pouchdb

The Database that Syncs

About Me

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JRS Coding School

- 12 Week Full Stack JavaScript Course
- Open Source Projects and Libraries - github.com/twilson63
- Chief Technology Innovation Officer - Tabula Rasa HealthCare

What is PouchDB?

- JavaScript Database
- Inspired by Apache CouchDB
- Runs in the Browser and NodeJS
- Document Database or NoSQL Database
- Notification or Changes Feed
- Can replicate

Why PouchDB?

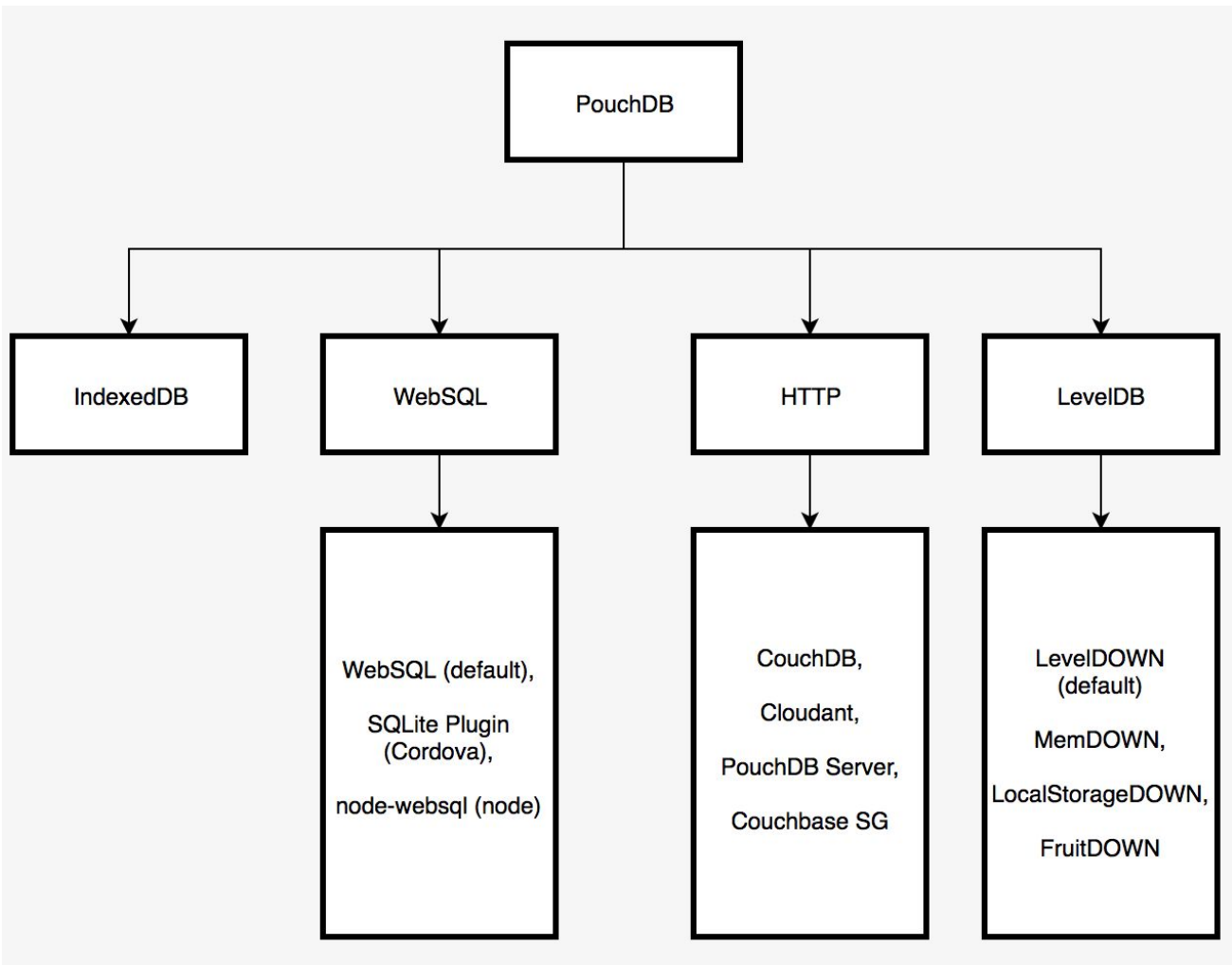- Why use a database in the Browser?
- Why replication?
- Why NoSQL?

Offline First

What is offline first?

Offline capability is a key characteristic of modern Progressive Web Applications.

