

Poweroff 3.0

A free shutdown utility

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Made in Belgium

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1 Introduction

Poweroff is a small program that allows you to control the power state of your pc.

It can power off, shutdown or reboot your pc, log you off, lock your workstation, go to standby or hibernation mode and even wake up another pc.

All actions can be done locally or on a remote pc (if they are running poweroff).

The action can be performed immediate or scheduled, by using a built-in scheduler.

All actions and options can be controlled by command line options. This way, you can easily integrate poweroff in your batch files.

It should run on Windows 95/98/Me/NT4.0/2000/XP, each with its own limitations. Beware that I haven't tested the program on these operating systems, but in theory it should work on all of them...

Since this release has been completely rewritten from scratch, it may be possible that it still contains some bugs. Please let me know if you find one.

Full source code is included!

2 Installation

Installation is very easy, just extract the poweroff.exe file somewhere where you can find it and double-click the executable. You do not need any of the other files in the zip file, unless you are interested in the source code.

To uninstall, simply delete the poweroff.exe file. Poweroff stores its settings in the registry, so you should remove them also, either by selecting 'Remove settings' from the file menu or by manually removing them from the registry using 'regedit.exe' (WARNING: using regedit can damage your windows configuration, so be careful what you do!). The key that you can safely delete is

HKEY_CURRENT_USER\SOFTWARE\Poweroff

If poweroff starts up, then it first looks for settings in HKEY_CURRENT_USER. If it cannot find any, then it looks in HKEY_LOCAL_MACHINE. This way you can define global settings and per user settings. You will have to create the global settings manually.

To delete the poweroff service, choose 'Remove service' from the service menu. The settings are automatically removed. To manually remove the service settings, delete the registry key

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Poweroff\Parameters

Other registry keys that may be lying around then the service is removed are:

HKEY_LOCAL_MACHINE \System\ControlSet00x\Services\PowerOff

HKEY_LOCAL_MACHINE \System\ControlSet00x\Enum\Root\LEGACY_POWEROFF

These should disappear when your computer is rebooted. They can be safely deleted when the service is removed.

You need Internet Explorer 4.0 or higher because it uses some common controls that are shipped with IE.

3 Usage

3.1 Starting

When you double-click the poweroff executable, the main window is shown. Here you can select which action to perform and select the appropriate options. To execute the desired action, simply hit the 'Do it' button.

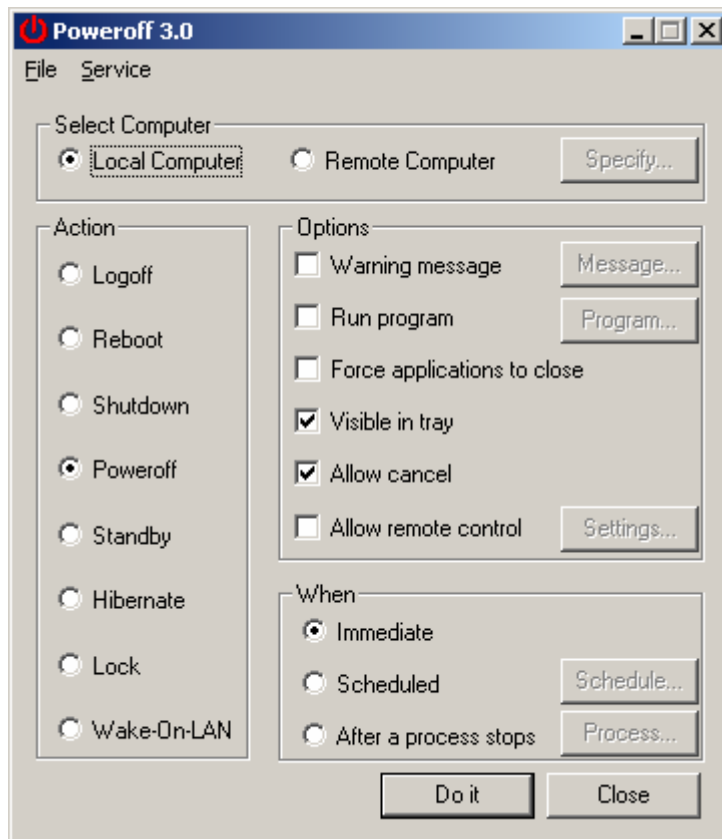


Figure 1

3.2 Actions

Poweroff supports the following actions:

3.2.1 Logoff

Logs off the current logged on user.

3.2.2 Reboot

Reboots the computer.

3.2.3 Shutdown

Shutdown the computer.

In NT/2000/XP this will display the standard message 'It is safe to shutdown your computer'.

In Win9x/Me this will poweroff your pc if your hardware supports it

3.2.4 Poweroff

This action will physically power off your computer.

Your hardware must support this, for example an ATX motherboard and power supply should support it, but an old AT motherboard probably doesn't support it.

