FHIM Refset Impl

This document describes, from a high-level, how the FHIM Refsets are used to implement a FHIM information model. They closely align with the refset tabs listed in the “FHIM\_dbp\_refSetMapping.xlsx” spreadsheet. It is available on GitHub in the <https://github.com/Apelon-VA/ISAAC/tree/master/resources> folder.

# FHIM Refset Concepts

Before importing a FHIM model into an OTF database, several Refset concepts must be created. Once created, the concepts are represented by constants in the FHIMMetadataBinding class, in the [ISAAC/import-export](https://github.com/Apelon-VA/ISAAC/tree/master/import-export) project. The following concepts correspond to the tabs in the “FHIM\_dbp\_refSetMapping.xlsx” spreadsheet:

* FHIM\_MODELS\_REFSET
* FHIM\_CLASSES\_REFSET
* FHIM\_ATTRIBUTES\_REFSET
* FHIM\_RELATIONSHIPS\_REFSET
* FHIM\_CONSTRAINTS\_REFSET

(The remaining concepts in the FHIMMetadataBinding class are used as values of various concept extension Refset members.)

# FHIM Model Refset

At the top level, the **BloodPressure** FHIM model is implemented by attaching a single Refset member (as an annotation) directly to the **Blood pressure taking (procedure)** concept (UUID 215fd598-e21d-3e27-a0a2-8e23b1b36dfc), with a string extension value corresponding to the FHIM package name. This structure is illustrated below:

**Blood pressure taking (procedure)**

┗ Single FHIM\_MODELS\_REFSET member ("BloodPressure")

┗ Multiple FHIM\_CLASSES\_REFSET members

# FHIM Classes Refset

Each FHIM class is represented by attaching members of the FHIM\_CLASSES\_REFSET to the parent FHIM\_MODELS\_REFSET member, with a string extension value corresponding to the FHIM class name. This structure is illustrated below:

**Blood pressure taking (procedure)**

┗ FHIM\_MODELS\_REFSET member

┠ FHIM\_CLASSES\_REFSET member ("DiastolicBloodPressureObservation")

┠ FHIM\_CLASSES\_REFSET member ("SystolicBloodPressureObservation")

⋮

┗ FHIM\_CLASSES\_REFSET member ("BloodPressure")

# FHIM Attributes Refset

FHIM attributes are represented by attaching members of the FHIM\_ATTRIBUTES\_REFSET to the parent FHIM\_CLASSES\_REFSET member, with a string extension value corresponding to the attribute name and a component extension value corresponding to the attribute type (either a foundation metadata concept or a refset member corresponding to another FHIM class). This structure is illustrated below:

**Blood pressure taking (procedure)**

┗ FHIM\_MODELS\_REFSET member

⋮

┗ FHIM\_CLASSES\_REFSET member

┠ FHIM\_ATTRIBUTES\_REFSET member ("observedCharacteristic", Code)

┠ FHIM\_ATTRIBUTES\_REFSET member ("value", PhysicalQuantity metadata)

⋮

┗ FHIM\_ATTRIBUTES\_REFSET member ("observation", DiastolicBloodPressureObservation Class)

# FHIM Relationships Refset

FHIM relationships are represented by attaching members of the FHIM\_RELATIONSHIPS\_REFSET to the parent FHIM\_CLASSES\_REFSET member, with a component extension value corresponding to the relationship type (foundation metadata concept) and a second component extension value corresponding to the relationship destination component (either a foundation metadata concept or a refset member corresponding to another FHIM class). This structure is illustrated below:

**Blood pressure taking (procedure)**

┗ FHIM\_MODELS\_REFSET member

⋮

┗ FHIM\_CLASSES\_REFSET member

┠ FHIM\_RELATIONSHIPS\_REFSET member (Generalization metadata, AbstractBloodPressureObservation Class)

┠ FHIM\_RELATIONSHIPS\_REFSET member (Association metadata, ObservationQualifier metadata)

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┗ FHIM\_RELATIONSHIPS\_REFSET member (Dependency metadata, BloodPressureObservation Class)

# FHIM Constraints Refset

FHIM constraints are represented by attaching members of the FHIM\_CONSTRAINTS\_REFSET to the constrained FHIM refset member (Class, Attribute, or Relationship), with a component extension value corresponding to the constraint type (foundation metadata concept) and a string extension value corresponding to the constraint value. This structure is illustrated below:

**Blood pressure taking (procedure)**

┗ FHIM\_MODELS\_REFSET member

⋮

┗ FHIM\_CLASSES\_REFSET member

⋮

┗ FHIM\_ATTRIBUTES\_REFSET member

⋮

┗ FHIM\_CONSTRAINTS\_REFSET member (Multiplicity metadata, "0..1")