DWS Data Server (Ver. 0.6)
User Guide

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1 Introduction

1.1 Functionality

This is a light weight server application written in java. It reads from and writes to Microsoft Excel files. It is mainly intended to be used by Adobe Flex applications (like Dashboard apps) which need to read data from Excel worksheets. However, it can be used by any application which can make http calls for this purpose. The DWS Data Server runs as a Windows Service and listens to requests sent over http.

The server reads/writes using Excel via Microsoft's OLE. If for some reason this does not work, it will switch to using Apache POI to access the files. Theoretically the server will work on a Linux machine, if the wrapper code is changed to the linux version.

The server responds to requests from the local computer or any other computer whose IP address is present in the trusted hosts file.

The server can also be used to access data from MySQL or Oracle databases. However, it is not advisable to use it in this way unless only simple database access is needed. Also, since the database password is passed over http for every request, care should be taken to make such requests only in a secure network environment.

For reading or writing to Excel files, the user should send requests to the ExcelAccess servlet, and for accessing databases, should send the requests to the DBAccess servlet.

Note: This software is time limited when used without a license key. To continue using the software, please re-download from www.d-w-systems.com. Review the license terms for more details.

1.2 Configuration

One of the goals of the design is to have minimal or even zero configuration for the server.

- TrustedHostIPs.txt – this file is in the DWSDataServer directory. It contains a list of trusted IP addresses or a range of IP addresses
- Wrapper.conf – this file is in the wrapper directory. It can be edited to change
    - the port which the server listens on
    - the time in minutes after which Excel files are automatically closed (set to -1 to prevent automatic close). The default timeout is 5 minutes
    - the default directory for Excel files
- LicenseKey.txt – this file is in the DWSDataServer directory (if it exists)
- To access Oracle databases you need to download ojdbc14.jar from Oracle's website, copy it to the lib directory and restart the server.

1.3 Installation

- Extract files to any location on disk. This will be the installation location for the software, not a temporary directory.
- Double-click on Install.bat. The installation process assumes that JRE 5.0 has been previously installed
- To test the installation, call http://localhost:8091/BusinessStrategy.html from your browser. This assumes that the pc firewall has been turned off or the port is open.

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2 Excel Access

2.1 Specifying Excel File

- Request parameter EXCEL_PATH specifies directory location - if omitted the default location is used
- Request parameter EXCEL_FILENAME specifies Excel file name
- Request parameter EXCEL_SHEETNAME specifies worksheet name

2.2 Reading Excel Cells

This returns the table of Excel cell values as an xml file. Excel tables are considered vertical tables if the titles are in a row. A table with titles in a column is considered to be a horizontal table. The table returned is not necessarily from consecutive columns or rows, so each can have a starting cell number specified. If no cell no is specified the next logical location is used (the first one always needs to have a cell number specified.

2.2.1 Horizontal Excel Tables

- Request parameter – OTABLE__V*n*__*name*
- Paramameter value – Rows of comma separated values (with new line character between them) similar to a csv file.
- Flex HTTPService Tag
  <OTABLE__V*n*__*name*>
  CELLNO1__Title1, CELLNO2__Title2,Title3, Title4
  </OTABLE__V*n*__*name*>

Where:

- *n* is number of rows returned
- *name* is tag used in the xml for table data
- *CELLNO* is of the form 'A__5' for excel cell A5
- *Title* is the tag to be used to return the cell value

To return the data exactly as formatted in the excel file, add '__FMT' after *Title*:

- <OTABLE__V*n*__*name*>
  *CELLNO1__Title1*__FMT*, CELLNO2__Title2*__FMT*,Title3, Title4*
  </OTABLE__V*n*__*name*>

2.2.2 Vertical Excel Tables

Similar to the horizontal table with the V replaced by H.

