

RDF4J Class Builder

Ontology-based Java class generator

Reference Documentation

Radek Burget



Acknowledgements

This work was supported by the Ministry of the Interior of the Czech Republic as a part of the project Integrated platform for analysis of digital data from security incidents VI20172020062.

RDF4J Class Builder

1.0

Generated by Doxygen 1.8.13

Contents

1	RDF4J Class Builder	1
2	Namespace Index	3
2.1	Packages	3
3	Class Index	5
3.1	Class List	5
4	File Index	7
4.1	File List	7
5	Namespace Documentation	9
5.1	Package io	9
5.2	Package io.github	9
5.3	Package io.github.radkovo	9
5.4	Package io.github.radkovo.rdf4j	9
5.5	Package io.github.radkovo.rdf4j.builder	9
5.5.1	Detailed Description	10

6	Class Documentation	11
6.1	io.github.radkovo.rdf4j.builder.ClassBuilder Class Reference	11
6.1.1	Detailed Description	12
6.1.2	Constructor & Destructor Documentation	12
6.1.2.1	ClassBuilder() [1/2]	12
6.1.2.2	ClassBuilder() [2/2]	12
6.1.3	Member Function Documentation	13
6.1.3.1	generate() [1/2]	13
6.1.3.2	generate() [2/2]	13
6.1.3.3	generateAddToModel()	14
6.1.3.4	generateClass() [1/2]	14
6.1.3.5	generateClass() [2/2]	14
6.1.3.6	generateConstructors()	15
6.1.3.7	generateDefaultMethods()	15
6.1.3.8	generateFactory() [1/2]	15
6.1.3.9	generateFactory() [2/2]	16
6.1.3.10	generateJavadoc()	16
6.1.3.11	generateLoadFromModel()	16
6.1.3.12	generatePropertyDeclaration()	17
6.1.3.13	generatePropertyGetter()	17
6.1.3.14	generatePropertySetter()	17
6.1.3.15	generateReverseCollectionDeclaration()	17
6.1.3.16	generateRevPropertyGetterAdder()	17
6.1.3.17	getIndent()	18
6.1.3.18	getPackageName()	18
6.1.3.19	getPreferredLanguage()	18
6.1.3.20	getVocabName()	19
6.1.3.21	getVocabPackageName()	19
6.1.3.22	setIndent()	19
6.1.3.23	setPackageName()	19

6.1.3.24	setPreferredLanguage()	20
6.1.3.25	setVocabName()	20
6.1.3.26	setVocabPackageName()	20
6.2	io.github.radkovo.rdf4j.builder.EntityFactory Interface Reference	21
6.2.1	Detailed Description	21
6.3	io.github.radkovo.rdf4j.builder.Main Class Reference	21
6.3.1	Detailed Description	21
6.3.2	Member Function Documentation	21
6.3.2.1	main()	21
6.4	io.github.radkovo.rdf4j.builder.RDFEntity Class Reference	22
6.4.1	Detailed Description	23
6.4.2	Constructor & Destructor Documentation	23
6.4.2.1	RDFEntity()	23
6.4.3	Member Function Documentation	24
6.4.3.1	addArray() [1/6]	24
6.4.3.2	addArray() [2/6]	24
6.4.3.3	addArray() [3/6]	24
6.4.3.4	addArray() [4/6]	24
6.4.3.5	addArray() [5/6]	25
6.4.3.6	addArray() [6/6]	25
6.4.3.7	addCollection()	25
6.4.3.8	addObject()	25
6.4.3.9	addToModel()	25
6.4.3.10	addValue() [1/6]	26
6.4.3.11	addValue() [2/6]	26
6.4.3.12	addValue() [3/6]	26
6.4.3.13	addValue() [4/6]	26
6.4.3.14	addValue() [5/6]	27
6.4.3.15	addValue() [6/6]	27
6.4.3.16	getClassIRI()	27

6.4.3.17	getIRI()	27
6.4.3.18	getLabel()	28
6.4.3.19	getObjectIRIs()	28
6.4.3.20	loadDateArray()	28
6.4.3.21	loadDateValue()	28
6.4.3.22	loadDoubleArray()	29
6.4.3.23	loadDoubleValue()	29
6.4.3.24	loadFloatArray()	29
6.4.3.25	loadFloatValue()	29
6.4.3.26	loadFromModel()	29
6.4.3.27	loadIntArray()	30
6.4.3.28	loadIntValue()	30
6.4.3.29	loadStringArray()	30
6.4.3.30	loadStringValue()	30
6.4.3.31	loadURLArray()	31
6.4.3.32	loadURLValue()	31
6.4.4	Member Data Documentation	31
6.4.4.1	vf	31
6.5	io.github.radkovo.rdf4j.builder.TargetModel Class Reference	31
6.5.1	Detailed Description	32
6.5.2	Constructor & Destructor Documentation	32
6.5.2.1	TargetModel()	32
6.5.3	Member Function Documentation	32
6.5.3.1	add()	32
6.5.3.2	addAll()	33
6.5.3.3	getEntities()	33
6.5.3.4	getModel()	33
7	File Documentation	35
7.1	/home/burgetr/git/rdf4j-class-builder/class-builder-cli/src/main/java/io/github/radkovo/rdf4j/builder/↵ Main.java File Reference	35
7.2	/home/burgetr/git/rdf4j-class-builder/class-builder-core/src/main/java/io/github/radkovo/rdf4j/builder/↵ ClassBuilder.java File Reference	35
7.3	/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/↵ EntityFactory.java File Reference	35
7.4	/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/↵ RDFEntity.java File Reference	36
7.5	/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/↵ TargetModel.java File Reference	36
7.6	/home/burgetr/git/rdf4j-class-builder/README.md File Reference	36
Index		37

