

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
One	Introduction to Java	1
	– Usage of Java	2
	– Structure of Java	4
	– Flexibility of Java Programming	5
	– Using the Eclipse software	6
Two	Running Java in Eclipse	7
	– Introduction	10
	– Using Eclipse	11
	– Workspace Launcher	12
	– Workspace in Eclipse	14
	– Projects in Eclipse	19
	– Opening Projects in Eclipse	20
	– Importing Projects in Eclipse	21
	– Running Projects in Eclipse	22
	– Viewing results in the Eclipse Console	27
	– The Eclipse Console properties	28
	– The Eclipse Console properties	30
Three	Setting up a machine to use Eclipse	31
	– Introduction	32
	– Downloading the JDK	33
	– Installing the Java Developer Kit	36
	– Downloading Eclipse	40
Four	– Installing Eclipse	42
	First Steps in Eclipse	44
	– Naming Java modules	45
	– Commenting in Java Programs	46
	– Editing Java in Eclipse	47
	– The SRC folder	49
	– Editing the code in the SRC	51
Five	– Examining the Workspace Folder	53
	– Examining the Workspace	54
	Creating Projects and Classes in Eclipse	56
	– Introduction	57
	– Creating Projects	58
	– Importing Projects	62
	– Importing Projects from other Folders	63
	– Importing Archives into Workspace	66
	– Exporting a Project	69
	– Deleting Projects	73
	– Creating Packages	74
Six	– Creating Classes	77
	– Exporting Classes into Projects	82
	– Importing Classes into Projects	83
	– Copying Classes	86
	– Incorporating Existing Classes	88
	Using the Java Editor in Eclipse	89
	– Introduction	90
	– Folding	92

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– Line Numbers	94
	– Creating Bookmarks	95
	– Using Bookmarks	96
	– Using Tasks	100
	– Correcting Errors	105
	– Error Checking	106
	– Colour Coding	108
	– Hints while typing	109
	– Bracket Location	111
Seven	Dialog Boxes	112
	– Using Dialog Boxes	113
	– Using Message Dialogs	115
	– Using ImageIcons with Message Dialogs	120
	– Using Confirm Dialogs	123
	– Using Input Dialogs	128
	– Using Input Dialogs with Icons and Lists	130
	– Using Option Dialogs	132
	– Making a Beep in Java	138
	– <i>Exercise One</i>	139
Eight	Dimensions	144
	– The Dimension Datatype	145
	– Examples of Using Dimensions	146
	– Methods for Dimensions	147
	– <code>getScreenSize()</code>	149
Nine	JFrame	150
	– Using JFrame	151
	– <code>setDefaultCloseOperation()</code>	152
	– <code>setVisible()</code>	153
	– Exiting JFrames	154
	– <code>setResizable()</code>	155
	– <code>setLocation()</code>	156
	– <code>setBounds()</code>	158
	– Centering JFrames	159
	– JFrame Example	160
	– <code>setLocationRelativeTo()</code> for Centreing	161
	– <code>dispose()</code>	162
	– Using <code>setIconImage()</code>	163
	– Using Constructors in Java Swing	164
	– <code>serialVersionUID</code>	165
	– Creating a Constructor Method	166
	– JFrame Constructor	168
	– <code>@SuppressWarnings</code>	169
	– <i>Exercise Two</i>	174
Ten	JComponent	176
	– Introduction	177
	– Methods to Change Appearance	178
	– Methods to Process Components	182
Eleven	Colour and Fonts	186

