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org.apache.commons.collections4

## Class FactoryUtils

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.FactoryUtils
* public class FactoryUtils  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
* FactoryUtils provides reference implementations and utilities for the Factory functor interface. The supplied factories are:
  + Prototype - clones a specified object
  + Instantiate - creates objects using reflection
  + Constant - always returns the same object
  + Null - always returns null
  + Exception - always throws an exception
* Since v4.1 only factories which are considered to be safe are Serializable. Factories considered to be unsafe for serialization are:
  + Prototype
  + Instantiate

Since: 3.0

### Method SummaryAll Methods Static Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [constantFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#constantFactory-T-)(T constantToReturn) Creates a Factory that will return the same object each time the factory is used. |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [exceptionFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#exceptionFactory--)() Gets a Factory that always throws an exception. |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [instantiateFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#instantiateFactory-java.lang.Class-)([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> classToInstantiate) Creates a Factory that can create objects of a specific type using a no-args constructor. |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [instantiateFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#instantiateFactory-java.lang.Class-java.lang.Class:A-java.lang.Object:A-)([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> classToInstantiate, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?>[] paramTypes, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] args) Creates a Factory that can create objects of a specific type using the arguments specified to this method. |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [nullFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#nullFactory--)() Gets a Factory that will return null each time the factory is used. |
| * + static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> | * + [prototypeFactory](http://docs.google.com/org/apache/commons/collections4/FactoryUtils.html#prototypeFactory-T-)(T prototype) Creates a Factory that will return a clone of the same prototype object each time the factory is used. |

### 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--), [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--), [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-)

### Method Detail

#### exceptionFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> exceptionFactory() Gets a Factory that always throws an exception. This could be useful during testing as a placeholder.Type Parameters: T - the type that the factory creates Returns: the factory See Also: [ExceptionFactory](http://docs.google.com/org/apache/commons/collections4/functors/ExceptionFactory.html)

#### nullFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> nullFactory() Gets a Factory that will return null each time the factory is used. This could be useful during testing as a placeholder.Type Parameters: T - the "type" of null object the factory should return. Returns: the factory See Also: [ConstantFactory](http://docs.google.com/org/apache/commons/collections4/functors/ConstantFactory.html)

#### constantFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> constantFactory(T constantToReturn) Creates a Factory that will return the same object each time the factory is used. No check is made that the object is immutable. In general, only immutable objects should use the constant factory. Mutable objects should use the prototype factory.Type Parameters: T - the type that the factory creates Parameters: constantToReturn - the constant object to return each time in the factory Returns: the constant factory. See Also: [ConstantFactory](http://docs.google.com/org/apache/commons/collections4/functors/ConstantFactory.html)

#### prototypeFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> prototypeFactory(T prototype)

* + - Creates a Factory that will return a clone of the same prototype object each time the factory is used. The prototype will be cloned using one of these techniques (in order):
      * public clone method
      * public copy constructor
      * serialization clone

Type Parameters: T - the type that the factory creates Parameters: prototype - the object to clone each time in the factory Returns: the prototype factory, or a [ConstantFactory.NULL\_INSTANCE](http://docs.google.com/org/apache/commons/collections4/functors/ConstantFactory.html#NULL_INSTANCE) if the prototype is null Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the prototype cannot be cloned See Also: [PrototypeFactory](http://docs.google.com/org/apache/commons/collections4/functors/PrototypeFactory.html)

#### instantiateFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> instantiateFactory([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> classToInstantiate) Creates a Factory that can create objects of a specific type using a no-args constructor.Type Parameters: T - the type that the factory creates Parameters: classToInstantiate - the Class to instantiate each time in the factory Returns: the reflection factory Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the classToInstantiate is null See Also: [InstantiateFactory](http://docs.google.com/org/apache/commons/collections4/functors/InstantiateFactory.html)

#### instantiateFactory public static <T> [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<T> instantiateFactory([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<T> classToInstantiate, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?>[] paramTypes, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] args) Creates a Factory that can create objects of a specific type using the arguments specified to this method.Type Parameters: T - the type that the factory creates Parameters: classToInstantiate - the Class to instantiate each time in the factory paramTypes - parameter types for the constructor, can be null args - the arguments to pass to the constructor, can be null Returns: the reflection factory Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the classToInstantiate is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the paramTypes and args don't match [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the constructor doesn't exist See Also: [InstantiateFactory](http://docs.google.com/org/apache/commons/collections4/functors/InstantiateFactory.html)

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