Java Platform, Standard Edition

Java Usage Tracker Guide

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Java Usage Tracker

Java Usage Tracker tracks how Java Runtime Environments (JREs) are being used in your systems. The output of Java Usage Tracker is a plain text, comma-separated record that contains the JRE version, the application being run, and other details. This record is appended to a file or sent over the network in a User Datagram Protocol (UDP) packet.

Java Usage Tracker System Requirements

Java Usage Tracker is available in Oracle Java SE Subscriptions, Java for Business 6u25 and later, Oracle Java SE Advanced, and Oracle Java SE Suite.

> **Note:**
>
> Public versions of Java SE 1.4.2, 5.0, and 6 do not support Java Usage Tracker.

Java Usage Tracker Output

The following is an example of output from Java Usage Tracker; it is a record of one invocation of a Java application. Line breaks were added for clarity; each record appears as one line of text:

```
"javaws application",
"Mon Feb 01 14:52:58 PST 2016",
"MY-COMPUTER/192.0.2.0",
"https://docs.oracle.com/javase/tutorialJWS/samples/deployment/
  dynamictree_webstartJWSProject/:
  sourceURL=https://docs.oracle.com/javase/tutorialJWS/samples/
    deployment/dynamictree_webstartJWSProject/dynamictree_webstart.jnlp
  app_model=eJytU9FqE0EUvWlSk9pQsSKCIgSpKCIzD4I++BQThZS1LU1FfSrTzbTZMDszztxt
    E4WCP1HwwT/wP3z3G3z1DwS9s7tpF5Q8dR9md/aeueeec+98+wXL3sGd2KTMZ5qN
    pFVmxpw8ZF1rX5uRVFA8tSW4GkErpl8HwkuEtWgijgXXEvmb3eh5BKsj6WOXWEyM
    RlgvwkroIz5El+gjgqzLKUrtCbArvclcLD3CzQKZYaJ41zkxixKPBG5PhDuHfYBT
    qBO/MrEIBGFfi2AlFYnuKeFzwBId8jLOXIKzUDvCo4iUcVLGC2WclPG5so1hBUuE
    y5igkmWiBs4sJbi3MMEeYejglWOpR8blJ6eW/GwHRYysYWTN2f1nT2///unq0BxA
    ayz8uEeHB9CwxiFJEBmOTShjznyYXFQxNh7L75Z1Bk1sVLmvUykl5Z/yQbg2MrFn
    xolYSUalI7zioRgvOWZINEJtvh1yL1KrpC9FpVIjH820SJMYnZT7J/LAo3BI0B1n
    JjJGHphWEJbHiNbbXOWNXGXoGzvv2/Tzj7tfvouvdaiRQp98lFMbxuekEdZp3qZ2
    GKf8R42yPFgwexubFyNwMYdL/85B81g6X25DC8K7OXelLP395RjRL8J7FO7L1DCa
    0pwgLKtkTKGxyc+efKqQ718O+f/CbKKVrZaA8Hge65nUGk2Juy4es0rp5LBKCgtP
    HTxc1IPqLSmbAOvUSwdr+QCEK85e6iytBi1Cc9jd6r/YfodwvSTuBOZOcI04O4s4
    w8WqpgvKbiGsdnd2okGvuzfY3kJon6eVIv0L97SYOQ==",
"C:\Java\jre1.8.0_71",
"1.8.0_71",
"25.71-b15",
"Oracle Corporation",
"Oracle Corporation",
"Windows 7",
"x86",
"6.1",
"-Xbootclasspath/a:C:\Java\jre1.8.0_71\lib\deploy.jar;
  C:\Java\jre1.8.0_71\lib\javaws.jar;C:\Java\jre1.8.0_71\lib\plugin.jar
  -Xverify:remote
  -Djava.security.manager
  -Djava.security.policy=
    file:C:\Java\jre1.8.0_71\lib\security\javaws.policy
  -DtrustProxy=true
  -Djnlpx.home=C:\Java\jre1.8.0_71\bin
  -Djnlpx.origFilenameArg=
    C:\Users\CURRENT-USER\AppData\Local\Temp\dynamictree_webstart.jnlp
  -Djnlpx.remove=true
  -Djnlpx.splashport=60247
  -Djnlpx.jvm=C:\Java\jre1.8.0_71\bin\javaw.exe ",
".",
"user.home=C:\Users\CURRENT-USER foo.bar=null"
```

