Lecture 17 - Hash Based Databases v.s. SqLite

SqLite3 v.s. Hash Store - https://youtu.be/0GG2s9uz8BY
get-issue-detail walk through - https://youtu.be/lfCNVEJEOxQ

From Amazon S3 - for download (same as youtube videos)

SqLite3 v.s. Hash Store
get-issue-detail walk through

The stated reason for using a "hash" database like "bitcoin" uses is that you don't have an external database that requires setup and maintenance.
Bitcoin uses LevelDB a hash-file store.

SqLite is a SQL database that stores its data in a single file. All of you are already users of SqLite - it is builtin to Google Chrome, Firefox, Microsoft Edge and Apple Safari. This is how your bookmarks are stored (And a lot of other stuff).

SqLite is designed to be compiled right into an application. So if you need to ship a "demo" of a SQL" tool with the data and you don't want to force the demo-user to setup an entire database - this is the tool for you.

It is reasonably fast - I have run websites with 100's of requests a minute on it.

It works at scale for data. You can lode gigabyte size data. Inside a single application it is ACID compliant - even with multiple threads.

Let's take a look at performance.

Database/Rows	10	100	1000	10000
SqLite3	8	47	391	3141
LevelDb	5	52	431	5210
PostgreSQL	19	61	532	4328

Known "issue" or problems that I have encountered.

1. Inserting a NULL row will not do an insert.
2. Porting data files between big-ndian and little-ndian systems is "iffy".
3. Performance is not the same as 50,000 TPS from PostgreSQL - probably more on the 500-1000 TPS range.