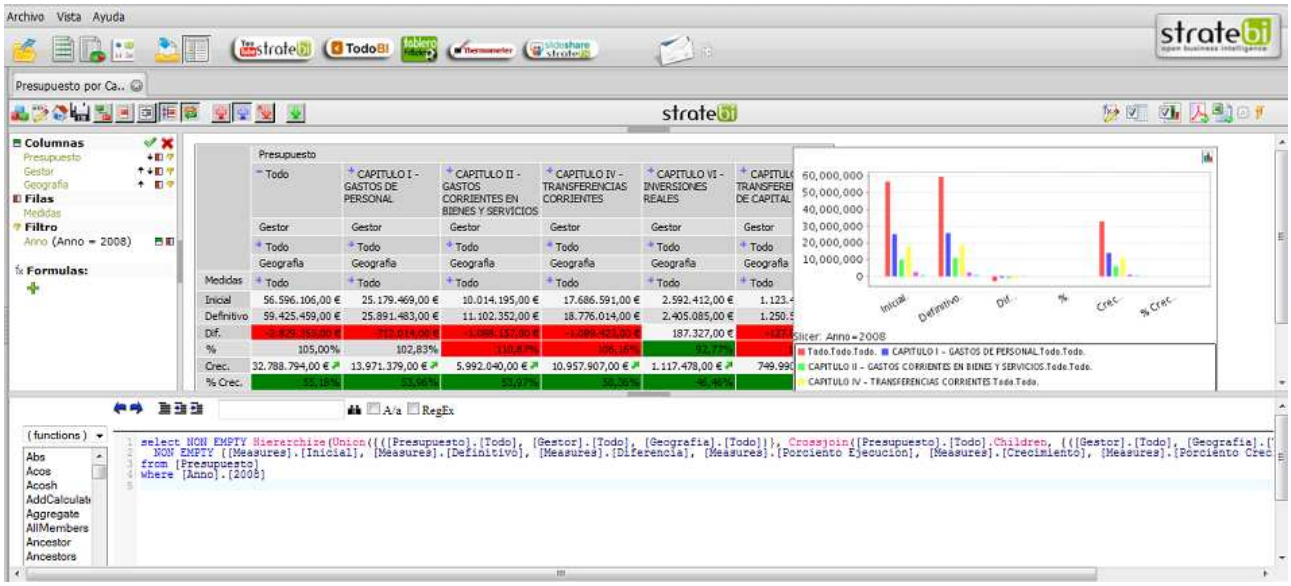
STPivot Tutorial, XMLA Mode



January 2012

About This Document

If you have questions that are not covered in this guide, or if you find errors in the instructions or language, please contact the Stratebi Technical Publications team at info@stratebi.com. The Publications team cannot help you resolve technical issues with products.

Support-related questions should be submitted through the STPivot Home Page at

http://code.google.com/p/stpivot

Limits of Liability and Disclaimer of Warranty

The author(s) of this document have used their best efforts in preparing the content and the programs contained in it. These efforts include the development, research, and testing of the theories and programs to determine their effectiveness. The author and publisher make no warranty of any kind, express or implied, with regard to these programs or the documentation contained in this book.

The author(s) and Stratebi shall not be liable in the event of incidental or consequential damages in connection with, or arising out of, the furnishing, performance, or use of the programs, associated instructions, and/or claims.

Company Information

Stratebi (www.stratebi.com/en/) are the main experts in Open Source Business Intelligence solutions in Spain, with a lot of client references, and their own developments.

They hold the main blog and social web about Open Source Analytics: Todobi (www.todobi.com) and Redopenbi (www.redopenbi.com)

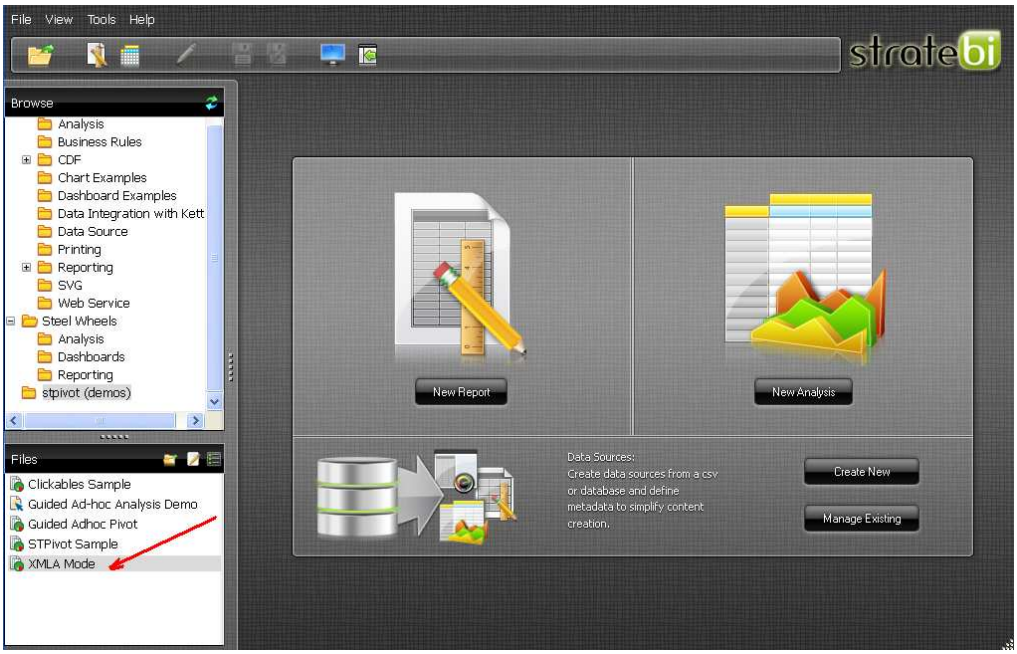
You can check several **Online Demos** based on Open Source BI here: http://sample.stratebi.es and http://www.tablerofutbolero.com

