

Liberica JDK 11.0.21+10

Release Notes



Liberica JDK
11.0.21
October 17, 2023

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1. Version information

This document provides information about Liberica JDK 11.0.21 release.

The full version string for this update release is 11.0.21+10. The version number is 11.

Liberica JDK 11 is distributed as `.apk`, `.rpm`, `.zip`, `.deb`, and `.tar.gz` packages. Please select the most appropriate for your purposes.

2. What's New

This release contains the following updates and new features.

Notable Changes

This is the list of the notable issues fixed in this release.

Issue ID	
JDK-8306412	<p>Summary: Use server cipher suites preference by default</p> <p>Description: The server now uses its cipher suite preference so that it can have more control over the security parameters of each connection.</p>
JDK-8310125	<p>Summary: Throw error if default java.security file is missing</p> <p>Description: If the java.security file is missing from a JDK/JRE install, the JDK now throws an error instead of simply reverting to a minimal/old set of security configuration settings.</p>
JDK-8310202	<p>Summary: JCE did not provide any class to handle RSA private key in PKCS#1</p> <p>Description: It was not possible to read RSA private key in PKCS #1 using Sun JCE. A factory was added to read PKCS#1 encoded private key.</p>
JDK-8310509	<p>Summary: KeyStore of type KeychainStore provider Apple did not show all trusted certificates</p> <p>Description: JDK-8278449 changed the behavior of the MacOS Keystore implementation (KeychainStore, provider "Apple") to only show certificates with proper trust. However, the implementation did not show all possible trusted certificates. Certificates were only loaded if a trust record in the "user domain" existed. This was not sufficient as there might as well be records in the domains "admin" or "system".</p>

Issue ID	
JDK-8311496	<p>Summary: Have -XshowSettings option display tzdata version</p> <p>Description: The -XshowSettings:all option now displays the tzdata version along with other information.</p>
JDK-8311770	<p>Summary: Increased the default TLS Diffie-Hellman group size from 1024-bit to 2048-bit</p> <p>Description: The JDK implementation of TLS 1.2 used a DH keysize of 1024 bits (chosen by the server) when a TLS_DHE cipher suite was negotiated and either the client or server did not support FFDHE to negotiate a stronger keysize. The 1024-bit DH keys are known to be weak and are no longer recommended.</p>
JDK-8312541	<p>Summary: Removed SECOM certificate that expired in September 2023</p> <p>Description: A SECOM certificate (OU=Security Communication RootCA1, O=SECOM Trust.net, C=JP) expiring in September 2023 was removed.</p>
JDK-8314664	<p>Summary: Invalid CEN header (invalid zip64 extra data field size)</p> <p>Description: The following ZipException was thrown when the data contained in the CEN Extra fields was ambiguous: Invalid CEN header (invalid zip64 extra data field size).</p>
JDK-8315608	<p>Summary: Added Certigna Root CA - 2</p> <p>Description: The Certinga root certificate has been added to the cacerts truststore.</p>

Graal support in Liberica JDK 11

Liberica JDK continues to provide support for AOT and Graal JIT. Since in OpenJDK 11 builds these features are deemed experimental and deprecated, it is recommended to compile native executables with [Liberica Native Image Kit](#) to avoid errors.

IANA TZ Data update

This release of Liberica JDK 11.0.21 comes with IANA Time Zone Database version [2024a](#). The following are the main changes in this update:

Kazakhstan unifies on UTC+5 beginning 2024-03-01. Palestine springs forward a week later after Ramadan. zic no longer pretends to support indefinite-past DST. localtime no longer mishandles Ciudad Juárez in 2422.

3. Known Issues

This release does not contain any known issues.

4. Fixed CVEs

This is the list of the security issues fixed in this release. CVSS scores are provided using the CVSS version 3.1 scoring system.

