IPI Paul

Working with HTA – Hyper Text Applications

Name   : IPI Database Copy and Search
Type   : HTA
Designer   : Paul I Ighofose
Date Created : 11/05/2019
Date Updated : 29/05/2019
Optional   : Microsoft Office 2007+, MySQL 5.0+, PHP 5.6+, SQL Server CE 4.0, SQL Server Local DB, SQL Server, newObjects ActiveX Pack 2.0+
Function   : Database Copy and Search App

Introduction

Working with colleagues in the NHS and providing some with Excel documents designed to meet their requirements I am often asked if there would be a search function to go with them. Trying to avoid changing the documents they require to macro enabled workbooks I have always said I would look in to it and given them the best that formulae driven result sets and or Pivot tables could offer. My first work attempt utilised Excel and Outlook userForms' and was limited to only 2 trusted colleagues.

Although I had been fully utilising Data Connections and VBA driven ADODB connections in Excel, Ms Access and Outlook for my own reports and analysis documents, attempts to create simple and quick web page dashboards had either been a challenge due to secure network issues or just poorly built operating systems (i.e it always worked at home ~..^). I also found a 58,000 row limit on querying Excel from an HTA app.

Package Structure

Rather than split the VBScript and JavaScript into separate files, I have kept all code as one HTA file. Initially I used the wrapper newObjects ActiveX Pack to give me access to SQLite databases (http://www.newobjects.com). Eventually after achieving successful MySQL access with PHP accessed through WScript Shells, I added PHP PDO access to SQLite databases. NodeJs has been considered but not added at this time.

ADODB connections to SQL native client, Microsoft Jet and ACE drivers give access to SQL Server, SQL Server LocalDB, SQL Server CE, Ms Access and Excel. There is also the possibly of csv and txt files, but these were not yet fully tested.

Operational Guide

Save the HTA file to a location on your computer. Running the Create Database function without full pathnames will generate those database files in the same folder location. I have not yet tried this on a network, so any feedback would be appreciated. Once opened you will be given default options which will re-appear most times the document is Refreshed (F5).

On occasion when the Source or Destination database fails to raise an error exception the App will become responsive and need to be restarted.

IPI Paul - Database Copy and Search App

Source Type	Source Dirvers/Providers	Source Path and File Name	Source Table/Workbook/Named Range
Microsoft ACCDB ▾	Microsoft ACE OLEDB 12.0 ▾	Test ...	Table1 ▾

Destination Type	Destination Dirver/Provider	Destination Path and File Name	Destination Table/Workbook/Named Range
Microsoft ACCDB ▾	Microsoft ACE OLEDB 12.0 ▾	Test ...	Table1 ▾

Source SQL: ▾ Destination: ▾ User: Password: 135 ▾ 206 ▾ 250 ▾ Select ▾ Select an Action to Perform ▾

Completion Description	Error Description

- The Source and Destination combo boxes and file retrieve buttons all have the same options but will vary in available functions.
- The Source is used as a basis for creating table structures in the Destination. Due to the 58,000 row limit on running searches on Excel workbooks, I thought it good to do a straight copy from Excel to any other database that would offer a faster and more efficient search function. I also noted on occasion (at work, not at home) that the ActiveX Object would not work on a closed Excel document. Hence my work attempts had to open the Excel workbook with write access, copy it to a temporary file before closing and using the temp file to run the search functions (not what I wanted at all).
- Using Office 2016 64bit at work and Office 2013 64bit at home, I often found that data connections using the ACE 12 provider would work at home and then fail at work. I managed to get the Jet provider to working at work so include both.

- Choosing a Source Type will alter the Source Drivers/Providers combo to the default option for that Source Type. Changing the Source Drives/Providers option to one that does not come with the installation of the Source Type will fail to run.
- Microsoft ACCDB, MDB and Excel are the only ones with 2 options (Ace and Jet). The defaults should be used with the remaining Types


- SQL Server, and MySQL PHP are the only 2 Source Types that do not offer locating a Source File. The Source Path and File Name input box should be populated with the Database Name you wish to use. I have not included the function to create a SQL Server database as this may be best done using SQL Server Management Studio. However, the option to create a MySQL database is available.
- You will have to manually edit the HTA Source SQL and Destination Combo boxes, changing the default entries to those that meet your network environment. Selecting the combo boxes next to one of these textboxes will populate it with your given server names. Optionally you can just type in the Server Name

- The User and Password input boxes are only currently used for MySQL PHP connections. The rest rely on Windows Authentication.

