

## Add-GpsToImages

### Purpose:

Overlay JPG image files with text derived from GPS information in the image's EXIF data. JPG images can contain extended information (so-called EXIF data). This data may contain GPS information such as the geographical position where the picture was taken. The GPS location (latitude and longitude) can be used to look up the corresponding place name. Using this script, the location text can be placed on the image itself. Also, the filename can be changed to reflect date, location, or both.

The lookup of GPS information is done via the free Openstreetmap API, which is limited to about one request per second.

Depending on the place names, data may be given in non-Latin characters, e.g. 北京 instead of Beijing.

You can use a translation file to map such names to characters and languages of your choice

The script can be used in different ways:

- 1) process all images immediately
- 2) extract GPS information and create a text file mapping image names to GPS data.  
This file can be edited before actually writing data into the images
- 3) apply a translation file to the GPS file
- 4) apply the previously created GPS file and write the data into the images

As new user, be sure to check the descriptions of all parameters.

### Usage:

To add GPS information directly to the images:

```
Add-GpsToImages.ps1 -source <String> -destination <String> [-translationFile <String>]
[-textFormat <String>] [-maxTextPercent <Int32>] [-renameFormat <String>]
```

To create a file with GPS information:

```
Add-GpsToImages.ps1 -source <String> [-translationFile <String>] -gpsFile <String>
```

To apply the data from the GPS file to the images:

```
Add-GpsToImages.ps1 -destination <String> [-translationFile <String>] -gpsFile <String>
[-textFormat <String>] [-maxTextPercent <Int32>] [-renameFormat <String>]
```

To apply the translation file to the GPS file:

```
Add-GpsToImages.ps1 -translationFile <String> -gpsFile <String>
```

### Parameters:

- |                         |   |
|-------------------------|---|
| <b>-source</b>          | Path of the source files.<br>If you give the destination path as well, GPS data is written directly into the images.<br>If you give the gpsFile path, a GPS file is created.<br>See also -gpsFile and -translationFile parameters.  |
| <b>-destination</b>     | Path for the processed images, it MUST be different from the source folder.<br>If the source path is given as well, GPS data is written directly into the images.<br>If you give the gpsFile path, a GPS file is created.<br>See also -gpsFile and -translationFile parameters.   |
| <b>-translationFile</b> | Place names are returned by the API in local script and language, e.g. 北京 or Roma.<br>A text file mapping may be used to map these into your desired script and language.<br>The file format is <originalname>;<translatedname>, e.g.<br>北京;Beijing<br>Roma;Rome<br>If the source, gpsFile and translationFile parameters are given but no translation file exists, a new file is created containing all detected place names. If the translation file exists, it will not be changed.<br>You may then edit this file and later apply GPS and translation files to your images.<br><br>If only the gpsFile and translation file parameters are given, the translation file is applied to the GPS file, i.e. all words appearing in the translation file will be replaced by their translations. |

**-gpsFile** A text file mapping image path and name to GPS data. This file is created when the source and gpsFile parameters are specified, and its data is written into the images, when the gpsFile and destination parameters are specified. After creation, the file can be edited with any text editor. The format is <path>;<filename>;<date>;<orientation>;<latitude>;<longitude>;<altitude>;<country>;<city>, e.g.  
C:\pictures;IMG0001.JPG;2023:06:23 14:33:32;1;39.90;116.39;44.2;中国;北京  
C:\pictures;IMG0055.JPG;2025:01:30 12:17:28;1;41.90;12.45;133,30;Italia;Roma

**-textFormat** Specifies the format in which the GPS data will be written onto the image. The following placeholders will be replaced by the actual values, all other text will be written as specified:

|            |  |
|------------|--|
| !file      | filename of the image  |
| !date      | date picture was taken in the format YYYY-MM-DD                |
| !orien     | orientation as given in EXIF data                              |
| !lat       | latitude in degrees, minutes, and seconds, followed by N or S  |
| !lon       | longitude in degrees, minutes, and seconds, followed by W or E |
| !alt       | altitude in metres   |
| !country   | name of country corresponding to GPS location                  |
| !place     | name of village, town, city corresponding to GPS location      |
| !monthyear | date picture was taken in the format <monthname>-YYYY          |
| !time      | time picture was taken   |

Example: the default value '!place (!country) !monthyear' will result in '北京 (中国) 2023-06-23' and 'Roma (Italia) 2025-01-30'

**-maxTextPercent** Maximum width of the text in percent of the image width. If text would be longer than specified, the font size will be reduced. The default value is 75.

**-renameFormat** When this parameter is NOT given, the destination file name is the same as the source file name. If this parameter is given, the file name is defined by the specified placeholders. Note that the resulting string must not contain characters which are forbidden in file names! Allowed placeholders are:

|   |   |
|---|---|
| y | year (four digits)                                    |
| m | month (two digits)                                    |
| d | day (two digits)                                      |
| p | placename (see above comment on forbidden characters) |
| c | country (see above comment on forbidden characters)   |

A four-digit counter is added to any filename thus generated.

