| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/IIOMetadataFormatImpl.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/imageio/metadata/IIOMetadataFormat.html)   [**NEXT CLASS**](http://docs.google.com/javax/imageio/metadata/IIOMetadataNode.html) | [**FRAMES**](http://docs.google.com/index.html?javax/imageio/metadata/IIOMetadataFormatImpl.html)    [**NO FRAMES**](http://docs.google.com/IIOMetadataFormatImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#17dp8vu) | [METHOD](#lnxbz9) |

## **javax.imageio.metadata**

Class IIOMetadataFormatImpl

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.imageio.metadata.IIOMetadataFormatImpl**

**All Implemented Interfaces:** [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html)

public abstract class **IIOMetadataFormatImpl**extends [Object](http://docs.google.com/java/lang/Object.html)implements [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html)

A concrete class providing a reusable implementation of the IIOMetadataFormat interface. In addition, a static instance representing the standard, plug-in neutral javax\_imageio\_1.0 format is provided by the getStandardFormatInstance method.

In order to supply localized descriptions of elements and attributes, a ResourceBundle with a base name of this.getClass().getName() + "Resources" should be supplied via the usual mechanism used by ResourceBundle.getBundle. Briefly, the subclasser supplies one or more additional classes according to a naming convention (by default, the fully-qualified name of the subclass extending IIMetadataFormatImpl, plus the string "Resources", plus the country, language, and variant codes separated by underscores). At run time, calls to getElementDescription or getAttributeDescription will attempt to load such classes dynamically according to the supplied locale, and will use either the element name, or the element name followed by a '/' character followed by the attribute name as a key. This key will be supplied to the ResourceBundle's getString method, and the resulting localized description of the node or attribute is returned.

The subclass may supply a different base name for the resource bundles using the setResourceBaseName method.

A subclass may choose its own localization mechanism, if so desired, by overriding the supplied implementations of getElementDescription and getAttributeDescription.

**See Also:**[ResourceBundle.getBundle(String,Locale)](http://docs.google.com/java/util/ResourceBundle.html#getBundle(java.lang.String,%20java.util.Locale))

| **Field Summary** | |
| --- | --- |
| static [String](http://docs.google.com/java/lang/String.html) | [**standardMetadataFormatName**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#standardMetadataFormatName)            A String constant containing the standard format name, "javax\_imageio\_1.0". |

| **Fields inherited from interface javax.imageio.metadata.**[**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) |
| --- |
| [CHILD\_POLICY\_ALL](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_ALL), [CHILD\_POLICY\_CHOICE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_CHOICE), [CHILD\_POLICY\_EMPTY](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_EMPTY), [CHILD\_POLICY\_MAX](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_MAX), [CHILD\_POLICY\_REPEAT](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_REPEAT), [CHILD\_POLICY\_SEQUENCE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_SEQUENCE), [CHILD\_POLICY\_SOME](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#CHILD_POLICY_SOME), [DATATYPE\_BOOLEAN](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#DATATYPE_BOOLEAN), [DATATYPE\_DOUBLE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#DATATYPE_DOUBLE), [DATATYPE\_FLOAT](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#DATATYPE_FLOAT), [DATATYPE\_INTEGER](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#DATATYPE_INTEGER), [DATATYPE\_STRING](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#DATATYPE_STRING), [VALUE\_ARBITRARY](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_ARBITRARY), [VALUE\_ENUMERATION](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_ENUMERATION), [VALUE\_LIST](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_LIST), [VALUE\_NONE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_NONE), [VALUE\_RANGE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE), [VALUE\_RANGE\_MAX\_INCLUSIVE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE_MAX_INCLUSIVE), [VALUE\_RANGE\_MAX\_INCLUSIVE\_MASK](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE_MAX_INCLUSIVE_MASK), [VALUE\_RANGE\_MIN\_INCLUSIVE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE_MIN_INCLUSIVE), [VALUE\_RANGE\_MIN\_INCLUSIVE\_MASK](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE_MIN_INCLUSIVE_MASK), [VALUE\_RANGE\_MIN\_MAX\_INCLUSIVE](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#VALUE_RANGE_MIN_MAX_INCLUSIVE) |

| **Constructor Summary** | |
| --- | --- |
| [**IIOMetadataFormatImpl**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#IIOMetadataFormatImpl(java.lang.String,%20int))([String](http://docs.google.com/java/lang/String.html) rootName, int childPolicy)            Constructs a blank IIOMetadataFormatImpl instance, with a given root element name and child policy (other than CHILD\_POLICY\_REPEAT). |
| [**IIOMetadataFormatImpl**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#IIOMetadataFormatImpl(java.lang.String,%20int,%20int))([String](http://docs.google.com/java/lang/String.html) rootName, int minChildren, int maxChildren)            Constructs a blank IIOMetadataFormatImpl instance, with a given root element name and a child policy of CHILD\_POLICY\_REPEAT. |