- When a file system database type is selected, clicking the … labelled button next to the Source Path and File Name input box will prompt the user to select a file with a popup dialog box. The default file extensions for that Source or Destination type will filter the available files for selection.
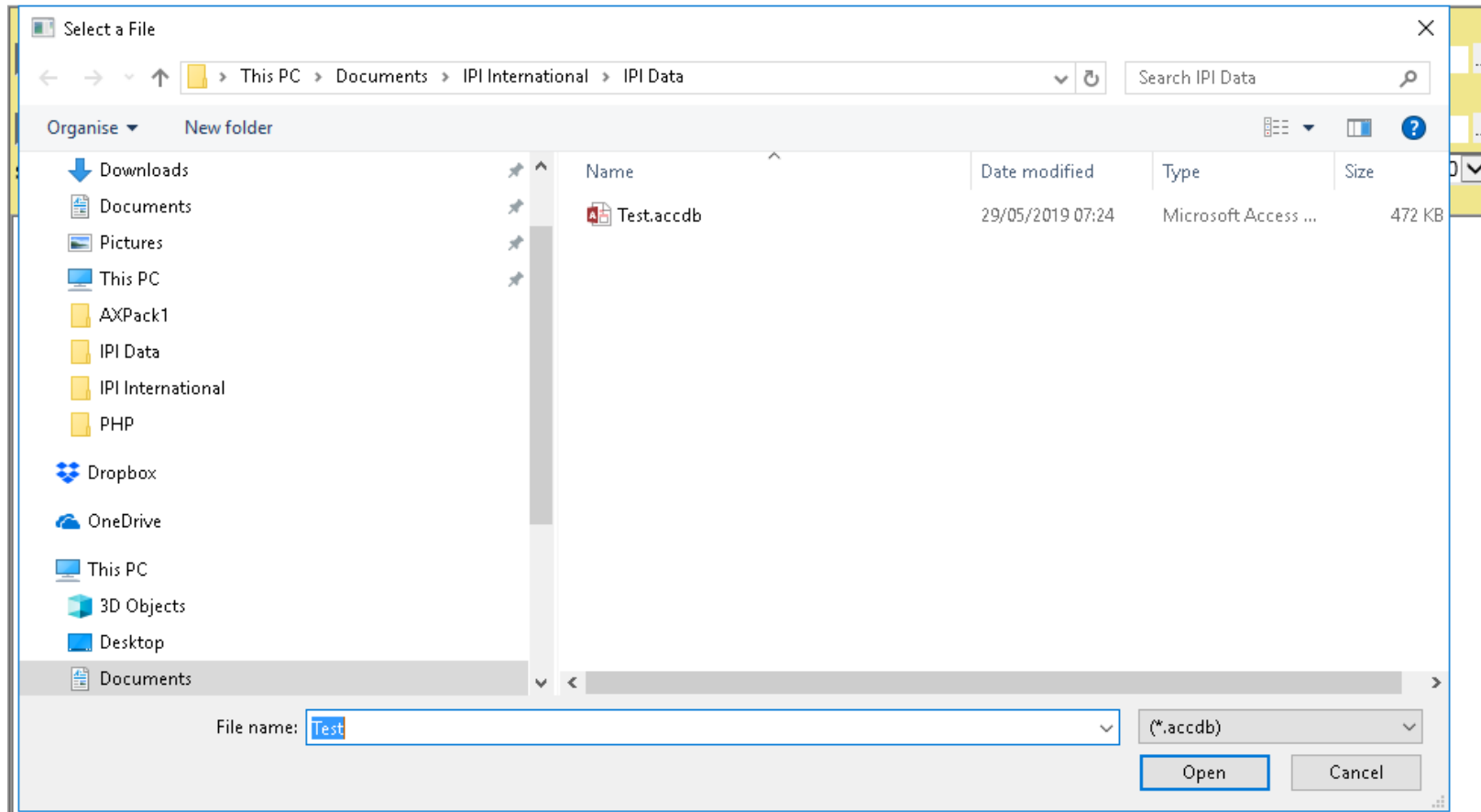
- If, like me, you have you Ms Access databases set up to use system MDW files for password verification, the File Path will not be returned until you complete the password verification successfully.
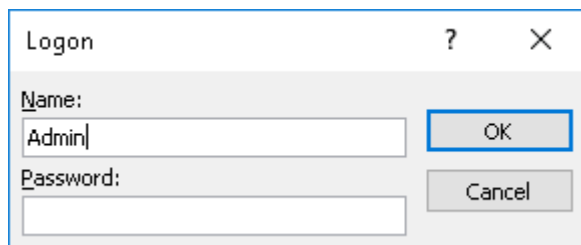
- At the same time the File Path is populated the combo next to the Source Table/Workbook/Named Range will also be populated with Tables within that database or both Tabs and Named Ranges in Excel. Selecting an Item will populate the input box and can act as a guide to a typed in entry. Typing in a different name in the Destination input box will create a Table with that name when using the Create Destination Tables function.

