

Eclipse Theia

The next gen Tool Platform for SDV

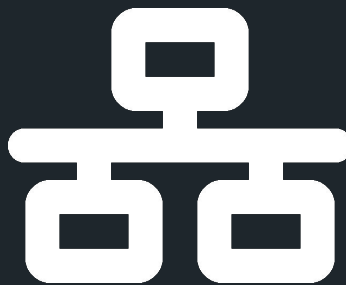
Jonas Helming & Philip Langer

EclipseSource

Why use a common tool platform for SDV?



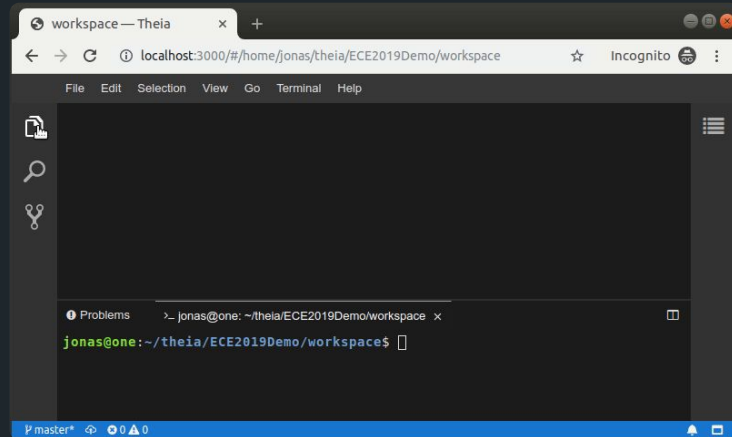
Reuse



Integration

What is Eclipse Theia?

- Next gen Eclipse platform for building web-based tools and IDEs running on the desktop or in the cloud
 - A flexible workbench frame
 - Common tool features to be reused
 - A modular extension mechanism



Eclipse Theia - Unique selling points

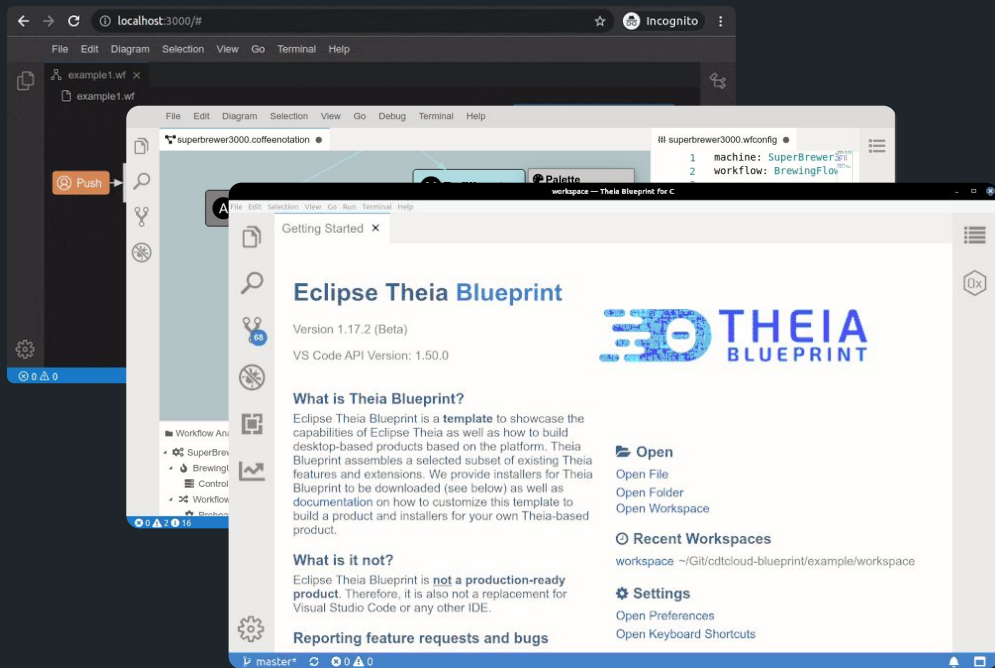


- Flexibility and Adaptability
 - Custom UI and branding
 - Add custom features, remove default features
- Based on modern web-technologies (e.g. React, NPM and LSP)
 - Reuses a lot of standard technologies
 - Simple onboarding for web developers
- Can be deployed as a desktop or browser application
- Supports VS Code extensions
- Open Source (EPL) and vendor neutral governance