CVE ID	CVSS score	Component	Module	Attack Vector	Complexity	Privileges	User Interaction	Scope	Confidentiality	Integrity	Availability
CVE-2023-22081	5.3	security-libs	javax.net.ssl	network	low	none	none	unchanged	none	none	low

5. Resolved Issues

JDK issues

This is the list of general JDK issues fixed in this release.

Issue ID	Summary
JDK-6176679	Application freezes when copying an animated gif image to the system clipboard
JDK-8023980	JCE doesn't provide any class to handle RSA private key in PKCS#1
JDK-8155246	Throw error if default java.security file is missing
JDK-8158880	test/java/time/tck/java/time/format/TCKDateTimeFormatterBuilder.java fail with zh_CN locale
JDK-8168261	Use server cipher suites preference by default
JDK-8181383	com/sun/jdi/OptionTest.java fails intermittently with bind failed: Address already in use
JDK-8201516	DebugNonSafepoints generates incorrect information
JDK-8209398	sun/security/pkcs11/KeyStore/SecretKeysBasic.sh failed with "PKCS11Exception: CKR_ATTRIBUTE_SENSITIVE"
JDK-8211343	nsk_jvmti_parseoptions should handle multiple suboptions
JDK-8212045	Add back the tests that were removed from HashesTest.java and AddExportsTest.java

Issue ID	Summary
JDK-8216059	nsk_jvmti_parseoptions still has dependency on tilde separator
JDK-8217237	HttpClient does not deal well with multi-valued WWW-Authenticate challenge headers
JDK-8217395	Update langtools shell tests to use \${EXE_SUFFIX}
JDK-8217612	(CL)HSDB cannot show some JVM flags
JDK-8217850	CompressedClassSpaceSizeInJmapHeap fails after JDK-8217612
JDK-8218471	generate-unsafe-access-tests.sh does not correctly invoke build.tools.spp.Spp
JDK-8219628	[TESTBUG] javadoc/doclet/InheritDocForUserTags fails with -othervm
JDK-8220410	sun/security/tools/jarsigner/warnings/NoTimestampTest.java failed with missing expected output
JDK-8221372	Test vmTestbase/nsk/jvmti/GetThreadState/thrstat001/TestDescription.java times out
JDK-8222323	ChildAlwaysOnTopTest.java fails with "RuntimeException: Failed to unset alwaysOnTop"
JDK-8223573	Replace wildcard address with loopback or local host in tests - part 4
JDK-8223714	HTTPSetAuthenticatorTest could be made more resilient
JDK-8223783	sun/net/www/http/HttpClient/MultiThreadTest.java sometimes detect threads+1 connections
JDK-8223856	Replace wildcard address with loopback or local host in tests - part 8
JDK-8224617	(fs) java/nio/file/FileStore/Basic.java found filesystem twice

Issue ID	Summary
JDK-8224729	Cleanups in sun/security/provider/certpath/ldap/LDAPCertStoreImpl.java
JDK-8224768	Test ActalisCA.java fails
JDK-8225012	sanity/client/SwingSet/src/ToolTipDemoTest.java fails on Windows
JDK-8226221	Update PKCS11 tests to use NSS 3.46 libs
JDK-8228341	SignTwice.java fails intermittently on Windows
JDK-8228403	SignTwice.java failed with java.io.FileNotFoundException: File name too long
JDK-8229147	Linux os::create_thread() overcounts guardpage size with newer glibc (>=2.27)
JDK-8229333	java/io/File/SetLastModified.java timed out
JDK-8229338	clean up test/jdk/java/util/RandomAccess/Basic.java
JDK-8229348	java/net/DatagramSocket/UnreferencedDatagramSockets.java fails intermittently
JDK-8229481	sun/net/www/protocol/https/ChunkedOutputStream.java failed with a SSLException
JDK-8229912	[TESTBUG] java/net/Socks/SocksIPv6Test fails without IPv6
JDK-8230132	java/net/NetworkInterface/NetworkInterfaceRetrievalTests.java to skip Teredo Tunneling Pseudo-Interface
JDK-8231037	java/net/InetAddress/ptr/Lookup.java fails intermittently due to reverse lookup failed