Table of Contents

1. Introduction

This document is intended to guide you when accessing an OLAP datasource in XMLA mode. We assume that you have already reviewed the “Introducing STPivot” and “STPivot Installation Guide” documents, successfully deploying STPivot in your Pentaho BI Server of choice; you are also familiar with action sequence definitions and feel yourself ready to try this advanced feature.

We'll be using the action sequence “XMLA Mode” as shown in the following picture.



2. Enabling XMLA Mode in Pentaho

If you want to try STPivot in XMLA mode, first you need is an XMLA enabled source of OLAP data. In case you don't have one at hand, you can use Pentaho BI-Server instead. This demonstration is conveniently based in Pentaho, so it is easy to see in action and easier to translate in order to access another provider.

Current topic was included because stable Pentaho BI-Server CE distributions from 3.6 to 3.7 do not work properly in XMLA mode by default. This is not the case starting from version 3.8, it is an easy to solve issue. Basically you must edit the XML file:

.../biserver-ce/pentaho-solutions/system/olap/datasources.xml

The content of this file look like this:

```
1.  <?xml version="1.0" encoding="UTF-8"?>
2.  <DataSources>
3.    <DataSource>
4.      <DataSourceName>Provider=Mondrian;DataSource=Pentaho</DataSourceName>
5.      <DataSourceDescription>Pentaho BI Platform Datasources</DataSourceDescription>
6.      <URL>http://localhost:8080/pentaho/Xmla?userid=joe&amp;password=password</URL>
7.      <DataSourceInfo>Provider=mondrian</DataSourceInfo>
8.      <ProviderName>PentahoXMLA</ProviderName>
9.      <ProviderType>MDP</ProviderType>
10.     <AuthenticationMode>Unauthenticated</AuthenticationMode>
11.     <Catalogs>
12.       <Catalog name="SteelWheels">
13.         <DataSourceInfo>Provider=mondrian;DataSource=SampleData</DataSourceInfo>
14.         <Definition>solution:steel-wheels/analysis/steelwheels.mondrian.xml</Definition>
15.       </Catalog>
16.       <Catalog name="SampleData">
17.         <DataSourceInfo>Provider=mondrian;DataSource=SampleData</DataSourceInfo>
18.         <Definition>solution:steel-wheels/analysis/SampleData.mondrian.xml</Definition>
19.       </Catalog>
20.     </Catalogs>
21.   </DataSource>
22. </DataSources>
```

In line 8 you can see (highlighted) how the ProviderName is set to PentahoXML. The problem is that this is not a valid value until version 3.8 (community edition), so you must set it to Mondrian. Pentaho BI-Server must be restarted before this change have effect.

As you can see, this file allows you to define multiple datasources with multiple catalogs, but some XMLA client won't read more than one DataSource (the first one). That's why we encourage you to define all your catalogs in only one DataSource. This file is also the place where you must register your Mondrian catalogs, if you want them to be available for report engine and the new analysis view feature in the user console.

Another thing to know is that if you want to use an XMLA ready client (for instance Pentaho, JRubik or La-Azada), you must indicate three parameters:

URI	http://localhost:8080/pentaho/Xmla?userid=joe&password=password
Datasource	Provider=Mondrian;DataSource=Pentaho