| **Method Summary** | |
| --- | --- |
| protected  void | [**addAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addAttribute(java.lang.String,%20java.lang.String,%20int,%20boolean,%20int,%20int))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, int dataType, boolean required, int listMinLength, int listMaxLength)            Adds a new attribute to a previously defined element that will be defined by a list of values. |
| protected  void | [**addAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addAttribute(java.lang.String,%20java.lang.String,%20int,%20boolean,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, int dataType, boolean required, [String](http://docs.google.com/java/lang/String.html) defaultValue)            Adds a new attribute to a previously defined element that may be set to an arbitrary value. |
| protected  void | [**addAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addAttribute(java.lang.String,%20java.lang.String,%20int,%20boolean,%20java.lang.String,%20java.util.List))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, int dataType, boolean required, [String](http://docs.google.com/java/lang/String.html) defaultValue, [List](http://docs.google.com/java/util/List.html)<[String](http://docs.google.com/java/lang/String.html)> enumeratedValues)            Adds a new attribute to a previously defined element that will be defined by a set of enumerated values. |
| protected  void | [**addAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addAttribute(java.lang.String,%20java.lang.String,%20int,%20boolean,%20java.lang.String,%20java.lang.String,%20java.lang.String,%20boolean,%20boolean))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, int dataType, boolean required, [String](http://docs.google.com/java/lang/String.html) defaultValue, [String](http://docs.google.com/java/lang/String.html) minValue, [String](http://docs.google.com/java/lang/String.html) maxValue, boolean minInclusive, boolean maxInclusive)            Adds a new attribute to a previously defined element that will be defined by a range of values. |
| protected  void | [**addBooleanAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addBooleanAttribute(java.lang.String,%20java.lang.String,%20boolean,%20boolean))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, boolean hasDefaultValue, boolean defaultValue)            Adds a new attribute to a previously defined element that will be defined by the enumerated values TRUE and FALSE, with a datatype of DATATYPE\_BOOLEAN. |
| protected  void | [**addChildElement**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addChildElement(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) parentName)            Adds an existing element to the list of legal children for a given parent node type. |
| protected  void | [**addElement**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addElement(java.lang.String,%20java.lang.String,%20int))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) parentName, int childPolicy)            Adds a new element type to this metadata document format with a child policy other than CHILD\_POLICY\_REPEAT. |
| protected  void | [**addElement**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addElement(java.lang.String,%20java.lang.String,%20int,%20int))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) parentName, int minChildren, int maxChildren)            Adds a new element type to this metadata document format with a child policy of CHILD\_POLICY\_REPEAT. |
| protected  void | [**addObjectValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addObjectValue(java.lang.String,%20java.lang.Class,%20int,%20int))([String](http://docs.google.com/java/lang/String.html) elementName, [Class](http://docs.google.com/java/lang/Class.html)<?> classType, int arrayMinLength, int arrayMaxLength)            Allows an Object reference of a given class type to be stored in nodes implementing the named element. |
| protected   | <T> void | | --- | | [**addObjectValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addObjectValue(java.lang.String,%20java.lang.Class,%20boolean,%20T))([String](http://docs.google.com/java/lang/String.html) elementName, [Class](http://docs.google.com/java/lang/Class.html)<T> classType, boolean required, T defaultValue)            Allows an Object reference of a given class type to be stored in nodes implementing the named element. |
| protected   | <T> void | | --- | | [**addObjectValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addObjectValue(java.lang.String,%20java.lang.Class,%20boolean,%20T,%20java.util.List))([String](http://docs.google.com/java/lang/String.html) elementName, [Class](http://docs.google.com/java/lang/Class.html)<T> classType, boolean required, T defaultValue, [List](http://docs.google.com/java/util/List.html)<? extends T> enumeratedValues)            Allows an Object reference of a given class type to be stored in nodes implementing the named element. |
| protected   | <T extends [Object](http://docs.google.com/java/lang/Object.html) & [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T>>  void | | --- | | [**addObjectValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#addObjectValue(java.lang.String,%20java.lang.Class,%20T,%20java.lang.Comparable,%20java.lang.Comparable,%20boolean,%20boolean))([String](http://docs.google.com/java/lang/String.html) elementName, [Class](http://docs.google.com/java/lang/Class.html)<T> classType, T defaultValue, [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T> minValue, [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T> maxValue, boolean minInclusive, boolean maxInclusive)            Allows an Object reference of a given class type to be stored in nodes implementing the named element. |
| abstract  boolean | [**canNodeAppear**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#canNodeAppear(java.lang.String,%20javax.imageio.ImageTypeSpecifier))([String](http://docs.google.com/java/lang/String.html) elementName, [ImageTypeSpecifier](http://docs.google.com/javax/imageio/ImageTypeSpecifier.html) imageType)            Returns true if the element (and the subtree below it) is allowed to appear in a metadata document for an image of the given type, defined by an ImageTypeSpecifier. |
| int | [**getAttributeDataType**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeDataType(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns one of the constants starting with DATATYPE\_, indicating the format and interpretation of the value of the given attribute within th enamed element. |
| [String](http://docs.google.com/java/lang/String.html) | [**getAttributeDefaultValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeDefaultValue(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns the default value of the named attribute, if it is not explictly present within the named element, as a String, or null if no default value is available. |
| [String](http://docs.google.com/java/lang/String.html) | [**getAttributeDescription**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeDescription(java.lang.String,%20java.lang.String,%20java.util.Locale))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName, [Locale](http://docs.google.com/java/util/Locale.html) locale)            Returns a String containing a description of the named attribute, or null. |
| [String](http://docs.google.com/java/lang/String.html)[] | [**getAttributeEnumerations**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeEnumerations(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns an array of Strings containing the legal enumerated values for the given attribute within the named element. |