Chapter 1

RDF4J Class Builder

(c) 2017-2019 Radek Burget (burgetr@fit.vutbr.cz)

RDF4J Class Builder is a tool for generating Java classes from OWL ontology definitions. For every class defined in the OWL file, it generates a Java class definition, that contains

- Property definitions, getters and setters for every OWL property that has the given class in `owl:domain`. The property cardinality is distinguished using the `owl:Property`, `owl:FunctionalProperty` and `owl:InverseFunctionalProperty` definitions.
- The `addToModel()` and `loadFromModel()` methods that allow loading and storing the class instances from and to a RDF graph represented by the `RDF4J Model` class.

Additionally, a factory interface is generated for the whole ontology that allows implementing custom factories for creating the object instances.

The project is inspired by and integrates with the the [RDF4J Vocabulary Builder](#) project.

Installation

RDF4J Class Builder is distributed as platform-independent runnable jar archive:

- Download the runnable archive `ClassBuilder.jar` from [Releases](#)
- Run the following command in the command prompt (depending on your operating system):
`java -jar ClassBuilder.jar`

You should see a list of available parameters.

Usage

RDF4J Class Builder takes an OWL definition file in any format (RDF/XML, Turtle, ...) as the input. It generates two separate components:

- A single *vocabulary class* (using the built-in [RDF4J Vocabulary Builder](#)). The vocabulary class defines the URI constants for all the classes and predicates defined in the OWL source.
- Individual java *class definitions* (as described above) for all the classes defined in the OWL source.

For both the vocabulary and the class definitions, their java package and the target folder may be specified via the command line as follows:

```
ClassBuilder [options...] <input-file>
  <input-file>          the input file to read from
  -f,--format <format>  mime-type of the input file (will try to guess
                        if absent)
  -v,--vocab-name <class-name> vocabulary class name
  -o,--vocab-dir <path>  the output directory for the vocabulary (current
                        directory when absent)
  -O,--class-dir <path>  the output directory for the classes (vocabulary
                        directory when absent)
  -p,--vocab-package <package> vocabulary package declaration (will use default
                        (empty) package if absent)
  -P,--class-package <package> class package declaration (will use the
                        vocabulary package if absent)
```

Example usage:

```
java -jar ClassBuilder.jar \
  info.owl \
  -v INFO \
  -o src/com/example/vocabulary \
  -p com.example.vocabulary \
  -O src/com/example/ontology \
  -P com.example.ontology \
```

Building

RDF4J Class Builder may be build from the sources by maven. After cloning the source repository, use `mvn package` for building and packaging all the components.

Acknowledgements

This work was supported by the Ministry of the Interior of the Czech Republic as a part of the project Integrated platform for analysis of digital data from security incidents VI20172020062.

Chapter 2

Namespace Index

2.1 Packages

Here are the packages with brief descriptions (if available):

io	9
io.github	9
io.github.radkovo	9
io.github.radkovo.rdf4j	9
io.github.radkovo.rdf4j.builder	9

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

io.github.radkovo.rdf4j.builder.ClassBuilder	11
io.github.radkovo.rdf4j.builder.EntityFactory	21
io.github.radkovo.rdf4j.builder.Main	21
io.github.radkovo.rdf4j.builder.RDFEntity	22
io.github.radkovo.rdf4j.builder.TargetModel	31

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

/home/burgetr/git/rdf4j-class-builder/class-builder-cli/src/main/java/io/github/radkovo/rdf4j/builder/ Main .↵	
java	35
/home/burgetr/git/rdf4j-class-builder/class-builder-core/src/main/java/io/github/radkovo/rdf4j/builder/ Class ↵	
Builder.java	35
/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/ Entity ↵	
Factory.java	35
/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/ R ↵	
DFEntity.java	36
/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/ Target ↵	
Model.java	36

Chapter 5

Namespace Documentation

5.1 Package io

Packages

- package [github](#)

5.2 Package io.github

Packages

- package [radkovo](#)

5.3 Package io.github.radkovo

Packages

- package [rdf4j](#)

5.4 Package io.github.radkovo.rdf4j

Packages

- package [builder](#)

5.5 Package io.github.radkovo.rdf4j.builder

Classes

- class [ClassBuilder](#)
- interface [EntityFactory](#)
- class [Main](#)
- class [RDFEntity](#)
- class [TargetModel](#)

5.5.1 Detailed Description

[Main.java](#)

Created on 17. 10. 2019, 20:26:28 by burgetr

[ClassBuilder.java](#)

Created on 26. 7. 2017, 13:44:33 by burgetr

[EntityFactory.java](#)

Created on 28. 7. 2017, 11:31:52 by burgetr

[RDFEntity.java](#)

