Powercfg command-line options

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Feedback

In this article

Use powercfg.exe to control *power plans* - also called *power schemes* - to use the available sleep states, to control the power states of individual devices, and to analyze the system for common energy-efficiency and battery-life problems.

Syntax

Powercfg command lines use the following syntax:

powercfg */option* [*arguments*] [**/?**]

where *option* is one of the options listed in the following table, and *arguments* is one or more arguments that apply to the selected option. Including **/?** in a command line displays help for the specified option. Options and arguments are described in more detail later in this topic.

Command-line options

Expand table

Option	Description
/?, -help	Displays information about command-line parameters.
/list, /L	Lists all power schemes.
/query, /Q	Displays the contents of a power scheme.
/change, /X	Modifies a setting value in the current power scheme.
/changename	Modifies the name and description of a power scheme.
/duplicatescheme	Duplicates a power scheme.
/delete, /D	Deletes a power scheme.
/deletesetting	Deletes a power setting.
/setactive, /S	Makes a power scheme active on the system.
/getactivescheme	Retrieves the currently active power scheme.
/setacvalueindex	Sets the value associated with a power setting while the system is powered by AC power.
/setdcvalueindex	Sets the value associated with a power setting while the system is powered by DC power.

/import	Imports all power settings from a file.
/export	Exports a power scheme to a file.
/aliases	Displays all aliases and their corresponding GUIDs.
/getsecuritydescriptor	Gets a security descriptor associated with a specified power setting, power scheme, or action.
/setsecuritydescriptor	Sets a security descriptor associated with a power setting, power scheme, or action.
/hibernate, /H	Enables and disables the hibernate feature.
/availablesleepstates, /A	Reports the sleep states available on the system.
/devicequery	Returns a list of devices that meet specified criteria.
/deviceenableawake	Enables a device to wake the system from a sleep state.
/devicedisablewake	Disables a device from waking the system from a sleep state.
/lastwake	Reports information about what woke the system from the last sleep transition.
/waketimers	Enumerates active wake timers.
/requests	Enumerates application and driver Power Requests.
/requestsoverride	Sets a Power Request override for a particular Process, Service, or Driver.
/energy	Analyzes the system for common energy-efficiency and battery life problems.
/batteryreport	Generates a report of battery usage.
/sleepstudy	Generates a diagnostic system power transition report.
/srumutil	Dumps Energy Estimation data from System Resource Usage Monitor (SRUM).
/systemsleepdiagnostics	Generates a diagnostic report of system sleep transitions.
/systempowerreport	Generates a diagnostic system power transition report.

Command-line option descriptions

The following sections describe Powercfg command-line options and arguments.

-help or /?

Displays information about command-line parameters.

Syntax:

```
powercfg /?
```

/list or /L

Lists all power schemes.

Syntax:

```
powercfg /list
```

/query or /Q

Displays the contents of the specified power scheme.

Syntax:

`powercfg /query [ scheme_GUID ] [ sub_GUID ]`

If neither the parameter *scheme_GUID* or *sub_GUID* are provided, the settings of the current active power scheme are displayed. If the parameter *sub_GUID* is not specified, all settings in the specified power scheme are displayed.

Arguments:

scheme_GUID

Specifies a power scheme GUID. Running **powercfg /list** returns a power scheme GUID.

sub_GUID

Specifies a power-setting subgroup GUID. A power setting subgroup GUID is returned by running **powercfg /query**.

Examples:

Copy

```
powercfg /query
powercfg /query 381b4222-f694-41f0-9685-ff5bb260df2e 238c9fa8-0aad-41ed-83f4-97b
```

/change or /X

Modifies a setting value in the current power scheme.

Syntax:

/change *setting value*

Arguments:

setting

Specifies one of the following options:

- monitor-timeout-ac
- monitor-timeout-dc
- disk-timeout-ac
- disk-timeout-dc
- standby-timeout-ac
- standby-timeout-dc
- hibernate-timeout-ac
- hibernate-timeout-dc

value

Specifies the new value, in minutes.

Examples:

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```
powercfg /change monitor-timeout-ac 5
```

/changename

Modifies the name of a power scheme and optionally its description.

Syntax:

powercfg /changename *scheme_GUID * *name* [*description*]

Arguments:

scheme_GUID

Specifies a power scheme GUID. Running **powercfg /list** returns a power scheme GUID.

name

Specifies the power scheme's new name.

description

Specifies the power scheme's new description. If no description is specified, only the name is changed.

Examples:

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```
powercfg /changename 381b4222-f694-41f0-9685-ff5bb260df2e "Customized Balanced"
```

/duplicatescheme

Duplicates the specified power scheme. The resulting GUID which represents the new scheme is displayed.