The following table describes each value of this comma-separated line:

Example	Description
`javaws application`	Type of start; it has one of the following values: - `VM start`: JVM start-up (either Java application or JNI invocation) - `plugin2`: Applet - `javaws application` or `javaws applet`: Java Web Start The value about the type of start is followed by one of the following values if there is a Deployment Rule Set (DRS) that specifically allows the application to run or block the app. - `permitted` - `denied` - `denied [required version` *`ruleVersion`* `not available]`, where *`ruleVersion`* is the minimum required version of the Deployment Rule Set specification The value about the type of start is followed by one of the following values if there is no DRS run or block rule: - `denied [by user]` - `denied [by security settings]` - No value (empty string): The application is allowed to run
`Mon Feb 01 14:52:58 PST 2016`	Date and time
`MY-COMPUTER/192.0.2.0`	Host name and IP address in the form `<`*`hostname`*`>/<`*`literalIPaddress`*`>`

Example	Description

`https://docs.oracle.com/javase/`
`tutorialJWS/`
`samples/deployment/`
`dynamictree_webstartJWSProject/:`
`sourceURL=https://docs.oracle.com/`
`javase/tutorialJWS/samples/`
`deployment/`
`dynamictree_webstartJWSProject/`
`dynamictree_webstart.jnlp`
`app_model=<`*`Base64 encoded data`*`>`
	Java command (name of main class or jar file) and list of arguments, if any (space-separated list)
	Java Web Start applications have the following form:
	`<`*`Document base`*`>:`
	`<`*`main class`*`> <`*`arguments`*`>`
	`app_model=<`*`serialized classes for use by AMC`*`>`
	`app_customer=<`*`contents of the <customer> block in a rule`*`>`
	Applet invocations have the following form:
	`<`*`Document base`*`>:`
	`<`*`parameters`*`>`
	`app_model=<`*`serialized classes for use by AMC`*`>`
	`app_customer=<`*`contents of the <customer> block`*`>`
	The values for `app_model` and `app_customer` are encoded in Base64.
	The value of `app_model` contains basic information about the application, including location, codebase, and main class. Its value is the same regardless of whether the application is permitted or denied to run.
	The parameter `app_customer` appears only if the application is governed by a specific DRS rule that DRS run rule contains a `<customer>` block.

`C:\Java\jre1.8.0_71`	Directory that contains the JRE (`java.home` system property value)
`1.8.0_71`	Java version (`java.version` system property value)
`25.71-b15`	JVM version (`java.vm.version` system property value)
`Oracle Corporation`	Java vendor (`java.vendor` system property value)
`Oracle Corporation`	JVM vendor (`java.vm.vendor` system property value)
`Windows 7`	Operating system name (`os.name` system property value)
`x86`	Operating system architecture (`os.arch` system property value)
`6.1`	Operating system version (`os.version` system property value)

Example	Description

`-Xbootclasspath/a:C:\Java\jre1.8.0_71\lib`
`\`
`deploy.jar;C:\Java\jre1.8.0_71\lib`
`\javaws.jar;`
`C:\Java\jre1.8.0_71\lib\plugin.jar`
`-Xverify:remote`
`-Djava.security.manager`
`-Djava.security.policy=file:C:\Java`
`\jre1.8.0_71\`
`lib\security\javaws.policy`
`-DtrustProxy=true`
`-Djnlpx.home=C:\Java\jre1.8.0_71\bin`
`-Djnlpx.origFilenameArg=C:\Users`
`\CURRENT-USER\`
`AppData\Local\Temp`
`\dynamictree_webstart.jnlp`
`-Djnlpx.remove=true`
`-Djnlpx.splashport=60247`
`-Djnlpx.jvm=C:\Java\jre1.8.0_71\bin`
`\javaw.exe`
	JVM arguments (space-separated list); empty if there are no JVM arguments; `n/a` if this information is not available (for example, in Java SE 1.4.2, this information is not available)

`.`	Class path (`java.class.path` system property value)

`user.home=C:\Users\CURRENT-USER`
`foo.bar=null`
	`Name=value` pairs of any additional system properties specified in the Java Usage Tracker properties file. Multiple pairs are space-separated; empty if no additional property names are specified (default).