Created on 26. 7. 2017, 13:43:26 by burgetr

[TargetModel.java](#)

Created on 24. 6. 2019, 11:10:33 by burgetr

Chapter 6

Class Documentation

6.1 io.github.radkovo.rdf4j.builder.ClassBuilder Class Reference

Public Member Functions

- [ClassBuilder](#) (String filename, String format) throws IOException, RDFParseException
- [ClassBuilder](#) (String filename, RDFFormat format) throws IOException, RDFParseException
- String [getPackageName](#) ()
- void [setPackageName](#) (String packageName)
- String [getVocabPackageName](#) ()
- void [setVocabPackageName](#) (String vocabPackageName)
- String [getVocabName](#) ()
- void [setVocabName](#) (String vocabName)
- String [getIndent](#) ()
- void [setIndent](#) (String indent)
- String [getPreferredLanguage](#) ()
- void [setPreferredLanguage](#) (String language)
- void [generate](#) (String outputDirName) throws IOException
- void [generate](#) (Path outputDir) throws IOException
- void [generateFactory](#) (Set< Resource > classes, Path outputDir) throws IOException
- void [generateFactory](#) (Set< Resource > classes, String fname, PrintWriter out)
- void [generateClass](#) (IRI cres, Path outputDir) throws IOException
- void [generateClass](#) (IRI iri, String className, PrintWriter out)

Protected Member Functions

- void [generatePropertyDeclaration](#) (IRI iri, String propertyName, PrintWriter out)
- void [generateReverseCollectionDeclaration](#) (IRI iri, String propertyName, String propertyType, PrintWriter out)
- void [generatePropertyGetter](#) (IRI iri, String propertyName, PrintWriter out)
- void [generatePropertySetter](#) (IRI iri, String propertyName, PrintWriter out)
- void [generateRevPropertyGetterAdder](#) (IRI iri, String propertyName, String propertyType, PrintWriter out)
- void [generateConstructors](#) (String className, Set< IRI > properties, Set< IRI > revProperties, PrintWriter out)
- void [generateDefaultMethods](#) (String className, PrintWriter out)
- void [generateAddToModel](#) (Collection< IRI > properties, Collection< IRI > revProperties, PrintWriter out)
- void [generateLoadFromModel](#) (Collection< IRI > properties, PrintWriter out, boolean useFactory)
- void [generateJavadoc](#) (IRI iri, PrintWriter out, int indent)

6.1.1 Detailed Description

The main class builder. It reads an OWL definition in any supported format and generates a set of Java files based on the generation parametres.

Author

burgetr

Definition at line 50 of file ClassBuilder.java.

6.1.2 Constructor & Destructor Documentation

6.1.2.1 ClassBuilder() [1/2]

```
io.github.radkovo.rdf4j.builder.ClassBuilder.ClassBuilder (
    String filename,
    String format ) throws IOException, RDFParseException
```

Creates a new class builder for the specified input file.

Parameters

<i>filename</i>	input file specification
<i>format</i>	input file MIME type (such as application/rdf+xml) or null for automatic detection.

Exceptions

<i>IOException</i>	
<i>RDFParseException</i>	

Definition at line 103 of file ClassBuilder.java.

6.1.2.2 ClassBuilder() [2/2]

```
io.github.radkovo.rdf4j.builder.ClassBuilder.ClassBuilder (
    String filename,
    RDFFormat format ) throws IOException, RDFParseException
```

Creates a new class builder for the specified input file.

Parameters

<i>filename</i>	input file specification
<i>format</i>	input file format (see the <code>RDFFormat</code> constants) or null for automatic detection.

Exceptions

<i>IOException</i>	
<i>RDFParseException</i>	

Definition at line 116 of file `ClassBuilder.java`.

6.1.3 Member Function Documentation

6.1.3.1 `generate()` [1/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generate (
    String outputDirName ) throws IOException
```

Generates all the classes and stores them to the given output directory.

Parameters

<i>outputDirName</i>	the output directory path
----------------------	---------------------------

Exceptions

<i>IOException</i>	
--------------------	--

Definition at line 230 of file `ClassBuilder.java`.

6.1.3.2 `generate()` [2/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generate (
    Path outputDir ) throws IOException
```

Generates all the classes and stores them to the given output directory.

Parameters

<i>outputDir</i>	the output directory path
------------------	---------------------------

Exceptions

<i>IOException</i>	
--------------------	--

Definition at line 242 of file ClassBuilder.java.

6.1.3.3 generateAddToModel()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateAddToModel (
    Collection< IRI > properties,
    Collection< IRI > revProperties,
    PrintWriter out ) [protected]
```

Definition at line 564 of file ClassBuilder.java.

6.1.3.4 generateClass() [1/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateClass (
    IRI cres,
    Path outputDir ) throws IOException
```

Generates a single class.

Parameters

<i>cres</i>	class resource
<i>outputDir</i>	output directory path

Exceptions

<i>IOException</i>	
--------------------	--

Definition at line 333 of file ClassBuilder.java.

