



The Long Tail treasure trove

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Something nice
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Apache Abdera (Incubating)

Library for Working with Atom (RFC 4287)

- Apache License 2.0
- <http://incubator.apache.org/abdera/>

Apache Abdera (Incubating)

```
Parser parser = Abdera.getNewParser();
URI uri =
    new URI("http://example.org/feed.xml");
InputStream in = uri.toURL().openStream();

Document<Feed> doc = Abdera.getNewParser()
    .parse(in, uri);

Feed feed = doc.getRoot();
for (Entry entry : feed.getEntries()) {
    URI id = entry.getId();
    String title = entry.getTitle();
    // ...
}
```



ANTLR

LL(k) / LL(*) Parser Generator

- BSD License
- <http://antlr.org/>

ANTLR

```
// "select foo from baz where name like :name"  
LITERAL: ('a'..'z' | 'A'..'Z' | ' ')+;  
NAMED_PARAM: ':' ( 'a'..'z'  
                  | 'A'..'Z'  
                  | '0'..'9'  
                  | '_' )+;  
POSITIONAAL_PARAM: '?';  
QUOTED_TEXT: ('\'' (~'\'' )+ '\'' );  
DOUBLE_QUOTED_TEXT: ('"' (~'"' )+ '"' );
```

ANTLR

```
ColonStatementLexer lexer =
    new ColonStatementLexer(new StringReader(sql));
Token t = lexer.nextToken();
while (t.getType() != EOF) {
    switch (t.getType()) {
        case LITERAL:
            b.append(t.getText());
            break;
        case NAMED_PARAM:
            stmt.addNamedParamAt(t.getText()
                .substring(1, t.getText().length()));
            b.append("?");
            break;
        // ...
    }
    t = lexer.nextToken();
}
```



ASM

Small, Efficient, Fast Bytecode Manipulation

- BSD License
- <http://asm.objectweb.org/>

ASM

```
ClassWriter cw = new ClassWriter(0);
cw.visit(V1_5, ACC_PUBLIC + ACC_ABSTRACT + ACC_INTERFACE,
        "pkg/Comparable", null, "java/lang/Object",
        new String[] { "pkg/Mesurable" });
cw.visitField(ACC_PUBLIC + ACC_FINAL + ACC_STATIC,
              "LESS", "I", null, new Integer(-1)).visitEnd();
cw.visitField(ACC_PUBLIC + ACC_FINAL + ACC_STATIC,
              "EQUAL", "I", null,
              new Integer(0)).visitEnd();
cw.visitField(ACC_PUBLIC + ACC_FINAL + ACC_STATIC,
              "GREATER", "I", null,
              new Integer(1)).visitEnd();
cw.visitMethod(ACC_PUBLIC + ACC_ABSTRACT, "compareTo",
              "(Ljava/lang/Object;)I",
              null, null).visitEnd();

cw.visitEnd();
byte[] b = cw.toByteArray();
```




util.concurrent Backport

JSR 166 for Java 1.4 and 1.3

- Public Domain
- <http://dcl.mathcs.emory.edu/util/backport-util-concurrent/>
- Same as JDK 1.5 `java.util.concurrent`
 - Except with 1.5, and without Generics



CGLIB

High Level Bytecode Generation Library

- Apache License 2.0
- <http://cglib.sf.net/>

CGLIB

```
Enhancer e = new Enhancer();
e.setSuperclass(Foo.class);
e.setCallback(new MethodInterceptor() {
    public Object intercept(Object obj,
                            Method method,
                            Object[] args,
                            MethodProxy proxy)
        throws Throwable {
        System.out.printf("%s has been invoked!",
                          method.getName());
        return proxy.invoke(obj, args);
    }
});
Foo foo = (Foo) e.create();
foo.bar();
```

Commons Codec

If you need it, you need it badly!

