

JavaFX

Release Notes

Release 21

G54863-01

April 2026

JavaFX 21 Release Notes

The following contains all of the release notes for JavaFX 21 and OpenJFX 21 releases:

- [JavaFX 21.0.11](#)
- [OpenJFX 21: Earlier Update Release Versions](#)
- [OpenJFX 21](#)

JavaFX 21.0.11

The following notes describe important changes and information about this release. In some cases, the descriptions provide links to additional detailed information about an issue or a change. These notes document the JavaFX 21.0.11 release. This is the initial release of Oracle JavaFX 21.

Supported Runtimes

JavaFX 21 is designed to work with both JDK 21 and JDK 17.

Supported Platforms

JavaFX 21 is available for Linux x86_64, Windows x86_64, macOS AArch64, and macOS x86_64.

Known Issues

- `javafx/media`
 - **Media Playback Does Not Work on Ubuntu 26.04 ([JDK-8382470](#))**

Media playback does not work on Ubuntu 26.04. This affects most media formats such as MP4 with H.264/H.265, MP3, AAC, and HTTP Live Streaming. This is because JavaFX Media does not support libavcodec version 62. Support for libavcodec version 62 will be added with

[JDK-8378510](#). As a workaround, install libavcodec version 61 compiled with support for at least the following:

- * decoder: aac, mp3, mp3float, h264, hevc
- * parser: aac, h264, hevc
- * demuxer: aac, h264, hevc, mpegts, mpegtsraw

List of Fixes

#	Link	Area	Summary
1	JDK-8380557	javafx/web	Additional WebKit 623.1 fixes from WebKitGTK 2.50.6
2	JDK-8377930	javafx/web	Additional WebKit 623.1 fixes from WebKitGTK 2.50.5
3	JDK-8377099	javafx/web	Additional WebKit 623.1 fixes from WebKitGTK 2.50.4
4	JDK-8373058	javafx/media	Media crash when playing MP3 over JRT protocol on macOS 26
5	JDK-8371052	javafx/media	Update libFFI to 3.5.2
6	JDK-8368572	javafx/web	Update WebKit to 623.1
7	JDK-8348744	javafx/window-toolkit	Application window not always activated on macOS 15
8	JDK-8322795	javafx/graphics	CSS performance regression up to 10x
9	JDK-8284544	javafx/accessibility	[Win] Name-Property of Spinner cannot be changed

OpenJFX 21: Earlier Update Release Versions

These release notes refer to fixes for earlier OpenJFX 21 update releases for which there is no equivalent Oracle JDK version.

List of Fixes

#	Link	Area	Summary
1	JDK-8370632	javafx/web	Additional libxslt 1.1.43 fixes
2	JDK-8368691	javafx/web	Update libxml2 to 2.14.6
3	JDK-8367578	javafx/web	Additional WebKit 622.1 fixes from WebKitGTK 2.48.7
4	JDK-8366744	javafx/web	Update SQLite to 3.50.4
5	JDK-8366217	javafx/media	Update GStreamer to 1.26.5
6	JDK-8363813	javafx/window-toolkit	Missing null check in GlassScreen
7	JDK-8361648	javafx/media	Update Glib to 2.84.3
8	JDK-8361644	javafx/web	Update ICU4C to 77.1