6.1.3.5 generateClass() [2/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateClass (
    IRI iri,
```

```
String className,  
PrintWriter out )
```

Generates a single class.

Parameters

<i>iri</i>	class IRI
<i>className</i>	class name
<i>out</i>	writer used for output

Definition at line 349 of file ClassBuilder.java.

6.1.3.6 generateConstructors()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateConstructors (  
    String className,  
    Set< IRI > properties,  
    Set< IRI > revProperties,  
    PrintWriter out ) [protected]
```

Definition at line 524 of file ClassBuilder.java.

6.1.3.7 generateDefaultMethods()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateDefaultMethods (  
    String className,  
    PrintWriter out ) [protected]
```

Definition at line 556 of file ClassBuilder.java.

6.1.3.8 generateFactory() [1/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateFactory (  
    Set< Resource > classes,  
    Path outputDir ) throws IOException
```

Generates the factory interface.

Parameters

<i>classes</i>	
<i>outputDir</i>	

Exceptions

<i>IOException</i>	
--------------------	--

Definition at line 273 of file ClassBuilder.java.

6.1.3.9 generateFactory() [2/2]

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateFactory (
    Set< Resource > classes,
    String fname,
    PrintWriter out )
```

Generates the factory interface.

Parameters

<i>classes</i>	
<i>fname</i>	
<i>out</i>	

Definition at line 289 of file ClassBuilder.java.

6.1.3.10 generateJavadoc()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateJavadoc (
    IRI iri,
    PrintWriter out,
    int indent ) [protected]
```

Definition at line 646 of file ClassBuilder.java.

6.1.3.11 generateLoadFromModel()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateLoadFromModel (
    Collection< IRI > properties,
    PrintWriter out,
    boolean useFactory ) [protected]
```

Definition at line 589 of file ClassBuilder.java.

6.1.3.12 generatePropertyDeclaration()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generatePropertyDeclaration (
    IRI iri,
    String propertyName,
    PrintWriter out ) [protected]
```

Definition at line 461 of file ClassBuilder.java.

6.1.3.13 generatePropertyGetter()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generatePropertyGetter (
    IRI iri,
    String propertyName,
    PrintWriter out ) [protected]
```

Definition at line 477 of file ClassBuilder.java.

6.1.3.14 generatePropertySetter()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generatePropertySetter (
    IRI iri,
    String propertyName,
    PrintWriter out ) [protected]
```

Definition at line 486 of file ClassBuilder.java.

6.1.3.15 generateReverseCollectionDeclaration()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateReverseCollectionDeclaration (
    IRI iri,
    String propertyName,
    String propertyType,
    PrintWriter out ) [protected]
```

Definition at line 469 of file ClassBuilder.java.

6.1.3.16 generateRevPropertyGetterAdder()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.generateRevPropertyGetterAdder (
    IRI iri,
    String propertyName,
    String propertyType,
    PrintWriter out ) [protected]
```

Definition at line 495 of file ClassBuilder.java.

6.1.3.17 `getIndent()`

```
String io.github.radkovo.rdf4j.builder.ClassBuilder.getIndent ( )
```

Gets the used indentation string.

Returns

the indentation string

Definition at line 190 of file ClassBuilder.java.

6.1.3.18 `getPackageName()`

```
String io.github.radkovo.rdf4j.builder.ClassBuilder.getPackageName ( )
```

Returns the target Java package name for generated classes.

Returns

The target package name or

`null`

when not specified.

Definition at line 136 of file ClassBuilder.java.

6.1.3.19 `getPreferredLanguage()`

```
String io.github.radkovo.rdf4j.builder.ClassBuilder.getPreferredLanguage ( )
```

Gets the preferred language for RDF literals.

Returns

the RDF literals language or

`null`

when not set.

Definition at line 208 of file ClassBuilder.java.

6.1.3.20 `getVocabName()`

```
String io.github.radkovo.rdf4j.builder.ClassBuilder.getVocabName ( )
```

Gets the name of the generated vocabulary class.

Returns

The vocabulary class name (without the package).

Definition at line 172 of file ClassBuilder.java.

6.1.3.21 `getVocabPackageName()`

```
String io.github.radkovo.rdf4j.builder.ClassBuilder.getVocabPackageName ( )
```

Returns the target Java package name for generated vocabularies.

Returns

The target package name or

`null`

when not specified.

Definition at line 154 of file ClassBuilder.java.

6.1.3.22 `setIndent()`

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.setIndent (
    String indent )
```

Sets the character sequence used for indentation. Default is ".

Parameters

<i>indent</i>	the indentation string
---------------	------------------------

Definition at line 199 of file ClassBuilder.java.

6.1.3.23 `setPackageName()`

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.setPackageName (
    String packageName )
```

Sets the target Java package name for generated classes.

Parameters

<i>packageName</i>	the package name
--------------------	------------------

Definition at line 145 of file ClassBuilder.java.

6.1.3.24 setPreferredLanguage()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.setPreferredLanguage (
    String language )
```

Sets the preferred language for RDF literals.

Parameters

<i>language</i>	the RDF literals language
-----------------	---------------------------

Definition at line 217 of file ClassBuilder.java.

6.1.3.25 setVocabName()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.setVocabName (
    String vocabName )
```

Sets the name of the generated vocabulary class.

Parameters

<i>vocabName</i>	the vocabulary class name (without the package).
------------------	--

Definition at line 181 of file ClassBuilder.java.

