Worksheet

Azul Migration Advisory

APPLETS

Java applets are discontinued technology specific to Oracle Java. The browser plug-in required to run applets was removed from Oracle JDK 11, and public support for the Java plug-in for Internet Explorer in Oracle JDK 8 ended on March 2019.

However, applications containing applets continue to exist and can create issues during desktop migrations.

To debug the issue, you will need to know:

Name of application:	<for identification only>
How the application is launched:	<From which browser are you accessing the web page? Is the web page where the error finally occurs publicly accessible? Is it behind a login?>
Does the application write any logs:	
Errors:	<Do you see an "java plugin not installed" or "java not available error?">
The experience when running with the old Oracle JDK:	<Do you download a file before starting the application? Does the application open in a new window outside the web page? Does the application open inside the web page?>
The experience running with Azul Zulu Builds of OpenJDK:	

You will also want to explore alternatives to running the application with the applet, including:

1. Upgrading the application – Most application vendors provide alternatives to access to the same functionality without using applets.

APPLETS

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2. Isolating the application access and staying on Oracle Java 8u202 from January 2019.

    a. Oracle Java 8u202 is the last version available under a free license.

    b. Providing an isolated Citrix desktop (or Windows remote desktop) for the sole purpose of accessing "unsafe" Internet applications.

3. Contact Azul for individual advice

If the application is under your control or developed in-house, you can also try using IcedTea-Web, an open-source project that seeks to provide the same functionality as Java Web Start.

- For detailed instructions see (https://foojay.io/today/migrating-browser-based-java-applets-to-icedtea-web-using-jnlp/)

- Web Start is a deployment technology that allows access to an application with similar convenience as applet while avoiding the overhead of managed desktop installations for applications.

- You can download IcedTea-Web (https://www.azul.com/products/components/icedtea-web/)

- You can locate the applet in the HTML page. Most commonly applets will be embedded in the web page using the <applet>, <object> or <embed> tag.

See examples below:

<applet>

```
1.  <applet
2.      code="MyJavaClass.class" archive="myapp.jar"
3.      width="600" height="400" >
4.    <param name="param1" value="value1">
5.    <param name="param2" value="value2">
6.    <param name="param3" value="somedir/otherdir">
7.    Alternative text.
8.  </applet>
```

<object>

```
1.  <object codetype="application/java"
2.      classid="java:MyJavaClass.class" archive="myapp.jar"
3.      width="600" height="400"
4.      codebase="plugin/1.3/jinstall-13-win32.cab" >
5.    <param name="code" value="MyJavaClass.class">
6.    <param name="archive" value="myapp.jar">
7.    <param name="codebase" value=".">
8.    <param name="type"
9.      value="application/x-java-applet;version=1.1">
10.   <param name="scriptable" value="true">
11.   <param name="param1" value="value1">
12.   <param name="param2" value="value2">
13.   <param name="param3" value="somedir/otherdir">
14.   Alternative text.
15. </object>
```

<embed>

```
1.  <embed type="application/x-java-applet;version=1.1"
2.      code="MyAppClass.class" archive="myapp.jar"
3.      width="600" height="400"
4.      codebase="."
5.      pluginspage="plugin/1.3/plugin-install.html" >
6.      param1="value1" param2="value2" param3="somedir/otherdir"
7.    <noembed>Alternative text.</noembed>
8.  </embed>
```

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You can now create a JNLP file — the format used by Java Web Start and IcedTea-Web using the code you found. (JNLP stands for Java Network Launch Protocol.)

In the example below, the code from above was used to a JNLP file named myapp.jnlp. You will want to replace all the attributes, parameters and URLs with actual values from your application.