#	Link	Area	Summary
9	JDK-8360270	javafx/web	Websocket communication issues with Vaadin applications through webview
10	JDK-8356982	javafx/web	Update WebKit to 622.1
11	JDK-8354940	javafx/web	Fail to sign in to Microsoft sites with WebView
12	JDK-8354876	javafx/web	Update SQLite to 3.49.1
13	JDK-8352164	javafx/web	Update libxslt to 1.1.43
14	JDK-8352162	javafx/web	Update libxml2 to 2.13.8
15	JDK-8346229	javafx/media	Update Glib to 2.82.4
16	JDK-8346228	javafx/media	Update GStreamer to 1.24.10
17	JDK-8340322	javafx/web	Update WebKit to 620.1
18	JDK-8340208	javafx/web	Additional WebKit 619.1 fixes from WebKitGTK 2.44.4
19	JDK-8338701	javafx/media	Provide media support for libavcodec version 61
20	JDK-8338478	javafx/graphics	[macos] Crash in CoreText with certain strings using JDK 22 or later
21	JDK-8338307	javafx/web	Additional WebKit 619.1 fixes from WebKitGTK 2.44.3
22	JDK-8338306	javafx/web	WebView Drag and Drop fails with WebKit 619.1
23	JDK-8337481	javafx/web	File API: file.name contains path instead of name
24	JDK-8336941	javafx/web	Update libxslt to 1.1.42
25	JDK-8336938	javafx/media	Update libFFI to 3.4.6
26	JDK-8336798	javafx/web	DRT test cssrounding.html test for linear layout fails with WebKit 619.1
27	JDK-8334713	javafx/web	WebKit build failed on LoongArch64 because currentStackPointer is undefined
28	JDK-8334124	javafx/web	Rendering issues with CSS "text-shadow" in WebView
29	JDK-8332539	javafx/web	Update libxml2 to 2.12.7
30	JDK-8331765	javafx/web	Websocket callbacks are not executed after WebKit 617.1 update
31	JDK-8331748	javafx/web	Update libxml2 to 2.12.6
32	JDK-8331603	javafx/graphics	Cleanup native AbstractSurface methods getRGBImpl, setRGBImpl
33	JDK-8330462	javafx/accessibility	StringIndexOutOfBoundsException when typing anything into TextField
34	JDK-8329705	javafx/accessibility	Add missing Application thread checks to platform specific a11y methods
35	JDK-8329011	javafx/web	Update SQLite to 3.45.3
36	JDK-8328994	javafx/web	Update WebKit to 619.1
37	JDK-8328684	javafx/web	HellowWebView demo crashes when a webpage is scrolled

#	Link	Area	Summary
38	JDK-8327177	javafx/window-toolkit	macOS: wrong GlobalRef deleted in GlassMenu
39	JDK-8326989	javafx/web	Text selection issues on WebView after WebKit 617.1
40	JDK-8325258	javafx/web	Additional WebKit 617.1 fixes from WebKitGTK 2.42.5
41	JDK-8324337	javafx/web	Cherry-pick WebKit 617.1 stabilization fixes
42	JDK-8324326	javafx/web	Update ICU4C to 74.2
43	JDK-8324233	javafx/graphics	Update JPEG Image Decoding Software to 9f
44	JDK-8323880	javafx/web	Caret rendered at wrong position in case of a click event on RTL text
45	JDK-8323879	javafx/web	constructor Path(Path) which takes another Path object fail to draw on canvas html
46	JDK-8322703	javafx/web	Intermittent crash in WebView in a JFXPanel from IME calls on macOS
47	JDK-8322251	javafx/graphics	[Linux] JavaFX is not displaying CJK on Ubuntu 23.10 and later
48	JDK-8320267	javafx/web	WebView crashes on macOS 11 with WebKit 616.1
49	JDK-8319669	javafx/window-toolkit	[macos14] Running any JavaFX app prints Secure coding warning
50	JDK-8319079	javafx/graphics	Missing range checks in decora
51	JDK-8319066	javafx/window-toolkit	Application window not always activated in macOS 14 Sonoma
52	JDK-8318614	javafx/web	Update WebKit to 617.1
53	JDK-8318388	javafx/web	Update libxslt to 1.1.39
54	JDK-8318387	javafx/media	Update GStreamer to 1.22.6
55	JDK-8318386	javafx/media	Update Glib to 2.78.1
56	JDK-8317508	javafx/media	Provide media support for libavcodec version 60
57	JDK-8317370	javafx/base	JavaFX runtime version is wrong at runtime
58	JDK-8315958	javafx/window-toolkit	Missing range checks in GlassPasteboard
59	JDK-8315657	javafx/window-toolkit	Application window not activated in macOS 14 Sonoma
60	JDK-8315074	javafx/window-toolkit	Possible null pointer access in native glass
61	JDK-8314212	javafx/web	Crash when loading cnn.com in WebView
62	JDK-8313900	javafx/media	Possible NULL pointer access in NativeAudioSpectrum and NativeVideoBuffer
63	JDK-8313856	javafx/graphics	Replace VLA with malloc in pango
64	JDK-8313711	javafx/web	Cherry-pick WebKit 616.1 stabilization fixes
65	JDK-8313648	javafx/graphics	JavaFX application continues to show a black screen after graphic card driver crash

