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org.apache.commons.collections4.keyvalue

## Class MultiKey<K>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.keyvalue.MultiKey<K>
* Type Parameters: K - the type of keys All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
    
  public class MultiKey<K>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
  A MultiKey allows multiple map keys to be merged together.  
  The purpose of this class is to avoid the need to write code to handle maps of maps. An example might be the need to look up a file name by key and locale. The typical solution might be nested maps. This class can be used instead by creating an instance passing in the key and locale.  
  Example usage:  
   // populate map with data mapping key+locale to localizedText  
   Map map = new HashMap();  
   MultiKey multiKey = new MultiKey(key, locale);  
   map.put(multiKey, localizedText);  
    
   // later retrieve the localized text  
   MultiKey multiKey = new MultiKey(key, locale);  
   String localizedText = (String) map.get(multiKey);  
   Since: 3.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.keyvalue.MultiKey)

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K:A-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] keys) Constructor taking an array of keys which is cloned. |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K:A-boolean-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] keys, boolean makeClone) Constructor taking an array of keys, optionally choosing whether to clone. |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K-K-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2) Constructor taking two keys. |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K-K-K-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3) Constructor taking three keys. |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K-K-K-K-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key4) Constructor taking four keys. |
| * + [MultiKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#MultiKey-K-K-K-K-K-)([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key4, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key5) Constructor taking five keys. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + boolean | * + [equals](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#equals-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) other) Compares this object to another. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) | * + [getKey](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#getKey-int-)(int index) Gets the key at the specified index. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] | * + [getKeys](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#getKeys--)() Gets a clone of the array of keys. |
| * + int | * + [hashCode](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#hashCode--)() Gets the combined hash code that is computed from all the keys. |
| * + protected [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) | * + [readResolve](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#readResolve--)() Recalculate the hash code after deserialization. |
| * + int | * + [size](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#size--)() Gets the size of the list of keys. |
| * + [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [toString](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html#toString--)() Gets a debugging string version of the key. |

### 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--), [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--), [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

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2) Constructor taking two keys. The keys should be immutable If they are not then they must not be changed after adding to the MultiKey.Parameters: key1 - the first key key2 - the second key

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3) Constructor taking three keys. The keys should be immutable If they are not then they must not be changed after adding to the MultiKey.Parameters: key1 - the first key key2 - the second key key3 - the third key

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key4) Constructor taking four keys. The keys should be immutable If they are not then they must not be changed after adding to the MultiKey.Parameters: key1 - the first key key2 - the second key key3 - the third key key4 - the fourth key

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key1, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key2, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key3, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key4, [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) key5) Constructor taking five keys. The keys should be immutable If they are not then they must not be changed after adding to the MultiKey.Parameters: key1 - the first key key2 - the second key key3 - the third key key4 - the fourth key key5 - the fifth key

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] keys) Constructor taking an array of keys which is cloned. The keys should be immutable If they are not then they must not be changed after adding to the MultiKey. This is equivalent to new MultiKey(keys, true).Parameters: keys - the array of keys, not null Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the key array is null

#### MultiKey public MultiKey([K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] keys, boolean makeClone) Constructor taking an array of keys, optionally choosing whether to clone. **If the array is not cloned, then it must not be modified.** This method is public for performance reasons only, to avoid a clone. The hashcode is calculated once here in this method. Therefore, changing the array passed in would not change the hashcode but would change the equals method, which is a bug. This is the only fully safe usage of this constructor, as the object array is never made available in a variable: new MultiKey(new Object[] {...}, false); The keys should be immutable If they are not then they must not be changed after adding to the MultiKey.Parameters: keys - the array of keys, not null makeClone - true to clone the array, false to assign it Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the key array is null Since: 3.1

### Method Detail

#### getKeys public [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html)[] getKeys() Gets a clone of the array of keys. The keys should be immutable If they are not then they must not be changed.Returns: the individual keys

#### getKey public [K](http://docs.google.com/org/apache/commons/collections4/keyvalue/MultiKey.html) getKey(int index) Gets the key at the specified index. The key should be immutable. If it is not then it must not be changed.Parameters: index - the index to retrieve Returns: the key at the index Throws: [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) - if the index is invalid Since: 3.1

#### size public int size() Gets the size of the list of keys.Returns: the size of the list of keys Since: 3.1

#### equals public boolean equals([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) other) Compares this object to another. To be equal, the other object must be a MultiKey with the same number of keys which are also equal.Overrides: [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) Parameters: other - the other object to compare to Returns: true if equal

#### hashCode public int hashCode() Gets the combined hash code that is computed from all the keys. This value is computed once and then cached, so elements should not change their hash codes once created (note that this is the same constraint that would be used if the individual keys elements were themselves [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true) keys.Overrides: [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) Returns: the hash code

#### toString public [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) toString() Gets a debugging string version of the key.Overrides: [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) Returns: a debugging string

#### readResolve protected [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) readResolve() Recalculate the hash code after deserialization. The hash code of some keys might have change (hash codes based on the system hash code are only stable for the same process).Returns: the instance with recalculated hash code

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