Syntax:

powercfg /duplicatescheme *scheme_GUID* [*destination_GUID*]

Arguments:

scheme_GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

destination_GUID

Specifies the new power scheme's GUID. If no GUID is specified, a new GUID is created.

Examples:

Copy

```
powercfg /duplicatescheme 381b4222-f694-41f0-9685-ff5bb260df2e
```

/delete or /D

Deletes the power scheme with the specified GUID.

Syntax:

powercfg /delete *scheme_GUID*

Arguments:

scheme_GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

Examples:

```
powercfg /delete 381b4222-f694-41f0-9685-ff5bb260df2e
```

/deletesetting

Deletes a power setting.

Syntax:

powercfg /deletesetting *sub_GUID setting_GUID*

Arguments:

sub_GUID

Specifies a power setting subgroup GUID. A power setting subgroup GUID is returned by running **powercfg /query**.

setting_GUID

Specifies a power setting GUID. A power setting GUID is returned by running **powercfg /query**.

Examples:

```
powercfg /deletesetting 238c9fa8-0aad-41ed-83f4-97be242c8f20 29f6c1db-86da-48c5-
```

/setactive or /S

Makes the specified power scheme active on the system.

Syntax:

powercfg /setactive *scheme_GUID*

Arguments:

scheme_GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

Examples:

```
powercfg /setactive 381b4222-f694-41f0-9685-ff5bb260df2e
```

/getactivescheme

Retrieves the currently active power scheme.

Syntax:

powercfg /getactivescheme

/setacvalueindex

Sets the value associated with a specified power setting while the system is powered by AC power.

Syntax:

powercfg /setacvalueindex *scheme_GUID sub_GUID setting_GUID setting_index*

Arguments:

scheme_GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

sub_GUID

Specifies a power setting subgroup GUID. Running **powercfg /query** returns a power setting subgroup GUID.

setting_GUID

Specifies a power setting GUID. A power setting GUID is returned by running **powercfg /query**.

setting_index

Specifies which possible value this setting is set to. A list of possible values is returned by running **powercfg /query**.

Examples:

```
powercfg /setacvalueindex 381b4222-f694-41f0-9685-ff5bb260df2e 238c9fa8-0aad-41e
```

/setdcvalueindex

Sets the value associated with a specified power setting while the system is powered by DC power.

Syntax:

powercfg /setdcvalueindex *scheme_GUID sub_GUID setting_GUID setting_index*

Arguments:

scheme_GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

sub_GUID

Specifies a power setting subgroup GUID. A power setting subgroup GUID is returned by running **powercfg /query**.

setting_GUID

Specifies a power setting GUID. A power setting GUID is returned by running **powercfg /query**.

setting_index

Specifies which possible value this setting is set to. A list of possible values is returned by running **powercfg /query**.

Examples:

```
powercfg /setdcvalueindex 381b4222-f694-41f0-9685-ff5bb260df2e 238c9fa8-0aad-41e
```

/import

Imports a power scheme from the specified file.

Syntax:

powercfg /import *file_name* [*GUID*]

Arguments:

file_name

Specifies a fully-qualified path to a file returned by running **powercfg /export**.

GUID

Specifies the GUID for the imported scheme. If no GUID is specified, a new GUID is created.

Examples:

```
powercfg /import c:\scheme.pow
```

/export

Exports a power scheme, represented by the specified GUID, to the specified file.

Syntax:

powercfg /export *file_name GUID*

Arguments:

file_name

Specifies a fully-qualified path to a destination file.

GUID

Specifies a power scheme GUID. A power scheme GUID is returned by running **powercfg /list**.

Examples:

```
powercfg /export c:\scheme.pow 381b4222-f694-41f0-9685-ff5bb260df2e
```

/aliases

Displays a list of aliases and their corresponding GUIDs. These aliases may be used instead of a GUID in any command.

Syntax:

powercfg /aliases

Note

Some settings do not contain aliases. For a full list of GUIDs, use **powercfg /query**.

/getsecuritydescriptor

Gets the security descriptor associated with the specified power setting, power scheme, or action.

