

Software Misc

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Security

- The [OWASP API Top 10](#) security measures may be a good place to start when trying to decide what security to implement on your web project

Gitea and DroneCI

I use [Gitea](#) to self-host my code + projects [here](#) and I use [DroneCI](#), a lightweight CI pipeline that integrates into gitea to do automation stuff.

Configuration of Drone + Gitea

TODO: write about setup here - docker etc

Drone CI Config

Drone works like many other CI systems - use yaml files in the repository to control builds. You can specify the type of CI run at the top level of the yaml doc and also give it a name:

```
kind: pipeline
type: docker
name: test and build
```

You can define multiple build steps - each one can have its own docker image - this is useful for example if you have a React frontend and a Golang backend and you need to build both

```
steps:
  - name: test_backend
    image: python:3.7
    commands:
      - pip install poetry
      - poetry install
      - poetry run pytest

  - name: test_frontend
    image: node
    commands:
      - npm install
      - npm test
```

Shared State Between Steps

Steps can share files via [temporary volumes](#) if needed but are generally stateless and independent.

Conditional Execution of Steps

You can opt to only run steps under certain conditions. For example you might only want to publish code when stuff gets pushed to master. Use conditions to do this:

```
- name: publish
  when:
    branch:
      - master
    event:
      exclude:
        - pull_request
  image: python3.7
  commands:
    - twine upload...
```

[The drone documentation](#) has a full set of conditions that you can use - you can also whitelist and blacklist certain events and certain branches

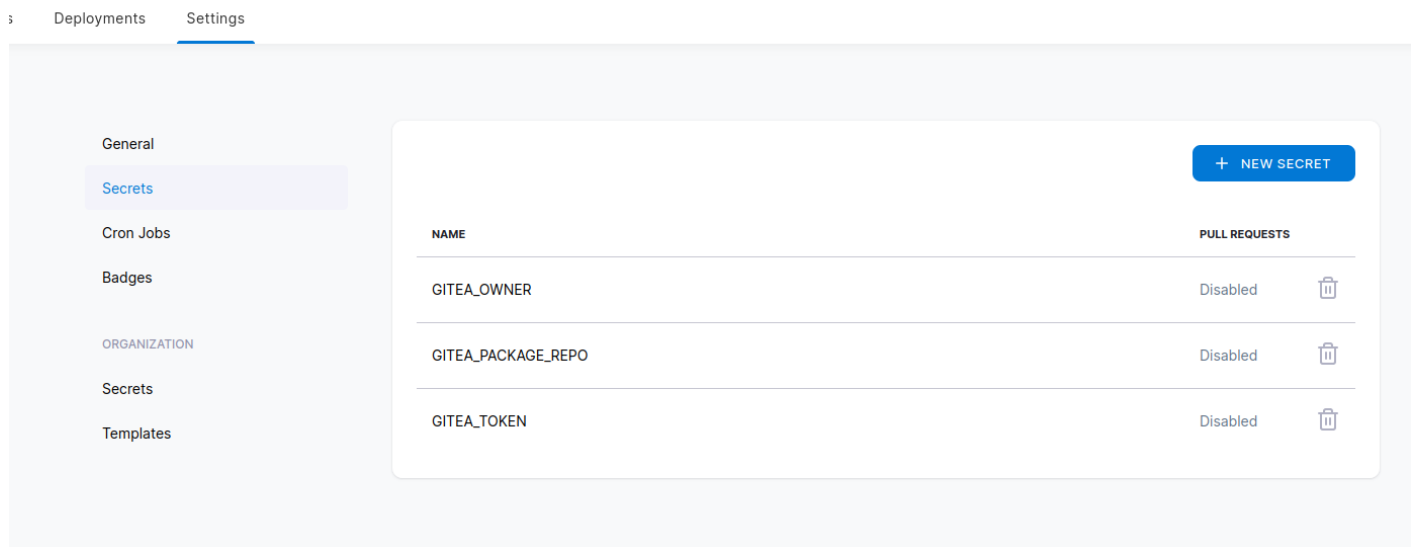
Secrets

[Secrets](#) can be used to pass things like auth tokens into CI pipelines. This is useful if you want to do things like publish packages or upload files. You essentially declare an environment variable and then define which "secret" it came from in your CI yaml file:




```
- name: publish
  when:
    branch:
      - master
    event:
      exclude:
        - pull_request
  image: python3.7
  environment:
    GITEA_PACKAGE_REPO:
      from_secret: gitea_package_repo
```

```
GITEA_OWNER:  
  from_secret: gitea_owner  
GITEA_TOKEN:  
  from_secret: gitea_token
```

Then in the drone frontend you can add the value and it will be stored securely and passed to the CI at run time:



The screenshot shows the Drone CI web interface. At the top, there are tabs for 'Deployments' and 'Settings'. The 'Settings' tab is active. On the left side, there is a sidebar menu with options: 'General', 'Secrets' (highlighted), 'Cron Jobs', 'Badges', 'ORGANIZATION', 'Secrets', and 'Templates'. The main content area displays the 'Secrets' management page. It features a '+ NEW SECRET' button in the top right corner. Below this is a table with two columns: 'NAME' and 'PULL REQUESTS'. The table contains three entries:

NAME	PULL REQUESTS
GITEA_OWNER	Disabled 
GITEA_PACKAGE_REPO	Disabled 
GITEA_TOKEN	Disabled 

Backup Mechanism

Caddy Handler

You can set up caddy to do different things depending on the prefix using [handle](#) directive

```
testsite.com {  
  handle_path /media* {  
    root * /path/to/media  
    file_server  
  }  
  
  handle {  
    root * /path/to/normal/content  
    file_server  
  }  
}
```

FOSS Funding

Underfunding of FOSS projects can be disasterous as [this list](#) shows.

Golang Web Services and Gin

I've been using GoLang to build [IndieScrobbler](#)

Live Reload

I use [this package](#) to live-reload my application as I make changes to it.

CRON No MTA installed discarding output

Answer from [here](#)

“ Linux uses mail for sending notifications to the user. Most Linux distributions have a mail service including an MTA (Mail Transfer Agent) installed. Ubuntu doesn't though.

You can install a mail service, postfix for example, to solve this problem.

```
sudo apt-get install postfix
```

Or you can ignore it. I don't think the inability of cron to send messages has anything to do with the CPU spike (that's linked to the underlying job that cron is running). It might be safest to install an MTA and then read through the messages (`mutt` is a good system mail reader).

The [best option](<https://askubuntu.com/a/804289>) seems to be redirect all output to a log file: `>` (use ``sudo`` if the issue is with root's crontab) and add ``>> /some/log/file 2>&1`` after every command, like this:

```
0 3 * * * <em>cmd</em> >> <em>/some/log/file</em> 2>&1
```

Low and No Code Frontends

Quite often it is useful to have ugly-but-functional frontends for accessing things like databases and carrying out user management. Recently commercial tools like Retool have made it really easy to build this kind of thing by providing drag-and-drop UI builders that are reminiscent of the Visual Studio tooling that we had in the late 90s and early 00s.

Appsmith

Appsmith is a FOSS low-code app builder. IT can connect with a variety of data sources and apps can be exported to git

RSync

RSync is a [FOSS](#) file copying/syncing tool that has a number of uses and can be used to sync via SSH.

Preserving User Permission in Rync

<https://brainsteam.co.uk/2024/01/03/migrating-users-across-servers-with-rsync/>

Syncing with Non-Standard SSH Ports

It's generally good practice to run SSH services on non-standard ports so that they can't be (as) easily port-scanned and attacked. If you need to use RSync with a non standard port you can tell it any extra ssh arguments it needs to know about via the `-e` argument as explained in [this article](#) ([mirror](#)):

```
rsync -arvz \  
-e 'ssh -p <port-number>' \  
--progress --delete \  
user@remote-server:/path/to/remote/folder /path/to/local/folder
```

Story Mapping

Resources

<https://www.easyagile.com/blog/the-ultimate-guide-to-user-story-maps/#what-is-user-story-mapping>