What:	Codecs for the Internet world
Where:	http://jakarta.apache.org/commons/codec
License:	Apache License 2.0



Commons Codec: Code Sample

```
public void testCodec() throws Exception {  
    String t = "Hello, World";  
  
    byte[] encodedBytes = Base64.encodeBase64(t.getBytes());  
    assertEquals("SGVsbG8sIFdvcmxk",  
                new String(encodedBytes));  
  
    byte[] decodedBytes =  
        Base64.decodeBase64("SGVsbG8sIFdvcmxk".getBytes());  
    assertEquals("Hello, World", new String(decodedBytes));  
}
```



Jakarta Commons-JCI

Java Compiler Interface and Tools

- Apache License 2.0
- <http://jakarta.apache.org/commons/jci/>

Jakarta Commons-JCI

```
ReloadingClassLoader classloader =  
    new ReloadingClassLoader(this.getClass()  
                               .getClassLoader());  
  
ReloadingListener listener =  
    new ReloadingListener();  
  
listener.addReloadNotificationListener(classloader);  
  
FilesystemAlterationMonitor fam =  
    new FilesystemAlterationMonitor();  
  
fam.addListener(directory, listener);  
fam.start();
```

Jexl

Expressions, again

What:	Easily embeddable expression language
Where:	http://jakarta.apache.org/commons-jexl
License:	Apache License 2.0

Jexl: Code Sample

```
public void testJexl() throws Exception {  
    JexlContext context = JexlHelper.createContext();  
    context.getVars().put("projects",  
        new ProjectList().getProjects());
```

```
    Expression exp = ExpressionFactory.createExpression(  
        "projects.get(1).getName()");  
    assertEquals("Rhino", exp.evaluate(context));
```

```
    Expression countExp = ExpressionFactory.createExpression(  
        "projects.size()");  
    assertEquals(3, countExp.evaluate(context));
```

```
    Expression addExp = ExpressionFactory.createExpression(  
        "projects.size() + 1");  
    assertEquals(4L, addExp.evaluate(context));
```

DisplayTag

Tables made easy!

What:	Nifty JSP taglib for table formatting & exporting
Where:	http://displaytag.sourceforge.net/
License:	Artistic License

DisplayTag: Code Sample

```
<%@ taglib uri="http://displaytag.sf.net" prefix="display" %>
<%@ page
    import="it.rabellino.scrapbook.javaone.DisplayTagList" %>

<% request.setAttribute( "test", new
    DisplayTagList().getProjects() ); %>

<html>
    <display:table name="test"/>
</html>
```

EHCache

In-Memory and Replicated Cache

- Apache License 2.0
- <http://ehcache.sourceforge.net/>
- TS-6175 Earlier This Morning :-(

EHCache

```
CacheManager manager =  
    new CacheManager("config.xml");  
Cache cache = manager.getCache("cache-one");  
  
Element element = new Element("name", "Brian");  
cache.put(element);  
  
Element name = cache.get("name");  
System.out.println(name.getValue());
```



Janino

Embedded Java Compiler

- BSD License
- <http://www.janino.net/>



Janino

```
String java = "System.out.println(s)";  
ScriptEvaluator e =  
    new ScriptEvaluator(java)  
  
e.setParameters(new String[] {"s"},  
                new Class[] {String.class});  
  
e.evaluate("hello world");
```

JarJar links

Sledgehammering the jar hell

What:	Repackaging and embedding tool for Java
Where:	http://www.tonicsystems.com/products/jarjar/
License:	GPL

JarJar links: Code Sample

```
<taskdef name="jarjar"  
  classname="com.tonicsystems.jarjar.JarJarTask"  
  classpath="lib/build/jarjar-0.7.jar"/>  
<jarjar jarfile="build/jdbi-${version}.jar">  
  <fileset dir="build/classes">  
    <include name="**/*.class"/>  
  </fileset>  
  <zipfileset src="lib/build/antlr-2.7.7.jar"/>  
  <rule pattern="antlr.**"  
    result="org.skife.jdbi.antlr.@1" />  
</jarjar>
```

jDBI

JDBC Convenience Library (not Abstraction!)

- Apache License 2.0
- <http://jdbi.codehaus.org/>

jDBI

```
Handle h = new DBI("jdbc:derby:/tmp/test").open();

String q = "select name from person where age > :age";

List<String> rs = h.createQuery(q)
                    .bind("age", 21)
                    .map(StringMapper.FIRST)
                    .list();

for (String name : rs) {
    System.out.printf("Hello, %s", name\n");
}

h.close();
```

Jetty

Lightweight, yet lightning fast web/app server

What:	Web server / Servlet container
Where:	http://jetty.mortbay.org/
License:	Apache License 2.0