Syntax:

powercfg /getsecuritydescriptor *GUID* | *action*

Arguments:

GUID

Specifies a power scheme or a power setting GUID. A power scheme GUID is returned by running **powercfg /list**. A power setting GUID is returned by running **powercfg /query**.

action

Specifies one of the following actions:

- ActionSetActive
- ActionCreate
- ActionDefault

Examples:

Copy

```
powercfg /getsecuritydescriptor 381b4222-f694-41f0-9685-ff5bb260df2e<br />
powercfg /getsecuritydescriptor ActionSetActive
```

/setsecuritydescriptor

Sets a security descriptor associated with the specified power setting, power scheme, or action.

Syntax:

powercfg /setsecuritydescriptor *GUID* | *action SDDL*

Arguments:

GUID

Specifies a power scheme or a power setting GUID. A power scheme GUID is returned by running **powercfg /list**. A power setting GUID is returned by running **powercfg /query**.

action

Specifies one of the following actions:

- ActionSetActive
- ActionCreate
- ActionDefault

SDDL

Specifies a valid security descriptor string in SDDL format. An example SDDL string can be obtained by running **powercfg /getsecuritydescriptor**.

Examples:

Copy

```
powercfg /setsecuritydescriptor 381b4222-f694-41f0-9685-ff5bb260df2e O:BAG:SYD:P
```

```
powercfg /setsecuritydescriptor ActionSetActive O:BAG:SYD:P(A;CI;KR;;;BU)(A;CI;K
```

/hibernate or /H

Enables or disables the hibernate feature; also, sets the hiberfile size.

Syntax:

powercfg /hibernate

powercfg /hibernate [**on** | **off**]

powercfg /hibernate [/size *percent_size*]

powercfg /hibernate [/type *reduced* | *full*]

Arguments:

On

Enables the hibernate feature.

Off

Disables the hibernate feature.

/size *percent_size*

Specifies the desired hiberfile size as a percentage of the total memory size. The default size cannot be smaller than 50. This parameter also causes hibernation to be enabled.

/type *reduced* | *full*

Specifies the desired hiberfile type. A reduced hiberfile only supports hiberboot.

> **Note**
>
> A hiberfile that has a custom default size, or HiberFileSizePercent >= 40, is considered as a full hiberfile. HiberFileSizePercent is set in the registry in HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Power.
>
> To change the hiberfile type to reduced, the OS has to manage the default hiberfile size. To do this, run the following commands:
>
> **powercfg /hibernate /size 0**
>
> **powercfg /hibernate /type reduced**

Examples:

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```
powercfg /hibernate off<br /> powercfg /hibernate /size 100<br /> powercfg /hibe
```

/availablesleepstates or /A

Reports the sleep states available on the system. Attempts to report reasons why sleep states are unavailable.

Syntax:

powercfg /availablesleepstates

/devicequery

Returns a list of devices that meet the specified criteria.

Syntax:

powercfg /devicequery *query_flag*

Arguments:

query_flag

Specifies one of the following criteria:

wake_from_S1_supported Returns all devices that support waking the system from a light sleep state.

wake_from_S2_supported Returns all devices that support waking the system from a deeper sleep state.

wake_from_S3_supported Returns all devices that support waking the system from the deepest sleep state.

wake_from_any Returns all devices that support waking the system from any sleep state.

S1_supported Lists devices supporting light sleep.

S2_supported Lists devices supporting deeper sleep.

S3_supported Lists devices supporting deepest sleep.

S4_supported List devices supporting hibernation.

wake_programmable Lists devices that are user-configurable to wake the system from a sleep state.

wake_armed Lists devices that are currently configured to wake the system from any sleep state.

all_devices Returns all devices present in the system.

Examples:

```
powercfg /devicequery wake_armed
```

/deviceenableawake

Enables the specified device to wake the system from a sleep state.

Syntax:

powercfg /deviceenableawake *device_name*

Arguments:

device_name

Specifies a device. This device name may be retrieved using **powercfg /devicequery wake_programmable**.

Examples:

```
powercfg /deviceenableawake &quot;Microsoft USB IntelliMouse Optical&quot;
```

/devicedisablewake

Disables the specified device from waking the system from a sleep state.

Syntax:

powercfg /devicedisablewake *device_name*

Arguments:

device_name

Specifies a device. This device name may be retrieved using **powercfg /devicequery wake_armed**.

Examples:

Copy

