Performance Metrics

Proven Performance and Scalability

- **Query Speed**:
- Reduced query response times by 80% after sharding.

- **Scalability**:
- System can handle 10x more data with minimal performance impact.

- **Uptime**: 99.99%
- uptime achieved through replication and failover mechanisms.

Benefits of the Hybrid System

Why This System is the Right Choice

- **Improved Performance**:
- Faster queries for users in specific countries.

- **Scalability**:
- Easily add new shards as Kemedar expands to new markets.

- **Flexibility**:
- MongoDB handles unstructured data, while MySQL ensures data integrity.

- **Cost-Effectiveness**:
- Optimized server resources and reduced operational costs.

Future Enhancements

- **AI-Powered Recommendations**: Personalized property suggestions for users.
- **Real-Time Analytics**: Advanced analytics for property trends and user behavior.
- **Blockchain Integration**: Secure and transparent property transactions.