

Windows PowerShell and SAS: Use Them to Drive Each Other Crazy

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It's always great to automate.

About Windows PowerShell

- Rich scripting language for Windows
- Similar in concept to UNIX shells
 - Many commands have UNIX-style aliases

Examples

- Gather system data and report using SAS
- Read SAS data sets
- Read SAS Enterprise Guide projects
- Check SAS server “health”

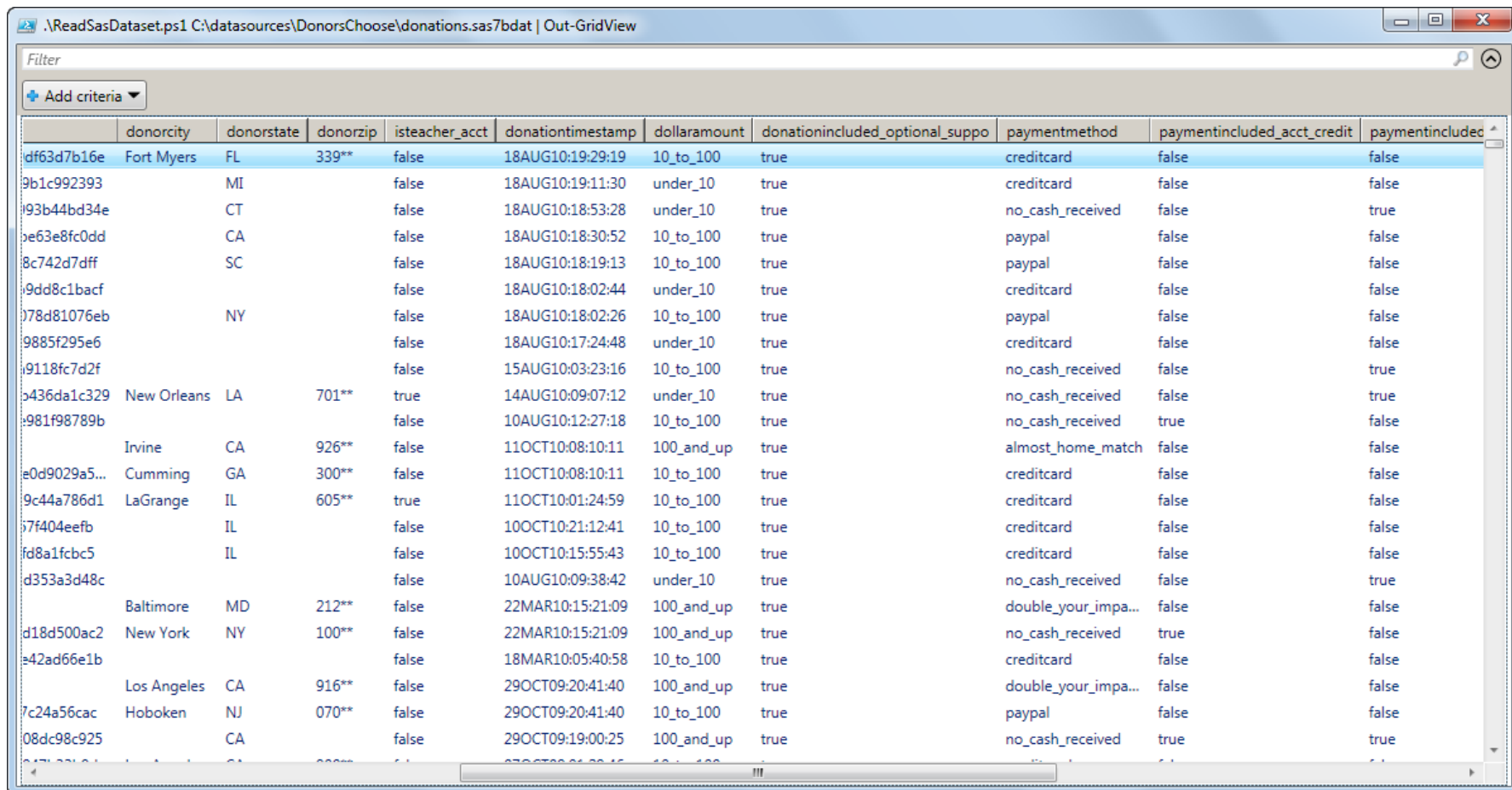
Reporting on SAS processes

SAS-related processes

Computer	Process	PID	Working set (bytes)	UserID	Command
L73391	tkesrv.exe	2620	33,464,320	SYSTEM	"C:\Program Files\SASHome\SASFrameworkDataServer\2.2\bin\tkesrv.exe" -name "SAS [EBIEDIEG-Lev1] FrameworkServer - SAS Framework Data Server" -set TKPATH "C:\Program Files\SASHome\SASFrameworkDataServer
L73391	sas.exe	2876	88,879,104	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\sas.exe" -config "C:\SAS\EBIEDIEG\Lev1\SASMeta\MetadataServer\sasv9.cfg" -servicename "SAS [EBIEDIEG-Lev1] SASMeta - Metadata Server"
L73391	spawner.exe	3532	15,077,376	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\spawner.exe"
L73391	objspawn.exe	3588	24,621,056	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\objspawn" -name "SAS [EBIEDIEG-Lev1] Object Spawner"
L73391	wrapper.exe	3620	4,501,504	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\wrapper.exe" -s C:\SAS\EBIEDIEG\Lev1\WebApplications\RemoteServices\wrapper.conf
L73391	sas.exe	3688	40,177,664	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\sas.exe" -config "C:\SAS\EBIEDIEG\Lev1\SASApp\OLAPServer\sasv9.cfg" -servicename "SAS [EBIEDIEG-Lev1] SASApp - OLAP Server"
L73391	sas.exe	3732	31,551,488	SYSTEM	"C:\Program Files\SASHome\SASFoundation\9.3\sas.exe" -config "C:\SAS\EBIEDIEG\Lev1\ShareServer\sasv9.cfg" -servicename "SAS [EBIEDIEG-Lev1] Share Server"
L73391	java.exe	3812	108,535,808	SYSTEM	"C:\Program Files (x86)\Java\jre1.6.0_24\bin\java.exe" -Djava.system.class.loader=com.sas.app.AppClassLoader -Dsas.app.repository.path="C:\Program Files\SASHome\SASVersionedJarRepository\edipse" -Dsas.a
L73391	SEGuide.exe	7016	131,317,760	saschrh	"C:\Program Files\SASHome\86\SASEnterpriseGuide\4.3\SEGuide.exe"
L73391	sas.exe	2156	50,561,024	saschrh	C:\PROGRA~1\SASHome\SASFOU~1\9.3\SAS.EXE -config "C:\Program Files\SASHome\SASFoundation\9.3\sasv9.cfg" -objectsrvr -nologo -noterminal -Embedding

Read SAS data sets

.\ReadSasDataset.ps1 C:\datasources\DonorsChoose\donations.sas7bdat | Out-GridView