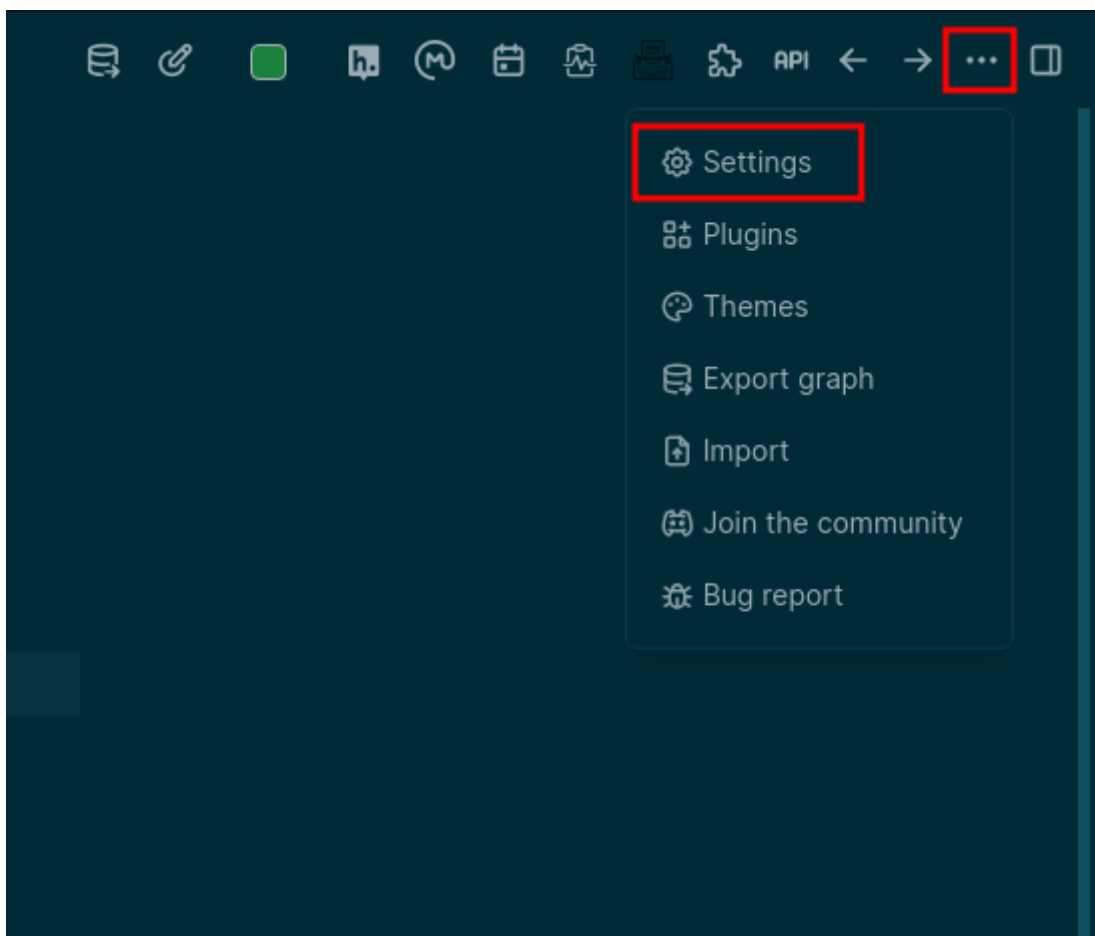
Logseq HTTP API

LogSeq provides a HTTP API for developing plugins. The documentation is not particularly intuitive to get used to.