- Request parameter – OTABLE__H*n*__*name*
- Paramameter value – Rows of comma separated values (with new line character between them) similar to a csv file.
- Flex HTTPService Tag
  <OTABLE__H*n*__*name*>
  CELLNO1__Title1, CELLNO2__Title2,Title3, Title4
  </OTABLE__H*n*__*name*>

2.3 Writing to Excel

2.3.1 Writing a Row of Cells

- Request parameter – IROW_*CELLNO*, where CELLNO is of the form A__5 for Excel cell A5

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- Parameter value – Comma separated values with double quotes if the value contains a comma
- Flex HTTPService Tag
  <IROW__B__6>
  value1,value2, value3,value4
  </IROW__B__6>

2.3.2 Writing a Column of Cells

- Request parameter – ICOL_*CELLNO*, where CELLNO is of the form A__5 for excel cell A5
- Parameter value – Comma separated values with double quotes if the value contains a comma
- Flex HTTPService Tag
  <ICOL__B__6>
  value1,value2, value3,value4
  </ICOL__B__6>

2.4 Saving/Closing Excel Files

- Request parameter <SAVE_ONCLOSE>, save file when closing automatically. Parameter value is empty or new file name
- Request parameter <SAVE__FILE>, save file without closing it. Parameter value is empty or new file name
- Request parameter <CLOSE__FILE>, close file. Parameter value is empty or 'save'

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3 Database Access

3.1 Specifying Database

- Request parameter DB_URL, parameter value is the jdbc URL, for instance 'jdbc:mysql://localhost:3306/testdb' or 'jdbc:oracle:thin:@localhost:1521:ORCL'
- Request parameter DB_USER, parameter value is database username
- Request parameter DB_PASSWORD, parameter value is password for the username

3.2 Reading Database Tables

This request returns the selected rows as xml data.

- Request parameter SEL_*name*, parameter value is the sql query.
- FLEX HTTPService Tag
  <SEL_*name*>
  Select * from table where …
  </SEL_*name*>

Where:

- name is the tag of xml data
- the column name or label is the tag for each value

3.3 Inserting Database Rows

- Request parameter INS_*tablename* where tablename is the Table into which data is to be inserted
- Parameter value – Data rows as comma separated values with double quotes if the value contains a comma. Each row separated by new line. The first row specifies the columns of the table. The value is similar to a csv file with a header.
- FLEX HTTPService Tag
  <INS__*tablename*>
  Column1,Column2,Column3,Column4
  Row1value1,Row1value2,Row1value3,Row1value4
  Row2value1,Row2value2,Row2value3,Row2value4
  Row3value1,Row3value2,Row3value3,Row3value4
  Row4value1,Row4value2,Row4value3,Row4value4
  </INS__*tablename*>

3.4 Updating Database Rows

This is very similar to the insert request, except that the first column specifies the table key to be used for the where clause.

- Request parameter UPD_*tablename* where tablename is the Table is to be updated
- Parameter value – Data rows as comma separated values with double quotes if the value contains a comma. Each row separated by new line. The first row specifies the columns of the table. The value is similar to a csv file with a header.

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- FLEX HTTPService Tag
  <UPD__*tablename*>
  Key1, Column1, Column2,Column3,Column4
  Row1keyvalue1, Row1value1, Row1value2,Row1value3,Row1value4
  Row2keyvalue1, Row1value1, Row1value2,Row2value3,Row2value4
  </UPD__*tablename*>

  or

  <UPD__*tablename*>
  Key1__Key2, Column1,Column2,Column3,Column4
  Row1keyvalue1,Row1keyvalue2, Row1value1, Row1value2,Row1value3,Row1value4
  Row2keyvalue1,Row2keyvalue2, Row2value1, Row2value2,Row2value3,Row2value4
  </UPD__*tablename*>

3.5 Database Command

This request may be used for executing any sql statement except a query, including create table or individuals insert/update.

- Request parameter CMD_*name*, parameter value is the sql statement.
- FLEX HTTPService Tag
  <CMD_*name*>
  drop table temp
  </CMD_*name*>

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4 Usage Example

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