Accessing kdb+ from PHP to create dynamic webpages

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1 Introduction

Open Database Connectivity (ODBC) can be used as an interface for exchanging data between databases. To access data from non-kdb+ databases from a kdb+ client, see:
https://code.kx.com/trac/wiki/Cookbook/ODBC/qclient
and
https://code.kx.com/trac/browser/contrib/jludlow/docs/odbc.pdf?format=raw
Here we will examine the alternative setup of kdb+ as the server, with a non-kdb+ client. Currently this is possible only for Windows. See:
https://code.kx.com/trac/wiki/Cookbook/ODBC/qserver
Details are presented for connecting from Excel and Visual Basic.

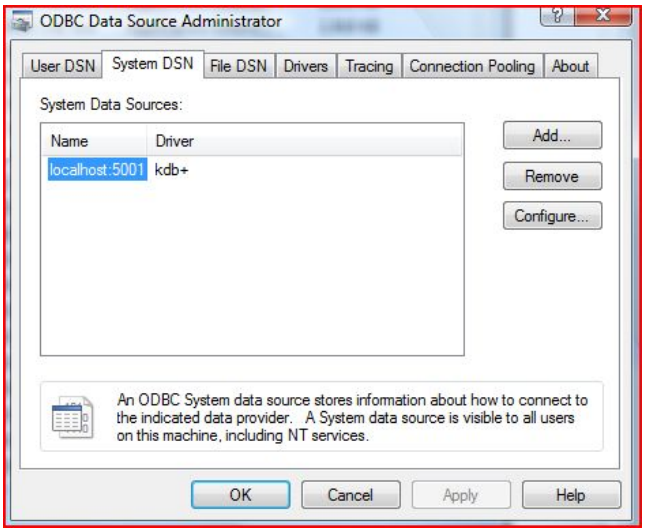
Currently, a popular set-up for many dynamic websites involves a web server such Apache, the MySQL database and a scripting language such as PHP. PHP code is included in a HTML source file, and allows server-side processing, along with requests to MySQL databases, thus enabling dynamic websites. Here we demonstrate how the kdb+ ODBC server can enable connections to be made from PHP to kdb+. This will demonstrated via a simple proof of principle example.

The work presented in this report was carried out on a laptop running Windows Vista.

2 Connecting kdb+ and PHP

1. Download and run the appropriate kdb+ ODBC driver (32 or 64 bit).
   In this case for 32 bits:
   https://code.kx.com/trac/browser/kx/kdb+/w32/odbc.exe
   For 64 bits, download:
   https://code.kx.com/trac/browser/kx/kdb+/w64/odbc.zip
   and run d0.exe to install the ODBC driver.

2. Now a system DSN needs to be defined.
   Run C:\ Windows\System32\odbcas32.exe or C:\Windows\SysWOW64\odbcad32.exe depending on your operating system type.
   You will need to specify a host and port, in this case localhost and port 5001. Remember to set the correct system permissions for your q folder.