6.1.3.26 setVocabPackageName()

```
void io.github.radkovo.rdf4j.builder.ClassBuilder.setVocabPackageName (
    String vocabPackageName )
```

Sets the target Java package name for generated vocabularies.

Parameters

<i>packageName</i>	the package name
--------------------	------------------

Definition at line 163 of file ClassBuilder.java.

The documentation for this class was generated from the following file:

- [/home/burgetr/git/rdf4j-class-builder/class-builder-core/src/main/java/io/github/radkovo/rdf4j/builder/ClassBuilder.java](#)

6.2 io.github.radkovo.rdf4j.builder.EntityFactory Interface Reference

6.2.1 Detailed Description

A common base class for all the generated entity factories.

Author

burgetr

Definition at line 13 of file EntityFactory.java.

The documentation for this interface was generated from the following file:

- [/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/EntityFactory.java](#)

6.3 io.github.radkovo.rdf4j.builder.Main Class Reference

Static Public Member Functions

- static void [main](#) (String[] args)

6.3.1 Detailed Description

The command line interface class.

Author

burgetr

Definition at line 33 of file Main.java.

6.3.2 Member Function Documentation

6.3.2.1 main()

```
static void io.github.radkovo.rdf4j.builder.Main.main (
    String [] args ) [static]
```

Command line processing method.

Parameters

<i>args</i>	
-------------	--

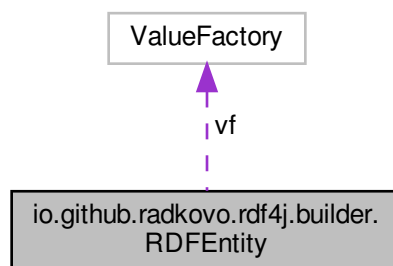
Definition at line 41 of file Main.java.

The documentation for this class was generated from the following file:

- </home/burgetr/git/rdf4j-class-builder/class-builder-cli/src/main/java/io/github/radkovo/rdf4j/builder/Main.java>

6.4 io.github.radkovo.rdf4j.builder.RDFEntity Class Reference

Collaboration diagram for io.github.radkovo.rdf4j.builder.RDFEntity:

**Public Member Functions**

- [RDFEntity](#) (IRI iri)
- IRI [getIRI](#) ()
- void [addToModel](#) ([TargetModel](#) target)
- void [loadFromModel](#) (Model model, [EntityFactory](#) factory)
- String [getLabel](#) ()
- abstract IRI [getClassIRI](#) ()

Static Public Attributes

- static final ValueFactory [vf](#) = SimpleValueFactory.getInstance()

Protected Member Functions

- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, String value)
- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, int value)
- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, float value)
- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, double value)
- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, Date value)
- void [addValue](#) ([TargetModel](#) target, IRI propertyIRI, URL value)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, String[] values)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, int[] values)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, float[] values)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, double[] values)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, Date[] values)
- void [addArray](#) ([TargetModel](#) target, IRI propertyIRI, URL[] values)
- void [addObject](#) ([TargetModel](#) target, IRI propertyIRI, [RDFEntity](#) obj)
- void [addCollection](#) ([TargetModel](#) target, IRI propertyIRI, Collection<? extends [RDFEntity](#) > col)
- String [] [loadStringArray](#) (Model m, IRI pred)
- int [] [loadIntArray](#) (Model m, IRI pred)
- float [] [loadFloatArray](#) (Model m, IRI pred)
- double [] [loadDoubleArray](#) (Model m, IRI pred)
- Date [] [loadDateArray](#) (Model m, IRI pred)
- URL [] [loadURLArray](#) (Model m, IRI pred)
- String [loadStringValue](#) (Model m, IRI pred)
- int [loadIntValue](#) (Model m, IRI pred)
- float [loadFloatValue](#) (Model m, IRI pred)
- double [loadDoubleValue](#) (Model m, IRI pred)
- Date [loadDateValue](#) (Model m, IRI pred)
- URL [loadURLValue](#) (Model m, IRI pred)
- Set< IRI > [getObjectIRIs](#) (Model m, IRI predicate)

6.4.1 Detailed Description

A base class for all the generated RDF entities. It implements basic operations for adding and retrieving the entities to/from a RDF graph represented by a [TargetModel](#) instance.

Author

burgetr

Definition at line 33 of file `RDFEntity.java`.

6.4.2 Constructor & Destructor Documentation

6.4.2.1 `RDFEntity()`

```
io.github.radkovo.rdf4j.builder.RDFEntity.RDFEntity (
    IRI iri )
```

Creates a new entity identified with an IRI.

Parameters

<i>iri</i>	The entity IRI.
------------	-----------------

Definition at line 44 of file RDFEntity.java.

6.4.3 Member Function Documentation

6.4.3.1 addArray() [1/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    String [] values ) [protected]
```

Definition at line 133 of file RDFEntity.java.

6.4.3.2 addArray() [2/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    int [] values ) [protected]
```

Definition at line 139 of file RDFEntity.java.

6.4.3.3 addArray() [3/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    float [] values ) [protected]
```

Definition at line 145 of file RDFEntity.java.

6.4.3.4 addArray() [4/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    double [] values ) [protected]
```

Definition at line 151 of file RDFEntity.java.