You also have to have ACPI or APM enabled in your bios. And the power options must be correctly configured in the windows control panel. If Windows performs a poweroff when you do a normal windows shutdown from the start menu, then it will also work with this program.

To enable poweroff in Windows NT, you will need a hal.dll that is capable of shutting down your workstation.

You can try one that's supplied with service pack 4 (or higher): hal.dll.softex

Just extract the service pack (with the /x option),

There are several machine-specific HAL.DLL's, and you MUST extract the matching HAL*.DLL.SOFTEX from the service pack. To avoid problems when someone overwrites the good HAL.DLL with a bad one it's better to rename HAL*.DLL.SOFTEX to %SystemRoot%\System32\HALPOWER.DLL for instance, copy the line in %SystemDrive%\BOOT.INI which loads the current system, alter the description and append " /HAL=HALPOWER.DLL". Now one can choose between the two HALs and has a fallback if the new one fails.

If you like NT to automatically poweroff at shutdown, set the following registry key to 1: HKEY_LOCAL_MACHINE\Software\Microsoft\Windows NT\CurrentVersion\Winlogon\PowerdownAfterShutdown

3.2.5 Standby

If your pc supports it, then this will put your pc into standby mode (sleep mode).

If you get a strange error message, then probably one of your device drivers doesn't support standby. Standby is not supported on NT.

3.2.6 Hibernate

If your pc supports it, then this will put your pc into hibernate mode.

If you get a strange error message, then probably one of your device drivers doesn't support hibernate. You also have to have hibernation enabled in your power settings of the windows control panel (windows 2000 or above)

Hibernate is not supported on Windows NT/9x/Me.

3.2.7 Lock

This action will lock your workstation. This is only supported on Windows 2000 or above.

3.2.8 Wake-On-LAN

This action allows you to start up a remote pc. This remote pc must support Wake-On-LAN. This means that you have to have a network card that is connected via an

extra wire to the motherboard (or power supply) to provide some power. In the system BIOS, Wake-On-LAN must also be enabled.

How it works:

The network card constantly monitors the network for a 'Magic Packet' when the computer is switched off. This magic packet is a series of bytes that is sent over the network.

A magic packet consists of a header (6*0xFF) and the MAC address of the network adapter repeated several times (16 times), for example if your MAC address is 01:02:03:04:05:06 (6 bytes), then the magic packet looks like this:

```
FFFFFFFFFFFF010203040506010203040506010203040506010203040506010203  
0405060102030405060102030405060102030405060102030405060102030405060  
1020304050601020304050601020304050601020304050601020304050601020304  
0506
```

The network adapter recognizes the sequence and triggers the power supply to turn on the computer.

3.3 Where to do the action

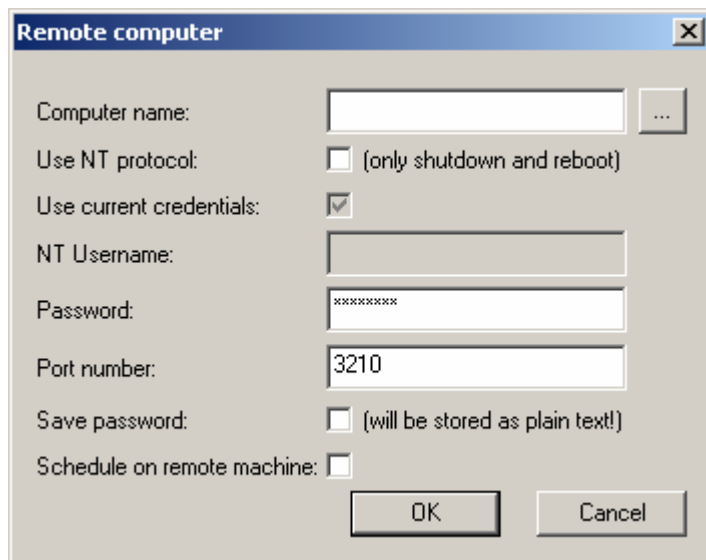
3.3.1 Local Computer

When this radio button is selected, then the action is performed on the local computer. This radio button is unavailable when the action is Wake-On-LAN. This is because there's no way that you can turn on your own computer...

3.3.2 Remote Computer

When this radio button is selected, then the action is performed on a remote computer. You have to click the 'Specify' button to specify on which remote computer to perform the action.

