Documentation of TexGen-Doclet

Jolle*

May 24, 2008

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 \TeX-files according to the javadoc-package. The doclet is under GNU GENERAL PUBLIC LICENSE

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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:

---

*Comments, Help, Questions, Critics to joerman.lieder@gmx.net

1 www.gnu.org
javadoc [options] [packagenames] [sourcefiles] [@files]
Possible Options are -doclet and -docletpath. For TexGen write “TeXGen” 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, an 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 a 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 interpret 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 outputfile(s)

Author Jolle
Since 13.05.2008
Version 1.0
Inheritancetable

<table>
<thead>
<tr>
<th>Element</th>
<th>Inherited from</th>
</tr>
</thead>
<tbody>
<tr>
<td>LanguageVersion languageVersion( )</td>
<td>Doclet</td>
</tr>
<tr>
<td>int optionLength( String )</td>
<td>Doclet</td>
</tr>
<tr>
<td>boolean start( RootDoc )</td>
<td>Doclet</td>
</tr>
<tr>
<td>boolean validOptions( String[][], DocErrorReporter )</td>
<td>Doclet</td>
</tr>
<tr>
<td>Object clone( )</td>
<td>Object</td>
</tr>
<tr>
<td>boolean equals( Object )</td>
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<td>Object</td>
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</tr>
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<td>Object</td>
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<tr>
<td>void wait( )</td>
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</table>

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

Construktors

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 commandline parameter. 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
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<td>void wait( long, int )</td>
<td>Object</td>
</tr>
<tr>
<td>void wait( )</td>
<td>Object</td>
</tr>
</tbody>
</table>

**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

Construktors

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 If the file cannot be created.
FileNotFoundException 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 primitv 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

<table>
<thead>
<tr>
<th>Element</th>
<th>Inherited from</th>
</tr>
</thead>
<tbody>
<tr>
<td>out</td>
<td>FilterOutputStream</td>
</tr>
<tr>
<td>PrintStream append( CharSequence )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream append( CharSequence, int, int )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream append( char )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>Appendable append( char )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>Appendable append( CharSequence, int, int )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>Appendable append( CharSequence )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>boolean checkError( )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void close( )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void flush( )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream format( String, Object[] )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream format( Locale, String, Object[] )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( boolean )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( char )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( int )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( long )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( float )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( double )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( char[] )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( String )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void print( Object )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream printf( String, Object[] )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>PrintStream printf( Locale, String, Object[] )</td>
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</tr>
<tr>
<td>void println( )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void println( boolean )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void println( char )</td>
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<tr>
<td>void println( Object )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>Method</td>
<td>Class</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>void setError( )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void write( int )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void write( byte[], int, int )</td>
<td>PrintStream</td>
</tr>
<tr>
<td>void close( )</td>
<td>FilterOutputStream</td>
</tr>
<tr>
<td>void flush( )</td>
<td>FilterOutputStream</td>
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</table>

**Construktors**

public TexPrintStream( File f ) throws FileNotFoundException

Construktor, 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**

<table>
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</tbody>
</table>
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

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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

Construktors

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 compartTo-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