

Documentation of TexGen-Doclet

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Abstract

This documentation describes the use of the TexGen-Doclet. A doclet is a class derived from com.sun.javadoc.Doclet that can be used to generate a documentation with the javadoc-tool out of commented java-source-code. By default javadoc generates a HTML documentation, TexGen generates T_EX-files according to the javadoc-package. The doclet is under GNU GENERAL PUBLIC LICENSE¹

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1 Usage

1.1 Calling javadoc

To use the doclet it has to be a parameter for the javadoc programm. The javadoc syntax is:

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```
javadoc [options] [packagenames] [sourcefiles] [@files]
```

Possible Options are -doclet and -docletpath. For TexGen write “TeX-Gen” after -doclet and after -docletpath the Path to the TexGen.jar jararchive.

1.2 Option for TexGen

TexGen provides an own option. You can use -dest and the path to the outputfolder, where the generated files will be located. If you don't use this option, a folder named “texgendoc” will be created.

The final syntax is:

```
javadoc -doclet TexGen -docletpath <...texgen.jar> -dest <ausgabepath>
```

...

1.3 Using Eclipse

With Eclipse Javadoc can be called with an plugin. You have the possibility to choose a custom doclet. Use TexGen for the docletname and the path to the jararchive for the docletpath. The next dialog provides the inputfield for extra javadoc options. Here you can add -dest <outputpath>.

2 Known and Open Issues

- Special character in the documented text are converted not to interprete them as Tex-control character. These are: { } _ ^ & # []. All other special characters, that might build a tex-control-character should be avoided.
- Generic data types aren't supported.
- Duplicate Classnames (e.g. in different packages) aren't supported in linking.

3 Source Code documentation

4 TexGen

Full name: public class TexGen

Inherits Object—Doclet

The Doclet writes the javadoc-content into Tex-files referring to the javadoc-Package.

Mandatory CommandLineOption is: -dest destinationpath for the outfile(s)

Author Jolle

Since 13.05.2008

Version 1.0

Inheritancetable

Element	Inherited from
LanguageVersion languageVersion()	Doclet
int optionLength(String)	Doclet
boolean start(RootDoc)	Doclet
boolean validOptions(String[], DocErrorReporter)	Doclet
Object clone()	Object
boolean equals(Object)	Object
void finalize()	Object
Class getClass()	Object
int hashCode()	Object
void notify()	Object
void notifyAll()	Object
String toString()	Object
void wait(long)	Object
void wait(long, int)	Object
void wait()	Object

Fields

private static String destpath

In this variable the destinationpath is storaged

The variable is set during validation of the commandlineparameter and
read to write the output files

Author Jolle

Since version 1.0 from 13.05.2008

Constructors

public TexGen()

Methods

public static boolean start(RootDoc root)

method that is called from the javadoc-programm after parsing the input-files

Author Jolle

Since version 1.0 from 13.05.2008

Return true, if process successful; false if not

Parameter RootDoc root the parsed element with ALL information

public static int optionLength(String option)

Method, with number of arguments to an commandlineparameter. Returns 2 for -dest

Author Jolle

Since version 1.0 from 13.05.2008

Return 0, if option doesn't exist, otherwise a value > 1

Parameter String option optionname (starting with "-")

public static boolean validOptions(String[][] options, DocErrorReporter reporter)

Method validating the commandline call.

Author Jolle

Since version 1.0 from 13.05.2008

Return validation result

Parameter String[][] options array with all options and their arguments
DocErrorReporter reporter an object to report the process

5 ClassWriter

Full name: public class ClassWriter

Inherits Object

Class that collection the javadoc information for one class and writes them in to the destination file.

Author Jolle

Since 13.05.2008

Version 1.0

Inheritancetable

Element	Inherited from
Object clone()	Object
boolean equals(Object)	Object
void finalize()	Object
Class getClass()	Object
int hashCode()	Object
void notify()	Object
void notifyAll()	Object
String toString()	Object
void wait(long)	Object
void wait(long, int)	Object
void wait()	Object

Fields

private static final String JDclass

private static final String JDheader

private static final String JDmethod

private static final String JDconstructor

private static final String JDfield

private static final String JDinterfaceOpt

private static final String JDclassOpt

```
private static final String JDCpublic
```

```
private static final String JDCprivate
```

```
private static final String JDCprotected
```

```
private static final String JDCfinal
```

```
private static final String JDCstatic
```

```
private static final String JDCtransient
```

```
private static final String JDCvolatile
```

```
private static final String JDCabstract
```

```
private static final String JDCpackage
```

```
private static final String JDCinherits
```

```
private static final String JDCinhArrow
```

```
private static final String JDCimplements
```

```
private static final String JDCouterclass
```

```
private static final String JDCtype
```

```
private static final String JDcategory
```

```
private static final String JDdeprecated
```

```
private static final String JDsee
```

```
private static final String JDserial
```

```
private static final String JDserialData
```

```
private static final String JDserialField
```

```
private static final String JDsince
```

```
private static final String JDtext
```

```
private static final String JDversion
```

```
private static final String JDreturn
```

```
private static final String JDauthor
```

```
private static final String JDpara
```

```
private static final String JDthrows
```

```
private static final String JDinhtable
```

```
private static final String JDClinksimple
```

```
private static final String JDClinkarray
```

```
private TexPrintStream ps_dateiausgabe
```

Stream, the output is written to.

Author Jolle

Since version 1.0 from 13.05.2008

Constructors

