



HL7 FHIR DevDays 2017



Implementation Guide Tooling

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Amsterdam, 15-17 November | [@fhir_furore](#) | [#fhirdevdays17](#) | [www.fhirdevdays.com](#)

Who am I?

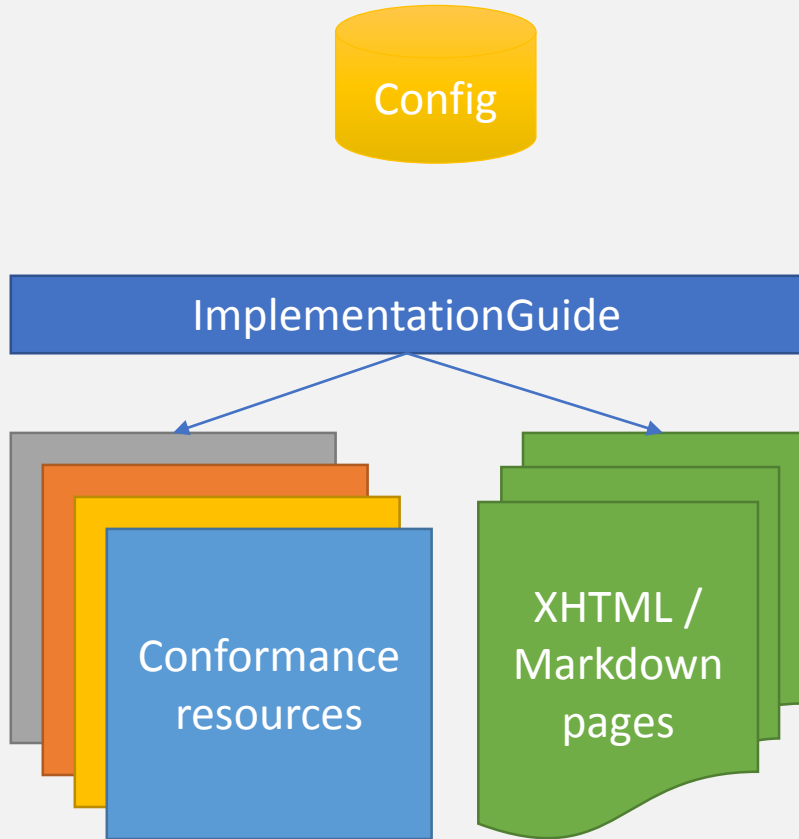
- Name: Lloyd McKenzie
- Company: Gevity
- Background:
 - One of FHIR's 3 initial editors
 - Co-chair FMG & FHIR Infrastructure
 - Co-chair HL7 Modeling & Methodology
 - Heavily involved in HL7 and healthcare exchange for last 17 years (v2, v3, CDA, etc.)
 - Have created 10+ IGs for various projects using HL7 tools
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Outline

- Tooling inputs & outputs
 - HL7 IGPublisher
 - Trifolia
 - Simplifier (Ardon)
-
- Objective: Show you some of what exists
 - Won't have time to do a detailed exploration

IG Inputs and Outputs



The screenshot shows the HL7 FHIR website interface. At the top, there's a navigation bar with 'Home', 'Table of Contents', 'Help/FAQ', 'Downloads', and 'FHIR Spec'. Below that, the page title is 'SDC Home Page'. The main content area displays the 'PrescribeIT' Implementation Guide, Version 2.0. The page includes a table of contents, a navigation sidebar, and the main content area showing sections like '3.75 StructureDefinitions: Interaction Bundle 101 - Execute tasks from physician office'. The content area also includes a table of Terminology Bindings and a section for Constraints.

IG Content Authoring Tools

- ImplementationGuide
 - [Forge](#), [Trifolia](#)
- CapabilityStatement
 - [FHIR Toolkit](#) (beta)
- StructureDefinition
(profiles/logical models/extensions)
 - [Forge](#), [Trifolia](#), [ClinFHIR](#), [Excel](#)
(retiring?)
- ValueSet
 - [FHIR Toolkit](#) (beta), [ClinFHIR](#), [Snapper](#)
- CodeSystem
 - [FHIR Toolkit](#) (beta), [ClinFHIR](#), [Snapper](#)
- ConceptMap
 - [ClinFHIR](#), [Snapper](#)
- StructureMap
 - [OMS](#)
- Example instances
 - [ClinFHIR](#), [NotePad++](#)