| int | [**getAttributeListMaxLength**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeListMaxLength(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns the maximum number of list items that may be used to define this attribute. |
| int | [**getAttributeListMinLength**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeListMinLength(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns the minimum number of list items that may be used to define this attribute. |
| [String](http://docs.google.com/java/lang/String.html) | [**getAttributeMaxValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeMaxValue(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns the maximum legal value for the attribute. |
| [String](http://docs.google.com/java/lang/String.html) | [**getAttributeMinValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeMinValue(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns the minimum legal value for the attribute. |
| [String](http://docs.google.com/java/lang/String.html)[] | [**getAttributeNames**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeNames(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns an array of Strings listing the names of the attributes that may be associated with the named element. |
| int | [**getAttributeValueType**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getAttributeValueType(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns one of the constants starting with VALUE\_, indicating whether the values of the given attribute within the named element are arbitrary, constrained to lie within a specified range, constrained to be one of a set of enumerated values, or are a whitespace-separated list of arbitrary values. |
| [String](http://docs.google.com/java/lang/String.html)[] | [**getChildNames**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getChildNames(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns an array of Strings indicating the names of the element which are allowed to be children of the named element, in the order in which they should appear. |
| int | [**getChildPolicy**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getChildPolicy(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns one of the constants starting with CHILD\_POLICY\_, indicating the legal pattern of children for the named element. |
| [String](http://docs.google.com/java/lang/String.html) | [**getElementDescription**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getElementDescription(java.lang.String,%20java.util.Locale))([String](http://docs.google.com/java/lang/String.html) elementName, [Locale](http://docs.google.com/java/util/Locale.html) locale)            Returns a String containing a description of the named element, or null. |
| int | [**getElementMaxChildren**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getElementMaxChildren(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the maximum number of children of the named element with child policy CHILD\_POLICY\_REPEAT. |
| int | [**getElementMinChildren**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getElementMinChildren(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the minimum number of children of the named element with child policy CHILD\_POLICY\_REPEAT. |
| int | [**getObjectArrayMaxLength**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectArrayMaxLength(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the maximum number of array elements that may be used to define the Object reference within the named element. |
| int | [**getObjectArrayMinLength**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectArrayMinLength(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the minimum number of array elements that may be used to define the Object reference within the named element. |
| [Class](http://docs.google.com/java/lang/Class.html)<?> | [**getObjectClass**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectClass(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the Class type of the Object reference stored within the element. |
| [Object](http://docs.google.com/java/lang/Object.html) | [**getObjectDefaultValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectDefaultValue(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns an Objects containing the default value for the Object reference within the named element. |
| [Object](http://docs.google.com/java/lang/Object.html)[] | [**getObjectEnumerations**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectEnumerations(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns an array of Objects containing the legal enumerated values for the Object reference within the named element. |
| [Comparable](http://docs.google.com/java/lang/Comparable.html)<?> | [**getObjectMaxValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectMaxValue(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the maximum legal value for the Object reference within the named element. |
| [Comparable](http://docs.google.com/java/lang/Comparable.html)<?> | [**getObjectMinValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectMinValue(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns the minimum legal value for the Object reference within the named element. |
| int | [**getObjectValueType**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getObjectValueType(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Returns one of the enumerated values starting with VALUE\_, indicating the type of values (enumeration, range, or array) that are allowed for the Object reference. |
| protected  [String](http://docs.google.com/java/lang/String.html) | [**getResourceBaseName**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getResourceBaseName())()            Returns the currently set base name for locating ResourceBundles. |
| [String](http://docs.google.com/java/lang/String.html) | [**getRootName**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getRootName())()            Returns the name of the root element of the format. |
| static [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) | [**getStandardFormatInstance**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getStandardFormatInstance())()            Returns an IIOMetadataFormat object describing the standard, plug-in neutral javax.imageio\_1.0 metadata document format described in the comment of the javax.imageio.metadata package. |
| boolean | [**isAttributeRequired**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#isAttributeRequired(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Returns true if the named attribute must be present within the named element. |
| protected  void | [**removeAttribute**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#removeAttribute(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName, [String](http://docs.google.com/java/lang/String.html) attrName)            Removes an attribute from a previously defined element. |
| protected  void | [**removeElement**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#removeElement(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Removes an element from the format. |
| protected  void | [**removeObjectValue**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#removeObjectValue(java.lang.String))([String](http://docs.google.com/java/lang/String.html) elementName)            Disallows an Object reference from being stored in nodes implementing the named element. |
| protected  void | [**setResourceBaseName**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#setResourceBaseName(java.lang.String))([String](http://docs.google.com/java/lang/String.html) resourceBaseName)            Sets a new base name for locating ResourceBundles containing descriptions of elements and attributes for this format. |