When the action is anything else than Wake-On-LAN, you are presented with the following dialog box:

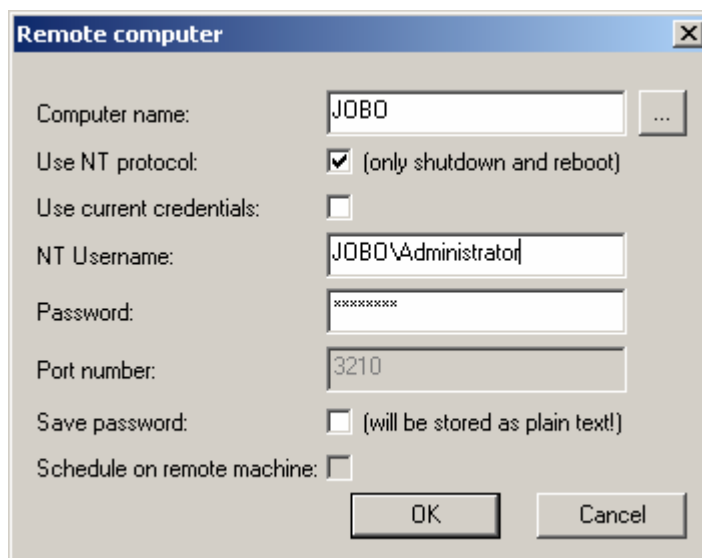
**Figure 2**

Computer name:

This is the name (or ip address) of the remote computer

Use NT protocol:

When you select this, then the standard NT protocol/authentication is used to reboot or shutdown the remote computer. These are the only two options supported in this mode!

**Figure 3**

You have to specify whether you want to use the credentials of the user that you used to log into windows. In that case, you don't have to supply a username and password.

If your current account is not allowed to shutdown the remote machine, then

you can specify another username and password to connect to the remote machine that has the rights to shutdown the machine. This username can be a username of your current domain, then you only need to specify the username and password. If the user is from a different domain or the remote computer's local domain, then you have to prefix the username with the domain name (e.g.: DOMAIN\Username), see figure 3.

Note that if you currently have a drive mapping of printer mapping to the remote machine, you cannot specify another username, this is an NT restriction.

This mode is only supported from and to NT/2000 computers. No Windows 9x/Me support!

When you select the checkbox, then poweroff must be running on the remote machine, either as a service or interactive with the 'Allow remote' option enabled.

When that is the case, then all actions are possible on the remote machine and it doesn't matter which version of windows is running there. Of course, you can still only perform actions that the remote OS supports...

Password:

Here you can specify the password that gives you access to the remote machine, leave blank if no password was specified by the remote poweroff program.

Port number:

Here you can specify the port number where the remote poweroff program is listening to

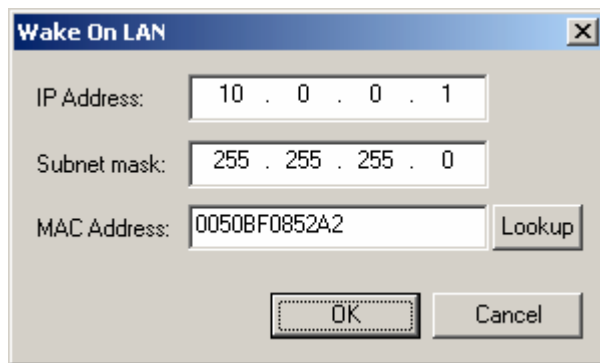
Save password:

When you save your settings in the main poweroff screen, then the password for the remote machine is also saved. This will store the password as plain text in the registry!

Schedule on remote machine:

When you don't use NT authentication, then you can choose to do scheduling locally or on the remote machine. If you choose remote scheduling, then poweroff must be running on the remote machine and you can stop your local poweroff when the action has been submitted to the remote machine. Otherwise, you have to leave your local poweroff program running until the time arrives.

When the action is 'Wake-On-LAN', then you are presented with the following dialog box:

**Figure 4**

You have to specify the remote computer's IP address, subnet mask and MAC address. The IP address and subnet mask are necessary to calculate the broadcast address. The magic packet is only broadcasted to the right subnet.

The MAC address is the physical hardware address of the computer's network adapter. You can click the 'Lookup' button to find the hardware address. This performs a ping to the remote computer and then looks into the arp table for the IP address. This means that the lookup may not always work correctly. If the lookup fails, then you must get the MAC address from the remote computer itself by inspecting the network adapter's properties. The MAC address is a series of 12 hexadecimal numbers. Some adapters may display the MAC address as XX-XX-XX-XX-XX-XX, but in poweroff it must be specified without the dashes.