Issue ID	Summary
JDK-8231357	sun/security/pkcs11/Cipher/TestKATForGCM.java fails on SLES11 using mozilla-nss-3.14
JDK-8231516	network QuickAckTest.java failed due to "SocketException: maximum number of DatagramSockets reached"
JDK-8232101	(sctp) Add minimal sanity tests for SCTP
JDK-8232195	Enable BigInteger tests: DivisionOverflow, SymmetricRangeTests and StringConstructorOverflow
JDK-8232840	java/math/BigInteger/largeMemory/SymmetricRangeTests.java fails due to "OutOfMemoryError: Requested array size exceeds VM limit"
JDK-8232922	Add java/math/BigInteger/largeMemory/SymmetricRangeTests.java to ProblemList-Xcomp
JDK-8234808	jdb quoted option parsing broken
JDK-8236045	[TESTBUG] MismatchedWhiteBox test fails with missing WhiteBox\$WhiteBoxPermission.class
JDK-8237183	Bug ID missing for test in patch which fixed JDK-8230665
JDK-8238157	security/infra/java/security/cert/CertPathValidator/certification/AmazonCA.java a test failures because of revocation date
JDK-8239007	java/math/BigInteger/largeMemory/ tests should be disabled on 32-bit platforms
JDK-8239264	Clearup the legacy ObjectIdentifier constructor from int array
JDK-8239333	Mark test AmazonCA.java with intermittent key

Issue ID	Summary
JDK-8239537	cgroup MetricsTester testMemorySubsystem fails sometimes when testing memory.kmem.tcp.usage_in_bytes
JDK-8240193	loadLibrary("osxsecurity") should not be removed
JDK-8241097	java/math/BigInteger/largeMemory/SymmetricRangeTests.java requires -XX:+CompactStrings
JDK-8242151	Improve OID mapping and reuse among JDK security providers for aliases registration
JDK-8242330	Arrays should be cloned in several JAAS Callback classes
JDK-8242897	KeyFactory.generatePublic(x509Spec) failed with java.security.InvalidKeyException
JDK-8243210	ClhsdbScanOops fails with NullPointerException in FileMapHeader.inCopiedVtableSpace
JDK-8244078	ProcessTools executeTestJvm and createJavaProcessBuilder have inconsistent handling of test.*.opts
JDK-8247895	SHA1PRNGReseed.java is calling setSeed(0)
JDK-8247968	test/jdk/javax/crypto/SecretKeyFactory/security.properties has wrong header
JDK-8248001	javadoc generates invalid HTML pages whose ftp:// links are broken
JDK-8249699	java/io/ByteArrayOutputStream/MaxCapacity.java should use @requires instead of @ignore
JDK-8251517	[TESTBUG] com/sun/net/httpserver/bugs/B6393710.java does not scale socket timeout

Issue ID	Summary
JDK-8252530	Fix inconsistencies in hotspot whitebox
JDK-8254350	CompletableFuture.get may swallow InterruptedException
JDK-8255348	NPE in PKIXCertPathValidator event logging code
JDK-8257993	vmTestbase/nsk/jvmti/RedefineClasses/StressRedefine/TestDescription.java crash intermittently
JDK-8259796	timed CompletableFuture.get may swallow InterruptedException
JDK-8260274	Cipher.init(int, key) does not use highest priority provider for random bytes
JDK-8260878	com/sun/jdi/JdbOptions.java fails without jfr
JDK-8260934	java/lang/StringBuilder/HugeCapacity.java fails without Compact Strings
JDK-8263970	Manual test javax/swing/JTextField/JapaneseReadingAttributes/JapaneseReadingAttributes.java failed
JDK-8265980	Fix systemDictionary and loaderConstraints printing
JDK-8268457	XML Transformer outputs Unicode supplementary character incorrectly to HTML
JDK-8268464	Remove dependancy of TestHttpsServer, HttpTransaction, HttpCallback from open/test/jdk/sun/net/www/protocol/https/ tests
JDK-8269091	javax/sound/sampled/Clip/SetPositionHang.java failed with ArrayIndexOutOfBoundsException: Array index out of range: -4
JDK-8270331	[TESTBUG] Error: Not a test or directory containing tests: java/awt/print/PrinterJob/InitToBlack.java

