How to contribute
textual tooling for Apache Camel
in several IDEs

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Textual tooling for Camel?
Textual tooling for Camel

● Route DSLs
  ○ XML
  ○ Java
  ○ YAML
  ○ (Groovy, JavaScript, Kotlin)

● Properties
  ○ Camel main
  ○ Camel Kafka connector
Several IDEs?
Existing tooling 3 years ago

- Eclipse Desktop Fuse Tooling
  - Textual and graphical tooling
  - Non-reusable code
- IntelliJ
  - Textual tooling
  - Non-reusable code
- What about other IDEs?
Providing tooling for several IDEs...

<table>
<thead>
<tr>
<th>Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eclipse Desktop IDE</strong></td>
</tr>
<tr>
<td><strong>VS Code</strong></td>
</tr>
<tr>
<td><strong>Emacs</strong></td>
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<tr>
<td><strong>...</strong></td>
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For Camel, *N* implementations with **high skill** required in *Camel AND IDE extension*
Language Server Protocol
The Promise of the Language Server Protocol

Write Code Editing capabilities once, run in all IDEs!
More (unofficial) coming...

N implementations with low skill for IDE
+ 1 implementations with high skill required in language only
Write *limited set of Code Editing capabilities* once, run in all *most* IDEs with a little setup
Language Server Protocol Code Editing Capabilities

- Autocomplete
- Hover
- Code Lens
- Goto Definition/References
- Formatting / Coloring
- Renaming
- Code actions
- Highlighting
- Folding
- Diagnostic
- Document symbols
Current state of Language Server for Apache Camel
Marketplaces clients

Examples/readmes

Language Server

Red Hat CodeReady Workspaces

THEIA

Vim

Red Hat

Apartment

Atomic

Camel
LSP Code Editing Capabilities

- Autocomplete
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### Some figures

<table>
<thead>
<tr>
<th>Tool</th>
<th># of installations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eclipse Desktop</td>
<td>4500 (estimated)</td>
</tr>
<tr>
<td>VS Code</td>
<td>8900</td>
</tr>
<tr>
<td>Atom</td>
<td>95</td>
</tr>
<tr>
<td>Che / CodeReady Workspaces</td>
<td>No metrics :-(</td>
</tr>
<tr>
<td>/ Sublime text / Theia / Vim</td>
<td></td>
</tr>
<tr>
<td>/ CodeMirror</td>
<td></td>
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</table>
How to contribute
Code Editing capabilities
Development Environment setup

- Demo with Eclipse Desktop
  - Nice support of Language Server writing
  - Powerful Java support
- VS Code good too
- Any others IDE for Java. It will require manual configuration to test in an editor.
Environment setup - Eclipse Desktop example

https://github.com/camel-tooling/camel-language-server/blob/master/Contributing.md
How to contribute a new IDE client
You are on your own!

- Specific to each IDE
- One-time effort
- If I knew it,
  - it would have been done
  - there would be no more need to do it
Not completely on your own :-) 

- Standalone Jar to launch
- Connection through stdio or websocket
- File associations
Contribution ideas to Camel LSP
Ways of contributing

- Implement Code Editing capabilities
- Create the client for your preferred IDE
- Provide new feature ideas!
- Help review Pull requests
- ...

![GITHUB Logo](image1)
![CONTRIBUTING Logo](image2)
![ZENSCRIPT Logo](image3)
LSP Code Editing Capabilities

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Language Server feature ideas

- Renaming of direct/seda ids
- Folding of *choice* for Java
- Support of placeholder
- Autocomplete proposing some patterns
- Autocomplete in *connected mode*
- Support incremental mode
- Support Templated routes
- Provide icons for Document symbols
- Provide link to online documentation on hover
- Native version of the Language Server (Quarkus?)
- ...
https://github.com/camel-tooling/
camel-tooling/camel-language-server
new features / maintenance
Create readmes
Provide specific client in Marketplaces
Your beloved IDE

Improve readmes
Provide specific client in Marketplaces
Going further...

- Cross-Language Server for a tighter integration:
  - Jdt LS (Java)
  - Lemminx (xml)

- Other similar protocols:
  - Debug Adapter Protocol
  - Graphical Language Server Protocol
Make it an Apache Camel subproject?

- Spread the idea
- Migration
- Maintenance and governance
Go enhance the Language Server for Camel!

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