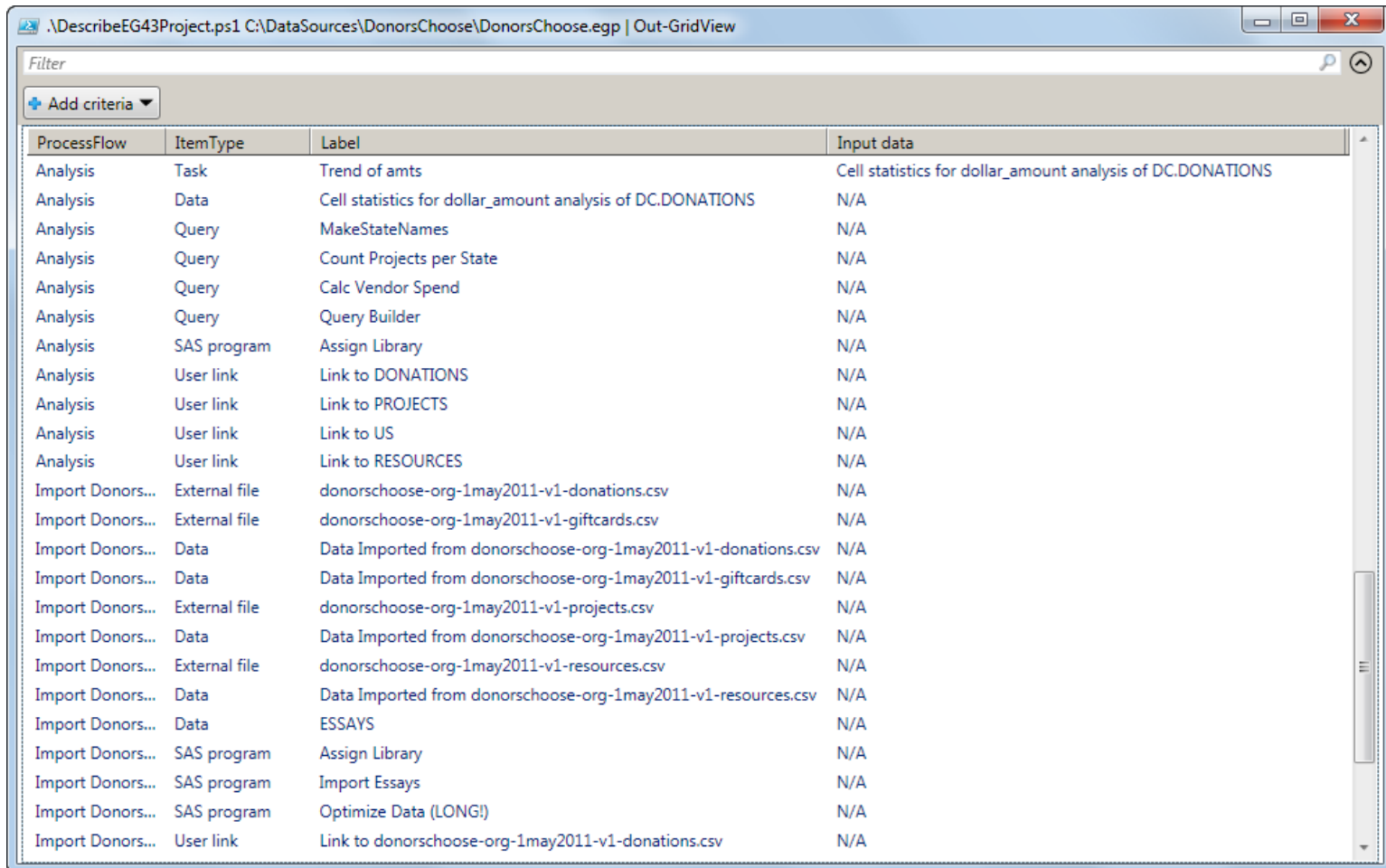


The screenshot shows a window titled ".\ReadSasDataset.ps1 C:\datasources\DonorsChoose\donations.sas7bdat | Out-GridView". The window contains a table with 11 columns and multiple rows of data. The columns are: donorcity, donorstate, donorzip, isteacher_acct, donationtimestamp, dollaramount, donationincluded_optional_supp, paymentmethod, paymentincluded_acct_credit, and paymentincluded. The data rows show various donation records with details like donor location, amount, and payment method.

	donorcity	donorstate	donorzip	isteacher_acct	donationtimestamp	dollaramount	donationincluded_optional_supp	paymentmethod	paymentincluded_acct_credit	paymentincluded
df63d7b16e	Fort Myers	FL	339**	false	18AUG10:19:29:19	10_to_100	true	creditcard	false	false
9b1c992393		MI		false	18AUG10:19:11:30	under_10	true	creditcard	false	false
93b44bd34e		CT		false	18AUG10:18:53:28	under_10	true	no_cash_received	false	true
6e63e8fc0dd		CA		false	18AUG10:18:30:52	10_to_100	true	paypal	false	false
8c742d7dff		SC		false	18AUG10:18:19:13	10_to_100	true	paypal	false	false
9dd8c1bacf				false	18AUG10:18:02:44	under_10	true	creditcard	false	false
078d81076eb		NY		false	18AUG10:18:02:26	10_to_100	true	paypal	false	false
9885f295e6				false	18AUG10:17:24:48	under_10	true	creditcard	false	false