Issue ID	Summary
JDK-8271838	AmazonCA.java interop test fails
JDK-8273807	Zero: Drop incorrect test block from compiler/startup/NumCompilerThreadsCheck.java
JDK-8274205	Handle KDC_ERR_SVC_UNAVAILABLE error code from KDC
JDK-8274606	Fix jaxp/javax/xml/jaxp/unittest/transform/SurrogateTest.java test
JDK-8275234	java/awt/GraphicsDevice/DisplayModes/CycleDMImage.java is entered twice in ProblemList
JDK-8275303	sun/java2d/pipe/InterpolationQualityTest.java fails with D3D basic render driver
JDK-8276651	java/lang/ProcessHandle tests fail with "RuntimeException: Input/output error" in java.lang.ProcessHandleImpl\$Info.info0
JDK-8277353	java/security/MessageDigest/ThreadSafetyTest.java test times out
JDK-8279536	jdk/nio/zipfs/ZipFSOutputStreamTest.java timed out
JDK-8283756	(zipfs) ZipFSOutputStreamTest.testOutputStream should only check inflated bytes
JDK-8284524	Create an automated test for JDK-4422362
JDK-8284767	Create an automated test for JDK-4422535
JDK-8284772	GHA: Use GCC Major Version Dependencies Only
JDK-8284910	Buffer clean in PasswordCallback

Issue ID	Summary
JDK-8285635	javax/swing/JRootPane/DefaultButtonTest.java failed with Default Button not pressed for L&F: com.sun.java.swing.plaf.motif.MotifLookAndFeel
JDK-8286172	Create an automated test for JDK-4516019
JDK-8286481	Exception printed to stdout on Windows when storing transparent image in clipboard
JDK-8286503	Enhance security classes
JDK-8286620	Create regression test for verifying setMargin() of JRadioButton
JDK-8289508	Improve test coverage for XPath Axes: ancestor, ancestor-or-self, preceding, and preceding-sibling
JDK-8289748	C2 compiled code crashes with SIGFPE with -XX:+StressLCM and -XX:+StressGCM
JDK-8291444	GHA builds/tests won't run manually if disabled from automatic running
JDK-8291830	jvmti/RedefineClasses/StressRedefine failed: assert(!is_null(v)) failed: narrow klass value can never be zero
JDK-8292033	Move jdk.X509Certificate event logic to JCA layer
JDK-8292297	Fix up loading of override java.security properties file
JDK-8292443	Weak CAS VarHandle/Unsafe tests should test always-failing cases
JDK-8293180	jQuery UI license file not updated
JDK-8293562	KeepAliveCache Blocks Threads while Closing Connections

Issue ID	Summary
JDK-8293657	sun/management/jmxremote/bootstrap/RmiBootstrapTest.java#id1 failed with "SSLHandshakeException: Remote host terminated the handshake"
JDK-8293858	Change PKCS7 code to use default SecureRandom impl instead of SHA1PRNG
JDK-8295737	macOS: Print content cut off when width > height with portrait orientation
JDK-8295894	Remove SECOM certificate that is expiring in September 2023
JDK-8296084	javax/swing/JSpinner/4788637/bug4788637.java fails intermittently on a VM
JDK-8296581	Better system proxy support
JDK-8297437	javadoc cannot link to old docs (with old style anchors)
JDK-8297523	Various GetPrimitiveArrayCritical miss result - NULL check
JDK-8297587	Upgrade JLine to 3.22.0
JDK-8297681	Unnecessary color conversion during 4BYTE_ABGR_PRE to INT_ARGB_PRE blit
JDK-8297730	C2: Arraycopy intrinsic throws incorrect exception
JDK-8297856	Improve handling of Bidi characters
JDK-8297887	Update Siphash
JDK-8297923	java.awt.ScrollPane broken after multiple scroll up/down
JDK-8297955	LDAP CertStore should use LdapName and not String for DNs
JDK-8298921	Create a regression test for JDK-8139581