| **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()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [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)) |

| **Field Detail** |
| --- |

### standardMetadataFormatName

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

A String constant containing the standard format name, "javax\_imageio\_1.0".

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#javax.imageio.metadata.IIOMetadataFormatImpl.standardMetadataFormatName)

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

### IIOMetadataFormatImpl

public **IIOMetadataFormatImpl**([String](http://docs.google.com/java/lang/String.html) rootName,  
 int childPolicy)

Constructs a blank IIOMetadataFormatImpl instance, with a given root element name and child policy (other than CHILD\_POLICY\_REPEAT). Additional elements, and their attributes and Object reference information may be added using the various add methods.

**Parameters:**rootName - the name of the root element.childPolicy - one of the CHILD\_POLICY\_\* constants, other than CHILD\_POLICY\_REPEAT. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if rootName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if childPolicy is not one of the predefined constants.

### IIOMetadataFormatImpl

public **IIOMetadataFormatImpl**([String](http://docs.google.com/java/lang/String.html) rootName,  
 int minChildren,  
 int maxChildren)

Constructs a blank IIOMetadataFormatImpl instance, with a given root element name and a child policy of CHILD\_POLICY\_REPEAT. Additional elements, and their attributes and Object reference information may be added using the various add methods.

**Parameters:**rootName - the name of the root element.minChildren - the minimum number of children of the node.maxChildren - the maximum number of children of the node. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if rootName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if minChildren is negative or larger than maxChildren.

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

### setResourceBaseName

protected void **setResourceBaseName**([String](http://docs.google.com/java/lang/String.html) resourceBaseName)

Sets a new base name for locating ResourceBundles containing descriptions of elements and attributes for this format.

Prior to the first time this method is called, the base name will be equal to this.getClass().getName() + "Resources".

**Parameters:**resourceBaseName - a String containg the new base name. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if resourceBaseName is null.**See Also:**[getResourceBaseName()](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#getResourceBaseName())

### getResourceBaseName

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

Returns the currently set base name for locating ResourceBundles.

**Returns:**a String containing the base name.**See Also:**[setResourceBaseName(java.lang.String)](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#setResourceBaseName(java.lang.String))

### addElement

protected void **addElement**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) parentName,  
 int childPolicy)

Adds a new element type to this metadata document format with a child policy other than CHILD\_POLICY\_REPEAT.

**Parameters:**elementName - the name of the new element.parentName - the name of the element that will be the parent of the new element.childPolicy - one of the CHILD\_POLICY\_\* constants, other than CHILD\_POLICY\_REPEAT, indicating the child policy of the new element. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if parentName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if childPolicy is not one of the predefined constants.

### addElement

protected void **addElement**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) parentName,  
 int minChildren,  
 int maxChildren)

Adds a new element type to this metadata document format with a child policy of CHILD\_POLICY\_REPEAT.

**Parameters:**elementName - the name of the new element.parentName - the name of the element that will be the parent of the new element.minChildren - the minimum number of children of the node.maxChildren - the maximum number of children of the node. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if parentName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if minChildren is negative or larger than maxChildren.

### addChildElement

protected void **addChildElement**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) parentName)

Adds an existing element to the list of legal children for a given parent node type.

**Parameters:**parentName - the name of the element that will be the new parent of the element.elementName - the name of the element to be addded as a child. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if parentName is null, or is not a legal element name for this format.

### removeElement

protected void **removeElement**([String](http://docs.google.com/java/lang/String.html) elementName)

Removes an element from the format. If no element with the given name was present, nothing happens and no exception is thrown.

**Parameters:**elementName - the name of the element to be removed.

### addAttribute

protected void **addAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 int dataType,  
 boolean required,  
 [String](http://docs.google.com/java/lang/String.html) defaultValue)

Adds a new attribute to a previously defined element that may be set to an arbitrary value.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being added.dataType - the data type (string format) of the attribute, one of the DATATYPE\_\* constants.required - true if the attribute must be present.defaultValue - the default value for the attribute, or null. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if dataType is not one of the predefined constants.

