| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CompositeType.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/management/openmbean/CompositeDataView.html)   [**NEXT CLASS**](http://docs.google.com/javax/management/openmbean/InvalidKeyException.html) | [**FRAMES**](http://docs.google.com/index.html?javax/management/openmbean/CompositeType.html)    [**NO FRAMES**](http://docs.google.com/CompositeType.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#2et92p0) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: FIELD | [CONSTR](#2s8eyo1) | [METHOD](#3rdcrjn) |

## **javax.management.openmbean**

Class CompositeType

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [javax.management.openmbean.OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)>  
 **javax.management.openmbean.CompositeType**

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html)

public class **CompositeType**extends [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)>

The CompositeType class is the *open type* class whose instances describe the types of [CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) values.

**Since:** 1.5 **See Also:**[Serialized Form](http://docs.google.com/serialized-form.html#javax.management.openmbean.CompositeType)

| **Field Summary** | |
| --- | --- |

| **Fields inherited from class javax.management.openmbean.**[**OpenType**](http://docs.google.com/javax/management/openmbean/OpenType.html) |
| --- |
| [ALLOWED\_CLASSNAMES](http://docs.google.com/javax/management/openmbean/OpenType.html#ALLOWED_CLASSNAMES), [ALLOWED\_CLASSNAMES\_LIST](http://docs.google.com/javax/management/openmbean/OpenType.html#ALLOWED_CLASSNAMES_LIST) |

| **Constructor Summary** | |
| --- | --- |
| [**CompositeType**](http://docs.google.com/javax/management/openmbean/CompositeType.html#CompositeType(java.lang.String,%20java.lang.String,%20java.lang.String%5B%5D,%20java.lang.String%5B%5D,%20javax.management.openmbean.OpenType%5B%5D))([String](http://docs.google.com/java/lang/String.html) typeName, [String](http://docs.google.com/java/lang/String.html) description, [String](http://docs.google.com/java/lang/String.html)[] itemNames, [String](http://docs.google.com/java/lang/String.html)[] itemDescriptions, [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<?>[] itemTypes)            Constructs a CompositeType instance, checking for the validity of the given parameters. |

| **Method Summary** | |
| --- | --- |
| boolean | [**containsKey**](http://docs.google.com/javax/management/openmbean/CompositeType.html#containsKey(java.lang.String))([String](http://docs.google.com/java/lang/String.html) itemName)            Returns true if this CompositeType instance defines an item whose name is itemName. |
| boolean | [**equals**](http://docs.google.com/javax/management/openmbean/CompositeType.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Compares the specified obj parameter with this CompositeType instance for equality. |
| [String](http://docs.google.com/java/lang/String.html) | [**getDescription**](http://docs.google.com/javax/management/openmbean/CompositeType.html#getDescription(java.lang.String))([String](http://docs.google.com/java/lang/String.html) itemName)            Returns the description of the item whose name is itemName, or null if this CompositeType instance does not define any item whose name is itemName. |
| [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<?> | [**getType**](http://docs.google.com/javax/management/openmbean/CompositeType.html#getType(java.lang.String))([String](http://docs.google.com/java/lang/String.html) itemName)            Returns the *open type* of the item whose name is itemName, or null if this CompositeType instance does not define any item whose name is itemName. |
| int | [**hashCode**](http://docs.google.com/javax/management/openmbean/CompositeType.html#hashCode())()            Returns the hash code value for this CompositeType instance. |
| boolean | [**isValue**](http://docs.google.com/javax/management/openmbean/CompositeType.html#isValue(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Tests whether obj is a value which could be described by this CompositeType instance. |
| [Set](http://docs.google.com/java/util/Set.html)<[String](http://docs.google.com/java/lang/String.html)> | [**keySet**](http://docs.google.com/javax/management/openmbean/CompositeType.html#keySet())()            Returns an unmodifiable Set view of all the item names defined by this CompositeType instance. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/javax/management/openmbean/CompositeType.html#toString())()            Returns a string representation of this CompositeType instance. |