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– Using Color	187
	– Using Color with JFrame	189
	– Using Font	190
Twelve	JLabel	196
	– Using JLabel	197
	– getContentPane().add()	198
	– Creating a message in JLabel	200
	– Using HTML with JLabel	201
	– Changing the position in a JLabel	204
	– Adding an Icon to a JLabel	206
	– Changing a JLabel's Colour and Font	208
	– Icon only JLabel	210
	– setVerticalAlignment()	211
	– pack()	212
	– <i>Exercise Three</i>	214
Thirteen	Borders	217
	– BorderFactory	218
	– createEmptyBorder()	221
	– createLineBorder()	222
	– createRaisedBevelBorder()	224
	– createRaisedSoftBevelBorder()	225
	– createBevelBorder()	226
	– createDashedBorder()	228
	– createStrokeBorder()	231
	– createEtchedBorder()	235
	– createMatteBorder()	237
	– createTitledBorder()	239
	– Nested createTitledBorder()	249
	– Fonts with createTitledBorder()	250
	– createCompoundBorder()	251
	– <i>Exercise Four</i>	254
Fourteen	Mid-Level Containers	258
	– Containers	259
	– JPanels	261
	– JScrollPanels	263
	– Scroll Bar policy	266
	– <i>Exercise Five</i>	268
Fifteen	Absolute Layouts	270
	– Introduction	271
	– setBounds()	272
	– <i>Exercise Six</i>	276
Sixteen	Layouts	277
	– JPanel and Layouts	278
	– FlowLayout	280
	– Some FlowLayout Methods	284
	– GridLayout	286
	– Some GridLayout Methods	291
	– BorderLayout	292

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– Defining BorderLayouts since Java 1.4	297
	– Some BorderLayout Methods	299
	– <i>Exercise Seven</i>	300
	– BorderLayout	303
	– SpringLayout	306
	– putConstraint()	310
Seventeen	Box	314
	– Introduction	315
	– createRigidArea()	317
	– createVerticalStrut()	318
	– createHorizontalStrut()	319
	– createGlue()	320
	– createHorizontalGlue() / createVerticalGlue()	322
	– Using Box.Filler	323
	– Using Box as a Container	326
	– <i>Exercise Eight</i>	328
Eighteen	JButton	330
	– Introduction	331
	– Example	332
	– Using Insets to re-size JButtons	334
	– Using Icons with JButtons	336
	– Using AbstractButton with JButtons	337
	– Using SwingConstants with JButtons	341
	– Some Methods for JButtons	342
	– Using HTML with JButton	345
	– Advanced Icons with JButtons	346
	– Using Rollover with JButtons	348
	– JButtons and ToolTips	349
	– BasicArrowButton	350
Nineteen	Event Handling with Listeners	352
	– Listening for Events	353
Twenty	Private Event Listeners for JButtons	358
	– Introduction	359
	– java.awt.event.*	360
	– Example of Private Listener	361
	– ActionEvent	363
	– Recording the Event	364
	– Which Component fired the Listener	365
	– Using getActionCommand()	366
	– getValueIsAdjusting()	367
	– getWhen()	368
	– <i>Exercise Nine</i>	369
Twenty One	Public Event Listeners	371
	– Introduction	372
	– Example of Public Listener	373
Twenty Two	Implemented Event Listeners	375
	– Introduction	376
	– Example of Implemented Listener	377

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
Twenty Three	Listener Events	379
	– Introduction	380
	– Multiple Events with Listeners	381
	– <i>Exercise Ten</i>	384
Twenty Four	JTextComponent	386
	– Methods in JTextComponent	387
Twenty Five	Input Components	388
	– Introduction	389
	– JTextField	390
	– JTextField Example	391
	– JTextField Initialisation	393
	– Other Methods for JTextField	394
	– Processing JTextField using getText()	396
	– Listeners for JTextField	397
	– FocusListener with JTextField	398
	– ActionListener with JTextField	400
	– JPasswordField	403
	– JPasswordField Example	404
	– setEchoChar()	406
	– JTextArea	407
	– JTextArea Example	408
	– JTextArea and setFocusable()	410
	– Wrapping text in JTextArea	412
	– Listeners with JTextArea	415
	– Some methods for JTextArea	416
	– JFormattedTextField	419
	– Initialising JFormattedTextField	420
	– Populating JFormattedTextField	423
	– Using setValue()	425
	– Listeners with JFormattedTextField	426
	– Using MaskFormatter	427
	– Using setFocusLostBehavior	429
	– requestFocusInWindow()	431
	– <i>Exercise Eleven</i>	432
Twenty Six	GroupLayout	434
	– Introduction	435
	– Sequential and Parallel Groups	436
	– addGap()	439
	– setAutoCreateGaps()	440
	– Changing Direction of Components	441
	– Chained Invocation or Method Chaining	442
	– Adding further Groups with addGroup()	443
	– Controlling Resizing with addComponent()	448
	– Using LinkSize to standardise sizing	451
	– Alignment	452
Twenty Seven	Selection Components	453
	– JComboBox	454
	– Using addItem() with JComboBox	457

