

# WorkaroundForCOCOON-1579

**COCOON-1579** describes a continuation issue when using rhino 1.6 in cocoon 2.1.10+. The workaround is to replace rhino 1.6 with the previous version. Before compiling cocoon, please follow this steps:

## For Cocoon 2.1:

1. Download [rhino1.5r4-continuations-R26.jar](#) and locate it on "\$COCOON/lib/core" folder. 2. Delete js-1.6R5.jar from "\$COCOON/lib/core". 3. Change the jar location (<lib>) for rhino on \$COCOON/lib/jars.xml from

```
<file>
  <title>Continuations-based JavaScript engine</title>
  <description>Rhino is an implementation of JavaScript in Java.</description>
  <used-by>Control flow</used-by>
  <lib>core/js-1.6R5.jar</lib>
  <homepage>http://svn.cocoondev.org/repos/rhino+cont/</homepage>
</file>
```

to

```
<file>
  <title>Continuations-based JavaScript engine</title>
  <description>Rhino is an implementation of JavaScript in Java.</description>
  <used-by>Control flow</used-by>
  <lib>core/rhino1.5r4-continuations-R26.jar</lib>
  <homepage>http://svn.cocoondev.org/repos/rhino+cont/</homepage>
</file>
```

4. Revert the code changes for rhino1.6 which are 2 and are commented in the code base:  
4.a. src/java/org/apache/cocoon/components/flow/javascript/fom/FOM\_Cocoon.java, line:331

```
public Object jsFunction_getComponent(String id)
    throws Exception {
    // To use rhino1.5r4-continuations-R26.jar as a workaround for COCOON-1579: Uncomment the next line and
    // comment the original return.
    // return getServiceProvider().lookup(id);
    return org.mozilla.javascript.Context.javaToJS(getServiceProvider().lookup(id), getParentScope());
}
```

- 4.b. src/blocks/forms/java/org/apache/cocoon/forms/util/JavaScriptHelper.java, line:64

```
script = ctx.compileReader(
    // To use rhino1.5r4-continuations-R26.jar as a workaround for COCOON-1579: Uncomment the next line.
    // getRootScope(null), //scope
    new StringReader(jsText), // in
    sourceName == null ? "<unknown>" : sourceName, // sourceName
    DomHelper.getLineLocation(element), // lineNo
    null // securityDomain
);
```

5. Then you can build cocoon by running the script (build.bat or build.sh)

## For Cocoon 2.2:

1. Download [rhino1.5r4-continuations-R26.jar](#) and deploy it in your local maven repo with the next command

```
mvn deploy:deploy-file -Durl=file:///m2-repo -DrepositoryId=some.id -Dfile=/path-to-rhino-jar/rhino1.5r4-continuations-R26.jar -DgroupId=rhino -DartifactId=js -Dversion=1.5r4-continuations -Dpackaging=jar
```

2. Change the rhino's dependency to one recently created, in "\$COCOON/parent/pom.xml"  
From

```
<dependency>
  <groupId>rhino</groupId>
  <artifactId>js</artifactId>
  <version>1.6R7</version>
</dependency>
```

to

```
<dependency>
  <groupId>rhino</groupId>
  <artifactId>js</artifactId>
  <version>1.5r4-continuations</version>
</dependency>
```

3. Change the code to use rhino 1.5r4-continuations api. These are the changes:

3.1.\$COCOAON/blocks/cocoon-flowsript/cocoon-flowsript-impl/src/main/java/org/apache/cocoon/components/flow/javascript/LocationTrackingDebugger.java

3.1.1. Add the following import:

```
import org.mozilla.javascript.NativeFunction;
```

3.1.2.Change line 54

```
if (ex.sourceName() != null) {
    return new LocationImpl(ex.getName(), ex.sourceName(), ex.lineNumber(), ex.columnNumber());
```

to

```
if (ex.getSourceName() != null) {
    return new LocationImpl(ex.getName(), ex.getSourceName(), ex.getLineNumber(), ex.getColumnNumber());
```

3.1.3. Change line 82

```
public void handleCompilationDone(Context cx, DebuggableScript fnOrScript, String source)
```

to

```
public void handleCompilationDone(Context cx, DebuggableScript fnOrScript, StringBuffer source)
```

3.1.4. Change line 86

```
public DebugFrame getFrame(Context cx, DebuggableScript fnOrScript)
```

to

```
public DebugFrame enterFrame(Context cx, Scriptable scope, Scriptable thisObj, Object[] args, DebuggableScript fnOrScript)
```

3.1.5. Change line 127

```
public void onLineChange(Context cx, int lineNumber)
```

to

```
public void onLineChange(Context cx, int lineNumber, boolean breakpoint)
```

#### 3.1.6. Change in line 138

```
if (script.isFunction()) {  
    name = script.getFunctionName();  
} else {  
    name = "[script]";  
}
```

to

```
Scriptable obj = script.getScriptable();  
name = obj instanceof NativeFunction ? ((NativeFunction)obj).getFunctionName() : "Top-level script";  
if (name == null || name.length() == 0) {  
    name = "[unnamed]";  
}
```

3.2.\$COCOON/blocks/cocoon-flowscript/cocoon-flowscript-impl/src/main/java/org/apache/cocoon/components/flow/javascript/fom/FOM\_Cocoon.java:

#### 3.2.1. Change line 324

```
return org.mozilla.javascript.Context.javaToJS(currentCall.webAppContext.getBean  
(id),                                getParentScope());
```

to

```
return currentCall.webAppContext.getBean(id);
```

#### 3.2.2. Change line 375

```
return org.mozilla.javascript.Context.javaToJS(obj, getParentScope());
```

to

```
return obj;
```

#### 3.2.3. Change line 489

```
result = org.mozilla.javascript.Context.javaToJS(result, start);
```

to

```
result = wrap(start, result, null);
```

3.3.\$COCOON/blocks/cocoon-flowscript/cocoon-flowscript-impl/src/main/java/org/apache/cocoon/components/flow/javascript/fom/FOM\_JavaScriptInterpreter.java:

#### 3.3.1. Add the import:

```
import java.io.StringReader;
```

#### 3.3.2. Change line 500

```
Script compiledScript = cx.compileReader(reader, src.getURI(), 1, null);
```

to

```
Script compiledScript = cx.compileReader(scope, reader, src.getURI(), 1, null);
```

### 3.3.3. Change line 593

```
fun = context.compileString(funName, null, 1, null).exec (context, thrScope);
```

to

```
fun = context.compileReader (thrScope, new StringReader(funName), null, 1, null).exec (context, thrScope);
```

## 3.4.\$COCOON/blocks/cocoon-flowscript/cocoon-flowscript-impl/src/main/java/org/apache/cocoon/components/flow/javascript/fom/FOM\_WebContinuation.java

### 3.4.1. Change in line 104

```
return org.mozilla.javascript.Context.javaToJS(  
    wk.getAttribute(name),  
    getParentScope());
```

to

```
return org.mozilla.javascript.Context.toObject(  
    wk.getAttribute(name),  
    getParentScope());
```

### 3.4.2. Change in line 118

```
return org.mozilla.javascript.Context.javaToJS(  
    wk.getAttributeNames(),  
    getParentScope());
```

to

```
return org.mozilla.javascript.Context.toObject(  
    wk.getAttributeNames(),  
    getParentScope());
```

## 3.5.\$COCOON/blocks/cocoon-forms/cocoon-forms-impl/src/main/java/org/apache/cocoon/forms/util/JavaScriptHelper.java, Uncomment line 65

```
// To use rhino1.5r4-continuations-R26.jar as a workaround for COCOON-1579: Uncomment the next line.  
// getRootScope(null), //scope
```

It should look like this:

```
// To use rhino1.5r4-continuations-R26.jar as a workaround for COCOON-1579: Uncomment the next line.  
getRootScope(null), //scope
```

## 3.6.\$COCOON/blocks/cocoon-scratchpad/cocoon-scraptchpad-impl/src/main/java/org/apache/cocoon/components/flow/javascript/fom/AO\_FOM\_JavaScriptInterpreter.java

### 3.6.1. Change in line 554

```
compiledScript = cx.compileReader(reader, src.getURI(), 1, null );  
    to  
    {{{  
compiledScript = cx.compileReader(scope, reader, src.getURI(), 1, null);
```

### 3.6.2. Change in line 561

```
compiledScript = cx.compileReader(reader, src.getURI() + INTERCEPTION_POSTFIX, 1, null );
```

to

```
compiledScript = cx.compileReader(scope, reader, src.getURI() + INTERCEPTION_POSTFIX, 1, null);
```

### 3.6.3. Change in line 628

```
if (ee.sourceName() != null) {  
    Context.reportRuntimeError(msg,  
                                ee.sourceName(),  
                                ee.lineNumber(),  
                                ee.lineSource(),  
                                ee.columnNumber());  
}
```

to

```
if (ee.getSourceName() != null) {  
    Context.reportRuntimeError(msg,  
                                ee.getSourceName(),  
                                ee.getLineNumber(),  
                                ee.getLineSource(),  
                                ee.getColumnNumber());  
}
```

### 3.6.4. Change line 710

```
if (ee.sourceName() != null) {  
    Context.reportRuntimeError(msg,  
                                ee.sourceName(),  
                                ee.lineNumber(),  
                                ee.lineSource(),  
                                ee.columnNumber());  
}
```

to

```
if (ee.getSourceName() != null) {  
    Context.reportRuntimeError(msg,  
                                ee.getSourceName(),  
                                ee.getLineNumber(),  
                                ee.getLineSource(),  
                                ee.getColumnNumber());  
}
```

### 3.7.\$COCOON/block/cocoon-xsp/cocoon-xsp-impl/src/main/java/org/apache/cocoon/components/language/markup/xsp/JSGenerator.java, change in line 111

```
script = context.compileReader(new FileReader(file), file.toString(), 1, null);
```

to

```
script = context.compileReader(global, new FileReader(file), file.toString(), 1, null);
```

### 3.8.\$COCOON/core/cocoon-expression-language/cocoon-expression-language-impl/src/main/java/org/apache/cocoon/el/impl/javascript/JavaScriptExpression.java

#### 3.8.1. Add the following import

```
import java.io.StringReader;
```

### 3.8.2. Change in line 48

```
this.script = ctx.compileString(getExpression(), "", 1, null);
```

to

```
this.script = ctx.compileReader(getScope(rootScope), new StringReader(getExpression()), "", 1, null);  
} catch (Exception e) {  
    if (e instanceof RuntimeException) {  
        throw (RuntimeException)e;  
    } else {  
        throw new RuntimeException("Runtime exception.", e);  
    }  
}
```

3.9. \$COCOON/core/cocoon-expression-language/cocoon-expression-language-impl/src/test/java/org/apache/cocoon/el/impl/javascript/JavaScriptTestCase.java change line 40,

```
assertEquals(new Integer(3), result);
```

to

```
assertEquals(new Double(3), result);
```

### 4. Build cocoon with maven ( mvn -P allblocks clean install )