

# IPI International

## *Working with PowerShell*

Name : IPI Excel Connection  
Type : PowerShell Script  
Designer : Paul I Ighofose  
Date Created : 28/12/2019  
Date Updated : 30/12/2019  
Requirements : Microsoft Windows 7 upwards  
Function : PowerShell Query Tool for Excel using either JET or ACE OLEDB and –ComObject connections.

### **Introduction**

When the IT department kept updating our CEO's Office package and losing the VBA User forms I had developed for him and his PA, I thought it time to have another bash at PowerShell Win-forms. Having achieved more experience from the HTA Application **IPI Database Copy and Search.hta**, I applied similar approaches to dealing with filtering and Query Syntax building.

This package comes close to the Query Environment offered by Ms Access and a lot had to be done to manage the Excel Application when forced to use the JET driver on xlsx and xlsm files.

### **Package Structure**

A single script file enables current function.

### **Operational Guide**

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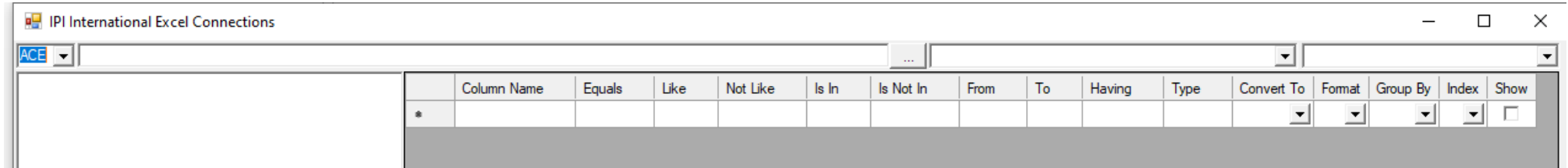
#### *Create a Shortcut Link File*

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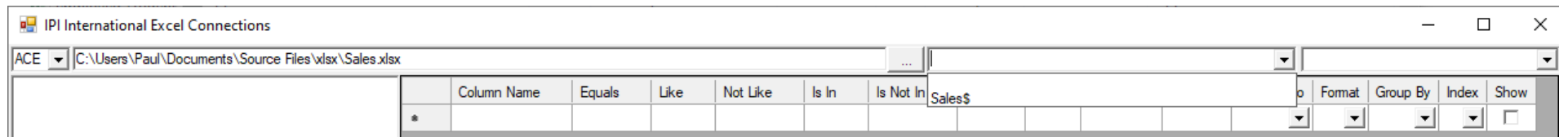
#### ***Create Shortcut***

- Paste the following text in to the Shortcut Properties, changing the file path as needed  
powershell.exe -WindowStyle Hidden -ExecutionPolicy Unrestricted -File "%userprofile%\Documents\IPI International\IPI Powershell\IPI Excel Connection.ps1"

