



FHIR Proficiency Certification

Virginia Lorenzi, NewYork-Presbyterian Hospital



HL7 FHIR DevDays 2020, Virtual Edition, November 17–20, 2020 | @FirelyTeam | #fhirdevdays | www.devdays.com/november-2020

ORGANIZED BY **firely**

Who am I?

- Virginia Lorenzi
- Senior Technical Architect, NewYork-Presbyterian Hospital



Learning Objectives

- Describe the purpose of the FHIR R4 Proficiency exam.
- Understand the format and coverage of the test
- Describe the test competencies
- Review example questions
- Describe how to prepare, register, and sit for the exam

Purpose of Exam

- A Useful Education Tool
- Opportunity for Personal Proof of Proficiency
 - Earn certificate of knowledge proving proficiency in the FHIR specification.
- Employers can identify individuals with FHIR proficiency to hire or ensure their workforce has proficiency.
- We all benefit from improved quality of FHIR workforce

Test Coverage

- Focus is on **breadth** and overarching concepts
- Not on **depth**
- The exact specification pages covered on the test are in the study tip sheet:
 - [Study Tip Sheet - FHIR](#)

Format of the Test

- Closed book
- 2 hours to complete 50 questions
- Multiple choice, multi-select, and true/false
- No penalty for guessing
- Passing score: 70%
- Try the [practice test](#)

Exam Tests These Competencies

1. FHIR Fundamentals
2. Resource Concepts
3. Exchange Mechanisms (includes RESTful API)
4. Conformance and Implementation Guidance
5. Terminology
6. Representing healthcare concepts using FHIR resources
7. Safety and Security
8. The FHIR Maintenance Process
9. FHIR licensing and IP

1. FHIR Fundamentals Competency

- What is FHIR?
- What is its usage?
- What are the FHIR Architectural Principles?

The 'getting started page' (<http://hl7.org/fhir/modules.html>)

The executive summary (<http://hl7.org/fhir/summary.html>)

The developer introduction (<http://hl7.org/fhir/overview-dev.html>)

The clinical introduction (<http://hl7.org/fhir/overview-clinical.html>)

The architect's introduction (<http://hl7.org/fhir/overview-arch.html>)

The overview/roadmap (<http://hl7.org/fhir/overview.html>)

Practice Question: Multi-Select

Which of the following statements are TRUE with regards to FHIR's focus on implementers? (select all that apply)

- A. FHIR specification is free to HL7 members and non-members but is limited to personal use.
- B. FHIR supports multiple exchange mechanisms.
- C. FHIR greatly simplifies implementation at the expense of information integrity.
- D. FHIR aims to support resource formats that are understandable by technical and non-technical readers.

Practice Question: Multi-select

Which of the following statements are TRUE with regards to FHIR's focus on implementers? (select all that apply)

- A. FHIR specification is free to HL7 members and non-members but is limited to personal use.
- B. FHIR supports multiple exchange mechanisms.
- C. FHIR greatly simplifies implementation at the expense of information integrity.
- D. FHIR aims to support resource formats that are understandable by technical and non-technical readers.

2. Resource Concepts Competency

- How are resources documented in the specification?
- What are the attributes of resource elements and what do they mean? (example, flags, cardinality, data type)
- What are common elements of all/most resources and what is their purpose? (example: id, narrative, extension)
- Common Resource Properties (example: serialization formats, URI, resource references, search parameters)

3. Exchange Mechanisms Competency

- How can you exchange resources in FHIR?
 - RESTful API, Documents, Messages, Services, Database/Persistent Storage
- Emphasis on the most commonly used (example RESTful API)

4. Conformance and Implementation Guidance

Competency: **Conformance**

- What is profiling?
- Why are profiling and using Implementation Guides important?
- What are the conformance resources and how do they relate?
- How can you constrain an element?