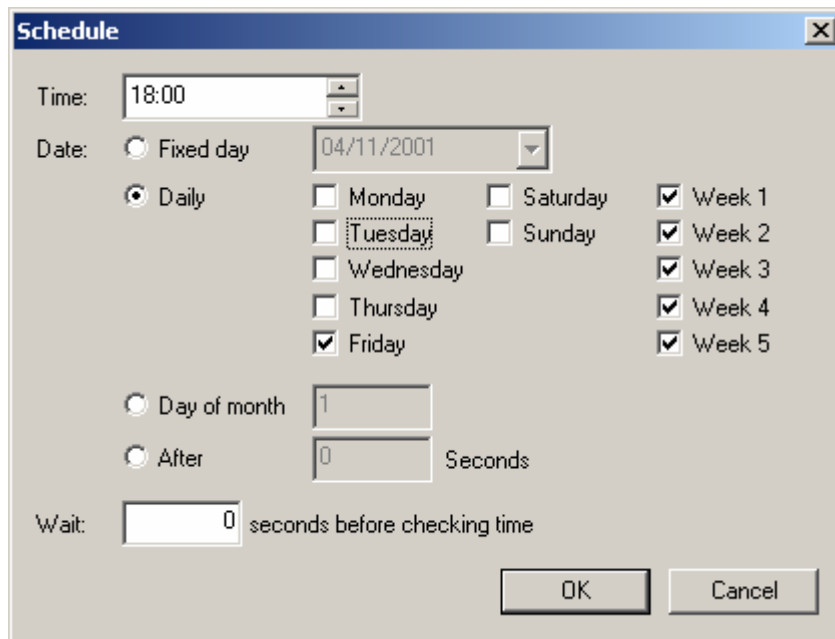
3.4 When to do the action

3.4.1 Immediate

Executes the desired action immediately when you press the 'Do it' button.

3.4.2 Scheduled

Executes the action at a certain moment in time. Click the 'Schedule' button to specify when to execute the action.

**Figure 5**

In the time field, you can specify the time when the action must be performed. The time format is hh:mm (0-23 hours).

The date radio box lets you choose the days on which the action must be performed:

- Fixed day: Performs the action only once on the specified date. The date format is dd/mm/yyyy
- Daily: Performs the action on the days of the week that you specify. You can also select the weeks of the month on which to perform the action. For example you may choose to reboot your pc at each Friday of weeks 1 and 3. **This option requires that you install the poweroff service.**
- Day of month: Performs the action on a specific day of the month each month. For example you may choose to reboot your pc every 1st of the month. **This option requires that you install the poweroff service.**
- After x seconds: Performs the action after the specified number of seconds.

3.4.3 After a process stops

Executes the action when some running process finishes. Click the 'Process' button to specify the process.

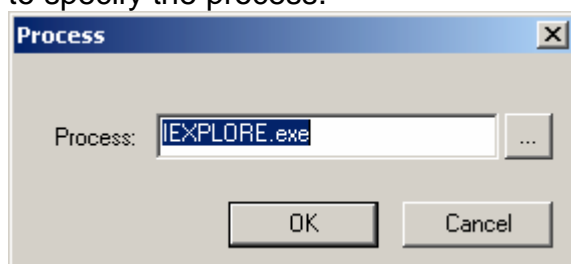
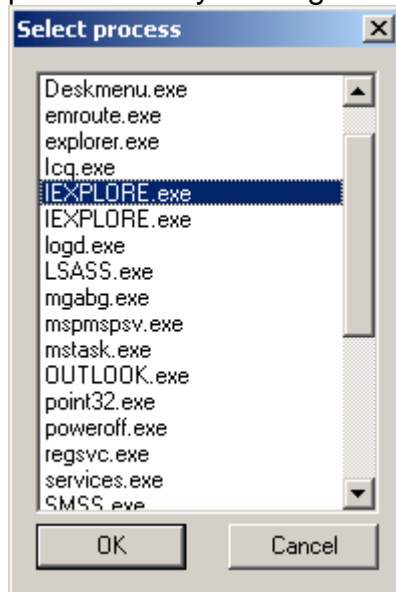


Figure 6

Here you can type the exact process name or choose the name from the current process list by clicking the '...' button.

**Figure 7**

Poweroff will poll the running processes every second. When the specified process is not running, the action will be executed. This can be useful for shutting down your pc when a certain program has finished or even as a watchdog to reboot the pc when a program that should be running has died.

3.5 Options

3.5.1 Warning Message

With this option you can give a warning message to the user before performing the action. Click the 'Message' button to specify the message properties:

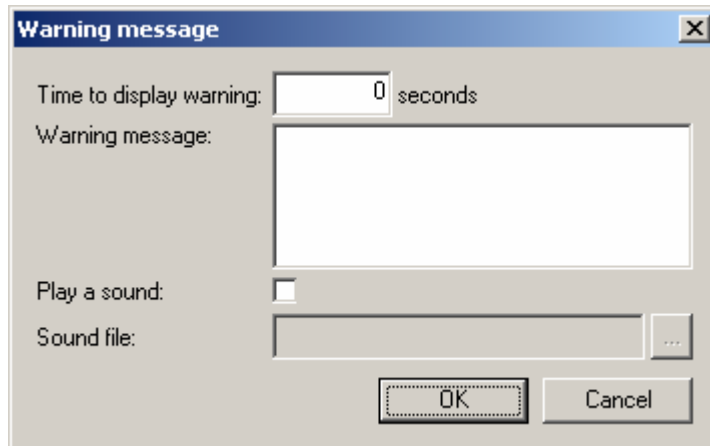


Figure 8

You can enter the number of seconds that the warning message must be shown. When the seconds have passed, then the action is performed.