6.4.3.5 addArray() [5/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    Date [] values ) [protected]
```

Definition at line 157 of file RDFEntity.java.

6.4.3.6 addArray() [6/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addArray (
    TargetModel target,
    IRI propertyIRI,
    URL [] values ) [protected]
```

Definition at line 163 of file RDFEntity.java.

6.4.3.7 addCollection()

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addCollection (
    TargetModel target,
    IRI propertyIRI,
    Collection<? extends RDFEntity > col ) [protected]
```

Definition at line 175 of file RDFEntity.java.

6.4.3.8 addObject()

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addObject (
    TargetModel target,
    IRI propertyIRI,
    RDFEntity obj ) [protected]
```

Definition at line 169 of file RDFEntity.java.

6.4.3.9 addToModel()

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addToModel (
    TargetModel target )
```

Creates a set of RDF triples describing the entity and stores the triples to a target model.

Parameters

<i>target</i>	The target model
---------------	------------------

Definition at line 64 of file RDFEntity.java.

6.4.3.10 addValue() [1/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    String value ) [protected]
```

Definition at line 102 of file RDFEntity.java.

6.4.3.11 addValue() [2/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    int value ) [protected]
```

Definition at line 108 of file RDFEntity.java.

6.4.3.12 addValue() [3/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    float value ) [protected]
```

Definition at line 113 of file RDFEntity.java.

6.4.3.13 addValue() [4/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    double value ) [protected]
```

Definition at line 118 of file RDFEntity.java.

6.4.3.14 addValue() [5/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    Date value ) [protected]
```

Definition at line 123 of file RDFEntity.java.

6.4.3.15 addValue() [6/6]

```
void io.github.radkovo.rdf4j.builder.RDFEntity.addValue (
    TargetModel target,
    IRI propertyIRI,
    URL value ) [protected]
```

Definition at line 128 of file RDFEntity.java.

6.4.3.16 getClassIRI()

```
abstract IRI io.github.radkovo.rdf4j.builder.RDFEntity.getClassIRI ( ) [abstract]
```

Gets the IRI of the entity class.

Returns

The class IRI.

6.4.3.17 getIRI()

```
IRI io.github.radkovo.rdf4j.builder.RDFEntity.getIRI ( )
```

Gets the entity IRI.

Returns

The entity IRI

Definition at line 53 of file RDFEntity.java.

6.4.3.18 getLabel()

```
String io.github.radkovo.rdf4j.builder.RDFEntity.getLabel ( )
```

Gets the entity label (rdfs:label) if defined in the RDF model.

Returns

The label or

`null`

when no label is defined.

Definition at line 89 of file RDFEntity.java.

6.4.3.19 getObjectIRIs()

```
Set<IRI> io.github.radkovo.rdf4j.builder.RDFEntity.getObjectIRIs (
    Model m,
    IRI predicate ) [protected]
```

Definition at line 319 of file RDFEntity.java.

6.4.3.20 loadDateArray()

```
Date [ ] io.github.radkovo.rdf4j.builder.RDFEntity.loadDateArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 246 of file RDFEntity.java.

6.4.3.21 loadDateValue()

```
Date io.github.radkovo.rdf4j.builder.RDFEntity.loadDateValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 307 of file RDFEntity.java.

6.4.3.22 loadDoubleArray()

```
double [] io.github.radkovo.rdf4j.builder.RDFEntity.loadDoubleArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 231 of file RDFEntity.java.

6.4.3.23 loadDoubleValue()

```
double io.github.radkovo.rdf4j.builder.RDFEntity.loadDoubleValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 301 of file RDFEntity.java.

6.4.3.24 loadFloatArray()

```
float [] io.github.radkovo.rdf4j.builder.RDFEntity.loadFloatArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 216 of file RDFEntity.java.

6.4.3.25 loadFloatValue()

```
float io.github.radkovo.rdf4j.builder.RDFEntity.loadFloatValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 295 of file RDFEntity.java.

6.4.3.26 loadFromModel()

```
void io.github.radkovo.rdf4j.builder.RDFEntity.loadFromModel (
    Model model,
    EntityFactory factory )
```

Loads the entity properties from a RDF4J model. For creating the referenced entities a given factory is used.

Parameters

<i>model</i>	The source model to load the properties from
<i>factory</i>	An entity factory for creating referenced entities while loading

Definition at line 80 of file RDFEntity.java.

6.4.3.27 loadIntArray()

```
int [] io.github.radkovo.rdf4j.builder.RDFEntity.loadIntArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 201 of file RDFEntity.java.

6.4.3.28 loadIntValue()

```
int io.github.radkovo.rdf4j.builder.RDFEntity.loadIntValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 289 of file RDFEntity.java.

6.4.3.29 loadStringArray()

```
String [] io.github.radkovo.rdf4j.builder.RDFEntity.loadStringArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 186 of file RDFEntity.java.

6.4.3.30 loadStringValue()

```
String io.github.radkovo.rdf4j.builder.RDFEntity.loadStringValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 283 of file RDFEntity.java.

6.4.3.31 loadURLArray()

```
URL [] io.github.radkovo.rdf4j.builder.RDFEntity.loadURLArray (
    Model m,
    IRI pred ) [protected]
```

Definition at line 261 of file RDFEntity.java.