Items that Contain Spaces in Java Usage Tracker Output

In the fields that are space-separated lists, a different quote character (by default, the single quotation mark, `'`) is used to quote an item that contains a space. Any existing quote characters are printed twice.

For example, consider the following command:

```
/jdk1.8.0_20/bin/java
  -Dfoo1="a b"
  -Dfoo=\"
  -jar c:\\Program\ Files\\Java/jdk1.6.0_25/demo/jfc/Java2D/Java2Demo.jar
```

Java Usage Tracker prints these system properties as follows (line breaks were added for clarity):

```
"'-Dfoo1=a b' -Dfoo="" ",
"-jar c:\Program Files\Java/jdk1.6.0_25/demo/jfc/Java2D/Java2Demo.jar",
""
```

For JRE versions prior to 8u20, Java Usage Tracker does not surround fields with quotation marks.

Enabling and Configuring Java Usage Tracker

Java Usage Tracker is disabled by default. Enable and configure it by creating a properties file named `usagetracker.properties`. See Example Java Usage Tracker properties File.

For JRE 8u152 and later, if you want Java Usage Tracker to track all JREs on your system, then put the `usagetracker.properties` file in the central file system location, which differs depending on your operating system:

- Windows: `%ProgramFiles%\Java\conf\`
- Linux and Solaris: `/etc/oracle/java/`
- macOS: `/Library/Application Support/Oracle/Java/`

If you want Java Usage Tracker to track a specific JRE, then ensure that the `usagetracker.properties` file doesn't exist in the central file system location, and put the `usagetracker.properties` file in the directory `<`*`JRE directory`*`>/conf/management/` (`<`*`JRE directory`*`>/lib/management/` for JRE releases prior to 9). Note that the path name is different, depending on whether you are configuring Java Usage Tracker for a JDK or for a JRE.

For additional flexibility, if you want to use a different properties file, then you can specify it with the system property `-Dcom.oracle.usagetracker.config.file` on the command line. In the following example, Java Usage Tracker uses the properties file `/path/usagetracker.properties`:

```
java -Dcom.oracle.usagetracker.config.file=/path/usagetracker.properties
MyApplication
```

The JVM searches the following locations, in order, for a `usagetracker.properties` file. It uses the first one it finds to enable and configure Java Usage Tracker.

1. Path specified by the system property `-Dcom.oracle.usagetracker.config.file`
2. Central file system location (for JRE 8u152 and later)
3. `<`*`JRE directory`*`>/conf/management/` (`<`*`JRE directory`*`>/lib/management/` for JRE releases prior to 9)

> **Note:**
>
> To enable Java Usage Tracker, the `usagetracker.properties` file that you create must have a valid value for at least one of the following properties:
>
> - `com.oracle.usagetracker.logToFile`
> - `com.oracle.usagetracker.logToUDP`

Java Usage Tracker Properties

This section describes the properties you can specify in the Java Usage Tracker properties file.

These properties are set only in the Java Usage Tracker properties file; they are not set at the command line. This is intended so that Java Usage Tracker has no impact on or interaction with the JRE user or existing applications.

> **Note:**
>
> The backslash (\) is an escape character in a properties file. Consequently, when specifying file paths that include directories or drive letters, use a forward slash (/) or an escaped backslash (\\) as a directory separator.

