| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Rectangle2D.Double.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/java/awt/geom/Rectangle2D.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/geom/Rectangle2D.Float.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/geom/Rectangle2D.Double.html)    [**NO FRAMES**](http://docs.google.com/Rectangle2D.Double.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#1t3h5sf) | [METHOD](#4d34og8) | DETAIL: [FIELD](#26in1rg) | [CONSTR](#2jxsxqh) | [METHOD](#1y810tw) |

## **java.awt.geom**

Class Rectangle2D.Double

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.awt.geom.RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html)  
 [java.awt.geom.Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html)  
 **java.awt.geom.Rectangle2D.Double**

**All Implemented Interfaces:** [Shape](http://docs.google.com/java/awt/Shape.html), [Serializable](http://docs.google.com/java/io/Serializable.html), [Cloneable](http://docs.google.com/java/lang/Cloneable.html) **Enclosing class:**[Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html)

public static class **Rectangle2D.Double**extends [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html)implements [Serializable](http://docs.google.com/java/io/Serializable.html)

The Double class defines a rectangle specified in double coordinates.

**Since:** 1.2 **See Also:**[Serialized Form](http://docs.google.com/serialized-form.html#java.awt.geom.Rectangle2D.Double)

| **Nested Class Summary** | |
| --- | --- |

| **Nested classes/interfaces inherited from class java.awt.geom.**[**Rectangle2D**](http://docs.google.com/java/awt/geom/Rectangle2D.html) |
| --- |
| [Rectangle2D.Double](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html), [Rectangle2D.Float](http://docs.google.com/java/awt/geom/Rectangle2D.Float.html) |

| **Field Summary** | |
| --- | --- |
| double | [**height**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#height)            The height of this Rectangle2D. |
| double | [**width**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#width)            The width of this Rectangle2D. |
| double | [**x**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#x)            The X coordinate of this Rectangle2D. |
| double | [**y**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#y)            The Y coordinate of this Rectangle2D. |

| **Fields inherited from class java.awt.geom.**[**Rectangle2D**](http://docs.google.com/java/awt/geom/Rectangle2D.html) |
| --- |
| [OUT\_BOTTOM](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_BOTTOM), [OUT\_LEFT](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_LEFT), [OUT\_RIGHT](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_RIGHT), [OUT\_TOP](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_TOP) |

| **Constructor Summary** | |
| --- | --- |
| [**Rectangle2D.Double**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#Rectangle2D.Double())()            Constructs a new Rectangle2D, initialized to location (0, 0) and size (0, 0). |
| [**Rectangle2D.Double**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#Rectangle2D.Double(double,%20double,%20double,%20double))(double x, double y, double w, double h)            Constructs and initializes a Rectangle2D from the specified double coordinates. |

| **Method Summary** | |
| --- | --- |
| [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) | [**createIntersection**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#createIntersection(java.awt.geom.Rectangle2D))([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)            Returns a new Rectangle2D object representing the intersection of this Rectangle2D with the specified Rectangle2D. |
| [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) | [**createUnion**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#createUnion(java.awt.geom.Rectangle2D))([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)            Returns a new Rectangle2D object representing the union of this Rectangle2D with the specified Rectangle2D. |
| [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) | [**getBounds2D**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#getBounds2D())()            Returns a high precision and more accurate bounding box of the Shape than the getBounds method. |
| double | [**getHeight**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#getHeight())()            Returns the height of the framing rectangle in double precision. |
| double | [**getWidth**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#getWidth())()            Returns the width of the framing rectangle in double precision. |
| double | [**getX**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#getX())()            Returns the X coordinate of the upper-left corner of the framing rectangle in double precision. |
| double | [**getY**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#getY())()            Returns the Y coordinate of the upper-left corner of the framing rectangle in double precision. |
| boolean | [**isEmpty**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#isEmpty())()            Determines whether the RectangularShape is empty. |
| int | [**outcode**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#outcode(double,%20double))(double x, double y)            Determines where the specified coordinates lie with respect to this Rectangle2D. |
| void | [**setRect**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#setRect(double,%20double,%20double,%20double))(double x, double y, double w, double h)            Sets the location and size of this Rectangle2D to the specified double values. |
| void | [**setRect**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#setRect(java.awt.geom.Rectangle2D))([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)            Sets this Rectangle2D to be the same as the specified Rectangle2D. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html#toString())()            Returns the String representation of this Rectangle2D. |

