# KonaKart OpenCms Integration Module

## Introduction

The purpose of this module is to demonstrate how the eCommerce / shopping cart functionality of KonaKart can be integrated into an OpenCms application.

The approach taken has been to use the KonaKart SOAP Web Service in order to call the KonaKart APIs from an OpenCms application. This allows for the applications to be installed in completely separate locations for maximum flexibility.

The module can be installed and run without actually having to install KonaKart since it automatically points to the KonaKart demo application running on the KonaKart web site http://www.konakart.com/konakart/Welcome.do . The WSDL for this application can be found at http://www.konakart.com/konakart/services/KKWebServiceEng?wsdl .

## Integration Architecture

KonaKart is designed to allow any UI technologies to interface to its core engine (written in Java), either through Java API calls, SOAP Web Service calls, JSON or RMI. The demo application on our web site is a JSP / Struts application. However we also demonstrate how a completely different technology (in this case OpenLaszlo) can interface to our core engine to provide an alternative user experience. This Catalog Inspector demo can be viewed at http://www.konakart.com/konakart_cat_inspector/main.swf . There is also a demo of a simple JavaScript application using our JavaScript jQuery library which can be viewed at http://www.konakart.com/konakart/jquery/src/html/kkCart.html .

Before deciding how to integrate KonaKart with OpenCms, we tried to imagine a typical scenario and came up with this:

Merchant is already online with a web site running using OpenCms technology. Merchant would like to integrate an online shop into his web site. Rather than just sending his customers to a KonaKart shop when they click a link, merchant would like to integrate some of the store products directly into his OpenCms pages. Merchant would also like to allow customer to add the products to the basket from an OpenCms page and to perform a Single Sign On so that his current customers don't have to register for the KonaKart online store. At the point where the customer is ready to checkout, he can then be directed to the KonaKart store in order to perform the checkout process. Obviously, the KonaKart store and the OpenCms application will have identical styles so that the customer never feels that he is leaving the web site.

Based on this scenario we decided not to completely rewrite the KonaKart API to run on OpenCms, but instead to demonstrate how the KonaKart SOAP API can easily be used to provide the integration described above.

# Module Contents and Installation

The installation process is relatively easy. You can import the module from the Module Management section of the OpenCms Admin Application. Note that the module contains a jar called axis.jar which is over 1MByte in size. MySQL will throw an exception unless the Max. packet size variable is set accordingly (e.g. 16 MBytes) and then the DB is restarted.
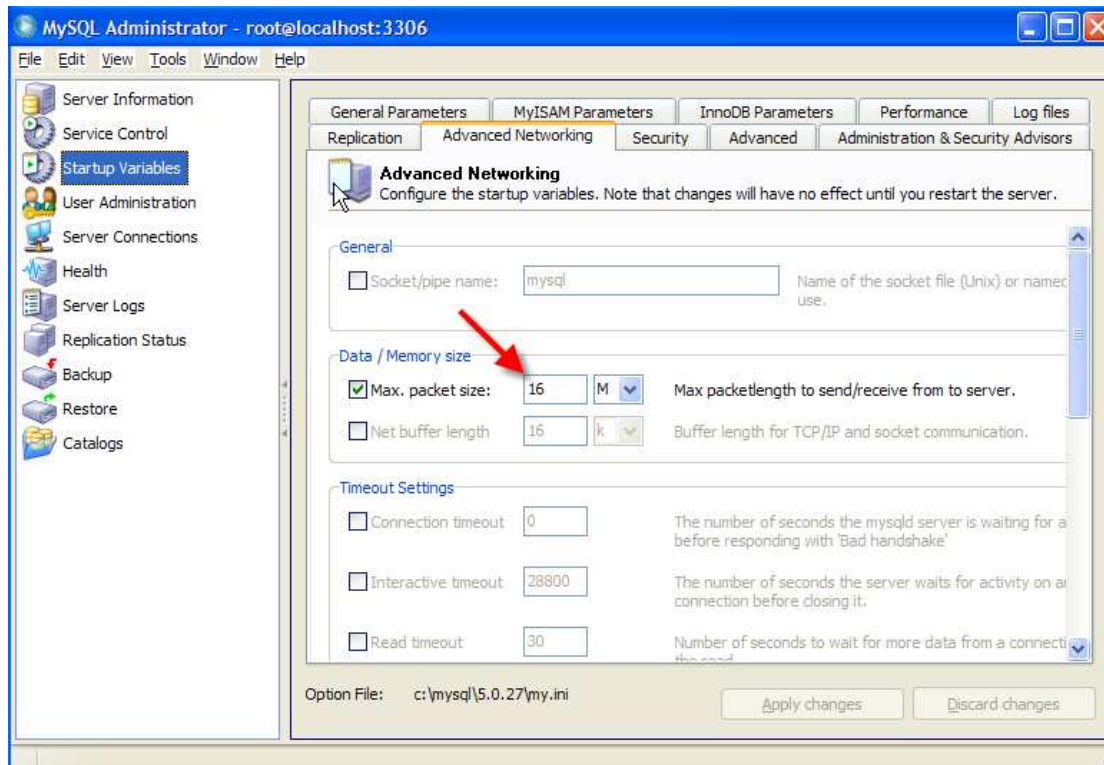