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	- selectedItem() with JComboBox	458
	- ComboBoxModel with JComboBox	459
	- Some methods for JComboBox	460
	- ItemListener with JComboBox	462
	- JCheckBox	463
	- JCheckBox Example	464
	- Initialising JCheckBox	465
	- Using HTML with JCheckBox	466
	- Images with JCheckBox	467
	- ItemListener with JCheckBox	468
	- JToggleButton	470
	- Initialising JToggleButton	471
	- Listeners with JToggleButtons	472
	- JRadioButton	473
	- JRadioButton Example	475
	- Initialising JRadioButtons	477
	- Icons with JRadioButtons	478
	- ActionListener with JRadioButton	480
	- Using setActionCommand()	481
	- setActionCommand() Example	482
	- Using Enumeration	484
	- Using AbstractButton	487
	- <i>Exercise Twelve</i>	488
	- JList	493
	- JList Example	494
	- setLayoutOrientation() with JList	496
	- setSelectionMode() with JList	498
	- setPrototypeCellValue() with JList	500
	- setFixedCellWidth with JList	501
	- DefaultListModel with JList	502
	- DefaultListModel Example	503
	- Icons with DefaultListModels	505
	- Using Vectors	507
	- Methods for Vectors	508
	- getSelectedIndices() in JList	513
	- JList Listeners	514
	- ListSelectionListener	515
	- Using getSelectedValuesList()	516
	- ListDataListener	517
	- ListDataListener Example	518
	- <i>Exercise Thirteen</i>	520
	- JSpinner	523
	- SpinnerNumberModel	524
	- SpinnerNumberModel Example	525
	- Methods for SpinnerNumberModel	526
	- Change Orientation of JSpinner	527
	- ChangeListener with JSpinner	528
	- SpinnerListModel	529

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– SpinnerListModel Example	530
	– setPreferredSize()	531
	– ArrayLists with SpinnerListModel	533
	– SpinnerDateModel	534
	– SpinnerDateModel Example	536
	– DateEditor with SpinnerDateModel	538
	– JSlider	543
	– Initialising JSlider	544
	– ChangeListener with JSlider	546
	– Placing Numbers on the JSlider	547
	– Placing ticking on the JSlider	548
	– setMinorTickSpacing() with JSlider	549
	– Customising the JSlider ticks	550
	– Some more JSlider methods	551
	– JSeparator	553
	– JSeparator Example	554
	– Using Box with JSeparator Example	556
	– <i>Exercise Fourteen</i>	558
Twenty Eight	JMenus and JPopupMenu	561
	– Introduction	562
	– JMenuBar	563
	– JMenuBar Example	565
	– JMenu	566
	– JMenu Example	567
	– JMenuBar and JTextField	568
	– Mnemonic with JMenus	569
	– MenuListener	570
	– MenuListener Example	571
	– JMenuItem	573
	– JMenuItem Example	574
	– JMenuItem with Images	575
	– Mnemonic with JMenuItem	576
	– Accelerator with JMenuItem	577
	– Listeners with JMenuItem	579
	– JMenuItem and MenuKeyListener	580
	– Sub-Menus in JMenus	581
	– JCheckBoxMenuItem in JMenus	582
	– JCheckBoxMenuItem with Images	584
	– JCheckBoxMenuItem with ItemListner	585
	– JRadioButtonMenuItem in JMenus	586
	– JRadioButtonMenuItem Example	587
	– JRadioButtonMenuItem with JMenu Example	588
	– JRadioButtonMenuItem with Images	589
	– JRadioButtonMenuItem and Listeners	590
	– Using getActionCommand() with JRadioButton	591
	– Using Enumeration	592
	– JPopupMenu	593
	– JPopupMenu with MouseListener	594