6.4.3.32 loadURLValue()

```
URL io.github.radkovo.rdf4j.builder.RDFEntity.loadURLValue (
    Model m,
    IRI pred ) [protected]
```

Definition at line 313 of file RDFEntity.java.

6.4.4 Member Data Documentation**6.4.4.1 vf**

```
final ValueFactory io.github.radkovo.rdf4j.builder.RDFEntity.vf = SimpleValueFactory.get↔
Instance() [static]
```

Definition at line 35 of file RDFEntity.java.

The documentation for this class was generated from the following file:

- /home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/RD↔
FEntity.java

6.5 io.github.radkovo.rdf4j.builder.TargetModel Class Reference**Public Member Functions**

- [TargetModel](#) (Model model)
- Model [getModel](#) ()
- Set< [RDFEntity](#) > [getEntities](#) ()
- void [add](#) ([RDFEntity](#) entity)
- void [addAll](#) (Collection<? extends [RDFEntity](#) > entities)

6.5.1 Detailed Description

An abstraction of a target model. It encapsulates a RDF4J Model and implements adding the entities to the model. While adding the entities, duplicities are checked and duplicate additions of an equal entity are ignored.

Author

burgetr

Definition at line 22 of file TargetModel.java.

6.5.2 Constructor & Destructor Documentation

6.5.2.1 TargetModel()

```
io.github.radkovo.rdf4j.builder.TargetModel.TargetModel (
    Model model )
```

Creates a target encapsulating a given model.

Parameters

<i>model</i>	The RDF4J Model to be used for storage.
--------------	---

Definition at line 32 of file TargetModel.java.

6.5.3 Member Function Documentation

6.5.3.1 add()

```
void io.github.radkovo.rdf4j.builder.TargetModel.add (
    RDFEntity entity )
```

Adds a new entity to the model. If the entity has been already stored, the addition has no efect.

Parameters

<i>entity</i>	The entity to add.
---------------	--------------------

Definition at line 61 of file TargetModel.java.

6.5.3.2 addAll()

```
void io.github.radkovo.rdf4j.builder.TargetModel.addAll (
    Collection<? extends RDFEntity > entities )
```

Adds a collection of entities to the model. The entities that have already stored are ignored.

Parameters

<i>entities</i>	A collection of entities to add.
-----------------	----------------------------------

Definition at line 74 of file TargetModel.java.

6.5.3.3 getEntities()

```
Set<RDFEntity> io.github.radkovo.rdf4j.builder.TargetModel.getEntities ( )
```

Gets all the entities that have been already stored.

Returns

A set of stored RDF4J entities.

Definition at line 51 of file TargetModel.java.

6.5.3.4 getModel()

```
Model io.github.radkovo.rdf4j.builder.TargetModel.getModel ( )
```

Returns the RDF4J model used for storage.

Returns

The RDF4J model

Definition at line 42 of file TargetModel.java.

The documentation for this class was generated from the following file:

- /home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/TargetModel.java

Chapter 7

File Documentation

7.1 `/home/burgetr/git/rdf4j-class-builder/class-builder-cli/src/main/java/io/github/radkovo/rdf4j/builder/Main.java` File Reference

Classes

- class [io.github.radkovo.rdf4j.builder.Main](#)

Packages

- package [io.github.radkovo.rdf4j.builder](#)

7.2 `/home/burgetr/git/rdf4j-class-builder/class-builder-core/src/main/java/io/github/radkovo/rdf4j/builder/ClassBuilder.java` File Reference

Classes

- class [io.github.radkovo.rdf4j.builder.ClassBuilder](#)

Packages

- package [io.github.radkovo.rdf4j.builder](#)

7.3 `/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/EntityFactory.java` File Reference

Classes

- interface [io.github.radkovo.rdf4j.builder.EntityFactory](#)

Packages

- package [io.github.radkovo.rdf4j.builder](#)

7.4 /home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/bui RDFEntity.java File Reference

Classes

- class [io.github.radkovo.rdf4j.builder.RDFEntity](#)

Packages

- package [io.github.radkovo.rdf4j.builder](#)

7.5 /home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/bui TargetModel.java File Reference

Classes

- class [io.github.radkovo.rdf4j.builder.TargetModel](#)

Packages

- package [io.github.radkovo.rdf4j.builder](#)

7.6 /home/burgetr/git/rdf4j-class-builder/README.md File Reference

Index

[/home/burgetr/git/rdf4j-class-builder/README.md](#), 36

[/home/burgetr/git/rdf4j-class-builder/class-builder-cli/src/main/java/io/github/radkovo/rdf4j/builder/Main.java](#), 35

[/home/burgetr/git/rdf4j-class-builder/class-builder-core/src/main/java/io/github/radkovo/rdf4j/builder/ClassBuilder.java](#), 35

[/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/EntityFactory.java](#), 35

[/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/RDFEntity.java](#), 36

[/home/burgetr/git/rdf4j-class-builder/class-builder-runtime/src/main/java/io/github/radkovo/rdf4j/builder/TargetModel.java](#), 36

