



# Deprecated Classes and Methods

## I.1 INTRODUCTION

As a part of the effort to enhance the performance and capabilities of the Java language, Sun Microsystems has altered and eliminated many classes and methods during upgradations. The altered methods have been added as new methods and the older ones have been retained in order to maintain backward compatibility with older versions of Java. However, the older methods have been marked "deprecated".

A deprecated method means that it has lost its importance and likely to be phased out of future Java versions. Although programs that use deprecated methods will still compile and work, the compiler will generate warning messages. It is recommended that programs be modified to eliminate the use of deprecated methods and classes due to two reasons.

1. Modified programs will retain compatibility with future releases of Java.
2. Many new methods provide better implementations and therefore make programs faster and more efficient.

## I.2 DEPRECATED CLASSES AND METHODS OF VERSION 1.0

A large number of classes and methods of version 1.0 have been declared deprecated. This appendix gives package-wise tables (Tables I.1 to I.4) that list class-wise methods that have been declared deprecated in Java 1.1. Tables also indicate alternative replacements. Table I.5 gives a list of version 1.0 classes that have been declared deprecated totally.



**Table I.1** List of Deprecated 1.0 Methods in Java.lang

Classes	Methods	Replacement
Character	isJavaLetter (char)	isJavaIdentifierStart (char)
	isJavaLetterOrDigit (char)	isJavaIdentifierPart (char)
	isSpace (char)	isWhitespace (char)
ClassLoader	defineClass (byte [ ], int, int)	defineClass (byte [ ], int, int)
	toLocaleString ( )	Use java.text. Format and its subclasses
	toGMTString ( )	
	parse (String s)	
Runtime	getLocalizedInputStream (InputStream in)	BufferedReader (InputStream)
	getLocalizedOutputStream (OutputStream out)	InputStreamReader (InputStream)
		BufferedWriter (OutputStream)
		OutputStreamWriter (OutputStream)
String	String (byte [ ], int, int, int)	String (byte [ ], String)
	String (byte [ ], int)	String (byte [ ], int, int, String)
	getBytes (int, int, byte [ ], int)	byte [ ] setbytes ( )
System	getenv (String)	String get property (String)

**Table I.2** List of Deprecated 1.0 Methods in Java.util

Classes	Methods	Replacement
Date	(int, int, int)	Create a java.util.GregorianCalendar object
	Date (int, int, int, int, int)	and use its getTime method to convert it to a Date
	Date (int, int, int, int, int, int, int)	
	Date (String)	
	UTC (int, int, int, int, int, int, int)	Create a java.util.GregorianCalendar object and use its setters and getters.
	getTimezoneOffset ( )	
	getYear ( )	
	setYear (int)	
	getMonth ( )	
	setMonth (int)	
	getDate ( )	

(Contd)



Table I.2 (Contd)

Classes	Methods	Replacement
	setDate (int)	
	getDay ( )	
	getHours ( )	
	setHours (int)	
	getMinutes ( )	
	setMinutes (int)	
	getSeconds ( )	
	setSeconds (int)	
	toLocaleString ( )	Use java.txt.Format and its classes
	toGMTString ( )	
	parse (String s)	

Table I.3 List of Deprecated 1.0 Methods in Java.io

Classes	Methods	Replacement
ByteArrayOutputStream	toString (int)	toString (String)
DataInputStream	String readLine ( )	BufferedReader.readLine()
StreamTokenizer	StreamTokenizer (InputStream)	StreamTokenizer (Reader)

Table I.4 List of Deprecated 1.0 Methods in Java.awt

Classes	Methods	Replacement
BorderLayout	addLayout Component (String, Component)	addLayoutComponent (Component, Object)
CardLayout	addLayoutComponent (String, Component)	addLayoutComponent (Component, Object)
CheckboxGroup	getCurrent ( ) setCurrent (checkbox)	getSelectedCheckbox ( ) setSelectedCheckbox (Checkbox)
Choice	countItems ( )	getItemCount ( )
Component	getPeer ( ) enable ( ) enable (boolean) disable ( ) show ( ) show (boolean) hide ( ) location ( ) move (int, int)	None setEnabled (boolean) setEnabled (boolean) setEnabled (boolean) setVisible (boolean) setVisible (boolean) setVisible (boolean) getLocation ( ) setLocation (int, int)



Table I.4 (Contd)