```
public ClassWriter( String s_zielpath ) throws IOException, FileNotFoundException
```

Initializes the ClassWriter, creating a new file with a stream into

Author Jolle

Since version 1.0 of 13.05.2008

Parameter	String s_zielpath	path with the destination file
Exceptions	IOException FileNotFoundException	If the file cannot be created. If the file isn't available after creation process

Methods

```
public void print( ClassDoc cd )
```

Writes the information of this file

Author Jolle

Since version 1.0 from 13.05.2008

Parameter	ClassDoc cd	class-object
------------------	-------------	--------------

```
private void print( FieldDoc fd )
```

Writes the information of a field

Author Jolle

Since version 1.0 from 13.05.2008

Parameter	FieldDoc fd	field-object
------------------	-------------	--------------

```
private void print( ConstructorDoc cd )
```

Writes the informationen of a constructor

Author Jolle

Since version 1.0 from 13.05.2008

Parameter ConstructorDoc cd constructor-object

```
private void print( MethodDoc md )
```

Writes the information of a method

Author Jolle

Since version 1.0 from 13.05.2008

Parameter MethodDoc md method-object

```
private void printTags( Doc d )
```

Writes all primity javadoc attributes

Author Jolle

Since version 1.0 from 13.05.2008

Parameter Doc d Doc-Type with the javadoc-information

```
private InhTable printClassInfo( ClassDoc cd )
```

Writes the classheader

Author Jolle

Since version 1.0 from 13.05.2008

Return The tableOfInheritance is created in this method and returned
for later use.

Parameter ClassDoc cd Class-object

```
public static String getLinks( Type t )
```

Returns the type (Array or Simple) of a type

Author Jolle

Since version 1.0 from 13.05.2008

Return string with the corresponding texcommand

Parameter Type t Type-Object

```
private void printLinks( Type t )
```

Writes the linked type

Author Jolle

Since version 1.0 from 13.05.2008

Parameter Type t Type-Object

```
private void printInhTable( InhTable it )
```

Writes the tableOfInheritance and all entries

Author Jolle

Since version 1.0 from 13.05.2008

Parameter InhTable it the object with an (unsorted) table

```
private void print( )
```

Writes an linebreak

Author Jolle

Since version 1.0 from 13.05.2008

```
private void printCommand( String befehl )
```

Writes a tex-command

Author Jolle

Since version 1.0 from 13.05.2008

Parameter String befehl name of the command

```
private void printOpt( String option )
```

Writes a tex-option

Author Jolle

Since version 1.0 from 13.05.2008

Parameter String option option name

```
private void printArgument( String arg )
```

Writes a tex-argument

Author Jolle

Since version 1.0 from 13.05.2008

Parameter String arg argumentname

```
private void printBegin( String umgebung )
```

Writes the beginning of an environment

Author Jolle

Since version 1.0 from 13.05.2008

Parameter String umgebung environmentname