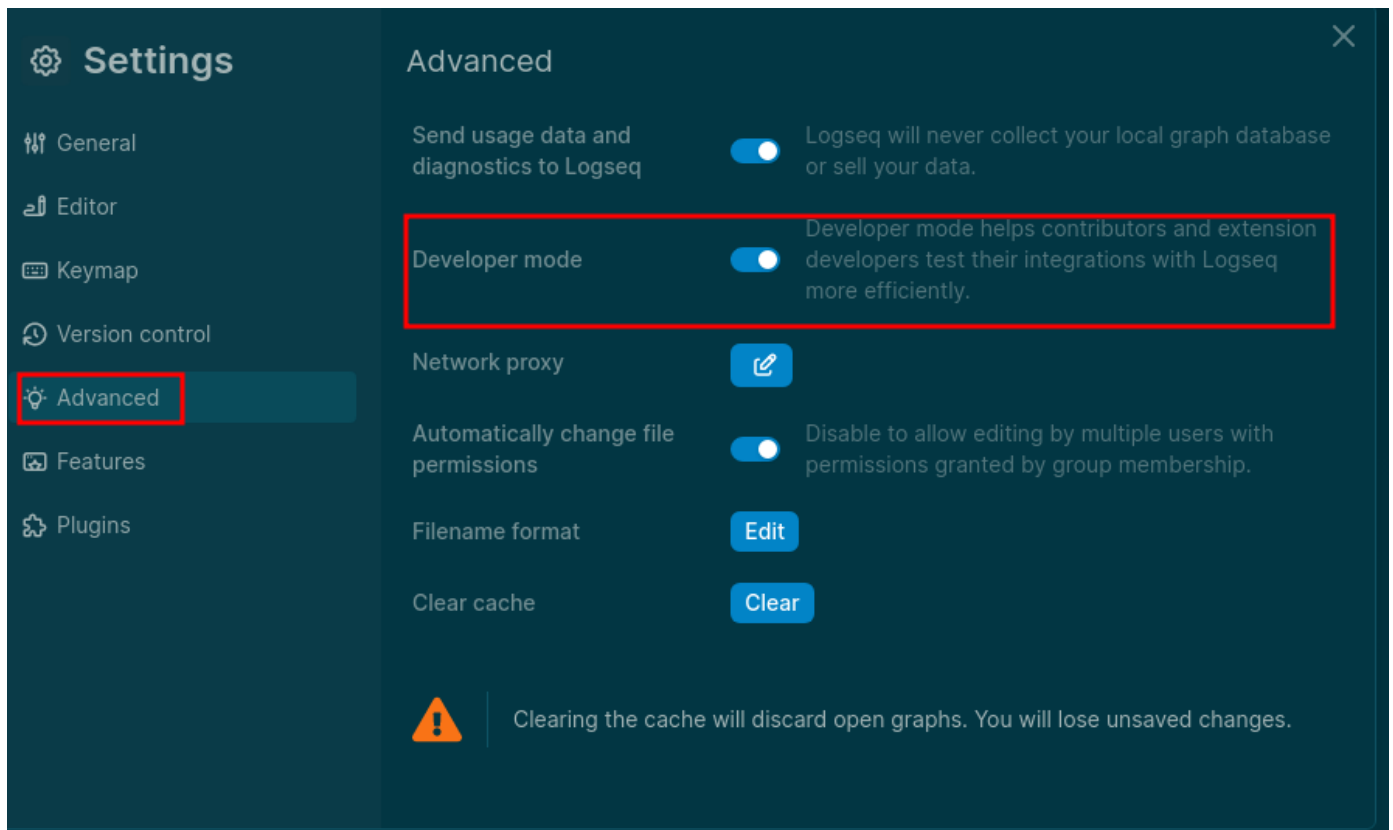
Enabling the API

1. Turn on Dev Mode + API

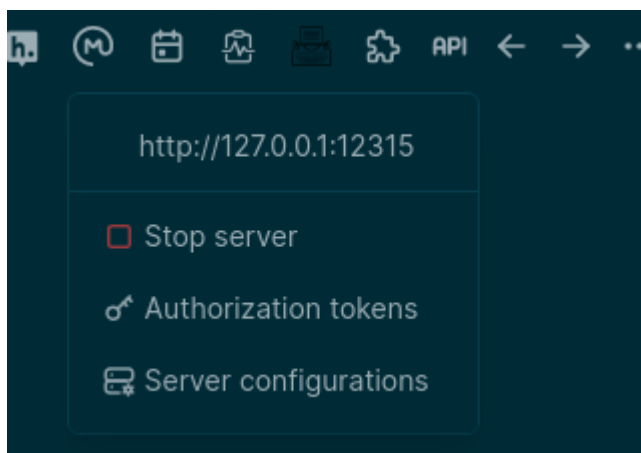
You need to turn on developer mode within Logseq via the settings menu:



Go into the advance settings and enable developer mode



Then when the app restarts you should be able to enable the API



2. Add a Token

by default no token is provided so you won't be able to call the api. Open the manage tokens dialog and create a new token:

http://127.0.0.1:12315

Stop server

Authorization tokens

Server configurations

Authorization tokens

test

lulz

+ Add new token

Save

You will now be able to make HTTP requests to the given URL and PORT using `Authorization: Bearer lulz` or whatever value you chose.

Using the API

If you open your browser and head to <http://127.0.0.1:12315/> you will be advised that you can POST to <http://127.0.0.1:12315/api> with a JSON payload and you can specify which method to call and what arguments to pass. You can use the [Logseq Plugin Docs](#) to find a list of methods that can be used.

For example if I have a page called `Logseq` I could use the following payload along with an `Authorization: Bearer <token>` header to get the page's markdown block content:

```
{
  "method": "logseq.Editor.getPageBlocksTree",
  "args": [
    "Logseq"
  ]
}
```

You can pretty much use any of the methods listed on the plugin doc page with this method - you'll need to check the required arguments in the documentation and make sure that you pass the correct args.

Data Lakehouse

A data lake house combines together the best bits of data warehouses and data lakes.

Data Lakehouses could be seen as the natural convergence of the two architectures (see <https://cloud.google.com/blog/products/data-analytics/data-lake-and-data-warehouse-convergence>)

Data Lake

Data Lake is the name we give to a collection of tools that are often used together to process large amounts of data. Typically it includes a storage system like S3 or HDFS and a processing system like Apache Spark or Hadoop.

- Store lots of data - often in its raw "unprocessed" form in pseudo-real-time
- Process a subset of data in real-time or in batch modes
- Provide language-agnostic language runtimes for data analysis.

Data Warehouse

A data warehouse is usually where data that has been processed and is now structured is stored. It is often used directly by business analysts in downstream applications. Data warehouses don't scale easily and typically have a lot more validation and processing associated with them.

Data Lakehouse

A data lakehouse attempts to combine elements of both Data Lake and Data Warehouse - again it is typically the name given to a group of systems architected together to provide this set of functionality. It normally supports Extract, Load and Transform paradigm.

References

- <https://cloud.google.com/learn/what-is-a-data-lake>
- <https://www.snowflake.com/guides/what-data-lakehouse>
- <https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-a-data-lake>

Design Frameworks

Design frameworks provide out of the box styling and components for use in websites. Many frameworks sit on top of Javascript and Typescript libraries and some lightweight frameworks simply provide CSS styles on top of static HTML.