| **Methods inherited from class java.awt.geom.**[**Rectangle2D**](http://docs.google.com/java/awt/geom/Rectangle2D.html) |
| --- |
| [add](http://docs.google.com/java/awt/geom/Rectangle2D.html#add(double,%20double)), [add](http://docs.google.com/java/awt/geom/Rectangle2D.html#add(java.awt.geom.Point2D)), [add](http://docs.google.com/java/awt/geom/Rectangle2D.html#add(java.awt.geom.Rectangle2D)), [contains](http://docs.google.com/java/awt/geom/Rectangle2D.html#contains(double,%20double)), [contains](http://docs.google.com/java/awt/geom/Rectangle2D.html#contains(double,%20double,%20double,%20double)), [equals](http://docs.google.com/java/awt/geom/Rectangle2D.html#equals(java.lang.Object)), [getPathIterator](http://docs.google.com/java/awt/geom/Rectangle2D.html#getPathIterator(java.awt.geom.AffineTransform)), [getPathIterator](http://docs.google.com/java/awt/geom/Rectangle2D.html#getPathIterator(java.awt.geom.AffineTransform,%20double)), [hashCode](http://docs.google.com/java/awt/geom/Rectangle2D.html#hashCode()), [intersect](http://docs.google.com/java/awt/geom/Rectangle2D.html#intersect(java.awt.geom.Rectangle2D,%20java.awt.geom.Rectangle2D,%20java.awt.geom.Rectangle2D)), [intersects](http://docs.google.com/java/awt/geom/Rectangle2D.html#intersects(double,%20double,%20double,%20double)), [intersectsLine](http://docs.google.com/java/awt/geom/Rectangle2D.html#intersectsLine(double,%20double,%20double,%20double)), [intersectsLine](http://docs.google.com/java/awt/geom/Rectangle2D.html#intersectsLine(java.awt.geom.Line2D)), [outcode](http://docs.google.com/java/awt/geom/Rectangle2D.html#outcode(java.awt.geom.Point2D)), [setFrame](http://docs.google.com/java/awt/geom/Rectangle2D.html#setFrame(double,%20double,%20double,%20double)), [union](http://docs.google.com/java/awt/geom/Rectangle2D.html#union(java.awt.geom.Rectangle2D,%20java.awt.geom.Rectangle2D,%20java.awt.geom.Rectangle2D)) |

| **Methods inherited from class java.awt.geom.**[**RectangularShape**](http://docs.google.com/java/awt/geom/RectangularShape.html) |
| --- |
| [clone](http://docs.google.com/java/awt/geom/RectangularShape.html#clone()), [contains](http://docs.google.com/java/awt/geom/RectangularShape.html#contains(java.awt.geom.Point2D)), [contains](http://docs.google.com/java/awt/geom/RectangularShape.html#contains(java.awt.geom.Rectangle2D)), [getBounds](http://docs.google.com/java/awt/geom/RectangularShape.html#getBounds()), [getCenterX](http://docs.google.com/java/awt/geom/RectangularShape.html#getCenterX()), [getCenterY](http://docs.google.com/java/awt/geom/RectangularShape.html#getCenterY()), [getFrame](http://docs.google.com/java/awt/geom/RectangularShape.html#getFrame()), [getMaxX](http://docs.google.com/java/awt/geom/RectangularShape.html#getMaxX()), [getMaxY](http://docs.google.com/java/awt/geom/RectangularShape.html#getMaxY()), [getMinX](http://docs.google.com/java/awt/geom/RectangularShape.html#getMinX()), [getMinY](http://docs.google.com/java/awt/geom/RectangularShape.html#getMinY()), [intersects](http://docs.google.com/java/awt/geom/RectangularShape.html#intersects(java.awt.geom.Rectangle2D)), [setFrame](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrame(java.awt.geom.Point2D,%20java.awt.geom.Dimension2D)), [setFrame](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrame(java.awt.geom.Rectangle2D)), [setFrameFromCenter](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrameFromCenter(double,%20double,%20double,%20double)), [setFrameFromCenter](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrameFromCenter(java.awt.geom.Point2D,%20java.awt.geom.Point2D)), [setFrameFromDiagonal](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrameFromDiagonal(double,%20double,%20double,%20double)), [setFrameFromDiagonal](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrameFromDiagonal(java.awt.geom.Point2D,%20java.awt.geom.Point2D)) |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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)) |