Jetty: Code Sample

```
Handler handler = new AbstractHandler() {
    public void handle(String target, HttpServletRequest req,
        HttpServletResponse res, int dispatch)
        throws IOException, ServletException {
        File f = new File(DOCUMENT_ROOT + target);
        if (f.exists() && f.isFile()) {
            res.setStatus(HttpServletResponse.SC_OK);
            OutputStream output = res.getOutputStream();
            FileInputStream input = new FileInputStream(f);
            byte[] buffer = new byte[4096];
            int length = 0;
            while ((length = input.read(buffer)) > -1) {
                output.write(buffer, 0, length);
            }
        } else {
            res.setStatus(HttpServletResponse.SC_NOT_FOUND);
        }
        ((Request) req).setHandled(true);
    }
};

Server server = new Server(9999);
server.setHandler(handler);
server.start();
```



Maven Jetty plugin

Best thing since sliced bread

What:	Jetty plugin for webapp development
Where:	http://jetty.mortbay.org/
License:	Apache License 2.0
Bonus:	http://docs.codehaus.org/display/JETTY/Ant+Jetty+Plugin

Maven Jetty: Code Sample

```
<plugin>
  <groupId>org.mortbay.jetty</groupId>
  <artifactId>maven-jetty-plugin</artifactId>
  <version>6.1.1</version>
  <configuration>
    <connectors>
      <connector
implementation="org.mortbay.jetty.nio.BlockingChannelConnector">
        <port>8890</port>
        <maxIdleTime>60000</maxIdleTime>
      </connector>
    </connectors>
    <scanIntervalSeconds>1</scanIntervalSeconds>
    <contextPath>/</contextPath>

    <webAppSourceDirectory>src/main/webapp</webAppSourceDirectory>
  </configuration>
</plugin>
```



JMagick

Great Image Manipulation

- LGPL
- <http://www.yeo.id.au/jmagick/>
- JNI Wrapper for ImageMagick

JMagick

```
ImageInfo info = new ImageInfo();
```

```
MagickImage image =  
    new MagickImage(new ImageInfo("testpic.jpg"));
```

```
MagickImage bigger = image.scaleImage(1200, 900);
```

```
bigger.setFileName("bigger.jpg");  
bigger.writeImage(info);
```

Minijar

Fat-free jar files!

What:	Repackaging and slimming tool for Java
Where:	http://mojo.codehaus.org/minijar-maven-plugin/
License:	Apache License 2.0



Minijar: Code Sample

```
<plugin>
  <artifactId>minijar-maven-plugin</artifactId>
  <groupId>org.codehaus.mojo</groupId>
  <executions>
    <execution>
      <phase>package</phase>
      <goals>
        <goal>ueberjar</goal>
      </goals>
      <configuration>
        <stripUnusedClasses>true</stripUnusedClasses>
        <includeDependencies>
          <param>org.vafer:dependency</param>
        </includeDependencies>
        <includeDependenciesInRelocation>
          <param>org.vafer:dependency</param>
        </includeDependenciesInRelocation>
      </configuration>
    </execution>
  </executions>
</plugin>
```

Mock Javamail

Yes, you can test JavaMail!

What:	JavaMail mock infrastructure
Where:	https://mock-javamail.dev.java.net/
License:	CDDL



Mock Javamail: Code Sample

```
MimeMessage msg = new MimeMessage();
```

```
...
```

```
msg.setRecipients(TO, "kohsuke.kawaguchi@sun.com");
```

```
Transport.send(msg);
```

```
...
```

```
List<Message> inbox = Mailbox.get("kohsuke.kawaguchi@sun.com");
```

```
assertEquals(inbox.size(),1); // was the e-mail really sent
```

Mozilla Rhino

Web 2.0, baby!

What:	Embedded Javascript engine
Where:	http://www.mozilla.org/rhino/
License:	MPL/GPL

Rhino: Code Sample

```
public void actionPerformed(ActionEvent click) {
    String js = code.getText();
    Context context = Context.enter();
    ScriptableObject scope =
        context.initStandardObjects();
    try {
        Object result =
            context.evaluateString(scope,
                js, "code", 1, null);

        output.setText(
            Context.toString(result));
    } catch (EcmaError e) {
        output.setText(e.toString());
    }
}
```

Rome

RSS made easy

What:	CRUD library for RSS/ Atom
Where:	http:// rome.dev.java.net/
License:	Apache License 2.0

Rome: Code Sample

```
SyndFeed feed = new SyndFeedImpl();  
feed.setTitle("My Cool Stuff");  
feed.setFeedType("atom_1.0");  
feed.setDescription("Wink-wink, nudge-nudge");
```

```
SyndEntry entry = new SyndEntryImpl();  
entry.setTitle("Some cool stuff");  
entry.setLink("http://some.where/stuff/123");  
List contents = new ArrayList<SyndContent>();
```

```
SyndContent content = new SyndContentImpl();  
content.setType("text");  
content.setValue("blah-blah");  
contents.add(content);  
entry.setContents(contents);  
List entries = new ArrayList();  
entries.add(entry);  
feed.setEntries(entries);
```

```
SyndFeedOutput output = new SyndFeedOutput();
```

```
output.output(feed,  
    new OutputStreamWriter(System.out));
```

Selenium

No more excuses for web testing.

