



# Couchbase Mobile

A MOBILE DATABASE PLATFORM THAT INCLUDES A CLOUD DATABASE, AN EMBEDDED DATABASE, AUTOMATIC DATA SYNC AND VECTOR SEARCH FROM CLOUD TO EDGE.

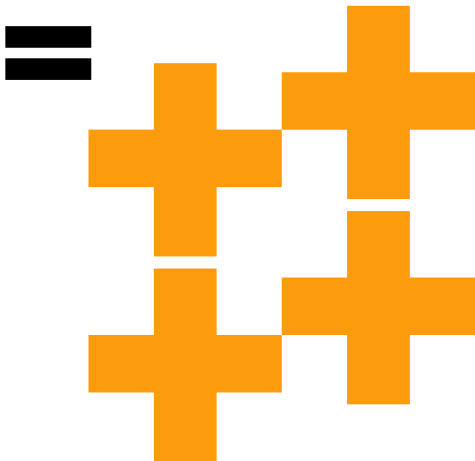
## Key benefits

- Enterprise class distributed cloud database (hosted or self-managed)
- Developer friendly embedded database for mobile and IoT apps
- Support for iOS, Android, .Net, Java, C-api for custom embedded devices
- SQL support and vector search from cloud to edge
- Bidirectional data sync between the cloud and edge devices
- Always on experience even without network availability
- Scale from hundreds to millions of users
- Built-in enterprise grade security to safeguard data

## Build fast, reliable, secure AI-powered mobile apps that work even without the internet

Couchbase Mobile helps developers meet the demands of business-critical, AI-powered mobile applications. Build fast and resilient apps that seamlessly integrate with AI models and sync data between the cloud and edge, and directly between mobile devices, while automatically resolving data conflicts and ensuring data integrity. Save transfer costs and bandwidth by using delta sync technology to sync only data that has changed. The Couchbase solution for mobile includes a full-featured embedded database that enables an always-on experience with guaranteed data availability, even without internet connectivity. It also includes a synchronization gateway that provides secure data sync between mobile devices and the backend data store.

With support for key-value, SQL, vector search, full-text search, scopes and collections, predictive queries that leverage machine learning models, and asynchronous eventing capabilities, Couchbase Mobile allows developers to build AI-powered user experiences that run right within mobile and edge apps. Built-in data synchronization, end-to-end data encryption, and fine-grained access control ensure privacy and security. Couchbase Mobile plugs right into your AI ecosystem, allowing you to call local or remote ML and LLM models for GenAI features within your apps.



## Architecture

### COUCHBASE LITE

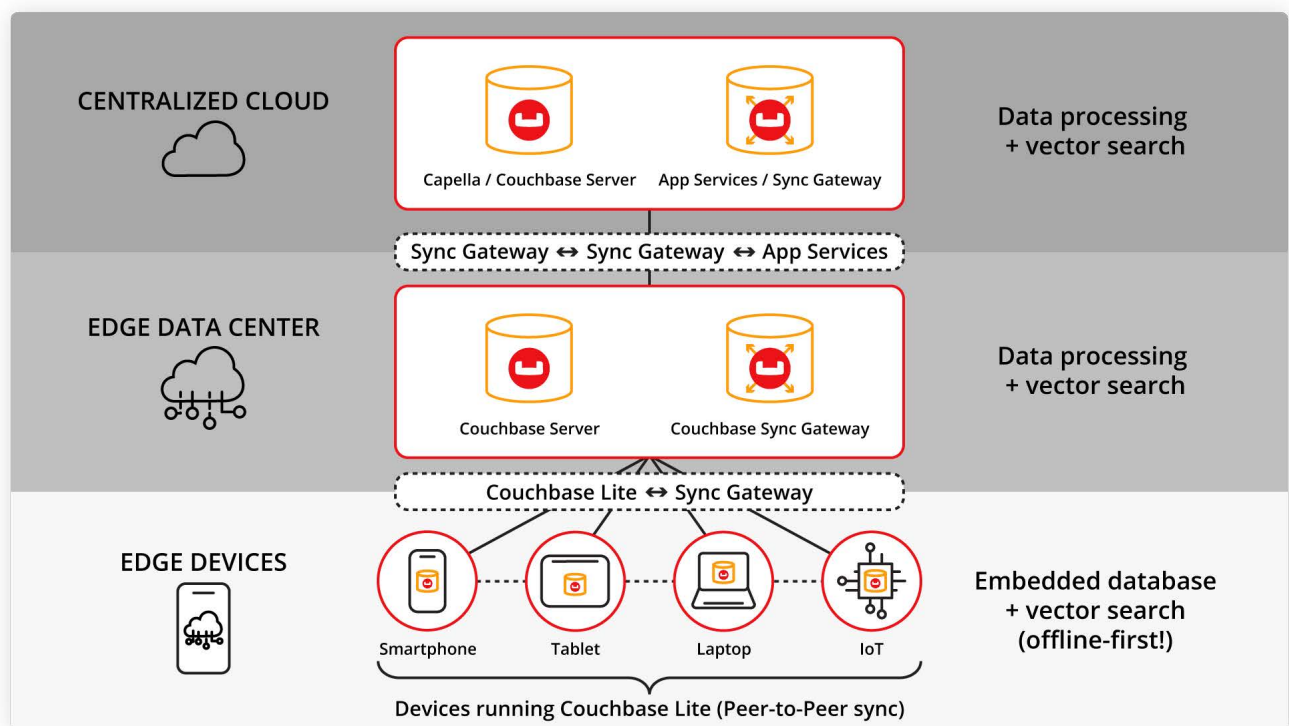
A full-featured embedded NoSQL JSON document database that enables offline-first app with key-value, query, vector search, full-text search, eventing, and database encryption capabilities.

