Store Chats in MVStore

Context and Problem Statement

This is a follow-up to ADR-032.

The chats with AI should be saved on exit from JabRef and retrieved on launch. We need to decide the format of the serialized messages.

Decision Drivers

- Easy to implement and maintain
- Memory-efficient (because JabRef is said to consume much memory)

Considered Options

- JSON
- MVStore
- Custom format

Decision Outcome

Chosen option: "MVStore", because it is simple and memory-efficient.

Pros and Cons of the Options

JSON

- Good, because allows for easy storing and loading of chats
- Good, because cross-platform
- Good, because widely used and accepted, so there are lots of libraries for JSON format
- Good, because it is even possible to reuse the chats file for other purposes
- Good, because has potential for being mergeable by external tooling
- Bad, because too verbose (meaning the file size could be much smaller)

MVStore

- Good, because automatic loading and saving to disk
- Good, because memory-efficient

- Bad, because does not support mutable values in maps.
- Bad, because the order of messages need to be "hand-crafted" (e.g., by mapping from an Integer to the concrete message), since MVStore does not support storing list which update.
- Bad, because it stores data as key-values, but not as a custom data type (like tables in RDBMS)

Custom format

- Good, because we have the full control
- Bad, because involves writing our own language and parser
- Bad, because we need to implement optimizations found in databases on our own (storing some data in RAM, other on disk)