Source Table/Workbook/Named Range	
Table1	Compact Table1
Destination Table/Workbook/Named Range	
Table1	

- 3 combo boxes for Red, Green, and Blue colour indexes allow you to choose the Header and line colours of returned report tables. The default setting is currently Sky-Blue

135 ▽	206 ▽	250 ▽

- The Function combo box allows you to choose which function actions to perform and hopefully is self-explanatory

Select an Action to Perform
Create Destination Database
Create Destination Tables
Copy Source to Destination
Create Source Db Filters
Search Records / Run Transaction
Show/Hide Filters
Show/Hide Command Text
Send to New Oultook Email
Send to Open Oultook Email
Send to New Power Point Document
Send to Open Power Point Document
Send to New Word Document
Send to Open Word Document
Run Test

- Copy Source to Destination will not work if the Columns being copied from the source are not present in the Destination. The Show/Hide Command Text option will display a TextArea box to allow you to tailor what is copied and the naming structures used.
- The Show/Hide Command Text option is also meant for more advanced usage even though a novice can get by on other functions available
- Create Source Db Filters will generate a table that give an Ms Access Query Design view like approach to selecting your query structures. Changing items in this table will populate the Command Text TextArea box and overwrite any entries in it with every alteration. Each of the columns from the Source Table you specify will be displayed. The Destination database and its tables are not used in filter functions or generating results tables. They are

only used in copy to Destination functions. The number of columns in your Source Table will fit in to a scrollable DIV area

- The check boxes in each column determine if that column will be made visible in Copy or Search functions.
- The Order input box directly after each check box will determine the alphanumerical result orders
- The Grouping combo box (last of the 3) offers the usual Grouping functions on each column (e.g. First and Last in Ms Access and Excel only, or min/max; group/sum; count/avg)
- When the grouping combo is left empty on any one column but is selected in any other, that column is grouped.
- When the grouping selection is anything other than Group and a filtering entry is present, that filtering is done in the Having statement of the Command Text as opposed to the Where statement
- You guessed it! Adding an entry to any of the other filter input boxes will produce a where or having statement
- Spilt the individual entries in the 'In' line input boxes with a ',' (comma)
- Don't forget the Select Option combo box…. Ahh! Yes! This gives either a select or a select distinct start to the statement in the command text box

- The Search Records / Run Transaction action will query you database using whatever filtering you have specified and populate an iframe with the resulting table. If all goes well it will also populate a DIV area that displays a Completion Description indicating the action performed and its resulting affect. If not so lucky, the Error Description part will be populated.