What:	HTML/JS, browser-based, test environment for webapps
Where:	http://www.openqa.org/selenium
License:	Apache License 2.0

Selenium: Code Sample

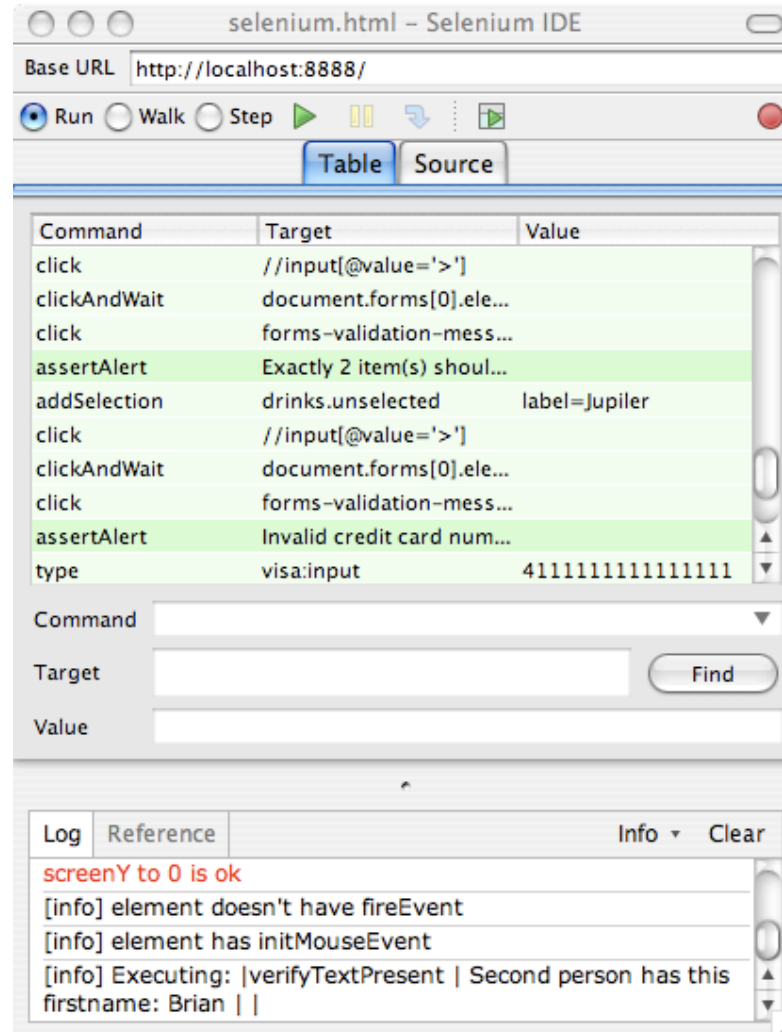
```
selenium = new DefaultSelenium("localhost", 4444, "*firefox", URL);
selenium.open("http://localhost:8888/samples/blocks/forms/form1");
selenium.type("email:input", "g.rabellino@sourcesense.com");
selenium.select("fourchars:input", "label=a");
selenium.click("N1002E_tab_1");
selenium.type("number1:input", "2");
selenium.waitForPageToLoad("30000");
selenium.select("account:input", "label=2");
selenium.type("contacts.1.firstname:input", "Brian");
selenium.click("//tr[3]/td[5]/span/a/img");
selenium.waitForPopUp("window_", "30000");
selenium.addSelection("drinks.unselected", "label=Hoegaarden");
assertEquals("Exactly 2 item(s) should be selected.",
selenium.getAlert());
verifyTrue(selenium.isTextPresent("Second person has this
firstname: Brian"));
```

Selenium IDE

No more excuses for web testing. Really!