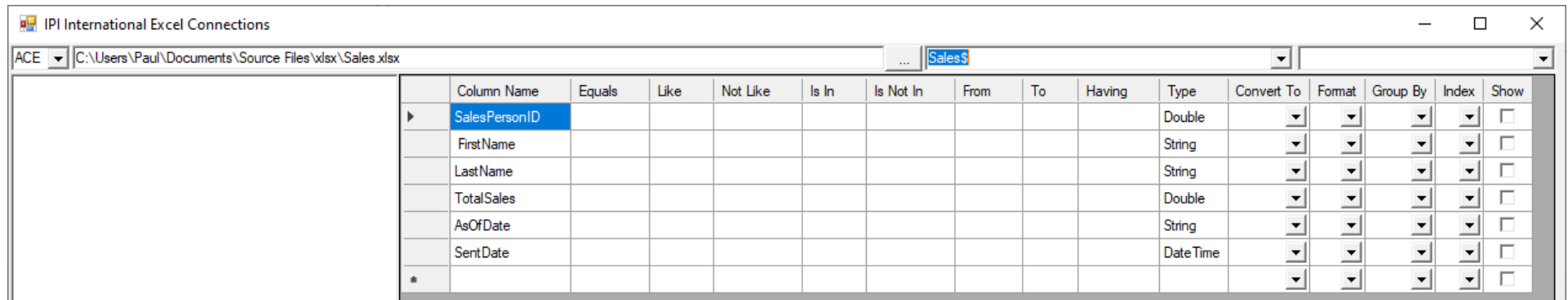
## Initial Display on Load



- A driver selection Combo box is located at the top-left and currently offers either ACE or JET OLEDB connection to Excel for running SQL Queries.
- The ... command button will display a File Open Dialog and the result will be entered in the textbox to the right of it.
- This function also runs a –ComObject Excel.Application connection to retrieve all Named Ranges and Worksheet names used in populating the combo box to the right of it.



- When using JET and selecting a Named ranged, there is a rather tedious delay, not so when using ACE.
- Selecting a name from the combo box will initiate an OLEDB connection to the file path displayed and populate the DataGridView below with the Column Names and the Data Types (Type column) of each column in the worksheet.



- Checking the **Show** column check boxes will populate the **Select** portion of the textbox to the left of the DataGridView with the SQL syntax and overwrites entries every time a change is made in the DataGridView.

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ACE | C:\Users\Paul\Documents\Source Files\xlsx\Sales.xlsx | Sales\$

Select  
[ FirstName]  
[, LastName]

from  
[Sales\$]

where  
not  
[ FirstName] &  
[ LastName] = ""

	Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
	SalesPersonID									Double					<input type="checkbox"/>
	FirstName									String					<input checked="" type="checkbox"/>
▶	LastName									String					<input checked="" type="checkbox"/>
	TotalSales									Double					<input type="checkbox"/>
	AsOfDate									String					<input type="checkbox"/>
	SentDate									DateTime					<input type="checkbox"/>
*															<input type="checkbox"/>

- Making entries in the filter columns will populate the **Where** portion of the textbox.

IPI International Excel Connections

ACE | C:\Users\Paul\Documents\Source Files\xlsx\Sales.xlsx | Sales\$

Select  
[ FirstName]  
[, LastName]

from  
[Sales\$]

where  
not  
[ FirstName] &  
[ LastName] = ""  
and  
[ FirstName] like "%y%"  
and  
not [ LastName] in ('Day')  
and  
[TotalSales] >= 100  
and  
[TotalSales] <= 10000

	Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
	SalesPersonID									Double					<input type="checkbox"/>
	FirstName		y							String					<input checked="" type="checkbox"/>
▶	LastName				Day					String					<input checked="" type="checkbox"/>
	TotalSales						100	10000		Double					<input type="checkbox"/>
	AsOfDate									String					<input type="checkbox"/>
	SentDate									DateTime					<input type="checkbox"/>
*															<input type="checkbox"/>

- Sizing of the form will adjust the sizes of the Editor Textbox and Filter Grid View if they are currently displayed, or, will adjust the sizing of the Results Grid View
- A lot has been done to stop Excel from opening multiple instances in the background when using the JET OLEDB driver and the –ComObject without affecting any other Excel Application currently running open workbooks. Occasionally there may still be an open excel document when the call to close it has not succeeded, but is a rare occurrence and more prone to be a result of testing.

- Convert To currently only offers CDate and CDbl conversion and is applied to all portions save **Group By**.