Examples for Eclipse Theia platform features

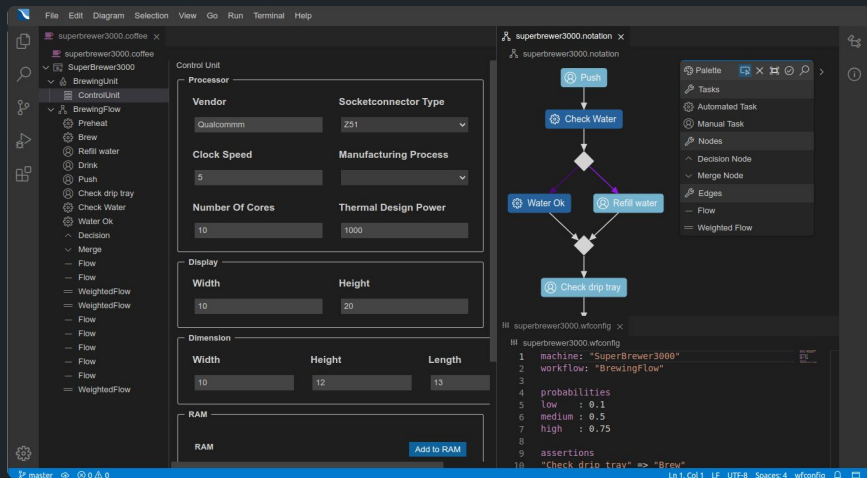
- View Management & Custom Views
- Commands / Menus / Keybindings
- Preferences
- Theming
- File Explorer
- Toolbar
- Text / Code Editor
- Terminal
- Debugging
- Problems View
- Output View
- **VS Code extensions!**
 - E.g. Git Support
 - And thousands more

Additional features from the rich ecosystem

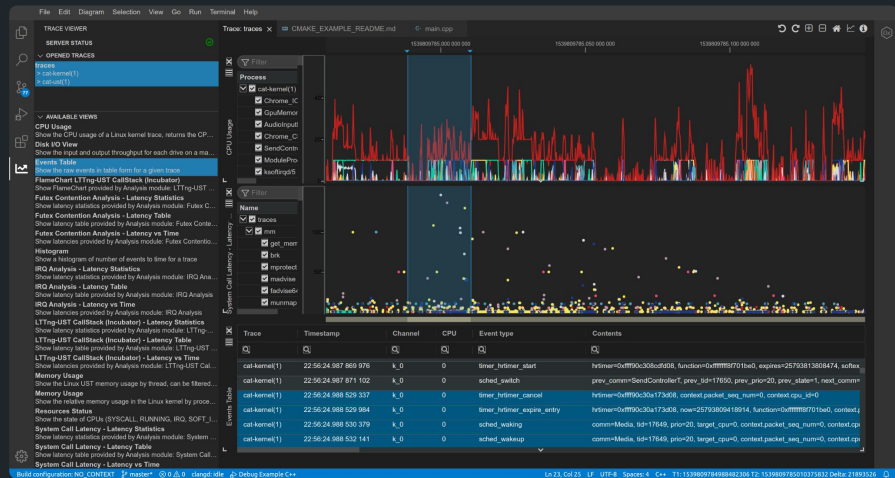


- CDT Cloud
 - C/C++ Tooling
- Eclipse GLSP
 - Diagram Editors
- EMF.cloud
 - Modeling Tools
 - Allows to reuse EMF
- Langium/Xtext
 - DSLs
- JSON Forms
 - Form-based Views
- ...