React Frameworks

Lightweight CSS Frameworks

- [SimpleCSS](#) - written by Kev Quirk and provides a very simple and lightweight framework on top of standard HTML5 elements and components.
- [Foundation](#) - another lightweight CSS framework that works without loads of javascript libraries.

ZSH and Unraid

This set of instructions is 95% based on [this reddit thread](#) (see below for an archived version if the link doesn't work)

1. Install [un-get](#) plugin (using plugin manager, copy and paste [the raw link to the .plg](#) from github)
2. Install zsh:

```
un-get update && un-get install zsh
```

3. Install User Scripts plugin (in Community Applications)
4. edit `/boot/config/go` and add the following to the file:

```
# Install Oh-My-Zsh
HOME="/root" sh -c "$(wget https://raw.githubusercontent.com/robbyrussell/oh-my-zsh/master/tools/install.sh -O -)"
```

5. Create your `.zshrc` file at `/boot/config/extra/.zshrc`:

```
export ZSH="/root/.oh-my-zsh"

ZSH_THEME="robbyrussell"

DISABLE_UPDATE_PROMPT="true"

HISTSIZE=10000
SAVEHIST=10000
HISTFILE=/root/.cache/zsh/history

plugins=(
  zsh-autosuggestions
  zsh-syntax-highlighting
)

source $ZSH/oh-my-zsh.sh
```

```
# User configurations
```

```
alias l='ls -lFh'      #size,show type,human readable
```

```
alias la='ls -lAFh'   #long list,show almost all,show type,human readable
```

6. Create a new script named "zsh" in user scripts and set it to "At Startup of Array"

7. Edit the script you just created `/boot/config/plugins/user_scripts/scripts/zsh/script`

```
#!/bin/bash
```

```
HOME=/root
```

```
OH_MY_ZSH_ROOT="$HOME/.oh-my-zsh"
```

```
ZSH_CUSTOM="$HOME/.oh-my-zsh/custom"
```

```
OH_MY_ZSH_PLUGINS="$ZSH_CUSTOM/plugins"
```

```
OH_MY_ZSH_THEMES="$ZSH_CUSTOM/themes"
```

```
mkdir -p $OH_MY_ZSH_PLUGINS
```

```
mkdir -p $OH_MY_ZSH_THEMES
```

```
# Install zsh-autosuggestions
```

```
if [ ! -d "$OH_MY_ZSH_PLUGINS/zsh-autosuggestions" ]; then
```

```
    echo " -> Installing zsh-autosuggestions..."
```

```
    git clone https://github.com/zsh-users/zsh-autosuggestions
```

```
$OH_MY_ZSH_PLUGINS/zsh-autosuggestions
```

```
else
```

```
    echo " -> zsh-autosuggestions already installed"
```

```
fi
```

```
# Install zsh-syntax-highlighting
```

```
if [ ! -d "$OH_MY_ZSH_PLUGINS/zsh-syntax-highlighting" ]; then
```

```
    echo " -> Installing zsh-syntax-highlighting..."
```

```
    git clone https://github.com/zsh-users/zsh-syntax-highlighting.git
```

```
$OH_MY_ZSH_PLUGINS/zsh-syntax-highlighting
```

```
else
```

```
    echo " -> zsh-syntax-highlighting already installed"
```

```
fi
```

```
chmod 755 $OH_MY_ZSH_PLUGINS/zsh-autosuggestions
```

```
chmod 755 $OH_MY_ZSH_PLUGINS/zsh-syntax-highlighting

chsh -s /bin/zsh

# Remove oh-my-zsh default .zshrc
rm /root/.zshrc

# Make sure the necessary directories are existing
mkdir -p /root/.cache/zsh/
mkdir -p /boot/config/extra/

# Make sure history file exists
touch /boot/config/extra/history

# Symlink .zshrc and history files
cp -sf /boot/config/extra/.zshrc /root/.zshrc
cp -sf /boot/config/extra/history /root/.cache/zsh/history
```

8. Reboot your server and you should now have zsh setup (or run the scripts manually and create .zshrc file in /root/)

References

- [ZSH with persistent config, history and oh-my-zsh, /r/unraid \(Archived Version\)](#)

Node Python and Corporate Firewalls (ZScaler)

Node Custom CA Certificate

Assuming the corporate CA certificate is already installed on your system, you can use `export NODE_OPTIONS="--use-system-ca"` to ensure that node applications use the corporate cert instead.

Python

Reference

See [ZScaler trust store docs](#)

BookStack CLI

Documentation for the bookstack-cli-rs tool

Generic Packages in CI/CD

Forgejo (and Gitea) provide a **generic package registry** that allows you to publish arbitrary files from CI/CD pipelines — ideal for distributing compiled binaries, configuration files, or any static assets.