IPI International Excel Connections

ACE [ C:\Users\Paul\Documents\Source Files\xlsx\Sales.xlsx ] Sales\$

```

Select
[ FirstName]
,[ LastName]
,cdate(if([AsOfDate] = "" , 0, if(isnull([AsOfDate]) = true, 0,
[AsOfDate]))) as [AsOfDate]
from
[Sales$]
where
not
[ FirstName] &
[ LastName] &
[AsOfDate] = ""
and
[ FirstName] like "%y%"
and
not [LastName] in ('Day')
and
[TotalSales] >= 100
and
[TotalSales] <= 10000

```

Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
SalesPersonID									Double					<input type="checkbox"/>
FirstName		y							String					<input checked="" type="checkbox"/>
LastName					Day				String					<input checked="" type="checkbox"/>
TotalSales						100	10000		Double					<input type="checkbox"/>
AsOfDate									String	cdate				<input checked="" type="checkbox"/>
SentDate									DateTime					<input type="checkbox"/>
*														<input type="checkbox"/>

- Format offers decimal, percent, date-time, month-year and time formatting for the Select portion.

IPI International Excel Connections

ACE [ C:\Users\Paul\Documents\Source Files\xlsx\Sales.xlsx ] Sales\$

```

Select
[ FirstName]
,[ LastName]
,cdate(if([AsOfDate] = "" , 0, if(isnull([AsOfDate]) = true, 0,
[AsOfDate]))) as [AsOfDate]
,format([SentDate],"mmm-yy")
from
[Sales$]
where
not
[ FirstName] &
[ LastName] &
[AsOfDate] &
[SentDate] = ""
and
[ FirstName] like "%y%"
and
not [LastName] in ('Day')
and
[TotalSales] >= 100
and
[TotalSales] <= 10000

```

Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
SalesPersonID									Double					<input type="checkbox"/>
FirstName		y							String					<input checked="" type="checkbox"/>
LastName					Day				String					<input checked="" type="checkbox"/>
TotalSales						100	10000		Double					<input type="checkbox"/>
AsOfDate									String	cdate				<input checked="" type="checkbox"/>
SentDate									DateTime		mmm-yy			<input checked="" type="checkbox"/>
*														<input type="checkbox"/>

#,###,###,##0.00  
 #,###,###,##0  
 #,###,###,##0%  
 #,###,###,##0.00%  
 dd/mm/yyyy hh:mm  
 mmm-yy  
 hh:mm

- If an Item has Show ticked but no Group By option selected and any other Column has a Group By selection, then that item will also appear in the Group By portion.

- Making an entry without using operator symbols in the Having column will populate the **Having** portion of the textbox with a filter that looks for equality.

- Index will change automatically if the same index number is selected later for another column, iterating through all and adjusting to suit. This dictates the order Column Names will appear in the **Order By** portion.

	Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
	SalesPersonID									Double	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>
	FirstName		y							String	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	2 <input type="text" value=""/>	<input checked="" type="checkbox"/>
	LastName					Day.Night				String	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	1 <input type="text" value=""/>	<input checked="" type="checkbox"/>
	TotalSales						100	10000	>= 20000	Double	<input type="text" value=""/>	<input type="text" value=""/>	sum <input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>
	AsOfDate									String	cdate <input type="text" value=""/>	<input type="text" value=""/>	min <input type="text" value=""/>	<input type="text" value=""/>	<input checked="" type="checkbox"/>
▶	SentDate									DateTime	<input type="text" value=""/>	mmm-yy <input type="text" value=""/>	last <input type="text" value=""/>	<input type="text" value=""/>	<input checked="" type="checkbox"/>
*											<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>

```
Select
[ FirstName]
,[LastName]
,min(cdate(if([AsOfDate] = '', 0, if(isnull([AsOfDate]) = true, 0,
[AsOfDate]))) as [AsOfDate]
format(last([SentDate]),"mmm-yy") as [SentDate]

from
[Sales$]

where
not
[ FirstName] &
[LastName] &
[AsOfDate] &
[SentDate] = ''
and
[ FirstName] like "%y%"
and
not [LastName] in ('Day','Night')
and
[TotalSales] >= 100
and
[TotalSales] <= 10000

Group By
[ FirstName]
,[LastName]

Having
[TotalSales]>= 20000

Order By
[SentDate]
,[LastName]
,[ FirstName]
```

	Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To	Format	Group By	Index	Show
	SalesPersonID									Double	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>
	FirstName		y							String	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	3 <input type="text" value=""/>	<input checked="" type="checkbox"/>
	LastName					Day,Night				String	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	2 <input type="text" value=""/>	<input checked="" type="checkbox"/>
	TotalSales						100	10000	>= 20000	Double	<input type="text" value=""/>	<input type="text" value=""/>	sum <input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>
	AsOfDate									String	cdate <input type="text" value=""/>	<input type="text" value=""/>	min <input type="text" value=""/>	<input type="text" value=""/>	<input checked="" type="checkbox"/>
▶	SentDate									DateTime	<input type="text" value=""/>	mmm-yy <input type="text" value=""/>	last <input type="text" value=""/>	1 <input type="text" value=""/>	<input checked="" type="checkbox"/>
*											<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="checkbox"/>

## SQL Results

IPI International Excel Connections

ACE | C:\Users\Paul\Documents\Source Files\xlsx\Sales.xlsx | Sales\$

```

Select
[ FirstName]
,[ LastName]
,max([TotalSales]) as [TotalSales]
,cdate(if([AsOfDate] = '', 0, if(isnull([AsOfDate]) = true, 0,
[AsOfDate]))) as [AsOfDate]
,format([SentDate], 'mmm-yy') as [SentDate]

from
[Sales$]

where
not
[ FirstName] &
[ LastName] &
[TotalSales] &
[AsOfDate] &
[SentDate] = ''
and
[ FirstName] like '%y%'
and
not [LastName] in ('Day', 'Night')
and
[TotalSales] >= 100
and
[TotalSales] <= 10000

Group By
[ FirstName]
,[ LastName]
,[ AsOfDate]
,[ SentDate]

Order By
[SentDate]
,[ LastName]
,[ FirstName]
  
```

	Column Name	Equals	Like	Not Like	Is In	Is Not In	From	To	Having	Type	Convert To					
	SalesPersonID									Double						
	FirstName		y							String						
	LastName					Day, Night				String					2	<input checked="" type="checkbox"/>
▶	TotalSales						100	10000		Double		max				<input checked="" type="checkbox"/>
	AsOfDate									String	cdate					<input checked="" type="checkbox"/>
	SentDate									Date Time		mmm-yy	group	1		<input checked="" type="checkbox"/>
*																<input type="checkbox"/>

Edit Query  
 Run Query  
 Send To Open Email  
 View Previous Results

- After selecting the Run Query from the Functions combo box all results are displayed in a Grid View on the Filter Grid View and Edit Textbox are hidden

- Clicking the headings will sort either Ascending or Descending by that heading (although you may have already specified sort orders in you statement)

	FirstName	LastName	TotalSales	AsOfDate	SentDate
▶	Gerry	Attricks	2500	27/03/2014	Aug-14
	Benny	Fits	110	27/03/2014	Aug-14
*					

	FirstName	LastName	TotalSales	AsOfDate	SentDate
▶	Benny	Fits	110	27/03/2014	Aug-14
	Gerry	Attricks	2500	27/03/2014	Aug-14
*					

- Oddly enough, when I updated the PowerShell Script file I developed for our CEO, and tried running it through the PowerShell IDE, I kept getting the all frustrating Exception ACE OLEDB Microsoft Driver not properly installed. But, when I ran the same script using the shortcut link, the ACE driver selection worked without any Exceptions
- Selecting the Send To Open Email in the functions combo box will place the results at the current cursor position of an open email, although I have added extra styling to my works copy

Development

IPI International

System

Servers

ASU

FirstName	LastName	TotalSales	AsOfDate	SentDate
Benny	Fits	110	27/03/2014	Aug-14
Gerry	Attricks	2500	27/03/2014	Aug-14

Bye Paul.