Athena openEHR ITS-JAVA

Base Model (BASE) Component - 1.2.0

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October 2024

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This document has last been updated on October 2024.

1. Preface

1.1 Purpose

This document describes how the OpenEHR Base Model (BASE) component is implemented in the Athena OpenEHR SDK. See Base Model (BASE) Component - 1.2.0 for the official specification.

1.2 Naming conventions

OpenEHR class names will be transformed into Java *CamelCase* names. For example, the class DV_TEXT will be transformed to DvText.

Package names will be transformed into valid Java package names if needed. For example, the package foundation_types will *not* be transformed into foundationtypes or foundation.types.

1.3 Overview

The openEHR BASE component consists out of the three packages:

- **Foundation Types**. Specification of assumed, primitive and other foundation types required by all other openEHR specifications. Implemented in the nl.athena.openehr.base.foundation_types package.
- Base Types. Specification of basic openEHR and health informatics types used in other openEHR specifications. Implemented in the nl.athena.openehr.base.base_types package.
- **Resource Model**. The Resource specification defines a formal model of authoring and IP metadata, language translation and annotations that can be used by classes defining any concrete type of authored resource, such as a document, archetype or template. Implemented in the nl.athena.openehr.base.resource package.

2. Foundation Types

The openEHR Foundation Types are a collection of built-in and library types whose semantics are assumed by all other openEHR specifications. Below you will find a mapping of the openEHR Foundation Types to the Athena OpenEHR SDK Java classes.

The base package for the foundation types is nl.athena.openehr.base.foundation_types. The foundation_types package has six sub-packages: primitive_types, terminology, structure, interval, time and functional.

2.1 Primitive Types

The custom primitive types are implemented in the nl.athena.openehr.base.foundation_types.primitive_types package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
Any	java.lang.Object	The ultimate ancestor type.
Ordered	java.lang.Comparable <t></t>	Classes implementing Comparable <t> can be compared and ordered.</t>
Numeric	java.lang.Number	Number implements Comparable <number> and therefore can be compared and ordered. All numeric types in Java inherit from Number and are therefore can be ordered as well.</number>
Ordered_Numeric	-	Numeric implements Comparable <number> and therefore can be compared and ordered. No need for a separate class or interface.</number>
Integer	java.lang.Integer	32-bit signed integer.
Integer64	java.lang.Long	64-bit signed integer.
Real	java.lang.Float	32-bit floating point number.
Double	java.lang.Double	64-bit floating point number.
Boolean	java.lang.Boolean	
Character	java.lang.Character	
Octet	java.lang.Byte	Java only supports signed bytes, so the range is -128 to 127.
String	java.lang.String	

openEHR type	Java type	Remarks
Uri		The built-in Java URI class is not RFC 3986 compliant. The Uri class is.

2.2 Terminology

The custom terminology types are implemented in the nl.athena.openehr.base.foundation_types.terminology package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
Terminology_code	TerminologyCode	
Terminology_term	TerminologyTerm	

2.3 Structured Types

The custom structured types are implemented in the nl.athena.openehr.base.foundation_types.structure package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
Container	java.util.Collection <t></t>	
List	java.util.List <t></t>	
Set	java.util.Set <t></t>	
Array	T[]	This is the built-in Java array type.
Hash	java.util.Map <k, v=""></k,>	

2.4 Interval

The custom interval types are implemented in the nl.athena.openehr.base.foundation_types.interval package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
Interval	Interval <t comparable<t="" extends="">></t>	T must implement Comparable <t>.</t>
Point_Interval	PointInterval <t comparable<t="" extends="">></t>	T must implement Comparable <t>.</t>
ProperInterval	ProperInterval <t comparable<t="" extends="">></t>	T must implement Comparable <t>.</t>

openEHR type	Java type	Remarks
Multiplicity_Interval	MultiplicityInterval	
Cardinality	Cardinality	

2.5 Time

The custom time types are implemented in the nl.athena.openehr.base.foundation_types.time package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
TimeDefinitions	TimeDefinitions	
Temporal	.Temporal	
Iso8601_type	.Iso8601Type	
Iso8601_date	Iso8601Date	Java built-in dates do not support partial dates. The Iso8601Date class does.
Iso8601_time	Iso8601Time	Java built-in dates do not support partial times. The Iso8601Time class does.
Iso8601_date_time	Iso8601DateTime	Java built-in dates do not support partial dates and times. The Iso8601DateTime class does.
Iso8601_duration	Iso8601Duration	Java built-in durations do not support weeks. The Iso8601Duration class does.
Iso8601_timezone	Iso8601Timezone	Java built-in timezones do not support partial timezones. The Iso8601Timezone class does.

2.6 Functional

The custom primitive types are implemented in the nl.athena.openehr.base.foundation_types.functional package and are listed unqualified in the table below.

openEHR type	Java type	Remarks
ROUTINE	Routine	Implemented as functional interface.
FUNCTION	Function	Implemented as functional interface.

openEHR type	Java type	Remarks
PROCEDURE	Procedure	Implemented as functional interface.
TUPLE	Tuple	
TUPLE1	Tuple1	
TUPLE2	Tuple2	

3. Base Types

4. Resource Model