| **Methods inherited from class javax.management.openmbean.**[**OpenType**](http://docs.google.com/javax/management/openmbean/OpenType.html) |
| --- |
| [getClassName](http://docs.google.com/javax/management/openmbean/OpenType.html#getClassName()), [getDescription](http://docs.google.com/javax/management/openmbean/OpenType.html#getDescription()), [getTypeName](http://docs.google.com/javax/management/openmbean/OpenType.html#getTypeName()), [isArray](http://docs.google.com/javax/management/openmbean/OpenType.html#isArray()) |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### CompositeType

public **CompositeType**([String](http://docs.google.com/java/lang/String.html) typeName,  
 [String](http://docs.google.com/java/lang/String.html) description,  
 [String](http://docs.google.com/java/lang/String.html)[] itemNames,  
 [String](http://docs.google.com/java/lang/String.html)[] itemDescriptions,  
 [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<?>[] itemTypes)  
 throws [OpenDataException](http://docs.google.com/javax/management/openmbean/OpenDataException.html)

Constructs a CompositeType instance, checking for the validity of the given parameters. The validity constraints are described below for each parameter.

Note that the contents of the three array parameters itemNames, itemDescriptions and itemTypes are internally copied so that any subsequent modification of these arrays by the caller of this constructor has no impact on the constructed CompositeType instance.

The Java class name of composite data values this composite type represents (ie the class name returned by the [getClassName](http://docs.google.com/javax/management/openmbean/OpenType.html#getClassName()) method) is set to the string value returned by CompositeData.class.getName().

**Parameters:**typeName - The name given to the composite type this instance represents; cannot be a null or empty string.

 description - The human readable description of the composite type this instance represents; cannot be a null or empty string.

 itemNames - The names of the items contained in the composite data values described by this CompositeType instance; cannot be null and should contain at least one element; no element can be a null or empty string. Note that the order in which the item names are given is not important to differentiate a CompositeType instance from another; the item names are internally stored sorted in ascending alphanumeric order.

 itemDescriptions - The descriptions, in the same order as itemNames, of the items contained in the composite data values described by this CompositeType instance; should be of the same size as itemNames; no element can be a null or empty string.

 itemTypes - The open type instances, in the same order as itemNames, describing the items contained in the composite data values described by this CompositeType instance; should be of the same size as itemNames; no element can be null.

**Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - If typeName or description is a null or empty string, or itemNames or itemDescriptions or itemTypes is null, or any element of itemNames or itemDescriptions is a null or empty string, or any element of itemTypes is null, or itemNames or itemDescriptions or itemTypes are not of the same size.

[OpenDataException](http://docs.google.com/javax/management/openmbean/OpenDataException.html) - If itemNames contains duplicate item names (case sensitive, but leading and trailing whitespaces removed).

| **Method Detail** |
| --- |

### containsKey

public boolean **containsKey**([String](http://docs.google.com/java/lang/String.html) itemName)

Returns true if this CompositeType instance defines an item whose name is itemName.

**Parameters:**itemName - the name of the item. **Returns:**true if an item of this name is present.

### getDescription

public [String](http://docs.google.com/java/lang/String.html) **getDescription**([String](http://docs.google.com/java/lang/String.html) itemName)

Returns the description of the item whose name is itemName, or null if this CompositeType instance does not define any item whose name is itemName.

**Parameters:**itemName - the name of the item. **Returns:**the description.

### getType

public [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<?> **getType**([String](http://docs.google.com/java/lang/String.html) itemName)

Returns the *open type* of the item whose name is itemName, or null if this CompositeType instance does not define any item whose name is itemName.

**Parameters:**itemName - the name of the time. **Returns:**the type.

### keySet

public [Set](http://docs.google.com/java/util/Set.html)<[String](http://docs.google.com/java/lang/String.html)> **keySet**()

Returns an unmodifiable Set view of all the item names defined by this CompositeType instance. The set's iterator will return the item names in ascending order.

**Returns:**a [Set](http://docs.google.com/java/util/Set.html) of [String](http://docs.google.com/java/lang/String.html).

