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elAPI A powerful and extensible API client for eLabFTW

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Tags API E-Science-Tage 2025 eLabFTW Poster RDM-Tool

Category RDM-TOOL

Status SUCCESS

MAIN TEXT

Introduction

elAPI is an API client for the electronic lab notebook eLabFTW. It is developed by the University Computing Centre (URZ) of Heidelberg University.

elAPI can support you to

Plan

- Automate experiment/ resource creation from local templates.
- Manage metadata
- Assign permissions

Collect

- Bulk attach raw data automatically
- Extract metadata
- Enrich metadata
- Enforce structured data

Analyze

- Get statistics/reports
- Compare results
- Compute results
- Check for non-compliant metadata

Preserve

- Automated dataset grouping
- Bulk export to archives
- Format migration
- Sign data

Share

- Add metadata
- Format migration
- Upload to repository

Reuse

- Search for existing data
- Bulk import from archive/repositories
- Verify imports

elAPI@URZ current use-case examples

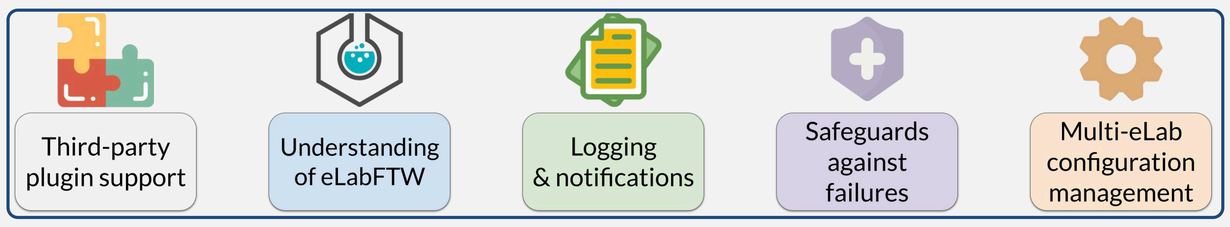
- Automated collection of monthly usage statistics
- Automated enriching of usage-data with external metadata
- Preparing billing information
- Team management scripts

elAPI@URZ future exploration

- Plugin for eLabFTW<->heiARCHIVE
- Plugin for eLabFTW<->heiDATA
- Repository for user-provided plugins/snippets
- Automated optional check for a minimal metadata set

Key highlights

- Can be used as a CLI tool and as a Python library
- Configuration overloading
- Shell auto-completion
- Supports user-created plugins to facilitate custom workflows
- Supports easy raw api commands in the CLI
- Comprehensive help texts
- Fully supports all requests documented in the eLabFTW API documentation
- Supports multiple export/output formats
- Optional syntax highlighting
- Very fast and efficient
- User-friendly
- Made available under the AGPL-3.0 license




```
Usage: elapi [OPTIONS] COMMAND [ARGS]...

 Options
 --install-completion          Install completion for the current shell.
 --show-completion             Show completion for the current shell, to copy it or
                               customize the installation.
 --help                        Show this message and exit.

 elapi global options
 --override-config,--OC        TEXT  ⚡Force override detected configuration from
                                     'elapi.yml'. The value can be in JSON format
                                     as a string, or a JSON or YAML file path. This
                                     option can only be passed before passing any
                                     other argument/option/command. E.g., elapi
                                     --OC '{"timeout": "10", "verify_ssl":
                                     "false"}' get info -F yml, or elapi --OC
                                     "~/.quick-config.yml" get info -F yml.

 Commands
 init         Initialize elapi configuration file.
 show-config  Get information about detected configuration values.
 version      Show version number.

 Raw API commands
 get     Make GET requests to eLabFTW endpoints.
 post    Make POST requests to eLabFTW endpoints.
 patch   Make PATCH requests to eLabFTW endpoints.
 delete  Make DELETE requests to eLabFTW endpoints.

 Built-in plugins
 experiments  Manage experiments.
 bill-teams   Manage bills incurred by teams.
```

Comments (2)

eLabFTW sprinkled with fairy dust

elAPI makes simple things boring and difficult things interesting

Steps (2)

- [ ] pip install elapi
- [ ] elapi init

Get in touch

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