**WOL Wakeonlan Guide: Turn On Servers Remotely Without Physical Access**

Wakeonlan (wol) enables you to switch ON remote servers without physically accessing it. Wakeonlan sends magic packets to wake-on-LAN enabled ethernet adapters and motherboards to switch on remote computers.  
  
By mistake, when you shutdown a system instead of rebooting, you can use Wakeonlan to power on the server remotely. Also, If you have a server that don’t need to be up and running 24×7, you can turn off and turn on the server remotely anytime you want.  
  
This article gives a brief overview of Wake-On-LAN and instructions to set up Wakeonlan feature.

### Overview of Wake-On-LAN

* You can use Wakeonlan when a machine is connected to LAN, and you know the MAC address of that machine.
* Your NIC should support wakeonlan feature, and it should be enabled before the  
  shut down. In most cases, by default wakeonlan is enabled on the NIC.
* You need to send the magic packet from another machine which is connected to the same network ( LAN ). You need root access to send magic packet. wakeonlan package should be installed on the machine.
* When the system crashes because of power failure, for the first time you cannot switch on your machine using this facility. But after the first first boot you can use wakeonlan to turn it on, if the server gets shutdown for some reason.
* WakeonLan is also referred as wol.

### Check whether wol is supported on the NIC

Execute the following ethtool command in the server which you want to switch ON from a remote place.

# **ethtool eth0**

Settings for eth0:

Supported ports: [ TP MII ]

Supported link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

Supports auto-negotiation: Yes

Advertised link modes: 10baseT/Half 10baseT/Full

100baseT/Half 100baseT/Full

Advertised auto-negotiation: Yes

Speed: 100Mb/s

Duplex: Full

Port: MII

PHYAD: 1

Transceiver: internal

Auto-negotiation: on

**Supports Wake-on: pumbg** [ Note: check whether flag g is present ]

**Wake-on: g** [ Note: g mean enabled. d means disabled ]

Current message level: 0x00000001 (1)

Link detected: yes

If  Supports Wake-on is g, then the support for wol feature is enabled on the NIC card.

### Enabling wol option on the Ethernet Card

By default the Wake-on will be set to g in most of the machines. If not, use ethtool to set the g flag to the wol option of the NIC card as shown below.

# **ethtool -s eth0 wol g**

**Note:** You should execute ethtool as root, else you may get following error message.

$ **/sbin/ethtool eth0**

Settings for eth0:

Cannot get device settings: Operation not permitted

Cannot get wake-on-lan settings: Operation not permitted

Current message level: 0x000000ff (255)

Cannot get link status: Operation not permitted

### Install wakeonlan package on a different machine

Install the wakeonlan package in the machine from where you need to send the magic packet to switch on your server.

# **apt-get install wakeonlan**

### Note down the MAC address of the remote server

Note down the MAC address of the server that you wish to switch on remotely.

# **ifconfig**

eth0 Link encap:Ethernet HWaddr **00:16:k5:64:A9:68** [ Mac address ]

inet addr:192.168.6.56 Bcast:192.168.6.255 Mask:255.255.255.0

inet6 addr: fe80::216:17ff:fe6b:289/64 Scope:Link

UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1

RX packets:3179855 errors:0 dropped:0 overruns:0 frame:0

TX packets:2170162 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:1000

RX bytes:3832534893 (3.5 GB) TX bytes:390304845 (372.2 MB)

Interrupt:17

### Finally, Switch ON the machine remotely without physical access

When the server is not up, execute the following command from another machine which is connected to the same LAN. Once the magic packet is sent, the remote system will start to boot.

# **wakeonlan 00:16:k5:64:A9:68**