```
private void printEnd( String umgebung )
```

Writes the ending of an environment

Author Jolle

Since version 1.0 from 13.05.2008

Parameter String umgebung environmentname

6 TexPrintStream

Full name: public class TexPrintStream

Inherits Object←OutputStream←FilterOutputStream←PrintStream

Conversion of special characters into tex-format

Author Jolle

Since 13.05.2008

Version 1.0

Inheritancetable

Element	Inherited from
OutputStream out	FilterOutputStream
PrintStream append(CharSequence)	PrintStream
PrintStream append(CharSequence, int, int)	PrintStream
PrintStream append(char)	PrintStream
Appendable append(char)	PrintStream
Appendable append(CharSequence, int, int)	PrintStream
Appendable append(CharSequence)	PrintStream
boolean checkError()	PrintStream
void clearError()	PrintStream
void close()	PrintStream
void flush()	PrintStream
PrintStream format(String, Object[])	PrintStream
PrintStream format(Locale, String, Object[])	PrintStream
void print(boolean)	PrintStream
void print(char)	PrintStream
void print(int)	PrintStream
void print(long)	PrintStream
void print(float)	PrintStream
void print(double)	PrintStream
void print(char[])	PrintStream
void print(String)	PrintStream
void print(Object)	PrintStream
PrintStream printf(String, Object[])	PrintStream
PrintStream printf(Locale, String, Object[])	PrintStream
void println()	PrintStream
void println(boolean)	PrintStream
void println(char)	PrintStream
void println(int)	PrintStream
void println(long)	PrintStream
void println(float)	PrintStream
void println(double)	PrintStream
void println(char[])	PrintStream
void println(String)	PrintStream
void println(Object)	PrintStream

void setError()	PrintStream
void write(int)	PrintStream
void write(byte[], int, int)	PrintStream
void close()	FilterOutputStream
void flush()	FilterOutputStream
void write(int)	FilterOutputStream
void write(byte[])	FilterOutputStream
void write(byte[], int, int)	FilterOutputStream
void close()	OutputStream
void flush()	OutputStream
void write(int)	OutputStream
void write(byte[])	OutputStream
void write(byte[], int, int)	OutputStream
Object clone()	Object
boolean equals(Object)	Object
void finalize()	Object
Class getClass()	Object
int hashCode()	Object
void notify()	Object
void notifyAll()	Object
String toString()	Object
void wait(long)	Object
void wait(long, int)	Object
void wait()	Object

Constructors

public TexPrintStream(File f) throws FileNotFoundException

Constructor, initialising the stream into the given file

Author Jolle

Since Version 1.0 from 13.05.2008

Parameter File f **File to write**

Exceptions FileNotFoundException **if the file doesn't exist**

Methods

public void printTex(String ausgabe)

Converts an String and writes it to the stream

Author Jolle

Since Version 1.0 from 13.05.2008

Parameter String ausgabe unformatted string

public static String umwandlung(String unformatted)

Converts the special characters to TeX-format

Characters, that are converted: { } _ ^ & # []

Author Jolle

Since Version 1.0 from 13.05.2008

Return formatted string

Parameter String unformatted unformatted string

7 InhTable

Full name: public class InhTable

Inherits Object

Table of Inheritance

Author Jolle

Since 13.05.2008

Version 1.0

Inheritancetable

Element	Inherited from
Object clone()	Object
boolean equals(Object)	Object
void finalize()	Object
Class getClass()	Object
int hashCode()	Object
void notify()	Object
void notifyAll()	Object
String toString()	Object
void wait(long)	Object
void wait(long, int)	Object
void wait()	Object

Fields

private ArrayList tabelle

List containing all entries

Author Jolle

Since version 1.0 from 13.05.2008

Constructors

public InhTable()

Methods

public void addEntries(ClassDoc parent)

Adds the fields and methods of the parent-class to the table

Author Jolle

Since version 1.0 from 13.05.2008

Parameter ClassDoc parent die übergeordnete Klasse

public void sortTable()

Sorts the table to field/methods, then inheriting class, than alphanumeric

Author Jolle

Since version 1.0 from 13.05.2008

public String getTexTableEntries()

Returns an string containing all entries in Tex-format

Author Jolle

Since Version 1.0 from 13.05.2008

Return the hole table content as one string.

8 InhEntry

Full name: public class InhEntry

Inherits Object

Implements Comparable

One Entry of the table.

Author Jolle

Since 13.05.2008

Version 1.0

Inheritancetable

Element	Inherited from
Object clone()	Object
boolean equals(Object)	Object
void finalize()	Object
Class getClass()	Object
int hashCode()	Object
void notify()	Object
void notifyAll()	Object
String toString()	Object
void wait(long)	Object
void wait(long, int)	Object
void wait()	Object

Fields

private static final String JDInhEntry

Tex-command for an entry

Author Jolle

Since version 1.0 from 13.05.2008

private Doc eintrag

the element of an entry

Author Jolle

Since version 1.0 from 13.05.2008

```
private ClassDoc parent
```

The parent class of an entry

Author Jolle

Since version 1.0 from 13.05.2008

Constructors

```
public InhEntry( Doc d, ClassDoc parent )
```

Creates the entry with the element and the parentclass

Author Jolle

Since version 1.0 from 13.05.2008

Parameter	Doc d	element
	ClassDoc parent	the inheriter

Methods

```
public String getTexTableEntry( )
```

Creates an entry-line in tex-format

Author Jolle

Since version 1.0 from 13.05.2008

Return the formatted tex-line

```
public int compareTo( InhEntry name )
```

Overrides the compareTo-Method of Comparable

Author Jolle

Since Version 1.0 from 13.05.2008

Return 0, when equal; 1, if the object is an field and the other one
a method, or - when equal- , the parent is higher than the other
parent or -when equal- the alphanumeric comparison of the names.
otherwise -1

Parameter	InhEntry name	the object to compare to
------------------	---------------	--------------------------

private int compareInheritance(ClassDoc cd)

Compares to parent to hierarchy

Author Jolle

Since Version 1.0 from 13.05.2008

Return 0, when equal, 1 when the own parent is higher, otherwise -1

Parameter ClassDoc cd the other parent

private int compareType(Doc externDoc)

Compares two element to type

Author Jolle

Since Version 1.0 from 13.05.2008

Return 0, if both method or both field, 1 if the own one is field and the other method, otherwise -1

Parameter Doc externDoc the other element