Property	Description
`com.oracle.usagetracker.additionalProperties`	Use this property to record values of additional Java properties and their values. The value of this property is a comma-separated list of properties and their values. For example (ignore line break): `com.oracle.usagetracker.additionalProperties = com.company.interestingProperty,com.anotherInterestingProperty`
`com.oracle.usagetracker.innerQuote`	The character or string used to quote items that contain a space in the JVM argument field list and the additional properties field. The default value is the single quotation mark (`'`). This property is available in JRE 8u20 and later.
`com.oracle.usagetracker.logFileMaxSize`	The log file size limit, in bytes. If the file size equals or exceeds the given value when logging is attempted, that attempt will be canceled. If this property is not set, then there is no log file limit.
`com.oracle.usagetracker.logToFile`	If this property is specified, the fully qualified path name of the file to which Usage Tracker writes records. You can specify `${user.home}` in the path name. The property will expand to the user's home directory. For example (ignore line break): `com.oracle.usagetracker.logToFile = ${user.home}/.java_usagetracker`

Property	**Description**

`com.oracle.usagetracker.logToUDP`	If this property is specified, Java Usage Tracker logs to the specified remote host in a UDP packet. For example (ignore line break):
	`com.oracle.usagetracker.logToUDP =`
	`loggingmachine.domainname:32139`
	Specifying an IP address may be faster in some cases; although, this resolution does not delay the startup of the JVM or the application.
	See Java Usage Tracker Sample: Receiver for UDP Packets for an example application that can receive UDP packets.

`com.oracle.usagetracker.maxFieldSize`	Any single field limit, in bytes. The default is no limit. Java Usage Tracker truncates a field to this limit, without breaking the record format, if the `com.oracle.usagetracker.sendTruncatedRecords` property is true. This property is available in JRE 8u152 and later.
`com.oracle.usagetracker.maxSize`	Overall record limit, in bytes. The default is no limit. Java Usage Tracker truncates records to this limit if the `com.oracle.usagetracker.sendTruncatedRecords` property is true. This property is available in JRE 8u152 and later.
`com.oracle.usagetracker.quote`	The character or string used to quote fields. The default value is the double quotation mark ("). This property is available in JRE 8u20 and later.
`com.oracle.usagetracker.sendTruncatedRecords`	Truncates records and individual fields if they exceed the sizes specified by the `com.oracle.usagetracker.maxSize` and `com.oracle.usagetracker.maxFieldSize` properties, respectively. The default value is true. This property is available in JRE 8u152 and later.
`com.oracle.usagetracker.separator`	The character or string that separates entries in the log file. The default is the comma (`,`).
`com.oracle.usagetracker.verbose`	If this property is set to true, error information may be reported to the standard error stream; this is only recommended for diagnostic purposes.

Example Java Usage Tracker properties File

To create a Java Usage Tracker properties file, you can use the following example as a template. Lines that begin with the pound sign (#) are comments.

```
# UsageTracker template properties file.
# Copy to <JRE directory>/conf/management/usagetracker.properties
# (or <JRE directory>/lib/management/usagetracker.properties for
# JRE releases prior to 9) and edit, uncommenting required settings, to enable.

# Settings for logging to a file:
# Use forward slashes (/) because backslash is an escape character in a
# properties file.
# com.oracle.usagetracker.logToFile = ${user.home}/.java_usagetracker

# Settings for logging to a UDP socket:
# com.oracle.usagetracker.logToUDP = hostname.domain:32139

# (Optional) Specify a file size limit in bytes:
# com.oracle.usagetracker.logFileMaxSize = 10000000

# If the record should include additional Java properties,
# this can be a comma-separated list:
# com.oracle.usagetracker.additionalProperties =

# Additional options:
# com.oracle.usagetracker.verbose = true
com.oracle.usagetracker.separator = ,
com.oracle.usagetracker.quote = "
com.oracle.usagetracker.innerquote = '
```