Once imported you must **restart** OpenCms since it needs to pick up new jar files under WEB-INF/lib, and then run the jsp called **index.jsp** under the **konakart-integration** directory in order to visualize an OpenCms screen integrated with products from KonaKart.

The module contains:
- JSPs
- Images
- Stylesheet
- Documentation in PDF format
- Jars that will be written to the WEB-INF/lib directory during installation

## How does it work?

Since the module allows an OpenCms application to communicate with the KonaKart core engine using SOAP, it contains Apache Axis jars that provide the necessary plumbing to achieve this. It also contains a jar called **konakart-opencms.jar** that contains the java interface classes used to call the APIs.

The integration capability is demonstrated in :

**system\modules\com.konakart\elements\NewProductsBody.jsp** – A JSP that calls the KonaKart engine in order to retrieve a list of the latest products added to the store, that are then displayed. When the product is clicked on, the customer is directed over to the product details page of the KonaKart demo store.

**system\modules\com.konakart\elements\BestSellersTile.jsp** – A tile that shows a list of the ten best selling products. When the product is clicked on, the customer is directed over to the product details page of the KonaKart demo store.

The communication code in the NewProductsBody.jsp consists of :

```
      CmsJspActionElement cms = new
org.opencms.jsp.CmsJspActionElement(pageContext, request, response);

      // Get constants
      String kkUrl = cms.property("konakart.url", "search",
"http://www.konakart.com/konakart/");
      String kkImgPath = "../resources/images/";

      // Get the products from the KonaKart engine using a SOAP call
      KKWSEngIf eng = new
KKWSEngIfServiceLocator().getKKWebServiceEng();
      DataDescriptor dataDesc = new DataDescriptor();
      dataDesc.setOffset(0); // Offset = 0
      dataDesc.setLimit(9);  // We only want to get back 9 products
      dataDesc.setOrderBy(DataDescConstants.ORDER_BY_DATE_ADDED);
      Products products = eng.getAllProducts( /* sessionId which can
be null since the user hasn't logged in to KK */ null,
                                    /* Data Descriptor defining how
many products, the offset and the sort order */ dataDesc,
                                    /* The language id. -1 for the
default store language */ -1);
      Product[] prods = products.getProductArray();
```

You can see that the API Call **getAllProducts()** is used. The Javadoc for the KonaKart Server API calls can be found at http://www.konakart.com/javadoc/server/ . The package to look at is **com.konakart.appif** which contains documentation for all of the objects used within the API calls as well as the calls themselves which are methods of **com.konakart.appif.KKEngIf**.

