

BASIL - The FuSa Spice

2025 Recap - 2026 Goals

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ELISA
Enabling **Linux** in
Safety Applications

Aerospace · Automotive · Linux Features

OS Engineering Process · Safety Architecture · Systems · Tools

Lighthouse · Space Grade Linux

What is it?

A collaborative tool for software traceability management

- Web user interface and API
- Multi user
- Granular permissions management
- Granular traceability capability (snippets)
- Embedded Test infrastructure and integration with many external ones
- Import/Export (SPDX, yaml, csv, xlsx, json, html, pdf)
- Track progress and clarifies gaps
- In-app AI suggestions
- ...
- <https://github.com/elisa-tech/BASIL> for more details

How it looks like?

The screenshot displays the BASIL web interface. The top header includes the BASIL logo (The FuSa Spice) and a user profile for 'admin'. The left sidebar contains navigation links: Home, Traceability Scanner, User Management, Test Run Plugin Presets, Settings, SSH Keys, User Files, Libraries, Useful Links, and Version: 1.8.6. The main content area is divided into two rows. The first row shows a 'Completion: [4 green bars]' indicator above a yellow code block containing shell script snippets: `.SH DESCRIPTION`, `The`, `.BR chmod ()`, `and`, `.BR fchmod ()`, `system calls change a file's mode bits.`, `(The file mode consists of the file permission bits plus the set-user-ID, set-group-ID, and sticky bits.)`, and `These system calls differ only in how the file is specified:`. The second row shows another 'Completion: [4 green bars]' indicator above a green code block with snippets: `.IP \[bu] 3`, `.BR chmod ()`, `changes the mode of the file specified whose pathname is given in`, and `.IR pathname ,`. To the right of these code blocks are two test case cards. The first card is for 'Justification 352', version 2.1, with 100.0% completion and a high-level description. The second card is for 'Test Case 25', version 2.1, with 100.0% completion, titled 'chmod01.c', and describes verifying that `chmod(2)` succeeds. A third card for 'Test Case 388', version 1.2, with 100.0% completion, titled 'chmod03.c', is partially visible at the bottom.



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2025 Recap

Q1 2025

 34 PRs | Focus: CI Testing & User Experience

 HIGHLIGHTS:

- └ Testing Initiative: API unit testing framework (UserLogin, Documents, SwRequirements)
- └ Auth: Password reset via email, user profiles
- └ User Experience: simplified permissions management
- └ Import/Export: Multi-format requirements (CSV/JSON/YAML/SPDX), SPDX Model 3
- └ UX: Multi-browser snippet selection, test result improvements
- └ DevOps: Docker→Podman migration, Raspberry Pi support

 KEY METRICS:

- 6 API unit test PRs
- 5 new features PRs
- 4 deployment/infra PRs

Q2 2025

 20 PRs | Focus: API Quality, Container Optimization and Test infrastructure

 HIGHLIGHTS:

- └─ Testing: Comprehensive endpoint coverage (SwRequirements, Documents, Mappings)
- └─ Optimization: Container size reduction (165MB), npm vulnerabilities fixed
- └─ Features: LAVA plugin, UI AutoRefresh, Email notifications
- └─ Email: SMTP_SSL support, better login feedback, template system
- └─ Code Quality: Pytest coverage reporting, code decorators, version checks

 KEY METRICS:

- 8 unit test PRs (comprehensive API coverage)
- 5 feature PRs
- 165MB container (50% reduction)
- 3 security fixes

Q3 2025

 25 PRs | Focus: PostgreSQL Migration , SPDX and AI

 HIGHLIGHTS:

└─  PostgreSQL Migration: SQLite3→PostgreSQL (major architectural change)

└─ Standards: SPDX 3.0.1 export/import, traceability visualization

└─ Features: AI integration, document hierarchies

└─ Deployment: Apache scripts, env file support, database initialization

└─ Testing: TMT plugin fixes, E2E testing on Ubuntu

└─ Community: Discord integration, version notifications

 KEY METRICS:

• 1 major infrastructure change (DB migration)

• 5 feature PRs

• 6 deployment/DevOps PRs

• 10+ fixes & improvements

Q4 2025

 21 PRs | Focus: Traceability & Document Management

 HIGHLIGHTS:

- └─  Traceability as Code: Configuration-driven external repo integration
- └─ Documents: Hierarchical mapping, document forking, granular control
- └─ Features: Traceability as Code, Export to HTML and PDF, alert endpoint, release notifications, version displays
- └─ Deployment: Unified scripts, automated backups, CI improvements
- └─ Bug Fixes: SPDX export, port detection, settings initialization

 KEY METRICS:

- 1 transformative feature (Traceability as Code)
- 3 major feature PRs
- 5 bug fixes
- 4 deployment improvements