```
powercfg /devicedisablewake &quot;Microsoft USB IntelliMouse Optical&quot;
```

/lastwake

Reports information about what woke the system from the last sleep transition.

Syntax:

powercfg /lastwake

/waketimers

Enumerates the active wake timers. If enabled, the expiration of a wake timer wakes the system from sleep and hibernate states.

Syntax:

powercfg /waketimers

/requests

Enumerates application and driver Power Requests. Power Requests prevent the computer from automatically powering off the display or entering a low-power sleep mode.

Syntax:

powercfg /requests

/requestsoverride

Sets a Power Request override for a particular process, service, or driver. If no parameters are specified, this command displays the current list of Power Request overrides.

Syntax:

powercfg /requestsoverride [*caller_type name request*]

Arguments:

Caller_type

Specifies one of the following caller types: **process**, **service**, **driver**. This is obtained by running **powercfg /requests**.

name

Specifies the caller name. This is the name returned by running **powercfg /requests**.

request

Specifies one or more of the following Power Request types:

- Display
- System
- Awaymode

Examples:

Copy

```
powercfg /requestsoverride process wmplayer.exe display system
```

/energy

Analyzes the system for common energy-efficiency and battery-life problems and generates a report, an HTML file, in the current path.

Syntax:

powercfg /energy [/output *file_name*] [/xml] [/duration *seconds*]

powercfg /energy /trace [/d *file_path*] [/xml] [/duration *seconds*]

The **/energy** option should be used when the computer is idle and has no open programs or documents.

Arguments:

/output *file_name*

Specify the path and file name to store the energy report HTML or XML file.

/xml

Formats the report file as XML.

/duration *seconds*

Specifies the number of seconds to observe system behavior. Default is 60 seconds.

/trace

Records system behavior and does not perform analysis. Trace files are generated in the current path unless the **/D** parameter is specified.

/d *file_path*

Specify the directory to store trace data. May only be used with the **/trace** parameter.

Examples:

Copy

```
powercfg /energy<br />
powercfg /energy /output &quot;longtrace.html&quot; /duration 120
```

/batteryreport

Generates a report of battery usage characteristics over the lifetime of the system. Running **powercfg /batteryreport** generates an HTML report file in the current path.

Syntax:

powercfg /batteryreport [/output *file_name*] [/xml]

powercfg /batteryreport [/duration *days*]

Arguments:

/output *file_name*

Specify the path and file name to store the battery report HTML.

/output *file_name* /xml

Formats the battery report file as XML.

/duration *days*

Specifies the number of days to analyze for the report.

Examples:

Copy

```
powercfg /batteryreport /output &quot;batteryreport.html&quot;<br />
powercfg /batteryreport /duration 4
```

/sleepstudy

Generates a diagnostic report of modern standby quality over the last three days on the system. The report is a file that is saved in the current path.

Syntax:

powercfg /sleepstudy [/output *file_name*] [/xml]

powercfg /sleepstudy [/duration *days*]

powercfg /sleepstudy [/transformxmL *file_name.xml*] [/output *file_name.html*]

Arguments:

/output *file_name*

Specify the path and file name to store the Sleepstudy report HTML.

/output *file_name* /xml

Formats the Sleepstudy report file as XML.

/duration *days*

Specifies the number of days to analyze for the report.

/transformxml *file_name.xml* /output *file_name.html*

Transforms the Sleepstudy report from XML to HTML.

Examples:

Copy

```
powercfg /sleepstudy /output &quot;sleepstudy.html&quot;<br />
powercfg /sleepstudy /duration 7
```

/srumutil

Enumerates the entire Energy Estimation data from the System Resource Usage Monitor (SRUM) in an XML or CSV file.

Syntax:

powercfg /srumutil [/output *file_name*] [/xml] [/csv]

Arguments:

/output *file_name*

Specify the path and file name to store the SRUM data.

/output *file_name* /xml

Formats the file as XML.

/output *file_name* /csv

Formats the file as CSV.

Examples:

Copy

```
powercfg /batteryreport /output &quot;srumreport.xml&quot; /xml
```

/systemsleepdiagnostics

Generates a report of intervals when the user was not present over the last three days on the system, and if the system went to sleep. This option generates a report, an HTML file, in the current path.

This command requires administrator privileges and must be executed from an elevated command prompt.

Syntax:

powercfg /systemsleepdiagnostics [/output *file_name*] [/xml]

Arguments:

/output *file_name*

Specifies the path and file name of the diagnostics report.

/xml

Save the report as an XML file.

/duration *days*

Specifies the number of days to analyze for the report.

/transformxml *file_name*

Produces a report in HTML from a report that was previously created in XML.

Examples:

```
powercfg /systemsleepdiagnostics<br/>
powercfg /systemsleepdiagnostics /output &quot;system-sleep-diagnostics.html&quo
powercfg /systemsleepdiagnostics /output &quot;system-sleep-diagnostics.xml&quot
powercfg /systemsleepdiagnostics /transformxml &quot;system-sleep-diagnostics.xm
```

/systempowerreport or /spr

Generates a report of system power transitions over the last three days on the system, including connected standby power efficiency. This option generates a report, an HTML file, in the current path.

This command requires administrator privileges and must be executed from an elevated command prompt.

Syntax:

powercfg /getsecuritydescriptor *GUID* | *action*

Arguments:

/output *file_name*

Specifies the path and file name of the diagnostics report.

/xml

Save the report as an XML file.

/duration *days*

Specifies the number of days to analyze for the report.

/transformxml *file_name*

Produces a report in HTML from a report that was previously created in XML.

Examples:

```
powercfg /systempowerreport<br/>
powercfg /systempowerreport /output &quot;sleepstudy.html&quot;<br/>
powercfg /systempowerreport /output &quot;sleepstudy.xml&quot; /XML<br/>
powercfg /systempowerreport /transformxml &quot;sleepstudy.xml&quot;
```

Overlay Scheme and PPM Profile Support

Overlay power schemes and PPM profiles can now be customized through powercfg.exe. It is important to note that overlay schemes are now limited to customizing settings that affect performance versus power savings tradeoff. This is currently related to settings under the PPM and Graphics power settings subgroups (with aliases SUB_PROCESSOR and SUB_GRAPHICS in powercfg). Attempts to write to other subgroups under overlay schemes will result in an error message.

Reading from overlay schemes

The powercfg commands used earlier to read power schemes now support overlay schemes as well for reads and writes.

Syntax:

powercfg /q *overlay_scheme_alias subgroup_alias setting_alias*

All arguments after the /q flag are optional. If the setting alias is not specified, all settings under the specified overlay scheme and subgroup will be enumerated. If the subgroup is not specified, then all settings for all subgroups under the specified overlay scheme will be enumerated. If the overlay scheme is not specified, then it will be assumed to be the currently active overlay scheme (if active) or the current power scheme (if no overlay is active).

Writing to overlay schemes

The commands setacvalueindex and setdcvalueindex now support overlay schemes as well.

Syntax:

powercfg /setacvalueindex *overlay_scheme_alias subgroup_alias setting_alias value*

powercfg /setdcvalueindex *overlay_scheme_alias subgroup_alias setting_alias value*

Reading from PPM profile

The commands are similar to that of overlay schemes and power schemes, except that they use the /qp flag.

Syntax:

powercfg /queryprofile *overlay_or_power_scheme_alias profile_alias setting_alias*

powercfg /qp *overlay_or_power_scheme_alias profile_alias setting_alias*

PPM profile aliases are visible by running the same powercfg /aliasesh command. Support for missing arguments is provided, and the behavior is similar to when arguments are missing and the /q flag is used.

Writing to PPM profile

For writing to PPM profiles, the /setacprofileindex and /setdcprofileindex commands can be used.

Syntax:

powercfg /setacprofileindex *overlay_or_scheme_alias profile_alias setting_alias value*

powercfg /setdcprofileindex *overlay_or_scheme_alias profile_alias setting_alias value*

Enumerating non-empty PPM Profiles

For enumerating PPM profiles which have at least one power setting value explicitly set.

Syntax:

powercfg /listprofiles

powercfg /lp

Provisioning XML Generation Support

Powercfg now supports automatically generating a provisioning XML file that can be used as an input to Windows Configuration Designer in order to generate a provisioning package (.ppkg) that contains the customized settings from a device under test. This file contains all settings on the device with the "RUNTIME_OVERRIDE" altitude value.

Syntax:

powercfg /pxml /output *output_file_path*

powercfg /pxml /output *output_file_path* /version *version_number* /name *package_name* /id *GUID* /owner *OwnerType_value*

Required Arguments:

/output_file_path: Specifies the location and name of the generated XML.

Optional Arguments:

/version: Optionally specifies the value of the "Version" field in the generated XML. Default: *1.0*

/name: Optionally specifies the value of the "Name" field in the generated XML. Default: *CustomOEM.Power.Settings.Control*

/id: Optionally specifies a GUID string that is used in the "ID" field in the generated XML. Default: *new GUID is generated*

/owner: Optionally specified the value of the "OwnerType" field in the generated XML. Default: *OEM*

Additional resources

Training

Module

Explore common configuration options - Training

This module discusses configuring and customizing some of the common default settings in Windows clients.