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org.apache.commons.collections4.collection

## Class PredicatedCollection<E>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.collections4.collection.AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<E>
    - org.apache.commons.collections4.collection.PredicatedCollection<E>
* Type Parameters: E - the type of the elements in the collection All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<E>, [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<E> Direct Known Subclasses: [PredicatedBag](http://docs.google.com/org/apache/commons/collections4/bag/PredicatedBag.html), [PredicatedList](http://docs.google.com/org/apache/commons/collections4/list/PredicatedList.html), [PredicatedMultiSet](http://docs.google.com/org/apache/commons/collections4/multiset/PredicatedMultiSet.html), [PredicatedQueue](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html), [PredicatedSet](http://docs.google.com/org/apache/commons/collections4/set/PredicatedSet.html)  
    
  public class PredicatedCollection<E>  
  extends [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<E>  
  Decorates another [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true) to validate that additions match a specified predicate.  
  This collection exists to provide validation for the decorated collection. It is normally created to decorate an empty collection. If an object cannot be added to the collection, an IllegalArgumentException is thrown.  
  One usage would be to ensure that no null entries are added to the collection:  
   Collection coll = PredicatedCollection.predicatedCollection(new ArrayList(), NotNullPredicate.INSTANCE);  
     
  This class is Serializable from Commons Collections 3.1.Since: 3.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.collection.PredicatedCollection)

### Nested Class SummaryNested Classes

|  |  |
| --- | --- |
| * + Modifier and Type | * + Class and Description |
| * + static class | * + [PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)> Builder for creating predicated collections. |

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + protected [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> | * + [predicate](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#predicate) The predicate to use |

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
| * + protected | * + [PredicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#PredicatedCollection-java.util.Collection-org.apache.commons.collections4.Predicate-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> coll, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> predicate) Constructor that wraps (not copies). |

### Method SummaryAll Methods Static Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + boolean | * + [add](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#add-E-)([E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html) object) Override to validate the object being added to ensure it matches the predicate. |
| * + boolean | * + [addAll](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#addAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> coll) Override to validate the objects being added to ensure they match the predicate. |
| * + static <E> [PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<E> | * + [builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#builder-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Returns a Builder with the given predicate. |
| * + static <E> [PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<E> | * + [notNullBuilder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#notNullBuilder--)() Returns a Builder with a NotNullPredicate. |
| * + static <T> [PredicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)<T> | * + [predicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#predicatedCollection-java.util.Collection-org.apache.commons.collections4.Predicate-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<T> coll, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Factory method to create a predicated (validating) collection. |
| * + protected void | * + [validate](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#validate-E-)([E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html) object) Validates the object being added to ensure it matches the predicate. |

### Methods inherited from class org.apache.commons.collections4.collection.[**AbstractCollectionDecorator**](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)[clear](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#clear--), [contains](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#contains-java.lang.Object-), [containsAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#containsAll-java.util.Collection-), [decorated](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#decorated--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#isEmpty--), [iterator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#iterator--), [remove](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#remove-java.lang.Object-), [removeAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeAll-java.util.Collection-), [removeIf](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeIf-java.util.function.Predicate-), [retainAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#retainAll-java.util.Collection-), [setCollection](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#setCollection-java.util.Collection-), [size](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#size--), [toArray](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toArray--), [toArray](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toArray-T:A-), [toString](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toString--)

### 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-)

### Methods inherited from interface java.util.[**Collection**](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)[equals](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#equals-java.lang.Object-), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#hashCode--), [parallelStream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#parallelStream--), [spliterator](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#spliterator--), [stream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#stream--)

### Methods inherited from interface java.lang.[**Iterable**](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)[forEach](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true#forEach-java.util.function.Consumer-)

### Field Detail

#### predicate protected final [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> predicate The predicate to use

### Constructor Detail

#### PredicatedCollection protected PredicatedCollection([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> coll, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> predicate) Constructor that wraps (not copies). If there are any elements already in the collection being decorated, they are validated.Parameters: coll - the collection to decorate, must not be null predicate - the predicate to use for validation, must not be null Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if collection or predicate is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the collection contains invalid elements

### Method Detail

#### builder public static <E> [PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<E> builder([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Returns a Builder with the given predicate.Type Parameters: E - the element type Parameters: predicate - the predicate to use Returns: a new Builder for predicated collections Since: 4.1

#### notNullBuilder public static <E> [PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<E> notNullBuilder() Returns a Builder with a NotNullPredicate.Type Parameters: E - the element type Returns: a new Builder for predicated collections that ignores null values. Since: 4.1

#### predicatedCollection public static <T> [PredicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)<T> predicatedCollection([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<T> coll, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Factory method to create a predicated (validating) collection. If there are any elements already in the collection being decorated, they are validated.Type Parameters: T - the type of the elements in the collection Parameters: coll - the collection to decorate, must not be null predicate - the predicate to use for validation, must not be null Returns: a new predicated collection Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if collection or predicate is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the collection contains invalid elements Since: 4.0

#### validate protected void validate([E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html) object) Validates the object being added to ensure it matches the predicate. The predicate itself should not throw an exception, but return false to indicate that the object cannot be added.Parameters: object - the object being added Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the add is invalid

#### add public boolean add([E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html) object) Override to validate the object being added to ensure it matches the predicate.Specified by: [add](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#add-E-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> Overrides: [add](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#add-E-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> Parameters: object - the object being added Returns: the result of adding to the underlying collection Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the add is invalid

#### addAll public boolean addAll([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> coll) Override to validate the objects being added to ensure they match the predicate. If any one fails, no update is made to the underlying collection.Specified by: [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#addAll-java.util.Collection-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> Overrides: [addAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#addAll-java.util.Collection-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)> Parameters: coll - the collection being added Returns: the result of adding to the underlying collection Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the add is invalid

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