Example: the renameFormat 'y-m-' results in filenames like '2023-06-0001.jpg' and '2025-01-0001.jpg'

## Get-ResourceCostDetails

### Purpose:

Collect usage and cost data for resources of given resource type in Azure in given subscriptions.

Data is written to a set of CSV files (one file per resource type).

### Usage:

```
Get-ResourceCostDetails -subscriptionFilter <subscription>[,<subscription>] -outFile <filename>
[-delimiter <character>] [-resourceTypes <type>[,<type>]] [-excludeTypes <type>[,<type>]]
[-billingPeriod <billingperiod>] [-totals] [-consolidate] [-consolidateOnly] [-showUsage]
[-showUnits] [-count]
```

```
Get-ResourceCostDetails [-subscriptionFilter <subscription>[,<subscription>]]
[-resourceTypes <type>[,<type>]] [-excludeTypes <type>[,<type>]] -whatIf
```

### Parameters:

**-subscriptionFilter** Mandatory (optional when -WhatIf is used). Single filter or comma-separated list of filters. All subscriptions whose name contain the filter expression will be analysed.

|                         |   |
|-------------------------|---|
| <b>-outFile</b>         | Mandatory except when -whatIf is used. Write output to a set of CSV files. Since the results have a different format for each resource type, results are not written to a single CSV file, but to separate files, one for each resource type. For each file, the resource type will be inserted into the name before the final dot. |
| <b>-delimiter</b>       | Separator character for the CSV files. Default is the list separator for the current culture.   |
| <b>-resourceTypes</b>   | Single filter or comma-separated list of filters. Only resources with matching types will be analysed. If '*' is given as filter, all resource types will be evaluated, except those which are excluded by default and except those listed with the excludeTypes.   |
| <b>-excludeTypes</b>    | Single resource type or comma-separated list of types, evaluation of these types will be skipped. Some types will be excluded by default unless specified in the resourceTypes parameter.   |
| <b>-billingPeriod</b>   | Collect cost for given billing period, format is 'yyyyMMdd', default is the last month.   |
| <b>-totals</b>          | Display the total cost per resource as last column, i.e. the sum of all cost metrics.   |
| <b>-consolidate</b>     | create an additional report file with a matrix of cost per subscription and resource type   |
| <b>-consolidateOnly</b> | create only the report file with a matrix of cost per subscription and resource type, omitting the per-resource type files.   |
| <b>-showUsage</b>       | Display usage information for each cost item additionally to the cost.  |
| <b>-showUnits</b>       | Display the units for usages and cost as second header line. This is useful with the -usage switch, as the metrics come in 1s, 10000s, or so.   |
| <b>-count</b>           | Create an additional file containing the count of resources by subscription and resource type   |
| <b>-whatIf</b>          | Don't evaluate costs but show a list of resources and resource types which would be evaluated.  |

## Get-AzurePrice

### Purpose:

Lists the price for a specified VM or managed disk

### Usage:

```
Get-AzurePrice -VMType <vmtype> [-Reservation <reservation>] [-AHB] [-Currency <currency>]
Get-AzurePrice -DiskType <disktype> [-Redundancy <redundancy>] [-Currency <currency>]
```

```
Get-AzurePrice -VMType [...] displays estimated monthly fee for a given VM type
<vmtype>          must be written exactly as in the price table, including proper
                   capitalization. The space may be replaced by an underscore,
                   e.g. use "D4s v4" or "D4s_v5"
<reservation>     is 0, 1, or 3 (years). If omitted, all three values will be reported,
                   separated by semicolons
<currency>         can be any valid three-letter currency code, default value is EUR

-AHB              if this switch is given, prices are given without Windows license (i.e.
                   using Azure Hybrid Benefit)
```

```
Get-AzurePrice -DiskType [...] displays estimated monthly fee for a given disk type
<disktype>        must be written exactly as in the price table, including proper
                   capitalization, e.g. "E10" or "S20"
<redundancy>       is either LRS or ZRS, default is LRS
<currency>         can be any valid three-letter currency code, default value is EUR
```

## Get-ConnectedNICs

### Purpose:

List network interfaces in given subscriptions with IP address, VNet name, network address and DNS record, also tests whether NIC is responding to pings

### Usage:

```
Get-ConnectedNICs [-subscriptionFilter <filterexpression>] [-outFile <outfilename>] [-noPing]
  -subscriptionFilter mandatory parameter, list NICs in subscriptions matching the filter
  -outFile             writes results to a semicolon-separated CSV format if this parameter
                      is given
  -noPing              skips testing whether the NIC is responding to a ping
```

## Get-FileAccesses

### Purpose:

provides count and size statistics about file extensions and ages on file storages

