



ELISA

Enabling **Linux** in
Safety Applications

ELISA Workshop London, UK

June 9-11, 2026
Co-hosted with Canonical





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Enabling **Linux** in
Safety Applications

[BASIL]

[Luigi Pellecchia]

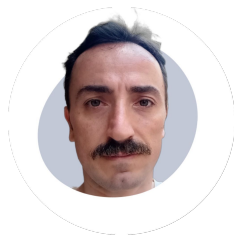
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Who I Am



Luigi Pellecchia



*Principal
Software Quality
Engineer*

**In-vehicle OS
Red Hat**

*Member of
Technical Steering
Committee*

**ELISA
(Linux Foundation)**

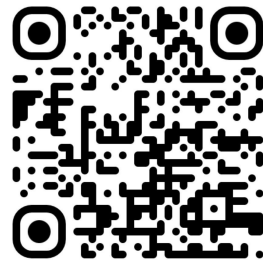
Agenda

- BASIL Overview
- Nov 25 - June 26 Updates
- What's next

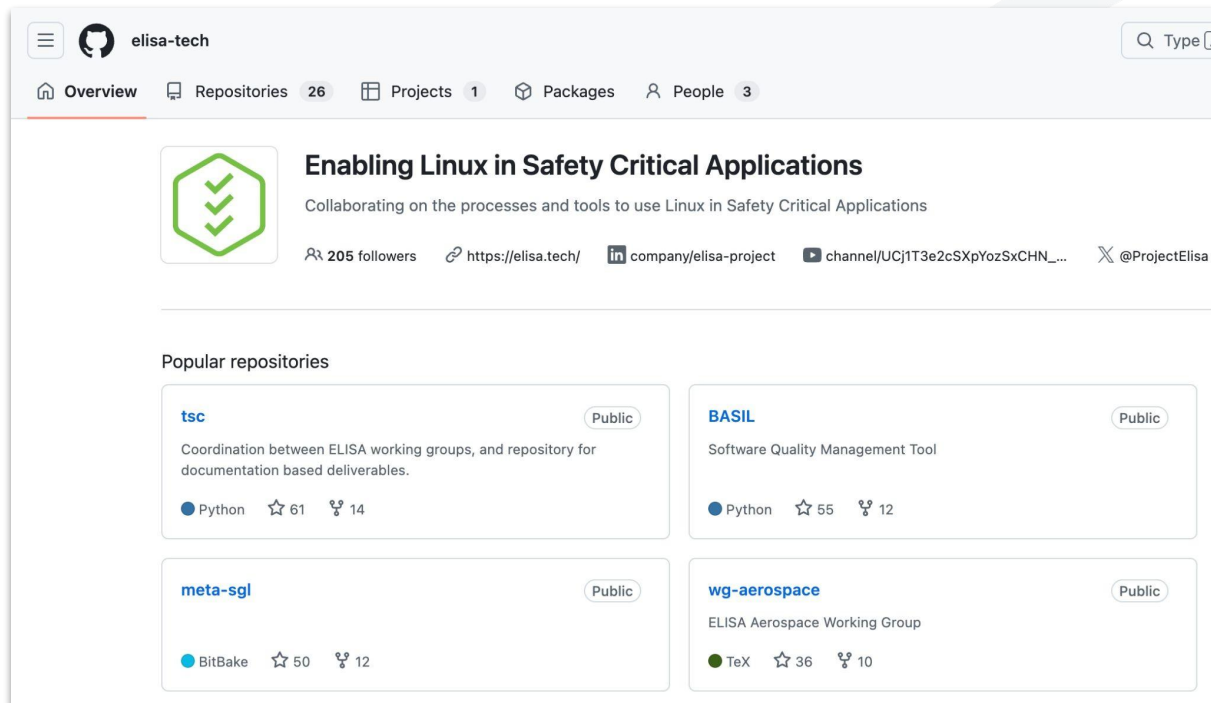
BASIL The FuSa Spice

A quality management platform for test traceability, requirements mapping, and compliance documentation.