### addAttribute

protected void **addAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 int dataType,  
 boolean required,  
 [String](http://docs.google.com/java/lang/String.html) defaultValue,  
 [List](http://docs.google.com/java/util/List.html)<[String](http://docs.google.com/java/lang/String.html)> enumeratedValues)

Adds a new attribute to a previously defined element that will be defined by a set of enumerated values.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being added.dataType - the data type (string format) of the attribute, one of the DATATYPE\_\* constants.required - true if the attribute must be present.defaultValue - the default value for the attribute, or null.enumeratedValues - a List of Strings containing the legal values for the attribute. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if dataType is not one of the predefined constants. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues does not contain at least one entry. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues contains an element that is not a String or is null.

### addAttribute

protected void **addAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 int dataType,  
 boolean required,  
 [String](http://docs.google.com/java/lang/String.html) defaultValue,  
 [String](http://docs.google.com/java/lang/String.html) minValue,  
 [String](http://docs.google.com/java/lang/String.html) maxValue,  
 boolean minInclusive,  
 boolean maxInclusive)

Adds a new attribute to a previously defined element that will be defined by a range of values.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being added.dataType - the data type (string format) of the attribute, one of the DATATYPE\_\* constants.required - true if the attribute must be present.defaultValue - the default value for the attribute, or null.minValue - the smallest (inclusive or exclusive depending on the value of minInclusive) legal value for the attribute, as a String.maxValue - the largest (inclusive or exclusive depending on the value of minInclusive) legal value for the attribute, as a String.minInclusive - true if minValue is inclusive.maxInclusive - true if maxValue is inclusive. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if dataType is not one of the predefined constants.

### addAttribute

protected void **addAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 int dataType,  
 boolean required,  
 int listMinLength,  
 int listMaxLength)

Adds a new attribute to a previously defined element that will be defined by a list of values.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being added.dataType - the data type (string format) of the attribute, one of the DATATYPE\_\* constants.required - true if the attribute must be present.listMinLength - the smallest legal number of list items.listMaxLength - the largest legal number of list items. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if dataType is not one of the predefined constants. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if listMinLength is negative or larger than listMaxLength.

### addBooleanAttribute

protected void **addBooleanAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 boolean hasDefaultValue,  
 boolean defaultValue)

Adds a new attribute to a previously defined element that will be defined by the enumerated values TRUE and FALSE, with a datatype of DATATYPE\_BOOLEAN.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being added.hasDefaultValue - true if a default value should be present.defaultValue - the default value for the attribute as a boolean, ignored if hasDefaultValue is false. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null.

### removeAttribute

protected void **removeAttribute**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

Removes an attribute from a previously defined element. If no attribute with the given name was present in the given element, nothing happens and no exception is thrown.

**Parameters:**elementName - the name of the element.attrName - the name of the attribute being removed. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format.

### addObjectValue

protected <T> void **addObjectValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [Class](http://docs.google.com/java/lang/Class.html)<T> classType,  
 boolean required,  
 T defaultValue)

Allows an Object reference of a given class type to be stored in nodes implementing the named element. The value of the Object is unconstrained other than by its class type.

If an Object reference was previously allowed, the previous settings are overwritten.

**Parameters:**elementName - the name of the element.classType - a Class variable indicating the legal class type for the object value.required - true if an object value must be present.defaultValue - the default value for the Object reference, or null. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format.

### addObjectValue

protected <T> void **addObjectValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [Class](http://docs.google.com/java/lang/Class.html)<T> classType,  
 boolean required,  
 T defaultValue,  
 [List](http://docs.google.com/java/util/List.html)<? extends T> enumeratedValues)

Allows an Object reference of a given class type to be stored in nodes implementing the named element. The value of the Object must be one of the values given by enumeratedValues.

If an Object reference was previously allowed, the previous settings are overwritten.

**Parameters:**elementName - the name of the element.classType - a Class variable indicating the legal class type for the object value.required - true if an object value must be present.defaultValue - the default value for the Object reference, or null.enumeratedValues - a List of Objects containing the legal values for the object reference. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues is null. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues does not contain at least one entry. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if enumeratedValues contains an element that is not an instance of the class type denoted by classType or is null.

### addObjectValue

protected <T extends [Object](http://docs.google.com/java/lang/Object.html) & [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T>> void **addObjectValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [Class](http://docs.google.com/java/lang/Class.html)<T> classType,  
 T defaultValue,  
 [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T> minValue,  
 [Comparable](http://docs.google.com/java/lang/Comparable.html)<? super T> maxValue,  
 boolean minInclusive,  
 boolean maxInclusive)

Allows an Object reference of a given class type to be stored in nodes implementing the named element. The value of the Object must be within the range given by minValue and maxValue. Furthermore, the class type must implement the Comparable interface.

If an Object reference was previously allowed, the previous settings are overwritten.

**Parameters:**elementName - the name of the element.classType - a Class variable indicating the legal class type for the object value.defaultValue - the default value for theminValue - the smallest (inclusive or exclusive depending on the value of minInclusive) legal value for the object value, as a String.maxValue - the largest (inclusive or exclusive depending on the value of minInclusive) legal value for the object value, as a String.minInclusive - true if minValue is inclusive.maxInclusive - true if maxValue is inclusive. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format.