#	Link	Area	Summary
66	JDK-8313181	javafx/web	Enabling modern media controls on webkit 616.1 does not load button images on HTML5 video Element
67	JDK-8313177	javafx/web	Web Workers timeout with Webkit 616.1
68	JDK-8311492	javafx/graphics	FontSmoothingType LCD produces wrong color when transparency is used
69	JDK-8311185	javafx/controls	VirtualFlow jump when cellcount changes
70	JDK-8311097	javafx/web	Synchron XMLHttpRequest not receiving data
71	JDK-8310681	javafx/web	Update WebKit to 616.1
72	JDK-8309374	javafx/accessibility	Accessibility Focus Rectangle on ListItem is not drawn when ListView is shown for first time
73	JDK-8307536	javafx/graphics	FileAlreadyExistsException from NativeLibLoader when running concurrent applications with empty cache
74	JDK-8251240	javafx/window-toolkit	Menus inaccessible on Linux with i3 wm
75	JDK-8221261	javafx/window-toolkit	Deadlock on macOS in JFXPanel app when handling IME calls

OpenJFX 21

These release notes refer to the OpenJFX 21. There is no equivalent JavaFX 21.

Important Changes

- `javafx/base`

- **Event Handler Methods Added to `EventTarget` Interface** ([JDK-8306021](#))

Four new default methods were added to the `javafx.event.EventTarget` interface:

- * `<E extends Event> void addEventHandler(EventType<E>, EventHandler<? super E>)`
- * `<E extends Event> void removeEventHandler(EventType<E>, EventHandler<? super E>)`
- * `<E extends Event> void addEventFilter(EventType<E>, EventHandler<? super E>)`
- * `<E extends Event> void removeEventFilter(EventType<E>, EventHandler<? super E>)`

This change allows applications to manage event handlers for all `EventTarget` implementations.

Most applications will not run into any backward compatibility problems with this change.

The change is fully binary compatible and, for most use cases, it is also source compatible. A compilation error will occur in one of the following two unlikely cases:

- * An application class extends `Menu`, `MenuItem`, `TableColumnBase`, or `TreeItem` and overrides `addEventHandler` or `removeEventHandler`.
- * An application class that is not a subclass of `Node` implements their own `addEventHandler` or `removeEventHandler` using a signature other than that of the newly added methods (for example, copying the same incorrect pattern that `MenuItem` used prior to this release).

- `javafx/build`

- **JavaFX Requires macOS 11 or Later** ([JDK-8308114](#))

On Mac platforms, JavaFX 21 requires macOS 11 or later. An exception will be thrown when initializing the JavaFX runtime on older versions of macOS.

- `javafx/scenegraph`

- **Return Type of `javafx.css.Match::getPseudoClasses` Changed** ([JDK-8304959](#))

The return type of `javafx.css.Match.getPseudoClasses` has been changed to `Set<PseudoClass>` instead of a nonpublic type. Most applications will not be impacted by this change because this is not a method that applications ever need to call. In the unlikely event that an existing application binary does call this method, a `NoSuchMethodError` will be thrown. The solution is to recompile the application.

- `javafx/window-toolkit`

- **JavaFX Requires GTK 3 on Linux** ([JDK-8299595](#))

On Linux platforms, JavaFX 21 requires GTK3 version 3.8 or later. The JavaFX GTK2 library has been removed. An exception will be thrown when initializing the JavaFX runtime if the GTK 3 library cannot be loaded.

List of Enhancements

#	Link	Area	Summary
1	JDK-8309470	<code>javafx/controls</code>	Potential performance improvements in <code>VirtualFlow</code>
2	JDK-8307960	<code>javafx/controls</code>	Create <code>Table Column PopupMenu</code> lazily
3	JDK-8307363	<code>javafx/graphics</code>	<code>TextFlow underlineShape()</code>
4	JDK-8307208	<code>javafx/scenegraph</code>	Add <code>GridPane</code> constructor that accepts <code>hGap</code> and <code>vGap</code> values
5	JDK-8306648	<code>javafx/other</code>	Update the JavaDocs to show the NEW section and DEPRECATED versions
6	JDK-8306021	<code>javafx/base</code>	Add event handler management to <code>EventTarget</code>
7	JDK-8305885	<code>javafx/base</code>	Use <code>ReadOnly*PropertyBase</code> class where possible