Authentication

Forgejo requires **Basic authentication** for the generic packages API. This differs from the standard REST API which accepts `Authorization: token` headers.

```
curl --user "<username>:<PAT>" ...
```

Where `<PAT>` is a Personal Access Token with the `write:package` scope.

Publishing Files

Upload a single file

```
curl -X PUT \  
  --user "<username>:<PAT>" \  
  --upload-file ./mybinary \  
  https://git.example.com/api/packages/<owner>/generic/<repo>/<version>/<filename>
```

Path components:

Component	Description
<code><owner></code>	Your username or organization name
<code><repo></code>	Repository name (used as package namespace)
<code><version></code>	Version string (e.g. <code>v1.0.0</code> , <code>0.2.1-rc1</code>)
<code><filename></code>	The actual file to upload

Upload multiple files for the same version

```
curl -X PUT \  
  --user "<username>:<PAT>" \  
  --upload-file ./linux-binary \  
  https://git.example.com/api/packages/<owner>/generic/<repo>/<version>/linux-binary  
  
curl -X PUT \  
  --user "<username>:<PAT>" \  
  --upload-file ./macos-binary \  
  https://git.example.com/api/packages/<owner>/generic/<repo>/<version>/macos-binary
```

Each file is stored independently under the same version path.

Downloading Files

Direct download with authentication

```
curl -fsSL --user "<username>:<PAT>" \  
  https://git.example.com/api/packages/<owner>/generic/<repo>/<version>/<filename> \  
  --output ./downloaded-binary
```

The `-fsSL` flags:

- `-f`: Fail silently on HTTP errors
- `-s`: Silent mode (no progress meter)
- `-S`: Show errors if silent mode is used
- `-L`: Follow redirects

Without authentication (public packages)

If the package repository is public, you can download without credentials:

```
curl -fsSL \  
  https://git.example.com/api/packages/<owner>/generic/<repo>/<version>/<filename> \  
  --output ./downloaded-binary
```

GitHub Actions Workflow Example

```
name: Release
on:
  push:
    tags:
      - "v*"

permissions:
  contents: write
  packages: write

jobs:
  release:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v4

      - name: Build release binary
        run: cargo build --release

      - name: Upload to generic registry
        env:
          GITEA_TOKEN: ${ secrets.PACKAGE_TOKEN }
        run: |
          curl -X PUT \
            --user "${ github.actor }:${ GITEA_TOKEN}" \
            --upload-file target/release/myapp \
            https://git.example.com/api/packages/${ github.repository_owner
            }/generic/myapp/${ github.ref_name }/myapp
```

Gitea Actions Workflow Example

```
name: Release
on:
  push:
    tags:
      - "v*"

```

```

jobs:
  release:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v4

      - name: Build release binary
        run: cargo build --release

      - name: Upload to generic registry
        env:
          GITEA_TOKEN: ${ secrets.PACKAGE_TOKEN }
        run: |
          curl -X PUT \
            --user "username:$GITEA_TOKEN" \
            --upload-file target/release/myapp \
            https://git.example.com/api/packages/${ github.repository_owner
          }}/generic/myapp/${ github.ref_name }}/myapp

```

Troubleshooting

Error	Cause	Solution
401 Unauthorized	Missing or invalid PAT	Verify token has <code>write:package</code> scope
403 Forbidden	Insufficient permissions	Ensure user has write access to the repository
404 Not Found	Wrong path or private package	Check owner/repo/version/filename; use auth for private packages
405 Method Not Allowed	Wrong HTTP method	Use <code>PUT</code> , not <code>POST</code>
500 Internal Server Error	Content-Type mismatch	Remove <code>Content-Type: application/json</code> ; let curl auto-detect

Key Differences: Forgejo vs Gitea

Both Forgejo and Gitea support generic packages, but authentication differs:

Endpoint	Gitea Auth	Forgejo Auth
<code>/api/v1/...</code> (REST)	Authorization: token <PAT>	Authorization: token <PAT>

Endpoint	Gitea Auth	Forgejo Auth
<code>/api/packages/...</code> (packages)	Authorization: token <PAT>	Basic auth (<code>--user user:token</code>)

Always use Basic auth for the packages API to ensure compatibility across both platforms.

Getting Started

Getting Started

Overview

`bookstack-cli-rs` is a command-line interface for the BookStack API, written in Rust. It supports profile-based authentication, all CRUD operations for books/chapters/pages/shelves, and full-text search. Container filtering lets you narrow list results by shelf (books), book (chapters), or book/chapter (pages).