### addObjectValue

protected void **addObjectValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [Class](http://docs.google.com/java/lang/Class.html)<?> classType,  
 int arrayMinLength,  
 int arrayMaxLength)

Allows an Object reference of a given class type to be stored in nodes implementing the named element. The value of the Object must an array of objects of class type given by classType, with at least arrayMinLength and at most arrayMaxLength elements.

If an Object reference was previously allowed, the previous settings are overwritten.

**Parameters:**elementName - the name of the element.classType - a Class variable indicating the legal class type for the object value.arrayMinLength - the smallest legal length for the array.arrayMaxLength - the largest legal length for the array. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is not a legal element name for this format.

### removeObjectValue

protected void **removeObjectValue**([String](http://docs.google.com/java/lang/String.html) elementName)

Disallows an Object reference from being stored in nodes implementing the named element.

**Parameters:**elementName - the name of the element. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is not a legal element name for this format.

### getRootName

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getRootName()) Returns the name of the root element of the format.

**Specified by:**[getRootName](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getRootName()) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Returns:**a String.

### canNodeAppear

public abstract boolean **canNodeAppear**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [ImageTypeSpecifier](http://docs.google.com/javax/imageio/ImageTypeSpecifier.html) imageType)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#canNodeAppear(java.lang.String,%20javax.imageio.ImageTypeSpecifier)) Returns true if the element (and the subtree below it) is allowed to appear in a metadata document for an image of the given type, defined by an ImageTypeSpecifier. For example, a metadata document format might contain an element that describes the primary colors of the image, which would not be allowed when writing a grayscale image.

**Specified by:**[canNodeAppear](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#canNodeAppear(java.lang.String,%20javax.imageio.ImageTypeSpecifier)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.imageType - an ImageTypeSpecifier indicating the type of the image that will be associated with the metadata. **Returns:**true if the node is meaningful for images of the given type.

### getElementMinChildren

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getElementMinChildren(java.lang.String)) Returns the minimum number of children of the named element with child policy CHILD\_POLICY\_REPEAT. For example, an element representing color primary information might be required to have at least 3 children, one for each primay.

**Specified by:**[getElementMinChildren](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getElementMinChildren(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an int.

### getElementMaxChildren

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getElementMaxChildren(java.lang.String)) Returns the maximum number of children of the named element with child policy CHILD\_POLICY\_REPEAT. For example, an element representing an entry in an 8-bit color palette might be allowed to repeat up to 256 times. A value of Integer.MAX\_VALUE may be used to specify that there is no upper bound.

**Specified by:**[getElementMaxChildren](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getElementMaxChildren(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an int.

### getElementDescription

public [String](http://docs.google.com/java/lang/String.html) **getElementDescription**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [Locale](http://docs.google.com/java/util/Locale.html) locale)

Returns a String containing a description of the named element, or null. The desciption will be localized for the supplied Locale if possible.

The default implementation will first locate a ResourceBundle using the current resource base name set by setResourceBaseName and the supplied Locale, using the fallback mechanism described in the comments for ResourceBundle.getBundle. If a ResourceBundle is found, the element name will be used as a key to its getString method, and the result returned. If no ResourceBundle is found, or no such key is present, null will be returned.

If locale is null, the current default Locale returned by Locale.getLocale will be used.

**Specified by:**[getElementDescription](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getElementDescription(java.lang.String,%20java.util.Locale)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element.locale - the Locale for which localization will be attempted. **Returns:**the element description. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format.**See Also:**[setResourceBaseName(java.lang.String)](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#setResourceBaseName(java.lang.String))

### getChildPolicy

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getChildPolicy(java.lang.String)) Returns one of the constants starting with CHILD\_POLICY\_, indicating the legal pattern of children for the named element.

**Specified by:**[getChildPolicy](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getChildPolicy(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**one of the CHILD\_POLICY\_\* constants.

### getChildNames

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getChildNames(java.lang.String)) Returns an array of Strings indicating the names of the element which are allowed to be children of the named element, in the order in which they should appear. If the element cannot have children, null is returned.

**Specified by:**[getChildNames](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getChildNames(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an array of Strings, or null.

### getAttributeNames

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeNames(java.lang.String)) Returns an array of Strings listing the names of the attributes that may be associated with the named element.

**Specified by:**[getAttributeNames](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeNames(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an array of Strings.

### getAttributeValueType

public int **getAttributeValueType**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeValueType(java.lang.String,%20java.lang.String)) Returns one of the constants starting with VALUE\_, indicating whether the values of the given attribute within the named element are arbitrary, constrained to lie within a specified range, constrained to be one of a set of enumerated values, or are a whitespace-separated list of arbitrary values.

**Specified by:**[getAttributeValueType](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeValueType(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**one of the VALUE\_\* constants.