You can also specify the message text that must be shown.

If you want a sound to be played when the dialog box is shown, then you can select the 'Play a sound' checkbox. Then you must also specify the sound file that must be played. If the action must be performed on a remote computer, then the sound file must also exist on the remote computer!

3.5.2 Run a program

This option allows you to run a program before the action is executed. This can be useful to properly shutdown some other program before shutting down your pc. Click the 'Program' button to enter the program options:

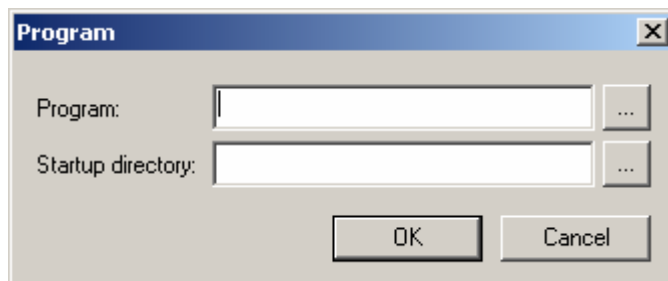


Figure 9

You must enter the program that must be executed, or choose it from a list by clicking the '...' button. You can also specify the startup directory for the program of select it from a list by clicking the '...' button.

If you need to run multiple programs, then you should put them inside a batch file and then call the batch file from within poweroff.

3.5.3 Force applications to close

This option is useful for forcing running applications to close. Otherwise some applications may not exit when windows is shut down because they popup a dialog box or because they 'hang'. This option kills all running programs before logging off, rebooting, shutdown or poweroff.

This also implies that any changes made in running programs will not be saved, so for example if you have a text editor open with unsaved changes, then the editor will be closed without asking you to save the changes!

3.5.4 Visible in tray

When this option is selected, then the poweroff icon will be visible in the system tray when the 'Do it' button has been pressed and a non-immediate action has been selected. Otherwise, poweroff will seem to have disappeared and there's no way to make it reappear.

3.5.5 Allow cancel

When this option is selected, then you will be able to cancel any chosen action (except when 'Immediate' execution is selected).

You will be able to cancel the action from the system tray and in the warning dialog (if those options are set).

3.5.6 Allow remote control

When this option is selected, then other computers can connect to your pc and do all actions that poweroff supports on your pc remotely. This is useful when running poweroff as a service and when you're the network administrator, then you can reboot remote machines from your pc. Click the 'Settings' button to specify remote control options:

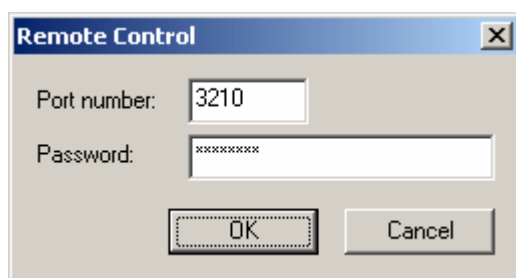


Figure 10

You can specify the TCP port number where poweroff listens to for connections.

You can also specify a password that remote computers must enter before they gain access to your pc. This password is encrypted and stored in the registry.

3.6 Menu

3.6.1 File menu

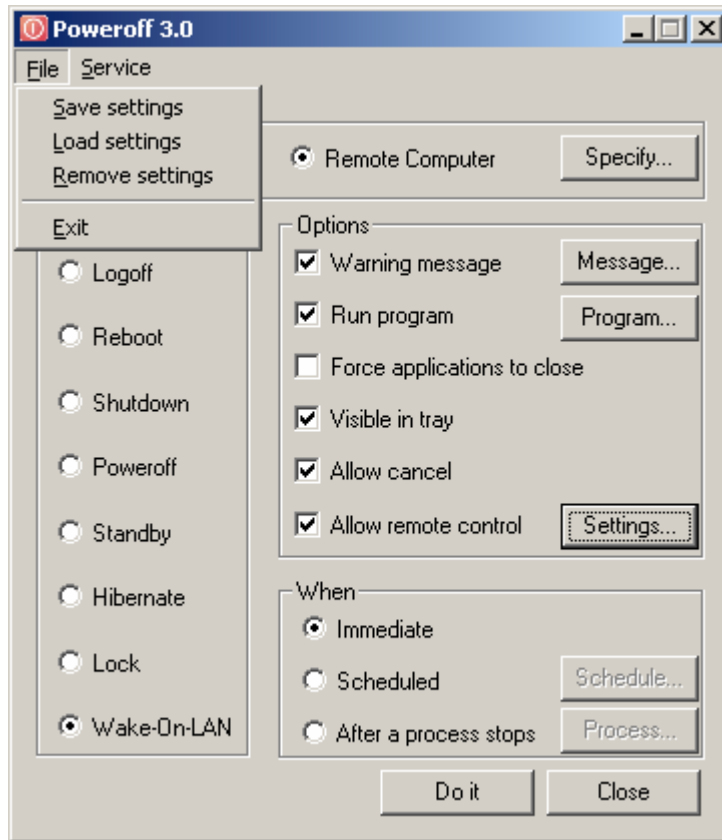


Figure 11

- **Save Settings:** This saves the current settings to the registry. The next time you start poweroff, it will read these settings from the registry so that you don't have to set you preferred settings again.
- **Load Settings:** This reads the settings from the registry and overwrites any changes made
- **Remove Settings:** This removes all settings from the registry and restores the default settings.