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

### x

public double **x**

The X coordinate of this Rectangle2D.

**Since:** 1.2

### y

public double **y**

The Y coordinate of this Rectangle2D.

**Since:** 1.2

### width

public double **width**

The width of this Rectangle2D.

**Since:** 1.2

### height

public double **height**

The height of this Rectangle2D.

**Since:** 1.2

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

### Rectangle2D.Double

public **Rectangle2D.Double**()

Constructs a new Rectangle2D, initialized to location (0, 0) and size (0, 0).

**Since:** 1.2

### Rectangle2D.Double

public **Rectangle2D.Double**(double x,  
 double y,  
 double w,  
 double h)

Constructs and initializes a Rectangle2D from the specified double coordinates.

**Parameters:**x - the X coordinate of the upper-left corner of the newly constructed Rectangle2Dy - the Y coordinate of the upper-left corner of the newly constructed Rectangle2Dw - the width of the newly constructed Rectangle2Dh - the height of the newly constructed Rectangle2D**Since:** 1.2

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

### getX

public double **getX**()

Returns the X coordinate of the upper-left corner of the framing rectangle in double precision.

**Specified by:**[getX](http://docs.google.com/java/awt/geom/RectangularShape.html#getX()) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Returns:**the X coordinate of the upper-left corner of the framing rectangle.**Since:** 1.2

### getY

public double **getY**()

Returns the Y coordinate of the upper-left corner of the framing rectangle in double precision.

**Specified by:**[getY](http://docs.google.com/java/awt/geom/RectangularShape.html#getY()) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Returns:**the Y coordinate of the upper-left corner of the framing rectangle.**Since:** 1.2

### getWidth

public double **getWidth**()

Returns the width of the framing rectangle in double precision.

**Specified by:**[getWidth](http://docs.google.com/java/awt/geom/RectangularShape.html#getWidth()) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Returns:**the width of the framing rectangle.**Since:** 1.2

### getHeight

public double **getHeight**()

Returns the height of the framing rectangle in double precision.

**Specified by:**[getHeight](http://docs.google.com/java/awt/geom/RectangularShape.html#getHeight()) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Returns:**the height of the framing rectangle.**Since:** 1.2

### isEmpty

public boolean **isEmpty**()

Determines whether the RectangularShape is empty. When the RectangularShape is empty, it encloses no area.

**Specified by:**[isEmpty](http://docs.google.com/java/awt/geom/RectangularShape.html#isEmpty()) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Returns:**true if the RectangularShape is empty; false otherwise.**Since:** 1.2

### setRect

public void **setRect**(double x,  
 double y,  
 double w,  
 double h)

Sets the location and size of this Rectangle2D to the specified double values.

**Specified by:**[setRect](http://docs.google.com/java/awt/geom/Rectangle2D.html#setRect(double,%20double,%20double,%20double)) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Parameters:**x - the X coordinate of the upper-left corner of this Rectangle2Dy - the Y coordinate of the upper-left corner of this Rectangle2Dw - the width of this Rectangle2Dh - the height of this Rectangle2D**Since:** 1.2

### setRect

public void **setRect**([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)

Sets this Rectangle2D to be the same as the specified Rectangle2D.