### SECURE SYNCHRONIZATION GATEWAY

A secure gateway for synchronization of data between edge devices and the backend data store. Choose from fully managed sync with **Capella App Services**, or deploy and host **Couchbase Sync Gateway** yourself.

### COUCHBASE DATABASE

A distributed JSON document database in the cloud. Choose from **Couchbase Capella**, the fully managed and hosted Database-as-a-Service, or deploy and host **Couchbase Server** yourself on premises or in any public or private cloud.





Real-time crew management, scheduling, and resources



Global digital showroom



Offline-first order-to-cash application

## Key features

### Comprehensive platform support

Build offline-first experiences for apps running on mobile (iOS, Android, Windows), desktop and custom embedded platforms.

### Peer-to-peer synchronization

Securely sync devices directly with one another in disconnected environments without the need for a centralized cloud-based control point.

### AI support

Vector search on-device enables semantic and similarity search via LLM integration, also allowing for RAG, which achieves more contextually accurate responses with no dependencies on the internet, making it private and secure. Run vector search locally against data in your local database for privacy.

### C-API support

Allows embedding on any embedded application (Embedded Linux, ARM32, ARM64). Developers use FFI to bind to C-API for any language (Dart, Rust, Python, Node, etc).

### On-device encryption

Secure sensitive data at rest by encrypting the local embedded database.

### Delta sync

Significantly reduce bandwidth consumption by synchronizing only data that has changed. Can be used between clients and Sync Gateway, or directly between clients using peer-to-peer synchronization.

### Enhanced conflict resolution

Resolve data conflicts that result from concurrent updates to data. The system can automatically resolve conflicts using built-in policies or custom user-defined policies.





Lotum uses Couchbase Mobile to provide a consistent and always-on experience for the millions of monthly active users of their most popular game title. Gamers can play wherever they go, even without internet.

## Enable cloud-to-edge AI with Couchbase Mobile

### **BUILD FAST, RELIABLE, SECURE AI-POWERED MOBILE APPS THAT WORK EVEN WITHOUT THE INTERNET**

By processing data and running vector search on-device, you eliminate dependencies on distant cloud databases, speeding up apps and eliminating downtime due to internet outages.

### **UNPARALLELED PERFORMANCE AT ANY SCALE**

Deliver an always-on experience even with unreliable networks and dropped connections. Scale from hundreds to millions of users with the flexibility to add capacity at every tier – including the client tier (Couchbase Lite), middle tier (Sync Gateway), and storage tier (Couchbase Server).

### **SUPERIOR PRIVACY AND SECURITY FOR AI**

By processing data at the edge you ensure privacy because sensitive data never has to leave the device. Develop GenAI apps that run on-device without the worry of feeding sensitive or private data to public models.

### **LEARN MORE**

To learn more, contact your Couchbase sales representative today or visit:

[www.couchbase.com/products/mobile](http://www.couchbase.com/products/mobile)

[www.couchbase.com/products/capella/app-services/](http://www.couchbase.com/products/capella/app-services/)



Modern customer experiences need a flexible database platform that can power applications spanning from cloud to edge and everything in between. Couchbase's mission is to simplify how developers and architects develop, deploy and run modern applications wherever they are. We have reimagined the database with our fast, flexible and affordable cloud database platform Capella, allowing organizations to quickly build applications that deliver premium experiences to their customers – all with best-in-class price performance. More than 30% of the Fortune 100 trust Couchbase to power their modern applications. For more information, visit [www.couchbase.com](http://www.couchbase.com) and follow us on X (formerly Twitter) @couchbase.