Java Usage Tracker Sample: Receiver for UDP Packets

The following sample, `UsageServerTracker.java`, is a simple application that listens for Java Usage Tracker data:

```
/*
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 *
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 * modification, are permitted provided that the following conditions are met:
 *
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 *
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 * for use in the design, construction, operation or maintenance of any
 * nuclear facility.
 */

import java.net.InetAddress;
import java.net.DatagramSocket;
import java.net.DatagramPacket;
import java.io.IOException;
import java.net.SocketException;

import java.io.File;
import java.io.OutputStream;
import java.io.FileOutputStream;
import java.io.OutputStreamWriter;

/**
  * A daemon that listens for and logs UsageTracker information.
  */
public class UsageTrackerServer {

    static boolean verbose = false;
    boolean initialized = false;
    String logFileName = null;
    File logFile;
    OutputStreamWriter writer;
    int port = 32139;
    InetAddress address = null;
    DatagramSocket socket;
    private static final int BUFFERSIZE = 65536;
    long received = 0;
    boolean running = true;

    /**
      * Main entry point for starting this daemon.
      */
    public static void main(String [] args) {
        try {
            UsageTrackerServer uts = new UsageTrackerServer(args);
            uts.run();
        } catch (Exception e) {
            System.out.println("UsageTrackerServer: " + e.getMessage());
            if (verbose) {
                e.printStackTrace();
            }
            System.exit(1);
        }
    }

    public static void usage() {
        System.out.println("UsageTrackerServer [-v] [-o filename] [host]:port\n" +
            "e.g. UsageTrackerServer -o usagetracker.out :32139\n");
```

```
}

/**
  * Initialize a UsageTrackerServer given some arguments.
  */
UsageTrackerServer(String [] args) throws Exception {

    boolean usage = false;
    for (int i=0; i<args.length; i++) {

        if (args[i].equals("-?") || args[i].equals("--h")) {
            usage = true;
            break;
        } else if (args[i].equals("-v")) {
           verbose = true;
        } else if (args[i].equals("-o")) {
            logFileName = args[i+1];
            i++;
        } else if (args[i].contains(":")) {
            // parse [address]:port
            int colon = args[i].indexOf(':');
            if (colon > 0) {
                try {
                    address = InetAddress.getByName(
                        args[i].substring(0, colon));
                } catch (Exception ae) {
                    System.out.println("UsageTrackerServer: " +
                        "problem setting listen address: " + ae);
                    usage = true;
                }
            }
            try {
                port = Integer.parseInt(args[i].substring(colon+1));
            } catch (NumberFormatException nfe) {
                System.out.println("UsageTrackerServer: cannot set port: " +
                    args[i].substring(colon+1));
                usage = true;
            }
        } else {
            usage = true;
        }
    }
    // Argument failure or request for usage gets the usage message only:
    if (usage) {
        usage();
        return;
    }
    // Otherwise, continue to proper initialization:
    socket = null;
    try {
    if (address != null) {
        socket = new DatagramSocket(port, address);
    } else {
        socket = new DatagramSocket(port);
    }
    } catch (SocketException se) {
        throw new Exception("problem creating socket: " + se);
    }
```

```
        if (logFileName != null) {
            try {
                File logFile = new File(logFileName);
                if (verbose) {
                    System.out.println("Using logfile: " + logFileName);
                    if (logFile.exists()) {
                        System.out.println("File exists, will append.");
                    }
                }
                FileOutputStream fos = new FileOutputStream(logFile, true);
                writer = new OutputStreamWriter(fos, "UTF-8");
            } catch (IOException ioe) {
                throw new Exception("problem using file " + logFileName + ": " +
                    ioe);
            }
        }
        initialized = true;
    }

   public void run() throws Exception {
        if (!initialized) {
            return;
        }
        Runnable r = null;
        if (writer == null) {
            r = new UsageTrackerServerRunnable(socket);
        } else {
            r = new UsageTrackerServerRunnable(socket, writer);
        }
        Thread t = new Thread(r, "UsageTrackerServerRunnable");
        t.start();
        t.join();
    }

    /**
      * Runnable that listens and logs.
      */
    private class UsageTrackerServerRunnable implements Runnable {
        DatagramSocket listenSocket;
        OutputStreamWriter writer = null;

        UsageTrackerServerRunnable(DatagramSocket socket) {
            listenSocket = socket;
        }
        UsageTrackerServerRunnable(DatagramSocket socket,
            OutputStreamWriter writer) {
            this(socket);
            this.writer = writer;
        }

        public void run() {
            byte [] buf = new byte[BUFFERSIZE];
            DatagramPacket packet = new DatagramPacket(buf, buf.length);

            // Ready to receive data
            if (verbose) {
                String addr = listenSocket.getLocalAddress().getHostAddress();
                if (addr.equals("0.0.0.0")) {
                    addr = "localhost";
                }
                System.out.println("UsageTrackerServer: ready to receive on " +
                    addr + ":" + listenSocket.getLocalPort());
            }
            while (running) {
                try {
                    listenSocket.receive(packet);
                    String dataReceived = new String(packet.getData(), 0,
                        packet.getLength());

                    // The format of a UsageTracker record contains a newline at
                    // the end; if that is missing, we have a truncated/corrupt
                    // packet.
                    if (!dataReceived.endsWith("\n")) {
                        System.out.println("Incomplete message received: " +
                          "size = " + packet.getLength() + ", data =  " +
                          dataReceived);
                        dataReceived = dataReceived + "\n";
                    }
                    received++;
                    if (verbose) {
                        System.out.println("Received message size: " +
                            dataReceived.length());
                    }
                    if (writer != null) {
                        writer.write(dataReceived, 0, dataReceived.length());
                        writer.flush();
                    } else {
                        System.out.print(dataReceived);
                    }
                } catch (IOException ioe) {
                    ioe.printStackTrace();
                }
            }
        }
    }
}
```