Releases

Jan V1.6.0

Mar V1.6.4

Mar V1.6.5

Aug v1.7.3

Oct V1.8.3

Oct V1.84

Nov V1.8.5

Nov v1.8.6

Forums 2025

FOSDEM - Feb - Bruxelles - [Link](#)

Software Bill of Materials (SBOM) Track - BASIL an open source tool that supports requirements traceability with design SBOM

ELISA Workshop 1 - May - Lund - [Link](#)

KernelCI, BASIL & Testing

Open Source Summit Europe - Amsterdam - [Link](#)

Safety-critical software - BASIL - What's New, What's Next

ELISA Workshop 2 - Nov - Munich - [Link](#)

BASIL

Linux Plumbers - Dec - Tokyo - [Link](#)

Safe Systems with Linux MC - BASIL: Traceability as Code

Support Channels

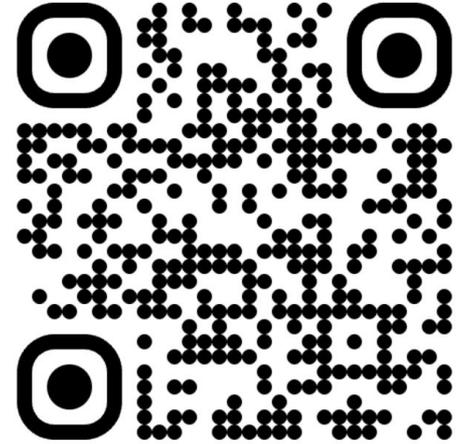
Github - <https://github.com/elisa-tech/BASIL>

ELISA Mailing List

- tool-investigation@lists.elisa.tech

Discord

- Tools WG - basil
- Tools WG - general chat



discord

Instructional Videos

Youtube Channel - <https://www.youtube.com/channel/UC8grEPwi7yqJ3iBUwXJ93-w>

- BASIL - User Files Management - Feb
- BASIL - How to Deploy on a Debian machine - March
- BASIL - tmt (Test Management Tool) - April



Youtube channel

Synergies

InfoMagnus presented “Continuous Compliance in Safety-Critical Open Source Projects” at ELISA Workshop in Munich illustrating their work on a Continuous Compliance framework that can work in synergy with BASIL leveraging the traceability matrix export in SPDX 3 format.

<https://elisa.tech/event/elisa-workshop-munich-2025/>

Traceability as Code

- Proposal to abstract the traceability that can be adopted to any tools
- Goal: Define a standard in traceability definitions
- Move traceability rules in a configuration file
- Scan multiple external git repositories to extract data
- Shareable configuration file generates same results
- Automatically takes into account new work items
- Recreate the traceability of a target git commit
- Not tied to a single work item format
- Can be used in CI as the feature is provided by a command line tool
- Easy to extend with custom rules
- Can be used in CI automating the generation of an SBOM



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Seminar 2026

ELISA Seminar – From Requirements to Code: Managing End-to-End Traceability with BASIL

Wednesday, March 11, 2026, 7:00-8:00 Pacific / 14:00-15:00 UTC / 15:00-16:00 CET

<https://elisa.tech/event/elisa-seminar-from-requirements-to-code-managing-end-to-end-traceability-with-basil/>

Roadmap

Features

- Baseline
- Extend user files section to support nested folders
- Increase API test coverage
- Extend traceability as code to Test Runs
- Extend traceability to link Test Cases to Documents
- Support for git hooks



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BASIL - ELISA Instance

BASIL - ELISA online public instance

The screenshot displays the BASIL web interface. On the left is a dark sidebar with navigation options: Home, Traceability Scanner, User Management, Test Run Plugin Presets, Settings, SSH Keys, User Files, Libraries, Useful Links, and Version: 1.8.6. The main content area has a top navigation bar with a welcome message, a search bar for identifiers, and tabs for 'experimentation', 'syscalls', and 'test'. The 'syscalls' tab is active, showing an 'API Listing for syscalls' with a 'Covered 2.7%' indicator. A table lists 12 API entries with columns for ID, API name, Version, Owner, Category, Last Completion, Notifications, and Actions. The 'Last Completion' column shows progress bars for each entry.

ID	API	Version	Owner	Category	Last Completion	Notifications	Actions
> 3	accept	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 4	accept4	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 5	access	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 6	acct	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 7	add_key	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 8	adjtimex	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 9	afs_syscall	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 10	alarm	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 11	arch_prctl	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮
> 12	bind	1e2d36deb2de1dba7...	lpellecc		<div style="width: 100%;"><div style="width: 100%;"></div></div>		⋮

BASIL - ELISA online public instance



<http://elisa-builder-00.iol.unh.edu:9056/>



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Thanks