[add](#)
 [io.github::radkovo::rdf4j::builder::TargetModel](#), 32

[addAll](#)
 [io.github::radkovo::rdf4j::builder::TargetModel](#), 32

[addArray](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 24, 25

[addCollection](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 25

[addObject](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 25

[addToModel](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 25

[addValue](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 26, 27

[ClassBuilder](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 12

[generate](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 13

[generateAddToModel](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 14

[generateClass](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 14

[generateConstructors](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 15

[generateDefaultMethods](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 15

[generateFactory](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 15, 16

[generateJavadoc](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 16

[generateLoadFromModel](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 16

[generatePropertyDeclaration](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 16

[generatePropertyGetter](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 17

[generatePropertySetter](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 17

[generateRevPropertyGetterAdder](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 17

[generateReverseCollectionDeclaration](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 17

[getClassIRI](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 27

[getEntities](#)
 [io.github::radkovo::rdf4j::builder::TargetModel](#), 33

[getIRI](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 27

[getIndent](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 17

[getLabel](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 27

[getModel](#)
 [io.github::radkovo::rdf4j::builder::TargetModel](#), 33

[getObjectIRIs](#)
 [io.github::radkovo::rdf4j::builder::RDFEntity](#), 28

[getPackageName](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 18

[getPreferredLanguage](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 18

[getVocabName](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 18

[getVocabPackageName](#)
 [io.github::radkovo::rdf4j::builder::ClassBuilder](#), 19

[io](#), 9

[io.github](#), 9

[io.github.radkovo](#), 9

[io.github.radkovo.rdf4j](#), 9

[io.github.radkovo.rdf4j.builder](#), 9

[io.github.radkovo.rdf4j.builder.ClassBuilder](#), 11

[io.github.radkovo.rdf4j.builder.EntityFactory](#), 21

[io.github.radkovo.rdf4j.builder.Main](#), 21

[io.github.radkovo.rdf4j.builder.RDFEntity](#), 22

[io.github.radkovo.rdf4j.builder.TargetModel](#), 31

[io.github::radkovo::rdf4j::builder::ClassBuilder](#)
 [ClassBuilder](#), 12

[generate](#), 13

[generateAddToModel](#), 14

[generateClass](#), 14

- generateConstructors, 15
- generateDefaultMethods, 15
- generateFactory, 15, 16
- generateJavadoc, 16
- generateLoadFromModel, 16
- generatePropertyDeclaration, 16
- generatePropertyGetter, 17
- generatePropertySetter, 17
- generateRevPropertyGetterAdder, 17
- generateReverseCollectionDeclaration, 17
- getIndent, 17
- getPackageName, 18
- getPreferredLanguage, 18
- getVocabName, 18
- getVocabPackageName, 19
- setIndent, 19
- setPackageName, 19
- setPreferredLanguage, 20
- setVocabName, 20
- setVocabPackageName, 20
- io::github::radkovo::rdf4j::builder::Main
 - main, 21
- io::github::radkovo::rdf4j::builder::RDFEntity
 - addArray, 24, 25
 - addCollection, 25
 - addObject, 25
 - addToModel, 25
 - addValue, 26, 27
 - getClassIRI, 27
 - getIRI, 27
 - getLabel, 27
 - getObjectIRIs, 28
 - loadDateArray, 28
 - loadDateValue, 28
 - loadDoubleArray, 28
 - loadDoubleValue, 29
 - loadFloatArray, 29
 - loadFloatValue, 29
 - loadFromModel, 29
 - loadIntArray, 30
 - loadIntValue, 30
 - loadStringArray, 30
 - loadStringValue, 30
 - loadURLArray, 30
 - loadURLValue, 31
 - RDFEntity, 23
 - vf, 31
- io::github::radkovo::rdf4j::builder::TargetModel
 - add, 32
 - addAll, 32
 - getEntities, 33
 - getModel, 33
 - TargetModel, 32
- loadDateArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 28
- loadDateValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 28
- loadDoubleArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 28
- loadDoubleValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 29
- loadFloatArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 29
- loadFloatValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 29
- loadFromModel
 - io::github::radkovo::rdf4j::builder::RDFEntity, 29
- loadIntArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 30
- loadIntValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 30
- loadStringArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 30
- loadStringValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 30
- loadURLArray
 - io::github::radkovo::rdf4j::builder::RDFEntity, 30
- loadURLValue
 - io::github::radkovo::rdf4j::builder::RDFEntity, 31
- main
 - io::github::radkovo::rdf4j::builder::Main, 21
- RDFEntity
 - io::github::radkovo::rdf4j::builder::RDFEntity, 23
- setIndent
 - io::github::radkovo::rdf4j::builder::ClassBuilder, 19
- setPackageName
 - io::github::radkovo::rdf4j::builder::ClassBuilder, 19
- setPreferredLanguage
 - io::github::radkovo::rdf4j::builder::ClassBuilder, 20
- setVocabName
 - io::github::radkovo::rdf4j::builder::ClassBuilder, 20
- setVocabPackageName
 - io::github::radkovo::rdf4j::builder::ClassBuilder, 20
- TargetModel
 - io::github::radkovo::rdf4j::builder::TargetModel, 32
- vf
 - io::github::radkovo::rdf4j::builder::RDFEntity, 31