Installation

From Source

```
cargo install --path .
```

Pre-built Binaries

Download from Gitea generic packages:

```
curl -fsSL \  
  --user "<username>:$GITEA_TOKEN" \  
  https://git.example.com/api/packages/<owner>/generic/bookstack-cli-rs/v0.2.0/bookstack-cli-  
rs-x86_64-unknown-linux-gnu \  
  -o bookstack-cli-rs && chmod +x bookstack-cli-rs
```

Version

Current version: **v0.2.0**

Configuration

Profiles store your BookStack instance URL and API tokens. Config is saved to `~/.config/bookstack-cli-rs/profiles.toml`.

Add a Profile (CLI)

```
bookstack profiles add --name mywiki \  
  --url https://wiki.example.com \  
  --token-id ABCDEF1234567890 \  
  --token-secret 0123456789ABCDEF
```

Add a Profile (Environment Variables)

```
export BOOKSTACK_URL=https://wiki.example.com  
export BOOKSTACK_TOKEN_ID=ABCDEF1234567890  
export BOOKSTACK_TOKEN_SECRET=0123456789ABCDEF  
  
bookstack profiles add --name mywiki
```

List Profiles

```
bookstack profiles list
```

Output:

```
Configured profiles:  
[default] My Wiki - https://wiki.example.com (default)  
[mywiki] Another Wiki - https://wiki2.example.com
```

Delete a Profile

```
bookstack profiles delete --name mywiki
```

Using Profiles

Specify which profile to use with `-p` or `--profile`:

```
bookstack -p mywiki list-books
```

```
bookstack list-books
```

```
# uses default profile if no -p given
```

Basic Usage Examples

List All Books

```
bookstack list-books
```

Filter Books by Shelf

```
bookstack list-books --shelf-id 1
```

List Chapters in a Book

```
bookstack list-chapters --book-id 9
```

List Pages in a Chapter

```
bookstack list-pages --chapter-id 42
```

Search Content

```
bookstack search "rust"
```

```
bookstack search "rust" --type page --count 10
```

Get Page with Full Content

```
bookstack get-page 308 --content # show HTML content
```

```
bookstack get-page 308 --markdown # show markdown content
```

Next Steps

- See the [CLI Reference](#) for all commands and options.
- Check out [Generic Package Publishing Debugging](#) for CI/CD integration notes.

CLI Reference

CLI Reference

Global Options

Option	Description
<code>-p, --profile <NAME></code>	Profile name to use (uses default if not specified)

Profiles

Manage authentication profiles.

`profiles add`

Add a new profile with URL and API tokens.

```
bookstack profiles add --name mywiki --url https://wiki.example.com \  
--token-id <TOKEN_ID> --token-secret <TOKEN_SECRET>
```

Option	Description	Environment Variable
<code>--name <NAME></code>	Profile name	—
<code>--url <URL></code>	BookStack instance URL	<code>BOOKSTACK_URL</code>
<code>--token-id <ID></code>	API Token ID	<code>BOOKSTACK_TOKEN_ID</code>
<code>--token-secret <SECRET></code>	API Token Secret	<code>BOOKSTACK_TOKEN_SECRET</code>

`profiles list`

List all configured profiles.

```
bookstack profiles list
```

profiles delete

Delete a profile by name.

```
bookstack profiles delete --name mywiki
```

Books

list-books

List all books, optionally filtered by shelf.

```
bookstack list-books [--shelf-id <ID>] [--count <NUM>]
```

Option	Description
<code>--shelf-id <ID></code>	Filter by shelf ID
<code>--count <NUM></code>	Max results (default: 20)

get-book

Get details of a single book.

```
bookstack get-book <ID>
```

create-book

Create a new book.

```
bookstack create-book <NAME> [DESCRIPTION]
```

update-book

Update an existing book.

```
bookstack update-book <ID> [--name <NAME>] [--description <DESC>]
```

delete-book

Delete a book.

```
bookstack delete-book <ID>
```

Chapters

list-chapters

List all chapters, optionally filtered by book.

```
bookstack list-chapters [--book-id <ID>] [--count <NUM>]
```

Option	Description
<code>--book-id <ID></code>	Filter by book ID
<code>--count <NUM></code>	Max results (default: 20)

get-chapter

Get details of a single chapter.

```
bookstack get-chapter <ID>
```

create-chapter

Create a new chapter in a book.

```
bookstack create-chapter --book-id <ID> --name <NAME> [--description <DESC>]
```

update-chapter

Update an existing chapter.

```
bookstack update-chapter <ID> [--name <NAME>] [--description <DESC>] [--book-id <ID>]
```

delete-chapter

Delete a chapter.

```
bookstack delete-chapter <ID>
```

Pages

list-pages

List all pages, optionally filtered by book or chapter.

```
bookstack list-pages [--book-id <ID>] [--chapter-id <ID>] [--count <NUM>]
```