Issue ID	Summary
JDK-8298974	Add ftcolor.c to imported freetype sources
JDK-8299424	containers/docker/TestMemoryWithCgroupV1.java fails on SLES12 ppc64le when testing Memory and Swap Limit
JDK-8299658	C1 compilation crashes in LinearScan::resolve_exception_edge
JDK-8299713	Test javax/swing/JTableHeader/6889007/bug6889007.java failed: Wrong type of cursor
JDK-8300098	java/util/concurrent/ConcurrentHashMap/ConcurrentAssociateTest.java fails with internal timeout when executed with TieredCompilation1/3
JDK-8300659	Refactor TestMemoryAwareness to use WhiteBox api for host values
JDK-8300751	[17u] Remove duplicate entry in javac.properties
JDK-8301269	Update Commons BCEL to Version 6.7.0
JDK-8301491	C2: java.lang.StringUTF16::indexOfChar intrinsic called with negative character argument
JDK-8301700	Increase the default TLS Diffie-Hellman group size from 1024-bit to 2048-bit
JDK-8301959	Compile command in compiler.loopopts.TestRemoveEmptyCountedLoop does not work
JDK-8302161	Upgrade jQuery UI to version 1.13.2
JDK-8302182	Update Public Suffix List to 88467c9
JDK-8303511	C2: assert(get_ctrl(n) == cle_out) during unrolling
JDK-8303809	Dispose context in SPNEGO NegotiatorImpl

Issue ID	Summary
JDK-8304054	Linux: NullPointerException from FontConfiguration.getVersion in case no fonts are installed
JDK-8304498	JShell does not switch to raw mode when there is no /bin/test
JDK-8304867	Explicitly disable dtrace for ppc builds
JDK-8305074	ProblemList javax/net/ssl/DTLS/RespondToRetransmit.java
JDK-8305421	Work around JDK-8305420 in CDSJDITest.java
JDK-8305763	Parsing a URI with an underscore goes through a silent exception, negatively impacting performance
JDK-8305766	ProblemList runtime/CompressedOops/CompressedClassPointers.java
JDK-8305815	Update Libpng to 1.6.39
JDK-8305950	Have -XshowSettings option display tzdata version
JDK-8306133	Open source few AWT Drag & Drop related tests
JDK-8306137	Open source several AWT ScrollPane related tests
JDK-8306484	Open source several AWT Choice jtreg tests
JDK-8306636	Disable compiler/c2/Test6905845.java with -XX:TieredStopAtLevel=3
JDK-8306638	Open source some AWT tests related to datatransfer and Toolkit
JDK-8306682	Open source a few more AWT Choice tests
JDK-8306718	Optimize and opensource some old AWT tests

Issue ID	Summary
JDK-8306881	Update FreeType to 2.13.0
JDK-8306954	Open source five Focus related tests
JDK-8306955	Open source several JComboBox jtreg tests
JDK-8307078	Opensource and clean up five more AWT Focus related tests
JDK-8307080	Open source some more JComboBox jtreg tests
JDK-8307128	Open source some drag and drop tests 4
JDK-8307133	Open source some JTable jtreg tests
JDK-8307135	java/awt/dnd/NotReallySerializableTest/NotReallySerializableTest.java failed
JDK-8307301	Update HarfBuzz to 7.2.0
JDK-8307569	Build with gcc8 is broken after JDK-8307301
JDK-8307572	AArch64: Vector registers are clobbered by some macroassemblers
JDK-8307603	[AIX] Broken build after JDK-8307301
JDK-8307604	gcc12 based Alpine build broken build after JDK-8307301
JDK-8307799	Newly added java/awt/dnd/MozillaDnDTest.java has invalid jtreg @requires clause
JDK-8308156	VerifyCACerts.java misses blank in error output
JDK-8309088	security/infra/java/security/cert/CertPathValidator/certification/AmazonCA.java fails

