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Java applet

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A **Java applet** is an applet written in the Java programming language. Java applets can run in a web browser using a Java virtual machine (JVM), or in Sun's AppletViewer, a stand alone tool to test applets. Java applets were introduced by Sun in 1995.

Applets are used to provide interactive features to web applications that cannot be provided by HTML. They are executed in a *sandbox* by most web browsers, preventing them from accessing local data. The code of the applet is downloaded from a web server and the browser either embeds the applet into a web page or opens a new window showing the applet's user interface. The applet can be displayed on the web page by making use of the deprecated **APPLET** HTML element [1] (<https://web.archive.org/web/20060218050211/http://www.w3.org/TR/html401/struct/objects.html#edef-APPLET>) , or the recommended **OBJECT** element [2] (<https://web.archive.org/web/20060218050211/http://www.w3.org/TR/html401/struct/objects.html#edef-OBJECT>) . This specifies the applet's source and the applet's location statistics. The applet's location cannot be controlled by Cascading Style Sheets.

Since Java's bytecode is platform independent, Java applets can be executed by browsers for many platforms, including Windows, Unix, Mac OS and Linux.

A Java Servlet is sometimes informally compared to be "like" a server-side applet, but it is different in its language, functions, and in each of the characteristics described here about applets.

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Technical information

A java applet extends the class `java.applet.Applet`

(<https://web.archive.org/web/20060218050211/http://java.sun.com/j2se/1.5.0/docs/api/java/applet/Applet.html>) , or in the case of a swing applet, `javax.swing.JApplet`

(<https://web.archive.org/web/20060218050211/http://java.sun.com/j2se/1.5.0/docs/api/javaw/swing/JApplet.html>) . The class must

override methods from the applet class to set up a user interface inside itself (**Applet** is a descendent of **Panel** (<https://web.archive.org/web/20060218050211/http://java.sun.com/j2se/1.5.0/docs/api/java/awt/Panel.html>) which is a descendent of **Container** (<https://web.archive.org/web/20060218050211/http://java.sun.com/j2se/1.5.0/docs/api/java/awt/Container.html>)).

Compatibility issues

Compatibility has been a major obstacle in adopting Java applets. A common example is that Microsoft's Internet Explorer, the most popular web browser since late 1990s, used to ship with the Java plugin defaulting to use Microsoft's own JVM, which in many cases was not compatible with Sun's JVM. Later pre-installed Java support was dropped altogether from IE.

Also some browsers (notably Firefox) do not do a good job of handling **height=100%** on applets which makes it difficult to make an applet fill most of the browser window (Javascript can be used for this but its hard to get it perfect). Having the applet create its own windows is not a good solution either, as this leads to a large chance of the applet getting terminated unintentionally and leaves the browser window as a largely useless extra window.

For these reasons plus the availability of extra useful APIs for interacting with things like files and the clipboard from untrusted code, Java Web Start is a more appropriate technology for applications that are to be made available online.

Criticism of applets

Applets have been criticized for several reasons. First, even with modern connection speeds to the internet, the downloading of an applet may still take significant time. In addition, several alternative technologies exist (for example, Ajax and Flash) that satisfy much of the scope of what is possible with an applet. Finally, it is considered more difficult to build and design a good user interface with applets than with HTML-based technologies.

See also

- Java Servlet
- Java Web Start
- ActiveX controls
- Macromedia Flash
- Java

External links

- Information about writing applets from Sun Microsystems (<https://web.archive.org/web/20060218050211/http://java.sun.com/docs/books/tutorial/applet/index.html>)
- Demonstration applets from Sun Microsystems (<https://web.archive.org/web/20060218050211/http://java.sun.com/applets/jdk/1.0/index.html>) (JDK 1.0)
- Download the latest version of Sun Microsystems Java Virtual Machine (https://web.archive.org/web/20060218050211/http://www.java.com/en/download/download_the_latest.jsp) (includes browser plug-ins for running Java applets in most web browsers).

- Some mathematics applets, at MIT (<https://web.archive.org/web/20060218050211/http://www-math.mit.edu/daimp>)
- Video editing/publishing applet from Forbidden Technologies (<https://web.archive.org/web/20060218050211/http://forscene.net/guest/>)

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