Creating SWCs

A FlexJS SWC is intended to be an compressed archive of not only pre-compiled ActionScript code and related assets, but also for a collection of JavaScript files that mirror the ActionScript classes in the SWC. That way, a SWC can be deployed and used in a project without having to also copy around a pile of JS files.

The recommended steps for creating a SWC is:

1) Create a Flex Library project

2) (Optionally) Create a "JS" Flex Library project to produce a "JS" SWC. A "JS" SWC is needed if APIs only available in the JS runtime are available to other SWCs and any runtime-specific code you are creating.

When you edit and save changes to AS files in the project, the cross-compiler will generate the JS files and include them in the SWC. If you have created a "JS" Flex Library project, the compiler will also update the "JS" SWC.

Most, if not all, of the FlexJS framework SWCs use two Flex Library projects to produce a SWC with Flash-specific APIs and another with JS-specific APIs. The APIs in common are the ones the application developer can use to write code that will work on both runtimes.

The FlexJS framework uses Ant scripts to create the SWCs.   For each SWC, like Core, there should be:

a) build.xml - the Ant script (in frameworks/projects/Core, and another one in frameworks/js/FlexJS/projects/Core)

b) (in frameworks/js/FlexJS/projects/Core) src/main/resources/compile-js-config.xml - Settings used to cross-compile AS to JS for the "JS" SWC

c) (in frameworks/projects/Core) src/main/resources/compile-as-config.xml - Settings used to compile the AS to SWF byte code and include the cross-compiled JS from the "JS" SWC.

In More Detail

When compiling the Flash-specific SWC, the COMPILE::SWF conditional compilation flag is set to false and COMPILE:JS is true. When cross-compiling AS to JS, COMPILE::SWF set to true and COMPILE::JS set to false.

In More Detail
The "SWF" SWC and "JS" SWC have different library dependencies. At the "bottom" is the runtime SWC. The "SWF" SWC has an external library path that includes playerglobal.swc. The "JS" SWC has an external library path that includes js/libs/js.swc. Playerglobal.swc includes APIs for Flash like Sprite, the js.swc includes APIs for JS like HTMLElement.
The "JS" SWC has a library path that references other "JS" SWCs, like CoreJS.swc, and the "SWF" SWC has a library path that references other "SWF" SWCs like Core.swc.
Base Classes and other classes are then written against Flash APIs for SWF or JS APIs for JS. UIBase, for instance, extends Sprite for Flash but extends Object and wraps an HTMLElement for JS. Conditional Compilation is used where needed.