### getAttributeDataType

public int **getAttributeDataType**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeDataType(java.lang.String,%20java.lang.String)) Returns one of the constants starting with DATATYPE\_, indicating the format and interpretation of the value of the given attribute within th enamed element. If getAttributeValueType returns VALUE\_LIST, then the legal value is a whitespace-spearated list of values of the returned datatype.

**Specified by:**[getAttributeDataType](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeDataType(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**one of the DATATYPE\_\* constants.

### isAttributeRequired

public boolean **isAttributeRequired**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#isAttributeRequired(java.lang.String,%20java.lang.String)) Returns true if the named attribute must be present within the named element.

**Specified by:**[isAttributeRequired](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#isAttributeRequired(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**true if the attribut must be present.

### getAttributeDefaultValue

public [String](http://docs.google.com/java/lang/String.html) **getAttributeDefaultValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeDefaultValue(java.lang.String,%20java.lang.String)) Returns the default value of the named attribute, if it is not explictly present within the named element, as a String, or null if no default value is available.

**Specified by:**[getAttributeDefaultValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeDefaultValue(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**a String containing the default value, or null.

### getAttributeEnumerations

public [String](http://docs.google.com/java/lang/String.html)[] **getAttributeEnumerations**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeEnumerations(java.lang.String,%20java.lang.String)) Returns an array of Strings containing the legal enumerated values for the given attribute within the named element. This method should only be called if getAttributeValueType returns VALUE\_ENUMERATION.

**Specified by:**[getAttributeEnumerations](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeEnumerations(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**an array of Strings.

### getAttributeMinValue

public [String](http://docs.google.com/java/lang/String.html) **getAttributeMinValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeMinValue(java.lang.String,%20java.lang.String)) Returns the minimum legal value for the attribute. Whether this value is inclusive or exclusive may be determined by the value of getAttributeValueType. The value is returned as a String; its interpretation is dependent on the value of getAttributeDataType. This method should only be called if getAttributeValueType returns VALUE\_RANGE\_\*.

**Specified by:**[getAttributeMinValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeMinValue(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**a String containing the smallest legal value for the attribute.

### getAttributeMaxValue

public [String](http://docs.google.com/java/lang/String.html) **getAttributeMaxValue**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeMaxValue(java.lang.String,%20java.lang.String)) Returns the maximum legal value for the attribute. Whether this value is inclusive or exclusive may be determined by the value of getAttributeValueType. The value is returned as a String; its interpretation is dependent on the value of getAttributeDataType. This method should only be called if getAttributeValueType returns VALUE\_RANGE\_\*.

**Specified by:**[getAttributeMaxValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeMaxValue(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried, as a String.attrName - the name of the attribute being queried. **Returns:**a String containing the largest legal value for the attribute.

### getAttributeListMinLength

public int **getAttributeListMinLength**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeListMinLength(java.lang.String,%20java.lang.String)) Returns the minimum number of list items that may be used to define this attribute. The attribute itself is defined as a String containing multiple whitespace-separated items. This method should only be called if getAttributeValueType returns VALUE\_LIST.

**Specified by:**[getAttributeListMinLength](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeListMinLength(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**the smallest legal number of list items for the attribute.

### getAttributeListMaxLength

public int **getAttributeListMaxLength**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeListMaxLength(java.lang.String,%20java.lang.String)) Returns the maximum number of list items that may be used to define this attribute. A value of Integer.MAX\_VALUE may be used to specify that there is no upper bound. The attribute itself is defined as a String containing multiple whitespace-separated items. This method should only be called if getAttributeValueType returns VALUE\_LIST.

**Specified by:**[getAttributeListMaxLength](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeListMaxLength(java.lang.String,%20java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried.attrName - the name of the attribute being queried. **Returns:**the largest legal number of list items for the attribute.

### getAttributeDescription

public [String](http://docs.google.com/java/lang/String.html) **getAttributeDescription**([String](http://docs.google.com/java/lang/String.html) elementName,  
 [String](http://docs.google.com/java/lang/String.html) attrName,  
 [Locale](http://docs.google.com/java/util/Locale.html) locale)

Returns a String containing a description of the named attribute, or null. The desciption will be localized for the supplied Locale if possible.

The default implementation will first locate a ResourceBundle using the current resource base name set by setResourceBaseName and the supplied Locale, using the fallback mechanism described in the comments for ResourceBundle.getBundle. If a ResourceBundle is found, the element name followed by a "/" character followed by the attribute name (elementName + "/" + attrName) will be used as a key to its getString method, and the result returned. If no ResourceBundle is found, or no such key is present, null will be returned.

If locale is null, the current default Locale returned by Locale.getLocale will be used.