- Born at Red Hat to support RHIVOS Functional Safety ISO 26262 Compliance Certification
- BASIL name comes from ASIL B
- Presented to ELISA Project on June 2023 during the [Berlin Workshop](#)
- Open Sourced and hosted at [ELISA github](#)



BASIL The FuSa Spice



The screenshot shows the GitHub profile for 'elisa-tech'. At the top, there's a navigation bar with 'Overview' (selected), 'Repositories' (26), 'Projects' (1), 'Packages', and 'People' (3). Below this is the profile header for 'Enabling Linux in Safety Critical Applications', featuring a green hexagonal logo with three checkmarks. The header includes 205 followers, the website 'https://elisa.tech/', LinkedIn 'company/elisa-project', YouTube 'channel/UCj1T3e2cSxpYozSxCHN...', and Twitter '@ProjectElisa'. The 'Popular repositories' section lists four items: 'tsc' (Python, 61 stars, 14 forks), 'BASIL' (Python, 55 stars, 12 forks), 'meta-sgl' (BitBake, 50 stars, 12 forks), and 'wg-aerospace' (TeX, 36 stars, 10 forks). Each repository card also indicates it is 'Public'.

ELISA BASIL instance

The screenshot shows the ELISA BASIL web interface. The top navigation bar includes a hamburger menu, the BASIL logo with the tagline 'The FuSa Spice', a notification bell with '0', a help icon, and a user profile 'lpellecc'. A light blue banner at the top right contains a welcome message: 'Welcome to the public ELISA BASIL instance! Feel free to create an account and start experimenting with the tool. On doing so use your email, we will not promote account with dubious email.'

The left sidebar contains the following menu items: Home, Traceability Scanner, User Management, Test Run Plugin Presets, Settings, SSH Keys, User Files, Libraries, Useful Links, and Version: 1.8.12.

The main content area features a search bar labeled 'Search Identifier' and a 'Search' button. Below this is a tabbed interface with 'char', 'experimentation', 'syscalls', and 'test'. The 'char' tab is active, displaying the title 'Listing Software Components for char' and a green badge indicating 'Covered 31.0%'. There are buttons for 'Add Software Component' and 'Baseline'.

The table below lists the software components:

ID	Name	Version	Owner	Category	Last Compl...	Notifications	Actions
> 353	mem	2.3	jerryao	driver	✓✓✓	🔔 📧 📋	⋮
> 352	mem	b4e07588e743c98949...	lpellecc	driver	✓✓✓	🔔 📧 📋	⋮

BASIL Updates



ELISA Seminar - March 26



The thumbnail features a dark background with the ELISA logo (a green hexagon with three white chevrons) in the top left. To its right, the text 'From Requirements to Code: Managing End-to-End Traceability with BASIL' is displayed in white. Below this, a red YouTube play button is centered. In the bottom left, there is a circular profile picture of Luigi Pellicchia, with his name and title 'Principal Software Quality Engineer Red Hat' listed to the right. At the bottom right, the text 'Watch on YouTube' is visible next to the YouTube logo. A green banner at the top right of the thumbnail indicates the date '11 March 2026' and times '7AM PT / 2PM UTC / 3PM CET'. The word 'SEMINAR' is also visible in a green box at the top.

From Requirements to Code: Managing End-to-End Traceability with BASIL

11 March 2026
7AM PT / 2PM UTC / 3PM CET

SEMINAR

Luigi Pellicchia
Principal Software
Quality Engineer
Red Hat

Watch on YouTube

From Requirements to Code: Managing End-to-End Traceability with BASIL

WATCH SEMINAR

<https://elisa.tech/seminar-series/>

HTML/PDF Export

- Core export functionality - HTML/PDF export implemented (Jan 15, 2026)
- Comments in exports - Added comment support to HTML/PDF documents (Mar 9, 2026)
- Configurable export options - Flexible export settings (Apr 1, 2026)
- Enhanced readability & styling - Improved PDF formatting and navigation (Apr 20, 2026)
- Dependency fixes - Resolved PDF export technical issues (Apr 24, 2026)

Hierarchical Documents Mapping

- Hierarchical structure support - Documents with nested parent-child relationships (Nov 11, 2025)
- Document forking capability - Clone documents while preserving hierarchy (Nov 11, 2025)
- Enhanced mapping refinement - Improved TestSpecificationTestCasesMapping structure (Mar 2, 2026)
- Cross-type mapping visualization - Unified view for different document types (May 7, 2026)

Fork extended to all work items

- Document fork with hierarchy - Clone documents preserving nested relationships (Nov 11, 2025)
- API new version cloning - Fork software components with all mapped relationships (Apr 13, 2026)
- Complete fork endpoints - Implemented for Test Specifications, Test Cases, and Justifications (Apr 13, 2026)
- Indirect mapping support - Fork functionality for parent-child work item relationships (Apr 13, 2026)
- Frontend integration - New Version modal and menu entries added (Apr 13, 2026)

