



Problems Running Applets Under Java 7 Update 45

Oracle has recently released Java 7 update 45 which causes problems when developing Corvid systems on the local PC. **This does not effect fielded systems running online or systems running standalone. End users of your fielded systems do not need to make any changes.**

Java 7 update 45 came only shortly after update 40 and an even more extensive Java update is planned for January. All of these updates implement various new security features that essentially make it impossible to run Java applets “locally” using a URL that starts with “file://”. Unfortunately, that is the way Corvid systems are generally run during development on the local machine where Corvid builds an HTML file in whatever folder was selected for the system and then opens it with the browser.

The new updates to Java make this impossible in most cases. Instead, applet based Corvid systems in development must be run with a URL that starts with “http://”. Fortunately, this is easy to do by simply installing Apache Tomcat locally and building the Corvid system in the correct folder. (Details below)

This approach should help eliminate issues with future versions of Java related to running applets “locally”. This also fixes the issue with Java 7 Update 40 that was addressed in Corvid v5.3.3, and if Tomcat is installed, it is not necessary to install Corvid 5.3.3. **Unless this or one of the alternative options is used, Corvid Applet based systems will not run locally with Java 7 update 45.**

A near future release of Corvid will automate much of this process and help to make sure Tomcat is installed and running, and that systems are built in a folder that will allow them to run. All users under Exsys Corvid Maintenance will be sent this update when it is available.

Other runtime options are to:

- A. Run systems as standalone Java applications during development. This just displays what would be the applet window but without the surrounding HTML decoration. The Java changes do not apply to running as a Java application. This is

an easy fix for most systems and does not require installing Tomcat. However, be aware there are some Corvid features that apply only to running in this mode and will not carry over into later running with an applet. This includes any function that writes directly to the local file system. **See the Corvid manual sect 13.4 on running standalone.**

- B. Running with the Corvid Servlet Runtime which is not effected by the Java changes. (Using the Corvid Servlet Runtime is highly recommended for any system that will be fielded widely since it allows systems to run on iPhones, iPads and other mobile devices along with all browsers regardless of security settings). However, running with the Servlet Runtime also requires Tomcat, and if a system is configured to run with the Servlet Runtime it is easy to also run with the applet just by entering the correct URL.

Installing Apache Tomcat

Tomcat is a free download from the Apache Software Foundation. It is an excellent full power server with many capabilities, including the ability to run Java Servlets. As a full online server, Tomcat system administration can be complex, but for Corvid's requirements, a very simple default install is all that is needed. Just download, install and it's ready to run.

1. First make sure you have Java 7 installed. If not, go to:

<http://www.java.com/en/download/index.jsp>

to download and install Java

2. Now download Apache Tomcat from

<http://tomcat.apache.org/download-70.cgi>

For MS Windows, scroll down - under 'Binary Distributions': Click on '[32-bit/64-bit Windows Service Installer](#)' to download the Tomcat Installer. Save and install the program. The installer program will create a 'Monitor Tomcat' icon in your Programs Start Menu (Windows 7), and under the Hidden Icons in the Windows Task Bar. You can start and stop Tomcat from either of these locations. **You must start Tomcat before running any Corvid systems.**

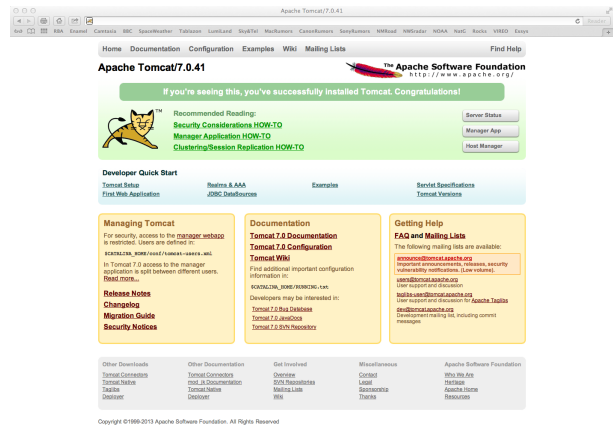
You can start/stop Tomcat by right-clicking on the 'Monitor Tomcat' icon in your Programs Start Menu and select 'Run as Administrator', and then under 'Server Status'

click 'Start or Stop'. You do not have to 'Run as Administrator' under the Hidden Icons in the Windows Task Bar, just select start or stop.

3. After installation, start Tomcat and open a browser window. Enter the URL:

<http://localhost:8080>

You should see the Tomcat "Welcome" screen



If you see this screen, it means you've successfully installed Tomcat. Congratulations!

If you get a "Can't Connect to Server" error screen either Tomcat did not install correctly, or it has not been started from the control panel.

Building Your Corvid Systems in Tomcat's webapps Folder

Once Tomcat is installed and running, you can now use the Corvid Applet Runtime in a true server environment, but to do this, you must build your systems in the correct location.

Tomcat will have installed in the "Program Files" folder. Find the folder there that starts with "Apache Tomcat" followed by the version number. Open that folder and find the folder named "webapps". This is where your Corvid systems need to be built - just add a folder(s) under webapps for your system(s).

By default Tomcat's "localhost:8080" URL points to the webapps folder. So if you add a folder in webapps named "MySystems" and build a Corvid system in it named "test" which will automatically generate a HTML file "test.html", you can run that system under Tomcat from a browser window with the URL:

<http://localhost:8080/MySystems/test.html>

A future release of Corvid create this URL automatically, but in Corvid 5.3.x, you must enter it as a "Specific URL". To do this:

1. In Corvid, open the system's Properties window and click the "Test Run" tab.
2. In the "SpecificURL" edit box enter the Tomcat URL to use. This MUST start with:

`http://localhost:8080/`

followed by the folder(s) and the system html file, such as:

`http://localhost:8080/MySystems/test.html`

This URL is case sensitive, so be sure to match the case of folder and file names exactly.

When you click the run triangle, Corvid will run the system with this URL. Tomcat **MUST** be running for this to work. Once the URL is entered, it will be saved in the system CVD file and automatically used whenever the system is loaded.

Run this way, Java does not consider the system to be running “locally” and the java issues with local files do not apply.

Just move any Corvid systems you already have into the webapps folder and set the “Specific URL” for each system. Then they will work as before.

Also, once you have Tomcat setup, it is easy to move to running with the Corvid Servlet Runtime - though this is not required. (See the Corvid manual Chapter 15 for details on using the Corvid Servlet Runtime)

If you have any questions on installing Tomcat or running Corvid systems, contact support@exsys.com