#	Link	Area	Summary
8	JDK-8304960	javafx/base	ObservableListBase should defer constructing ListChangeBuilder
9	JDK-8304439	javafx/base	Subscription based listeners
10	JDK-8302355	javafx/window-toolkit	Public API for Toolkit.canStartNestedEventLoop()
11	JDK-8301312	javafx/accessibility	Create implementation of NSAccessibilityButton protocol
12	JDK-8299756	javafx/other	Minor updates in CSS Reference
13	JDK-8299595	javafx/window-toolkit	Remove terminally deprecated JavaFX GTK 2 library
14	JDK-8290765	javafx/graphics	Remove parent disabled/treeVisible listeners
15	JDK-8284542	javafx/accessibility	[Accessibility] [Win] Missing attribute for toggle state of CheckBox in CheckBoxTreetItem
16	JDK-8283063	javafx/base	Optimize Observable{List/Set/Map}Wrapper.retainAll/removeAll
17	JDK-8260528	javafx/window-toolkit	Clean glass-gtk sizing and positioning code
18	JDK-8091419	javafx/controls	TableView: invoke table menu button programmatically
19	JDK-8091153	javafx/controls	Customize the Table Button Menu
20	JDK-8090647	javafx/controls	Mnemonics : on windows we should cancel the underscore latch when an app loses focus.

List of Fixes

#	Link	Area	Summary
1	JDK-8313227	javafx/graphics	Correct attenuation indicator for removed lights
2	JDK-8311806	javafx/accessibility	Class ButtonAccessibility is implemented twice
3	JDK-8311127	javafx/controls	Regression: The fix for TableView and TreeTableView menu button affects all table column headers
4	JDK-8310638	javafx/controls	Filtering a TableView with a large number of items freezes the UI
5	JDK-8309935	javafx/graphics	Mac - SystemMenuBar, IndexOutOfBoundsException on change
6	JDK-8309508	javafx/graphics	Possible memory leak in JPEG image loader
7	JDK-8308191	javafx/accessibility	[macOS] VoiceOver decorations are shifted on second monitor
8	JDK-8308114	javafx/build	Bump minimum version of macOS for x64 to 11.0 (matching aarch64)
9	JDK-8307538	javafx/controls	Memory leak in TreeTableView when calling refresh

#	Link	Area	Summary
10	JDK-8306990	javafx/graphics	The guarantees given by Region's floor and ceiling functions should work for larger values
11	JDK-8306708	javafx/graphics	Region.layoutInArea uses incorrect snap scale value
12	JDK-8306447	javafx/controls	Adding an element to a long existing list may cause the first visible element to jump
13	JDK-8306329	javafx/web	Update ICU4C to 73.1
14	JDK-8306328	javafx/media	Update libFFI to 3.4.4
15	JDK-8306121	javafx/window-toolkit	Scene not rendered initially when changing scenes after fix for JDK-8296621
16	JDK-8306115	javafx/web	Update libxml2 to 2.10.4
17	JDK-8305248	javafx/controls	TableView not rendered correctly after column is made visible if fixed cell size is set
18	JDK-8304959	javafx/scenegraph	Public API in javafx.css.Match should not return private API class PseudoClassState
19	JDK-8304933	javafx/scenegraph	BitSet (used for CSS pseudo class states) listener management is incorrect
20	JDK-8304831	javafx/graphics	TextFlow.hitTest.insertionIndex incorrect with surrogate pairs
21	JDK-8304441	javafx/window-toolkit	[macos] Crash when putting invalid unicode char on clipboard
22	JDK-8304290	javafx/media	Some JNI calls made without checking exceptions in media
23	JDK-8303897	javafx/base	ObservableValue's when binding should only invalidate when strictly needed
24	JDK-8303740	javafx/base	JavaFX - Leak in Logging, Logging remembers last exception
25	JDK-8303680	javafx/controls	Virtual Flow freezes after calling scrollTo and scrollPixels in succession
26	JDK-8303217	javafx/web	Webview loaded webpage is not showing play, volume related buttons for embedded Audio/ Video elements
27	JDK-8303026	javafx/controls	[TextField] IOOBE on setting text with control characters that replaces existing text
28	JDK-8302797	javafx/graphics	ArrayIndexOutOfBoundsException in TextRun.getWrapIndex()
29	JDK-8302684	javafx/web	Cherry-pick WebKit 615.1 stabilization fixes (2)
30	JDK-8302511	javafx/graphics	HitInfo.toString() throws IllegalArgumentException
31	JDK-8302294	javafx/web	Cherry-pick WebKit 615.1 stabilization fixes
32	JDK-8301763	javafx/scenegraph	Adding children to wrong index leaves inconsistent state in Parent#childrenSet
33	JDK-8301712	javafx/web	[linux] Crash on exit from WebKit 615.1
34	JDK-8301022	javafx/web	Video distortion is observed while playing youtube video