Catalog SteelWheels

3. Action Sequence Definition

You'll find two files in the solution folder (stpivot-demos) containing the necessary code for this sample. First of them (demo_xmla.analysisview.properties) is used only for internationalization reasons, and don't need an explanation. The entire action sequence definition is in file “demo_xmla.analysisview.xaction”, pasted here for further analysis.

```
<?xml version="1.0" encoding="UTF-8"?>
<action-sequence>

  <name>demo_xmla.analysisview.xaction</name>
  <title>%title</title>
  <version>1</version>
  <logging-level>ERROR</logging-level>
  <documentation>
    <author></author>
    <help/>
    <result-type>report</result-type>
    <description>%description</description>
    <icon></icon>
  </documentation>

  <inputs>
    <mode type="string">
      <default-value/>
      <sources>
        <request>mode</request>
      </sources>
    </mode>
    <!--
    In order to function in XMLA mode, stpivot looks for an input param named "uri".
    If found, then it will also looks for "datasource" and "catalog" parms,
    to define an XMLA connection.

    Current PivotViewComponent in Pentaho doesn't allow such params in its definition.
    That's why we have to define them as input parameters with the default value
    we want to send, and then as outputs params from xaction.

    NOTE: Pentaho XMLA don't work properly by default, you should edit the configuration file:
    ".../pentaho-solutions/system/olap/datasources.xml", and change the Provider from PentahoXMLA
    to Mondrian (<DataSourceInfo>Provider=Mondrian</DataSourceInfo>).
    -->
    <!-- BEGIN code to enable XMLA mode in stpivot -->
    <uri type="string">
      <default-value>http://localhost:8080/pentaho/Xmla?userid=joe&amp;password=password</default-value>
      <sources>
        <request>uri</request>
      </sources>
    </uri>
   <datasource type="string">
      <default-value>Provider=Mondrian;DataSource=Pentaho</default-value>
      <sources>
        <request>datasource</request>
      </sources>
    </datasource>
    <catalog type="string">
      <default-value>SteelWheels</default-value>
      <sources>
        <request>catalog</request>
      </sources>
    </catalog>
    <!-- END code to enable XMLA mode in stpivot -->
  </inputs>

  <outputs>
    <model type="string"/>
    <connection type="string"/>
    <mdx type="string"/>
    <options type="list"/><!-- Ignored in STPivot -->
    <title type="string"/>
    <url type="string">
```

```
            <destinations>
              <response>redirect</response>
            </destinations>
          </url>
          <charttype type="string"/>
          <chartlocation type="string"/>
          <chartheight type="string"/>
          <chartwidth type="string"/>
          <showgrid type="string"/>
          <!-- BEGIN code to enable XMLA mode in stpivot -->
          <uri type="string"/>
          <datasource type="string"/>
          <catalog type="string"/>
          <!-- END code to enable XMLA mode in stpivot -->
        </outputs>

        <resources/>

        <actions>

          <action-definition>
            <component-name>PivotViewComponent</component-name>
            <action-type>Pivot View</action-type>
            <action-name>Pivot View</action-name>
            <logging-level>ERROR</logging-level>
            <action-inputs>
              <mode type="string"/>
            </action-inputs>
            <action-outputs>
              <model type="string"/>
              <connection type="string"/>
              <mdx type="string"/>
              <options type="list"/><!-- Ignored by STPivot -->
              <title type="string"/>
              <url type="string"/>
              <charttype type="string"/>
              <chartlocation type="string"/>
              <chartheight type="string"/>
              <chartwidth type="string"/>
              <showgrid type="string"/>
            </action-outputs>
            <component-definition>
              <title>Drill Down to Pivot Table</title>
              <viewer>STPivot</viewer>
              <charttype>8</charttype>
              <chartlocation>right</chartlocation>
              <chartheight>500</chartheight>
              <chartwidth>600</chartwidth>
              <showgrid>true</showgrid>
              <model><![CDATA[stpivot-demos/steelwheels.mondrian.xml]]></model>
              <!--connection>jdbc/SampleData</connection-->
              <!--query>default</query-->
              <options><!-- Ignored by STPivot -->
                <personal/>
                <cube-nav/>
                <mdx-edit/>
                <sort-conf/>
                <spacer/>
                <level-style/>
                <hide-spans/>
                <properties/>
                <non-empty/>
                <swap-axes/>
                <spacer/>
                <drill-member/>
                <drill-position/>
                <drill-replace/>
                <drill-thru/>
                <spacer/>
                <chart/>
                <chart-conf/>
                <spacer/>
                <print-conf/>
                <print-pdf/>
                <spacer/>
                <excel/>
              </options>
              <jndi>SampleData</jndi>
              <query><![CDATA[
```

```
144.                     SELECT
145.                       { [Markets].[All Markets].Children } ON COLUMNS,
146.                       { [Time].[Years].Members } ON ROWS
147.                     FROM [SteelWheelsSales]
148.                     WHERE [Measures].[Sales]
149.                   ]]></query>
150.                 </component-definition>
151.               </action-definition>
152.
153.             </actions>
154.
155.           </action-sequence>
```

You'll find this action sequence and the one used in First Steps tutorial very similar, differing only in the input and output sections.

If STPivot found a parameter named URI, it is assumed that you want to use the XMLA mode and look for the other two parameters (datasource and catalog), ignoring those needed to establish a native connection with Mondrian. Since the PivotViewComponent provided by Pentaho does not allows you to include this parameters, we are setting them as input parameters; until we develop a new STPivotViewComponent that fix this and other similar issues (by including this parameters in the component-definition section).

You can try now using your own XMLA datasources, and give us your feedback so we can fix possible error and/or enhance current solution.