Option	Description
<code>--book-id <ID></code>	Filter by book ID
<code>--chapter-id <ID></code>	Filter by chapter ID (includes sub-chapters)
<code>--count <NUM></code>	Max results (default: 20)

get-page

Get a page with optional content display.

```
bookstack get-page <ID> [--content|--markdown]
```

Option	Description
<code>--content</code>	Show full HTML content
<code>--markdown</code>	Show markdown content

create-page

Create a new page in a book or chapter.

```
bookstack create-page --name <NAME> \  
  [--book-id <ID>] [--chapter-id <ID>] \  
  <CONTENT>
```

```
[--html <HTML>] [--markdown <MD>] [--content <TEXT>]
```

At least one of `--book-id` or `--chapter-id` is required. At least one of `--html`, `--markdown`, or `--content` is required.

update-page

Update an existing page.

```
bookstack update-page <ID> \  
  [--name <NAME>] [--html <HTML>] [--markdown <MD>] [--content <TEXT>] \  
  [--book-id <ID>] [--chapter-id <ID>]
```

delete-page

Delete a page.

```
bookstack delete-page <ID>
```

Shelves

list-shelves

List all shelves.

```
bookstack list-shelves [--count <NUM>]
```

get-shelf

Get details of a single shelf.

```
bookstack get-shelf <ID>
```

create-shelf

Create a new shelf.

```
bookstack create-shelf <NAME> [DESCRIPTION]
```

Search

Search across all content types.

```
bookstack search <QUERY> [--type <TYPE>] [--count <NUM>]
```

Option	Description
<code>--type <TYPE></code>	Filter by type: <code>page</code> , <code>chapter</code> , <code>book</code> , <code>bookshelf</code>
<code>--count <NUM></code>	Max results (default: 20)

Examples

```
# Search all content for "rust"
bookstack search "rust"

# Search only pages
bookstack search "rust" --type page

# Search with limit
bookstack search "configuration" --count 5
```

Building tea CLI for Termux

Overview

This documents the process of building the [tea CLI](#) (official Gitea CLI tool) as a Termux package for aarch64 Android devices.

Prerequisites

- Docker installed with user in docker group
- [termux-packages](#) repository cloned
- Android NDK is handled automatically by the Docker builder image

Phase 1 -- Local Build

1. Clone termux-packages

```
git clone https://github.com/termux/termux-packages
```

2. Create package directory and build.sh

File: `packages/tea/build.sh`

Key fields:

Field	Value
TERMUX_PKG_VERSION	0.14.0
TERMUX_PKG_SRCURL	https://gitea.com/gitea/tea/archive/refs/tags/v\${TERMUX_PKG_VERSION}.tar.gz
TERMUX_PKG_SHA256	f509de217ac0e57491ffdab2750516e8c505780881529ee703b9d0c86cc652a3
TERMUX_PKG_LICENSE	MIT
TERMUX_PKG_BUILD_DEPENDS	golang

Field	Value
TERMUX_PKG_BUILD_IN_SRC	true

Critical notes:

- Do NOT set TERMUX_PKG_DEPENDS= (empty value is parsed as a dependency on an empty string -- caused the first build failure)
- Use termux_setup_golang in termux_step_pre_configure()
- Build with CGO_ENABLED=0 for pure Go compilation

3. Build via Docker

```
cd termux-packages
bash scripts/run-docker.sh
# Inside container:
./build-package.sh -f -I tea
```

The -f flag forces rebuild, -I downloads dependencies from Termux repos instead of building them locally.

4. Result

- Output: output/tea_0.14.0_aarch64.deb (6.2MB)
- Install on device: pkg install ./output/tea_0.14.0_aarch64.deb

Phase 2 -- Contribute Upstream

Submitting to termux-packages

1. Fork <https://github.com/termux/termux-packages>
2. Add packages/tea/build.sh to your fork
3. Create PR with commit message: addpkg(main/tea): add tea CLI for Gitea servers

Packaging Policy Compliance

- MIT licensed
- Active project (233+ stars on Gitea)
- Pure Go (no CGO issues, no native deps)
- Not installable via language-specific package manager

- Package size under 100MB

Known Issues Encountered

1. **Empty TERMUX_PKG_DEPENDS** -- Setting TERMUX_PKG_DEPENDS= causes parse error: "depends on non-existing package". Fix: omit the line entirely.
2. **NDK not installed** -- Local build fails without Android NDK. Fix: use Docker builder image instead.
3. **SSH sudo** -- run-docker.sh requires TERMUX_DOCKER_USE_SUDO=1 unless user has sorted sudo permissions.

Build Time

Approximately 5-15 minutes for first build (downloading Go toolchain, fetching all Go module dependencies, cross-compilation). Subsequent builds are faster due to caching.