9118fc7d2f				false	15AUG10:03:23:16	10_to_100	true	no_cash_received	false	true
5436da1c329	New Orleans	LA	701**	true	14AUG10:09:07:12	under_10	true	no_cash_received	false	true
981f98789b				false	10AUG10:12:27:18	10_to_100	true	no_cash_received	true	false
	Irvine	CA	926**	false	11OCT10:08:10:11	100_and_up	true	almost_home_match	false	false
e0d9029a5...	Cumming	GA	300**	false	11OCT10:08:10:11	10_to_100	true	creditcard	false	false
9c44a786d1	LaGrange	IL	605**	true	11OCT10:01:24:59	10_to_100	true	creditcard	false	false
57f404eefb		IL		false	10OCT10:21:12:41	10_to_100	true	creditcard	false	false
fd8a1fbc5		IL		false	10OCT10:15:55:43	10_to_100	true	creditcard	false	false
d353a3d48c				false	10AUG10:09:38:42	under_10	true	no_cash_received	false	true
	Baltimore	MD	212**	false	22MAR10:15:21:09	100_and_up	true	double_your_imp...	false	false
d18d500ac2	New York	NY	100**	false	22MAR10:15:21:09	100_and_up	true	no_cash_received	true	false
842ad66e1b				false	18MAR10:05:40:58	10_to_100	true	creditcard	false	false
	Los Angeles	CA	916**	false	29OCT09:20:41:40	100_and_up	true	double_your_imp...	false	false
7c24a56cac	Hoboken	NJ	070**	false	29OCT09:20:41:40	10_to_100	true	paypal	false	false
08dc98c925		CA		false	29OCT09:19:00:25	100_and_up	true	no_cash_received	true	true