#	Link	Area	Summary
35	JDK-8301009	javafx/web	Update libxml2 to 2.10.3
36	JDK-8300954	javafx/web	HTML default Range input control not rendered
37	JDK-8300893	javafx/controls	Wrong state after deselecting two or more cells of a TableView selection
38	JDK-8300872	javafx/graphics	WebView's ColorChooser fails to initialize when running in security context
39	JDK-8299986	javafx/controls	Wrong sublist used in ListChangeListener
40	JDK-8299977	javafx/web	Update WebKit to 615.1
41	JDK-8299968	javafx/graphics	Second call to Stage.setScene() create sizing issue with uiScale > 1.0
42	JDK-8299348	javafx/window-toolkit	Size-restricted window can be observed with incorrect dimensions
43	JDK-8298382	javafx/accessibility	JavaFX ChartArea Accessibility Reader
44	JDK-8295078	javafx/graphics	TextField blurry when inside an TitledPane -> AnchorPane
45	JDK-8293836	javafx/controls	Rendering performance degradation at bottom of TableView with many rows
46	JDK-8290866	javafx/graphics	Apple Color Emoji turns gray after JavaFX version 18
47	JDK-8290092	javafx/graphics	Temporary files are kept when call Clipboard.getSystemClipboard().getImage()
48	JDK-8284662	javafx/accessibility	[Win][Accessibility][ListCell] Screen reader fails to read ListView/ComboBox item count if > 100
49	JDK-8283551	javafx/controls	ControlAcceleratorSupport menu items listener causes memory leak
50	JDK-8281327	javafx/graphics	JavaFX does not support fonts installed per-user on Windows 10/11
51	JDK-8278938	javafx/window-toolkit	[Win] Robot can target wrong key for punctuation and symbols
52	JDK-8275033	javafx/window-toolkit	Drag and drop a file produces NullPointerException Cannot read field "dragboard"
53	JDK-8251862	javafx/graphics	Wrong position of Popup windows at the intersection of 2 screens
54	JDK-8246104	javafx/graphics	Some complex text doesn't render correctly on macOS
55	JDK-8245919	javafx/controls	Region#padding property rendering error
56	JDK-8242419	javafx/swing	JFXPanel: MouseEvent always reports that Primary button changed state if held
57	JDK-8237505	javafx/controls	RadioMenuItem in ToggleGroup: deselected on accelerator
58	JDK-8233955	javafx/graphics	VM crashes if more than one file are added to ClipboardContent via drag and drop

#	Link	Area	Summary
59	JDK-8231865	javafx/swing	JFXPanel sends resize event with size 0x0 on HiDPI devices
60	JDK-8230833	javafx/controls	LabeledSkinBase computes wrong height with ContentDisplay.GRAPHIC_ONLY
61	JDK-8224260	javafx/base	ChangeListener not triggered when adding a new listener in invalidated method
62	JDK-8194704	javafx/scenegraph	Text/TextFlow hitTest() javadoc
63	JDK-8178368	javafx/controls	Right alignment of text fields and alignment of prompt text works incorrectly
64	JDK-8173321	javafx/controls	TableView: Click on right trough has no effect when cell height is higher than viewport height
65	JDK-8172849	javafx/controls	Non-intuitive baseline alignment for labeled controls with graphics
66	JDK-8154038	javafx/controls	Spinner's converter should update its editor
67	JDK-8150709	javafx/window-toolkit	Mac OSX and German Keyboard Layout (Y/Z)
68	JDK-8138842	javafx/controls	TableViewSelectionMode.selectIndices does not select index 0
69	JDK-8137244	javafx/controls	Empty Tree/TableView with CONSTRAINED_RESIZE_POLICY is not properly resized
70	JDK-8090123	javafx/controls	Items are no longer visible when collection is changed
71	JDK-8088998	javafx/controls	XYChart: duplicate child added exception when remove & add a series in several charts
72	JDK-8088594	javafx/controls	NullPointerException on showing submenu of a contextmenu

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