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	- MouseListener Examples	595
	- Event.isPopupTrigger()	597
	- PopupMenuListener	598
	- JToolBar	599
	- JToolBar Example	601
	- JToolBar and setFloatable()	603
	- JToolBar and Listeners	604
	- JToolBar and Icons	605
	- JToolBar Orientation	606
	- JToolBar with JTextFields	607
	- addSeparator() with JToolBar	609
	- <i>Exercise Fifteen</i>	610
Twenty Nine	Applets	613
	- Introduction to using Applets within Eclipse	614
	- Using Appletviewer in Eclipse	615
	- Appletviewer Options	617
	- Converting a basic Application to an Applet	618
	- InvocationTargetException and Images	624
	- Using URL with Images	625
	- Dialog Boxes converted to JApplet	626
	- JInternalFrames (with LAF) converted to JApplet	627
	- JMenus converted to JApplet	628
	- JTrees converted to JApplet	629
	- JColorChooser converted to JApplet	630
	- Choosing Applet or Application in Eclipse	631
	- Using start(), stop(), paint(), init() and destroy()	637
	- Passing Parameters to JApplet in Eclipse	640
	- Using getParameter() with JApplet	643
	- Embedding Java in HTML	645
	- Using the <applet> tag in HTML	646
	- Using showStatus() (Short status strings)	648
	- Passing Parameters to the Applet	649
	- Reading Parameters in the Applet	650
	- Using the <object> tag in HTML	651
	- Accessing System Properties in Applets	652
	- <i>Exercise Sixteen</i>	654
Thirty	Look and Feel (LAF)	657
	- Using setLookandFeel()	658
	- Standard LAF Styles	660
	- javax.swing.plaf.metal.MetalLookAndFeel	662
	- javax.swing.plaf.nimbus.NimbusLookAndFeel	663
	- com.sun.java.swing.plaf.motif.MotifLookAndFeel	664
	- com.sun.java.swing.plaf.windows.WindowsLookAndFeel	665
	- com.sun.java.swing.plaf.windows.WindowsClassicLookandFeel	666
	- Defaulting the LAF permanently in Java	667
	- Using Third Party LAFs	668
	- Installing the LAF in the Operating System	669
	- Identifying the Look and Feel Class in the Jar file	670

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– Using the third party LAF in Java	671
	– <i>Exercise Seventeen</i>	672
Thirty One	GridBagLayouts	673
	– Introduction	674
	– GridBagConstraints	675
	– GridBagConstraints Example	678
	– gridx and gridy	683
	– gridx and gridy example	684
	– gridwidth and gridheight	687
	– gridwidth and gridheight example	688
	– GridBagConstraints.REMAINDER	691
	– fill	692
	– fill example	693
	– anchor	694
	– anchor examples	695
	– insets	697
	– insets example	698
	– ipadx and ipady	699
	– ipadx and ipady example	700
	– weightx and weighty	701
	– Final example	705
Thirty Two	JTable	711
	– Introduction	712
	– JTable Example	713
	– Default Settings	716
	– setPreferredSize()	717
	– java.lang.ArrayIndexOutOfBoundsException	718
	– Problems with the TableColumnModel	719
	– Adding to a JPanel	720
	– Using DefaultTableModel()	721
	– Using addColumn()	722
	– setAutoCreateColumnsFromModel()	724
	– Changing the Width of Columns	725
	– setResizable()	727
	– Some Methods for JTable	728
	– Moving Columns Programmatically	729
	– Moving Rows Programmatically	730
	– Setting the Selection Mode	731
	– isCellEditable()	734
	– Accessing Cells	736
	– Determining the Current Cell	737
	– ListSelectionListener	738
	– ListSelectionListener Example	739
	– TableModelListener	743
	– TableModelListener Example	745
	– <i>Exercise Eighteen</i>	748
Thirty Three	Mouse Double Click	751
	– Introduction	752

