



Couchbase Lite For Web Applications

BUILD WEB APPS THAT WORK OFFLINE AND SYNC DATA BETWEEN MOBILE APPS AND THE CLOUD

Key Benefits

RUN ANYWHERE

Embed Couchbase Lite directly into web apps to create a true “universal client” for browsers that work without Internet, and syncs data with mobile apps and the cloud when there is network connectivity.

UNIFIED WEB + MOBILE EXPERIENCE

Deliver a consistent Developer Experience and authentication model across web and mobile, with built-in sync for consistency.

OFFLINE-FIRST RELIABILITY

Users access core features without internet — always fast, always on.

REDUCE COSTS AND IMPROVE EFFICIENCY

Minimize server calls and cloud egress with local storage and intelligent sync.

ENTERPRISE-GRADE SECURITY & CONFLICT RESOLUTION

Built-in encryption and automatic conflict handling ensure security and data integrity.

UNIVERSAL SYNC

Brings Couchbase’s cloud-to-edge sync capabilities to web applications, ensuring consistent data across browser, mobile, and cloud environments.

Couchbase Lite for JavaScript extends the Couchbase Mobile stack into the browser, giving developers a true embedded database for web apps. Unlike local caches, Couchbase Lite delivers enterprise-grade local storage plus automatic sync with Couchbase Capella and mobile apps.

- **Universal Sync:** Sync across cloud, mobile, and web — with precision routing, filters, and delta sync that minimize data transfer and ensure enterprise-grade consistency.
- **Offline-First Experiences:** Unlike browser storage wrappers or caching, Couchbase Lite for JavaScript delivers a true embedded database with built-in sync and conflict resolution — giving web apps the same offline-first reliability as native mobile apps.
- **End to End Security:** Data encrypted at rest and in transit.
- **Built-in Conflict Resolution:** Automatic conflict resolution support to guarantee consistency across devices.
- **Reactive data access:** Apps can subscribe to database changes, automatically updating the UI as data syncs across devices.
- **Lower Latency and Costs:** Reduce round trips to the server, speed up response times, and cut cloud egress charges by accessing locally persisted data.
- **Seamless Integration with Capella:** Leverage App Services for hosted sync, authentication, and security while maintaining a lightweight local database in the browser.

With this capability, developers can build progressive web apps (PWAs), multi-device experiences, and collaborative tools that deliver the same always-on performance users expect from native mobile apps — now in any modern web browser.

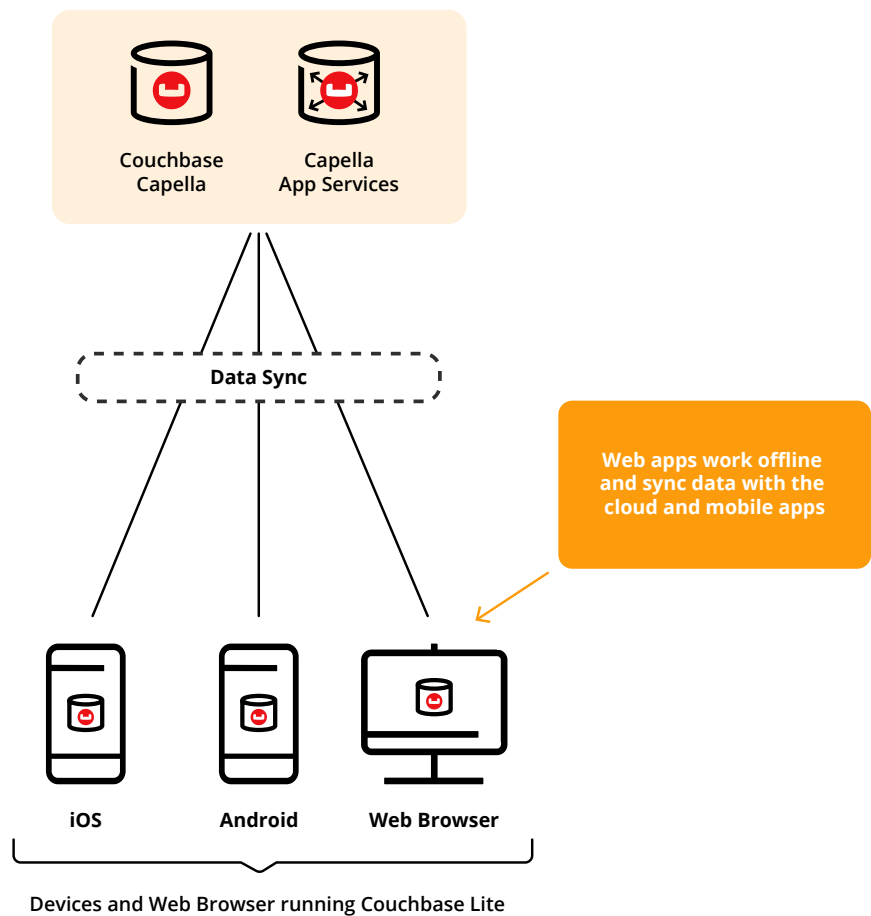


Architecture

Couchbase Lite for JavaScript brings the proven Couchbase Mobile architecture to the browser, extending the same offline-first data layer used in mobile and cloud applications.

- **Local-first storage:** Lightweight, embedded NoSQL database that runs directly in the browser.
- **Data sync:** Seamless bidirectional sync between web, mobile, and the cloud.
- **Automatic conflict resolution:** Automatic resolution ensures consistent state across devices without developer overhead.
- **Fully-managed backend:** Secure sync, authentication, and data management through Couchbase Capella App Services as a backend.

This architecture empowers developers to build offline-first web applications that stay fast, resilient, and consistent everywhere, bringing the full power of Couchbase Mobile to the browser.



Use Cases

REAL TIME DISPLAYS

Apps that visualize or stream live operational data, like flight arrival boards, requiring low-latency data delivery and instant synchronization

PWA STYLE EXPERIENCES

Web-based, installable Progressive Web Apps (PWAs) that deliver native experiences and can run in offline mode in low-connectivity environments, like field apps

COLLABORATIVE APPS

Provide a consistent experience across devices and platforms (mobile, desktop, and web), allowing users to switch seamlessly between them, with data and app state automatically kept in sync.

MULTI-PLATFORM APPS

Deliver a consistent experience across platforms (mobile, desktop, and web) so users can switch seamlessly between devices, with data and app state automatically kept in sync.



Why Local Storage in Web Apps Matters

Reduce Server Load

Minimize reliance on the server by caching frequently accessed data on the client. This reduces API calls, cuts cloud egress costs, and improves overall scalability.

Prevent Data Loss

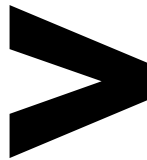
Protect users from disruptions caused by browser refreshes, crashes, or dropped connections by saving data locally until synchronization is complete.

Enable Mobile Browser Access

Deliver native-like offline experiences to browser users. Even without connectivity, key app functions remain available and responsive.

Deliver a Unified Experience

Ensure web and mobile apps share the same data, queries, and authentication model — streamlining development while providing users with a seamless, consistent experience across platforms.



LEARN MORE

To learn more, contact your Couchbase sales representative today or visit: couchbase.com/products

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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 consume modern applications wherever they are. We have reimaged 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