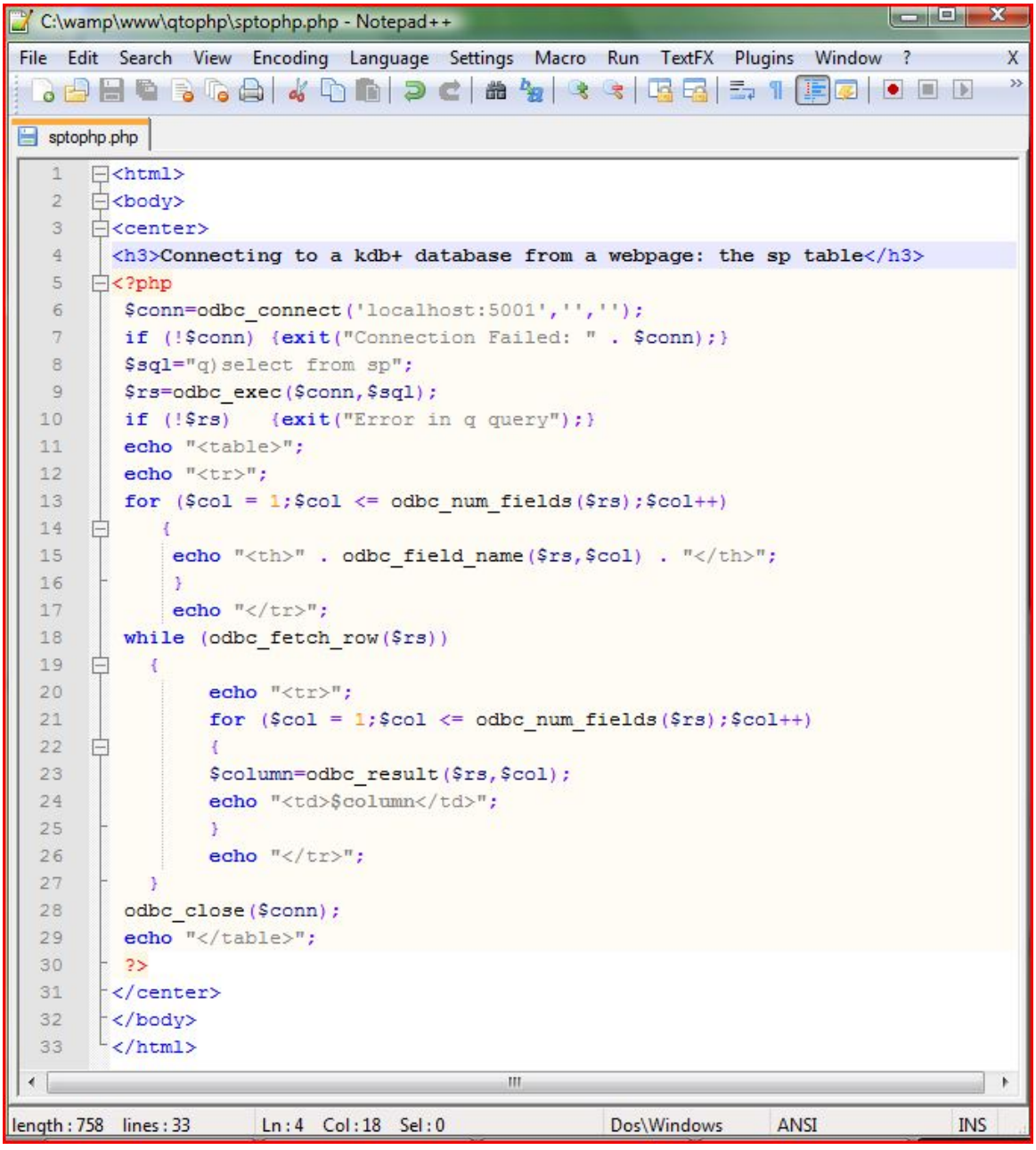


3. Now we will install a web server and PHP. For Windows, an excellent free package is WampServer
   http://www.wampserver.com/en/download.php

4. For the example data we will make use of the Suppliers and Parts database that can be loaded into kdb+ via the sp.q script.
   https://code.kx.com/trac/wiki/Startingkdbplus/tables#a4.3SuppliersandParts

5. Now, we will write a simple PHP script to pull information from a kdb+ database via ODBC. For this we make use of the php ODBC

connector:
http://www.w3schools.com/PHP/php_db_odbc.asp



6. The php script sptophp.php will be saved in a subdirectory under

C:\wamp\www
Note that the ODBC connection is established via the line (no username or password is needed here):

```
$conn=odbc_connect('localhost:5001','','')
```