What:	Firefox extension providing recording and IDE capabilities to Selenium
Where:	http://www.openqa.org/selenium
License:	Apache License 2.0

Selenium IDE: Code Sample



The screenshot shows the Selenium IDE interface with the following components:

- Base URL:** http://localhost:8888/
- Control Panel:** Run (selected), Walk, Step, and various execution icons.
- Table View:** A table with columns Command, Target, and Value. The table contains the following rows:

Command	Target	Value
click	//input[@value='>']	
clickAndWait	document.forms[0].ele...	
click	forms-validation-mess...	
assertAlert	Exactly 2 item(s) shoul...	
addSelection	drinks.unselected	label=Jupiler
click	//input[@value='>']	
clickAndWait	document.forms[0].ele...	
click	forms-validation-mess...	
assertAlert	Invalid credit card num...	
type	visa:input	4111111111111111
- Search Fields:** Command, Target, and Value input fields with a Find button.
- Log:** A log window showing the following messages:
 - screenY to 0 is ok
 - [info] element doesn't have fireEvent
 - [info] element has initMouseEvent
 - [info] Executing: |verifyTextPresent | Second person has this firstname: Brian | |

Selenium Maven plugin

Read my lips: no more excuses!

What:	Maven plugin integrating Selenium tests in the build cycle
Where:	http://mojo.codehaus.org/selenium-maven-plugin/
License:	Apache License 2.0

Selenium Maven plugin: Code Sample

```
<plugin>
  <groupId>org.codehaus.mojo</groupId>
  <artifactId>selenium-maven-plugin</artifactId>
  <executions>
    <execution>
      <id>start-selenium</id>
      <phase>pre-integration-test</phase>
      <goals>
        <goal>start-server</goal>
      </goals>
      <configuration>
        <background>true</background>
      </configuration>
    </execution>
  </executions>
</plugin>
```



Smack

XMPP/Jabber Client

- Apache License 2.0
- <http://igniterealtime.org/projects/smack/>

Smack

```
ConnectionConfiguration config =
    new ConnectionConfiguration("talk.google.com", 5222,
                               "gmail.com");
config.setSASLAuthenticationEnabled(false);
XMPPConnection c = new XMPPConnection(config);
c.connect();
c.login(account, password);

Chat chat = c.getChatManager()
    .createChat("brian.mccallister@gmail.com",
               new MessageListener() {
    public void processMessage(Chat chat, Message msg) {
        System.out.println(msg.getBody());
    }
});

chat.sendMessage("Hello, Brian!");
```

StringTemplate

Swiss-army knife of templating

What:	String templating from the ANTLR guy
Where:	http://www.stringtemplate.org
License:	BSD

StringTemplate: Code Sample

```
public void testStringTemplate() throws Exception {
    StringTemplate hello =
        new StringTemplate("Hello, $name$");
    hello.setAttribute("name", "World");
    assertEquals("Hello, World", hello.toString());

    StringTemplateGroup supergroup =
        new StringTemplateGroup("super");
    StringTemplateGroup subgroup =
        new StringTemplateGroup("sub");
    supergroup.defineTemplate("bold", "<b>$it$</b>");
    subgroup.setSuperGroup(supergroup);
    StringTemplate st =
        new StringTemplate(subgroup, "$name:bold()$");
    st.setAttribute("name", "Brian");
    assertEquals("<b>Brian</b>", st.toString());
}
```

XOM

XML done right?

What:	A “different” XML Object Model
Where:	http://www.xom.nu
License:	LGPL



XOM: Code Sample

```
public void testXOM() throws Exception {  
    Builder builder = new Builder();  
    Document pom = builder.build(new File("pom.xml"));  
  
    // System.out.print(pom.toXML());  
  
    XPathContext context = new XPathContext("maven",  
        "http://maven.apache.org/POM/4.0.0");  
    assertEquals(13,  
        pom.query("//maven:dependency", context).size());  
}
```



XStream

Super-easy Object/XML Translation

- BSD License
- <http://xstream.codehaus.org/>

XStream

```
XStream xstream = new XStream();
xstream.alias("person", Person.class);
xstream.alias("phonenumber", PhoneNumber.class);

Person joe = new Person("Joe", "Walnes");
joe.setPhone(new PhoneNumber(123, "1234-456"));
joe.setFax(new PhoneNumber(123, "9999-999"));

String xml = xstream.toXML(joe);

// ...

Person new_joe = (Person)xstream.fromXML(xml);
```

XStream

```
<person>
  <firstname>Joe</firstname>
  <lastname>Walnes</lastname>
  <phone>
    <code>123</code>
    <number>1234-456</number>
  </phone>
  <fax>
    <code>123</code>
    <number>9999-999</number>
  </fax>
</person>
```




Q&A, and your turn!