Classes	Methods	Replacement
Container	size ( )	getSize ( )
	resize (int,int)	setSize (int, int)
	resize (Dimension)	setSize (Dimension)
	bounds ( )	getBounds ( )
	reshape (int, int, int, int)	setBounds (int, int, int, int,)
	preferredSize ( )	getPreferredSize ( )
	minimumSize ( )	getMinimumSize ( )
	layout ( )	doLayout ( )
	inside (int, int)	contains (int, int)
	locate (int, int)	getComponentAt (int, int)
	deliverEvent (Event)	dispatchEvent (AWTEvent)
	postEvent (Event)	dispatchEvent (AWTEvent)
	handleEvent (Event)	processEvent (AWTEvent)
	mouseDown (Event, int, int)	processMouseEvent (MouseEvent)
	mouseDrag (Event, int, int)	processMouseMotionEvent (MouseEvent)
	mouseUp (Event, int, int)	processMouseEvent (MouseEvent)
	mouseMove (Event, int, int)	processMouseMotionEvent (MouseEvent)
	mouseenter (Event, int, int)	processMouseEvent (MouseEvent)
	mouseExit (Event, int, int)	processMouseEvent (MouseEvent)
	keyDown (Event, int)	processKeyEvent (KeyEvent)
	keyUp (Event, int)	processKeyEvent (KeyEvent)
	action (Event, Object)	Should register this component as Action Listener on component which fires action events
	lostFocus (Event, Object)	processFocusEvent (FocusEvent)
	nextFocus ( )	transferFocus ( )
	countComponents ( )	getComponentCount ( )
	insets ( )	getInsets ( )
	layout ( )	doLayout ( )
	preferredSize ( )	getPreferredSize ( )
	minimumSize ( )	getMinimumSize ( )
	deliverEvent (Event)	dispatchEvent (AWTEvent e)
	locate (int, int)	getComponentAt (int, int)
	nextFocus (Component)	transferFocus (Component)
	setCursor (int)	Component.setCursor (Cursor)
	getCursorType ( )	Component.setCursor (Cursor)
		Component.setCursor ( )
		getClipBounds ( )
Frame		
Graphics	getClipRect ( )	

(Contd)



Table I.4 (Contd)

Classes	Methods	Replacement
List	countItems ( )	getItemCount ( )
	clear ( )	removeAll ( )
	isSelected (int)	isIndexSelected (int)
	allowsMultipleSelections ( )	isMultipleMode ( )
	setMultipleSelections (boolean)	setMultipleMode (boolean)
	preferredSize (int)	getPreferredSize (int)
	preferredSize ( )	getPreferredSize ( )
	minimumSize (int)	getMinimumSize (int)
	minimumSize ( )	getMinimumSize ( )
	delItems (int, int)	Not for public use in the future. This method is expected to be retained only as a package private method.
		getItemCount ( )
Menu	countItems ( )	getMenuCount ( )
MenuBar	countMenus ( )	None
MenuComponent	getPeer ( )	setEnabled (boolean)
MenuItem	enable ( )	setEnabled (boolean)
	enable (boolean)	setEnabled (boolean)
Polygon	disable ( )	getBounds ( )
	getBoundingBox ( )	contains (int, int)
	inside (int, int)	setBounds (int, int, int, int)
Rectangle	reshape(int,int,int,int)	setLocation (int, int)
	move (int, int)	setSize (int, int)
	reSize (int, int)	contains (int, int)
	inside (int, int)	getVisibleAmount ( )
	getVisible ( )	setUnitIncrement (int)
Scrollbar	setLineIncrement (int v)	getUnitIncrement ( )
	getLineIncrement ( )	setBlockIncrement (int)
	setPageIncrement (int v)	getBlockIncrement ( )
	getPageIncrement ( )	doLayout ( )
	layout ( )	
ScrollPane	insertText (String, int)	insert (String, int)
TextArea	appendText (String)	append (String)
	replaceText (String,int,int)	replaceRange (String, int, int)
	preferredSize (int, int)	getPreferredSize (int, int)
	preferredSize ( )	getPreferredSize ( )
	minimumSize (int, int)	getMinimumSize (int, int)
	minimumSize ( )	getMinimumSize ( )



**Table I.4 (Contd)**

<i>Classes</i>	<i>Methods</i>	<i>Replacement</i>
TextField	setEchoCharacter (char)	SetEchochar (char)
	preferredSize (int)	GetPreferredSize (int)
	preferredSize ( )	getPreferredSize ( )
	minimumSize (int)	GetMinimumSize (int)
	minimumSize ( )	GetMinimumSize ( )
Window	nextFocus (Component)	TransferFocus (Component)
	postEvent (Event)	DispatchEvent (AWTEvent)

**Table I.5** *List of Deprecated 1.0 Methods in Java.net*

<i>Classes</i>	<i>Methods</i>	<i>Replacement</i>
Socket	Socket (String, int, boolean)	Use DatagramSocket's constructors
	Socket (inetAddress, int, boolean)	Use DatagramSocket's constructors

**Table I.6** *List of Deprecated Classes*

<i>Class</i>	<i>Package</i>
EventListener	java.util
EventObject	java.util
LineNumberInputStream	java.io
PrintStream	java.io
Serializable	java.io
StringBufferInputStream	java.io

### I.3 DEPRECATED CLASSES AND MEMBERS OF VERSION 1.1

Some of the classes and members of version 1.1 have been removed or declared deprecated in version 2. They are summarized in Tables I.7 and I.8.