### isValue

public boolean **isValue**([Object](http://docs.google.com/java/lang/Object.html) obj)

Tests whether obj is a value which could be described by this CompositeType instance.

If obj is null or is not an instance of javax.management.openmbean.CompositeData, isValue returns false.

If obj is an instance of javax.management.openmbean.CompositeData, then let ct be its CompositeType as returned by [CompositeData.getCompositeType()](http://docs.google.com/javax/management/openmbean/CompositeData.html#getCompositeType()). The result is true if this is *assignable from* ct. This means that:

* [this.getTypeName()](http://docs.google.com/javax/management/openmbean/OpenType.html#getTypeName()) equals ct.getTypeName(), and
* there are no item names present in this that are not also present in ct, and
* for every item in this, its type is assignable from the type of the corresponding item in ct.

A TabularType is assignable from another TabularType if they have the same [typeName](http://docs.google.com/javax/management/openmbean/OpenType.html#getTypeName()) and [index name list](http://docs.google.com/javax/management/openmbean/TabularType.html#getIndexNames()), and the [row type](http://docs.google.com/javax/management/openmbean/TabularType.html#getRowType()) of the first is assignable from the row type of the second.

An ArrayType is assignable from another ArrayType if they have the same [dimension](http://docs.google.com/javax/management/openmbean/ArrayType.html#getDimension()); and both are [primitive arrays](http://docs.google.com/javax/management/openmbean/ArrayType.html#isPrimitiveArray()) or neither is; and the [element type](http://docs.google.com/javax/management/openmbean/ArrayType.html#getElementOpenType()) of the first is assignable from the element type of the second.

In every other case, an OpenType is assignable from another OpenType only if they are equal.

These rules mean that extra items can be added to a CompositeData without making it invalid for a CompositeType that does not have those items.

**Specified by:**[isValue](http://docs.google.com/javax/management/openmbean/OpenType.html#isValue(java.lang.Object)) in class [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)> **Parameters:**obj - the value whose open type is to be tested for compatibility with this CompositeType instance. **Returns:**true if obj is a value for this composite type, false otherwise.

### equals

public boolean **equals**([Object](http://docs.google.com/java/lang/Object.html) obj)

Compares the specified obj parameter with this CompositeType instance for equality.

Two CompositeType instances are equal if and only if all of the following statements are true:

* their type names are equal
* their items' names and types are equal

**Specified by:**[equals](http://docs.google.com/javax/management/openmbean/OpenType.html#equals(java.lang.Object)) in class [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)> **Parameters:**obj - the object to be compared for equality with this CompositeType instance; if obj is null, equals returns false. **Returns:**true if the specified object is equal to this CompositeType instance.**See Also:**[Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### hashCode

public int **hashCode**()

Returns the hash code value for this CompositeType instance.

The hash code of a CompositeType instance is the sum of the hash codes of all elements of information used in equals comparisons (ie: name, items names, items types). This ensures that t1.equals(t2) implies that t1.hashCode()==t2.hashCode() for any two CompositeType instances t1 and t2, as required by the general contract of the method [Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()).

As CompositeType instances are immutable, the hash code for this instance is calculated once, on the first call to hashCode, and then the same value is returned for subsequent calls.

**Specified by:**[hashCode](http://docs.google.com/javax/management/openmbean/OpenType.html#hashCode()) in class [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)> **Returns:**the hash code value for this CompositeType instance**See Also:**[Object.equals(java.lang.Object)](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### toString

public [String](http://docs.google.com/java/lang/String.html) **toString**()

Returns a string representation of this CompositeType instance.

The string representation consists of the name of this class (ie javax.management.openmbean.CompositeType), the type name for this instance, and the list of the items names and types string representation of this instance.

As CompositeType instances are immutable, the string representation for this instance is calculated once, on the first call to toString, and then the same value is returned for subsequent calls.

**Specified by:**[toString](http://docs.google.com/javax/management/openmbean/OpenType.html#toString()) in class [OpenType](http://docs.google.com/javax/management/openmbean/OpenType.html)<[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)> **Returns:**a string representation of this CompositeType instance

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CompositeType.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
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For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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