Work items Delete from UI

- Software Requirement delete - Delete endpoint and UI button (Apr 23, 2026)
- Document delete - Delete endpoint and UI functionality (Apr 23, 2026)
- Test Specification delete - Delete support with UI integration (Apr 23, 2026)
- Test Case delete - Delete endpoint and UI button (Apr 23, 2026)
- Justification delete - Delete endpoint and UI button (Apr 20, 2026)

Auto-fix broken mappings

- Auto-fix in mapping view - Support for automatic fixing of broken mappings (Mar 9, 2026)
- Unified cross-type visualization - Dynamic view for mapping visualization with fix capabilities (May 7, 2026)

User filesystem flat to nested

- Folder management - Create, organize folders in user file system (Apr 24, 2026)
- Move/rename operations - Reorganize files and folders with drag-and-drop functionality (Apr 24, 2026)
- Nested path support - Full hierarchy support for multi-level directory structures (Apr 24, 2026)

Comments as TODO

- TODO comment support - Added TODO functionality to comments (Apr 1, 2026)
- Extended to indirect work items - Comment support expanded to indirect work item types (Mar 7, 2026)
- Comment modal management - Clear comment edit state and list on modal close (Apr 1, 2026)
- Read-only user permissions - Users with read access can add comments and TODOs (Apr 1, 2026)

Dynamic view

- Unified cross-type mapping visualization - Dynamic view for different document/work item types (May 7, 2026)
- Enhanced mapping refinement - Improved TestSpecificationTestCasesMapping structure (Mar 2, 2026)
- Auto-fix integration - Support for automatic fixing within mapping views (Mar 9, 2026)

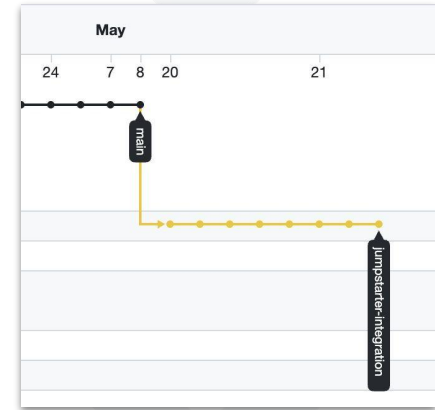
What's next



Jumpstarter test execution plugin

Jumpstarter is a free and open source test automation framework. It bridges the gap between embedded development workflows and deployment environments, enabling consistent automated testing across real hardware and virtual environments with CI/CD integration. (jumpstarter.dev)

<https://jumpstarter.dev/main/>



Jumpstarter test execution plugin

Test Infrastructure	Trigger and Trace	Trace pre existing runs	Type	Available starting from version
tmt	✓	✗	Embedded	>= 1.4
Gitlab CI	✓	✓	External	>= 1.5
GitHub Actions	✓	✓	External	>= 1.5
KernelCI	✗	✓	External	>= 1.5
Testing Farm	✓	✗	External	>= 1.5
LAVA (Linaro)	✓	✓	External	>= 1.7
Jumpstarter	✓	✗	External	Q3 2026

SPDX 3.0.1 to 3.1 Safety Profile support

State of the art Main gaps

<https://spdx.org/rdf/3.0.1/spdx-context.jsonld> •

- Represent Requirements with the Requirement model
- Basil is using Annotation to propose the BASIL database raw data
- New work item: Assumption of Use
- No Safety-Specific Relationship Types
- Test Specifications are not represented as RequirementVerification Elements
- No EvaluationResult Elements
- No EvidenceRelationship Elements
- Use ElementCollection to represent completeness

MCP Server and SKILLS

Aspect	MCP Server	Skill Files
What it is	External service exposing tools, data, and actions to an AI via the Model Context Protocol (MCP)	Structured instructions, workflows, and domain knowledge provided directly to the AI
Best for	Live requirements repositories, traceability databases, change-impact analysis, compliance systems	Guidance, traceability methodologies, review checklists, and process enforcement Static or manually maintained
Data Access	Real-time, dynamic, system-connected	Low–Medium – mainly guides AI behavior
Automation	High – can query, create, update, and validate artifacts	Good for lightweight workflows
Scalability	Excellent for enterprise integrations	Lower (authoring and maintaining files)
Implementation Effort	Higher (API/server development and maintenance)	Weaker – relies on AI following instructions consistently
Governance & Auditability	Strong – actions and data can be controlled centrally	

Get involved

Github: Issues, PR, Discussions - <https://github.com/elisa-tech/BASIL>

Discord: tool wg channel, basil channel - <https://discord.gg/2sCQSTZHTW>

Mailing list: tool-investigation@lists.elisa.tech

Email: info, demo - lpellecc@redhat.com

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

Thanks



Licensing of Workshop Results

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