The following is an example of running this sample:

```
java UsageTrackerServer -v -o usagetracker.out :32139
```

- The `-v` option is verbose; if you specify this option, the sample displays additional information.
- The `-o` option enables you to specify the name of a log file; if you do not specify this option, the sample prints messages to standard output.
- In this example, the UDP receiver listens on the localhost address on port 32139. When a JRE (with an enabled and configured Java Usage Tracker) sends data, the receiver will send the data to the file `usagetracker.out`. The port number is arbitrary but must be available and must match the one configured in the JRE. If multiple interfaces exist, it may be necessary to specify the port using the form hostname:port or ipaddress:port.

Java Usage Tracker Errors and Exceptions

If Java Usage Tracker encounters an error or exception during the logging of a record, it does not interrupt the application currently running.

Java Usage Tracker does not report errors unless the property `oracle.usagetracker.verbose` is specified in the properties file.

Managing Disk Space Used by Java Usage Tracker Log File

Although the size of the Java Usage Tracker log file is small, consider periodically truncate, compress, archive, or delete the log file. When Java Usage Tracker incrementally adds records to the log file, it does not check for available disk space or perform administrative tasks such as truncating, deleting, or compressing the log file in order to be minimally intrusive.

In addition, you can specify the maximum size of the log file, in bytes, with the `oracle.usagetracker.logFileMaxSize` property in the properties file.

Java Usage Tracker Limitations

Java Usage Tracker cannot log Java command line options that are processed by the Java launcher before the JVM is started. For example, Java Usage Tracker does not record the command line options `-client` and `-server` that select the Java HotSpot client and server VM, respectively. In addition, Java Usage Tracker may not log an application if it terminates immediately because it will not stop a process from exiting.

Java Usage Tracker Frequently Asked Questions

Here are answers to some frequently asked questions:

Does Java Usage Tracker affect the private JRE within a JDK, or does it only affect the standalone JRE?

If you have a JDK installed in a computer, there is a JRE in the jre subdirectory; this is the private JRE referred to in the question. Yes, Java Usage Tracker logs the usage of both the private JRE and the standalone JRE, but note that they are configured separately through their own individual `conf/management/usagetracker.properties` files.

Can Java Usage Tracker log the usage of JDK tools?

If Java Usage Tracker is enabled, it logs the usage of tools that come with the JDK such as jmap and jstack.

Does Java Usage Tracker log the usage of JVMs created by native Java applications?

Yes. When a native application creates a JVM with the Java Native Interface (JNI), Java Usage Tracker logs this invocation with a blank Java command.

Will an invocation similar to java -jar file.jar be tracked by Java Usage Tracker?

Yes.

Does Oracle capture any of the data logged by Java Usage Tracker?

No. As the administrator of the JRE installation, usage data obtained from Java Usage Tracker is stored in the file of your choice or sent to the UDP host and port that you specify. There is no facility for this data to leave your own network. (Theoretically, if your firewall permits it, the port your UDP host listens on could be configured as remote, but this is not expected or recommended usage.)

What does the log record look like for native applications, applets, and denied applications?

