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org.apache.commons.beanutils.converters

## Class NumberConverter

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.beanutils.converters.AbstractConverter](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html)
    - org.apache.commons.beanutils.converters.NumberConverter
* All Implemented Interfaces: [Converter](http://docs.google.com/org/apache/commons/beanutils/Converter.html) Direct Known Subclasses: [BigDecimalConverter](http://docs.google.com/org/apache/commons/beanutils/converters/BigDecimalConverter.html), [BigIntegerConverter](http://docs.google.com/org/apache/commons/beanutils/converters/BigIntegerConverter.html), [ByteConverter](http://docs.google.com/org/apache/commons/beanutils/converters/ByteConverter.html), [DoubleConverter](http://docs.google.com/org/apache/commons/beanutils/converters/DoubleConverter.html), [FloatConverter](http://docs.google.com/org/apache/commons/beanutils/converters/FloatConverter.html), [IntegerConverter](http://docs.google.com/org/apache/commons/beanutils/converters/IntegerConverter.html), [LongConverter](http://docs.google.com/org/apache/commons/beanutils/converters/LongConverter.html), [ShortConverter](http://docs.google.com/org/apache/commons/beanutils/converters/ShortConverter.html)  
    
  public abstract class NumberConverter  
  extends [AbstractConverter](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html)
* [Converter](http://docs.google.com/org/apache/commons/beanutils/Converter.html) implementaion that handles conversion to and from **java.lang.Number** objects.  
  This implementation handles conversion for the following java.lang.Number types.
  + java.lang.Byte
  + java.lang.Short
  + java.lang.Integer
  + java.lang.Long
  + java.lang.Float
  + java.lang.Double
  + java.math.BigDecimal
  + java.math.BigInteger

### String Conversions (to and from)This class provides a number of ways in which number conversions to/from Strings can be achieved:

* + Using the default format for the default Locale, configure using:
    - setUseLocaleFormat(true)
  + Using the default format for a specified Locale, configure using:
    - setLocale(Locale)
  + Using a specified pattern for the default Locale, configure using:
    - setPattern(String)
  + Using a specified pattern for a specified Locale, configure using:
    - setPattern(String)
    - setLocale(Locale)
  + If none of the above are configured the toNumber(String) method is used to convert from String to Number and the Number's toString() method used to convert from Number to String.

**N.B.**Patterns can only be specified using the *standard* pattern characters and NOT in *localized* form (see java.text.DecimalFormat). For example to cater for number styles used in Germany such as 0.000,00 the pattern is specified in the normal form 0,000.00 and the locale set to Locale.GERMANY.Since: 1.8.0 Version: $Id$

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [NumberConverter](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#NumberConverter-boolean-)(boolean allowDecimals) Construct a **java.lang.Number** *Converter* that throws a ConversionException if a error occurs. |
| * + [NumberConverter](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#NumberConverter-boolean-java.lang.Object-)(boolean allowDecimals, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) defaultValue) Construct a java.lang.Number *Converter* that returns a default value if an error occurs. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + protected [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [convertToString](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#convertToString-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Convert an input Number object into a String. |
| * + protected <T> T | * + [convertToType](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#convertToType-java.lang.Class-java.lang.Object-)([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> targetType, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Convert the input object into a Number object of the specified type. |
| * + [Locale](https://docs.oracle.com/javase/7/docs/api/java/util/Locale.html?is-external=true) | * + [getLocale](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#getLocale--)() Return the Locale for the *Converter* (or null if none specified). |
| * + [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [getPattern](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#getPattern--)() Return the number format pattern used to convert Numbers to/from a java.lang.String (or null if none specified). |
| * + boolean | * + [isAllowDecimals](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#isAllowDecimals--)() Return whether decimals are allowed in the number. |
| * + void | * + [setLocale](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#setLocale-java.util.Locale-)([Locale](https://docs.oracle.com/javase/7/docs/api/java/util/Locale.html?is-external=true) locale) Set the Locale for the *Converter*. |
| * + void | * + [setPattern](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#setPattern-java.lang.String-)([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) pattern) Set a number format pattern to use to convert Numbers to/from a java.lang.String. |
| * + void | * + [setUseLocaleFormat](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#setUseLocaleFormat-boolean-)(boolean useLocaleFormat) Set whether a format should be used to convert the Number. |
| * + [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [toString](http://docs.google.com/org/apache/commons/beanutils/converters/NumberConverter.html#toString--)() Provide a String representation of this number converter. |