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– Double Click Example	753
Thirty Four	JTree	755
	– Introduction	756
	– JTree Example	757
	– Populating a JTree (Top to Bottom)	759
	– Expand()	762
	– Populating a JTree (Bottom to Top)	763
	– Populating a JTree with more levels	764
	– TreeExpansionListener	766
	– getLastSelectedPathComponent()	767
	– TreeSelectionListener	768
	– Customising the JTree	769
Thirty Five	CardLayouts	771
	– Introduction	772
	– CardLayout Example	773
	– <i>Exercise Nineteen</i>	777
Thirty Six	More Containers	782
	– Introduction	783
	– JSplitPane	784
	– setDividerLocation() with JSplitPane	788
	– Using setResizeWeight with JSplitPane	789
	– JSplitPanes within JSplitPanes	790
	– JTabbedPane	792
	– JTabbedPane Example	794
	– Using addTab() with JTabbedPane	796
	– Inserting Tabs into a JTabbedPane	799
	– Removing Tabs in JTabbedPane	800
	– Positioning the Tabs	801
	– setTabLayoutPolicy for JTabbedPane	804
	– setMnemonic() with Tabs	806
– Some Methods for JTabbedPane	807	
– ChangeListener with JTabbedPane	811	
Thirty Seven	More Frames	813
	– JInternalFrame	814
	– Using LAF with JInternalFrame	816
	– JInternalFrame Behaviour	817
	– Some JInternalFrame Methods	820
	– Adding Components to JInternalFrame	821
	– setJMenuBar() for JInternalFrame	822
	– InternalFrameListener	823
	– isVisible() with JInternalFrame	825
	– JLayeredPane	826
	– JLayeredPane Example	830
	– Layouts in JLayeredPane	832
	– More methods for JLayeredPane	833
	– JDesktopPane	836
	– showInternalMessageDialog	837
	– showInternalConfirmDialog	840

Java 1.9 Swing with Eclipse Oxygen Index

Section	Title	Page
	– <i>Exercise Twenty</i>	845
Thirty Eight	JWindow	847
	– Using JWindow	848
Thirty Nine	Swing Timers and Progress Bars	850
	– Introduction	851
	– Methods for Swing Timers	854
	– Timers and Coalesce	856
	– JProgressBar	857
	– JProgressBar Example	858
	– JProgressBar Methods	860
	– Displaying text in the JProgressBar	861
	– JProgressBar Orientation	863
	– JProgressBar and ChangeListener	864
	– Using Threads to create a Splash screen	865
	– Cursors	867
	– Scope of Cursors	870
	– Creating a Custom Cursor	871
	Forty	System Tray
– Introduction		873
– System Tray Example		875
Forty One	Java Built-in Choosers	878
	– JColorChooser	879
	– ChangeListener	885
	– setPreviewPanel()	888
	– Using setColor()	889
	– Using AbstractColorChooserPanel	890
	– JFileChooser	892
	– setFileSelectionMode()	897
	– setControlButtonsAreShown()	899
	– FileFilter	900
	– setAcceptAllFileFilterUsed()	902
	– addChoosableFileFilter	903
	– Some Methods for JFileChooser	904
	– ActionListener with JFileChooser	905
	– <i>Exercise Twenty One</i>	908