### Usage:

```
Get-FileAccesses -serverName <servername> [-shareName <sharename>] [-onAccess] [-noAges]
[-noExtensions] [-priority (BelowNormal | Normal | AboveNormal | High | Realtime)]
  -serverName      Mandatory, evaluates data on given share(s) of <servername>
  -shareName       Analyzes files on the given share.
                  If omitted, analyzes data on all non-hidden shares of the given
                  server.
  -onAccess        Uses lastAccess for age calculation.
                  If omitted, uses lastwrite for age calculation
  -noAges          Ignores file age, lists by extensions only (if -noExtensions is not
                  given)
  -noExtensions    Ignores extensions, lists by age only (if -noAge is not given)
                  If BOTH -no... switches are given, script only returns total file
                  count and size
  -priority        Starts process with given priority. Use with care.
                  Possible values are BelowNormal | Normal | AboveNormal | High |
                  Realtime
```

### Examples:

to list file count and size by age, based on last accessed date'

```
Get-FileAccesses -ServerName myserver -ShareName myshare -onAccess -noExtensions
```

to see all properties in table format, use ft -Property \*

```
Get-FileAccesses -ServerName myserver -ShareName myshare | ft -Property *
```

## Get-NSGRules

### Purpose:

Lists the NSG rules in the given subscriptions in a summarized or detailed way

### Usage:

```
Get-NSGRules -subscriptionFilter <filterexpression> [-details | -briefDetails]
  -subscriptionfilter mandatory parameter, list NSGs in subscriptions matching the filter
  -details             list all rules in order of their priority
  -briefDetails        list every rule, but fewer details
                      if neither "details" switch is present, then all open ports are
                      listed, regardless of the actual source and target networks.
                      Since this mixes rules, it gives you an overview of ports but no
                      reliable information about security
```

## Get-PrinterQueues

### Purpose:

Lists all printer queues on all computers matching the filter.  
The output will be for the each printer on the matching computer(s),  
name of computer, printer, driver, and printer IP address.

### Usage:

```
Get-PrinterQueues -Filter <filter> [-details] [-ping] [-outFile <outfilename>]
```

- Filter           name(s) of computer(s) whose queues shall be displayed. Filter may contain wildcards
- details       Give additional details for each printer: name of shared printer, location, comment, and port name
- ping          will try to ping each printer and output an additional field 'IsLive'
- outFile       if given, exports result into a semicolon-separated CSV file

## Get-VirtualMachineInfo

### Purpose:

Lists the VMs, their SKU, OS, OS version, and their disks

### Usage:

```
Get-VirtualMachineInfos -subscriptionFilter <filterexpression>
[-disks [-asString | -aggregatedString]] [-ipAddresses] [-ping]
[-outFile <filename> [-separator <separator>]]
Get-VirtualMachineInfos -subscriptionFilter <filterexpression> -all
[-asString | -aggregatedString] [-outFile <filename> [-separator <separator>]]
```

Returns a list of all subscriptions, virtual machines, their SKU, IP addresses, and SKUs of attached disks in subscriptions matching the filter

- all           includes -disks, -ipAddresses, -ping
- disks        show OS and data disk SKUs
- asString     shows the disks in string format
- aggregatedString shows the disks in an aggregated string format
- ipAddresses   show IP address(es)
- ping         ping VM to see whether it is live
- outFile      if given, exports result into a CSV file
- separator    separator for items in CSV file, default is semicolon

## Get-VirtualNetworks

### Purpose:

Lists all virtual networks, subnets, IP addresses and -ranges for the specified subscription(s)

### Usage:

```
Get-VirtualNetworks -subscriptionFilter <filterexpression> [-outFile <outfilename>]
[-includeSubnets]
```

- subscriptionFilter   mandatory. Lists networks in subscriptions matching the filter
- outFile              will write output into semicolon-separated CSV file, otherwise output is a list of objects
- includeSubnets      list subnets for each VNet

## Get-AzureResourceData

### Purpose:

Returns a list of resources of selected type(s) in selected subscription(s), along with some properties and metrics.

### Usage:

```
Get-AzureResourceData -subscriptionFilter <filterexpression> [-VMs] [-SqlServer] [-DbAas]
[-Storage] [-ResourceList [-details] [-lastHours <hours>]
[-billingPeriod <billingperiod>]] [-outFile <filename> [-separator]]
Get-AzureResourceData -subscriptionFilter <filterexpression> [-all] ...
```

### Parameters:

- subscriptionFilter   Single filter or comma-separated list of filters. All subscriptions whose name matches the filter expression will be analysed.
- VM                   Show VMs and their properties
- SqlServer            Show SQL server VM properties
- DbAas                Show Azure SQL (databases aaS)
- Storage              Show storage accounts
- Snapshot            Show snapshots
- all                  All of the above switches
- lastHours            collect metrics within the given time period, default is 24 hours
- ResourceList         Show count of resource types in subscription

-billingPeriod      Collect resource cost for given billing period, default is the last month. Note that there may be no data available for the given billing period.

-details            Show list of resources in subscription

-outFile            Export result into a CSV file rather than on the console  
NOTE: separate files will be created for different resource types.  
Two characters will be added to the file names to make them different.

-separator          Separator for items in CSV file, default is semicolon

-whatIf             Just display the names of the subscriptions which would be analysed

NOTE: you may adjust this script e.g. to add or remove metrics. These parts of the code are marked with # >>>> and # <<<<.  
Refer to the comments inside the code for further information.