### Methods inherited from class org.apache.commons.beanutils.converters.[**AbstractConverter**](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html)[conversionException](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#conversionException-java.lang.Class-java.lang.Object-), [convert](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#convert-java.lang.Class-java.lang.Object-), [convertArray](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#convertArray-java.lang.Object-), [getDefault](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#getDefault-java.lang.Class-), [getDefaultType](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#getDefaultType--), [handleError](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#handleError-java.lang.Class-java.lang.Object-java.lang.Throwable-), [handleMissing](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#handleMissing-java.lang.Class-), [isUseDefault](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#isUseDefault--), [setDefaultValue](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#setDefaultValue-java.lang.Object-)

### Methods inherited from class java.lang.[**Object**](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[clone](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#clone--), [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-), [finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#finalize--), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#getClass--), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notify--), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notifyAll--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-int-)

### Constructor Detail

#### NumberConverter public NumberConverter(boolean allowDecimals) Construct a **java.lang.Number** *Converter* that throws a ConversionException if a error occurs.Parameters: allowDecimals - Indicates whether decimals are allowed

#### NumberConverter public NumberConverter(boolean allowDecimals, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) defaultValue) Construct a java.lang.Number *Converter* that returns a default value if an error occurs.Parameters: allowDecimals - Indicates whether decimals are allowed defaultValue - The default value to be returned

### Method Detail

#### isAllowDecimals public boolean isAllowDecimals() Return whether decimals are allowed in the number.Returns: Whether decimals are allowed in the number

#### setUseLocaleFormat public void setUseLocaleFormat(boolean useLocaleFormat) Set whether a format should be used to convert the Number.Parameters: useLocaleFormat - true if a number format should be used.

#### getPattern public [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) getPattern() Return the number format pattern used to convert Numbers to/from a java.lang.String (or null if none specified). See java.text.DecimalFormat for details of how to specify the pattern.Returns: The format pattern.

#### setPattern public void setPattern([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) pattern) Set a number format pattern to use to convert Numbers to/from a java.lang.String. See java.text.DecimalFormat for details of how to specify the pattern.Parameters: pattern - The format pattern.

#### getLocale public [Locale](https://docs.oracle.com/javase/7/docs/api/java/util/Locale.html?is-external=true) getLocale() Return the Locale for the *Converter* (or null if none specified).Returns: The locale to use for conversion

#### setLocale public void setLocale([Locale](https://docs.oracle.com/javase/7/docs/api/java/util/Locale.html?is-external=true) locale) Set the Locale for the *Converter*.Parameters: locale - The locale to use for conversion

#### convertToString protected [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) convertToString([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) throws [Throwable](https://docs.oracle.com/javase/7/docs/api/java/lang/Throwable.html?is-external=true) Convert an input Number object into a String.Overrides: [convertToString](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#convertToString-java.lang.Object-) in class [AbstractConverter](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html) Parameters: value - The input value to be converted Returns: the converted String value. Throws: [Throwable](https://docs.oracle.com/javase/7/docs/api/java/lang/Throwable.html?is-external=true) - if an error occurs converting to a String

#### convertToType protected <T> T convertToType([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> targetType, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) throws [Throwable](https://docs.oracle.com/javase/7/docs/api/java/lang/Throwable.html?is-external=true) Convert the input object into a Number object of the specified type.Specified by: [convertToType](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#convertToType-java.lang.Class-java.lang.Object-) in class [AbstractConverter](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html) Type Parameters: T - Target type of the conversion. Parameters: targetType - Data type to which this value should be converted. value - The input value to be converted. Returns: The converted value. Throws: [Throwable](https://docs.oracle.com/javase/7/docs/api/java/lang/Throwable.html?is-external=true) - if an error occurs converting to the specified type

#### toString public [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) toString() Provide a String representation of this number converter.Overrides: [toString](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html#toString--) in class [AbstractConverter](http://docs.google.com/org/apache/commons/beanutils/converters/AbstractConverter.html) Returns: A String representation of this number converter

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