# How can I use a local version of KonaKart?

In order to use a local version of KonaKart we supply a kit for you to create a new version of the konakart-opencms.jar using the WSDL obtained from your local KonaKart.
This kit is provided in the main product download kit and is located directly under the installation directory in a directory called OpenCms_module, for example, on Windows:
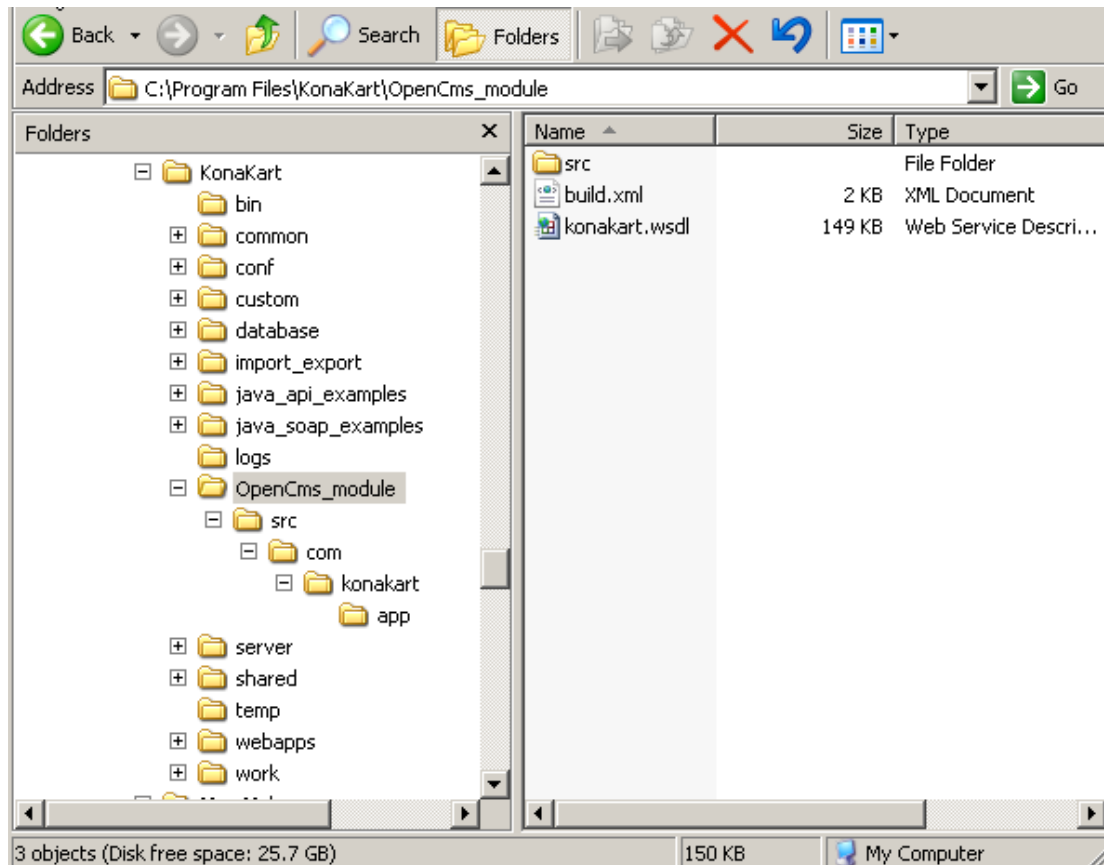


To produce a new konakart-opencms.jar you must follow these steps:

- If you are not running KonaKart on the default port on localhost, first edit the konakart.wsdl (found under OpenCms_module) substituting "localhost:8780" with your own host:port. Alternatively you could get the wsdl directly from your running KonaKart instance.
- Open up a command prompt in the OpenCms_module directory
- Enter **..\custom\bin\ant** (on Windows) or **../custom/bin/ant** (on Linux/Unix)
- The ant build should produce your new konakart-opencms.jar under OpenCms_module/jar.

Example of this building on Windows:

```
C:\Program Files\KonaKart\OpenCms_module>..\custom\bin\ant
Buildfile: build.xml

clean:
     [echo] Clean the OpenCms_module...
   [delete] C:\Program Files\KonaKart\OpenCms_module\jar not found.
```

```
   [delete] C:\Program Files\KonaKart\OpenCms_module\classes not
found.
   [delete] C:\Program
Files\KonaKart\OpenCms_module\gensrc\com\konakart\ws not found.
   [delete] C:\Program
Files\KonaKart\OpenCms_module\gensrc\com\konakart\app not found.
   [delete] C:\Program
Files\KonaKart\OpenCms_module\gensrc\com\konakart\wsapp not found.

axis_client_generation:
     [echo] Create the KonaKart client stubs from the WSDL

compile:
     [echo] Compile the examples
    [mkdir] Created dir: C:\Program
Files\KonaKart\OpenCms_module\classes
    [javac] Compiling 36 source files to C:\Program
Files\KonaKart\OpenCms_module\classes

make_jar:
     [echo] Create the jar needed by OpenCMS
    [mkdir] Created dir: C:\Program Files\KonaKart\OpenCms_module\jar
      [jar] Building jar: C:\Program
Files\KonaKart\OpenCms_module\jar\konakart-opencms.jar
     [echo] ./jar/konakart-opencms.jar Created - copy to the OpenCms
webapp

build:

BUILD SUCCESSFUL
Total time: 9 seconds

C:\Program Files\KonaKart\OpenCms_module>dir .\jar
 Volume in drive C has no label.
 Volume Serial Number is 0804-9485

 Directory of C:\Program Files\KonaKart\OpenCms_module\jar

07/11/2007  16:06    <DIR>          .
07/11/2007  16:06    <DIR>          ..
07/11/2007  16:06            89,739 konakart-opencms.jar
               1 File(s)         89,739 bytes
               2 Dir(s)  24,845,930,496 bytes free
```

Once the new konakart-opencms.jar has been created it must be copied into the WEB-INF/lib directory of your OpenCms installation, overriding the existing jar. In order for it to work locally, you must ensure that the SOAP APIs of your local installation are enabled. The KonaKart on line documentation provides instructions for enabling the SOAP APIs which by default are disabled for security reasons.