The following is an example of a log record for a native application (line breaks were added for clarity):

```
"VM start",
"Mon Feb 01 14:29:35 PST 2016",
"MY-COMPUTER/192.0.2.0",
"com.sun.deploy.panel.ControlPanel",
"C:\Java\jre1.8.0_71",
"1.8.0_71",
"25.71-b15",
"Oracle Corporation",
"Oracle Corporation",
"Windows 7",
"amd64",
"6.1",
"-Xbootclasspath/a:C:\Java\jre1.8.0_71\bin\..\lib\deploy.jar
  -Djava.locale.providers=HOST,JRE,SPI
  -Duser.home=C:\Users\CURRENT-USER",
".",
""
```

The following is an example of a log record for an applet:

```
"plugin2",
"Mon Feb 01 14:51:02 PST 2016",
"MY-COMPUTER/192.0.2.0",
"http://docs.oracle.com/javase/tutorial/deployment/applet/deployingApplet.html:
  jnlp_href=examples/dist/applet_ComponentArch_DynamicTreeDemo/
dynamictree_applet.jnlp
  codebase_lookup=false
  code=appletComponentArch.DynamicTreeApplet.class
  codebase=http://docs.oracle.com/javase/tutorial/deployment/applet/
  width=450
  archive=examples/dist/applet_ComponentArch_DynamicTreeDemo/DynamicTreeDemo.jar
  height=450
  app_model=eJy1U71uE0EQHv8kdogVhFEaEJKFEoEodjsoqA47RdABUWwQXbScN/FGd7vL7pw5
    U0TiJZAoeAPeg55noOUNkGD2fP4BJHdccbc/38w33zdzX37AlndwOzEZ87lmY2lT
    M2NOnrPI2mdmLFOYP7U6XIuhndDRG+Elwl58KaaCa4n85Wn8OIbdsfSJUxaV0Qjd
    +XUq9AUfolP6giBdWaDUngCn0pvcJdIj7M+ROaqUR86JWaw8ErhzKdwS9hauoEH8
    qUlEIAj7Wgw7mVC6nwpfAuoU5GWSO4WzUDvCg5iUcVLG58o4KeMLZQfDNSwRbqHC
    VFaJmjizlODuxgQjwlDg9lTqsXFlZGHJz05QxMgaRtZ8PHz08NbP764BrWNoT4Sf
    9Cn4GJrWOCQJIseJCWUsmM/VqoqJ8Vit29YZNIlJq32DSqkof1UPwvWxSTwzTiSp
    ZFQ6wiseivGSY45EI9JKSSY1cmFtSg2Uhcho4fmYrK8Oz/oms0YTKnLJ5Gww0yJT
    ychJOZCZ4YF5B6lARGtL0TdL0aGNbNnG4sO3O5++is8NqJFgr97LwoZpetcM76Ls
    WidMV3lQoyz3NoziwdPVRKzGsv7vWLSm0vlqGzoSvq2FSVXl6v/48tee0RCXhOG1
    S0YVFuFwnumPRGwtMCqvrxzc32TG+vRWbkCXTHWwV3Yi/HrsSOfZ+iWxt4bR88GT
    F68RblScvUDaC+USZ28TZxj49XRB1T7CdnRyEh+NEDrLjFJkvwEAyW8t",
"C:\Java\jre1.8.0_71",
"1.8.0_71",
"25.71-b15",
"Oracle Corporation",
"Oracle Corporation",
"Windows 7",
"x86",
"6.1",
"-Xbootclasspath/a:C:\Java\jre1.8.0_71\lib\deploy.jar;
  C:\Java\jre1.8.0_71\lib\javaws.jar;C:\Java\jre1.8.0_71\lib\plugin.jar
  -Djava.security.manager
  -D__jvm_launched=29258397636
  -D__applet_launched=29258393819 ",
"C:\Java\jre1.8.0_71\classes",
""
```