3.6.2 Service

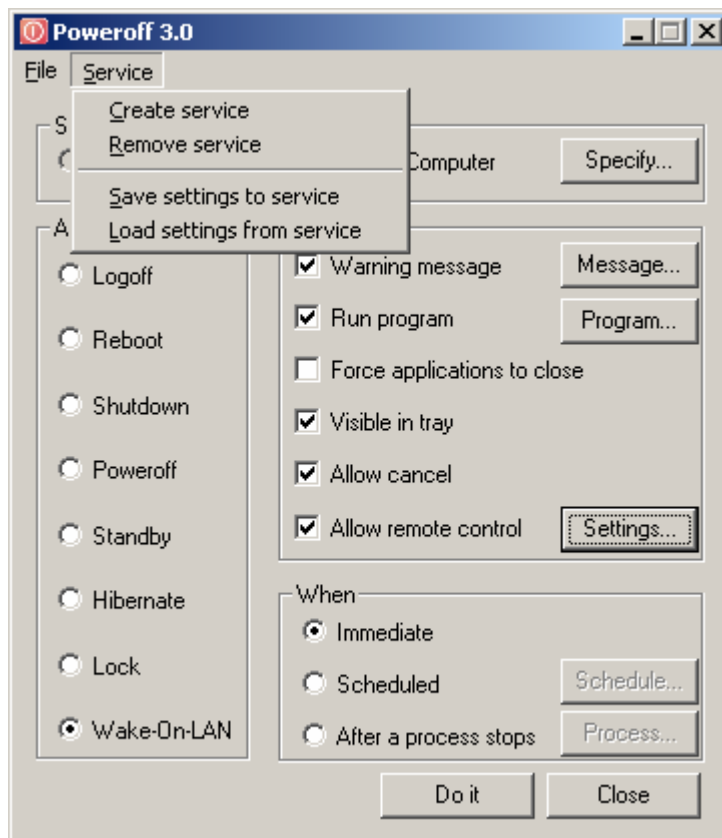


Figure 12

- **Create service:** This creates the poweroff service. This makes poweroff run in the background and can even run when you're not logged on. The current settings are saved to the registry so that the service can run with these settings. When the 'visible in tray' option is selected, then the poweroff service is accessible via the system tray. The service will only execute some action when the 'Scheduled' option is selected, otherwise poweroff will just start up and will be visible in the system tray (if that option was selected of course).
- **Remove service:** This removes the poweroff service. If the service is currently running, it is stopped (only on NT/2000/XP). On 95/98/Me you will have to reboot in order to stop the service. Removing the service will also remove the service settings.
- **Save settings to service:** This will save the current settings to the service. On NT/2000/XP, the service will also be restarted to pick up the new settings. On 95/98/Me, you will have to reboot for the service to pick up the changes.
- **Load settings from service:** This will read the service settings from the registry and make them the current settings.

3.7 Event Logging

If you have Windows NT/2000/XP, then you can always check the event log (application log) for messages from poweroff. Here you can find information and error messages about the actions that were performed.

4 Command-line options

You can control every option and setting from the command-line. This makes poweroff excellent for use in batch files. **Some options have changed since previous releases, so check your batch files!** If you do poweroff /?, you will get an overview of all the options (look above for a description of all the settings):

Usage: poweroff action [options]

Actions: logoff, reboot, shutdown, poweroff, standby, hibernate, lock or wol

Options:

- warn : Show a warning message before doing the action
- warntime s : Show the warning message for s seconds
- playsound : Play a sound when the warning is displayed
- soundfile "f" : Specifies the .WAV file that must be played
- msg "m" : Specifies the warning message
- force : Force applications to close
- wait s : Wait s seconds before checking the time
- remote m : Do the action on the remote machine m (name or ip)
- use_nt : Use the NT protocol to shutdown/reboot a remote machine
- port p : Use port p to connect to the remote machine
- username u : User NT username u to connect to the remote machine
- password p : Use password p to connect to the remote machine
- run : Run a program before doing the action
- program "p" : Runs program p before doing the action
- directory "d" : Start the program in directory d
- notray : Do not show poweroff icon in the system tray
- nocancel : Do not allow the user to cancel the action from the tray or in the warning dialog
- immediate : Perform the action immediately (default)
- scheduled : Perform the action in a scheduled manner
- time hh:mm : Perform the action at the specified time
- date dd/mm/yyyy : Perform the action on the specified date
- days [d1,d2,...] : Perform the action on the specified days of the week (m,t,w,th,s,su)
- weeks [1,...,5] : Perform the action on the specified weeks (default=all weeks)
- day d : Perform the action on the specified day of the month (1-31)
- seconds n : Perform the action after n seconds
- process p : Perform the action when a process named p does not exist anymore
- ip ip : Specifies the ip adress for WOL
- subnet s : Specifies the subnet mask for WOL
- mac m : Specifies the mac address for WOL
- allow_remote : Allow remote control
- remote_port p : Listen on port p for commands
- remote_pswd p : Set a password that clients must give for remote control
- simulate : Simulate all actions, do not perform them
- minimize : Start minimized in the system tray
- quiet : Don't display error messages
- save_settings : Saves current settings to the registry
- remove_settings : Remove the settings from the registry

-save_svc_set : Save current settings to the service
-remove_svc_set : Removes the service settings
-create_service : Creates the poweroff service, including the settings
-remove_service : Removes the poweroff service, including the settings

Examples:

The following command shuts down the pc after giving a 10 second warning.

```
C:\poweroff\poweroff poweroff -warn -warntime 10 -msg "You will be logged off in 10 seconds"
```

The following command creates a service that shuts down the pc everyday at 23:00, forces all applications to close, gives a warning to the user, plays a sound file when the warning dialog is shown and listens for remote control using a password:

```
C:\poweroff\poweroff poweroff -warn -warntime 60 -msg "You pc will poweroff in 60 seconds"  
-playsound -soundfile "d:\winnt\media\ringin.wav" -force -scheduled -time 23:00 -days m,t,w,th,f,s,su  
-allow_remote -remote_pswd password -create_service
```

The following command will shutdown a remote computer using the standard NT protocol:

```
C:\poweroff\poweroff poweroff -remote computer -use_nt -username computer\administrator  
-password password
```

The following command will reboot the computer after a program (cmd.exe) has finished:

```
C:\poweroff\poweroff reboot -process cmd.exe
```

The following command will wake up a remote computer:

```
C:\poweroff\poweroff wol -ip 10.0.0.1 -subnet 255.255.255.0 -mac 0050BF0852A2
```

The following command will log off the user 60 minutes after logging on when the command is put inside the startup folder. The user will not be able to see that poweroff is running and will not be able to cancel it:

```
C:\poweroff\poweroff logoff -scheduled -seconds 3600 -notray -nocancel -force
```

This command simply powers off your computer:

```
C:\poweroff\poweroff poweroff
```

5 Remote Control

You can remotely control poweroff by starting it as a service and setting the 'Allow remote control' option. You can control it by using poweroff itself and selecting a remote computer, or you can control it by using telnet to the port where poweroff listens to (default 3210). For example telnet *computer* 3210

You'll see a welcome message like this:

201 Welcome to Poweroff 3.0 created by Jorgen Bosman

Poweroff uses a protocol like ftp or smtp with commands and reply codes.

You enter a command and poweroff will reply with '2xx message' on success or '5xx message' on error.

You can enter the following commands:

QUIT	Terminates the connection
HELP	Shows this help
PASSWORD p	Authenticates the client with a password
ACTION a	The action to perform (logoff, reboot, shutdown, poweroff, standby, hibernate, lock, wol)
WHO w	Who must perform the action (local, remote)
WHEN w	When must the action be performed (immediate, scheduled, after_process)
SIMULATE s	Simulate the action (on, off)
COMPUTER c	The remote computer name
MAC m	The remote computer mac address (WOL)
IP i	The remote computer ip address (WOL)
SUBNET s	The remote computer subnet mask (WOL)
WARNING w	Show warning before doing the action (on, off)
WARNTIME w	The number of seconds to show the warning
MESSAGE m	The warning message
PLAYSOUND p	Play a sound when showing the warning (on, off)
SOUNDFILE s	The WAV file to play
RUNPRG r	Runs a program before doing the action (on, off)
PROGRAM p	The program to run
DIRECTORY d	The startup directory for the program
SCHEDULE s	The type of schedule (fixed_day, daily, day_of_month, after_x_seconds)
TIME t	The time when to do the action (hh:mm)
DATE d	The date when to do the action (dd/mm/yyyy)
DAYS d	The days of the week when to do the action (m, t, w, th, f, s, su)
WEEKS d	The weeks of the month when to do the action (1, 2, 3, 4, 5)
DAY d	The day of the month when to do the action (1-31)
WAIT w	The number of seconds to wait before checking the time
SECONDS w	The number of seconds to wait before doing the action
PROCESS p	Wait for process p to finish
FORCE f	Force applications to close (on, off)
CANCEL c	Allow the user to cancel the action (on, off)
SHOW	Show current settings
VERSION	Show current poweroff version
DOIT	Do the action

Example:

telnet *computer* 3210

201 Welcome to Poweroff 3.0.0.0 created by Jorgen Bosman

action logoff

250 OK

warning on

250 OK

message You will be logged off in 10 seconds

250 OK

warntime 10

250 OK

doit

250 OK

quit

201 Bye bye

Connection closed by foreign host.