Read SAS Enterprise Guide projects

.\DescribeEG43Project.ps1 C:\DataSources\DonorsChoose\DonorsChoose.egp | Out-GridView



The screenshot shows a window titled ".\DescribeEG43Project.ps1 C:\DataSources\DonorsChoose\DonorsChoose.egp | Out-GridView". The window contains a table with four columns: ProcessFlow, ItemType, Label, and Input data. The table lists various project items, including analysis tasks, data imports, and user links.

ProcessFlow	ItemType	Label	Input data
Analysis	Task	Trend of amts	Cell statistics for dollar_amount analysis of DC.DONATIONS
Analysis	Data	Cell statistics for dollar_amount analysis of DC.DONATIONS	N/A
Analysis	Query	MakeStateNames	N/A
Analysis	Query	Count Projects per State	N/A
Analysis	Query	Calc Vendor Spend	N/A
Analysis	Query	Query Builder	N/A
Analysis	SAS program	Assign Library	N/A
Analysis	User link	Link to DONATIONS	N/A
Analysis	User link	Link to PROJECTS	N/A
Analysis	User link	Link to US	N/A
Analysis	User link	Link to RESOURCES	N/A
Import Donors...	External file	donorschoose-org-1may2011-v1-donations.csv	N/A
Import Donors...	External file	donorschoose-org-1may2011-v1-giftcards.csv	N/A
Import Donors...	Data	Data Imported from donorschoose-org-1may2011-v1-donations.csv	N/A
Import Donors...	Data	Data Imported from donorschoose-org-1may2011-v1-giftcards.csv	N/A
Import Donors...	External file	donorschoose-org-1may2011-v1-projects.csv	N/A
Import Donors...	Data	Data Imported from donorschoose-org-1may2011-v1-projects.csv	N/A
Import Donors...	External file	donorschoose-org-1may2011-v1-resources.csv	N/A
Import Donors...	Data	Data Imported from donorschoose-org-1may2011-v1-resources.csv	N/A
Import Donors...	Data	ESSAYS	N/A
Import Donors...	SAS program	Assign Library	N/A
Import Donors...	SAS program	Import Essays	N/A
Import Donors...	SAS program	Optimize Data (LONG!)	N/A
Import Donors...	User link	Link to donorschoose-org-1may2011-v1-donations.csv	N/A

Check SAS server "health"

```
PS C:\projects\sgf2012\PowerShell> .\CheckServerHealth.ps1 173391
SUCCESS: Connection to SAS Logical Stored Process Server on port 8601
SUCCESS: Connection to SAS Framework Data Server on port 22031
FAIL: Unable to connect to SAS Web Application Server on port 8080
      Exception calling "Connect" with "2" argument(s): "No connection could be made because the
      target machine actively refused it 172.16.27.174:8080"
SUCCESS: Connection to SAS/Share Server on port 8551
FAIL: Unable to connect to SAS Object Spawner Load Balancing on port 8571
      Exception calling "Connect" with "2" argument(s): "No connection could be made because the
      target machine actively refused it 172.16.27.174:8571"
SUCCESS: Connection to SAS Workspace Server on port 8591
SUCCESS: Connection to SAS Remote Services Registry on port 5091
SUCCESS: Connection to SAS Logical Pooled Workspace Server on port 8701
SUCCESS: Connection to SAS Metadata Server on port 8561
SUCCESS: Connection to SAS Object Spawner Operator on port 8581
SUCCESS: Connection to SAS/Connect Spawner on port 7551
SUCCESS: Connection to SAS OLAP Server on port 5451
```


More information

<http://blogs.sas.com/sasdummy>

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