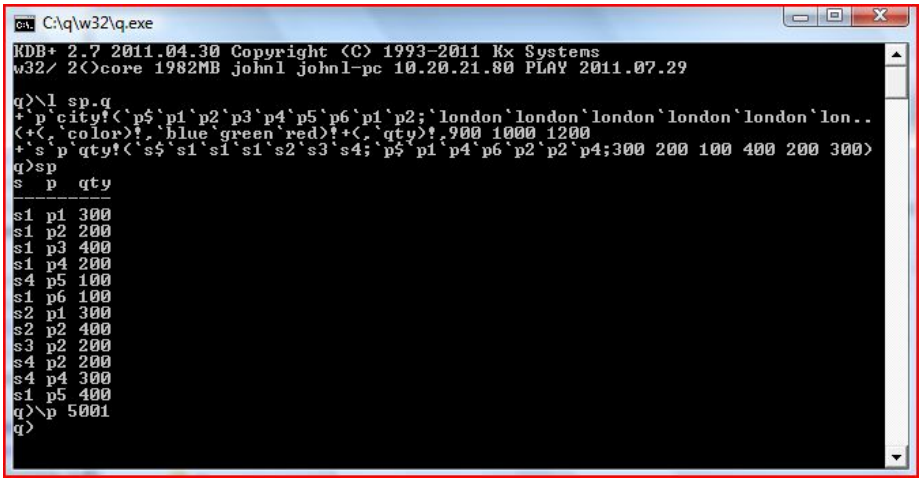
and the query as:

```
$sql="q)select from sp";
$rs=odbc_exec($conn,$sql);
```

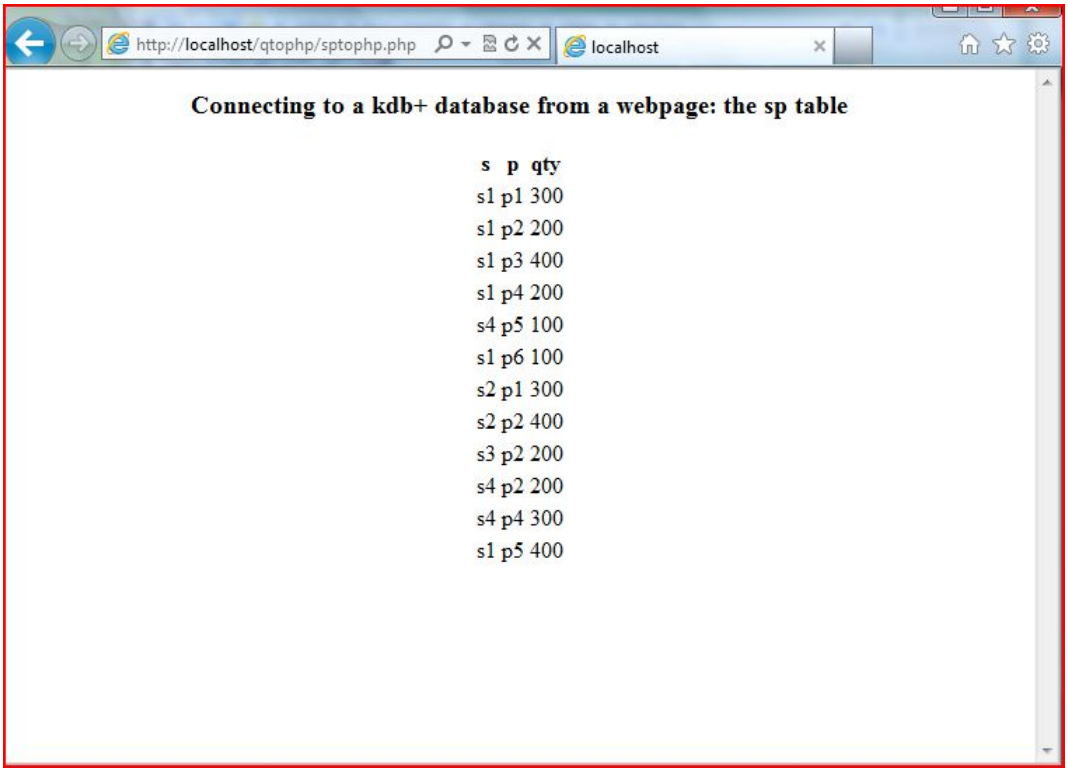
Note that the query can also be written in standard SQL as:

```
$sql="s)select * from sp";
```

7. Open a q session, load the sp.q script and listen on port 5001:



8. Finally, open a browser and view the sp table on a webpage:



3 Comments

This short report offers a proof of principle on how to access kdb+ data from a webpage that is written in PHP using the kdb+ ODBC server. Following this approach, more complex implementations are possible, allowing users interactive access to to a kdb+ server via a webpage, or the development of dynamic trading applications.