6 System Tray

When poweroff is minimized or it has a scheduled action, it sits in the system tray. You can right click the icon, then a popup menu appears:

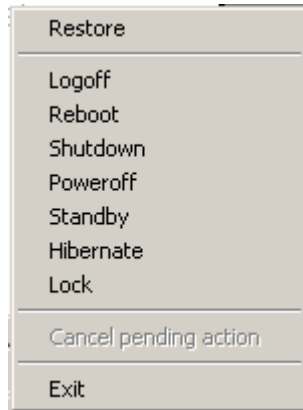


Figure 13

- **Restore:** Restores the main window and removes poweroff from the system tray. Only available when not executing a scheduled action.
- **Logoff/Reboot/Shutdown/Poweroff/Standby/Hibernate/Lock:** Quickly performs the action requested.
- **Cancel pending action:** Cancels a scheduled action and restores the main window again. Only available when a scheduled action is executing and the 'Allow cancel' option is activated.
- **Exit:** Quits poweroff

7 History

V3.0.0.4: 16-11-2001

- Fixed documentation bug
- Moved the settings again to HKLM\Software\JoBo\Poweroff. Should I produce more programs that write to the registry, then they can all be stored under the same 'JoBo' branch.

V3.0.0.3: 14-11-2001

- Added current time to the schedule dialog

V3.0.0.2: 12-11-2001

- Settings are now default stored in HKEY_CURRENT_USER
- You can now create a service with 'allow remote control' without getting an error. This setting will now only work when poweroff is run as a service.

V3.0.0.1: 09-11-2001

- Now uses different socket library so that it can be used with Win95
- Fixed bug: Ordering of controls was wrong. This caused radio groups to be misaligned and caused the 'visible in tray' checkbox to be incorrectly turned off in win95/98/Me
- Added full version number in title bar
- Fixed bug: When poweroff is run as a service and 'Visible in tray' is off, then no icon is shown in the system tray

V3.0: 06-11-2001

- Completely rewritten engine.
- Added Wake-On-LAN.
- Improved remote control, including NT authentication with another user and poweroff-to-poweroff communication which means that all poweroff features are available on the remote computer. With password protection.
- You can now play a wav file when the warning dialog is shown.
- You can cancel the action when the warning dialog is shown.
- You can run a program when the action is about to be performed.
- You can quickly execute an action from the system tray.
- You can specify whether users can cancel an action or not.
- It has a built-in scheduler, now you can schedule at a fixed date, daily, weekly or a day of the month.
- It can run as a service (required for some schedules).
- You can save your settings, so that you don't have to fill them in each time you start poweroff.
- Full command-line control.
- You can wait for a process to finish before executing an action.
- New icon (again).
- Windows XP support for new visual styles.

V2.1: 25-05-2001

- Added Standby (95/98/Me/2000), Hibernate (2000) and Lock (2000) actions
- Improved event logging a little bit
- Default time is now rounded to the next hour

V2.0: 14-04-2001

- Added remote shutdown/reboot
- Add warning dialog

V1.3.3: 15-03-2001

- Added the command line option -w

V1.3.2: 12-12-2000

- Added the command line option to specify a date (dd/mm/yyyy:HH:MM)

V1.3.1: 28-11-2000

- Added event logging on NT/2000

V1.3: 19-05-2000

- Added command-line option to specify a certain time (hh:mm)

V1.2: 03-03-2000

- Added command-line parameters, so that you can use poweroff in batch files

V1.1: 27-05-1999

- Added a date field
- Added the current date and time
- Added the Now button to immediately do the required action
- Hide now adds an icon to the system tray. Double-click the icon to bring the screen back up.
- Added a force checkbox. If checked, all applications terminate without warning.
- Changed the format of the time to hh:mm:ss
- The format of the date field is dd/mm/yyyy
- Poweroff now also appears in the taskbar

V1.0: 08-05-1999

- First release

8 Contact

You can contact me for any questions, bugs, enhancement requests, congratulations, donations (just trying), ... at the following coordinates:

jorgen.bosman@pandora.be (home)

jbosma@ferranti.be (work)

You can always find the latest version (and other tools) at:

<http://users.pandora.be/jbosman/applications.html>

The new direct download link for poweroff 3.0 is:

<http://users.pandora.be/jbosman/pwroff30.zip>

I set up a small forum for my applications, you can find it at

<http://jobo.dyndns.org:8080>

(this link will only work when I'm on-line)