Issue ID	Summary
JDK-8309108	Bump update version for OpenJDK: jdk-11.0.21
JDK-8309138	Fix container tests for jdks with symlinked conf dir
JDK-8309966	Enhanced TLS connections
JDK-8310054	ScrollPane insets are incorrect
JDK-8310176	JDK 11 G1 crash during full GC with +UseStringDeduplication
JDK-8310620	[11u] Problemlist failing aot tests on macos x64
JDK-8311033	[macos] PrinterJob does not take into account Sides attribute
JDK-8311689	Wrong visible amount in Adjustable of ScrollPane
JDK-8312138	jcmm VM.metaspace vslist has no newline character before the Class: label.
JDK-8312555	Ideographic characters aren't stretched by AffineTransform.scale(2, 1)
JDK-8313159	[11u] Fix test SSLEngineKeyLimit.java after Merge error
JDK-8313765	Invalid CEN header (invalid zip64 extra data field size)
JDK-8313796	AsyncGetCallTrace crash on unreadable interpreter method pointer
JDK-8313803	[11u] Exclude jdk/jfr/event/sampling/TestStackFrameLineNumbers.java
JDK-8313878	Exclude two compiler/rtm/locking tests on ppc64le
JDK-8314086	[11u] A typo in the fix for JDK-8312462 is causing test failure in ChildAlwaysOnTopTest.java

Issue ID	Summary
JDK-8314950	CMS may miss NMT tag after mark stack expansion
JDK-8314960	Add Certigna Root CA - 2
JDK-8315135	Memory leak in the native implementation of Pack200.Unpacker.unpack()
JDK-8315529	[11u] Exclude some failing Z-GC tests
JDK-8317040	Exclude cleaner test failing on older releases

JFX issues

This is the list of JFX issues fixed in this release.

Issue ID	Summary
JDK-8251483	TableCell: NPE on modifying item's list
JDK-8289751	Multiple unit test failures after JDK-8251483
JDK-8303680	Virtual Flow freezes after calling scrollTo and scrollPixels in succession
JDK-8303748	WebKit build fails with Visual Studio 2022 17.5.0
JDK-8304665	Change to Xcode12.4+1.1 devkit
JDK-8306329	Update ICU4C to 73.1
JDK-8307960	Create Table Column PopupMenu lazily
JDK-8308306	Update to Xcode 14.3 on macOS

Issue ID	Summary
JDK-8308307	Update to gcc 12.2.0 on Linux
JDK-8308308	Update to Visual Studio 2022 version 17.5.0 on Windows
JDK-8310681	Update WebKit to 616.1
JDK-8311097	Synchron XMLHttpRequest not receiving data
JDK-8313177	Web Workers timeout with Webkit 616.1
JDK-8313181	Enabling modern media controls on webkit 616.1 does not load button images on HTML5 video Element
JDK-8313711	Cherry-pick WebKit 616.1 stabilization fixes
JDK-8314212	Crash when loading cnn.com in WebView
JDK-8315657	Application window not activated in macOS 14 Sonoma

6. Updates to Third Party Libraries

This release does not contain any changes in the third party libraries.

7. Upgrading to the New Version

To keep your Liberica JDK up-to-date and secure, always upgrade to the newest available version once it is released. To upgrade, install the new version over the previous one. For the installation instructions, see [Liberica JDK Installation Guide](#).



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