Offline first thinking must learn from and further what we've seen work with Responsive and Mobile First thinking.

http://offlinefirst.org/

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                            │   PouchDB   │
                            └──────┬──────┘
           ┌───────────────┬───────┴───────┬───────────────┐
           ▼               ▼               ▼               ▼
   ┌─────────────┐ ┌─────────────┐ ┌─────────────┐ ┌─────────────┐
   │  IndexedDB  │ │   WebSQL    │ │    HTTP     │ │   LevelDB   │
   └─────────────┘ └──────┬──────┘ └──────┬──────┘ └──────┬──────┘
                          ▼               ▼               ▼
                   ┌─────────────┐ ┌─────────────┐ ┌─────────────┐
                   │   WebSQL    │ │  CouchDB,   │ │  LevelDOWN  │
                   │  (default), │ │  Cloudant,  │ │  (default)  │
                   │             │ │             │ │             │
                   │ SQLite      │ │ PouchDB     │ │ MemDOWN,    │
                   │ Plugin      │ │ Server,     │ │             │
                   │ (Cordova),  │ │             │ │ LocalStorage│
                   │             │ │ Couchbase SG│ │ DOWN,       │
                   │ node-websql │ │             │ │             │
                   │ (node)      │ │             │ │ FruitDOWN   │
                   └─────────────┘ └─────────────┘ └─────────────┘
```

Apache CouchDB

- PouchDB is able to sync with CouchDB
- CouchDB uses the http protocol - the protocol of the web
- CouchDB treats sync as a first class citizen
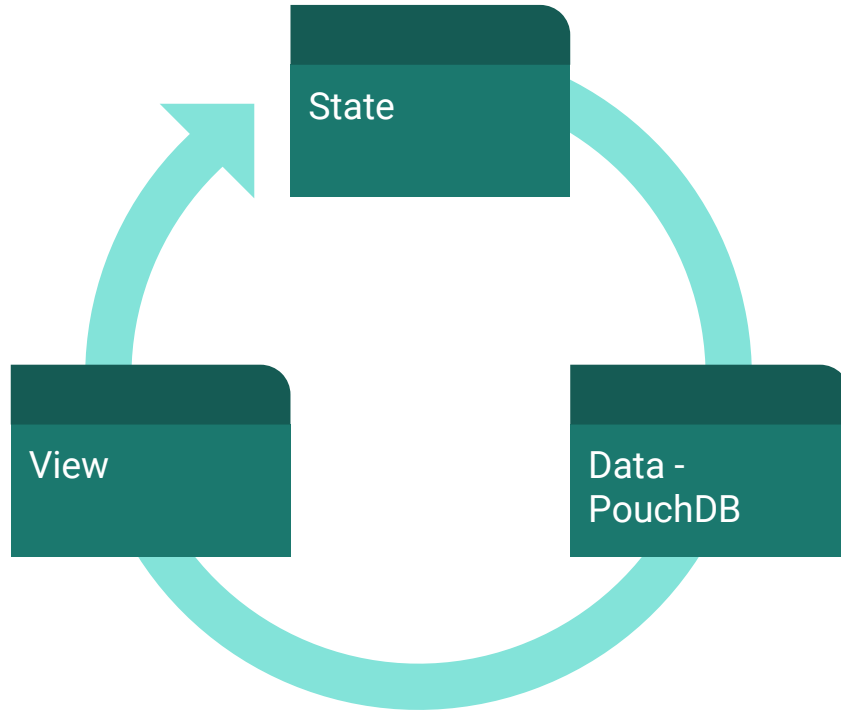- PouchDB is able to act as a driver for CouchDB

Demo

Things to Know

- Browser Db Sizes
  - https://pouchdb.com/faq.html#data_limits
- Security
  - CouchDB - https://github.com/colinskow/superlogin
  - ExpressJS - Proxy
- Configure Revisions
  - `revs_limit` : Specify how many old revisions we keep track (not a copy) of. Specifying a low value means Pouch may not be able to figure out whether a new revision received via replication is related to any it currently has which could result in a conflict. Defaults to `1000` .
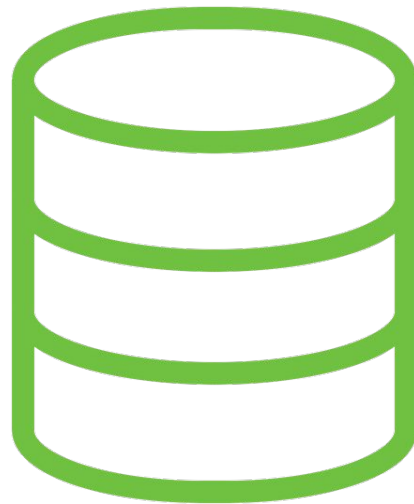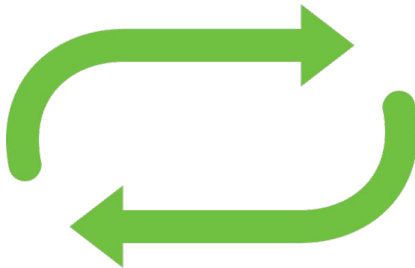
Use Cases

When should I reach for PouchDB?

Prototyping

Offline Availability

(Local Data Caching)

Increased UX

(Local Searching and Lookups)

CouchDB

Cloudant or Self Hosted

Alternate Persistence

https://github.com/twilson63/mysql-down

Q and A

Thank You

@twilson63

Resources

- https://pouchdb.com/
- https://github.com/twilson63/OpenSource-101-PouchDB
- https://pouchdb.com/learn.html
- http://offlinefirst.org/