Seamless integration into one custom tool



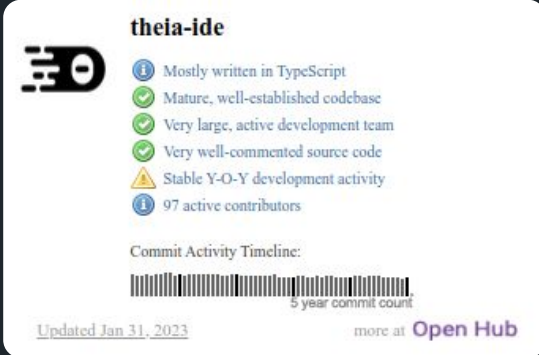
Coffee Editor (JSON Forms, GLSP, Ttext, EMF)



CDT Cloud Blueprint (Trace Compass, Clangd, GBD)





Open and vendor neutral

- Open source under the EPL 2.0 (allows commercial usage)
- Hosted at the Eclipse Foundation
 - Vendor-neutral governance
 - IP process for contributions and dependencies
- Driven by a diverse community of contributing companies




theia-ide



-  Mostly written in TypeScript
-  Mature, well-established codebase
-  Very large, active development team
-  Very well-commented source code
-  Stable Y-O-Y development activity
-  97 active contributors

Commit Activity Timeline:



5 year commit count

Updated Jan 31, 2023

more at **Open Hub**

Acquia



arm

BROADCOM



EclipseSource



Gitpod

Google



IBM



logi.cals

RECORD.evolution



SAP

Smartface



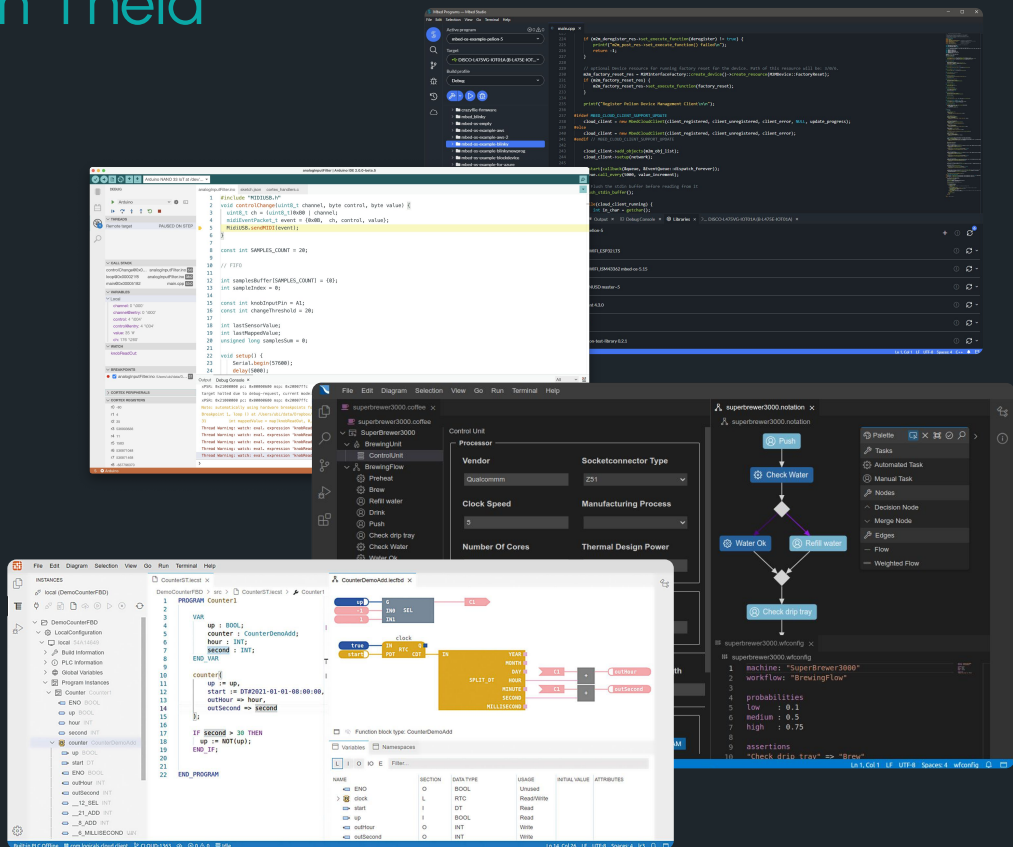
TeraPines

TORO



Some selected tools based on Theia

- ...
- Google Cloud Shell
- **Mbed Studio**
- Keil Studio Cloud
- Codeanywhere
- D-Wave Leap
- **Arduino IDE 2.x (beta)**
- **Logi.cloud by logi.cals**
- **Coffee Editor by EclipseSource**
- Eclipse Theia Blueprint
- CDT Cloud Blueprint



Let's build a Streamlined SDV Engineering Tool

integrating and showcasing the
SDV WG components