| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Ellipse2D.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/Ellipse2D.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/geom/Ellipse2D.Float.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/geom/Ellipse2D.Double.html)    [**NO FRAMES**](http://docs.google.com/Ellipse2D.Double.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#3dy6vkm) | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#3rdcrjn) | [CONSTR](#44sinio) | [METHOD](#3j2qqm3) |

## **java.awt.geom**

Class Ellipse2D.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.Ellipse2D](http://docs.google.com/java/awt/geom/Ellipse2D.html)  
 **java.awt.geom.Ellipse2D.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:**[Ellipse2D](http://docs.google.com/java/awt/geom/Ellipse2D.html)

public static class **Ellipse2D.Double**extends [Ellipse2D](http://docs.google.com/java/awt/geom/Ellipse2D.html)implements [Serializable](http://docs.google.com/java/io/Serializable.html)

The Double class defines an ellipse specified in double precision.

**Since:** 1.2 **See Also:**[Serialized Form](http://docs.google.com/serialized-form.html#java.awt.geom.Ellipse2D.Double)

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

| **Nested classes/interfaces inherited from class java.awt.geom.**[**Ellipse2D**](http://docs.google.com/java/awt/geom/Ellipse2D.html) |
| --- |
| [Ellipse2D.Double](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html), [Ellipse2D.Float](http://docs.google.com/java/awt/geom/Ellipse2D.Float.html) |

| **Field Summary** | |
| --- | --- |
| double | [**height**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#height)            The overall height of the Ellipse2D. |
| double | [**width**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#width)            The overall width of this Ellipse2D. |
| double | [**x**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#x)            The X coordinate of the upper-left corner of the framing rectangle of this Ellipse2D. |
| double | [**y**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#y)            The Y coordinate of the upper-left corner of the framing rectangle of this Ellipse2D. |

| **Constructor Summary** | |
| --- | --- |
| [**Ellipse2D.Double**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#Ellipse2D.Double())()            Constructs a new Ellipse2D, initialized to location (0, 0) and size (0, 0). |
| [**Ellipse2D.Double**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#Ellipse2D.Double(double,%20double,%20double,%20double))(double x, double y, double w, double h)            Constructs and initializes an Ellipse2D from the specified coordinates. |

| **Method Summary** | |
| --- | --- |
| [Rectangle2D](http://docs.google.com/java/awt/geom/Rectangle2D.html) | [**getBounds2D**](http://docs.google.com/java/awt/geom/Ellipse2D.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/Ellipse2D.Double.html#getHeight())()            Returns the height of the framing rectangle in double precision. |
| double | [**getWidth**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#getWidth())()            Returns the width of the framing rectangle in double precision. |
| double | [**getX**](http://docs.google.com/java/awt/geom/Ellipse2D.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/Ellipse2D.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/Ellipse2D.Double.html#isEmpty())()            Determines whether the RectangularShape is empty. |
| void | [**setFrame**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html#setFrame(double,%20double,%20double,%20double))(double x, double y, double w, double h)            Sets the location and size of the framing rectangle of this Shape to the specified rectangular values. |

| **Methods inherited from class java.awt.geom.**[**Ellipse2D**](http://docs.google.com/java/awt/geom/Ellipse2D.html) |
| --- |
| [contains](http://docs.google.com/java/awt/geom/Ellipse2D.html#contains(double,%20double)), [contains](http://docs.google.com/java/awt/geom/Ellipse2D.html#contains(double,%20double,%20double,%20double)), [equals](http://docs.google.com/java/awt/geom/Ellipse2D.html#equals(java.lang.Object)), [getPathIterator](http://docs.google.com/java/awt/geom/Ellipse2D.html#getPathIterator(java.awt.geom.AffineTransform)), [hashCode](http://docs.google.com/java/awt/geom/Ellipse2D.html#hashCode()), [intersects](http://docs.google.com/java/awt/geom/Ellipse2D.html#intersects(double,%20double,%20double,%20double)) |

| **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()), [getPathIterator](http://docs.google.com/java/awt/geom/RectangularShape.html#getPathIterator(java.awt.geom.AffineTransform,%20double)), [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()), [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** |
| --- |

### x

public double **x**

The X coordinate of the upper-left corner of the framing rectangle of this Ellipse2D.

**Since:** 1.2

### y

public double **y**

The Y coordinate of the upper-left corner of the framing rectangle of this Ellipse2D.

**Since:** 1.2

### width

public double **width**

The overall width of this Ellipse2D.

**Since:** 1.2

### height

public double **height**

The overall height of the Ellipse2D.

**Since:** 1.2

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

### Ellipse2D.Double

public **Ellipse2D.Double**()

Constructs a new Ellipse2D, initialized to location (0, 0) and size (0, 0).

**Since:** 1.2

### Ellipse2D.Double

public **Ellipse2D.Double**(double x,  
 double y,  
 double w,  
 double h)

Constructs and initializes an Ellipse2D from the specified coordinates.

**Parameters:**x - the X coordinate of the upper-left corner of the framing rectangley - the Y coordinate of the upper-left corner of the framing rectanglew - the width of the framing rectangleh - the height of the framing rectangle**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

### setFrame

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

Sets the location and size of the framing rectangle of this Shape to the specified rectangular values.

**Specified by:**[setFrame](http://docs.google.com/java/awt/geom/RectangularShape.html#setFrame(double,%20double,%20double,%20double)) in class [RectangularShape](http://docs.google.com/java/awt/geom/RectangularShape.html) **Parameters:**x - the X coordinate of the upper-left corner of the specified rectangular shapey - the Y coordinate of the upper-left corner of the specified rectangular shapew - the width of the specified rectangular shapeh - the height of the specified rectangular shape**Since:** 1.2 **See Also:**[RectangularShape.getFrame()](http://docs.google.com/java/awt/geom/RectangularShape.html#getFrame())

### 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) **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())

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Ellipse2D.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/Ellipse2D.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/geom/Ellipse2D.Float.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/geom/Ellipse2D.Double.html)    [**NO FRAMES**](http://docs.google.com/Ellipse2D.Double.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#3dy6vkm) | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#3rdcrjn) | [CONSTR](#44sinio) | [METHOD](#3j2qqm3) |

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For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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