**Table I.7** *Deprecated Members of Version 1.1*

<i>Package</i>	<i>Class</i>	<i>Members</i>
java.awt	Frame	CROSSHAIR_CURSOR
		DEFAULT_CURSOR
		E_RESIZE_CURSOR
		HAND_CURSOR

(Contd)



Table I.7 (Contd)

Package	Class	Members
		MOVE_CURSOR
		N_RESIZE_CURSOR
		NE_RESIZE_CURSOR
		NW_RESIZE_CURSOR
		S_RESIZE_CURSOR
		SE_RESIZE_CURSOR
		SW_RESIZE_CURSOR
		TEXT_CURSOR
		W_RESIZE_CURSOR
		WAIT_CURSOR
java.awt.image	BufferedImage	getGraphics ( )
java.awt	List	addItem ( )
		delItem ( )
java.awt.swing	AbstractButton	getLabel ( )
		setLabel ( )
java.io	ObjectInputStream	readLine ( )
java.lang	SecurityManager	classDepth ( )
		classLoaderDepth ( )
		getInCheck ( )
		inCheck ( )
		inClass ( )
		inClassLoader ( )
	Thread	resume ( )
		stop ( )
		suspend ( )
	ThreadGroup	resume ( )
		stop ( )
		suspend ( )
java.rmi.registry	RegistryHandler	registryImpl ( )
		registryStub ( )
java.security	Certificate	Entire class
	Identity	addCertificate ( )
		certificates ( )
		removeCertificate ( )
	Signature	getParameter ( )
		setParameter ( )
	SignatureSpi	engineGetParameter ( )
		engineSetParameter ( )



**Table I.7 (Contd)**

<i>Package</i>	<i>Class</i>	<i>Members</i>
java.sql	Date	Date ( )
		getHours ( )
		getMinutes ( )
		getSeconds ( )
		setHours ( )
		setMinutes ( )
	DriverManager	setSeconds ( )
		getLogStream ( )
	PreparedStatement	setLogStream ( )
		setUnicodeStream ( )
	ResultSet	getUnicodeStream ( )
	Time	getDate ( )
		getDay ( )
		getMonth ( )
		getYear ( )
		setDate ( )
		setMonth ( )
		setYear ( )
	TimeStamp	TimeStamp ( )

**Table I.8** *Removed Members of Version 1.1*

<i>Package</i>	<i>Class</i>	<i>Members</i>
java.awt.peer	ActiveEvent	dispatch ( )
java.net	URLConnection	fileNameMap
java.rmi	RMISeccurityManager	checkAwteventQueueAccess ( )
		checkCreateClassLoader ( )
		checkDelete ( )
		checkExec ( )
		checkExit ( )
		checkLink ( )
		checkListen ( )
		checkMemberAccess ( )
		checkMulticast ( )
		checkPrintJobAccess ( )
		checkPropertiesAccess ( )
		checkPropertyAccess ( )
		checkRead ( )

*(Contd)*



Table I.8 (Contd)

Package	Class	Members
java.security	KeyPairGenerator	checkSecurityAccess ( )
		checkSetFactory ( )
		checkSystemClipboardAccess ( )
		checkTopLevelWindow ( )
java.security	MessageDigest	checkWrite ( )
		generateKeyPair ( )
		initialize ( )
		engineDigest ( )
		engineReset ( )
		engineUpdate ( )
		enginegetParameter ( )
		engineInitSign ( )
		engineInitVerify ( )
		engineSetParameter ( )
java.util	GregorianCalendar	engineSign ( )
		engineUpdate ( )
		engineVerify ( )
		after ( )
		before ( )
java.util	Vector	equals ( )
		toString ( )

Since Java classes undergo continuous revision and modifications, the list of removed/deprecated methods and classes given here may not be entirely complete. It is only intended as a quick reference; the reader should consult the JDK documentation available in one of the Sun web sites.

We can obtain a complete list of deprecated methods in a program by using the **javac** compiler *-deprecation* option, when the compiler generates warning messages about usage of such methods.