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org.apache.commons.beanutils

## Class ContextClassLoaderLocal<T>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.beanutils.ContextClassLoaderLocal<T>
* Type Parameters: T - the type of data stored in an instance  
    
  public class ContextClassLoaderLocal<T>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
* An instance of this class represents a value that is provided per (thread) context classloader.  
  Occasionally it is necessary to store data in "global" variables (including uses of the Singleton pattern). In applications which have only a single classloader such data can simply be stored as "static" members on some class. When multiple classloaders are involved, however, this approach can fail; in particular, this doesn't work when the code may be run within a servlet container or a j2ee container, and the class on which the static member is defined is loaded via a "shared" classloader that is visible to all components running within the container. This class provides a mechanism for associating data with a ClassLoader instance, which ensures that when the code runs in such a container each component gets its own copy of the "global" variable rather than unexpectedly sharing a single copy of the variable with other components that happen to be running in the same container at the same time (eg servlets or EJBs.)  
  This class is strongly patterned after the java.lang.ThreadLocal class, which performs a similar task in allowing data to be associated with a particular thread.  
  When code that uses this class is run as a "normal" application, ie not within a container, the effect is identical to just using a static member variable to store the data, because Thread.getContextClassLoader always returns the same classloader (the system classloader).  
  Expected usage is as follows:  
   public class SomeClass {  
   private static final ContextClassLoaderLocal<String> global  
   = new ContextClassLoaderLocal<String>() {  
   protected String initialValue() {  
   return new String("Initial value");  
   };  
    
   public void testGlobal() {  
   String s = global.get();  
   System.out.println("global value:" + s);  
   buf.set("New Value");  
   }  
     
    
  **Note:** This class takes some care to ensure that when a component which uses this class is "undeployed" by a container the component-specific classloader and all its associated classes (and their static variables) are garbage-collected. Unfortunately there is one scenario in which this does *not* work correctly and there is unfortunately no known workaround other than ensuring that the component (or its container) calls the "unset" method on this class for each instance of this class when the component is undeployed. The problem occurs if:
  + the class containing a static instance of this class was loaded via a shared classloader, and
  + the value stored in the instance is an object whose class was loaded via the component-specific classloader (or any of the objects it refers to were loaded via that classloader).

The result is that the map managed by this object still contains a strong reference to the stored object, which contains a strong reference to the classloader that loaded it, meaning that although the container has "undeployed" the component the component-specific classloader and all the related classes and static variables cannot be garbage-collected. This is not expected to be an issue with the commons-beanutils library as the only classes which use this class are BeanUtilsBean and ConvertUtilsBean and there is no obvious reason for a user of the beanutils library to subclass either of those classes.  
  
**Note:** A WeakHashMap bug in several 1.3 JVMs results in a memory leak for those JVMs.  
**Note:** Of course all of this would be unnecessary if containers required each component to load the full set of classes it needs, ie avoided providing classes loaded via a "shared" classloader.Version: $Id$ See Also: [Thread.getContextClassLoader()](https://docs.oracle.com/javase/7/docs/api/java/lang/Thread.html?is-external=true#getContextClassLoader--)

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [ContextClassLoaderLocal](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#ContextClassLoaderLocal--)() Construct a context classloader instance |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + [T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) | * + [get](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#get--)() Gets the instance which provides the functionality for [BeanUtils](http://docs.google.com/org/apache/commons/beanutils/BeanUtils.html). |
| * + protected [T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) | * + [initialValue](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#initialValue--)() Returns the initial value for this ContextClassLoaderLocal variable. |
| * + void | * + [set](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#set-T-)([T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) value) Sets the value - a value is provided per (thread) context classloader. |
| * + void | * + [unset](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#unset--)() Unsets the value associated with the current thread's context classloader |
| * + void | * + [unset](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html#unset-java.lang.ClassLoader-)([ClassLoader](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassLoader.html?is-external=true) classLoader) Unsets the value associated with the given classloader |

### 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-)

### Constructor Detail

#### ContextClassLoaderLocal public ContextClassLoaderLocal() Construct a context classloader instance

### Method Detail

#### initialValue protected [T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) initialValue() Returns the initial value for this ContextClassLoaderLocal variable. This method will be called once per Context ClassLoader for each ContextClassLoaderLocal, the first time it is accessed with get or set. If the programmer desires ContextClassLoaderLocal variables to be initialized to some value other than null, ContextClassLoaderLocal must be subclassed, and this method overridden. Typically, an anonymous inner class will be used. Typical implementations of initialValue will call an appropriate constructor and return the newly constructed object.Returns: a new Object to be used as an initial value for this ContextClassLoaderLocal

#### get public [T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) get() Gets the instance which provides the functionality for [BeanUtils](http://docs.google.com/org/apache/commons/beanutils/BeanUtils.html). This is a pseudo-singleton - an single instance is provided per (thread) context classloader. This mechanism provides isolation for web apps deployed in the same container.Returns: the object currently associated with the context-classloader of the current thread.

#### set public void set([T](http://docs.google.com/org/apache/commons/beanutils/ContextClassLoaderLocal.html) value) Sets the value - a value is provided per (thread) context classloader. This mechanism provides isolation for web apps deployed in the same container.Parameters: value - the object to be associated with the entrant thread's context classloader

#### unset public void unset() Unsets the value associated with the current thread's context classloader

#### unset public void unset([ClassLoader](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassLoader.html?is-external=true) classLoader) Unsets the value associated with the given classloaderParameters: classLoader - The classloader to *unset* for

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