The following is an example of a log record of a Java Web Start application that was denied by security settings:

```
"javaws application denied [by security settings]",
"Tue Nov 03 19:43:57 MSK 2015",
"example.com/192.0.2.0",
"https://docs.oracle.com/javase/tutorial/deployment/webstart/deploying.html:
  sourceURL=https://docs.oracle.com/javase/tutorialJWS/samples/deployment/
    dynamictree_webstartJWSProject/dynamictree_webstart.jnlp
  app_model=eJytU9FqE0EUvWlSk9pQsSKCIgSpKCIzD4I++BQThZS1LU1FfSrTzbTZMDszztxt
    E4WCP1HwwT/wP3z3G3z1DwS9s7tpF5Q8dR9md/aeueeec+98+wXL3sGd2KTMZ5qN
    pFVmxpw8ZF1rX5uRVFA8tSW4GkErpl8HwkuEtWgijgXXEvmb3eh5BKsj6WOXWEyM
    RlgvwkroIz5El+gjgqzLKUrtCbArvclcLD3CzQKZYaJ41zkxixKPBG5PhDuHfYBT
    qBO/MrEIBGFfi2AlFYnuKeFzwBId8jLOXIKzUDvCo4iUcVLGC2WclPG5so1hBUuE
    y5igkmWiBs4sJbi3MMEeYejglWOpR8blJ6eW/GwHRYysYWTN2f1nT2///unq0BxA
    ayz8uEeHB9CwxiFJEBmOTShjznyYXFQxNh7L75Z1Bk1sVLmvUykl5Z/yQbg2MrFn
    xolYSUalI7zioRgvOWZINEJtvh1yL1KrpC9FpVIjH820SJMYnZT7J/LAo3BI0B1n
    JjJGHphWEJbHiNbbXOWNXGXoGzvv2/Tzj7tfvouvdaiRQp98lFMbxuekEdZp3qZ2
    GKf8R42yPFgwexubFyNwMYdL/85B81g6X25DC8K7OXelLP395RjRL8J7FO7L1DCa
    0pwgLKtkTKGxyc+efKqQ718O+f/CbKKVrZaA8Hge65nUGk2Juy4es0rp5LBKCgtP
    HTxc1IPqLSmbAOvUSwdr+QCEK85e6iytBi1Cc9jd6r/YfodwvSTuBOZOcI04O4s4
    w8WqpgvKbiGsdnd2okGvuzfY3kJon6eVIv0L97SYOQ==",
"/Library/Internet Plug-Ins/JavaAppletPlugin.plugin/Contents/Home",
"1.8.0_65",
"25.65-b01",
"Oracle Corporation",
"Oracle Corporation",
"Mac OS X",
"x86_64",
"10.10.5",
"'-Djava.security.policy=file:/Library/Internet Plug-Ins/
  JavaAppletPlugin.plugin/Contents/Home/lib/security/javaws.policy'
  -DtrustProxy=true
  -Xverify:remote '-Djnlpx.home=/Library/Internet Plug-Ins/
    JavaAppletPlugin.plugin/Contents/Home/bin'
  -Djava.security.manager
  -Djnlpx.origFilenameArg=/Users/CURRENT-USER/Library/Caches/Java/
    dynamictree_webstart.jnlp
  -Djnlpx.remove=false
  -Dsun.awt.warmup=true '-Xbootclasspath/a:/Library/Internet Plug-Ins/
    JavaAppletPlugin.plugin/Contents/Home/lib/javaws.jar:/Library/
    Internet Plug-Ins/JavaAppletPlugin.plugin/Contents/Home/lib/
    deploy.jar:/Library/Internet Plug-Ins/JavaAppletPlugin.plugin/
    Contents/Home/lib/plugin.jar' '-Dmacosx.jnlpx.dock.name=Java Web
    Start' '-Dmacosx.jnlpx.dock.icon=/Library/Internet Plug-Ins/
    JavaAppletPlugin.plugin/Contents/Home/lib/deploy/
    webStartAppIcon.icns' '-Djnlpx.jvm=""/Library/Internet Plug-Ins/
      JavaAppletPlugin.plugin/Contents/Home/bin/java""' ",
"/Library/Internet Plug-Ins/JavaAppletPlugin.plugin/Contents/Home/
  lib/deploy.jar",
""
```

How can I remove the quoting behavior of JRE 8u20 and later for records with the previous formatting?

In the Java Usage Tracker properties file, set blank quote characters with the following two lines:

```
com.oracle.usagetracker.quote=
com.oracle.usagetracker.innerQuote=
```

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Java Platform, Standard Edition Java Usage Tracker Guide, Release 1

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