**Specified by:**[getAttributeDescription](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getAttributeDescription(java.lang.String,%20java.lang.String,%20java.util.Locale)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element.attrName - the name of the attribute.locale - the Locale for which localization will be attempted, or null. **Returns:**the attribute description. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if elementName is null, or is not a legal element name for this format. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if attrName is null or is not a legal attribute name for this element.**See Also:**[setResourceBaseName(java.lang.String)](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormatImpl.html#setResourceBaseName(java.lang.String))

### getObjectValueType

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectValueType(java.lang.String)) Returns one of the enumerated values starting with VALUE\_, indicating the type of values (enumeration, range, or array) that are allowed for the Object reference. If no object value can be stored within the given element, the result of this method will be VALUE\_NONE.

Object references whose legal values are defined as a range must implement the Comparable interface.

**Specified by:**[getObjectValueType](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectValueType(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**one of the VALUE\_\* constants.**See Also:**[Comparable](http://docs.google.com/java/lang/Comparable.html)

### getObjectClass

public [Class](http://docs.google.com/java/lang/Class.html)<?> **getObjectClass**([String](http://docs.google.com/java/lang/String.html) elementName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectClass(java.lang.String)) Returns the Class type of the Object reference stored within the element. If this element may not contain an Object reference, an IllegalArgumentException will be thrown. If the class type is an array, this field indicates the underlying class type (*e.g*, for an array of ints, this method would return int.class).

Object references whose legal values are defined as a range must implement the Comparable interface.

**Specified by:**[getObjectClass](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectClass(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**a Class object.

### getObjectDefaultValue

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectDefaultValue(java.lang.String)) Returns an Objects containing the default value for the Object reference within the named element.

**Specified by:**[getObjectDefaultValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectDefaultValue(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an Object.

### getObjectEnumerations

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectEnumerations(java.lang.String)) Returns an array of Objects containing the legal enumerated values for the Object reference within the named element. This method should only be called if getObjectValueType returns VALUE\_ENUMERATION.

The Object associated with a node that accepts emuerated values must be equal to one of the values returned by this method, as defined by the == operator (as opposed to the Object.equals method).

**Specified by:**[getObjectEnumerations](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectEnumerations(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**an array of Objects.

### getObjectMinValue

public [Comparable](http://docs.google.com/java/lang/Comparable.html)<?> **getObjectMinValue**([String](http://docs.google.com/java/lang/String.html) elementName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectMinValue(java.lang.String)) Returns the minimum legal value for the Object reference within the named element. Whether this value is inclusive or exclusive may be determined by the value of getObjectValueType. This method should only be called if getObjectValueType returns one of the constants starting with VALUE\_RANGE.

**Specified by:**[getObjectMinValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectMinValue(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**the smallest legal value for the attribute.

### getObjectMaxValue

public [Comparable](http://docs.google.com/java/lang/Comparable.html)<?> **getObjectMaxValue**([String](http://docs.google.com/java/lang/String.html) elementName)

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectMaxValue(java.lang.String)) Returns the maximum legal value for the Object reference within the named element. Whether this value is inclusive or exclusive may be determined by the value of getObjectValueType. This method should only be called if getObjectValueType returns one of the constants starting with VALUE\_RANGE.

**Specified by:**[getObjectMaxValue](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectMaxValue(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**the smallest legal value for the attribute.

### getObjectArrayMinLength

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectArrayMinLength(java.lang.String)) Returns the minimum number of array elements that may be used to define the Object reference within the named element. This method should only be called if getObjectValueType returns VALUE\_LIST.

**Specified by:**[getObjectArrayMinLength](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectArrayMinLength(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**the smallest valid array length for the Object reference.

### getObjectArrayMaxLength

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

**Description copied from interface:** [**IIOMetadataFormat**](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectArrayMaxLength(java.lang.String)) Returns the maximum number of array elements that may be used to define the Object reference within the named element. A value of Integer.MAX\_VALUE may be used to specify that there is no upper bound. This method should only be called if getObjectValueType returns VALUE\_LIST.

**Specified by:**[getObjectArrayMaxLength](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html#getObjectArrayMaxLength(java.lang.String)) in interface [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **Parameters:**elementName - the name of the element being queried. **Returns:**the largest valid array length for the Object reference.

### getStandardFormatInstance

public static [IIOMetadataFormat](http://docs.google.com/javax/imageio/metadata/IIOMetadataFormat.html) **getStandardFormatInstance**()

Returns an IIOMetadataFormat object describing the standard, plug-in neutral javax.imageio\_1.0 metadata document format described in the comment of the javax.imageio.metadata package.

**Returns:**a predefined IIOMetadataFormat 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/IIOMetadataFormatImpl.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/imageio/metadata/IIOMetadataFormat.html)   [**NEXT CLASS**](http://docs.google.com/javax/imageio/metadata/IIOMetadataNode.html) | [**FRAMES**](http://docs.google.com/index.html?javax/imageio/metadata/IIOMetadataFormatImpl.html)    [**NO FRAMES**](http://docs.google.com/IIOMetadataFormatImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#17dp8vu) | [METHOD](#lnxbz9) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

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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