4. Conformance and Implementation Guidance Competency

Implementation Guidance

- Community Test Servers
- Community Reference Implementations (different software languages supported)
- Tools
 - Example: Profiling, validation, testing
- Communication (Example: chat.fhir.org)

5. Terminology Competency

- What are the key concepts of FHIR terminology?
- What are the terminology related data types and resources and how do they relate to each other?
 - Example – code, codeSystem, ConceptMap, ValueSet
- What is a terminology server and what operations could it support?

Practice Question – Multiple Choice

A value set in FHIR is uniquely identified by: (select one)

- A. A subdivision of the code system OID
- B. A URI
- C. Value Set name issued by VSAC (Value Set Authority Center)
- D. An ISO OID

Practice Question – Multiple Choice

A value set in FHIR is uniquely identified by: (select one)

- A. A subdivision of the code system OID
- B. A URI
- C. Value Set name issued by VSAC (Value Set Authority Center)
- D. An ISO OID

6. Representing Healthcare Concepts Using FHIR Resources Competency

- What is the purpose of each resource?
- What resource is the best choice for common health care use cases?
- References:
 - [Guide to Resources](#)
 - Module Pages Level 3, 4 and 5 accessible from [Home FHIR page](#).



7. Security and Safety Competency

- Relationship between FHIR and Security
- Security Supports (such as Security Labels)
- How do you implement FHIR Securely?
 - [Security Implementation Recommendations](#)
- How do you implement clinically safe FHIR interoperability?
 - [Implementer's Safety Checklist](#)

8. FHIR Maintenance Process Competency

- General understanding of FHIR standards development process
- Do you know the difference between standards levels? (example: Trial Use versus Normative)
- FHIR Maturity Model for resources

9. FHIR Licensing and IP Competency

- What are the licensing rules for the FHIR specification?
- How do you legally use the FHIR specification or reference related trademarks and copyrights?

Competency Coverage on Test

FHIR Competency	Percentage of Test
FHIR Fundamentals	16%
Resource Concepts	20%
Exchange Mechanisms (includes RESTful API)	14%
Conformance and Implementation Guidance	12%
Terminology	4%
Representing healthcare concepts using FHIR resources	14%
Safety and Security	6%
The FHIR Maintenance Process	10%
FHIR Licensing and IP	4%

How to Prepare (Do at least this)

- Review the [Study TIP Sheet](#) (includes exact links to pages covered)
- Study the [specification](#) (focus on pages in Study TIP sheet)
- Take the [practice test](#)
- Take the 3 hour [exam review class](#) (recommended)

- Note: You can pass the test without FHIR software development experience.
- Note: Experienced FHIR implementer or standards developer is expected to need to brush up on some parts.

Do More: Tutorials at this devdays will help

- Introduction to FHIR
- The Evolution of the FHIR Specification
- Introduction to Profiling
- The FHIR RESTful API Introduction
- FHIR Documents
- Follow the Yellow Brick Road (a terminology journey)
- Let's Build a FHIR App (especially day 1)

Do More: Additional HL7 Offerings

- **Comprehensive HL7 FHIR Proficiency Exam Preparation Course**
New four-week, self-paced course with a focus on exam preparation.
- **HL7 FHIR Fundamentals Course**
Four week self-paced online course with hands-on activities
- **HL7 FHIR Path to Certification Bundle**
 - Intro to FHIR webinars and FHIR Proficiency Exam Review

<https://www.hl7.org/certification/fhir.cfm?ref=nav>

Steps to Certification

- Prepare
- Register
 - Register online and receive a voucher good for 360 days
- Schedule test.
 - Can reschedule if needed
- Scheduling includes selecting a testing venue
 - Test center (sites around the world)
 - Online proctored
- More Info:

<http://www.hl7.org/certification/index.cfm?ref=nav>

What did you learn?

- The test purpose
- The format and coverage of the test
- The 9 test competencies covered by the exam
- What a test question looks like
- How to prepare, register, and sit for the exam

Contact

- During DevDays, you can find / reach me here:
 - Via Whova App – Speaker’s Gallery
 - Email: vlorenzi@nyp.org
 - Twitter: [@practicalHIT](https://twitter.com/practicalHIT)

Q&A