**Overrides:**[setRect](http://docs.google.com/java/awt/geom/Rectangle2D.html#setRect(java.awt.geom.Rectangle2D)) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Parameters:**r - the specified Rectangle2D**Since:** 1.2

### outcode

public int **outcode**(double x,  
 double y)

Determines where the specified coordinates lie with respect to this Rectangle2D. This method computes a binary OR of the appropriate mask values indicating, for each side of this Rectangle2D, whether or not the specified coordinates are on the same side of the edge as the rest of this Rectangle2D.

**Specified by:**[outcode](http://docs.google.com/java/awt/geom/Rectangle2D.html#outcode(double,%20double)) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Parameters:**x - the specified X coordinatey - the specified Y coordinate **Returns:**the logical OR of all appropriate out codes.**Since:** 1.2 **See Also:**[Rectangle2D.OUT\_LEFT](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_LEFT), [Rectangle2D.OUT\_TOP](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_TOP), [Rectangle2D.OUT\_RIGHT](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_RIGHT), [Rectangle2D.OUT\_BOTTOM](http://docs.google.com/java/awt/geom/Rectangle2D.html#OUT_BOTTOM)

### getBounds2D

public [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **getBounds2D**()

Returns a high precision and more accurate bounding box of the Shape than the getBounds method. Note that there is no guarantee that the returned [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) is the smallest bounding box that encloses the Shape, only that the Shape lies entirely within the indicated Rectangle2D. The bounding box returned by this method is usually tighter than that returned by the getBounds method and never fails due to overflow problems since the return value can be an instance of the Rectangle2D that uses double precision values to store the dimensions.

**Specified by:**[getBounds2D](http://docs.google.com/java/awt/Shape.html#getBounds2D()) in interface [Shape](http://docs.google.com/java/awt/Shape.html)**Overrides:**[getBounds2D](http://docs.google.com/java/awt/geom/Rectangle2D.html#getBounds2D()) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Returns:**an instance of Rectangle2D that is a high-precision bounding box of the Shape.**Since:** 1.2 **See Also:**[Shape.getBounds()](http://docs.google.com/java/awt/Shape.html#getBounds())

### createIntersection

public [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **createIntersection**([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)

Returns a new Rectangle2D object representing the intersection of this Rectangle2D with the specified Rectangle2D.

**Specified by:**[createIntersection](http://docs.google.com/java/awt/geom/Rectangle2D.html#createIntersection(java.awt.geom.Rectangle2D)) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Parameters:**r - the Rectangle2D to be intersected with this Rectangle2D **Returns:**the largest Rectangle2D contained in both the specified Rectangle2D and in this Rectangle2D.**Since:** 1.2

### createUnion

public [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **createUnion**([Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) r)

Returns a new Rectangle2D object representing the union of this Rectangle2D with the specified Rectangle2D.

**Specified by:**[createUnion](http://docs.google.com/java/awt/geom/Rectangle2D.html#createUnion(java.awt.geom.Rectangle2D)) in class [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) **Parameters:**r - the Rectangle2D to be combined with this Rectangle2D **Returns:**the smallest Rectangle2D containing both the specified Rectangle2D and this Rectangle2D.**Since:** 1.2

### toString

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

Returns the String representation of this Rectangle2D.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a String representing this Rectangle2D.**Since:** 1.2

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Rectangle2D.Double.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/java/awt/geom/Rectangle2D.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/geom/Rectangle2D.Float.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/geom/Rectangle2D.Double.html)    [**NO FRAMES**](http://docs.google.com/Rectangle2D.Double.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#1t3h5sf) | [METHOD](#4d34og8) | DETAIL: [FIELD](#26in1rg) | [CONSTR](#2jxsxqh) | [METHOD](#1y810tw) |

[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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