OpenXPort JMAP: a PHP library for Data Portability

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FOSDEM 2024, February 4th 2024

The project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 871498.
The Problem: Lack of unified APIs for “PIM“ data (mail, contacts, calendars files, ...)

• Existing standards are oldies (but goldies)
  • IMAP, (Manage)Sieve, CardDAV/CalDAV, WebDAV

• Main issues
  • Heterogeneous → client configuration difficulties
  • Not optimized for mobile (e.g., batching, push)
  • Difficult/impossible to use for browser/backend communication
  • Hard to extend
  • Lack of standards for various data (tasks, notes, settings)
The Solution:
JMAP (JSON Meta Application Protocol)

• JMAP provides **standardized data formats** and REST APIs for email, contacts, calendars, tasks and more (RFC 8621)

• Built on the experiences with IMAP/CardDAV/CalDAV; uses novel JSON data formats **JSCalendar/JSContact** (successors to iCalendar/vCard)

• Aims to improve **performance**, **interoperability** and **data portability** → provides a **unified API** for mail and groupware data for client and server implementations

• Adopted by: Cryrus, FastMail, Apache James, HCL Notes, ...

• [https://jmap.io](https://jmap.io)
Our Open Source work: Generic libraries to easily use JMAP

**jmap-java (Client-side; Java)**

- Library underneath Ltt.rs client by Daniel Gultsch
- Fork: [https://github.com/audriga/jmap-java](https://github.com/audriga/jmap-java)
  - Added support for Contact, Calendars, Tasks, Files and certain Settings

**jmap-openxport (Server-side; PHP)**

- Easily add JMAP API to PHP-based systems
- Supports: Files, Calendars, Contacts, Tasks, Sieve, Preferences
- Can be used for easily lifting file-based data (Sieve, vCard, ...)
- Contains vCard/JSContact + iCalendar/JSCalendar conversion
- [packagist.org/packages/audriga/]
Our Open Source work:
JMAP API extension for several Webmailers

- Horde (read-only)
  - https://github.com/audriga/horde-jmap
- Nextcloud
  - https://github.com/audriga/nextcloud-jmap
- Roundcube
  - https://github.com/audriga/roundcube-jmap
- SquirrelMail (ready-only)
  - https://github.com/audriga/squirrelmail-jmap

Useful for:
- Portability (Import/export) ➔ large-scale migration project-proven
- Interoperability (e.g, client software)
Current / future work

• jmap-dart-client / jmap-cli
• JMAP Mail wrapper for Maildir/Mbox

• IETF specifications
  • JMAP for Tasks
  • (JMAP for Notes/Files)
  • JMAP archive format (open equivalent to Outlook PST files)
  • JMAP for Migration and Data Portability
  • https://datatracker.ietf.org/wg/jmap/documents/