Source SQL:		Destination: localhost		User:		Password:		135 ▾	206 ▾	250 ▾		Select ▾	Select an Action to Perform ▾

Customer ID	Company Name	Contact Name	Contact Title	Address	City	Region	Postal Code	Country	Phone	Fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin		12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.		05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.		05023	Mexico	(5) 555-3932	
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London		WA1 1DP	UK	(71) 555-7788	(71) 555-6750
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå		S-958 22	Sweden	0921-12 34 65	0921-12 34 67
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim		68306	Germany	0621-08460	0621-08924
BLONP	Blondel père et fils	Frédérique Citeaux	Marketing Manager	24, place Kléber	Strasbourg		67000	France	88.60.15.31	88.60.15.32
BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 67	Madrid		28023	Spain	(91) 555 22 82	(91) 555 91 99
BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des Bouchers	Marseille		13008	France	91.24.45.40	91.24.45.41
BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745
BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London		EC2 5NT	UK	(71) 555-1212	
CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires		1010	Argentina	(1) 135-5555	(1) 135-4892
CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.		05022	Mexico	(5) 555-3392	(5) 555-7293
CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern		3012	Switzerland	0452-076545	
COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lusíadas, 23	São Paulo	SP	05432-043	Brazil	(11) 555-7647	
CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London		WX1 6LT	UK	(71) 555-2282	(71) 555-9199

Completion Description	Error Description
29/05/2019 21:15 Using Microsoft ACE OLEDB 12.0 connection type with Microsoft ACCDB and select [Customer ID] , [Company Name] , [Contact Name] , [Contact Title] , [Address] , [City] , [Region] , [Postal Code] , [Country] , [Phone] , [Fax] from [Compact] where [Customer ID] >= 'a' and [Customer ID] <= 'd' it took 00:00:00 to display 16 records	

- The Send to New functions will create a new ActiveX object of the chosen Application (Outlook, PowerPoint or Word) and transfer the resulting table and its look and feel to that document/email/presentation. Outlook email being the fastest option due to its HTMLBody API. At work prior to developing this App, I use the HTML Document.copy function to transfer html tables to Outlook tasks and Word documents due to the lack of an HTMLBody API in both. I guess this has developed ME further!
- Word and PowerPoint have never really been my strength during my long and demanding career. Data accuracy and cleansing has played the greater role throughout. So learning how to generate these Word and PowerPoint tables has been interesting and an eye opener.
- For now, the Table headers in word are generated when the population of the table cells changes page
- Splitting a Word table and trying to run the Send to Open Word function confuses the VBA and it fails to populate the newly created table cells. Adding a new table after the end of another runs fine

- I have limited the number of table rows per slide created in PowerPoint to 12. However, with PowerPoint you can insert new tables after any slide regardless of whether it splits an existing table or not.
- Oultook email will event let you insert a table within a table due to its API

I look forward to any feedback or improvements. I learned most of this from you (Google Searches, Requests and advice from colleagues, guidance from younger sublings…) and the driven wish to enjoy success!

	To...	The World
Send	Cc...	
	Subject	

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Source Type	**Source Dirvers/Providers**	**Source Path and File Name**	**Source Table/Workbook/Named Range**
Microsoft ACCDB ▾	Microsoft ACE OLEDB 12.0 ▾	Test ✕ ...	Compact ▾
Destination Type	**Destination Dirver/Provider**	**Destination Path and File Name**	**Destination Table/Workbook/Named Range**
Microsoft ACCDB ▾	Microsoft ACE OLEDB 12.0 ▾	Test ...	Table1 ▾

Source SQL: [____] ▾ Destination: [____] ▾ User: [____] Password: [____] 135 ▾ 206 ▾ 250 ▾   Select ▾ Select an Action to Perform ▾

	Customer ID	**Company Name**	**Contact Name**	**Contact Title**	**Address**	**City**	**Region**	**Postal Cod**
Hide/Order	☑ ▾ ▾	☑ ▾ Max ▾	☐ ▾ ▾	☐ ▾ ▾	☐ ▾ ▾	☑ ▾ Count ▾	☑ ▾ ▾	☑ ▾
Like		min						
Not Like								
In				mr, mrs				
Equals								
Between	a d							

```
select [Customer ID] , max([Company Name]) as [max of Company Name] , count([City]) as [count of City] , [Region] , [Postal Code] , [Country] , [Phone] , [Fax]  from
[Compact] where [Contact Title] in ('mr',' mrs') and [Customer ID] >= 'a' and [Customer ID] <= 'd'  group by [Customer ID], [Region], [Postal Code], [Country], [Phone],
[Fax] having max([Company Name]) like '%min%'
```

Customer ID	Company Name	Contact Name	Contact Title	Address	City	Region	Postal Code	Country	Phone	Fax
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