No authoring tools as yet for




- OperationDefinition
 - MessageDefinition
 - ScenarioExample
 - NamingSystem
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- Use Notepad++ or your favorite XML or JSON editor.
 - Similarly for markdown or HTML, use your favorite editor

HL7 IG Publisher

HL7 IG Publisher

- Written in Java
- Shares code with the spec publisher and validator
- Open source – feedback submitted over HL7’s gForge tracker
- Driven by ImplementationGuide resource + JSON config file
- Generates “fragments” for resources in the IG
- Uses templates and Jekyll to produce a static website for the IG
- Supports “continuous” generation
- Performs full validation of artifacts and links
- Packages up zips for download and for dependent IGs

Finding the HL7 IG Publisher

	RDF	<ul style="list-style-type: none"> • Turtle Examples - all the example resources in Turtle format • JSON-LD Examples - all the example resources in JSON-LD format (experimental) • ShEx Schemas - ShEx definitions for validating RDF resources • Definitions - the formal definitions that define the predicates and classes used • JSON-LD Definitions - the JSON-LD @context for this version of FHIR
Level 1 Basic framework		
 Foundation		
Level 2 Supporting Impl		
 Implementer Support	FHIR Specification	The whole specification so that you can host your own local copy (does not include the IG Publisher)
Downloads, Common Use Cases, Testing	Implementation Tools	
	Validator	The official FHIR validator - a Java jar file that can be used to validate resources.
	IG Publisher	The Implementation Guide Publishing Tool (see IG Publishing documentation)
	IG Pack	The Definitions File used by the IG Publisher . This is a zip file that contains all the pages and URLs in the specification itself. This file can also be used by the validator
Level 3 Linking to real world	Translation File	Translations of common FHIR names and messages into multiple languages (see Translations)
 Administration	Icon Pack	The FHIR Icon at various resolutions . Any FHIR Implementation created by an organization with the application (this policy will be reviewed in the future).
Level 4 Record-keeping	Test Cases	A Collection of Test Cases . These are XML or JSON files that provide test cases for

Summary [\[edit\]](#)

The FHIR team provides an IG Publishing tool that takes the implementation guide

- generated resources ready for inclusion into the published guide (xml, json, ttl)
- a set of fragments ready to include in generated html files, which are then included
- Several different zip files: which are used by implementers for various purposes:

Building an IG is a 4 part process:

1. [Installing the publisher](#)
2. Defining the resources that underpin the Implementation Guide resources (IG Pack)
3. Developing the structure and the narrative content that turns the resources into an IG
4. Running the publishing process that will publish it

The outcome of the publishing process is a set of HTML files that represent the implementation guide.

Alternatively, you may use the IG publisher to validate and render a set of Profiles, which are then published.

Publishing Implementation Guides [\[edit\]](#)

Typically, implementation guide publishing works like this:

- the master source for an implementation guide is in a public GitHub repository
- editors can run their own local build and share the set of files (full-ig.zip is automatically generated)
- a CI build is published so everyone can see the output - see [Auto-IG-Publishing](#)
- when formal milestones are achieved, the Implementation Guide is published to the FHIR website

For IGs developed on the Simplifier.net infrastructure, see [\[todo as yet\]](#) for publishing.

Examples [\[edit\]](#)

If you want an example of IG source, you can look in one of the following places:

- FHIR SVN repository, in `\build\guides*` - any directory ending in 2 - a variety of examples
- Also, there's `\build\tests\ig` which is used for testing the tooling

Using FHIR IG Publisher [\[edit\]](#)

Using the IGPublisher – quick tour

- [http://wiki.hl7.org/index.php?title=FHIR IG Framework](http://wiki.hl7.org/index.php?title=FHIR_IG_Framework)

Trifolia

- Developed & Maintained by Lantana
- Web-based development & publishing of profiles & IGs
- Can host a local version if needed for projects
- Also acts as a registry – discover other projects that are hosted in the Trifolia environment that have been marked as “public”
- Code is publicly available if you want to tweak it

Walkthrough

- <https://trifolia.lantanagroup.com>

Questions?

[http://wiki.hl7.org/index.php?title=IG Publisher Documentation](http://wiki.hl7.org/index.php?title=IG_Publisher_Documentation)

<https://trifolia.lantanagroup.com>

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